



WEST BENGAL MEDICAL SERVICES CORPORATION LTD.

(Wholly owned by the Government of West Bengal)

Swasthya Sathi, GN-29, Sector-V, Salt Lake, Kolkata-700 091.

BIDDING DOCUMENTS

FOR

*Planning, Design and Construction of building for development of State General Hospital
at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by
MPLADS fund on Turnkey Basis*

Bid reference no. WBMSCL/NIT-008/2025

date -06.01.2025

SECTION – 1

NOTICE INVITING e-TENDER

from eligible bidders for Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis

Issued by:
West Bengal Medical Services Corporation Ltd.,
(Wholly owned by the Government of West Bengal)
CIN: U85110WB2008SGC126373

Regd. Off.: Swasthya Sathi, GN-29, Sector-V, Salt Lake, Kolkata-700 091



033-4044 0400,



033-4044 0400 Email ID – info@wbmsc.gov.in

Bid Reference No.: WBMSCL/NIT- 008 / 2025

Dated – 06 /01/2025

1. West Bengal Medical Services Corporation Ltd. (WBMSCL), Swasthya Sathi, GN- 29, Sector – V, Salt Lake, Kolkata - 700091, West Bengal has been entrusted by the Health & Family Welfare Department, Government of West Bengal
2. In terms thereof, WBMSCL hereby invites bids through 'e-tendering' from eligible and qualified Indian bidders for "*Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis*" under the State of West Bengal as shown in the table below **ON TURNKEY BASIS in 2-BID SYSTEM** as per the Schedule of Requirements given in Section – 5 (Employer's Requirements) hereof.

UPCOMING work of Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under BhatparaMunicipality) under development works by MPLADS fund on Turnkey Basis & RELATED BID DATA

Location	Total Bid Security (Rs. in Lakhs)	Bid Security (Payment to be done by online NEFT/RTGS in e-Tender portal) (Rs. in Lakhs)	Time of Completion (days)
Bhatpara (ward no. 15 under BhatparaMunicipality), North 24 Parganas	3.84	3.84	90 days

3. The scope of the Selected Bidder would be Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under BhatparaMunicipality) under development works by MPLADS fund on Turnkey Basis in terms of the prevailing guideline MCI in West Bengal/Central Guideline. Annex Building in the site as explained in detail in the Bill of Quantities (BOQ).
4. Intending bidders may download the Bidding Documents from the websites <https://www.wbtenders.gov.in>, www.wbhealth.gov.in and www.wbmhc.gov.in directly. Bidding Documents may be downloaded from the website and Technical Bid/Financial Bid submitted as per the Schedule stated in Sl. 10.
5. The documents submitted by the bidders should be properly indexed and digitally signed. Both Technical Bid and Financial Bid in respect of each bid are to be submitted in technical (statutory & non-statutory folder) and financial folder concurrently and duly digitally signed in the website <https://www.wbtenders.gov.in> on or before the date and time mentioned in Sl. 10 of this e-NIT.
6. Appropriate Earnest Money / Bid Security of an amount as mentioned in Sl. 2

hereinabove have to be deposited by the bidder at the time of submission of the Technical Bid and the Financial Bid. The Earnest Money / Bid Security to be submitted is an amount of Rs. 3,84,000/- (Rupees three lakh eighty four thousand only), for which an amount of Rs. 3,84,000/- (Rupees three lakh eighty four thousand only) should be transferred by way of net banking to the designated bank account as mentioned in the website <https://www.wbtenders.gov.in>.

7. The Financial Bid of the bidders will be considered only if the Technical Bid (both statutory and non-statutory documents) of the bidder is found qualified by the Tender Evaluation Committee of WBMSCL. The decision of the Tender Evaluation Committee will be final and absolute in this respect. The list of responsive / technically qualified and non-responsive bidders will be displayed in the websites referred to in Sl. 4 of the e-NIT, on the scheduled date and time.

8. Eligibility criteria for participation in the tender

- (i) The Tender Evaluation Committee of WBMSCL will determine the eligibility of each bidder. The bidders shall have to meet the minimum eligibility criteria regarding:
 - (a) Average Annual Turnover
 - (b) **Either Bid Capacity or Average Annual Turnover**
 - (c) Technical Capability comprising of personnel and equipment capability
 - (d) Experience/Credentials.
- (ii) The eligibility of a bidder will be ascertained on the basis of the digitally signed documents in support of the minimum criteria as mentioned in (a), (b) and (c) above. If any document submitted by a bidder is either manufactured or false, in such cases the eligibility of the bidder will be rejected outright at any stage without any prejudice to the rights of WBMSCL.
- (iii) The bidders shall have to meet the following eligibility criteria:
 - (a) The bidder shall be a registered WBPWD Class - I/ CPWD /reputed construction company /agency registered under the relevant laws in India / Public Sector Undertaking— subject to ITB 4.5, with a permanent office in West Bengal.
 - (b) Bidder(s) must have satisfactorily completed as a contractor:

A. For being qualified, minimum one building construction project of **Rs. 0.76 Crores** or upto two completed building construction projects each of the minimum value is **Rs. 0.57 Crores** and related inter-disciplinary services including internal and external electrification at any place(s) in India during the last 7 (seven) financial years ending on the last day of the month previous to the one in which the tender is invited.

N.B. – (1) Partially completed works shall also be considered for determining the eligibility criteria in A and B above, if documentary evidence in support of the fact that the value of the completed portion is Rs. 0.76 Crores or more can be produced.

(2) For projects both in the private and public sector, completion certificate along with TDS certificates evidencing payment of at least 60% of the completed similar works shall have to submitted, provided that the completed percentage of such similar works shall meet the minimum value specified in A and B above.

(3) Similar works/ works of similar nature shall mean works executed in India comprising of Construction of RCC framed building with all supporting facilities with works including Public Health, internal and external electrical works, Septic Tank with soak pit, Internal Roads, Drains and Landscaping. Similar works/ works of similar nature shall exclude inter-alia Road/ Highway/ Airport/ Seaport/ Housing/ Industrial projects. However, similar nature of building complex within any Industrial premises may be accepted as credential and value should match the eligibility criteria of the bid. The quantity & value of such work (only building portion) should be authenticated from the respective authority.

(4) Certificates of group / subsidiary/ parent/ holding company shall not be considered as a valid certificate of experience of

the bidder, unless the same is supported by documents that such company is a group / subsidiary/ parent/ holding company of the bidder.

(5) Similar works shall not include any project executed for group / subsidiary/ parent/ holding company.

(6) For determining the value of the projects, the Tendered Amount of the project will be considered for evaluation and not the Estimated Amount.

B. Minimum Average Annual Turnover of **Rs. 0.57 Crores** during the last 3 (three) financial years (i.e. 2021-2022, 2022-2023 and 2023-2024), as certified by a Chartered Accountant, for being qualified for a single package.

(c) **Bid Capacity: The bidding capacity of the contractor should be Rs. 1.92 Crore. The bidding capacity shall be worked out as per Form no. 17 in Section 4 (Bidding Forms) of this Bid document.**

(The bidder should produce either Bid Capacity or Average Annual Turnover for Technical Evaluation purpose)

(d) A bidder shall be a company within the meaning of the Companies Act, 2013 or any amendment, substitution thereof and shall operate in conformity with the provisions of laws in India.

(e) Participation in the form of Joint venture/Consortium / Special Purpose Vehicle will not be allowed to participate in the above e-NIT.

(f) The bidder is presently not barred/ blacklisted by any Department, Authority or body corporate under the Government of India or any State Government.

(g) The other eligibility criteria including eligibility criteria for technical personnel are described in Clause 1 of Section 3 – Evaluation and Qualification Criteria.

9. Bids shall remain valid for a period not less than 120 days after opening of Financial Bid. Bids valid for a shorter period shall be rejected as non-responsive.

10. Important Information Date & Time Schedule:

Sl. No.	Particulars	Date & Time
1.	Date of uploading of Bidding Documents (online)	08.01.2025
2.	Publishing date (Online)	08.01.2025 at 03.00 P.M.
3.	Documents download start date	08.01.2025 at 06.00 P.M.
4.	Date of Pre-Bid Meeting with the intending bidders in the office of WBMSCL	14.01.2025 at 12.00 Noon.
5.	Bid submission start date (Online)	16.01.2025 at 04.00 P.M.
6.	Bid submission closing date (Online)	30.01.2025 up to 02.00 P.M.
7.	Opening date for Technical Bid (Online)	31.01.2025 at 04.30 P.M.
8.	Financial Bid opening	To be notified later on

11. In the event, any of the specified dates as above being declared a holiday by WBMSCL or on any account, office of WBMSCL being closed, the event of specified date will be extended to the next working day.
12. All standards, technical specifications and codes of practice referred to shall be the latest editions of Indian Standard Codes including all applicable official amendments. The Selected Bidder shall make available at site all relevant Indian Standard Codes of practice as applicable.
13. Wherever Indian Standards do not cover some particular aspects of design/ construction, International Standard Codes covering such aspects shall be applicable. In the absence of both Indian Standard Codes and International Standard Codes on such aspects, prevailing Indian practice in construction industry shall be followed.
14. In case of discrepancy among standard codes of practice, technical specifications and provisions in Employer's Requirements, the order of precedence shall be as below:
 - a) Provisions in Employer's Requirements
 - b) Technical Specifications in Employer's Requirements
 - c) Indian Standard codes of practice
 - d) International Standard Codes of practice

15. All the sites are located within West Bengal. The bidder, at its own responsibility and risk is encouraged to visit and examine the site of work and its surroundings and obtain all information that may be necessary for preparing the bid and entering into a contract for the work as mentioned in the e-NIT, before submitting its bid. The bidder shall bear its own expenses for visiting the sites. Variation, within the meaning of Cl. 13 of GCC shall under no circumstances be allowed, at the time of execution of the Works, due to any discrepancy in the indicative data provided in the Employer's Requirements or elsewhere in the Bidding Documents.
16. The existing Services and Utilities may have to be diverted / relocated with proper liaison and approval of WBMSCL. The Services and Utilities which cannot be diverted but require support, proper support shall be done so that they are not damaged along with their branches. Precautions to be taken while handling the Services and Utilities are mentioned as under:
 - (i) Services and Utilities shall not be damaged at any cost. If due to some or the other reason mishap occurs, it should be rectified immediately by the Selected Bidder at its own cost, under instructions of WBMSCL.
 - (ii) The Selected Bidder shall take care so that the ongoing activities are not disturbed in any manner whatsoever by the activities of the Selected Bidder during the execution of the Works. The above instructions are only indicative; other precautions which are specified from time to time by WBMSCL shall be followed by the Selected Bidder at all times.
17. Demolition of old and dilapidated structures on the proposed sites for the Annexure Building shall be required to be carried out by the Selected Bidder at its own cost.
18. WBMSCL reserves the right to reject any or all applications for participating in bidding process and to accept or reject any or all offer without assigning any reason whatsoever and is not liable for any cost that might have incurred by any bidder at the stage of bidding.
19. Prospective bidders are advised to note carefully the minimum qualification criteria as mentioned in 'Instructions to Bidders' (ITB) and various conditions in General Conditions of Contract and other Bidding Documents as

per ITB 6.1 before tendering the bids.

20. Conditional/ incomplete bids will not be accepted under any circumstances.
21. The Selected Bidder shall have to comply with the provisions of (a) Contract Labour (Regulation & Abolition) Act, 1970 (b) Apprentices Act, 1961 and (c) Minimum Wages Act, 1948 or the notifications thereof or any other laws relating to and the rules made and orders issued thereunder from time to time pursuant to Clause 6 of the General Conditions of Contract.
22. In case of ascertaining authority of intending bidders at any stage of bidding process or execution of work, necessary registered irrevocable Power of Attorney is to be produced as and when asked for by WBMSCL.
23. During scrutiny, if it comes to notice of WBMSCL that credentials or any record is found incorrect/ manufactured/ fabricated, the bidder would not allowed to participate in the tender and its application will be rejected outright without any prejudice to the rights of WBMSCL.
24. WBMSCL reserves the right to cancel the bidding process due to unavoidable circumstances without assigning any reason, whatsoever, to the bidders and no claim in this respect will be entertained.
25. Before issuance of Notification of Award, WBMSCL or its authorized representative may verify all credentials and other documents, if found necessary. After verification, if it is found that the documents submitted by the lowest bidder is either manufactured or false, in that case, Notification of Award will not be issued in favour of the said bidder under any circumstances and the EMD deposited by the bidder will be forfeited by WBMSCL without assigning any reason thereof.
26. Where an individual holds a digital certificate in his own name duly issued to him in respect of a bidder of which he is a director, such individual person shall, while uploading the bid for and on behalf of such bidder, shall upload a copy of Power of Attorney.

27. The entire EMD/ Bid Security (both the Bank Guarantee component and the amount transferred by way of net banking) of the bidder will be forfeited/ invoked in the following events: -
- (a) If a bidder withdraws its bid during the period of bid validity, except as provided in ITB 17.2;
 - (b) If a bidder engages in a corrupt, fraudulent, coercive, collusive or restrictive practice as specified in ITB 3.1;
 - (c) If a bidder is declared disqualified in terms of ITB 4.3;
 - (d) If a bidder is otherwise in breach of the terms of the Bidding Documents, or
 - (e) In case of a Selected Bidder, if it fails or refuses to furnish the Performance Security within the scheduled time period as per ITB 38.1.
28. The EMD component transferred by way of net banking to the designated bank account, details of which are provided in <https://www.wbtenders.gov.in> shall be refunded to the designated bank account of the unsuccessful bidders, upon issue of Notification of Award in favour of the Selected Bidder and submission of Performance Security by such Selected Bidder, whichever is later. The EMD component submitted by way of Bank Guarantee in favour of WBMSCL will be returned to the unsuccessful bidders, duly discharged, at the earliest upon issue of Notification of Award in favour of the Selected Bidder and submission of Performance Security by such Selected Bidder, whichever is later.

SECTION – 2

INSTRUCTIONS TO BIDDERS (ITB)

A. General

1. Scope of Bid
 - 1.1 In connection with the Notice Inviting e-Tender for “Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis” under the State of West Bengal of West Bengal Medical Services Corporation Limited having its registered office at Swasthya Sathi, GN- 29, Sector – V, Salt Lake, Kolkata - 700 091(hereinafter referred to as “the Employer”) issues the present Bidding Documents for carrying out the Works as specified in Section -5 (Employer's Requirements). The name, identification and number of contracts of the National Competitive Bidding (NCB) are given below. The tender is invited online and submission of tender will also be online as detailed in the e-NIT.
 - 1.2 Throughout the Bidding Documents:
 - (a) the term "in writing" means communicated in written form and delivered against receipt;
 - (b) the terms ‘bid’ and ‘tender’ and their derivatives (bidder / tenderer, bid/tender, bidding/tendering, etc.) are synonymous.
 - (c) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and
 - (d) "day" means calendar day.

2. General guidance for e-tendering

2.1 Registration of bidder

Any bidder willing to take part in the process of e-tendering will have to be enrolled and registered with the State Government e-procurement system at <https://wbtenders.gov.in>. The bidder is to click on the link for e-tendering as given on the web portal and if required, may contact e-procurement Help Desk at Jalasampad Bhavan, 7th Floor, DVC Cell, Salt Lake, Kolkata, Phone: (033)2334-6098.

Digital Signature Certificate (DSC)

2.2

Each bidder is required to obtain a Class-II or Class-III Digital Signature Certificate (DSC) for submission of tenders, from the approved service provider of the National Informatics Centre (NIC). Details are available on the website <https://wbtenders.gov.in>. The DSC is given as a USB e-token.

Bidders can search and download the e-NIT and Bidding Documents electronically once it logs on to the website mentioned in Sl. No. 4 of the e-NIT. This is the only mode of collection of Bidding Documents.

Bidders are also advised to upload relevant documents well in advance under the “My Documents” Tab at <https://wbtenders.gov.in> so that those can later be selected and attached during bid submission. This is likely to ensure hassle free upload of bid documents.

The speed of upload is dependent on the memory available in the system as well as the network bandwidth used. In case there are space constraints, bidders are advised to scan the documents in 75-100 DPI so that optimal clarity is maintained.

The Employer will not be responsible for any delay or difficulties faced during the submission of bids online by the bidders due to connectivity or other issues.

3. Corrupt Practices 3.1 The Employer requires that bidders observe the highest standard of ethics during the bidding process and during execution of such contract. In pursuance of this policy, the Employer:
- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice"/"bribery" means the offering, giving receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party or influencing the process procuring goods or services or executing contracts;
 - (ii) "fraudulent practice"/"fraud" means any act or omission, including a misrepresentation of information or facts, 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 influence the process procuring goods or services or executing contracts, to the detriment of the Employer or other participants;
 - (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 or designed to result in bids at artificial prices that are not competitive;

- (v) “restrictive practice” means forming a cartel or arriving at any understanding or arrangement among bidders with the objective of restricting or manipulating a full and fair competition in the bidding process.
- (b) will reject a proposal to award a contract if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or restrictive practices in competing for the contract in question; and
- (c) will sanction a party or its successor, including declaring ineligible, either indefinitely or for a stated period of time, to participate in any tender/bidding process of the Employer if it at any time determines that the party has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or restrictive practices in competing for, or in executing, a contract of the Employer.
- (d) will cancel or terminate a contract if it determines that a bidder /party has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or restrictive practices in competing for, or in executing, a contract with the Employer.
- (e) will normally require an agent of the Employer to allow the Employer or any person that the Employer may designate, to inspect or carry out audit of the bidder’s accounting records and financial statements in connection with the contract.

4. Eligible Bidders 4.1 The prospective bidders shall have to meet the following eligibility criteria :
- (a) The bidder shall be a registered WBPWD Class - I/ CPWD /reputed construction company /agency registered under the relevant laws in India / Public Sector Undertaking— subject to ITB 4.5, with a permanent office in West Bengal.
 - (b) Bidder(s) must have satisfactorily completed as a contractor:
 - A. For being qualified, minimum one building construction project of **Rs. 0.76 Crores** or upto two completed building construction projects each of the minimum value is **Rs. 0.57 Crores** and related inter-disciplinary services including internal and external electrification at any place(s) in India during the last 7 (seven) financial years ending on the last day of the month previous to the one in which the tender is invited.
 - N.B. – (1) Partially completed works shall also be considered for determining the eligibility criteria in A and B above, if documentary evidence in support of the fact that the value of the completed portion is Rs. 0.75 Crores or more can be produced.
 - (2) For projects both in the private and public sector, completion certificate along with TDS certificates evidencing payment of at least 60% of the completed similar works shall have to submitted, provided that the completed percentage of such similar works shall meet the minimum value specified in A and B above.
 - (3) Similar works/ works of similar nature shall mean

works executed in India comprising of Construction of RCC framed building with all supporting facilities with works including Public Health, internal and external electrical works, IT works, Septic Tank with soak pit, Internal Roads, Drains, Landscaping. Similar works/ works of similar nature shall exclude inter-alia Road/ Highway/ Airport/ Seaport/ Housing/ Industrial projects.

However, similar nature of building complex within any Industrial premises may be accepted as credential and value should match the eligibility criteria of the bid. The quantity & value of such work (only building portion) should be authenticated from the respective authority.

(4) Certificates of group / subsidiary/ parent/ holding company shall not be considered as a valid certificate of experience of the bidder, unless the same is supported by documents that such company is a group / subsidiary/ parent/ holding company of the bidder.

(5) Similar works shall not include any project executed for group / subsidiary/ parent/ holding company.

(6) For determining the value of the projects, the Tendered Amount of the project will be considered for evaluation and not the Estimated Amount.

B. Minimum Average Annual Turnover of **Rs. 0.57 Crores** during the last 3 (three) financial years (i.e. 2021-2022, 2022-2023 and 2023-2024),

as certified by a Chartered Accountant, for being qualified for a single package.

- (c) **Bid Capacity:** The bidding capacity of the contractor should be Rs. 1.92 Crore. The bidding capacity shall be worked out as per Form no. 17 in Section 4 (Bidding Forms) of this Bid document.

(The bidder should produce either Bid Capacity or Average Annual Turnover for Technical Evaluation purpose)

- (d) A bidder shall be a company within the meaning of the Companies Act, 2013 or any amendment, substitution there of and shall operate in conformity with the provisions of laws in India.
- (e) Participation in the form of Joint venture/Consortium / Special Purpose Vehicle will not be allowed to participate in the above e-NIT.
- (f) The bidder is presently not barred/ blacklisted by any Department, Authority or body corporate under the Government of India or any State Government.
- (g) The other eligibility criteria including eligibility criteria for technical personnel are described in Clause 1 of Section 3 –Evaluation and Qualification Criteria.

4.2 A bidder shall have to furnish the following documents:

- (a) Professional Tax Registration Certificate, Professional Tax Deposit Challan for the financial year 2024-25, PAN Card, GST Registration Certificate/ letter

recording GST identification number along with Income Tax Return Acknowledgement Receipt for financial year 2023-24.

- (b) Tax Audit Report in Form 3CD along with Balance Sheet & Profit and Loss A/c. for the financial years 2021-2022, 2022-2023 and 2023-2024
- (c) Bid capacity in Form 17 of Section - 4 (Bidding Forms) digitally signed by the bidder.

4.3 The Employer considers a conflict of interest to be a situation in which a party has an interest that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations, and that such conflict of interest may contribute to or constitutes a prohibited practice by the Employer which requires that bidders, suppliers, and contractors under contracts with the Employer, observe the highest standard of ethics and will take appropriate actions if it determines that a conflict of interest has flawed the integrity of any procurement process. Consequently all bidders found to have a conflict of interest shall be disqualified. A bidder may be considered to be in a conflict of interest with one or more parties in this bidding process if, including but not limited to:

- (a) they have controlling shareholders in common;
- (b) they receive or have received any direct or indirect subsidy from any of them;
- (c) they have the same legal representative for purposes of this bid;
- (d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or

influence on the bid of another bidder, or influence the decisions of the Employer regarding this bidding process; or

(e) Deleted

4.4 A bidder that is under a declaration of ineligibility and/or blacklisting by the Employer in accordance with ITB 3 or by any Department, Authority or body corporate under the Government of India or any State Government, at the date of the deadline for bid submission or thereafter during process of evaluation, shall be disqualified provided such declaration of ineligibility and/or blacklisting has not been challenged by the bidder and such declaration is stayed and/or kept in abeyance and/or set aside by any competent court of law and/or by any other judicial authority.

4.5 Bidders shall provide such evidence of their continue eligibility satisfactory to the Employer, as the Employer shall reasonably request.

- | | |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. Eligible Personnel
Materials,
Equipment and
Services | 5.1 The bidder shall have the requisite number of Technical Personnel, Plants and Equipment as enumerated in Section - 3 (Evaluation and Qualification Criteria).The materials, equipment and services to be supplied under the Contract may have their origin in any country except prohibited by any statute. |
| | 5.2 For purposes of ITB 5.1 above,"origin"meansthe place where the materials and equipment are mined, grown, produced or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that differs substantially in its basic |

characteristics or in purpose or utility from its components.

- 5.3 The bidders are cautioned to read the specifications carefully, as there may be special requirements. The specifications are the minimum requirements for the products. The products offered must meet or exceed requirements mentioned in the technical specifications. The products shall conform to strength, quality and workmanship to the accepted standards of the relevant industry. Modifications of or additions to basic standard products of less size or capability to meet these requirements will not be acceptable.

B. Contents of Bidding Documents

6. Sections of
Bidding
Documents

- 6.1 The Bidding Documents consist of Parts I, II, and III, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART I Bidding Procedures

Section 1 - Notice Inviting e-Tender (e-NIT)

Section 2 - Instructions to Bidders (ITB)

Section 3 - Evaluation and Qualification Criteria
(EQC)

Section 4 – Bidding Forms (BDF)

PART II Requirements

Section 5 - Employer's Requirements (ERQ)

PART III Conditions of Contract and Contract Forms

Section 6 - General Conditions of Contract (GCC)

Section 7 - Contract Forms (COF)

The Employer is not responsible for the completeness of the

- 6.2 Bidding Documents and their addenda/ corrigenda, if they were not obtained directly from the source stated by the Employer in the e-NIT.
 - 6.3 The bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents. Failure to furnish all information or documentation required by the Bidding Documents may result in the rejection of the bid.
 - 6.4 All the Sections forming part of the Bidding Documents are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance to Clause 1.5 of the GCC.
7. Clarification of Bidding Documents, Pre-Bid Meeting
- 7.1 A prospective bidder requiring any clarification of the Bidding Documents shall contact the Employer in writing by sending an e-mail to the Employer's e-mail address info@wbmsc.gov.in raise its queries during the pre-bid meeting if provided for in accordance with ITB 7.4 and 7.5. The Employer may upload in the website hosting the Bidding Documents, its responses to bidders' queries. Should the Employer deem it necessary to amend the Bidding Documents, as a result of a request for clarification, it shall do so following the procedure under ITB 8.
 - 7.2 The bidder is advised to visit and examine the site of Work and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the site shall be at the bidder's own expense. The bidder and any of its personnel or agents will be granted permission by the Employer 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 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.

- 7.3 The bidder's designated representative is invited to attend a pre-bid meeting at Swasthya Sathi, GN-29, Sector -V, Salt Lake, Kolkata - 700091. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.4 The bidder is requested, as far as possible, to submit any questions in writing, or each the Employer not later than one week before the meeting.
- 7.5 Minutes of the pre-bid meeting, including the text of the questions raised, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be uploaded in the e-tender portal i.e. <https://wbtenders.gov.in> within 15 (fifteen) days from the date of pre-bid meeting. Any modification to the Bidding Documents that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of appropriate addendum/ corrigendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting.
- 7.6 Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

- 8. Amendment of Bidding Documents/
 - 8.1 Any addendum/ corrigendum issued shall be part of the Bidding Documents and shall be uploaded in the e-tender portal i.e. <https://wbtenders.gov.in> and also at

Extension of www.wbmsc.gov.in.

deadlines 8.2 To give prospective bidders reasonable time in which to take an addendum/ corrigendum into account in preparing their bids or for other causes and consideration, the Employer may, at its discretion, extend the deadline for the submission of bids.

C. Preparation of Bids

9. Costs of Bidding 9.1 The bidder shall bear all costs associated with the preparation and submission of its bid, and the Employer shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

10. Language of Bid 10.1 The bid, as well as all correspondence and documents relating to the bid exchanged by the bidder and the Employer, shall be written in English only. Supporting documents and printed literature that are part of the bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the bid, such translation shall be relied on.

11. Documents comprising the Bid 11.1 Tenders are to be submitted online following the process mentioned in Sl. Nos. 7 of the e-NIT in two folders, one being the Technical Bid and the other being the Financial Bid before the prescribed date and time. The documents are to be uploaded scanned for viruses and duly digitally signed so that the documents will get encrypted (transformed into non readable formats).

11.2 The Technical Bid shall comprise of the scanned copies of the following documents in one folder:

Statutory cover of Technical Bid containing:

To be filled in FORM folder:

- (i) Letter of Technical Bid in form of Affidavit as given in Form - 1 of Section – 4 (Bidding Forms)
- (ii) Declaration cum Experience profile of the bidder, as per format given in Form – 2 of Section - 4 (Bidding Forms)
- (iii) Power of Attorney in favour of signatory of the bid, as per format given in Form – 5 of Section - 4 (Bidding Forms)
- (iv) Qualification Information (duly filled in by the bidder), as per format given in Form –16 (Form ELL-1) of Section - 4 (Bidding Forms)
- (v) Letter of Financial Bid, as per format given in Form – 3 of Section - 4 (Bidding Forms)

To be filled in DRAFT folder:

Copy of the Earnest Money Deposit (EMD) Challan/ Bid Security as prescribed in the e-NIT, in favour of “West Bengal Medical Services Corporation Limited”

To be filled in e-NIT folder:

- (i) Notice Inviting e-Tender (Section - 1) and Instructions to Bidders (Section - 2) (uploaded with digital signature).
- (ii) General Conditions of Contract (Section - 6) (uploaded with digital signature).
- (iii) Employer’s Requirements (Section - 5) (uploaded with digital signature).

Non-statutory (My Documents) cover containing

To be filled in CERTIFICATE folder:

- (i) Copy of Certificate of Incorporation, Memorandum and Articles of Association
- (ii) Copy of GST Registration Certificate/ letter recording GST identification number
- (iii) Copy of Professional Tax Registration Certificate
- (iv) Copy of PAN Card
- (v) Copy of document showing proof of permanent office in Kolkata

To be filled in FINANCIAL INFO folder:

- (i) Copy of Income Tax Returns for the financial years 2023-24
- (ii) Copy of Professional Tax Deposit Challan for the financial year 2024-25
- (iii) Form- 17

To be filled in P/L AND BALANCE SHEET 2019-2020 folder:

Profit & Loss Account and Balance Sheet for financial year 2021-2022 along with Tax Audit Return in Form 3CD

To be filled in P/L AND BALANCE SHEET 2020-2021 folder:

Profit & Loss Account and Balance Sheet for financial year 2022-2023 along with Tax Audit Form in Form 3CD

To be filled in P/L AND BALANCE SHEET 2021-2022 folder:

Profit & Loss Account and Balance Sheet for financial year 2023-2024

To be filled in CREDENTIAL 1 folder:

- (i) Value of construction works of similar nature completed as per format in Form - 18 in Section – 4 (Bidding Forms) during the last 7 financial years supported by certificate by the client/TDS certificates
- (ii) Form – 10 (Site Organization)
- (iii) Form – 11 (Method Statement)
- (iv) Form – 12 (Mobilization Schedule)
- (v) Form – 13 (Construction Schedule)

To be filled in MANPOWER folder:

- (i) Details of personnel in the payrolls of the bidder comprising of the in-house design department with experience profile of such personnel or in the alternative, copy of the agreement with reputed design engineering firm(s) with 5 years of experience in the domain along with proof of empanelment of such firm before any municipal body(ies) along with experience profile of such personnel, as required in Section – 3 (Evaluation and Qualification Criteria)

In case of failure to submit any of the above mentioned documents (for both statutory and non-statutory cover) in respective folders, the Employer shall be entitled to summarily reject the bid.

- 11.3 The Financial Bid shall comprise of : (i) Bill of Quantity (BOQ) in the specified format, the bidder is submitting bid for, being the cost for planning, designing and construction including training of personnel pertaining to specified electrical, mechanical and electromechanical inclusive of all taxes and charges, which are categorized in the BOQ as Planning, Design and Construction of building for

development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis. The total area in sq. m. for each of the sub-categories of buildings to be constructed in the site has been provided in the BOQ and the bidder will be required to quote its rate on per sq. m. basis for the above sub-categories.

N.B. – (1) The bidder is to quote the rate online in the space marked for quoting rate in the BOQ.

(2) Only downloaded copies of the above documents are to be uploaded, virus scanned and digitally signed by the bidder.

(3) Deleted

(4) The rate quoted per sq. m. basis should also include costs of roads, suitable drainage system upto the nearest outfall of the Municipality/ Panchayat, necessary development of lands, playgrounds, street lights and allied facilities as may be required and directed by the Employer. In other words, no money over and above the total rate quoted on per sq. m. basis of all the sub-categories of buildings in the BOQ taken together will be paid by the Employer to the Selected Bidder/ Contractor and the bidder should accordingly bid for the Project. Roads shall mean and refer internal roadways. Internal roadways (including peripheral roads) shall have to be constructed so as to establish connectivity between all the buildings and to allow free movement of vehicular traffic and fire tenders within the building premises. Storm water drainage network for the entire college premises shall be connected with municipality drain, if any, or to the nearest natural outfall where municipality drain is not available. Internal roadways shall be illuminated by street lights.

(5) The evaluation of Financial Bid will only be based on the basis of evaluation of the BOQ.

- (i) **Cost of construction inclusive of all taxes and charges in respect of the site in the bid taken together, presuming a built up area of 515.00 Sq.Mt. for the Hospital Building provided that the cost of support services i.e. Electrical Metering Room, Septic Tank with Soak pit, UGT, road etc. would have to be factored in such cost of construction, but the area occupied by such utilities would not be included in the builtup area. No extra payment will be made for area of Electrical Metering Room, Septic Tank with Soak pit, UGT, road etc. and the area 515.00 Sq.Mt. is excluding these services.**

- | | |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12. Letters of Technical Bid and Schedules | 12.1 The Letters of Technical Bid shall be prepared using the relevant forms furnished in Section - 4 (Bidding Forms). The forms must be completed without any alterations to the text and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested. |
| 13. Bid Prices | <p>13.1 The prices quoted by the bidder in the Financial Bid shall conform to the requirements specified below.</p> <p>13.2 The prices to be quoted in the Financial Bid, in accordance with ITB 11.3, shall be the total price of the bid.</p> <p>13.3 The price quoted by the bidder is not subject to any discount or adjustment.</p> <p>13.4 All duties, taxes, and other levies payable by the Selected Bidder under the Contract, or for any other cause, shall be considered to be included in the prices and the total Bid Price submitted by the bidder. The Bid Price quoted by the bidder shall be final and shall not be adjusted and/or</p> |

increased for change in any duty / tax / other levies or outgoings and/or any levy of any additional duty or tax or other levies which are not earlier payable In other words, the Selected Bidder will not be paid anything more than the Bid Price, which is all inclusive.

However, the Employer will assist (on a no recourse basis and in good faith, based on the Selected Bidder's representations and in good faith thereof)the Selected Bidder/Contractor to obtain any law ful exemptions from payments of Duties or Taxes on Plant and Materials which are to be incorporated as a part of the Permanent Works by issue of an appropriate certificate in the requisite form at certifying the estimated quantities of Plant/Materials that are to be incorporated into the Works. The responsibility for obtaining any such exemptions from the competent authority will remain with the Selected Bidder and the Employer shall in no way be responsible for admissibility of the claims or eligibility of the Selected Bidder.

Any disclosure of any information or documents required to be submitted in the Financial Bid by the bidder, whether inadvertent or not, will disqualify the bidder and render its bid non-responsive and rejected.

13.5

- | | | |
|----------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14. Currencies of Bid and Payment | 14.1 | The rate shall be quoted by the bidder entirely in Indian National Rupees (INR) only. The Employer shall be entitled to reject any bid, if the same has been submitted in any other currency. |
| 15. Documents
Comprising the
Technical | 15.1 | To establish its qualifications to perform the Contract, the bidder shall furnish as part of the Technical Bid, a technical proposal including a statement of work methods, equipment, |

Proposal		personnel, schedule and any other information as stipulated in Section – 4 (Bidding Forms) insufficient detail to demonstrate the adequacy of the bidder’s proposal to meet the work requirements and the completion time.
	15.2	To establish the conformity of the goods and related services to the Bidding Documents, the bidder shall furnish as part of its bid, the documentary evidence that the Goods / Products conform to the technical specifications and standard specified in Section - 5 (Employer’s Requirements).
16. Documents Establishing the Qualifications of the Bidder	16.1	To establish its qualifications to perform the Contract in accordance with Section -3(Evaluation and Qualification Criteria) the bidder shall provide the information requested in the corresponding information sheets included in Section - 4 (Bidding Forms).
17. Period of Validity of Bids	17.1	Bids shall remain valid for a period of 120 days after opening of financial bid as prescribed by the Employer. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.
	17.2	In exceptional circumstances, prior to the expiration of the bid validity period, the Employer may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. A bidder may refuse the request without forfeiting its Bid Security. A bidder granting the request shall not be required or permitted to modify its bid.
18. Bid Security	18.1	Appropriate Earnest Money / Bid Security of an amount as mentioned in Sl. 2 hereinabove have to be deposited by the

bidder at the time of submission of the Technical Bid and the Financial Bid. The Earnest Money / Bid Security to be submitted is an amount of Rs. 3,74,000/- (Rupees three lakh seventy four thousand only), for which an amount of Rs. 3,74,000/- (Rupees three lakh seventy four thousand only) may be transferred by way of net banking to the designated bank account as mentioned in the website <https://www.wbtenders.gov.in> 1

18.2 No valid bid can be uploaded in the website www.wbtenders.gov.in, unless payment of 100% of the Bid Security has been made in the said website www.wbtenders.gov.in.

18.3 The EMD component transferred by way of net banking to the designated bank account, details of which are provided in <https://www.wbtenders.gov.in> shall be refunded to the designated bank account of the unsuccessful bidders, upon issue of Notification of Award in favour of the Selected Bidder and submission of Performance Security by such Selected Bidder, whichever is later. The EMD component submitted by way of Bank Guarantee in favour of WBMSCL will be returned to the unsuccessful bidders, duly discharged, at the earliest upon issue of Notification of Award in favour of the Selected Bidder and submission of Performance Security by such Selected Bidder, whichever is later.

The entire EMD/ Bid Security (both the Bank Guarantee component and the amount transferred by way of net banking) of the bidder will be forfeited/ invoked in the following events: -

- (a) If a bidder withdraws its bid during the period of bid validity, except as provided in ITB 17.2;
- (b) If a bidder engages in a corrupt, fraudulent, coercive,

- collusive or restrictive practice as specified in ITB 3.1;
- (c) If a bidder is declared disqualified in terms of ITB 4.3;
- (d) If a bidder is otherwise in breach of the terms of the Bidding Documents, or,
- (e) In case of a Selected Bidder, if it fails or refuses to furnish the Performance Security within the scheduled time period as per ITB 38.1.

- | | |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 19. Format and Signing of Bid | 19.1 The bid shall be digitally signed by a person or persons duly authorized to sign on behalf of the bidder as stated in Sl. No. 26 of the e-NIT. |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|

D. Submission and Opening of Bids

- | | |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20. Submission of Bids | 20.1 Bids are to be submitted online as stated in Sl. Nos. 6, 7 and 8 of the e-NIT in two folders at a time, one being Technical Proposal / Technical Bid and the other being Financial Bid before the prescribed date and time with Digital Signature Certificate (DSC). The documents are to be uploaded scanned for viruses and duly signed, digitally so that the documents will get encrypted (transformed into non readable formats).

In addition, the bidders shall submit a physical copy of all documents so uploaded, at the office of the Employer before the bid submission date, to facilitate evaluation of the bids. The physical copies of the Technical Bid documents should be submitted in one envelope and the Bid Security shall be submitted in another envelope. |
| 21. Deadline for | 21.1 Complete bids (including Technical and Financial) must be |

- Submission of Bids uploaded in the e-tender website i.e. <https://wbtenders.gov.in> not later than the date as mentioned in the e-NIT under Sl. 10.
- 21.2 The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB8, in which case all rights and obligations of the Employer and bidders previously subject to the dead line shall thereafter be subject to the dead line as extended.
22. Bid Opening
- 22.1 The Technical Bid will be opened online by the authority receiving tenders or by its authorized representative at time, date and the place specified in the e-NIT under Sl.10 in the manner specified in the e-NIT. The authority receiving tenders or its authorized representative shall decrypt all Technical Bids submitted by the bidders and copy it in any storage device such as a compact disc, pen drive or hard drive. The manner of online opening of Financial Bid will be same as Technical Bid opening.
- 22.2 All folders containing the Technical Bids shall be opened one at a time, and the following recorded:
- (a) the name of the bidder;
 - (b) the presence of a Bid Security,
 - (c) the presence of e-NIT Acceptance Form as per Form -19 in Section-4 (Bidding Forms) and
 - (d) any other details as the Employer may consider appropriate.
- Only Technical Bids recorded at bid opening shall be considered for evaluation.
- 22.3 If the e-NIT Acceptance Form is not present as part of the

Technical Bid of any bidder, the Employer will not go into detailed evaluation of the Technical Bid of such bidder and will summarily reject such Technical Bid. The Employer shall prepare a record of the opening of Technical Bids. A copy of the record shall be uploaded on the website <https://wbtenders.gov.in> and also at www.wbmsc.gov.in and www.wbhealth.gov.in.

22.4 At the end of the evaluation of the Technical Bids, the Employer will upload on the website <https://wbtenders.gov.in> and also at www.wbmsc.gov.in and www.wbhealth.gov.in the name of the bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award in terms of ITB 35.

22.5 The Employer shall conduct the opening of the Financial Bid of all bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified in terms of ITB 27. All folders containing Financial Bids shall be opened one at a time and the following recorded:

- (a) the name of the bidder;
- (b) the Financial Bid;
- (c) any other details as the Employer may consider appropriate.

Only Financial Bids recorded during the opening of Financial Bids shall be considered for evaluation. No bid shall be rejected at the time of opening of Financial Bids except when the Financial Bid is not in accordance with the Bidding Documents.

E. Evaluation and Comparison of Bids

23. Confidentiality
- 23.1 Information relating to the examination, evaluation, comparison, and post qualification of bids and recommendation of Award, shall not be disclosed to bidders or any other persons not officially concerned with such process until information on Award of contract is communicated to all bidders.
- 23.2 Any attempt by a bidder to influence the Employer in the evaluation of the bids or contract award decisions may result in the rejection of its bid.
24. Clarification of Bids
- 24.1 To assist in the examination, evaluation and comparison of the Technical and Financial Bids, the Employer may, at its discretion, ask any bidder for a clarification of its bid. Any clarification submitted by a bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change in the substance of the Technical Bid, or, prices in the Financial Bid shall be sought, offered, or permitted.
- 24.2 If a bidder does not provide clarifications of its bid by the date and time set in the Employer's request for clarification, its bid may be rejected.
25. Deviations, Reservations, and Omissions
- 25.1 During the evaluation of bids, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the Bidding Documents;
- (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the

requirements specified in the Bidding Documents; and
(c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Documents.

- | | |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 26. Preliminary Examination of Technical Bids | 26.1 The Employer shall examine the Technical Bid to confirm that all documents and technical documentation requested in ITB 11.2 have been provided, and to determine the completeness of each document submitted. If any of these documents or information is missing, the bid may be rejected. |
| 27. Responsiveness of Technical Bid | <div>27.1 The Employer's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB 11.</div> <div>27.2 A substantially responsive Technical Bid is one that meets the requirements of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that,
(a) if accepted, would:
(i) affect in any substantial way the scope, quality, or performance of the contract; or
(ii) limit in any substantial way, inconsistent with the Bidding Documents, the rights of the Employer or the Department of Health & Family Welfare, Government of West Bengal, or the bidder's obligations under the proposed contract; or
(b) if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.</div> <div>27.3 The Employer shall examine the technical aspects of the bid submitted to confirm that all requirements have been met without any material deviation or reservation.</div> |

- 27.4 If a bid is not substantially responsive to the requirements of the Bidding Documents and is rejected by the Employer, it may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
28. Nonconformities, Errors, and Omissions
- 28.1 The Employer may waive any nonconformity in the bid that does not constitute a material deviation, reservation or omission.
- 28.2 The Employer may request that the bidder submit information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Technical Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the Financial Bid. Failure of the bidder to comply with the request of the tendering authority may result in the rejection of its bid.
29. Qualification of the Bidder
- 29.1 The Employer shall determine to its satisfaction during the evaluation of Technical Bids whether bidders meet the qualifying criteria as specified in the Bidding Documents.
- 29.2 The determination shall be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder, pursuant to ITB 11.2.
30. Evaluation Criteria
- 30.1 The bidders who meet the qualifying criteria shall be treated equally and all the technically qualified bidders shall be at par while considering their Financial Bid.
- The Financial Bid of bidders, who do not meet the qualifying criteria prescribed in ITB 4.1 will not be opened.

- | | |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 31. Preliminary Examination of Financial Bids | 31.1 The Employer shall examine the Financial Bids to confirm that all documents and schedules requested in ITB 11.3 have been provided, and to determine the completeness of each document submitted. If any of these documents or information is missing, the bid may be rejected. |
| 32. Evaluation of Financial Bids | 32.1 The Employer shall only consider the amount quoted in the BOQ, for evaluation of the Financial Bid of the technically qualified bidder. |
| 33. Comparison of Financial Bids | <p>33.1 All technically qualified bidders shall be at par.</p> <p>33.2 The Employer shall compare the Financial Bids of technically qualified bidders to determine the lowest Financial Bid.</p> <p>33.3 The Financial Bids will be opened upon decryption of the price quotations a table shall be prepared containing particulars of Financial Bids submitted.</p> |
| 34. Employer's right to accept any bid, and to reject any or all bids | 34.1 The Employer reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to Award, without thereby incurring any liability to bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly refunded to the bidders. |

F. Award of Contract

- | | |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 35. Award Criteria | 35.1 The Employer shall award one Contract in respect of the site or in its sole discretion (based on the recommendation of the TEC), contract in respect of the site to the bidder whose offer has been determined to be the lowest evaluated bid (L1 |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

bidder) and which is substantially responsive to the Bidding Documents, provided further that the bidder is determined to be qualified to perform the Contract satisfactorily.

35.2 In the event, the Financial Bids of 2 (two) or more L1 bidders, who are qualified and whose Technical Bids are at par, are the same (the “**tie bidders**”), the Employer shall at its discretion:

(a) Either hold an *inter se* auction amongst such tie bidders to quote further lower bids and shall declare such of them who has offered the lowest bid in such auction to be the Selected Bidder. Bidders’ representatives who choose to attend the Financial Bid opening should therefore be duly authorized to participate in such auction. In the event, a tie bidder is not represented on the Financial Bid opening date or the authorized representative of such bidder does not or is unwilling to participate in such auction, the auction would be held amongst the remaining tie bidders and if there be only one remaining tie bidder, the latter will be declared as the Selected Bidder provided that such remaining tie bidder offers a lower bid than that already offered in its Financial Bid. In the event the lowest bidder withdraws or is not declared as the Selected Bidder, the Employer may invite fresh bids; or

(b) Invite fresh bids, without holding any *inter se* auction amongst such tie bidders

35.3 Deleted.

36. Notification of 36.1 The bidder whose bid has been accepted will be

Award

notified of the award by the Employer prior to expiration of the bid validity period by uploading in the e-tender portal and www.wbmisc.gov.in or by e-mail or facsimile confirmed by registered letter. This letter (hereinafter and in the Conditions of Contract called the "Letter of Acceptance/Notification of Award") will state the sum that the Employer will pay the Contractor in consideration of the execution of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Tendered Amount") in respect of the bid.

36.2 The Employer, may in its sole discretion, instead of awarding one contract to the L1 bidder to be given, If the Employer decides to do so, the Employer will state the sum that the Employer will pay to such Selected Bidder in consideration of the execution, completion, and maintenance of the Works by the Selected Bidder in respect of each site, which shall be equal to the quoted price in respect of each site contained in the Financial Bid of the Selected Bidder. It is clarified that aggregate of contract price in respect of all sites contained in the bid, shall be the Financial Bid of the Selected Bidder.

36.3 Until a formal contract is prepared and executed in respect of the site, as the case may be, the Notification of Award shall constitute a notification of commencement of Works, subject only to the furnishing of a Performance Security in accordance with the provisions of ITB 38.1, where upon the Contract shall come into force.

The Employer shall hand over the sites to the Selected Bidder in respect of the site, within 15 days from the Letter of Acceptance.

37. Signing of Contract
- 37.1 Promptly after notification, the Employer shall send the Selected Bidder, the Form of Agreement to be executed for the work. Each page of the Agreement should be signed by the Employer's Representative and the Contractor's authorized signatory. If there are any corrections, cuttings, omissions, over writings, insertions, etc. (after issue of Bidding Documents) their number should be clearly mentioned on each page of the Agreement before signing.
- 37.2 Within 21 days of receipt of the Form of Agreement, the Selected Bidder shall sign with date, as the case may be and return it to the Employer. The Contract shall only come into existence, when the Performance Security is furnished in terms of ITB 38.1.
- 37.3 No payment for the Works done will be made to the Selected Bidder till the Agreement is signed by the Selected Bidder and Performance Security along with the Manufacturer's Authorization Forms, duly filled in and signed have been submitted by the Selected Bidder.
38. Performance Security
- 38.1 Within 14 days of the receipt of Notification of Award from the Employer, the Selected Bidder shall furnish the Performance Security in accordance with the conditions of contract, using for that purpose the Performance Security Form included in Section - 7 (Contract Forms), or another form acceptable to the Employer.
- 38.2 Failure of the Selected Bidder to submit the above mentioned Performance Security or to sign the Agreements, shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event, the Employer may award the Contract to the next lowest

evaluated bidder (L2 bidder) whose offer is substantially responsive and is determined by the Employer to be qualified to perform the Contract satisfactorily at the price quoted by the L2 bidder or the Employer, may, at its discretion go in for fresh tenders.

39. Mobilisation
Advance

Deleted.

STATUTORY COVER:

FORM folder:

- (i) Form - 1
- (ii) Form – 2
- (iii) Form – 5
- (iv) Form –16 (Form ELI-1)
- (v) Form – 3

e-NIT folder:

- (i) Notice Inviting e-Tender (Section - 1) and Instructions to Bidders (Section - 2)
- (ii) General Conditions of Contract (Section - 6)
- (iii) Employer's Requirements (Section - 5)

NON-STATUTORY (MY DOCUMENTS) COVER

CERTIFICATE folder:

- (i) Certificate of Incorporation, Memorandum and Articles of Association
- (ii) GST Registration Certificate/ letter recording GST identification number
- (iii) Professional Tax Registration Certificate for the financial year 2024-25
- (iv) PAN Card
- (v) Proof of permanent office in West Bengal

FINANCIAL INFO folder:

- (i) Income Tax Returns for the financial years 2023-24
- (ii) Professional Tax Deposit Challan for the financial year 2024-25
- (iii) Form- 17

P/L AND BALANCE SHEET 2019-2020 folder:

Profit & Loss Account and Balance Sheet for financial year 2021-2022 along with Tax Audit Return in Form 3CD

P/L AND BALANCE SHEET 2020-2021 folder:

Profit & Loss Account and Balance Sheet for financial year 2022-2023 along with Tax Audit Form in Form 3CD

P/L AND BALANCE SHEET 2021-2022 folder:

Profit & Loss Account and Balance Sheet for financial year 2023-2024 along with Tax Audit Form in Form 3CD

CREDENTIAL 1 folder:

- (i) Form – 17 (Bid capacity)
- (ii) Form – 18 (Experience Profile)
- (iii) Form – 10 (Site Organization)
- (iv) Form – 11 (Method Statement)
- (v) Form – 12 (Mobilization Schedule)
- (vi) Form – 13 (Construction Schedule)

MANPOWER folder:

Details of personnel in the payrolls of the bidder comprising of the in-house design department with experience profile of such personnel or in the alternative, copy of the agreement with reputed design engineering firm(s) with 5 years of experience in the domain along with proof of empanelment of such firm before any municipal body(ies) along with experience profile of such personnel, as required in Section – 3 (Evaluation and Qualification Criteria)

BOQ FOLDER

- (i) BOQ

SECTION 3

EVALUATION AND QUALIFICATION

CRITERIA (EQC)

SECTION – 3
EVALUATION AND QUALIFICATION CRITERIA (EQC)

- Without Prequalification –

This Section contains all the criteria that the Employer shall use to evaluate bids and qualify Bidders. In accordance with the ITB, no other method, criteria and factors shall be used. The bidder shall provide all the information requested in the forms included in Section - 4 (Bidding Forms).

1. Qualification Eligibility

1.1 Eligibility

Criteria Requirement	Compliance Requirements	Documents Submission Requirements
-----------------------------	--------------------------------	------------------------------------------

1.1.1 Nationality

Nationality in accordance with ITB 4.1	Must meet requirement	Form ELL-1 with attachments
----------------------------------------	-----------------------	-----------------------------

1.1.2 Conflict of Interest

No conflict of interest in accordance with ITB 4.3	Must meet requirement	Letter of Technical Bid
----------------------------------------------------	-----------------------	-------------------------

1.1.3 Eligibility

Not having been declared ineligible by any Department, Authority or body corporate of Government of India or any State Government, as described in ITB 4.4	Must meet requirement	Letter of Technical Bid
------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------	-------------------------

1.2 Financial Situation

Criteria Requirement	Compliance Requirements	Documents Submission Requirements
----------------------	-------------------------	-----------------------------------

1.2.1 Historical Financial Performance

Submission of audited balance sheets, other financial statements for the last three years to demonstrate the current soundness of the bidder's financial position and its prospective long term profitability. Using Forms FIN – 1 in Section 4 (Bidding Forms) the bidder must demonstrate that the bidder's net worth is positive	Must meet requirement	Forms ELL-1, with attachments of Section 4
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------	--------------------------------------------

1.2.2 Bid Capacity

Bid Capacity : The bidding capacity of the contractor should be Rs. 1.92 Crore. The bidding capacity shall be worked out as per Form no. 17 in Section 4 (Bidding Forms) of this Bid document.	Must meet requirement	Form – 17
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------	-----------

1.2.3 Deleted

--	--

1.3 Experience

Criteria Requirement	Compliance Requirements	Documents Submission Requirements
----------------------	-------------------------	-----------------------------------

1.3.1 General Construction Experience

Experience under construction contracts in the role of contractor for at least last 5 (five) years prior to the application submission deadline in the field of construction of buildings	Must meet requirement	Form EXP-1 of Form 18
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------	-----------------------

1.3.2 Specific Construction Experience Contracts of Similar Size and Nature

Participation as contractor in Similar Works as per ITB 4.1	Must meet requirement	Form 2 of Section 4
-------------------------------------------------------------	-----------------------	---------------------

1.4 Personnel

The bidder shall preferably have an in-house Design Department with qualified and experienced Architects, Structural Engineers and Electro-Mechanical Engineers to carry out the detailed Engineering Works. In case a bidder does not have an in-house design engineering capability covering all engineering disciplines, then they need to have a formal tie up with any specialized design engineering agency /agencies having the requisite experience, capability and proven track record for providing Design and Engineering Services on the day of submission of bid. Such design engineering agency /agencies shall have a minimum of 10 years of experience in the domain, executed 1 similar project (as described in ITB 4.1) of a minimum value of Rs. 5 Crores within the last 5 years and empanelled with any metropolitan municipal body of India. Copy of the Agreement with

such reputed design engineering agency/ agencies along with proof of empanelment of such agency before any municipal body(ies) and its work experience credentials should be uploaded in the relevant folder.

Mandatory list of personnel, not for evaluation purpose

The bidder shall have the following technical personnel at each site, in its pay-rolls, who shall be deployed on full-time basis.

Apart from engineers cited above to be deputed at site for overseeing different phases of construction, a team of Key Personnel of the following criteria is also a pre-requisite.

A. Lead Project Engineer :

A Graduate in Civil Engineering with 5 years experience in construction, planning and management. One engineer to be deployed on per package basis by the Contractor for day to day interactions with the representative(s) of the Employer for execution and supervision of the Works.

B. Principal Engineer :

Sl. No.	Personnel	Qualification	No. of Personnel
1.	Project Manager (Civil)	B.E. (Civil) with 5 years experience or Diploma in Civil Engineering with 10 years experience.	1
1.	MEP Engineer (Electrical)	B.E. (Electrical) with 5 years experience or Diploma in Electrical Engineering with 10 years experience.	1
2.	Site Engineer (Electrical)	Diploma in with 2 years experience or Diploma in Electrical Engineering with 7 years experience in Building & Substation work.	1
3.	Site Engineer (Civil)	Diploma in Civil Engineering with 2 years experience in Building Construction Work.	1

A Post Graduate in Structural Engineering (Civil) with 5 years experience in design and supervision of building works and thorough experience in RCC / PSC / steel-concrete composite superstructure with different types of foundation including pile foundation for buildings.

C. Soil Mechanics & Foundation Engineer :

A Post Graduate degree in Soil Mechanics & Foundation Engineering having 10 years experience out of which at least 5 years experience in supervising soil mechanics and foundation work for major building works, design of foundations of all types including pile foundation for building structures and construction of major buildings.

D. Principal Architect :

A Graduate Architect having 5 years experience out of which 3 years experience for preparation of building planning and detailing for major buildings.

E. Principal MEP Engineer :

A Graduate Electrical Engineer having 5 years experience in electrical designing in building projects.

1.5 Equipment (not for evaluation purposes)

Availability (either owned or leased having validity for the period till completion of project) of the following key and critical equipment is required for a single site of a package:

Sl. No.	Type of Equipment	Maximum age on 30.11.2019	Requirement
1.	Dozer	10 years	1 no
2.	Front end Loader	5 years	1 nos.
3.	Vibratory Roller / earth compactor	5 years	1 nos.
4.	Water Tanker	5 years	1 nos.
5.	Concrete Pump	5 years	1 nos.
6.	Rig for piling work (if required)	5 years	3 nos.
7.	Auto Level Machine	5 years	1 no.
8.	Vibrator Equipment (Electrical and Fuel type)	3 years	1 no.
9.	Steel Staging and shuttering Material Set	5 years	500 Sqm.
10.	Reinforcement cutting and bending machine	5 years	1 no.

N.B. - The above list of equipment reflects the minimum requirement for carrying out the Works and is not an exhaustive list of the equipment required to be deployed. An undertaking on stamp paper stating that all machinery and personnel requirements will be adhered to if the tender is awarded to the bidder will be sufficient for technical evaluation purpose.

SECTION 4
BIDDING FORMS (BDF)

SECTION – 4
BIDDING FORMS (BDF)

FORM 1

LETTER OF TECHNICAL BID IN FORM OF AFFIDAVIT

(To be affirmed on Non-Judicial Stamp Paper of Rs.10/- duly attested by Notary / Magistrate)

Name of Contract:

Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis

Managing Director,
West Bengal Medical Services Corporation Ltd,
Swasthya Sathi,
GN- 29, Sector – V, Salt Lake,
Kolkata-700 091

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) 8.
- (b) We offer to execute in conformity with the Bidding Documents the following works:

- (c) Our Bid consisting of the Technical Bid and the Financial Bid shall be valid for a period of 120 days from the opening of financial bid in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (d) If our bid is accepted, we commit to obtain a Performance Security in accordance with the Bidding Documents.
- (e) Our company has been incorporated in accordance with the laws of India and governed by them.
- (f) Our company, including its suppliers, do not have any conflict of interest in accordance with ITB 4.3.

- (g) Our company is participating as a bidder having satisfied the eligibility criteria in accordance with ITB 4.1.
- (h) Our company, its affiliates or subsidiaries, including any suppliers for any part of the contract, has not been declared ineligible by WBMSCL, any Department, Authority or body corporate under the Government of India or any State Government.
- (i) We agree to permit WBMSCL or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by the WBMSCL.
- (j) We understand that:
 - (i) WBMSCL can amend the scope and value of the contract bid under this project.
 - (ii) WBMSCL reserves the right to reject any application without assigning any reason.
- (k) All the statements made in the attached documents are true and correct. In case of any information submitted proved to be false or concealed, the application may be rejected and no objection /claim will be raised by the bidder company.

Enclo:

- 1. Statutory Documents
- 2. Non Statutory Documents
- 3. Forms & Annexure duly filled up, signed & notarized (where applicable)

Date:

For.....(name of bidder)

Place:

(Signature)

.....(name of authorized signatory)

.....(designation)

FORM 2

DECLARATION BY THE BIDDER

(Affidavit on Non-Judicial Stamp Paper of Rs.10/- duly attested by Notary / Magistrate)

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 the Instructions to Bidders (ITB) and all the documents; Forms & Annexures, etc. mentioned therein alongwith the drawing attached. We have also carefully gone through the ITB, Employer's Requirements, General Conditions of Contract, Forms & annexures etc. to be submitted duly filled up & notarized in the form of Affidavit, where applicable, and time of completion (which is sacrosanct) of work: "Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis"

- i) Our bid is offered taking due consideration of all factors including site information and conditions of each and every proposed location of the upcoming *Hospital Building* stated in the detailed Instructions to Bidders to execute the work up to the standards as laid out in Employer's Requirements and other sections of ITB.
- ii) We understand that the work being done on Turnkey Basis (Planning, Design & Construction) though we require approval at different stages of the work starting from concept plan and design to implementation of the work from the Employer / Employer's Representative, such approval do not absolve owning up of responsibility incumbent to us for adequacy of design, standard of work & its safety, maintaining prescribed specification of the work and upholding secured movement of all the stakeholders inside the premises of existing hospital.
- iii) 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.
- iv) 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 of ITB. We also agree to accomplish the job entrusted to us in the stipulated time laid out in ITB except situations not under our control.

- v) We have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements;
- vi) We do not have records of poor performance such as abandoning the work, not properly completing the contract, inordinate delays in completion, litigation history or financial failures etc.
- vii) There is no subsisting order of ban/ blacklisting passed by any Department, Authority or body corporate of the Government of India or any State Government.
- viii) We have submitted all the supporting documents and furnished the relevant details as per prescribed format.
- ix) 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.
- x) The information and documents submitted with the bid by us are correct and we are fully responsible for the correctness of the information and documents submitted by us.
- xi) We understand that in case any statement/information/document furnished by us or to be furnished by us in connection with this offer, is found to be incorrect or false, appropriate proceedings for debarment and/ or blacklisting may be commenced against us.

Date:

For.....(name of bidder)

Place:

(Signature)

.....(name of authorized signatory)

.....(designation)

PROFORMA

	Similar nature of work done			Work in progress			
Sl. No.	Name of the work with Tender No.	Employer & Contact no	Estimated Amount	Sl. No.	Name of the work with Tender No.	Employer & Contact no	Estimated Amount

Note:

1. In support of having completed above works attach self-attested copies of the completion certificate from the owner/client indicating the name of work, the description of work done by the bidder, date of start, date of completion (contractual & actual), value of contract as awarded and as executed by the bidder and value of material supplied free by the client.
2. Such credential certificates issued by Govt. Organizations/ Semi Govt. Organizations / Public Sector Undertakings / Autonomous Bodies / Municipal Bodies / Public Ltd. Cos. shall only be accepted for assessing the eligibility of a bidder. For projects in private sector, appropriate TDS Certificates evidencing the value of work, must be submitted.
3. Information must be furnished for works carried out by the bidder in his own name as a prime contractor or proportionate share as member of a joint venture. In the latter case, details of contract value including extent of financial participation by partners in that work should be furnished.
4. If a bidder has got a work executed through a subcontractor on a back to back basis, the bidder cannot include such a work for his satisfying the Qualification Criterion even if the client has issued a Completion Certificate in favour of that bidder.

5. Only similar works completed during the previous years which meet the Qualification Criteria need be included in this list.

Date:
bidder)

Place:

(Signature)

For.....(name of

.....(name of authorized
signatory)

.....
(designation)

FORM 3

LETTER OF FINANCIAL BID

Name of Contract:

Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis

Managing Director,
West Bengal Medical Services Corporation Ltd (WBMSCL),
Swasthya Sathi,
GN- 29, Sector – V, Salt Lake,
Kolkata-700091, West Bengal

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with instructions to Bidders (ITB) 8;
- (b) The total price of our bid is the sum total of the costs mentioned in the Bill of Quantities;
- (c) Our bid shall be valid for a period of 120 days from the date of opening the financial bid, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (e) If our bid is accepted, we commit to obtain a Performance Security in accordance with the Bidding Documents.
- (f) We understand that this bid, together with your written acceptance thereof included in your Notification of Award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and
- (g) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Date:

Place:

For.....(name of bidder)

(Signature)

.....(name of authorized signatory)

.....(designation)

FORM 4

Deleted

FORM 5

POWER OF ATTORNEY IN FAVOUR OF SIGNATORY OF THE BID

(To be executed on non-judicial stamp paper of appropriate value)

KNOW ALL MEN BY THESE PRESENTS THAT WE,[insert the name of the bidder]..... a company within the meaning of the Companies Act, 2013 and having its registered office at[insert address](hereinafter referred to as the bidder) acting through[insert name of the person giving the Power of Attorney].....presently holding the position of (insert designation of the person giving the Power of Attorney) having been authorized by the Board of Directors of the company, inter alia, to execute contracts in the name of and for and on behalf of the company do hereby constitute, appoint and authorize (insert name, designation and residential address of the person to whom the Power of Attorney is being given)..... as our true and lawful attorney to do in our name and on our behalf all such acts, deeds, things necessary and incidental for submission of our bid against Bid Reference No. WBMSCL/NIT- 008/2025 dated 06/01/2025 floated by WBMSCL. We hereby further authorize the above attorney for signing and submission of the bid and all other documents, information related to the bid including undertakings, letters, certificates, declarations, clarifications, acceptances, guarantees, any amendments to the bid and such documents related to the bid, and providing responses and representing us in all the matters before WBMSCL in connection with the bid for the said tender till the completion of the bidding process. We accordingly hereby nominate, constitute and appoint above named person, as the lawful attorney to do all or any of the acts specifically mentioned immediately herein above.

We do hereby agree and undertake to ratify and confirm whatever either of the said Attorney shall lawfully do or cause to be done under and by virtue of this Power of

Attorney and the acts of the attorney to all intents and purposes are done as if the same had been done on behalf of the company if these presents had not been made.

IN WITNESS WHEREOF WE, _____, THE ABOVE
NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS
_____ DAY OF _____, 20**.

For _____
(Signature, name, designation and
address)

Witnesses:

- 1.
- 2.

[Notarised]

Accepted

(Signature)
(Name, Title and Address of the Attorney)

FORM 9

(FORM OF NOTIFICATION OF AWARD)

(BY SPEED POST / ACK. DUE)(On the letter head of WBMSCL)

No. : _____ /

Dated :

To : Name & Address of the bidder

Dear Sirs,

Sub: Bid Reference No.: WBMSCL/NIT- 008/2025 dated 06/01/2025 for Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis

Ref: Your tender dated _____ .

This is to notify you that your bid for the work under reference has been accepted by the Competent Authority of _____ for a Tendered Amount/ Contract value of Rs. _____/- (Rupees _____ only).

Pursuant to clause 6.2 of the GCC, you are required to furnish irrevocable Performance Security for an amount equivalent to 10% (ten percent) of the Tendered Amount/ Contract value. The Performance Security of an amount of Rs. _____/- (Rupees _____ only) is thus required to be submitted within 10 days of issue of this Notification of Award.

The time of 04 months allowed for execution of the Project will be reckoned from the date of this Notification of Award.

You are requested to contact _____ (complete designation and address of the project-in-charge/ Employer's Representative) for execution of the contract.

The Form of Agreement to be executed is being sent to you shortly. Kindly ensure that the same is returned to us duly signed at the earliest and not later than 21 days from the receipt of the form of Agreement. It may be noted that no payment shall be made for any work carried out by you till the Agreement is executed and till such time the Performance Security has been submitted by you.

This Notification of Award is being sent to you in duplicate and you are requested to return without delay one copy of the letter duly signed and stamped, in token of your acknowledgement.

Kindly note that this Notification of Award shall constitute a binding contract between us pending execution of formal Agreement.

Your letter referred to above shall form part of the Contract.

Yours faithfully,

For West Bengal Medical Services Corporation Ltd.

Managing Director

FORM 10

SITE ORGANISATION

(to be provided by the bidder)

FORM 11

METHOD STATEMENT

(to be provided by the bidder)

FORM 12

MOBILIZATION SCHEDULE

(to be provided by the bidder)

FORM 13

CONSTRUCTION SCHEDULE

(to be provided by the bidder)

FORM 14

Deleted

FORM 15

INDEMNITY BOND

(to be executed on a non-judicial stamp paper of Rs. 100/- and notarized)

This Indemnity Bond (this “**Indemnity Bond**”) is made on this [●] day of [●], 20[●], between [●], a company within the meaning of the Companies Act, 2013, having its registered office at [●],[●] (hereinafter referred to as the “**CONTRACTOR**”, which expression shall, unless repugnant to the context thereof, be deemed to include its successors and permitted assigns);

IN FAVOUR OF

WEST BENGAL MEDICAL SERVICES CORPORATION LIMITED, a company within the meaning of the Companies Act, 2013, wholly owned by the Government of West Bengal, having its registered office at Swasthya Sathi, GN-29, Salt Lake, Kolkata – 700 091, (hereinafter referred to as the “**EMPLOYER**”, which expression shall, unless repugnant to the meaning or context thereof, be deemed to include its successors and permitted assigns)

Contractor and the Employer are hereinafter collectively referred to as the “**Parties**” and individually as a “**Party**”.

WHEREAS:

As per directions of the Health & Family Welfare Department, Government of West Bengal, the Employer has invited bids for Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under BhatparaMunicipality) under development works by MPLADS fund on Turnkey Basis under the State of West Bengal by Bid Reference No. WBMSCL/NIT- 008/2025 dated 06/01/2025 and upon evaluation of the bids, [●] has been selected as the Selected Bidder/ Contractor - [●] and has been issued the Notification of Award for planning, designing and construction of the college as per specifications given in the Employer’s Requirements at the site, in accordance with the terms and conditions specified in the Notification of Award;

As per the terms of the Bidding Documents, the Contractor has to supply several electrical, mechanical and electro-mechanical equipment which shall be required to be installed and commissioned at the sites at several phases during phase-wise construction at the sites;

- A. In terms of the Bidding Documents, the Employer has directed the Contractor to issue equipment-specific indemnity bond undertaking the safe custody and protection of the equipment till Taking Over of Works is carried out by the Employer at such sites and the Employer has by letter dated [●] at present directed the Employer to furnish indemnity bond with respect to [●] (name and description of equipment) which the Contractor has already supplied/ shall supply by [●].

NOW, THEREFORE, in consideration of the premises set forth above and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. UNDERTAKING

The Contractor hereby unconditionally and irrevocably agrees and undertakes to the Employer that it or its men and agents shall not destroy, remove, deface or damage the equipment and/ or any part thereof or shall not impair it in any manner so as to render its non-functional or not properly functional. This undertaking shall also extend to any user manual, warranty card or any device pertaining to the equipment which had been supplied along with the equipment.

The Contractor further confirms the following:

- (i) it shall store the equipment in such a manner that does not any way impede the functionality of the equipment;
- (ii) it shall store the equipment in a manner, as may be specified in the user manual or as such equipments are generally stored as per industrial practices; and
- (iii) if the conditions for storage provided by the Employer may in the opinion of Contractor adversely affect the equipment, then it shall be the duty of the Contractor to bring the same to the notice of the Employer, at the earliest.

The Contractor further confirms that till such time the Taking Over Certificate with respect to the Project is issued, or any Taking Over of Sections of the Project takes place, which includes Taking Over such equipment, the safety and security of such equipment shall be the duty of the Contractor and in case any such equipment is stolen or gets destroyed, damaged or requires to be repaired, the Contractor shall be

liable to reimburse the Employer, the cost incurred for purchasing a replacement equipment or the expenditure incurred by the Employer for repairing such instrument and the Employer shall be at full liberty to adjust such costs and expenses from the monthly bills raised by the Contractor on the Employer or may be recovered by the Employer, by way of invocation of the Performance Security or the Mobilisation Advance Bank Guarantee, as the case may be, which shall be at the discretion of the Employer. The invocation of the Performance Security or the Mobilisation Advance Bank Guarantee shall not in manner affect the rights of the Employer under such Indemnity Bond.

2. INDEMNIFICATION

The Contractor hereby agrees to indemnify, defend and hold harmless the Employer, their respective directors, officers, representatives, employees and agents (collectively, the “**Indemnified Persons**”) from and against any and all claims, actions, demands, losses, damages, liability and/or judgments including such costs, attorney’s fees and expenses asserted against or incurred by the Indemnified Persons, as a result of, arising from, or in connection with or relating to any matter inconsistent with, or any breach or inaccuracy of any representation, warranty, covenant or agreement made or failure to perform (whether in whole or part) any obligation required to be performed by the Contractor pursuant to this Indemnity and/ or the Agreement.

The indemnification rights of the Indemnified Persons under this Indemnity Bond are independent of, and in addition to, such other rights and remedies as the Employer may have at law or in equity or otherwise, including the right to seek specific performance, rescission or other injunctive relief, none of which rights or remedies shall be affected or diminished thereby.

3. TERM AND TERMINATION

This Indemnity Bond shall become effective from the date, the same is executed and shall be valid till the end of the Defects Liability Period as per the terms of the General Conditions of Contract.

4. GENERAL

If any provision of this Indemnity Bond is invalid, unenforceable or prohibited by law, the Indemnity Bond shall be considered divisible as to such provision and such provision shall be inoperative and shall not be part of the consideration moving from

either Party hereto to the other, and the remainder of this Indemnity Bond shall be valid, binding and of like effect as though such provision was not included herein.

The person signing this Indemnity Bond on behalf of the Contractor represents and covenants that he/ she has the authority to sign, execute and perform this Indemnity Bond in favour of the Employer.

SIGNED and DELIVERED for and on behalf of

CONTRACTOR

By:

Name:

Title:

FORM 16

BIDDER'S QUALIFICATION

To establish its qualifications to perform the contract in accordance with Section 3 (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

Form ELI – 1 : Bidder's Information Sheet

	Bidder's Information
Bidder's legal name	
Bidder's year of constitution	
Bidder's Registered address	
Bidder's authorized representative (name, address, telephone numbers, fax numbers, e-mail address)	
Attached are copies of the following original documents.	
<div><input type="checkbox"/> 1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and 4.2</div> <div><input type="checkbox"/> 2. Authorization to represent the company named in above, in accordance with ITB 20.2.</div> <div><input type="checkbox"/> 3. In case of a government-owned entity, any additional documents not covered under 1 above required to comply with ITB 4.5.</div>	

FORM – 17

Information of audited financial statement for the last year to demonstrate the current soundness of the Bidder's financial position

Name of Bidder:

1. The Bidder's Net Worth for the last year calculated on the basis of capital, profit and free reserve available to the firm should be positive.
2. Bidders, who meet the minimum qualification criteria, will be qualified only if their available bid capacity at the expected time of bidding is more than the total estimated cost of the works. The available bid capacity will be calculated as under:

$$\begin{aligned} \text{Assessed Available Bid Capacity} &= [A \times N \times 2 - B] \\ &= \text{Rs.} \\ &= \text{Rs.} \end{aligned}$$

Where,

- A = Maximum value of engineering works in respect of projects executed in any one year during the last 5 (*five*) years (updated to the price level of the year indicated in table below under note) taking into account the completed as-well- as works in progress. The projects include turnkey project / item rate contract / construction works.
- N = Number of years (i.e. year) prescribed for completion of the works for which Bids are invited.
- B = Financial Liability of the bidder to incurred for existing commitments and on-going works during the period of the subject contract.

.....

 Signature, name and designation of
 Authorised Signatory
 For and on/belief of
 (Name of the Applicant)

.....
 Signature of authorised signatory of the
 Statutory Auditor's firm.

.....
 Name of the Statutory Auditor's firm

Seal of the audit firm:
 (Signature, name and designation and
Membership No. of authorised signatory)

To seal calculate the value of "A"

- (i) A table containing value of engineering works in respect of projects (turnkey project / item rate contract / construction works) undertaken by the Bidder during last 5 (*five*) years is as follows:

Sl. No.	Year	Value of engineering works undertaken w.r.f. projects (Rs. in Crores)
1	Year-5 (<i>2019-2020</i>)	
2	Year-4 (<i>2020-2021</i>)	
3	Year-3 (<i>2021-2022</i>)	
4	Year-2 (<i>2022-2023</i>)	
5	Year-1 (<i>2023-2024</i>)	

- (ii) Maximum value of projects that have been undertaken during the F.Y. _____ out of the last 5 (*five*) years and value is Rs. _____ Crores (*Rupees* _____) only. Further, value updated to the price level of the year indicated in Table is as follows:

Rs. _____ Crores X (upadation factor as per Table)
= Rs. _____ Crores (*Rupees* _____) only

Table indicating the factor for the year for upadation to the price level is indicated as under

Sl. No.	F.Y./Calendar Year	Upadation factor
1	Year-5 (<i>2019-2020</i>)	1.00
2	Year-4 (<i>2020-2021</i>)	1.05
3	Year-3 (<i>2021-2022</i>)	1.10
4	Year-2 (<i>2022-2023</i>)	1.15
5	Year-1 (<i>2023-2024</i>)	1.20

- (iii) Net worth for the last year (*i.e., F.Y. 2023-2024*) of _____ (name of the company) is Rs. _____ Lac (*Rupees* _____) only.

.....

.....

.....

.....

Signature, name and designation of
Authorised Signatory
For and on/belief of
..... (Name of the Applicant)

.....

Signature of authorised signatory of the
Statutory Auditor's firm.

.....

Name of the Statutory Auditor's firm

.....

Seal of the audit firm:
(Signature, name and designation and
Membership No. of authorised signatory

FORM 18

Form EXP-1: General Construction Experience

Each bidder must fill in this form

General Construction Experience				
Starting Month Year	Ending Month Year	years	Contract Identification and Name, Name and Address of Employer, Brief Description of the Works Executed by the bidder and the Value of the Contract	Role of bidder

FORM 19

e-NIT ACCEPTANCE FORM

(To be affirmed on non-judicial stamp paper of Rs. 10/- before Notary/ Magistrate)

AFFIDAVIT

This is to certify that we, M/s. _____, in submission of this bid confirm that all the terms and conditions of the Bidding Documents (Bid Reference No. WBMSCL/NIT-008/2025 dated 06/01/2025 and all its Sections, viz. the e-NIT, the ITB, the Employer's Requirements, the Bidding Forms, the GCC, the Contract Forms and all Corrigenda and clarifications issued to the Bidding Documents are read and accepted without any modification or conditions.

For [Name of bidder]

Place:

[Name of authorized
signatory] [Designation]
Affix rubber stamp of bidder
[Date]

[Note: Technical evaluation of the bid will only be taken up after scrutiny of Form – 19 duly notarized]

SECTION 5
EMPLOYER'S REQUIREMENT

SECTION 5

Employer's requirement:

Section 5.1	Site Details
Section 5.2 (a)	Topographical Map of the sites
Section 5.2 (b)	Indicative Geotechnical Investigation Reports
Section 5.2 (c)	Indicative floor plan
Section 5.3	Area Statement
Section 5.4 A	Schedule of finishes
Section 5.4 B	Schedule of finishes (Common items)
Section 5.4 C	Item wise specification
Section 5.5	Scope & Specification of Civil works
Section 5.6	Scope and Specification of Electrical Works
Section 5.7	Payment Schedule

SECTION 5.1

Site Details

Planning, Design and Construction of building for development of State
General Hospital at Bhatpara (ward no. 15 under BhatparaMunicipality)
under development works by MPLADS fund on Turnkey Basis

SECTION 5.2 A
TOPOGRAPHICAL MAP OF THE SITE

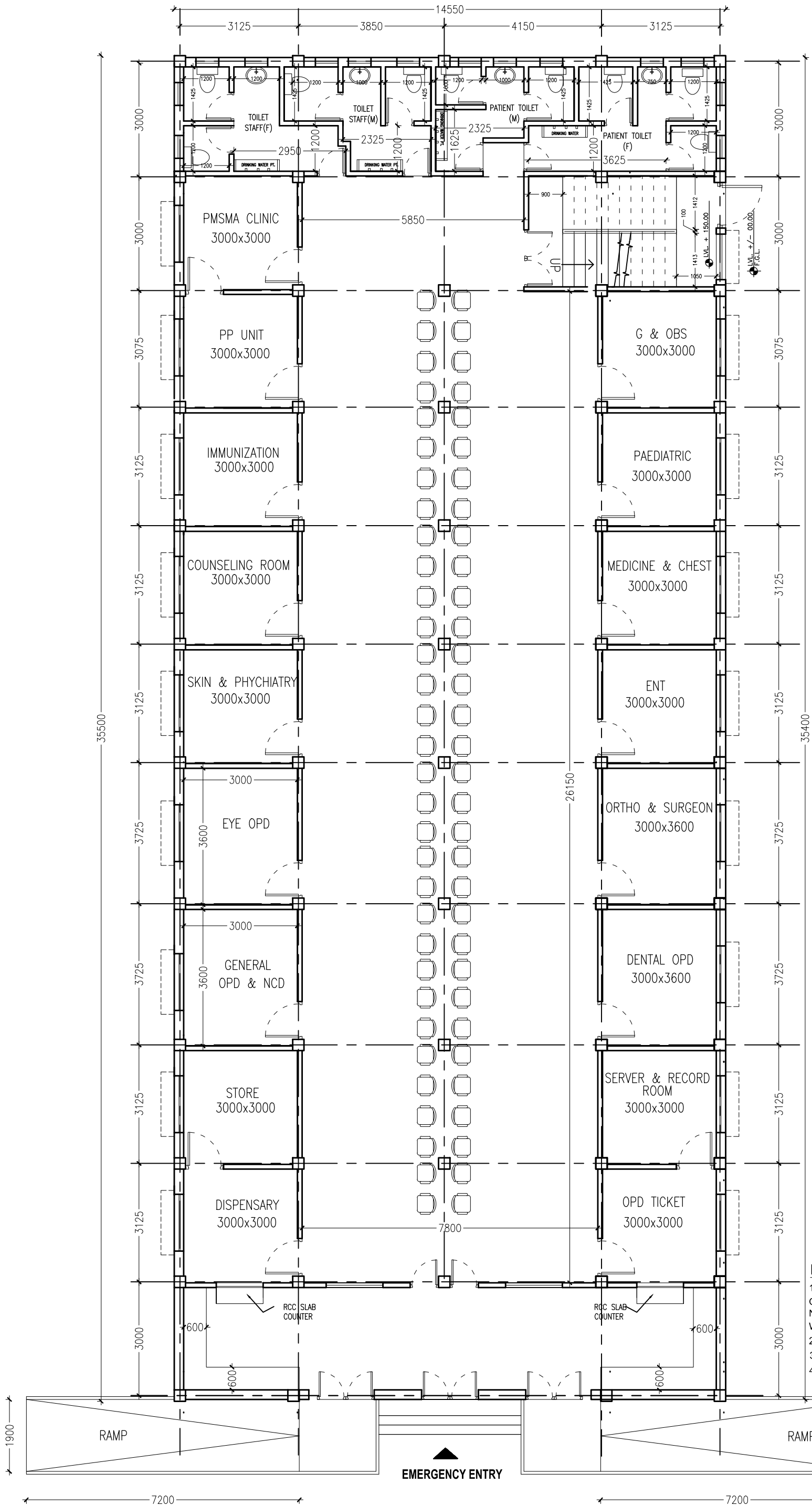
SECTION 5.2 B

**INDICATIVE GEOTECHNICAL
INVESTIGATION REPORT**

**The allowable net bearing capacity of
the soil may be taken as 6.0 – 7.0
T/Sqm. for Isolated Column
footing/Strip footing.**

**(The bidder is requested to do the
soil test at site, if required for
bidding)**

SECTION 5.2 C
FLOOR PLAN



- NOTE:-**
- 1. DRAWING PREPARED ON THE BASIS OF DRAWING SENT BY CMOH NORTH 24 PGS THROUGH WHATSAPP ON 07.09.2024
 - 2. PLINTH HEIGHT = 600 mm.
 - 3. FLOOR TO FLOOR HEIGHT = 3300mm.
 - 4. TOTAL COVERED AREA = 515.07 sq.m.

SECTION 5.3
AREA STATEMENT

Description	Required area in Sq. M.	Floors
Hospital Building	515.000	G
Total Built-up area in Sq.M.	515	
Total Built up area in Sq.ft.	5541	

SECTION 5.4 A
SCHEDULE OF FINISHES

Finishing Schedule for Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis

Location	Floor	Wall / dado	Doors	Windows	Ceiling
Building Name		Hospital Building			
Floors		G			
GROUND FLOOR					
All rooms	Vitrified Tiles (DC)	Ceramic Tiles Ht 1500 mm and rest portion Acrylic Distempering over plaster & putty	Wooden frame & Both side laminated flush door with vision glass fitted with hydraulic door closer	Aluminium window with 5mm thick float glass and M.S. Grill	Acrylic Distempering over plaster & putty
Toilet (M)	Anti skid Ceramic Tiles	Ceramic Tiles Ht 2100 mm and rest portion Acrylic Distempering over plaster & putty	FRP Door shutter and frame	Aluminium window with 5mm thick float glass and M.S. Grill	Acrylic Distempering over plaster & putty
Toilet (F)	Anti skid Ceramic Tiles	Ceramic Tiles Ht 2100 mm and rest portion Acrylic Distempering over plaster & putty	FRP Door shutter and frame	Aluminium window with 5mm thick float glass and M.S. Grill	Acrylic Distempering over plaster & putty
Waiting area	Vitrified Tiles (DC)	Ceramic Tiles Ht 1500 mm and rest portion Acrylic Distempering over plaster & putty	Wooden frame & Both side laminated flush door with vision glass fitted with hydraulic door closer	Aluminium window with 5mm thick float glass and M.S. Grill	Acrylic Distempering over plaster & putty
Main entry	Granite slab	Ceramic Tiles Ht 1500 mm and rest portion Acrylic Distempering over plaster & putty	1. Collapsible gate 2. Wooden frame & Both side laminated flush door with vision glass fitted with hydraulic door closer	Aluminium window with 5mm thick float glass and M.S. Grill	Acrylic Distempering over plaster & putty
Main Stair (With MS railing & wooden top)	Step riser tiles	Ceramic Tiles Ht 1500 mm and rest portion Acrylic Distempering over plaster & putty	Wooden frame & Both side laminated flush door with vision glass fitted with hydraulic door closer	Aluminium window with 5mm thick float glass and M.S. Grill	Acrylic Distempering over plaster & putty

N.B. - External Paint - Exterior grade acrylic emulsion paint over putty

SECTION 5.4 B

**SCHEDULE OF FINISHES (COMMON
ITEMS)**

SECTION 5.4B : SCHEDULE OF FINISHES (Common Items)

Sl. No	Particular	Description
1	Collapsible gate / Rolling Grill	Collapsible gate / Chain link type Rolling Grill to be provided along with door at all entry & exit point of the Academic building as per approved architectural drawing to the satisfaction of employer.
		Collapsible gate to be provided along with door at all entry & exit point of each department in the Academic building as per approved architectural drawing to the satisfaction of employer.
		Collapsible gate to be provided along with door at main entry & exit point of the Hostel buildings, Residential Quarters building, and other buildings as per approved architectural drawing to the satisfaction of employer.
		Collapsible gate to be provided at entry point along with door of each Residential Quarters as per approved architectural drawing to the satisfaction of employer.
2	EXTERNAL DEVELOPMENT	
	a) Parking Area	80 mm thick Paver Block at eaternal parking / Paver tiles at covered parking under stilt floor after getting approval from the employer.
	b) Footpath	60 mm thick Paver Block at footpath.
	c) External / Internal Roads of Medical College Campus	Concrete road (Grade of concrete minimum M40) with maximum gross vehicle weight (GVW) 31 tonnes with maximum axle load 19 tonnes carrying capacity
	d) Kerb Channel & Kerb Stone	PCC M20 Precast Block
	e) Compound Wall all sides of Medical College Campus.	RCC Column, Brick work with MS Grill & other decorative materials as directed & to the satisfaction of the employer.
3	WINDOW/LouverS	
a)	All External Windows	Polyester powder coated aluminium glazed sliding window (minimum thickness of polyester powder coating 50 micron) frame as per approved drawing (with section thickness minimum 1.5 mm) with MS Grill. Each shutter width should be more than 600mm. Minimum 5 mm or more Thick Glass as per requirement
b)	Window Sill (External and Internal-300mm / 150mm Wide respectively)	Moulded Granite cladding inside & outside
c)	Louvers	Polyester powder coated aluminium Louver window with unbreakable PVC glazing (minimum thickness of polyester powder coating 50 micron) with MS Grill. Minimum 5 mm or more Thick Glass as per requirement.

SECTION 5.4 C
ITEM WISE SPECIFICATION

SECTION 5.4C

Item-wise specification

SECTION 5.4C : ITEM WISE SPECIFICATION.		
Sl. No.	Items	Detail Specification
1)	MS Door Frame	: Powder coated pressed steel door frames (profile - C) conforming to IS: 4351, manufactured from commercial mild steel sheet of 1.60 mm thickness, including jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25 mm, or base ties of 1.60 mm, pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges 2.5 mm thick with mortar guards, lock strikeplate and shock absorbers as specified and as directed by Engineer-in-charge:
2)	Flush Door shutter	: 35 mm thick solid flush type hard wood door shutter with both side commercial face conforming to IS 2202 Part I with ISI marked on shutter. This should be a premium product made from high class seasoned wood and selected core veneers. Inside filler should be imported treated seasoned hard wood. The layers should be bonded with Phenol Formaldehyde resin. Resin should be own factory made. Both side styles should be 60 to 65 mm. Resin (P.F. Resin) should conform to IS 848-2000.
3)	Door frame for 65mm thick Accoustic Door Shutter	: Supplying fitting & fixing frames for Fire resistant acoustic door shutters 1st class Malaysian Hardwood Frame (densified to 810 kg/cum) and pressure treated with fire retardant chemicals in vacuum impregnation vessel under 160 psi pressure as per IS:401 and kiln seasoned to moisture below 15% as per IS:1141 of section 120 mm X 70 mm spray coated with 2 coats of intumescent paint of minimum 200 micron, with standard double acoustic seal (equivalent to Hafele) placed along two faces of rebate for sound insulation and single row of Brush-Type intumescent strip of size 10 mm x 4 mm affixed in the slit of the Frame for fire and smoke sealing, etc. complete as per direction of Engineer in Charge including a protective coat of painting at the contact surfaces of the frame.
4)	65mm thick Accoustic Door Shutter	: 65mm thick asbestos free - fire, heat and smoke resistant composite Accoustic Door Shutter complying with fire performance FD120 as per IS:3614 (part -II)- comprising of 2x 8 mm Calcium Silicate boards over Chemically treated (with Fire retardant chemicals in pressure impregnation vessels under 160 psi pressure as per IS:401 and kiln seasoned to moisture below 15% as per IS:1141) internal timber (Malaysian Hard Wood, densified to 810kg/cum) frame work of 100 mm x 32 mm with 32mm thick infill of ceramic fiber (density 128Kgs/cum), vermaculite mix faced with 6 mm Fire retardant High Density fire board, internally lipped with hardwood beading, and pasted in Hydraulic Press under 25 MPa, spray coated with 2 coats of in-tumescent paint of minimum 200 micron, and with 1 row of Brush- Type intumescent strip of size 10mm x 4mm affixed on peripheral slit on all edges of shutter except bottom for fire and smoke sealing and placement of 3 mm thick rubber membrane, at the inside face, sandwiched between calcium silicate board & high density fire retardant board, without any external lipping as per direction of Engineer -in -charge complete in all respect.
5)	46mm thick Steel Metal Door Shutter	: 46mm thick Door shutter of 1.20mm thick slip coated pre-galvanised steel sheet conforming to ASTM A527/ASTM A525, JIS G 3302, IS 277. Zinc coating 80-120 g.sqm. Lock formed panels with internal stiffeners of 3mm thick made of GP 3.00mm thick hinge reinforcing, hardware mounting plates and lock protection. Shutter filled with paper honeycomb thickness of 150 gsm, load bearing capacity 1-1.5 ton/sqm. External finish should be powder coated surface finished with thermosetting polyurethane paint of aliphatic grade, scratch resistance. Polyurethane powder coat thickness 60 - 65 microns

SECTION 5.4C : ITEM WISE SPECIFICATION.		
Sl. No.	Items	Detail Specification
6)	Metal Fire proof Door	: Steel Metal Fire proof Door Shutter with a fire rating of a minimum of 2hrs as per manufacturer specification.
7)	PVC Door Frame of size 50x47 mm with a wall thickness of 5 mm	: PVC Door Frame of size 50x47 mm with a wall thickness of 5 mm (± 0.2 mm), made out of single piece extruded PVC profile, with mitred cut joints and joint with 2 nos of PVC bracket of size 190 mm x 100 mm long arms of cross section size 35 x 15 mm & self driven self tapping screws, the vertical door profiles to be reinforced with 40x20 mm M.S. rectangular tube of 0.8 mm , including providing EPDM rubber gasket weather seal throughout the frame, including jointing 5 mm PVC frame strip with PVC solvent cement on the back of the profile. The door frame to be fixed to the wall using 8 x100 mm long anchor fasteners complete, all as per manufacturer's specification and direction of Engineer-in- charge.
8)	Solid panel PVC Door shutter, made out of single piece extruded solid PVC profiles, 5 mm	: 35 mm thick factory made Solid panel PVC Door shutter, made out of single piece extruded solid PVC profiles, 5 mm (± 0.2 mm) thick, having styles & rails (except lock rail) of size 95 mmx 35 mm x 5 mm, out of which 75 mm shall be flat and 20 mm shall be tapered (on both side), having one side thickness of 15 mm integrally extruded on the hinge side of the profile for better screw holding power, including reinforcing with MS tube of size 40 mm X 20 mm x 1 mm, joints of styles & rails to be mitred cut & joint with the help of PVC solvent cement, self driven self tapping screws & M.S. rectangular pipes bracket of size 190 mm X 100 mm of cross section size 35 mm x 17 mm x 1 mm at each corner. Single piece extruded 5 mm thick solid PVC Lock rail of size 115 mm x 35 mm, out of which 75 mm to be flat and 20 mm to be tapered at both ends, having 15mm solid core in middle of rail section integrally extruded, fixing the styles & rails with the help of solvent and self driven self tapping screws of 125 mm x 11 mm, including providing 5 mm Single piece solid PVC extruded sheet inserted in the door as panel, all complete as per manufacturer's specification and direction of Engineer-in-charge. Decorative finish (wood grained finish)
9)	Kota stone & Black stone flooring	: 18 mm. to 22 mm. thick, kota stone & black stone slab set in 20 mm thick (avg) cement mortar (1:4) in floor, stair & lobby including pointing in cement slurry with admixture of pigment matching the stone shade, including grinding & mirror polishing as per direction of Engineer - in - charge. [Slurry for bedding @ 4.4 kg/Sq.m and pointing @2.0 kg/Sq.m]
10)	Granite stone flooring	: Granite slab 15mm to 18mm thick in floor, lobby, stair, landing and treads etc. over 20mm (avg) thick base of cement mortar (1:2) laid with white cement slurry @ 4.40Kg per Square meter before placing of granite and jointed with white cement slurry @ 2.0 Kg per square meter with necessary pigments and complete as per direction of Engineer-in-charge including
11)	Granite dado on lift fascia wall	: Granite slabs 15mm to 18 mm. thick with uniform texture & without decorative veins in columns, wall, fascia, rise etc. with 15 mm thick [avg] cement mortar (1:2) including making suitable arrangements to hold the stones properly by brass / copper hooks including pointing in cement mortar (1:2) (1 white cement : 2 marble dust) with admixture of pigment matching the stone shades all complete as per direction of the Engineer-in-charge including all materials, labours, scaffolding, staging, curing and roughening of concrete surface complete. [Using cement slurry at back side of granite @ 4.4 kg/sq.m & white cement slurry for joint filling @ 1.8 kg/sq.m]

SECTION 5.4C : ITEM WISE SPECIFICATION.		
Sl. No.	Items	Detail Specification
12)	Premium quality Double Charged Designer Vitrified tiles flooring	: 600mm x 600mm Premium quality Double Charged Designer Vitrified tiles of approved brand (size not less than 600 mm X 600 mm X 10 mm thick) in floor, skirting etc. set in 20 mm sand cement mortar (1:4) and 2 mm thick cement slurry back side of tiles using cement @ 2.91Kg./sqM or using polymerised adhesive (6 mm thick layer applied directly over finished artificial stone floor/Mosaic etc without any backing course) laid after application slurry using 1.75 Kg of cement per sqM below mortar only, joints grouted with admixture of white cement and colouring pigment to match with colour of tiles / epoxy grout materials of approved make as directed and removal of wax coating of top surface of tiles with warm water and polishing the tiles using soft and dry cloth upto mirror finish complete as per direction of Engineer-in-Charge.
13)	Full Body Vitrified tiles flooring	: 600mm x 600mm Full Body vitrified tiles of approved brand (size not less than 600 mm X 600 mm X 10 mm thick) in floor, skirting etc. set in 20 mm sand cement mortar (1:4) and 2 mm thick cement slurry back side of tiles using cement @ 2.91Kg./sqM or using polymerised adhesive (6 mm thick layer applied directly over finished artificial stone floor/Mosaic etc without any backing course) laid after application slurry using 1.75 Kg of cement per sqM below mortar only, joints grouted with admixture of white cement and colouring pigment to match with colour of tiles / epoxy grout materials of approved make as directed and removal of wax coating of top surface of tiles with warm water and polishing the tiles using soft and dry cloth upto mirror finish complete as per direction of Engineer-in-Charge.
14)	Wooden flooring	: 8mm thick Laminated Wooden Flooring Work conforming to EN13329:2006 with plank size not less than 1200mmX 190 mm (with unilin/tongue-groove locking arrangement) having 0.2mm thk top abrasive layer over a decorative layer followed by a High-density fibreboard (HDF) having density > 940 kg/m ³ substrate core over a resin saturated backing layer and installing through unilin or tongue- groove system (having locking strength not less than 1000 kg/m) over a 2 mm thk underlayer polyurethane foam on polythene sheet 250 micron, over a smooth, flat, hard subfloor free from moisture (< 8%), grease etc. complete in all respect with requisite accessories like end profile, transition profile, reducer 'T' profile etc. wherever required and preparation of base including all other incidental works as per direction & satisfaction of Engineer in charge. Category: High Footfall ; Class-23; Abrasion resistance:-AC4 Thk on Swelling:- < 15%; Impact resistance:- IC 2
15)	IPS flooring	: Artificial stone in flooring, dado, staircase etc with cement concrete (1:2:4) with stone chips, laid in panels as directed with topping made with ordinary or white cement (as necessary) and marble dust in proportion (1:2) including smooth finishing and rounding off corners including raking out joints or roughening of concrete surface and application of cement slurry before flooring works using cement @ 1.75 kg/sq.m all complete including all materials and labour. 35 mm. thick with mm. thick topping using grey cement.
16)	Ceramic tiles flooring	: 600mm x 600mm 1st quality Ceramic tiles in floors & 4 nos. of key stones (10mm) fixed with araldite at the back of each tile & finishing the joints with white cement mixed with colouring oxide if required to match the colour of tiles including roughening of concrete surface, if necessary or by synthetic adhesive & grout materials etc. Laying with Sand Cement Mortar (1:4) 20 mm thick & 2 mm thick cement slurry at back side of tiles using cement @ 2.91 Kg/Sq.m & joint filling using white cement slurry @ 0.20kg/Sq.m.

SECTION 5.4C : ITEM WISE SPECIFICATION.		
Sl. No.	Items	Detail Specification
17)	Ceramic tiles on walls	: 300mm x 450mm for toilets & 300mm x 600mm for rest portion best quality digital printed Ceramic tiles in coloured decorative on walls & 4 nos. key stones (10mm) fixed with adhesive 4.5 mm thick at the back of each tile & finishing the joints with white cement mixed with colouring oxide if required to match the colour of tiles including roughening of concrete surface, if necessary or by synthetic adhesive & grout materials etc. With polymerised adhesive and epoxy grout pointing including spacer - 2mm (When tiles are laid over existing hard ready surface) all complete as per direction of Engineer-in-charge.
18)	Stone Polymer Composite (SPC) tiles flooring	: Stone Polymer Composite (SPC) Luxury Performance Tiles with tile thickness 4.00mm in any shape and size as per approved design fixing in Click-N-Lock Technology over IPS flooring.
19)	Acoustic Wall Panelling	: <p>a) Above 1.20m to false ceiling Providing, Fitting and fixing of wall panel up by G.I. frame work with 600 x 300mm c/c to be fixed on wall, all the framing materials of GI section made of approved brand. Thereafter Synth PF 50 mm thick having density of 20 Kgs/Cu.M tie up with Galvanized wire mesh and Galvanized wire, to avoid sagging. On top provide Acoustical panel fabric finish of woodfibre core of size 1200 x 600x20 mm with H -Spline of NRC upto 0.95, Fire class 1&P having density of 400 kg/M3. to maintain the functional activities & aesthetic decor of the hall. This kinds of treatment to be provided on both side wall of the Hall. Design of wall to be made for popper sound reproduction.</p> <p>b) Above flooring to 1.20m Wall panelling with Melamine faced 3 layered flat pressed wood particle board of approved make and brand as per direction of Engineer - in - Charge of requisite grade bonded with phenol formaldehyde synthetic resin conforming to IS: 848-1974 (Prelaminated particle board confirming to IS 3087 -1985 and IS 12823 - 1990 one side decorative laminated exterior grade 12mm thick) including the cost of supporting frame work with GI grid.</p> <p>c) For decoration:</p> <p>i) Porviding & Fixing of wall panel by G.I. frame work with 600 x 300mm c/c to be fixed on wall, all the framing materials. There after Synth PF 50 mm thick having density of 20 Kgs/Cu.M. tie up by Galvanized wire mesh and galvanized wire to avoid sagging. On top of GI frame provide wooden slats of 16mm thick 128mm x 2440mm x16mm toungue and groove edges for seamless mounting having density of 750-800 kg/m3. with fleece melamine finish. NRC is upto 0.75 with a pitch of L-16 of 2mm grooves with FR grade, colour to be approved. This run of wall panelling to be provided on both side and back wall of the hall partialy. Design of wall to be made for popper sound reproduction.</p> <p>ii) Providing & Fixing of wall panel by G.I. frame work with 600 x 300mm c/c to be fixed on wall, all the framing materials of ultra section made of Saint Gobain. There after Synth PF 50 mm thick having density of 20 Kgs/Cu.M. tie up by Galvanized wire mesh and galvanized wire to avoid sagging. On top of GI frame provide 12mm thick BWR ply and 4 mm thick teak with freanch polish finish Provide 50 x 20 mm wooden molded bit to be fixed between the edge area. To match aesthetic decor and functional activities. This run of wall panelling to be provided on both side and back wall of the hall partialy. Design of wall to be made for popper sound reproduction.</p>

SECTION 5.4C : ITEM WISE SPECIFICATION.		
Sl. No.	Items	Detail Specification
20)	Interior grade Acrylic Primer	: Solvent based Interior grade Acrylic Primer of approved quality and brand on plastered or concrete surface old or new surface to receive Distemper/ Acrylic emulsion paint including scraping and preparing the surface thoroughly, complete as per manufacturer's specification and as per direction of the EIC. Two Coats
21)	Exterior grade Acrylic primer	: Exterior grade Acrylic primer of approved quality and brand on plastered or concrete surface old or new surface to receive decorative textured (matt finish) or smooth finish acrylic exterior emulsion paint including scraping and preparing the surface thoroughly, complete as per manufacturer's specification and as per direction of the EIC. Two Coats
22)	Synthetic oil bound primer for steel or other metal surface	: Priming one coat on steel or other metal surface with synthetic oil bound primer of approved quality including smoothening surfaces by sand papering etc.
23)	Synthetic oil bound primer on timber or plastered surface	: Priming one coat on timber or plastered surface with synthetic oil bound primer of approved quality including smoothening surfaces by sand papering etc.
24)	Acrylic Emulsion Paint	: Applying Acrylic Emulsion Paint of approved make and brand on walls and ceiling including sand papering in intermediate coats including putty: (Two coats Luxury Quality)
25)	Acrylic Distemper Paint	: Acrylic Distemper to interior wall, ceiling with a coat of solvent based interior grade acrylic primer (as per manufacturer's specification) including cleaning and smoothening of surface. Two Coats
26)	Acrylic exterior emulsion paint	: Protective and Decorative Acrylic exterior emulsion paint of approved quality, as per manufacturer's specification and as per direction of Engineer-in-Charge to be applied over acrylic primer as required. (Super Protective 100% Acrylic Emulsion Two Coat) with 10 years of manufacturer's warranty
27)	Textured exterior high class matt finish paint	: Protective and Decorative Textured exterior high class matt finish paint of approved quality, composed of special Thermoplastic Resin containing fine crystalline additives derive from Granite as per manufacturer's specification and as per direction of EIC to be applied over acrylic primer as required. (Two Coat) with 10 years of manufacturer's warranty
28)	Cement based paint	: Applying decorative cement based paint of approved quality after preparing the surface including scraping the same thoroughly (plastered or concrete surface) as per manufacturer's specification. (Two Coat)
29)	Synthetic enamel paint	: Best quality synthetic enamel paint of approved make and brand including smoothening surface by sand papering etc. including using of approved putty etc. on the surface, if necessary : On timber or plastered surface & On steel or other metal surface

SECTION 5.4C : ITEM WISE SPECIFICATION.		
Sl. No.	Items	Detail Specification
30)	White Wash	: White washing including cleaning and smoothening surface thoroughly. Three coats The white washing is to be done with 5 parts of stone lime and one part of shell lime with necessary gum (2 Kg. per Cu.M. of lime) using indigo as necessary and to be mixed as per standard practice. The operation for each coat shall consist of four consecutive strokes of the brush, one horizontally from right to left and the next from left to right and the third stroke bottom to upward and the fourth from top to down ward before the previous stroke dries. Each coat shall be allowed to dry before the next coat applied. No portion of the surface shall be left out initially to be patched up later on. The brush shall be dipped in white wash, pressed lightly against the wall of the container and then applied by lightly pressing against the surface with full swing of hand. The white wash on ceiling should be done prior to that on walls.
31)	Polyurethane (PU) Polishing	: Polyurethane Polishing to woodwork with required colour as approved by Engineer-in-Charge with preparing surface including scaffolding and hire charges of compressor machine including cost of filler and hardener material such as P. U. Sealing, P. U. Top coat (Matt/Glossy), Thinner, Spirit etc. and inclusive of all operation, material and labour complete as per direction of Engineer-in- Charge
33)	Fiber cement tile false ceiling	: False ceiling with powder coated exposed G.I. grid suspension system (E-Grid T 2430 or equivalent load carrying capacity with mid span deflection not exceeding 1/360 span with hanger spacing of 1200mm c/c) consisting of Main Runner 3600 mm long, Cross Tee 1200 mm / 600 mm long and Wall Angle. The Wall Angle shall be fixed on PVC Dash Fasteners on the perimeter of the wall by steel screws with distance 300mm c/c. The Main Runners to be placed @ 1200 mm. The Cross Tee 1200mm will be inserted in the pre-cut slots of Main Runner at regular interval of 600 mm to form a modular grid of 1200mm X 600mm. Additional Cross Tees of 600 mm shall be placed perpendicular to the Cross Tee 1200 mm long to finally form a grid of 600 mm X 600 mm. Grid of module size 600 mm X 600 mm shall be supported by 6 mm dia G.I. wire from purlins / soffit. 6 mm thick High Pressure Steam Cured Non Asbestos Fibre Cement Standard Ceiling tile (Density > 1300 Kg/m ³) of size 595 mm X 595 mm, conforming IS 14862 & Type B Category III of ISO 8336, tested as per AS-1530 part 3 & BS-476 Part 4,5,6,7 & 8, should be placed in the Grid module to form a False Ceiling. All complete as per the drawing & directions of Engineer-in-charge. (with 6mm thick Fibre Cement Standard Ceiling Board and E-Grid-
34)	Magnesia False ceiling	: Concealed False ceiling Framework with G.I. Section (perimeter channels having one flange of 20 mm. and another flange of 30 mm. with thickness of 0.55 mm. and web of length 27 mm., along the perimeter of the ceiling, screws fixed to the wall with help of nylon sleeves or PVC dash fastners @ 610 mm c/c. then suspend G.I. intermediate 'C' section with web 90 mm. and flanges of 15 mm. each from soffit @ 1200 mm c/c with ceiling angle of size 25 mm. X 10 mm. X 0.55 mm. fixed to soffit G.I. Cleat and Steel expansion fasteners. Ceiling section of 0.55 mm. thickness having web of 51.5 mm. and two flanges of 26 mm. each with lips of 10.55 mm., are then fixed on to the intermediate channel with the help of connecting clips in the direction perpendicular to the intermediate channel @ 610 mm c/c) with fully threaded fiber cement screws @ 300 mm c/c. all complete as per the drawing and direction of Engineer-in-Charge. Section specification :- Perimeter Channel :- 30 mm X 20 mm X 27 mm, thickness 0.55 mm (min), Intermediate Channel :- 15 mm X 90 mm, thickness 0.90 mm (min), Ceiling Section :- 51.5 mm X 26 mm X 10.55 mm, thickness 0.55 mm (min),

SECTION 5.4C : ITEM WISE SPECIFICATION.		
Sl. No.	Items	Detail Specification
35)	Acoustic false ceiling	: False ceiling with powder coated exposed G.I. grid suspension system (E-Grid U-1520 or equivalent load carrying capacity with mid span deflection not exceeding 1/360 span with hanger spacing of 1200mm c/c) consisting of Main Runner 3600 mm long, Cross Tee 1200 mm / 600 mm long and Wall Angle. The Wall Angle shall be fixed on PVC Dash Fasteners on the perimeter of the wall by steel screws with distance 300mm c/c. The Main Runners to be placed @ 1200 mm. The Cross Tee 1200mm will be inserted in the pre-cut slots of Main Runner at a regular interval of 600 mm to form a modular grid of 1200mm X 600mm. Additional Cross Tees of 600 mm shall be placed perpendicular to the Cross Tee 1200 mm long to finally form a grid of 600 mm X 600 mm. Grid of module size 600 mm X 600 mm shall be supported by 6 mm dia G.I. wire from purlins / soffit. Acoustic Board (NCR>0.90) of approved pattern and size 595mm X 595mm should be placed in the Grid module to form a False Ceiling. All complete as per the drawing & directions of Engineer-in-charge.
36)	Metal false ceiling	: False ceiling with powder coated exposed G.I. grid suspension system (E-Grid T 2430 or equivalent load carrying capacity with mid span deflection not exceeding 1/360 span with hanger spacing of 1200mm c/c) consisting of Main Runner 3600 mm long, Cross Tee 1200 mm / 600 mm long and Wall Angle. The Wall Angle shall be fixed on PVC Dash Fasteners on the perimeter of the wall by steel screws with distance 300mm c/c. The Main Runners to be placed @ 1200 mm. The Cross Tee 1200mm will be inserted in the pre-cut slots of Main Runner at regular interval of 600 mm to form a modular grid of 1200mm X 600mm. Additional Cross Tees of 600 mm shall be placed perpendicular to the Cross Tee 1200 mm long to finally form a grid of 600 mm X 600 mm. Grid of module size 600 mm X 600 mm shall be supported by 6 mm dia G.I. wire from purlins / soffit. 0.6mm thick powder coated metal tile of size 595 mm X 595 mm, should be placed in the Grid module to form a False Ceiling. All complete as per the drawing & directions of Engineer-in-charge. (with 6mm thick Fibre Cement Standard Ceiling Board and E-Grid-2430).
37)	Polyester powder coated aluminium Sections for glazed sliding window Louvers, Glazed Partitions, Fixed glazing etc. as per drawing.	: Aluminium frames section made of Aluminium Alloy Extrusions conforming to IS: 732-1983 and IS: 1285- 1975; Polyester powder coated (minimum thickness of polyester powder coating 50 micron) for sliding & casement windows, Louvered window, partitions, formed of basic sections of ISI embossed / certified make and brand as per direction of Engineer - In- Charge as per approved drawing (with section thickness minimum 1.5 mm). Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete. Upto 5mm depth and 5 mm width.
38)	Glass	: Coloured (any colour) / tinted / frosted toughened glass, minimum 5mm thick or as per design with U shaped & T Shaped EPDM gasket of approved make and brand as per direction of Engineer in charge.
39)	MS Grill	: M.S.or W.I. Ornamental grill of approved design joints continuously welded with M.S, W.I. Flats and bars of windows, railing etc. fitted and fixed with necessary screws and lugs. Grill weighing above 10 Kg./sq.mtr and up to 16 Kg./sq. mtr.
40)	SS functional hinge for casement window	: Supplying stainless steel functional hinge for casement window as per approved brand as directed by Engineer- in -charge. (Natural White) 300 mm long.

SECTION 5.4C : ITEM WISE SPECIFICATION.		
Sl. No.	Items	Detail Specification
41)	Collapsible gate	: Collapsible gate with 40mm x 40mm x 6mm Tee as top and bottom guide rail, 20mm x 10mm x 2mm vertical channels 100mm apart in fully stretched position 20mm x 5mm M.S. flats as collapsible bracings properly rivetted and washered including 38mm steel rollers including locking arrangements, fitted and fixed in position with lugs set in cement concrete
42)	Steel rolling grill	: Fixing grided rolling shutters manufactured out of 8 mm dia M.S. bar instead of laths as per design approved by Engineer-in- charge of approved make, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters with 1.25 mm thick top cover.
43)	Steel rolling shutter for substation	: Fixing partly perforated rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters. 80x1.25 mm M.S. laths with 1.25 mm thick top cover.
44)	Wall Guards and Corner Guards	: High Impact Vinyl 150 mm high Wall Guards with aluminium retainer, bumper, vinyl cover, end cap & suitable corner guard etc.
45)	UPVC pipes (B Type) & fittings for sewerage system internal including roof water drainage system.	: UPVC pipes (B Type) & fittings conforming to IS-13592-1992 including fitting and fixing U.P.V.C. pipes for above ground work including cost of jointing materials etc. fitting and fixing all necessary specials, cutting pipes, cutting holes in walls or R.C. floor where necessary and mending good all damages excluding the cost of masonry or concrete work, if necessary, but including the cost and fitting and fixing holder bat clamps (any floor) complete as per direction of the Engineer-in-charge. Minimum dia of soil pipe is 110mm, waste pipe is 75mm & Rain water pipe is 160mm
46)	UPVC pipes SDR41 SN4 & fittings for sewerage system external.	: UPVC pipes (B Type) & fittings conforming to IS-15328-2003 (reaffirmed 2008) including fitting and fixing as per approved drawing of U.P.V.C. pipes for underground work Minimum dia 250mm or as per design which ever is higher including cutting trenches upto design depth and refilling the same complete as per direction of the Engineer-in-charge.
47)	CPVC pipes	: Fitting and fixing CPVC (Chlorinated Polyvinyl Chloride) pipes of approved make conforming to IS-15778: 2007 . with all necessary accessories, specials viz. socket, bend, tee, union, cross, elbo, nipple, longscrow, reducing socket, reducing tee, short piece etc. fitted with holder bats clamps at 1.00 m spacing, including cutting pipes, fitting, fixing etc. complete in all respect including cost of all necessary fittings as required, jointing materials in any position above ground. (Payment will be made on the centre line measurements of total pipe line including all specials. CPVC Pipes Class-I, SDR-11
48)	UPVC pipes (Schedule 80)	: UPVC pipes (Schedule 80) & fittings conforming to ASTM D 1784, ASTM D-1785 shall be used for external water supply distribution.

SECTION 5.4C : ITEM WISE SPECIFICATION.		
Sl. No.	Items	Detail Specification
49)	Mirror for single user toilet	: Fitting and fixing bevelled edged mirror 5.5 mm thick silver red as per I.S. 3438 / 1965 together with complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete. Size 600 mm X 450 mm
50)	Mirror for common toilet	: Fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing, rectangular shape size 1500mm x 450 mm or as per design requirement.
51)	Wash Basin for single user toilets and staff quarters	: Fitting and fixing white vitreous china best quality approved make wash basin with C.I. brackets on 75 mm X 75 mm wooden blocks, C.P. waste fittings of 32 mm dia., one approved quality brass C.P. pillar cock of 15 mm dia., C.P. chain with rubber plug of 30 mm dia., approved quality P.V.C. waste pipe with C.P. nut 32 mm dia., 900 mm long approved quality P.V.C. connection pipe with heavy brass C.P. nut including mending good all damages and painting the brackets with two coats of approved paint. Size 630 mm X 450 mm.
52)	Wash Basin for Common Toilets	: Fitting and fixing white vitreous china best quality approved make wash basin with C.I. brackets on 75 mm X 75 mm wooden blocks, C.P. waste fittings of 32 mm dia., one approved quality PTMT pillar cock of 15 mm dia., C.P. chain with rubber plug of 30 mm dia., approved quality P.V.C. waste pipe with C.P. nut 32 mm dia., 900 mm long approved quality P.V.C. connection pipe with heavy brass C.P. nut including mending good all damages and painting the brackets with two coats of approved paint. Size 550 mm X 400 mm.
53)	Pedestal of wash basin (white) for Principal's Toilet & all HOD's Toilet	: Fitting and fixing pedestal of approved make for wash basin (white)
54)	Stainless steel sink	: Fitting and fixing stainless steel sink complete with waste fittings and two coats of painting of C.I. brackets. 630 mm X 550 mm X 180 mm
55)	Flat back urinal	: Fitting and fixing Flat back urinal (590 mm X 390 mm X 380 mm) (half stall urinal) in white vitreous chinaware of approved make in position with brass screws on 75 mm X 75 mm X 75 mm wooden blocks complete including urinal flush pipe fittings of approved brand.
56)	Urinal Partition for common toilets	: Fitting and fixing 12mm high pressure compact bothside prelaminated panel for urinal partition wall of approved make of size 1000 mm X 600 mm with SS hardware complete in all respect.
57)	CP flushing valve	: Concealed type CP flush valve for flushing purpose minimum 32mm dia push type (Single/double flush) should be used in all toilet including common toilets.

Section 5.5

Scope & Specification of Civil Works

Sec 5.5 Scope & Specification of Civil Works

1. Introduction to the project

West Bengal Medical Services Corporation Ltd (WBMSCL), a Wholly Owned State Govt. Undertaking under Health & Family Welfare Department of Govt. of West Bengal is poised to execute construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis (Planning, Design & Execution) in the State of West Bengal in a time-bound way. Though the upcoming Hospital is located inside the premises of existing Hospital at city, district, sub-division & rural areas, the upcoming Hospital will function on stand-alone basis both from points of administration and delivery of service to the users. But, in some of these ear-marked sites, the existing utility services viz, water line, sewerage line, electric line & substation, gas pipe line and other under & over ground structures may invite some hindrance. Intending bidder must carry out site-survey in detail and gather such precise information to the extent possible and take into account all of them before quoting the respective 'price' of individual Package. Contractor must at the time of execution of the construction ensure seamless running of existing hospital and see the safety of all stakeholders of the running hospital according to standard industry practice of construction. And since the construction will take place inside the premises of running hospital, any sort of pollution, be it sound, air or anything else related to clean environment have to be minimized to the extent possible by deploying modern mechanical plants & equipments. Assistance of latest mechanical equipments will not only minimize the eventual pollution but also warrant the overall project less labor intensive resulting in time of completion of the project quicker and in a predictable way.

The project will be done on Turnkey Basis (Planning, Design & Execution) and the Contractor will be responsible for shortfall of any technical propriety and of upholding prevailing standard of Code of Practice according to latest NBC code and all other relevant IS-Code on the way to accomplish the work according to Employer's requirement. Approval of Engineer of employer at any stage of planning, design and construction of the project will not absolve the ingrained responsibility of the Contractor to execute the construction flawless and at par excellence and, if any aspect contrary to this owning up of responsibility is glaring, the Contractor will be held liable for such gross deviation.

The Project is scheduled to be completed within a period of 03 months from the date of handing over of the site.

2. SCOPE OF WORK

- I. Construction of single storied hospital building approx area 515 Sqmt.
- II. A signboard/plaque (stone/metal) carrying inscription "Member of Parliament Local Area Development Scheme Work" indicating cost involved, the commencement, completion and inauguration date and the name of MP concerned in the project should be permanently erected at the project site as per the provision laid down in Para 3.22 of MPLADS Guidelines.

3. GENERAL

Planning and Preparation of Concept plan, Structural design compatible with respective findings of

Geotechnical Investigation & construction of Multi-storied Frame-structured Buildings and allied works like Sanitary & Plumbing, Electrical installation, CCTV, PA system etc. on turnkey basis. The tentative coverage are for of the upcoming hospital shall be about **515 sqm** and where coverage is not available around this figure, customization of Architectural Plan in consultation with Engineer / Architect of employer will require depending on the shape and size of available land. Average Height of building is **3.30 m and for waiting area portion it will be 3.80 m (this extra 500 mm portion should be leakage proof and will be covered by clear 12 mm toughened glass)**, plinth height is **0.60 m** from formation level.

A. Site Plan

Site Plans for 01 location along with proposed indicative plan of Hospital on this plan are shown in **Sec 5.2**

B. Different Medical facilities (+ its approx. area)

The tentative allocation of different departments / facilities along with approx. required floor area in the proposed Hospital which is subject to addition and / or alteration in consultation with WBMSCL at the time of preparation and finalization of Concept Plan is shown in **Sec 5.3**

C. Existing Services & Utilities

- a) The existing services and utilities shall be diverted with proper liaison and approval of WBMSCL. The services and utilities which cannot be diverted but require supporting, proper supporting shall be done so that they are not damaged along their branches. Precautions to be taken while handling the services and utilities are mentioned as under:
- b) Services and Utilities shall not be damaged at any cost. If due to some or the other reason mishap occurs, it should be rectified immediately by the contractor at his own cost under intimation of WBMSCL.
- c) The Contractor shall take care so that the ongoing activities are not disturbed in any manner whatsoever by the activities of the Contractor during the execution of the work. The above instructions are only indicative, other precautions which are specified from time to time by the WBMSCL shall be followed by the successful Tenderer at all times.
- d) **The existing trees should be cut at own cost of the agency. The cost of tree cutting should be considered in the quoted rate.**

4. SCOPE OF WORK

The scope of work required for completion of the Project on a turnkey basis shall include the following:

A. CONCEPT PLANNING :

1. Preparation of the Concept Plan of upcoming hospital after incorporation of various facilities as per tentative floor plan given below subject to applicable bye-laws and approval from WBMSCL. It shall include:
 - I. Site surveys and soil investigations to be done by the lowest bidder.
 - II. Preparation of site layout plan for super specialty hospital.
- III. Development of Building concept design/plans based on functional analysis and workflow analysis including preparation of space programming, design concept, concept for all services, interiors and exteriors, finishes etc.
- IV. Obtaining approval of WBMSCL for the concept plan and conceptual drawings

- v. L-1 bidder may be asked to substantiate their quoted price by detailed estimate based on PWD SOR (WB) for scheduled items and based on market rate for non-scheduled items.
- vi. Preparation and submission of drawings
- vii. Submission of concept plan document inclusive of site survey report, soil investigation report, cost estimates and approved drawings.
- viii. All structural drawings & DBRs should be vetted from any Government Engineering Institute (B. Tech college) at own cost of the agency.**

B. DETAILED DESIGN AND CONSTRUCTION

1. Detailed design engineering including architectural design, structural designs & drawings along with complete services of electrical, mechanical, bio-medical etc – viz; water supply, sanitary & plumbing, drainage, waste management system, Septic Tank & Soak pit, land scalping, parking etc in accordance with detailed Plan & Design approved by WBMSCL and in accordance with functional requirement of hospital.
2. Obtaining structural design & drawing, concept architectural design duly approved by the academic institutions as recommended by the Employer. This approval from academic institutions / any metropolitan corporation body is required for the L1 bidder.
3. **Site clearance, relocation of existing utility services, including demolition of the existing services if required will be done by the contractor at his own cost.**
4. Construction of foundation and substructure as per approved concept and area development.
5. Construction of approach roads (PCC, sand filling & 80 mm thick Paver Block), pathways, parking, drainage and landscaping etc.
6. Assurance of quality aspect as per NBC (latest) & all relevant latest IS-Code & enforcement of energy conservation as per latest ECBC Code
7. Efficient Project Management to ensure completion of project as per stipulated timeline.
8. Obtaining all the essential clearance /certificates/ NOCs from various local /sttutory authorities and furnishing them to WBMSCL as part of completion / occupancy readiness of the hospital building.
9. Submission of the completion (i.e. 'as-built') drawings and other related documents in hard copy. A soft copy in Auto CAD or other similar software shall also be submitted.
10. Clearance of site before handing over of the facilities complete in all respect
11. Making good of defect (if any) during Defects Liability Period of 5 (five) years from the date of handing over

C. CONSTRUCTION OF SERVICE FACILITIES ALONG WITH ASSOCIATED INFRASTRUCTURE.

Besides the scope of work referred at Sl. No. 'A' & 'B' above, the construction of Building for Services along with associated infrastructure shall include the following along with other utilities required for smooth functioning of super specialty hospital complying all statutory regulations:

1. Underground & overhead water tanks with pumping system for domestic water uses.

2. Internal Electricals with all fittings & fixtures, DBs etc.
 3. Deleted.
 4. Deleted
 5. Water supply system including underground storage tanks, connection with existing water system.
 6. Construction and connection of waste, sewer & storm water services with existing lines, if any & Septic Tank with Soak pit.
 7. Shifting of existing utilities in the area and dismantling of existing encumbrance (viz. buildings, service infrastructure etc.) along with disposal of debris according to direction of WBMSCL.
 8. **All approach roads & pathways inside premises of hospital should be connected with the existing road of Hospital and nearest State Highway/National Highway/Major District road as per requirement of employer.**
 9. **The drainage of hospital should be connected with the municipal drainage/panchayet/ existing hospital drainage as per requirement of employer.**
 10. Landscaping and Horticulture at entrance and around hospital as per approved Concept Plan.
 11. Deleted
- N. B.** Scope of work cited above is indicative only. Agencies will submit progressively comprehensive and compatible service facilities design & report, subject to approval of WBMSCL, to run the super specialty Hospital smoothly

5. Design Requirements for Building & Services

Introduction:

This Specification defines the service and accommodation outputs that WBMSCL requires the Contractor to provide in respect of the new facilities for hospital. These are only indicative and the Contractor shall be responsible for the suitability and adequacy of the design and specifications to ensure that on completion the facilities become fully functional. Detailed Architectural Plan, Structural design & drawing, specifications both for Civil & Electrical works etc. along with the price-bid are sought from Tenderers for implementation of the Project.

Project Objectives

The overall project objective is to develop the following:

- Planning & Setting up of Hospital along with all required associated services, infrastructure, to make it fully functional.

Required Outcome

- A design that will inspire and fulfill the requirement of all who use it day to day and will make a positive statement to the Community as a whole
- Building design fabrics & materials, systems and services that are consistent with the latest architectural style and quality of similar facilities both of public and private sectors.
- Furniture and fittings that provide a safe, comfortable and welcoming environment and encourage and enable all members of the community to use the facility.
- Use of materials consistent with the government's policies on environment, sustainability of natural resource and accordance of ECBC (latest).
- The facilities shall have clear signage giving name and directional details enabling visitors, service users, staff and the emergency services, to easily locate the required destinations (internally and externally).

Designs

The Design Specification is to be intended to provide a clear understanding of the building design standards that the Employer wishes to achieve. While the employer is keen to see innovation, it is equally conscious that basic standards of design including three dimensional and dynamic structural analysis with the help of latest software for this specific purpose be adhered in letter and spirit.

Contractors shall outline the means by which they will ensure design quality and the design objectives, which will influence their scheme. This shall include details of how the Employer's objectives are to be achieved.

General Standards

The new facilities shall be completed in conformity with high standards of construction and specification.

The facilities shall be technically and functionally suitable to meet the Employer's objectives:

- i. The Architectural finishes shall be of such quality that will ensure better hygienic conditions.
- ii. The design of building shall ensure control of noise due to walking, movement of trolleys and banging of doors etc.
- iii. The architectural design should take in to account the requirements of physically challenged patients.
- iv. All the building material fitting and fixtures procured or to be used should be to the satisfaction of the Engineer of employer before being used for the works intended to.
- v. All sanitary/ water supply fixture and fittings shall be of approved make of WBMSCIL confirming to IS specifications.
- vi. There should be separate inlets for hot and cold water in the building.
- vii. The design should provide for underground & overhead water tanks of adequate capacity with necessary pumping arrangement for portable water requirements along with suitable pumping arrangements.
- viii. Deleted.
- ix. Lighting should conform to IS 4347 Code of practice for Hospital Lighting. All electrical system, fixtures, fittings etc. should conform to PWD / CPWD specifications, latest IS code etc.
- x. The planning should include landscaping and horticulture to increase the comfort & hospitality conditions inside the building. The contractor shall develop parking, approach roads and other service requirements meant for the Hospital.
- xi. Provision should be made for internal and external signage's, display boards in the target area / zone.
- xii. Deleted.
- xiii. The block constructed should have provision of power back up systems for emergency services.
- xiv. Mechanical services shall be designed and installed with provisions to contain acceptable noise and the vibration generated by moving plant and equipment in the line of prevailing standard.
- xv. All moving plant, machinery and apparatus be statically and dynamically balanced at manufacturer's work and mandatory certificate need to be procured to this effect from

concerned authority.

- xvi. All aspects of Bio Medical Waste (Management & Handling) Rules 1998 with Subsequent amendments, if any, issued by the Ministry of Environment and Forest, Government of India should be addressed in the provision for Waste Management.

6. Statutory, Industry and Local Standards

The following standards shall apply unless otherwise stated:

- Standards set out in National Building Code of India 2005
- Relevant Development Control Rules/Planning Act/Development Act/Municipal Act/any other applicable statutes and local by-laws
- National Electrical Code, 1985
- Indian Electricity Act 2003
- Bio Medical Waste (Management & Handling) Rules 1998
- Requirements of the local Water Supply Company, Electricity Supply Company/Department
- Requirements of the Pollution Control Board, Fire department and Aviation authorities, if applicable
- ECBC Code 2010 to conform aspect of environment and energy conservation
- All other IS Special publication read with relevant IS Code

7. REQUIREMENTS OF VARIOUS SEGMENTS

7.1.1 Provision for the following shall be made.

- i) The building shall be designed according to prevailing regulations & standards. However the developer shall be responsible for the adequacy, suitability & sufficiency of the design.
- ii) The bidder shall provide all the required services of adequate capacity to meet the requirements of NBC, NEC and other relevant IS-Code for smooth functioning of Hospital.
- iii) Deleted.
- iv) Deleted.
- v) Adequate parking area for cars, ambulance & two wheelers shall be provided.

8. Safety and security

- a. Attention should be given to balancing readily accessible and visible external access points to the facility with the ability to control and secure all access points in the event of an emergency. Factors such as adequate exterior lighting in parking area and entry points to the facility, and appropriate reception/security services are essential to ensuring a safe environment.
- b. Since the strict control of access to a medical facility is neither possible nor appropriate, security and safety within the facility should be achieved through the design of integrated zone for a particular medical department by circulation paths and functional relationship between sub-units.
- c. Provisions for securing the personal belongings of staff, visitors, and patients/residents should be taken care of.
- d. The physical environment should be developed to support and sustain the overall safety and security norms and protocols of the institution. Safety and security monitoring, when in force, should respect privacy and dignity of the patient and the hospital staff.

9. Finishes

- a. The selection of a color palette should be based upon many factors, including the building population, anticipated behavior in the space, time of encounter and level of stress. The color palette selected should be suitable and appropriate for the specific environment, taking into account the specific activities conducted in that environment.
- b. Finishes and color palettes should respond to the geographic location of the health care facility, taking into account climate and light, regional responses to color, and the cultural characteristics of the community served.
- c. The effect on patients/residents/staff/visitors of materials, colors, textures, and patterns shall be considered in the overall planning and design of the facility. Maintenance and convenience of Sustainable shall also be considered while selecting these sort of items.

10. Documents to be submitted with design

The Bidder shall submit with his design all the documents and the references used in the design.

The Bidder shall also submit 6 (six) sets of copies of the following:

- a. Concept plan document with site surveys, soil investigation report for the complete new proposed Hospital.
- b. Detailed structural design and drawings, architectural drawings, design & drawing of service component *inter alia* other allied items to be constructed.
- c. Standards and specifications being followed in the design and for materials to be used in a consolidated statement of fact.
- d. Different Laboratory & Field Tests to be carried out at site & referred laboratories .
- e. Site safety plan
- f. Quality plan as per ISO: 9001:2000 & relevant particulars.
- g. Design Basis Report showing data & relevant particulars.
- h. Requirements for any foundation, structure, plants or services etc which the contractor feels shall be accessed in order to proceed with implementation of the projects.

The Contractor shall submit to the Employer all Design Data, together with the relevant Design Certificates issued. In the event that a re-submission of Design Basis report is required, such re-submission shall be made as soon as practicable after the receipt of the relevant statement of objections. All submissions of Design Basis report shall include 6 (six) copies.

11. Quality Control

The Contractor must ensure that the works conform to the quality standards up to the satisfaction of the Employer. The contractor shall submit his quality enforcement plan for monitoring. The works, plant and materials shall be subject to tests from time to time as per best practices in the industry. Wherever mentioned in the Contract, the tests must be carried out at the Contractor's expense. The materials, fitting & fixtures shall be procured from reputed make & vendors approved by the WBMSCL. The Contractor must also supply samples of such material to the Engineer of WBMSCL for approval and they must carry out the laboratory & field tests as and when required by the Engineer of WBMSCL and / or in conformity with relevant IS-Code.

11. SPECIFICATIONS OF FINISHING ITEMS

Specification of finishing items both for internal & external civil works will conform to the **Sec 5.4** of this document.

A. TERRACE FLOOR WATER PROOFING

- Surface preparation including removing of existing dust, laitance, oil, grease and any other foreign material, completely & final cleaning of the surface, treating of construction joints, filling of honeycombs etc.
 - Providing and applying polymer modified mortar at 1:4 ratio (cement: sand) admixed with SBR based compound at 3% by weight of cement to repair the covings, pot holes and any uneven surface on the RCC roof. All around on the roof, at the parapet wall junction, an angular fillet of 50 mm X 50 mm shall be made with the same mortar all in complete.(excluding the cost of cement & sand)
 - Waterproofing coat-providing and applying two coats of an elastomeric acrylic cementitious coating with crack bridging capability to a total 2 mm thickness on the SSD surface and it will be terminated up to 300 mm from FFL on non-splash wall. Inter coating time will be maintained between 3-4 hrs and sieved sand will be sprinkled on the top coat in tacky condition. It should pass DIN 1048 test. The cured coating, after immersion, shall be capable of withstanding cracked substrate cyclic movement from 0 – 300 – 0 microns at 15°C for 6,000 cycle without failure. It shall have the capability to resist a positive water pressure of 5 bar(DIN 1048) and a negative water Pressure of 3bar.CO diffusion resistance(Taywood method) : > 50 m after 5,000 hrs QUV2.The product should conform the elongation of 40% as per ASTM D412, adhesion strength of minimum 0.5n/mm2 as per ASTM D 412.
 - Protective plaster 1:4 ratio (Cement : Sand) mixed with water proofing and plasticizing admixture @ 0.2% by weight of cement.
 - Providing and laying of 75mm avg & 50 mm minimum thick M25 grade screed concrete (or suitable thickness for necessary slope) mixed with microfibers Recron 3s and integral waterproofing mixture@ 225ml/bag of cement. Green stage saw cutting on the screed will be done in panels (3mx3m) with grooves 6mm width X 8 mm depth & finally the groove will be sealed with suitable polyurethane sealant.
- A. Application of non toxic polyurethane modified acrylic based single component (P U roof coat) solvent free, cold applied polyurethane modified elastomeric waterproofing membrane with excellent UV resistant capacity as per ASTM D6083 (a water based 100% acrylic elastomeric emulsion polymer latex coating used as protective coating for roofs) after preparing the surface by cleaning and repairing the roof cracks by cement & sand mortar (1:4), preferably with antishrinkage mortar if any, apply two coats along with a priming coat (two coats of PU roof coat and one coat of primer coat compatible with main product as per manufacturers specification) and reinforced with 20 gsm Geotextile Fleece, including the cost of primer coat and base preparation, tools & plants but excluding the cost of scaffolding and staging complete as per direction of Engineer – in – charge.
- B. **WATERPROOFING TO INTERNAL WET AREAS, BATHROOMS, LABORATORIES AND KITCHENS/PANTRY ETC.**
- **Treatment on floor and wall**
- Surface preparation by mechanical means jet to remove any dust and laitance etc. and ensuring the surface dampness by water ponding test all in complete.
 - Drilling holes along the construction joints at 500 c/c and fixing PVC nozzles of 12 mm dia and injecting cement slurry CEBEX 100/PIDICRETE AM or its equivalent. This operation will be done wherever required.

- Cutting grooves along the construction joint areas (12-15)mm & sealing the same (50mmx50mm) using polymer modified mortar 1:3 ratio applying SBR based polymer compound by 3% weight of cement.
- Waterproofing coat-providing and applying two coats of an elastomeric acrylic cementitious coating with crack bridging capability to a total 2 mm thickness on the SSD surface and it will be terminated up to 300 mm from FFL on non-splash wall. Inter coating time will be maintained between 3-4 hrs and sieved sand will be sprinkled on the top coat in tacky condition. It should pass DIN 1048 test. The cured coating, after immersion, shall be capable of withstanding cracked substrate cyclic movement from 0 – 300 – 0 microns at 15°C for 6,000 cycle without failure. It shall have the capability to resist a positive water pressure of 5 bar(DIN 1048) and a negative water Pressure of 3bar.CO diffusion resistance(Taywood method) : > 50 m after 5,000 hrs QUV2.The product should conform the elongation of 40% as per ASTM D412, adhesion strength of minimum 0.5n/mm2 as per ASTM D 412.
- Fixing of Tiles:

Providing and applying tile adhesive for Floor and Claddings (with Vitrified & ceramic tile) area for both for wet area, dry area & submerged conditions using Nitotile GPX cementitious powder. Nitotile GPX should be mixed with clear potable water in the ratio 3:1 by weight in an average 3 mm thickness over 10 mm backing mortar. Nitotile GPX conforms to IS 15477 Type I & II and BS 5980 Class AA . Type 1 and suitability for contact with potable water as per BS 6920 Part 1.Gaps between tiles should be filled up with suitable cementitious tile grout.

➤ **Treatment around Drainage spouts / pipe penetration areas on Horizontal surface**

- **Providing and fixing bottom** shuttering (wooden/metal) from the bottom level of the pipe penetration area.
- Cleaning the pipe penetration areas to ensure the surface free from dust, laitance, oil grease any other foreign material and applying one coat of cement slurry admixed with **SBR based polymeric compound**, as an old to new concrete bonding agent and allow the surface in tacky condition.
- Providing and applying both side self-adhesive tape around the pipe circumference inside the sprout areas.
- Providing and laying non-shrink grout / **Micro concrete** maintaining water powder ratio as per manufacturer's specification /TDS.
- Prepare a groove of 10 mm X 10mm around the top of the pipe penetration area and sealing the gap will be done using moisture insensitive epoxy sealant (2 part epoxy sealant, to be mixed in 1:1 ratio by volume/weight)

➤ **Treatment around Drainage spouts / pipe penetration areas on Vertical Wall surface.**

- **Providing and fixing bottom** shuttering (wooden/metal) from the outside wall of the pipe penetration area.
- Providing and applying single component expanding multi- purpose PU foam with between the gap of the Pipe and concrete surface after surface preparation by mechanical means to remove any dust, laitance, oil, grease and any other foreign material and ensuring the surface dampness by water ponding test all in complete and Cut the excess foam ooze out from the gap to give a smooth surface along with the wall. The product should conform water absorption of 0.03% by volume as per DIN 53433, with tack free time 10-12 mins & flame retardancy of B3 Grade

- Prepare a groove of 10 mm X 10mm around the top of the pipe penetration area and sealing the gap will be done using moisture insensitive epoxy sealant (2 part epoxy sealant, to be mixed in 1:1 ratio by volume/weight)

C. WATERPROOFING TREATMENT FOR INTERNAL SURFACE OF UNDER GROUND RESERVOIR & OVER HEAD RESERVOIR

- Surface preparation including removing of existing dust, laitance, oil, grease and any other foreign material, completely & final cleaning of the surface.
- Injection grout at Construction joints: Drilling holes along the construction joints at 500 c/c and fixing PVC nozzles of 12 mm dia and injecting cement slurry CEBEX 100/PIDICRETE AM or its equivalent.
- Treatment at coving: providing and applying polymer modified mortar at 1:4 ratio(cement: sand) admixed with SBR based compound at 3% by weight of cement
- Waterproofing coating at inside of reservoir: providing and applying two coats of an elastomeric acrylic cementitious coating on the SSD surface and it will be terminated up to 300 mm from FFL on non-splash wall. Inter coating time will be maintained between 3-4 hrs and sieved sand will be sprinkled on the top coat in tacky condition. The product should conform the elongation of 40% as per ASTM D412, adhesion strength of minimum 0.5n/mm² as per ASTM D 412.
- Providing and applying protective screed(1:1.5:3) on the coated horizontal surface of the reservoir mixed with integral waterproofing mixture Conplast WL or its equivalent .(Average thickness 50 mm).
- Providing and applying protective plaster mixed with integral waterproofing mixture Conplast WL or its equivalent over the coated surface as a protective layer.
- Providing and applying two coats of water based potable grade Solvent free epoxy resin coating at a coverage of 0.1 litre/sqm on the inside. The cured film shall comply with the requirements of IS:9833 – 1981 and adhesion strength of 2.5 n/mm².

12. STRUCTURAL SYSTEM

12.1 DESIGN PHILOSOPHY

- 3-D analysis and dynamic analysis of all the building structures will be carried out using latest versions of modern software packages such as SAFE, ETABS, STAAD Pro / V8i selectseries and the results of the analysis shall be used for designing the various elements. All designs shall strictly conform to the standards specified in National Building Code 2005 & other relevant IS-Code. At the time of earthquake analysis, wall panel filled in by brick wall ought to be considered. Use of mechanical coupler / device for joint of reinforcement will not be allowed. Grade of steel reinforcement is Fe500D and Grade of concrete is M25 & M30.
- The employer reserves the right to conduct third party design validation by their Proof Consultant and the successful bidder shall provide all data and carry out all modifications that may be suggested by the this party so appointed. A suitable representative of the bidder will assist at the time of checking of structural design & drawings by Proof Consultant for necessary clarification and for providing required data and statements to them.
- Intending bidders shall conduct site surveys and soil investigations on their own, and shall be responsible for accuracy and the adequacy of the design.
- Overhead tank of adequate capacity for the purpose of drinking water shall be located at terrace

12.2 MISCELLANEOUS STRUCTURES

- Deleted.

12.3 DESIGN METHODOLOGY

- All R.C.C. structures shall be designed according to Limit State Method specified in IS: 456 – (latest) and it shall be in conformity with all relevant latest IS –Code & Latest NBC code.

13. PUBLIC HEALTH ENGINEERING

13.1 SCOPE OF WORK

- Sanitary Fixtures and CP Fittings
- Internal Domestic Water Supply Systems
- Internal Sanitary & Roof Drainage Systems
- External Water Supply, Sewerage & Storm water Drainage Systems
- Septic Tank and soak pit

13.2 WATER SUPPLY SYSTEM

- External water supply is to be designed based on total water requirement for the individual building and internal water supply on Effective Fixture Unit basis. All water supply lines are to designed based on Indian Standards and Manuals .
- Design Standards
 - CPHEEO: 1999 – Manual on water supply and treatment
 - CPHEEO: 1993 – Manual on sewage and sewage treatment
 - SP 35: 1987 – Handbook on water supply and Drainage
 - NBC 2005
 - UPC – India: 2011
 - Relevant Indian Standards
- The source of water supply for the proposed buildings shall be Bore wells. The Bore wells will be installed inside the identified land of the proposed hospital. 1(one) bore wells with adequate yield capacity shall be at each site.
- Water requirement per day of hospital taking into account for water demand of OPDs, toilets etc. Overhead Tank (OHT) and Underground Tank (UGT) will be designed accordingly.
- Deleted.
- Submersible pump will be used for pumping raw water from bore well to UGT and monobloc pumps for pumping water from UGT to OHT of the building. Submersible pump capacity shall be arrived assuming raw water tank shall be filled in 3 hours and open well submersible pump capacity is to be arrived assuming OHT shall be filled in 2 hours. Borewell and open well submersible pump shall be integrated with level

sensors and same shall be controlled through automatic ON/OFF controller.

- vii. Deleted.
- viii. Domestic water supply distribution from OHT shall be formed, as a loop / branch network by gravity.
- ix. UPVC pipes (Schedule 80) & fittings conforming to ASTM D – 1784, ASTM D – 1785 for cold water supply in terrace and vertical. For internal distribution of cold water supply and hot water supply CPVC (Class – 1, SDR 11) pipes shall be used. The CPVC pipes used for hot water supply are to be insulated properly.
- x. Deleted.
- xi. Deleted.
- xii. Water from the bore wells shall be pumped to the UGT from bore well by submersible pumps . A bypass line should be there which filled the OHT directly from bore well submersible pumps and another bypass line should be there which will fill the treated water tank of UGR directly from bore well submersible pumps.
- xiii. Double Wall Corrugated (with external annular corrugation and smooth internal walls) of High Density Polyethylene Pipes conforming to IS 16098 (Part-II):2013 having Stiffness Class SN 8 with Ring Stiffness not less than 8.00 KN/Sqm. and Impact Resistance TIR value not more than 10% shall be used for external water supply distribution.
Water meter shall be provided for bore well water supply.
- xiv. Sanitary fixtures and CP-fittings shall be of standard and approved make and shall be according to best industry practice.

13.3 SEWERAGE SYSTEM

- i. Diameter of vertical stacks for soil pipes and waste pipes will be determined according to demand of fixture units. Sewer lines are to be designed for running partially full with a maximum depth of sewage equal to half depth of the sewer diameter. All necessary appurtenances like gully trap, manholes etc. will be provided for the efficient functioning of the sewerage system.
- ii. Soil and wastewater from the water closets and toilets will be collected separately. Soil pipes will be connected to manholes and waste pipes to gully trap and then to manholes. Minimum diameter of soil pipe is 160 mm soil pipe is 110 mm and waste pipe is 75 mm.
- iii. UPVC pipes (B type) & fittings conforming to IS – 13592 & 13593 shall be used for internal sewerage pipes. Double Wall Corrugated (with external annular corrugation and smooth internal walls) of High Density Polyethylene Pipes conforming to IS 16098 (Part-II):2013 having Stiffness Class SN 8 with Ring Stiffness not less than 8.00 KN/Sqm. and Impact Resistance TIR value not more than 10% shall be used for sewerage system external with minimum diameter 250 mm or as per design whichever is higher.

- iv. All building manholes will be interconnected for carrying sewage finally to the Septic Tank.
- v. Deleted.
- vi. Collection of rainwater runoff from the rooftops are to be properly designed. Roof water from building shall be taken through rain water pipes and connected to Internal drainage system of Panchayat/Municipality Drain. If the invert level of outfall is higher than the outlet of recharge pit then proper pumping system to be provided.
- vii. Suitable arrangement of watering landscape and arboriculture will be made. In absentia of necessity for irrigation, Soak-pit of adequate capacity will take care of treated water.
- viii. Solid waste generated in the hospital shall be collected separately, according to the category of wastes and sent to disposal facility. The waste management room shall be in place to store different categories of waste.

13.1 Site office for WBMSCL

Contractor will arrange Site Office of temporary type for WBMSCL personnel at site along with providing furniture to the WBMSCL personnel. At Site office provision for 1 room of approximate area @ 100 sqft with attach toilet for seating of 02 persons is to be made.

14. LIST OF APPROVED MAKES / VENDORS

Sl. No.	Materials	Manufacturers / Agencies
1	Batch Mix Concrete (BMC) / Ready Mix Concrete (RMC)	The contractor to install his own computerized batching plant of suitable capacity and arrange for Transit Mixers, pumps etc. As per approval of Engineer – In- Charge Or The RMC shall be procured from the source as approved by Engineer – in Charge from Lafarge/ACC/Ambuja/Ultratech
2	Ordinary Portland Cement (Minimum 43 Grade)/ Portland Puzzolona Cement	ACC / Ambuja / Lafarge / Ultratech/ Dalmia/JSW
3	Reinforcement/ Structural Steel (Each LOT shall accompany manufacturer's Test Certificate)	SHYAM STEEL, ELEGENT, SRMB, BMASL/JSW
4	Stainless Steel sink	Tata / Kingstone
5	White Cement	Birla White / Grasim / J K
6	Sand	Sand conforming to BIS with due approval
7	Bricks, Stones slabs, Lime, Neeru Stone aggregate	Sample to get approved before use
8	Double Charged Vitrified Tiles	Johnson, Kajaria, NITCO, Vermora, Orient Bell
9	Flush doors	Greenply /Century Ply/ Sylvan
10	Fire doors	Ahura Mazda, Sakti Mate, TATA, AGNI, TRIPTI
11	Aluminium fittings (Door, Window etc.)	Ebco, Hefela, Dorma, LGF Sysmac
12	Hydraulic floor Spring	Godrej, Garnish, Hardwyn
13	Aluminium Extruded Sections	Hindalco / Jindal
14	Aluminium Fabricators	M/s. International glass House, M/s. AGV Alfa Lab Ltd.,M/s. Consolidated Engg. Company / M/s. Ajit (India) Pvt. Ltd./ Calco / Al karma
15	Paints, Distempers	Akzonobel, Berger, Asian Paints, Nerolac
16	Glazing	Float Glass of Modiguard ,Saint Gobain, AIS
17	Water proofing Works	As approved by E-in-C

18	Hydraulic Door Closers	Godrej, Garnish
19	Water Proofing Cement Paint	Berger, Akzo Nobel (ICI Dulux), Asian Paints
20	Ceramic Glazed Tiles	Kajaria, Nitco, Orient Bell, Vermora, Johnson
21	Super plasticizer	SIKA, Fosroc, BASF, Asian Paints
22	Epoxy Flooring	Fosroc, BASF
23	False Ceiling (a) Mineral Fibre (b) Metal	a. Armstrong b. Armstrong/Hunter Douglas(Luxalon)
24	Cast Iron Pipe and Fittings (Soil Pipes)	Electro Steel/IISCO/BIC
25	RCC Pipes	Indian Hume Pipe / Pragati Concrete Udyog
26	Stoneware Pipes & Fittings Cast	Parry/Hind (Conforming to ISI)
27	Cast Iron Pressure Pipes & Fittings	Electrosteel/ISSCO
28	GI Pipes (ISI marked)	Jindal / Tata / SAIL (Heavy Duty)
29	GI Fittings (ISI marked)	'R' Brand KS/UNIK (Heavy Duty)
30	Brass ball Valves & Fittings	Zoloto/Sant/Uniflow/R Brand
31	CI Sluice Valves, Check valves	IVC (Calcutta) Kirloskar/ Zoloto/Sant/Deepak
32	CP Brass Sanitary and water supply Fittings	Jaquoar/Essco/CERA/Parryware/Hindware/Marc
33	Vitreous China Sanitary ware	Parryware/Cera/Hindware/Jaquor
34	WC Seats & Covers	Parryware/Cera/Hindware/Jaquor
35	Curtain/Wall/Structural Glazing	Specialist Agency to be employed with Prior Approval of E-In-C
36	Plywood Products, Particle Boards & Veneers	Greenply /Century/Archid Ply
37	Adhesive	Pidilite, Araldite
38	Plastic Laminates	Formica, Greenlam, Bakelite HYLAM, Sunmica
39	Powder Coatings	Berger/Akzonobel

40	Tile Adhesive	SIKA/ Letecrete/ Kajaria
41	Resin Bonded Glass Wool	Crown Fibre Glass/Rock lloyd
42	M.S. Pipe	Jindal / TATA
43	Water Proofing	Fosroc / Sika / Cico/ Pedilite/ Akzonobel
44	Silicon Sealant	Silicone, SIKA, Pidilite
45	Anchor Fastener	Hilti, Bosch, Feischer
46	Formwork Release Agent	Fosroc, MBT, MC Baucheme CICO, ADO Conmat
47	CP Waste, Spreaders for Urinals	Jaquoar/Essco/CERA/Parryware/Hindware/Marc
48	Sensor Operated Auto Flushing System Urinals	Jaquoar/Essco/CERA/Parryware/Hindware/Marc
49	SFRC Manhole Covers	KK/SK Precast Concrete/ Advent concreteovision
50	UPVC Pipes/Fittings	Supreme/Finolex/Ajay/Oriplast/Hindware Tru-flow
51	Mirror	Modifloat/Saint Gobain/AIS
52	Flush Valves	Jaquoar/Essco/CERA/Parryware/Hindware/Marc
53	Polyethylene Water storage Tank	Sintex / Rotex / Duro plast/ Patton
54	Floor Mounted EWC	Jaquoar/Essco/CERA/Parryware/Hindware/Marc
55	R.O. System	As per discretion of E- I-C
56	Geyser	Venus/Voltas/Bajaj
57	Hand Drier	Venus/Voltas/Bajaj
58	Paver blocks	Ultra/Multiwin/Buildmat
59	Wall Putty	Birla,JK
60	AAC Block	Biltech/ICON/Koncrete
61	Block jointing thin set adhesive	Ultratech/SIKA/ACC
62	Cast Iron Butterfly Valves & Fittings	Premier/ Zoloto/Sant/Intervolve/Deepak

15. Laboratory Equipment for testing of building materials at site (Indicative only)

All necessary equipment for conducting necessary tests shall be provided at the site laboratory by the Contractor at his own cost.

Sl. No.	Equipments	Quantity
1	Cube testing machine	1 Nos.
2	Slump Cone	2 Nos.
3	Tensile Briquette testing machine	0 Nos.
4	Vicats apparatus with Desk Pot	1 Nos.
5	Megger & earth resistance tester	1 Nos.
6	Pumps and pressure gauges for hydraulic testing of pipes	1 Nos.
7	Weighing scale platform type 100 kg capacity	1 Nos.
8	Graduated glass cylinder	As per requirement
9	Sets of sieves for coarse aggregate [40,20,10,4.75 mm]	1 Nos.
10	Sets of sieves for fine aggregate [4.75; 2.36, 18; 600; 300 & 150 micron	1 Nos.
11	Core cutter for soil compaction with accessories	1 Nos.
12	Cube moulds size 150mm x 150mm x 150mm	30 Nos.
13	Cube moulds size 150mm x 150mm x 150mm	00 Nos.
14	Moisture content rapid moisture meter standard	1 Nos.
15	Hot Air Oven Tem. Range 500C to 3000C	1 Nos.
16	Electronic balance 600g x 0.01g. 10lg and 50kg	1 Nos.
17	Physical balance weight up to 5kg	1 Nos.
18	Digital thermometer up to 1500 C	1 Nos.
19	Poker Thermometer (Concrete Road) 00C to 500 & 1500C	1 Nos.
20	Measuring Jars 100ml, 200ml, 500ml	2 Nos. set of each size.

21	Gauging trowels 100mm & 200mm with wooden handle	2 Nos.
22	Spatula 100mm & 200mm with long blade wooden handle	1 Nos. set of each size.
23	Vernire callipers 12" and 6" sizes	2 Nos. each
24	Digital PH motor least count 01mm	1 No.
25	Digital Micrometer least count .01mm	1 No.
26	Digital paint thickness meter for steel 500 micron range	1 Nos.
27	GI tray 600 x 450 x 50mm, 450x300x40mm, 300xc250x40mm	1 Nos.
28	Electric Mortar mixer 0.25 Cum capacity	1 No.
29	Rebound hammer test Digital rebound hammer	1 No.
30	Screw gauge 0.1mm – 10mm, least count 0.05	1 Nos.
31	Water testing Kit	1 Nos.
32	Aggregate impact value testing machine with blow counter	As per requirement
33	Crushing value apparatus	As per requirement
34	Thickness gauge for measuring flakiness index	As per requirement
35	Elongation gauge	As per requirement
36	Measuring Cylinder 3,5,10 & 15 litre Cylinder	As per requirement
37	Pycnometer	1 Nos.
38	Motorized Sieve shaker	1 Nos.

Any other equipment for laboratory tests at site will be the way it is outlined in relevant IS-Code and / or as directed by the Engineer. Quality control engineer shall monitor collection of Sample and conducting regular testing at site maintaining propriety and the very best standard followed in industry of construction. Tests which are inconvenient to be conducted at site can be done in referred Laboratory as and when required.

All relevant IS Codes, special publications as per latest amendment/edition, Latest edition of WB PWD SOR, WB PW(Road)D SOR and CPWD SOR shall be made available at site by the contractor at his own cost.

16. Mandatory laboratory test for civil construction at site (Indicative only)

Material	Test	Relevant IS-code of testing	Field laboratory test	Minimum quantity of material work for carrying out test	Frequency of testing
Sand	a. Silt Content	IS: 2386 Part- I	Field	20 cum	Every 20 cum or part thereof or more frequency as decided by the Engineer- in- charge.
	b. Partical size distribution	IS. 2386 Part-1	Field	20 cum	Every 20 cum or part thereof or more frequency as decided by the Engineer- in- charge.
	C. Bulking of sand	IS. 2386 Part-III	Field	20 cum	----- do-----
Stone Aggregate	a. Percentage of soft or deleterious material	IS 2306 Part-II	Generally visual inspection / laboratory test where required by the Engineer- in Charge or so specified.	-	As required by Engineer- in Charge
	b. Partical size distribution	IS 2386 Part -I	Field	45 cum	For every 45 cum or part thereof or as decided by the Engineer in charge
	c. 10% Fine value	IS 2386 Part- IV	Laboratory	45 Cum	Initial test and subsequent test as and when required by Engineer in charge.
	d. Aggregate impact value of loss Angles abrasion value	IS 2386 Part - IV	Laboratory	45 Cum	As above
Cement concrete or reinforced cement concrete (not leaner	Slump Test	IS 1199	Field	15 cum	15 cum or part thereof or more frequency as required by engineer in charge

than M-15)					
Reinforced cement concrete	Compressive Strength Test	IS 456	Field	15 cum in slab, 5 cum on columns	15 cum or part thereof, or more frequency as required by Engineer in charge
Steel	a. Tensile strength	IS 1608	Laboratory	20 tonne	Every 20 tonne of part thereof confirming to IS 1786-1985
	b. Bend test	IS 1599	--do--	--do--	--do--
Cement	a. Initial and final setting time by Vicat apparatus	IS 403	Field	10 tonne	IS 4031-1988
	b. Test for determination of consistency				
Timber	a. Moisture contents	IS : 11215	(by moisture rates Field/ Laboratory test in case of dispute as required by Engineer-in-charge)	1 Cum	Every one cum or part thereof
Flush Door	1. Emersion Test	IS : 2191 & 22021	Laboratory	20 Shutters	As per sampling and testing specified in clause 9.8.3
Aluminum door or windows fitting	Thickness of anodic coating	IS : 1948	----- do ----- --	It the cost of fitting exceeds Rs. 3000/-	Rs. 5000/- or part there of required by the Engineer-in-charge
Mortic locks	Testing of Spring		----- do ----- --	50 Nos.	100 of part thereof
Terrace tiles	1. Transverse strength 2. Water absorption 3. Abrasion	IS : 1237	----- do ----- --	2000 Nos.	2000 Tiles or part thereof
White	1. Water absorption 2. Crazing test	Laboratory	3000 Nos	3000 Nos	Part there of

glazed	3. Impact strength test				
	Compressive strength of cement				
Bricks	Testing of bricks	IS : 1077	Laboratory/Field	Brick Designation	for every 1000 Bricks or part the
a. Dimensions b. water absorption &	IS : 3485	Laboratory	100 50,000 100 50,000	One test of sour of Manufacturer	
			75 190000.00 50 35		
	c. Compressive strength and dimensions	IS : 3595	Laboratory	50,000	for every 50,000 part manufacture
	b. Water absorption	IS : 3495	Laboratory	50, 000	One test for sour of manufacture
Marble	a. Moisture absorption	IS : 1130	Laboratory	cost of marble work Rs. 10,000/-	Rs. 10,000/- or thereof it require Engineer-in-charge.
	b. Mhos scale hardness				
AAC Block	a.Dimensions	IS 2185 (Part 3) : 1984	Field/Laboratory	As per IS	As per IS
	b.Density	IS 6441 :1972	Laboratory	As per IS	As per IS
	c.Compressive Strength	IS 6441 :1972	Laboratory	As per IS	As per IS
	d.Water absorption	IS 6441 :1972	Laboratory	As per IS	As per IS
	e.Fire Resistance Test	IS 6441 :1972	Laboratory	As per IS	As per IS

Section 5.6.A Scope and Specification

-Electrical Works-

Planning, Design and Construction of
Building for development of Building of State
General Hospital at Bhatpara (ward no. 15
under Bhatpara Municipality) under
development works by MPLADS funds on
Turnkey Basis

PART A: CODES AND STANDARDS

PART-B: ELECTRICAL SYSTEMS

PART C: MAKE LIST

PART A: CODES AND STANDARD TO ALL SERVICES

The electrical system of this Building of State General Hospital is proposed to be designed on the basis of National Building Code 2016 (NBC 2016) for such a project giving due consideration to aspects of safety, liability and no interruption in the functions of essential services in the Building of State General Hospital and other areas.

Following are the major guideline while designing the electrification and other facility works:

SL. No.	STANDARDS (Codes of Practice / Guide)	TITLES
1	IS : 732 – 1989 Revision - 3	Code of practice for Electrical Installation wiring.
2	IS : 8061 – 1976	Code of practice for design, installation and maintenance of service lines up including 650 Volts.
3	IS : 4347 – 1967	Code of practice for hospital lighting.
7	IS : 694 -1990 (Third Revision)	PVC insulated wires for working voltages up to and including 1100 V.
8	IS : 9537(Part – 2) -1981 (Amendment - 2)	Conduits for Electrical installations: Rigid steel conduit.
9	IS : 1554 - 1988	PVC insulated heavy-duty cables.
10	IS : 7098 - 1985	High voltage XLPE cable
11	Indian Electricity Rules	

The design engineering manufacturing and the installation shall be in accordance with established codes, sound engineering, practices, and specifications and shall conform to the statutory regulations applicable in the country. Contractor shall obtain all approvals from statutory authorities' e.g. Directorate of Electricity, Pollution Control Boards as applicable before commissioning of electrical/DG installations.

- Indian Electricity Act.
- Indian Electricity Rules.
- Factory Act.
- Pollution Control Act.
- National Building Code 2016 (NBC 2016).

IS-732: Code of practice for electrical wiring installation system voltage not exceeding 650V. voltage up to 1.1 KV.

IS-3202: Code of practice for climate proofing of electrical equipment.

IS-2274: Code of practice for electrical wiring installation system voltages exceeding 650 volts.

IS-12360: Voltage and frequency for ac transmission & distribution system. IS-5572: Classification of hazardous area for electrical installations.

IS-5571: Guide for selection of electrical equipment for hazardous area.

- a) Specification, particular specification if any, and drawings.
- b) Indian regulations/codes and standards.

PART B: ELECTRICAL SYSTEMS

(Internal & External)

- a. The bidder should have to Design, Preparation and submit 5(five) set of hard copy and soft copy drawing of necessary Single Line Power Diagram(SLPD), Detail drawing of Luminaries, Fans, Conduit layout, Distribution Boards i.e HTPN DBs, SPN DBs, Industrial Plugs, Different Power Plugs, Computer Boards, Separate Plugs, Illuminated signage etc. of OPD room, corridor, verandah, toilet & other services area inside proposed Building of State General Hospital as per latest guideline of NBCC and MCI.
- b. The bidder should have to supply and lay cables of adequate size/rating to VTPN from panel room considering extra length for future termination of cable at LT panel (future provision).
- c. The bidder should have to SITC of VTPN, HTPN, SPNDB, all types of light fitting & fixtures, All types of fan call bell, all types of signage, computer boards, all types of power plugs, switches, total electrical wiring etc. as per approved drawing and direction of EIC
- d. The bidder should only arrange the electrical connection/wiring of all types of medical equipments, fire detection panel and bore well pump through industrial socket and starter etc. as applicable.
- e. SITC of Main LT panel, DG set, Service connection from existing substation feeder to proposed main LT panel, Lightning arrester, procurement of ACs, External area lighting has not been considered in this tender, but the agency should have to arrange temporary connection at their own cost for final checking and commissioning of all electrical equipments.
- f. The bidder should have to arrange construction power at their own cost. WBMSCL will not take any liability of stolen/damage/missing of any electrical installations before final handover.

g. Location of backup power source (DG):

Apart from the normal power supply alternative DG source of power supply is required as an emergency supply for the following electrical loads, which are furnished below.

- Lighting & power in all OPD Rooms 100%.
- Lighting & power in LT panel room, staircase, waiting lounge, Outdoors lighting, Toilets, etc.- 100%.
- Rest areas of the Hospital Building 100 %.
- EPABX, Fire panel- 100%
- Water pump-100%
- 100% AC load of the all OPD Rooms

Besides that, there may be variations in demand for DG power as per the requirement of the Authority at the said complex. Turnkey agency should arrange the DB connection through emergency power of those areas.

- h.** The bidder should only arrange the electrical power point with proper wiring and starter with timer control connection for installation of 1.5 to 2 ton split inverter type AC at all OPD chambers, Store Room & Dispensary.

Power Distribution Scheme:

Suitable size XLPE cables/FRLS wire shall be used to feed power to different distribution boards to cater the various type of electrical loads i.e. Medical equipment, indoor lighting & power points, A.C, fire detection panel, Water Pumps, external lighting, etc.

All lighting and power distribution boards consisting of Miniature circuit breakers (MCBs) of 10 KA rating and Residual Current Circuit breakers (RCCBs) of 30-100 mA and MCCB of 25-50 KA sensitivity and SPD

for medical equipment & ELV network components.

DISTRIBUTION BOARDS:

- All Vertical TPN Distribution Boards shall be three-phase incoming and three-phase outgoing types. The main incomer shall have a TPN MCCB and suitable TP/SP MCB as outgoing. A metering box with a multi-functioning meter & other panel accessories and two nos. cable entry boxes have to be installed with each VTPN DB.
- In the case of Seven Segment TPN MCB Distribution Boards shall be three-phase incoming and single-phase outgoing type; the incomer shall have a TPN MCB and suitable SP MCB one double pole RCCB with AFDD to each of the three outgoing phase bus bars. This prevents the other two phases get tripped OFF in case one phase has an earth fault.
- The HTPN MCB Distribution Boards shall be three-phase incoming and single-phase outgoing types; the incomer shall have a four-pole RCBO with AFDD and suitable SP MCB as outgoing. Two nos. cable entry boxes have to be installed with each HTPN DB
- The SPN MCB Distribution Boards shall be single-phase incoming and single-phase outgoing types; the incomer shall have a double pole MCB/RCBO with AFDD and suitable SP MCB as outgoing. One no cable entry box at outgoing has to be installed with each HTPN DB
- From the outgoing feeders of Main LT panel, suitable-size XLPE cables shall be used to feed power to different distribution boards (As necessary) to cater to various types of electrical loads of the proposed State General Hospital. The light sub-circuits shall be designed within the permissible limit of 800 watts or 10 points per circuit. The design basis of circuits shall be limited to a voltage drop of 5% max.
- Load balancing shall be carried out in a three-phase circuit only. The overall load balancing including single phase & three phase circuits in the main panel shall be considered as per the connected load. The colour band of PVC copper wire both in single-phase and three-phase distribution should be maintained in all the installations for phase balancing. No looping/jointing will be allowed between switch-switch/switch-point/any circuits run in the case of phase-neutral-earth wire.

VTPN DB: Supplying and fixing of suitable double door Vertical TPN MCB Distribution board for MCCB incomer with IP-42/43 protection, concealed in wall & mending good the damages to original finish including Meter box with equipment, Cable entry boxes & inter connection with suitable size of copper wire and neutral link & provision for earthing attachment.

HTPN DB: Supplying and fixing of suitable double door sheet steel (16SWG), powder coated cable end box for TPN DB horizontal/vertical enclosure with IP-42/43 protection, concealed in wall & mending good the damages to original finish with nuts bolts etc. including Cable/Wire entry boxes with provision for earthing attachment.

SPN DB: Supplying and fixing of suitable double-door SPN MCB Distribution Board with IP-42/43 protection, concealed in the wall after cutting the wall & mending good the damages to original finish including Cable/Wire entry boxes & inter connection with suitable size of copper wire and neutral link & provision for earthing attachment.

MCB Enclosure: Supplying and fixing MCB SS enclosure with IP-20/30 protection, powder-coated provision for two/four pole MCB, concealed in the wall after cutting the wall & mending good the damages to original finish incl. Painting, connection & provision for earthing attachment.

MCCB Enclosure: Supplying and fixing MCCB SS enclosure with IP- 42/43 protection, powder-coated provision for housing Four pole (4P) MCCB, concealed in the wall after cutting the wall & mending good the damages to original finish / on flat iron frame incl. Painting, connection & provision for earthing attachment.

MCCB: Supplying and fixing of 415 V Four Pole MCCB of Breaking capacity 25kA/35kA with fixed thermal and fixed magnetic/adjustable thermal and fixed magnetic setting in existing DBs / enclosure and necessary connection.

MCB: Supplying and fixing of 240/415 V MCB of Breaking capacity 10kA & C characteristics on din rail of existing DBs and necessary connection.

MCB type Changeover: Supplying and fixing 240/415 V change over (MCB module) of on din rail of existing DBs/ enclosure and necessary connection.

POWER PLUG-SOCKETS:

6A Plug-Socket & switch: S&F 240 V, 6 A, 3 pin Modular type plug socket with 6A Modular type switch, without plug top on 4 Module GI Modular type switch board with 3 Module top cover plate flushed in wall incl. S&F switch board and cover plate and making necessary connections with PVC Cu wire and earth continuity wire etc. (Brand approved by EIC)

2 X 6A Plug-Sockets & switches: Supply & Fixing 240 V, two nos 6 A, 3 pin Modular type plug socket with two nos 6A Modular type switch, without plug top on 6 Module GI Modular type switch board with 6 Module top cover plate flushed in wall incl. S&F switch board and cover plate and making necessary connections with PVC Cu wire and earth continuity wire etc. (Brand approved by EIC)

6/16A Plug-Socket & switch: S&F 240 V, 16 A, 3 pin Modular type plug socket with 16A Modular type switch, without plug top on 4 Module GI Modular type switch board with top cover plate flushed in wall incl. S&F switch board and cover plate and making necessary connections with PVC Cu wire and earth continuity wire etc. (Brand approved by EIC)

Computer Board : S&F 240 V, 3 nos 6 A, 3 pin Modular type plug socket with 3 nos 6A Modular type switch with 16A Modular switch type SP MCB (C-Curve) and Indicator without plug top on 12 Module GI Modular type switch board with 12 Module top cover plate flushed in wall incl. S&F switch board and cover plate and making necessary connections with PVC Cu wire and earth continuity wire etc. (Brand approved by EIC)

1-Ph Industrial Plug-Sockets: Supplying & Fixing Industrial Plug & Socket board with 240 V, 20A, SPN & Earth Metal Industrial Plug socket & 20A Industrial top incl. S&F 20 A SP MCB breaking capacity 10kA (C-Curve) in SS enclosure fixed on the wall and necessary connection. (Brand approved by EIC)

3-Ph Industrial Plug-Sockets: Supplying & Fixing Industrial Plug & Socket board with 415 V, 30A, TPN & Earth Metal Industrial Plug socket & 30A Industrial top incl. S&F 32 A TPN/FP MCB breaking capacity 10kA (C- Curve) in SS enclosure fixed on the wall and necessary connection. (Brand approved by EIC)

DISTRIBUTION WIRING:

Building (Point) Wiring: Distn. Wiring in 22/0.3 (1.5 sqmm) single core stranded 'FR-LSH' PVC insulated & unsheathed single core stranded copper wire (Brand approved by EIC) in 20 mm bore, 2 mm thick rigid conduit pipe complete with all accessories embedded in wall to light/fan/call bell points with Modular type switch (Brand approved by EIC) fixed on Modular GI switch board with top cover plate flushed in wall incl. Mending good damages to original finish.

RIGID PIPE LAYING:

Under Ceiling/Beam: Supplying and fixing rigid conduit pipe complete with fittings as necy. Under ceiling/beam, bound with 22 SWG GI binding wire incl. Supplying and drawing 1x18 SWG GI Wire as fish wire inside the pipes and fittings and providing 50 mm dia disc of MS sheet (20 SWG) having colour paint at one face fastened at the load point end of the conduit pipe with fish wire (synchronizing with roof/beam casting work of building construction).

Conceal Wall: Cutting Channel on masonry wall by Electric operated cutting machine incl. Supplying & fixing heavy gauge 13 mm, 2 mm thick rigid pipe by means of anchoring chemical (Hilti/Sika) and GI 'U' hooks of 8 SWG (or suitable hooks approved by the EIC) incl. Supplying and drawing 18 SWG GI wire as Fish wire and mending good damages to the original finish by using own tools and tackles.

Surface Wall: Supplying and fixing PVC Rigid (MMS) Conduit 'FRLS' [Make: Precision/Primco Plast/Polycab] on wall, ceiling with saddles and other accessories as required and mending good damages to building works.

PROVISION OF SWITCHES AND SOCKETS:

All switches and sockets shall be **Modular** type in bye colour arrangement (preferable colour of Cover-plate: Steel or equivalent with graphite black colour Switch-socket and in the case of emergency connection another suitable colour cover plate should be used) to facilitate compatibility of the modern trends. Industrial sockets will also be provided where required for each Building. The layout of providing switches and sockets in different rooms/areas of different floors in respect of each Building is to be done by the bidder as per furniture layout & other utilities as required. The detail drawing showing the position of necessary switches & sockets under normal and emergency sources is to be submitted to WBMSCLL for examination and onward approval. The actual numbers of switches and sockets will be ascertained on production of detailed layout drawings to WBMSCLL & in this case, the decision of WBMSCLL will be binding & final.

DISTRIBUTION CIRCUIT WIRING:

6A Plug-Sockets: 3 x 22/0.3 (1.5 sqmm)

2 X 6A Plug-Sockets: 3 x 22/0.3 (1.5 sqmm)

16A Plug-Sockets: 2 x 56/0.3 (4.0 sqmm) + 1 x 36/0.3 (2.5 sqmm) as ECC

6A/16A Plug-Sockets: 2 x 56/0.3 (4.0 sqmm) + 1 x 36/0.3 (2.5 sqmm) as ECC

Computer Board: 2x36/0.3 (2.5 sqmm) + 1x22/0.3 (1.5 sqmm) as ECC

AC Point: 2x56/0.3 (4 sqmm) + 1x36/0.3 (2.5 sqmm) as ECC

Lab Table Plug-Sockets:

1-Ph Industrial Plug-Sockets: 2x84/0.3 (6 sqmm) + 1x56/0.3 (4 sqmm) as ECC

3-Ph Industrial Plug-Sockets: 4x84/0.3 (6 sqmm) + 2x56/0.3 (4 sqmm) as ECC

Finishing Copper Wire ends: All the finishing ends of the PVC insulated wire by socketing with pin/ ring type copper sockets and insulated tapes etc., including supplying sockets, tapes.

CABLE LAYING:

Laying Through Wall/Surface- Laying of cable on wall/surface including S & F MS clams with earthing attachment in 2 x 10 SWG GI (Hot Dip) Wire, making hole etc. as necy., mending good damages and painting.

Laying through Floor/ Pavement/Wall- Laying of cable as below, after cutting floor/pavement/wall/ and making holes incl., embedding the cable at an average depth as below and mending good the damages to original finish incl. Removing the rubbish.

Compression Glands: Supplying and fixing compression type gland complete with brass gland, brass ring & rubber ring for dust & moisture-proof entry of XLPE/PVC armoured cables.

Finishing cable ends: Finishing of XLPE/PVC insulated armoured cable ends by soldering with cable sockets and insulated tapes etc., including supplying sockets, soldering materials, tapes etc. and making connection to switch, BDB and BBC etc.

EARTHING INSTALLATION:

Earthing for LT Installation: Earthing with 50 mm dia TATA-Medium GI pipe 3.64 mm thick x 3.04 Mts. Long and 1 x 4 SWG GI (Hot Dip) wire (4 Mts. Long), 13 mm dia x 80 mm long GI bolts, double nuts, double washers incl. S & F 15 mm dia GI pipe protection (1 Mts. Long) to be filled with bitumen partly under the ground level and partly above ground level driven to an average depth of 3.65 Mts. Below the ground level.

Extra for providing masonry enclosure on the top of the earth electrode of overall size 86.36 cm x 86.36 cm x 46 cm deep (below Ground level) complete with cemented brick work (1:6) of 25 cm width duly plastered with cement mortar (inside) CI hinged inspection cover of size 36.56 cm x 35.56 cm with locking arrangement, GI reducer including drilling of 46 nos 12 mm dia holes on the GI pipe.

Extra for treatment of soil by using salt & charcoal or coke for plate electrode.

EARTH BUSBAR:

For LT Installation: Supplying & fixing earth bus-bar of galvanized (Hot Dip) MS flat 40 mm x 6 mm on wall having clearance of 6 mm from wall including providing drilled holes on the bus-bar complete with GI bolts, nuts, washers, spacing insulators etc. as required.

II. DETAILED ELECTRICAL AND MECHANICAL ENGINEERING SERVICES:

a). GENERAL

To provide a complete electrical system for the distribution of electric power from the point of supply, to the utilization equipment, and described in these specifications. It will be the bidder's responsibility to work out the exact quantities with drawings as per area program & from work site, which provides said equipments, materials, tools and labour.

b). SCOPE

The bidder shall supply, install, and commission following equipment and system in the buildings. The scope also covers the detailed engineering and calculations of the various equipment/system mentioned hereunder and the same shall be approved by the Owner/Architect prior to execution of the job.

1. Specification of LT cables and Wire.
2. Specification for Internal Electrical Material.
3. Specification for Internal Electrical Wiring
4. Specification of Signage.
5. Illumination
6. Special Condition.

This specification defines the basic guidelines to develop a suitable electrical system as necessary for the State General Hospital. All data required in this regard shall be taken into consideration to develop a detailed engineering of the system.

Compliance with these specifications and/or approval of any of the Contractor's documents shall in no case relieve the Contractor of his contractual obligations.

All work to be performed and supplies shall be affected as a part of the contract requires specific approval/review of the Owner or his authorized representative. Major activities requiring approval/review shall include but not be limited to the following:

The engineering activities shall comprise the submission for approval of the following:

- Basic engineering documents e.g. single line diagram,
- Quality Assurance Plan (QAP).
- Standard Operating Procedure (SOP).
- Control and protection schemes.
- Load sharing and annunciation scheme,
- Preparation of power supply distribution drawing.

Bidder shall be responsible for:

- Detailed coordination with other services, shop drawings for various electrical layouts such as equipment layout, lighting layouts, earthing etc. prior to start of work.
- Detail (Design) calculation i.r.o each layout/drawing.
- Cable schedule with design parameter.
- DB Schedule
- Single Line Power Diagram

- Details Technical Specification of Electrical Equipment, Panel, and Accessories.
 - Earthing schedule and layout.
 - Lighting/power panel schedule.
 - Interconnection/ Co-ordination Drawing.
 - Protection co-ordination schemes in drawings/tabular format for a complete power system.
 - Shop inspection and testing procedures.
 - Field testing and commissioning procedures.
 - Preparation of As-Built drawings for all services.
 - Any other work/activity which is not listed above however is necessary for the completeness of the overall Electro-mechanical System.
-

1. SPECIFICATION OF L.T. CABLES & WIRES

• WIRES

The design manufacture, testing and supply of single core FRLS0H PVC insulated 1.1 KV grade multistranded twisted wires under this specification shall comply with latest edition of following standards.

IS : 3961 Current rating for cables.

IS: 5831 PVC insulation and sheath of electric cables.

IS : 694 PVC insulated cables for working voltage up to and including 1100 volts. EN 60332-1-2, EN 60332-3 & EN 60754-1 & 2 FRLS0H PVC insulated cable.

Copper multi-stranded twisted conductor FRLS0H PVC insulated wires shall be used in conduit as per item of work.

The wires shall be colour coded R Y B, for phases, Black for neutral and Green for earth. Progressive automatic in line indelible, legible and sequential marking of the length of cable in metres at every one metre shall be provided on the outer sheath of wire.

2.SPECIFICATION FOR INTERNAL ELECTRICAL MATERIALS

Conduiting (PVC Conduit):

All conduits shall be high impact rigid 2mm thickness PVC heavy duty type and shall comply with I.E.E. regulations for non-metallic conduit 2mm thick as per IS-9537/1983 (Part-III). All sections of conduit and relevant boxes shall be properly cleaned and glued by using epoxy resin glue and the proper connecting pieces. Inspection type conduit fittings such as inspection boxes, drawn boxes, fan boxes and outlet boxes shall be M.S. or otherwise mentioned. Conduit shall be terminated with adopter/PVC glands as required. The size/diameter of conduit shall be such that required no. of wires can pass according to the latest BIS standard.

Accessories

Conduit accessories such as normal bends, unions, circular junction boxes and pull boxes, locknuts etc. shall be heavy duty type and as per approved make. Conduit accessories shall conform in all respects to IS: 3837-1966 with latest amendment. Wherever several conduits are running together, adequately sized adoptable boxes common to all runs shall be used to avoid inserting inspection boxes in the individual run.

Conduits shall be laid before casting in the upper portion of a slab or otherwise, as may be instructed or in accordance with approved drawings, so as to conceal the entire run of conduits and

ceiling outlet boxes. Vertical drops shall be buried in columns or walls. Wherever necessary, chases will be cut by the contractor with the help of chase cutting machine or by hand. Separate conduit shall be used for:

- i. Light, Fan and Call Bell points.
- ii. 6/16 A power Outlets.
- iii. Fire Alarm System.
- iv. Computer Outlets.
- v. AC point
- vi. Telephone system.
- vii. Or any other services not mentioned here.

Switch Boxes:

The switch boxes shall be zinc passivity & shall not be less than 18 SWG thick. It will be so designed that accessories could be mounted on integral pedestals or on adjustable flat iron mounting straps with tapped holes by brass machine screw. Leaving ample space at the back and on the sides for accommodating wires and check nuts at conduit entries. These shall be attached to conduits by means of check nuts on either side of their walls. These shall be completely concealed leaving edges flush with wall surfaces. Earthing terminal inside box shall be provided.

The modular type switch board/box of different sizes comprising with 3 (three) nos. suitable copper bars with holes (for Phase, Neutral and Earth) fixed on Bakelite/ Hard Rubber insulator over the MS welded chairs maintaining the air gap not less than 19mm between copper bar & body of the switch box.

The depth of the switch board enclosure is not less than 63mm depth; such that phase link, neutral link, earth link can be provided in the enclosure box, safely.

Inspection Boxes:

Inspection Box of different sizes shall be zinc passivity & shall not be less than 18 SWG thick. Leaving ample space at the back and on the sides for accommodating wires and check nuts at conduit entries. These shall be attached to conduits by means of check nuts on either side of their walls. These shall be completely concealed leaving edges flush with wall surfaces. Earthing terminal inside box shall be provided.

Lamp Holder:

Lamp Holder may be batten, Angle or Bracket type as required. The holder shall be made of brass and shall be rigid enough to maintain shape on application of a nominal external pressure. There should be sufficient threading for fixing the base to the lamp holder part so that they do not open out during attention to the lamp or shade.

Ceiling Rose:

A ceiling rose shall not be used on a circuit, the voltage of which normally exceeds 250V.

8. Ceiling Fans/Wall Bracket Fans:

- a) It is utmost necessary to provide ceiling fans, wall bracket fans of different sizes and standard specifications to match the working areas of the different buildings as per latest NBC code of practice.
- b) Control of ceiling fan shall be through its own regulator as well as a switch in series.
- c) All ceiling fans shall be wired with normal wiring to ceiling roses or to special connector boxes to which fan rod wires (3C 1.5 sq mm Flexible copper cable with suitable matching with ceiling colour) shall be connected and suspended from hooks or shackles with insulators between hooks and suspension rods. The suspension rod shall be of powder coated paint with adequate strength to withstand the dead and impact forces imposed on it. Suspension rods should preferably be procured along with the fan.
- d) Canopies on top and bottom of suspension rods shall effectively conceal suspensions and connections to fan motors, respectively.

- e) The lead in wire shall be of nominal cross sectional area not less than 1.5 sq mm copper flexible cable with suitable colour matching with ceiling colour and shall be protected from abrasion.
- f) Unless otherwise specified, the clearance between the bottom most point of the ceiling fan and the floor shall be not less than 2.75m. The minimum clearance between the ceiling and the plane of the blades shall be not less than 300 mm.
- g) All the wall bracket fan size may vary from 400 mm to 600mm depending upon the using areas.
- h) Fan would be provided in all rooms of the building including AC zone also, it may be a Ceiling or Wall fan.
- i) In the case of a chamber of an officer dedicated wall bracket fan has to be provided.
- j) Waiting areas and corridors must be provided with adequate numbers of fans for proper ventilation and air circulation.
- k) The Wall Bracket Fan would be full metal type like Orient- Wall II Tornado / Crompton- Sstorm2 or another equivalent among the approved make – Make will be approved by the EIC.
- l) Safety rope should be provided in all ceiling fans.

Ceiling Fan Clamp:

Box type fan clamp of size 100 mm dia. And 80 mm depth made of 16 SWG CRCA sheet with one end duly sealed by cover, properly welded including S&F 12 mm dia. 600 mm long MS Rod duly bend by heat treatment at the centre position to grip the fan bobbin properly including binding the rod and fan box with reinforcement by 22 SWG steel binding wire including supplying and covering the box with Alkathene Sheet place in order to prevent concrete from entering the box.

Fan clamps shall be of suitable design according to the nature of construction of ceiling on which these clamps are to be fitted. In all cases fan clamps shall be fabricated from new metal of suitable sizes and they shall be as close fitting as possible. Fan clamps for wooden beams, shall be of suitable flat iron fixed on two sides of the beam and according to the size and section of the beam one or two mild steel bolts passing through the beam shall hold both flat irons together. Fan clamps for steel joints shall be fabricated from flat iron to fit rigidly to the bottom flange of the beam. Care shall be taken during fabrication that the metal does not crack while hammer to shape. Other fan clamps shall be made to suit the position, but in all cases care shall be taken to see that they are rigid and safe.

Single/twin Tube Light Fittings:

- Fixing of single/twin tube light fitting suspended 25 cm bellow the ceiling with 2 No. 20 mm dia EI conduit (14 SWG) supports fixed with “L” type MS clamp whose one side fixed on ceiling with suitable size 4 nos fastener and other side connected with the conduit with suitable size of bolts and nuts incl. S&F EI conduit, “L” type (125mmx125mm) 6mm thick and 25mm with MS clamps and connecting the length of PVC insulated wire and mending good damages to original finish and painting etc. by 3x24/0.20 mm (1.5sqmm.) flexible copper wire of 1.10 mt. Length.
- Fixing of single/twin tube light fitting complete with all accessories directly on wall/ceiling with HW block and suitable size MS fastener, Ceiling plate, nipples, etc. as required.

2X2ft LED Panel Light Fittings:

Smaller LED Panel Light Fittings:

Spot LED Light Fittings:

LED Wall Bracket Fittings:

LED Wall Mirror Fittings:

Fixing of such light fittings complete with all accessories directly on wall/ceiling/falls-ceiling with necessary MS

fastener, Ceiling plate, nipples, Stranded steal/GI wire, Screw, etc. as required following norms of PWD/CPWD and as per guideline of OEM of the fittings.

Bulkhead Fittings: Fixing bulk head light fitting of die-cast aluminium housing & frosted glass on wall/ceiling incl. S&F 8-11watt LED Bulb complete set.

Canopy Light Fittings: Fixing of Canopy light fittings suspended bellow the ceiling (from roof/iron structure) with suitable MS clamp complete either 37 mm x 10 mm MS flat, fixed on ceiling with suitable size 4 nos 10 mm dia fastener or by suitable nuts & double washers on Iron structure- as required.

Cabin Fan: Fixing of cabin fan on wall/ceiling by S&F rag bolts, nuts & washers (6 mm dia x 62 mm long) or as reqd. Incl. S&F 24/0.20 PVC insulated flexible copper wire 0.5 mt. Length.

Ceiling fans:

Ceiling Fan/Wall Fan has to be installed in all areas except staircase areas and toilet areas. Design and specification of all types fan fittings needs to be approved by EIC before execution of work.

In General, for ceiling fan- for 80 sqft area fan shall be of 42” dia, for 100sqft area 48” dia and for 120 sqft area 56” dia to be considered. And dedicated wall (Full Metal Body 450mm) mounted fan in all type of chambers, consultation rooms and other similar type of rooms.

a) Control of ceiling fan shall be through its own regulator as well as a switch in series.

b) All ceiling fans shall be wired with normal wiring to ceiling roses or to special connector boxes to which fan rod wires (3 core 1.5 sq. Mm. Flexible copper cable with suitable matching with ceiling colour) shall be connected and suspended from hooks or shackles with full Bobbin Insulators between hooks and suspension rods. The suspension rod shall be of power coated paint with adequate strength to withstand the dead and impact forces imposed on it. Suspension rods should preferably be procured along with the fan.

c) Canopies on top and bottom of suspension rods shall effectively conceal suspensions and connections to fan motors, respectively.

d) The lead in wire shall be of nominal cross sectional area not less than 1.5 sq. Mm. Copper flexible cables with suitable colour matching with ceiling colour and shall be protected from abrasion.

e) Unless otherwise specified, the clearance between the bottoms most point of the ceiling fan and the floor shall be not less than 2.4m. The minimum clearance between the ceiling and the plane of the blades shall be not less than 300 mm.

Exhaust Fans:

The Exhaust Fan is provided with capacitor, start and run induction motor of robust construction, totally enclosed, continuous rated type and specially designed for fan duty. Direction of rotation can be changed simply by interchanging connections of the stator windings. Conforms to I.S. Specifications No. 2612/1297 and is generally provided with class ‘A’ insulation; class ‘E’ insulation can be offered to meet special requirements. Fan motors have tow ball bearings adequately lubricated.

For fixing of an exhaust fan, a circular hole shall be provided in the wall to suit the size of the frame which shall be fixed by means of rag-bolts embedded in the wall. The hole shall be neatly plastered with cement and brought to the original finish of the wall. The exhaust fan shall be connected to exhaust fan point which shall be wired as near to the hole as possible by means of a flexible cord, care being taken that the blades rotate in the proper direction. Louver shutter where required shall have to be installed.

TABLE:

	DESCRIPTIONS	SPECIFICATION
BASIC DATA	Product	Electric Fan

	Type	Ceiling
	Sweep	900, 1050, 1200, 1400 [Suitable size has to be chosen for uniform air circulation in each room]
MOTOR	Type	AC single phase, permanent, capacitor type split
	Rated Voltage	230V
	Rated Frequency	50Hz
	Power Input	55-60W
	Speed	370-380RPM
	Air Delivery	230 CMM
	Class of insulation of winding	B
DESIGN FEATURES	Bearing – Top Cover	Ball
	Bottom Cover	Ball
	Appearance Colour	White/Matt Brown –approved by the EIC
	Blade –Material	Aluminium
	Thickness	1.08mm
	Motor cover-Top	Aluminium
	Motor cover- Bottom	Aluminium
CAPACITOR	Metal cover	Burst proof, Metal container Capacitor (P2-type)
REGULATOR	Type	Step Type Electronics Regulators of Approved Make
	Speed positions	5
NOTE	1. Performance parameters shall be tested as per IS -374-1979. 2. Performance at 200 V is minimum guaranteed. Performance at other voltages is only indicative.	

TABLE:

Fan Sweep	Speed (R.P.M)	Power Input [Watt]	Current in Amp. [1-ph,	Current in Amp. [3-ph,	Maximum Sound Level in dB	Air Displacement [C.F.M in m3/h]
230mm (9")	1370	40	0.18		49	440/759
300 mm (12")	920	45	0.2		46	750/1270
300 mm (12")	1420	82	0.38	0.2	55-60	1120/1900
380 mm (15")	920	78	0.35	0.2	50-55	2350/4000
450 mm (18")	920	132	0.6	0.35	55-60	2550/4340

3.SPECIFICATION FOR INTERNAL ELECTRICAL WIRING

All the wiring installation shall be as per IS: 732 with latest amendment. FRLS0H PVC insulated copper conductor cables shall be used for sub-circuit runs from the distribution boards to the points and shall be pulled into conduits. They shall be twisted copper conductors with thermoplastic FRLS0H insulations of

660/1100 volts grade. Colour Code for wiring shall be followed.

- Lighting circuit shall feed light/ fan/ call bell points. Each circuit shall not have more than 800 watt connected load or more than 10 points whichever is less.
- No loop-in / loop-out will be accepted in the case of point wiring i.e. each electrical fan-fittings-appliance should be connected with a dedicated switch.
- In case of wiring / cable passing / concealed under floor should be drawn through raceway / cable trunking.
- In case of wiring Feruling mentioning 'SOURCE' and 'DESTINATION' shall be printed at Distribution Board and Switch Board Area.

Wires shall not be jointed. No reduction of strands is permitted at terminations. No wire smaller than 1.5 sq.mm shall be used. Wherever wiring is run through turnings or raceways, the wires emerging from individual distributions shall be bunched together with cable straps at required regular intervals. Identification ferrules indicating the circuit and DB number shall be used for sub-mains/ sub-circuit wiring. The ferrules shall be provided at both end of each sub-main/ sub-circuit.

Where single-phase circuits are supplied from a three phase and a neutral distribution board, no conduit shall contain the wiring fed from more than one phase. In any one room in the premises where all or part of the electrical load consists of lights, fans and/or other single phase current consuming devices, all shall be connected to the same phase of the supply. Circuits fed from distinct sources of supply or from different distribution boards or through switches or MCBs shall not be bunched in one conduit. In large areas and other situations where the load is divided between two or three phase, no two single-phase switches connected to different phase shall be mounted within one box. No twisting connection between conductors shall be allowed.

Distribution wiring in 1100 volt grade 2x1.5 sq. Mm (22/3) single core multi strand F.R.L.S PVC insulated & unsheathed twisted copper wire (approved make) in PVC/conduit pipes with all its accessories partly recessed in wall and partly in surface with 20 mm size rigid conduit (FR) precision make (for ceiling points) with 1x1.5 sq. Mm (22/3) single core multi strand F.R.L.S PVC insulated & unsheathed copper wire to light/ceiling fan/exhaust fan/call bell points with modular type switch, call bell push, plate fixed on suitable size of G.I box of 3mm thick and 80 mm width as switch.

TABLE:

Conduit size	20mm		25mm		32mm		40mm		50mm		60mm	
Wire size in sq.mm.	S	B	S	B	S	B	S	B	S	B	S	B
1.50	7	5	12	10	20	14	-	-	-	-	-	-
2.50	6	5	10	8	18	12	-	-	-	-	-	-
4	4	3	7	6	12	10	-	-	-	-	-	-
6	3	2	6	5	10	8	-	-	-	-	-	-
10	2	-	4	3	6	5	8	6	-	-	-	-
16	-	-	2	-	4	3	7	6	-	-	-	-
25	-	-	-	-	3	2	5	4	8	6	9	7

Notes:

- 1) The above table shows the maximum capacity of conduits for a simultaneous drawing in of cables.
- 2) The columns heads 'S' apply to runs of conduits which have distance not exceeding 4.25 m between draw in boxes and which do not deflect from the straight by an angle of more than 15 degrees. The columns heads 'B' apply to runs of conduit which deflect from the straight by an angle of more than 15 degrees.
- 3) Conduit sizes are the nominal external diameters.

Distribution Boards & MCBs:

General

Distribution boards shall be of standard make with MCBs as per approved make given. Distribution boards shall be constructed out of steel sheet all weld enclosure with double door IP43 protection and shall be powder coated. The MCBs shall be mounted on high- grade rigid insulating support and connected by electrolytic copper bus bars. Each incoming MCB isolator shall be provided with solder less cable sockets for crimping. Phase separation barriers made out of arc resistant materials shall be provided between the phases. Bus bars shall be colour coded for phase identification.

Distribution boards shall be recessed in wall. Distribution board shall be provided with proper circuit identification name plate and danger sticker/plate as per requirements.

All the distribution boards shall be provided with engraved nameplates with 'lighting', 'power' or 'UPS' with DB Nos as the case may be. Each DB shall be provided with a circuit list giving details of each circuit. All the outgoing circuit wiring shall be provided with identification ferrules giving the circuit number & phase.

Each distribution board shall have a separate neutral connection bar and a separate earth connection bar mounted within the DB each having the same number of terminals as the total number of outgoing individual circuits from the distribution board. Conduit & cable armouring shall be bonded together & connected to the distribution board earth bar.

Where oversized cables are specified due to voltage drop problems, it shall be contractors responsibility to ensure that satisfactory terminal arrangements are provided without an extra cost.

Miniature Circuit Breaker

1. The MCB shall be current limiting type and suitable for manual closing and opening and automatic tripping under over current and short circuit. The MCB shall also be trip free type.
2. Single pole/three pole versions shall be furnished as required.
3. The MCB shall be rated for 10 KA/15 KA fault level.
4. The MCB shall be suitable for its housing in the distribution boards and shall be suitable for connection at the outgoing side by tinned cable lugs and for bus-bars connection on the incoming side.
5. The terminal of the MCBs and the open and close conditions shall be clearly and indelibly marked.
6. The MCB shall generally conform to IS: 8828. -1996
7. The MCB shall have 20,000 electrical operations up to 63A.
8. The MCB shall have minimum power loss (Watts) as per I.S./ IEC.

Equipment and Fittings:

- a) The type, rating, the required features, location of fixing etc. should be as per logistic and conforming I.S specification. The materials shall be of good quality acceptable to Engineer-in-Charge and to be fixed in position as directed by him.

- b) Decorative fittings: Both single and twin tube assemblies LED fittings shall be of standard fittings and its cover plates in white colour, complete with all accessories, lamps and build wired etc as required.
- c) Bulk Head Fittings: The LED fittings with all accessories, lamp holders. Earthing terminal wire nets and lamps.
- d) Ceiling Fans: The fans have to be suspended normally from the ceiling. These shall be single phase AC 230 V.50 Hz and of sizes indicated as required at site. However, if adequate vertical clearance is not available due to low ceiling, wall-bracket fans will have to be provided. Fans shall include choke type/ electronic step type regulators with hard rubber bushes, condensers, suspension couplings, terminal blocks, suitable top and bottom canopy (covers) etc. Ceiling fans shall be of double ball-bearings type, conforming to IS 374 in all respects.
- e) Exhaust Fans: Heavy/ Light duty fans are required for exhaust ventilation in buildings. The fans shall be suitable for AC. Single phase. 50 Hz, 230 V supply. These must be of robust construction having very low noise level.. All exhaust fans shall be impeller type with ring mounting arrangements for fixing on walls. The exhaust fans shall conform to IS: 3588 in all respects. Capacity and size of fans will be specified as per the volume of air of the room. The exhaust fans are also to be included with auto timer for its running at regular interval.
- f) Metal Clad Switch Socket Unit: All the switch-socket units shall be made of non- corroding pressure-cast Aluminium alloy and these must be dust, vermin, water and rust proof. Switch socket units shall be provided with interlocking arrangement for switch and plug HRC fuses, Neon-Indicator lamps, terminal blocks and pin-top The units shall be suitable for both flush and surface mounting. Switch socket units shall comply with IS 4160.
- i. Installation of ceiling fan: Unless otherwise specified, all ceiling fans shall be hung not less than 2.75 M (9 ft.) above floor. The suspension rod and clamp shall be painted with approved paint without involving extra cost.
- j. Installation of LED light fitting: In case of suspension from ceiling by two rods, each fixing to the ceiling shall be capable at sustaining at least 1.1 Kg. Of dead weight. The down rods and accessories shall be painted with approved paint without involving extra cost. Unless otherwise specified, this should be suspended 2.60 M (8'-6") above floors.
- k. The D.Bs shall generally be installed at a height of 1.52 Mtrs. (5 ft) from floor level.
- l. All fan clamps will have to be provided from R. C. Ceiling as per PWD Specification.
- m. Control switches for lights, fans, call bells; exhaust fans etc. shall be of rating 6 Amps, 230 Volt and Modular-type- flush mounted, cream colour conforming to relevant Indian Standards. Ceiling roses also shall be of 6 Amps. Rating 230 V. Cream colour deluxe conforming to the relevant IS Specification. Switches of 16 Amp capacity and associated 16A six pins socket would also be required to provide the facility of connection of power load up to 1 KW. Alternatively, Industrial type plug-socket board may be used In specific cases. Cable used for power load should be of suitable capacity. 230 Volt 5 amps plug socket should be 5 pin type cream colours conforming to the relevant IS specification.
- n. After successful completion of the work, the final drawing/ Blue Print Plan showing the details circuit diagrams and fittings, fixtures are to be submitted along with the final bill.
- o. Cabin Fan: The fans should be wall mounted and installed with all accessories and proper electrical connection at those places, wherever there is a requirement as decided by the approving authority. These shall be single-phase AC 230V, 50Hz and of sizes indicated as required at site.

4. SPECIFICATION OF SIGNAGE

All signs, Internal, External and Road Signs shall be as per specifications given hereinafter:

INTERNAL SIGNS

- 1) Directory (Main): Exterior Grade 3mm ACP Router cut and fixed on iron sq pipe with anti rust coating with cut vinyl should be 3M/ Avery. ACP should be PU painted. ACP edge should not be open. Size should be 1800 x 1200 mm x 3 nos.
- 2) Directional: Made of Aluminum Extrusion 75x25 mm Each section with internal connector and side cap, Vinyl used 3M/Avery hanging with s.s fittings Size should be 1200 x 300 mm.:
- 3) OPD: Exterior Grade 3mm ACP Router cut with cut vinyl should be 3M/ Avery make. ACP should be PU painted. ACP edge should not be open. Size should be 1200 x 200 mm.
- 4) Room Identification: Exterior Grade 3mm ACP Router cut with cut vinyl should be 3M/ Avery make. ACP should be PU painted. ACP edge should not be open. Size should be 450 x 100 mm.
- 5) Service Signage: Exterior Grade 3mm ACP Router cut with cut vinyl should be 3M/ Avery make . ACP should be PU painted. ACP edge should not be open. Size should be 450 x 100 mm.
- 6) Washroom: Exterior Grade 3mm ACP Router cut with cut vinyl should be 3M/ Avery make. ACP should be PU painted. ACP edge should not be open. Size should be 200 x 200 mm.
- 7) Fire Fighting Equipment Signs: Aluminium over laminated with Polyester (B-7525) Clearly mark the location of fire extinguishers and other firefighting equipment as well as fire alarm points.
- 8) Standard Fire Exit: Exterior Grade 3mm ACP Router cut with Auto glow cut vinyl should be 3M/ Avery make. ACP should be PU painted. ACP edge should not be open. Size should be 450 x 150 mm
- 9) Fire Exit directional: Exterior Grade 3mm ACP Router cut with Auto glow cut vinyl should be 3M/ Avery make hanging with s.s. Fittings. ACP should be PU painted. ACP edge should not be open. Size should be 450 x 150 mm.

EXTERNAL SIGNAGE

a) Chanellium Letter (Sign Board):

Supply, installation, testing & commissioning of fabricated Chanellium Letter (Sign Board) each of height 24ft. of the following specification:- (e.g. State General Hospital, Kalyani).

Each side of the letter would be made of 100 mm breadth, 1 – 1.2mm thick Aluminum Sheet with the help of suitable cutting & bending machine.

Back side of the letter would be made from 2 – 2.5mm thick Aluminum Sheet by cutting according to appropriate letter block with the help of suitable cutting & bending machine.

Front side of the letter would be made of 3.5 – 4mm thick Mitsubishi or equivalent make imported Acrylic Sheet by cutting according to appropriate letter block with the help of suitable cutting & bending machine. The Color of the letter will be approved by the appropriate authority of the Hospital/Medical College.

For glowing each letter, (0.97 – 1.02)W LED module would be used. Guarantee Certificate for LED Module has to be submitted for 50K hours & 5 years. (Make: OSRAM or equivalent approved by the EIC)

To provide power for LED module, suitable SMPS unit of IP-67 would be used in respect of load of each letter. And the power supply unit would be fixed in suitable MS or equivalent box of IP-65 on parapet

wall or iron structure with appropriate clamp. And Guarantee Certificate for SMPS has to be submitted for 50K hours & 5 years. (Make: OSRAM or equivalent approved by the EIC)

All side of the letters (only side & back wall) would be painted with PU Paint. (Color & Make will be approved by the EIC)

The inter-connection of SMPS unit & LED module circuit of each letter would be made with FR PVC insulated sheathed copper wire. And the letter complete in all respect would be fixed on pre-erected MS structure by suitable SS nut-bolt & washer – as per direction of EIC.

Fabrication & refection of suitable Iron Structure would be made with 100*50*5 mm 'C' Iron Channel as vertical support on floor/roof, 50*50*5 mm Iron Angle for cross angle support to structure, and three continuous horizontal frame of 50X25 hollow rectangular tubular section of thickness 3.2mm for fixing the letters. A Sole plate of size 300x300x5mm would be welded at the bottom of each vertical support and suitable sole plate in case of cross support. The complete structure would be painted with two coats Red-Oxide Primmer & two coats Synthetic Enameled paint. The structure would be erected on roof supported to parapet wall. (The work would be executed as per direction of EIC).

Ordinary Cement concrete (mix 1: 1.5:3) with graded stone chips (20 mm nominal size) excluding shuttering and reinforcement if any at roof of the (G+9) building as per relevant IS codes.

Plaster (to wall, floor, ceiling etc.) with sand and cement mortar including rounding off or chamfering corners as directed and raking out joints including throttling, nosing and drip course, scaffolding/staging where necessary. (With 1:6 cement mortar, 20 mm thick plaster) Neat cement punning about 1.5mm thick in wall, dado, window sill, floor etc.

5. ILLUMINATION:

- Illumination design shall be done with relevant guidelines laid down in National Building Code 2016 & IS: 4347 – 1967 and /or other statutory guidelines as applicable.
- The turnkey agency will submit a detailed room wise list of final illumination level with electrical layout drawings.

Generally, the light fixtures shall be with energy efficient LED lamps with daylight or warm daylight ambience and decorative LED fittings in the special areas taking into account the aesthetic part as well.

1. All type of light fittings should be commercial type.
2. OPD rooms, Dispensary, Store Room, Ticket Room, Staff & Doctor's room etc. shall be provided with surface/ recess mounted mirror optics / box type general purpose LED fittings/ Decorative type LED fittings.
3. All wash basins shall be provided with LED mirror lights.
4. Staircases, Toilets etc. shall be provided with general box type LED fittings.
5. Internal road areas, Courtyard, Roof top and Boundary area shall be provided with post top lantern/ with Arm bracket / street light poles with LED fittings.
6. Entrance, Waiting lounge, Corridor, lobby etc. shall be provided with decorative LED fittings or approved by the EIC.
7. Emergency lighting shall be provided to the following areas i) Exit ii) corridors used by the public, serving iii) OPD rooms iv) Reception & cash receiving counter Stair Waiting area etc. and other necessary areas as per direction of EIC.

TABLE: (As per PWD Schedule)

Illumination Levels

Location	Recommended Avg. Lux
Lobby	150
Toilet	100
OPD room/ OPD Ticket room	200
Store room/ Dispensary	150
Corridor	100
Area Lighting	50
Service Road Lighting	50
Main Access road/Street Lighting	50

6. SPECIAL CONDITION:

a. GENERAL

The design and workmanship shall be in accordance with the best engineering practices, to ensure satisfactory performance and service life. The requirement offered by the contractor shall be complete in all respects. Any materials or accessories which may not have been specifically mentioned, but which are usual and necessary for the satisfactory and trouble-free operation and maintenance of the equipment shall be provided without any extra cost of the purchaser. This shall also include spares for the commissioning of the equipment.

b. Shop Drawings

The contractor shall prepare detailed coordinated electrical shop and working drawing indicating lighting/lighting fixtures, with other relevant services and submit to the Owner for approval or the Engineer-in-Charge before commencing the work. The shop drawings shall indicate all setting out details and physical dimensions of all components with wiring and cable details including system operating write up in the system i.e. fixing details as well as for conduit indicating run and size of wire/cables, outlet/pull/junction boxes etc. with fixing details etc. for the above mentioned work. All work shall be carried out on the approval of these drawings. However, approval of these drawings do not relieve the contractor of his responsibility for providing maintenance free and fool proof system including any missing component/accessories to meet with the intent of the specifications. Contractor will submit 2 prints for preliminary approval and finally six prints for distribution.

c. Completion Drawings/As Built Drawings

On completion of the work and before issue of certificate of completion, the contractor shall submit to the employer 4 sets along with soft copy of 'As Built' drawings of the work These drawings must provide:

- Run and size of conduit, inspection and pull boxes including routing and locations.
- Number and size of conductor in each conduit.
- Locations and rating of sockets and switches controlling the light and power outlet.
- A complete wiring diagram as installed and schematic drawings showing all connections in the complete electrical system.
- Location of outlets of various services, junction boxes, light fixtures.

For all non-specified items, approval of the Owner shall be obtained prior to procurement of the same. Owner shall in no way be liable for rejection of the any material due to poor quality, poor workmanship, poor material etc.

d. MANUFACTURER'S INSTRUCTIONS

Where manufacturers have furnished specific instructions, relating to the material/equipments to be used on this job, covering points not specifically mentioned in this document, manufacturers' instructions should be followed.

e. MATERIALS AND EQUIPMENTS

All the materials and equipments shall be of the approved make and design. Unless otherwise called for any approval by Owners Engineer-in-Charge, only the best quality materials and equipment shall be used.

PART C: APPROVED MAKE:

C.1: Contractors have to take approval from Engineer in charge before placing of the order for any required materials from the above-mentioned approved makes. If any required materials are not available in the above list Engineer in charge can add the make / Brand in list at any stage with the approval of the Employer, the decision will be final and binding on contractors. If any doubts about the listed make / Brand Engineer in charge may amend the list at any stage, and the decision will be final and binding on contractors.

C.2: TABLE: List of Approved Make:

Sl. No.	Item	Manufacturer's Name
1. LT Panel Components:		
	Cable/Wire (Copper, flexible, 1.1KV PVC insulated FRLS0H upto 10sq.mm.)	Polycab/ Havells/ Finolex/ RR Kabel/KEI
	Wire Mesh GI Cable Tray	OBO/ COPE/ LEVITON / Legrand (cablofil)
	Perforated GI Cable Tray	
	Phenol Laminated Sheet	Hylam/ Formica
2. Internal Power Distribution:		
	MCCB/MCB/RCCB/RCBO/Isolators	Legrand/ L&T/Siemens
	SPD	Legrand/ L&T/Siemens
	Distribution Board	Legrand/ L&T/Siemens
	Metal Clad Socket	Legrand/ L&T/Siemens
3. Internal Wiring Accessories:		
	Modular Switch (Switch/ Socket/ LAN, TV & Telephone Socket) with ISI Mark	Legrand (Mylinec)/ L&T (Entice)/ Havells/Crabtree
	Ceiling Fan Regulator	Legrand (Mylinec)/ L&T (Entice)/ Havells/ Crabtree
	Modular AC Starter	Legrand/ Havells /L&T/ Crabtree
	PVC Conduit (ISI Marked)	Precession / Polycab/ Primco Plast
	EI Conduit (ISI Marked)	BEC/ AKG/ RMCON
	Accessories for EI Conduit (ISI Marked)	BEC/ RMCON/ AKG
	Inspection Box	Hansel/ Legrand/ L&T
	Floor Junction Box	MK Electric/Legrand/ L&T
	Floor Access Outlet Box	MK Electric/Legrand/ L&T
	Al/GI Raceway	MK Electric/Legrand/ L&T ISI as approved by EIC
4. Lighting & other Fixtures:		
	LED Tube Light fittings	Philips /Havells/Wipro

	Mirror Light	Philips /Havells/Wipro
	10-15W LED Round (For surface)	Philips (Sleek Surface pro) Downlighter 15W (Cool White), Wipro- Iris Slim Surface, Havells- EdgePro
	10-15W LED Square (For surface)	Philips (Signify)- Square Cool White 6500k LED Ceiling Panel, Wipro- Iris Slim Surface, Havells- EdgePro
	LED Bulkhead light fittings	Philips , Wipro, Havells
	Ceiling Fan	Orient (New Breeze)/ Usha (Striker)/ Crompton (HS, Riviera)
	Wall Mounted Fan	EPC/ Orient (Wall-II Tornado)/ Usha (Turbo 180)/ Crompton (SSTROM2)
	Exhaust Fan	EPC/ Orient (Heavy Duty)/ Usha (Turbo, Aeroclean)/ Crompton (Heavy Duty)

Section 5.6 B Scope and Specification of ELV Works

PART A: CODES AND STANDARDS

PART B: ELV (BOTH INTERNAL & EXTERNAL)

ELVSYSTEM for Hospital.

10. General Criteria

- 1) All products must be supported with 3 years on site back to back warranty support from OEM. A declaration in this regard must be submitted in the letter head of OEM for this project.
- 2) Specifications given in the RFP are minimum, bidder may propose any higher specification to suit the purpose.
- 3) All active product (i.e. Switch, Analogue EPABX, CCTV, and equipment etc..) should be enterprise Grade.
- 4) Separate Online UPS (2nos N+1 with 100 % redundancy with switchover feature) must be provided for Sever / BMS room for ELV system for continuous UPS power supply. One UPS will serve as backup in case of Other's failure. Minimum 60 min. backup with 100 % load of entire IT system shall be provided for every UPS.
- 5) Successful bidder must submit all shop drawings, DBR, SLD along with product data sheets for approval of employer, before implementation.

OEM Qualification Criteria:	
1	The OEM should have direct presence in India at least from past 10 years.
2	The OEM of the equipment's quoted for should be profitable in the last 3 consecutive financial Years.
3	The OEM of the equipment's quoted for should have a minimum of 10 custom paid spare depots in India (one of which must be in Kolkata) to support failure of equipment's.
4	The OEM should support next business day delivery against defective spares in major locations in India. OEM should have 24x7x365 support in India
5	The Network Solution i.e. Core and Access Switches should be from single OEM. This is done to have better integration between all products. IPPABX system and its associate items like IP/SIP Phones, Operator console etc... should be from same OEM
6	The Physical Security Solutions i.e. Video Surveillance Software, IP Cameras should be from single OEM. This is done to have better integration between all products.
7	The OEM shall have certification ISO 9001:2000 &/or ISO 14001.

11. SPECIFICATIONS FOR P.A. SYSTEM

11.1 Scope of PA system:

The bidder should design an efficient **public address system (PA system)** showing exact position of each component like microphone, amplifier and loudspeakers in the blue print.

11.2 Paging Microphone for PA:

The paging microphone shall be digital configurable with detachable gooseneck microphone. It shall have select broadcast zones, assign zone groups or other broadcast controls and shall be communicate with controller via Ethernet.

11.3 Speakers for PA:

- Ceiling speaker shall be 6 watt or better with excellent audio performance with high sound pressure level and a wide frequency response and low distortion for high sound level suitable for speech. It has various power taps with the built in 70V/100V transformer and max SPL1M/1W 96dB . Frequency response of 80Hz-20KHz with a dispersion angle of 160 deg or better.
- Wall mount loudspeaker shall be 6 watt or betterIt has various power taps with the built in 70V/100V transformer and max SPL1M/6W 96dB . Frequency response of 110Hz-13KHz or better.
- Horn speaker shall be 15W for indoor and 25W for out door (IP66) with various power taps with the built in 70V/100V transformer and max SPL1M/1W 110dB . Frequency response of 500Hz-5KHz with a dispersion angle of 140 deg or better.

11.5.3 Call Station Basic

Call station is used to make manual or pre-recorded announcements to any pre-assigned zones or to executing pre-defined actions. The call station basic has a microphone on a flexible stem to transmit speech over the network, one push-to-talk button and a headset socket.

Features:

Redundant network connection

Power 'ON' indication Status/fault indications

Supervision of microphone capsule

The call station keypad is used in combination with the call station basic to make manual or prerecorded announcements to any assigned zones, to select the zones or to execute pre-defined actions.

8 freely programmable selection keys

Each key on the call station keypad has one 2-color LED

The keys of the call station keypad can be programmed for momentary or toggle operation

11.5.4 Car calling station

Car calling station shall have a flush mount microphone with heavy duty press to talk switch, clear busy indication, connected via CAT-5 cable.

11.5.5 Mixer

Frequency Response	:	+/-0.5dB, 20Hz-30kHz
THD	:	<0.009% @ 1kHz
Noise	:	-129dBu
Crosstalk		
Channel Mute	:	> 96dB
Fader Cut-off	:	>90dB
Routing Isolation	:	> 90dB
Aux Send Pots Offness	:	> 84dB
EQ		
HF	:	12kHz, +/-15dB, Q=1.5
MF	:	240Hz-6kHz, +/-15dB

LF	:	80Hz, +/-15dB, Q =1.5
Power Consumption	:	42W

11.5.7 Horn Loudspeaker

Horn Loudspeaker shall have 15W RMS housed in weatherproof IP 65 Housing. Frequency response 500 Hz to 5 KHz. SPL 103 dB.

11.5.8 Amplifier

Frequency Response (at 1 watt, 20 Hz – 20kHz)	:	±0.25 dB.
Signal to Noise Ratio below rated		105 dB A-weighted.
Total Harmonic Distortion (THD) < 0.1%. CTs 2000/3000 < 0.35%.		at full rated power, from 20 Hz to 20 kHz:
Damping Factor	:	10 Hz to 100 Hz: > 3000.
Crosstalk (below rated power, 20 Hz to 1 kHz)	:	> 80 dB
Common Mode Rejection (CMR) (20 Hz to 1 kHz)	:	50 dB.
DC Output Offset	:	< 2 mV.
Input Impedance (nominal) balanced, 5 kilo ohms unbalanced.	:	10 kilo ohms
Maximum Input Level dBu absolute maximum.	:	+20 dBu before input compression, +32
Load Impedance	:	Stereo: 2/4/8/16 ohms, 70V.
Bridge Mono: 4/8/16 ohms, 140V.		

11.5.9 Digital Amplifier

The amplifier shall be digital class D amplifier for low power consumption and better sound quality, built in Digital signal processing like 3 section parametric equalization, automatic volume control, 2x 16 character LCD display for status information.

Specifications :

Frequency response for input	:	-3 dB at 50 hz and 20 KHz
S/N ratio for audio input	:	>87 dB
CMMR	:	> 40 dB at 1 KHz

12. Surveillance Closed Circuit Television (IPCCTV) System

The requirements of security system vary as per employer requirement along with its geographical location. Scope of this report highlights security system for Common and strategic areas. All cameras shall be connected in Network and should be POE based with clear night vision. The security system proposed for Common areas are broadly the following but same time It's not limited:

Following spaces in college shall be provided with cameras:

- Main entrance
- Reception
- Lift Lobby
- Parking Zone
- Staircase

- Fire Exit
- Corridor
- All other public areas.
- Substation Entrance and Exit Areas(External).& DG Yard.
- Terrace of Academic Building/ OPD Building/ Hospital Building.
- Chiller Plant Area.
- Hostels & Quarter: Entrance and Exit areas.

The security console shall be located in the centralized security room. This room shall have no windows. Ample space shall be provided to view monitors. Digital NVR based IPCCTV camera system that shall give monitoring team flexibility in viewing the images from multiple locations. Care shall be taken to ensure that the number of displays per screen is limited so that “individuals” can be recognized when viewing the display in all areas.

12.1:

Network Video Recorder		
1	Type	Rack-mountable, Dedicated Network Video Recorder with suitable hardware to connect cameras in combination of 40ch/60ch 120ch depending upon the required cameras to be installed to cover all the above mentioned areas. Storage of NVR is not an externally attached device to NVR, the total recording storage requirement shall be met through internally installed HDD itself. The bidder to submit the storage analysis for required no of cameras for a period of 90 days @30fps on minimum 1080P resolution. All channels must support recording resolution of 1080p@30fps. The NVR should support recording resolution of 720p@30fps (ii) Additional hardware/ software/ license, if any required by the bidder to meet its offered solution, should be considered accordingly by the bidder in its offer.
2	Storage Capacity	Each NVR storage unit should be provided with usable 24 SATA HDD slots from day one after RAID 5 configuration , with provision of future expansion minimum 24 SATA HDD slots using additional expansion slots or SAS
3	Fault Tolerance	RAID-5 or better
4	Network Connections	Dual Gigabit Ethernet (RJ-45 port) – 10/100/1000 Mbps.
5	Operating System	Linux or Embedded or Microsoft
6	Memory	Minimum 8GB DDR3
7	Video Compression	H.265, H.264, MJPEG/MPEG
8	Recording Support	The offered NVR must be able to support simultaneous recording of 120 + IP cameras at 1080p resolution at 25/30 fps
9	No. of playback streams	minimum 120
10	Throughput	Suitable for meeting the intended recording and simultaneous 120 + camera playback requirements (Minimum 1Gbps)
11	Recording Resolution	4K, 5MP, 3MP, 1080P, 720P, 960H, D1

12	Network Protocol Support	HTTP/HTTPS, TCP/IP, RTSP, UDP, NTP, DHCP, IPC Search
13	On-board diagnostics	Web based support for system configuration & Diagnostics
14		<ul style="list-style-type: none"> • Dual Ethernet bonding supports three work mode: Standalone, Failover, Load balance • Redundant power supply • Virtual Disk for more flexible disk management • Defog function reduces blurring and improves image clarity • Electronic Image Stabilizer (EIS) minimizes blurring and compensates camera shaking to deliver improved image quality • Hot swap technology for quick and easy HDD replacement
15	Accessories	Under bidder's scope: All required cables, connectors & interfaces, mounting arrangement, software's etc. for successful installation, commissioning of NVR and integration of the same with existing IAF LAN
16	Documentation	Installation guide, Operation & Maintenance Manuals, Installation CD/DVD for licensed software
17	Input Voltage	100~240 V AC, 50/60 Hz. Dual Power. Any power converter that is required to power the NVR has to be supplied by Bidder.
18	Compatibility	The supplied NVR must be compatible in all respects to the cameras being supplied at the locations
19	Power Consumption	Bidder to specify
20	Operating temperature	10°C ~ 40°C or better
21	Operating Humidity	20% to 80% RH, non-condensing
22	HDD	Hot swap, 24 bays SATA HDD, up to 128TB storage, 1 SAS up to 192TB
23	Product Safety	To comply with CE, FCC, UL
24	Details required with offer	Bidder to submit the details of complete offered solution (Item make, model/part code, block diagram etc.) as stated above along with the offer
VMS		
26	LICENCE	Video license Extension Package: IP video channel extension package, each package supports additional 100 channels IP video
27	HUS-NVR	Network Video Storage : 128CH @ 1080P / 256CH @ 720P HUS NVR, 24 HDDs max 144TB, RAID, Hot Swap, 1 SAS, 2 1000M Ports, ONVIF, N+1 Redundancy, NFR with Camera, Dual Power
Dome Camera		

28		IP Network TDN Low-Light IR Indoor Dome Camera, 1/2.7" CMOS, 3 MP @ 25fps or better, triple stream, Min. Illumination required 0.01 lux @ F1.4 (color), 120dB True WDR, Min. Pixels 1920 × 1080, triple stream, 2.7–12 mm motorized focus & zoom lens, BLC, HLC, 3DNR, Privacy Mask, 3 IR LEDs Smart IR with upto 50m IR distance, Dual channel Audio G.711a/G.711u/AAC, 128GB SD card support, Alarm: 2 In/ 1out, PoE, H.264 High Profile and MJPEG, PoE Class 3 and 12V DC, Having Operating temp range : –30°C to 50° C. Certifications:RoHS compliance.
Bullet Camera		
29		IP Network TDN Low-Light IR Indoor Dome Camera, 1/2.7" CMOS, 3 MP @ 25fps or better, triple stream, Min. Illumination required 0.01 lux @ F1.4 (color), 120dB True WDR, Min. Pixels 1920 × 1080, triple stream, 2.7–12 mm motorized focus & zoom lens, BLC, HLC, 3DNR, Privacy Mask, 3 IR LEDs Smart IR with upto 50m IR distance, Dual channel Audio G.711a/G.711u/AAC, 128GB SD card support, Alarm: 2 In/ 1out, PoE, H.264 High Profile and MJPEG, PoE Class 3 and 12V DC, Having Operating temp range : –30°C to 50° C. Certifications: RoHS compliance.
PTZ Camera		
30		
Chip Size 1/1.8 inch Colour Type Colour / Monochrome Resolution 6×4MP resolution Digital (DSP) Yes Zoom: 36X Sensitivity: 0.001 Lux Electrical Specification Voltage: 36 V DC Power Consumption: Basic power consumption: 33.7W (36V DC) ; Max. power consumption (Basic power consumption + WDR + intelligent functions enabled + IR on + PTZ operation): Panoramic network camera: Compression Type H.265; H.264; H.264H; H.264B;		
Display		
31		Screen Size Class (diagonal) 42" Class (41.9" diagonal) Resolution 1920 x 1080p Refresh Rate TruMotion 120hz. Aspect Ratio 6 Modes (16:9, Just Scan, Original, 4:3, Cinema Zoom, Zoom) Just Scan (1:1 Pixel Matching) HDMI: 1080i, Component: 1080p, RF 720p. HDMI™/HDCP In 2 (1 rear, 1 side) USB 3.0/2.0 In 1 (side) Digital Audio Out (Optical) 1 (rear) RS-232C (Control & Service) 1 via 3.5mm mini jack (rear)
Work Station for monitoring		

32		Highend workstation for monitoring all cameras from multiple locations, minimum configuration as below. Intel Core i5 processor 3.33 Ghz or higher, 8Gb DDR3 SDRAM, 2gb nvidiaGeforce GT 710 or higher graphics card, With Wifi, USB 3 ports, Keyboard, Mouse, Monitor
----	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

13. SPECIFICATIONS FOR IT NETWORK SYSTEM & TELEPHONE SYSTEM

13.1 Scope:

The objective of this report is to give an overview of services designed for the proposed medical college.

The scope of design is in the areas:

Local Area Network
(LAN)
Telephone(Analogue) &
Closed Circuit Television (CCTV),
Public Address System

Contractor shall supply & install conduit & wiring including I/O box, Faceplate etc. complete as required.

13.1.1 IT Network & IT rooms including high speed internet service.

The bidder should design an efficient computer network, Including sufficient Infrastructure for LAN and Web Connectivity IT rooms and data closets/Rooms, IT Sockets with networking for providing Inter-building Connectivity and Intra Building Web Connectivity to Lecturers and Staffs. Horizontal and Vertical Distributions for LAN, Wireless Network Access and WAN.

13.1.2 Telecommunications service:

The bidder should design a suitable capacity telecommunication / IPEPABX system showing actual position of all equipment such as telephone with intercom floor wise in the blue print. All the user and operator should be IP based, will run on POE environment.

13.1.3 Video Conferencing:

Design a HD video conferencing system suitable for real-time interactive communication. Actual position each component like High Definition Video Conferencing Codec, Camera and license, Microphone array, presentation sharing to remote sites, Infrared Remote control, with required display as per the room size (bidder must provide the visual algorithm for the size of display on comparison with the size of room and number of participant) & standard cables should be shown in the drawings.

13.1.4 Broad concept of services:

The services systems for the project have to be conceptualized based on existing experience and acceptable international design standards. Effort shall be made to conceal all services and still provide access to these for accommodating changes in the future. Conservation

of energy, optimization of resources, eco-friendliness and state of the art technology shall be the key factors in the design concept to ensure least downtime and reduce maintenance problems.

Every effort shall be made to design, layout and install equipment in locations that will tend to encourage routine preventive maintenance by providing easy access for operation personnel. Manual isolation will be provided to enable servicing, expansion or renovation of any part of the system without interrupting the services in adjacent areas.

13.1.5 METHODOLOGY OF LAN / TEL DESIGN FOR WB MEDICAL COLLEGES

Primarily, it would be considered all the hospitals as one unit. Then the connectivity solution becomes easier to understand. An important factor in the connectivity is linking of each hospital to the State Wide Area Network (SWAN). This makes it imperative that the data and voice (computer and phone) connections are IP based.

Therefore, each hospital will have an IP Exchange. This does not mean that normal phone calls are not possible. With the SWAN infrastructure in place, it means that the hospitals can call each other without incurring any recurring expenses. In fact hospital may call any office or administration connected to the SWAN without incurring subscriber charges.

Another advantage of an IP network is the great decrease in the local infrastructure costs. Since there will be only one IP network; a separate phone line infrastructure will not be necessary.

13.1.6 THE IP INFRASTRUCTURE

- Hospital will have a Fiber Optic Backbone with redundancy
- Each floor will have the termination / computer points connected to switches placed in Network Enclosures on each floor
- These Enclosures will be in turn connected to the Fiber Optic Backbone
- The Backbone will be terminated / originated from the Server Room / Data Centre of each hospital
- The Server Room / Data Centre will have the provision for locating the following equipment in individual Network Enclosures Servers Switches Passive Components
- IPPABX : Adequate Backup for Points and Power need to be provided. All Telephone sets should be IP based and from the same OEM of IPPABX system.
- All CCTV cameras should be IP based and should run on the same network of hospital.

13.1.7 THE END POINT INFRASTRUCTURE

The End Point Infrastructure begins at the end of the points provided by the IP Infrastructure. These shall consist of the following equipment:

- 1) Servers – for Email and Internet
- 2) Terminals – For accessing the HMIS
- 3) Printers.
- 4) IP/SIP Phones
- 5) IP Cameras

These are some of the basic points on which the whole IT Infrastructure will grow on.

14 LAN

OBJECTIVE

The objective shall be to provide infrastructure provisions for LAN and telecommunication backbone within each room or occupied area for data, voice and IPCCTV transmission.

Ethernet is standardized as IEEE 802.3. The combination of the twisted pair versions of Ethernet for connecting end systems to the network, along with the fiber optic versions for site backbones, is the most widespread wired LAN technology.

SYSTEM DESCRIPTION

LAN points will be provided on a need basis. It will be structured with

- Rack Mounted Layer 2 Switches & Core Switches.
- Cat#6a Mounting Chords.
- Cat#6a Patch Panels.
- Cat#6a Horizontal Cables.
- Cat#6a Input / Output Point (Box).
- Cat#6a Patch Chords to the NIC of the PC.

The switches will have uplink ports as and where necessary. The cabling termination will be done by IEEE 568B standards.

All points will be duly marked and numbered especially for future MAC (Moves, Additions & Changes)

These cables shall run in dedicated low voltage conduits, away from electrical cables, to avoid any electromagnetic interference.

The following shall be used for carrying wires / cable: -

- PVC conduits wherever the conduit runs exposed in ceiling or chased in wall.
- HDPE conduits for external, underground laying of OFC
- Wire mesh cable tray for carrying multi-conductor cables.

15 ELV Schedule:

Note 1:

The proposed ELV Schedule as furnish below may be changed as per Employer requirement and guideline.

TABLE 2:

S. No	Area	PA System	CCTV System	ETBS System	IT Network Data Point	IP- Telephone System	CATV System	Wi-fi system	Remarks
1	SERVICE BUILDINGS								
	UG Sump & Pump Room, Electrical Sub Station, Transformer Yard, DR Yard, HVAC Plant room					✓			One telephone for each service building
	Solar Inverter Room	✓	✓						
2	CCB								
	Entrance Lobby	✓	✓						
	Reception	✓	✓		✓				
	Blood Bank				✓	✓			
	Corridor	✓	✓					✓	
	Lift lobby	✓	✓						
	Fire Exit	✓	✓	✓					
	Blood Collection Room				✓	✓			
	Medical Exam Room				✓	✓			
	Record Room				✓	✓			
	Canteen	✓	✓						
	Electrical Room				✓	✓			
	UPS Room				✓	✓			
	Server Room		✓		✓	✓			
	BMS Room		✓		✓	✓			
	Kitchen					✓			
	Store					✓			
	Service Counter	✓	✓		✓	✓			
	Toilet	✓							

	Supervisor				✓	✓		✓	
	Doctor's Room				✓	✓		✓	
	Surgeon Lab				✓	✓			
	Megistrate Office				✓	✓		✓	
	Staff Office				✓	✓			
	Exam Room				✓	✓			
	Police Room				✓	✓			
	Labelling Room				✓	✓			
	TTI Lab				✓	✓		✓	
	Blood Store				✓	✓			
	QC Lab				✓	✓		✓	
	Dispensary Counter				✓	✓			
	Viewing Console				✓	✓			
	Radiologist				✓	✓			
	AHU Room					✓			
	Mammography Room				✓	✓			
	USG Room				✓	✓			
	Colour Doppler Room				✓	✓			
	Teaching Corner				✓	✓			
	Surgical Store				✓	✓			
	Dressing Room				✓	✓			
	Consultation Room				✓	✓			
	Plaster cutting Room				✓	✓			
	Plaster Room				✓	✓			
	Physiotherapy				✓	✓			
	Waiting Hall	✓	✓						
	EMG & NCV Room				✓	✓			
	Baby Care Room					✓			
	Immunization Clinic				✓	✓			
	Audiometric				✓	✓			
	Speech Therapy				✓	✓			
	Minor O.T				✓	✓			
	ECG Room				✓	✓			
	Echo Room				✓	✓			
	Cardiography				✓	✓			
	ICTC Councilor				✓	✓			
	Laser Room				✓	✓			
	SurakhaCline /Office/Store				✓	✓		✓	
	Nurses Lounge				✓	✓			
	Doctors Lounge				✓	✓		✓	
	Injection Room				✓	✓			
	Demo Room				✓	✓			
	Museum				✓	✓			
	Associate Professor Room				✓	✓		✓	
	HOD				✓	✓			

	ADDING 27% FOR WALLS, CIRCULATION, WAITING LOBBIES, CORES, STAIRWELLS, AHU'S, ELECTRICAL ROOMS, LIFT MACHINE ROOMS ETC.,	✓	✓		✓	✓			
--	---------------------------------------------------------------------------------------------------------------------------------	---	---	--	---	---	--	--	--

17.2 Specification of L2 24 port POE Switch – quantity as per requirement:

S/N	Minimum Specifications
1	General Features
1.1	The switch should have a minimum of 24nos(POE). 10/100/1000 Ethernet Ports in 1 RU form factor and 19" rack mountable.
1.2	The switch should have a minimum of 4 nos. of GE Uplinks that supports copper and fiber transceivers with with SFP form factor.
1.3	The switch should support MTBF of minimum 100,000 hours or more
1.4	The switch should support Operating temperature up to 1500 m -5° to 45°C and operating relative humidity 10 % to 95% no condensing.
1.5	The switch should support an auto-ranging power supply with input voltages between 100 and 240V AC
2	Performance and Scalability
2.1	The switch should support Forwarding bandwidth of 50 Gbps and Full-duplex Switching bandwidth of 30 Gbps
2.2	The switch should support 64-Byte Packet Forwarding Rate of 30 Mpps for 24-Port switch.
2.3	The switch should have at least Dual Core CPU, 1 GB of DRAM and 1 GB Flash
2.4	The switch should support 1000 VLANs and 4000 VLAN IDs
2.5	The switch should support Jumbo frames and MTU of at least 9000 bytes
2.6	The switch should support 16000 Unicast MAC addresses
3	Stacking
3.1	Should support virtual resilient stacking feature for single IP management up to 300mtr distance
3.2	Stacking module should be Hot-swappable.

4	Standards
4.1	The switch should support IEEE 802.1D, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1s, IEEE 802.1w, IEEE 802.1x, IEEE 802.1ab, IEEE 802.3ad, IEEE 802.3ah, IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z
5	Layer-2 Features
5.1	The switch should support Automatic Negotiation of Trunking Protocol, to help minimize the configuration & errors
5.2	The switch should support IEEE 802.1Q VLAN encapsulation
5.3	The switch should support Centralized VLAN Management. VLANs created on the Core Switches should be propagated automatically
5.4	The switch should support should support STP.RSTP
5.5	The switch should support UplinkFast&BackboneFast or equivalent technologies to help ensure quick failover recovery, enhancing overall network stability and reliability
5.6	The switch should support Spanning-tree root guard to prevent other edge swicthes becoming the root bridge.
5.7	The switch should support IGMP filtering
5.8	The switch should support discovery of the neighboring device of the same vendor giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems.
5.9	The switch should support Per-port unicast, broadcast and multicast storm control to prevent faulty end stations from degrading overall systems performance
5.1	The switch should support Voice VLAN to simplify IP telephony installations by keeping voice traffic on a separate VLAN
5.1	The switch should support Automatic media-dependent interface crossover (MDIX).
5.1	The switch should support Unidirectional Link Detection Protocol (UDLD) and Aggressive UDLD to allow for unidirectional links caused by incorrect fiber-optic wiring or port faults to be detected and disabled on fiber-optic interfaces.

5.1	The switch should support Local Proxy Address Resolution Protocol (ARP) working in conjunction with Private VLAN Edge to minimize broadcasts and maximize available bandwidth.
5.1	The switch should support IGMP v1, v2, v3 Snooping
5.2	The switch should support MVR (Multicast VLAN Registration)
6	Quality of Service (QoS) & Control
6.1	The switch should support 4 egress queues per port to enable differentiated management
6.2	The switch should support scheduling techniques for QoS
6.3	The switch should support Weighted tail drop (WTD) to provide congestion avoidance
6.4	The switch should support Standard 802.1p CoS field classification
6.5	The switch should support Differentiated services code point (DSCP) field classification
6.6	The switch should support Strict priority queuing mechanisms
6.7	The switch should support Rate Limiting function to guarantee bandwidth
6.8	The switch should support rate limiting based on source and destination IP address, MAC address and Layer 4 TCP / UDP information
6.9	The switch should support availability of at least 250 aggregate or individual polices per port.
7	Management
7.1	The switch should support Command Line Interface (CLI) using Telnet & SSH interface for comprehensive in-band management.
7.2	The switch should support CLI-based management console to provide detailed out-of-band management.
7.3	The switch should support Serial / USB Console Port.
7.4	The switch should support four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis.
7.5	The switch should support Layer 2/3 trace route to ease troubleshooting by identifying the physical path that a packet takes from source to destination.
7.6	The switch should support Trivial File Transfer Protocol (TFTP) for software upgrades..

7.7	The switch should support SNMPv1, SNMPv2c, and SNMPv3
8	Network security features
8.1	The switch should support IEEE 802.1x to allow dynamic, port-based security, providing user authentication.
8.2	The switch should support Port-based ACLs for Layer 2 interfaces to allow application of security policies on individual switch ports.
8.3	The switch should support SSHv2 and SNMPv3 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions.
8.4	The switch should support TACACS+ and RADIUS authentication enable centralized control of the switch and restrict unauthorized users from altering the configuration.
8.5	The switch should support MAC address notification to allow administrators to be notified of users added to or removed from the network.
8.6	The switch should support Port security to secure the access to an access or trunk port based on MAC address.
8.7	The switch should support Multilevel security on console access to prevent unauthorized users from altering the switch configuration.
8.8	The switch should support Private VLAN
9	IPv6 Features Support
9.1	IPv6 over Ethernet Dual IPv6/IPv4 stack
	IPv6 neighbor and router discovery
	IPv6 stateless address auto-configuration
	Duplicate address detection ICMPv6
	IPv6 QoS - Prioritize IPv6 packets
	IPv6 Security - RA guard, ND inspection, DHCPv6 guard
9.2	IPv6 support for Ping, Traceroute, VTY, SSH, TFTP, SNMP, Syslog, HTTP, HTTPS
9.3	The switch should support IPv6 unicast Static Routing
9.4	The switch should support IPv6 MLDv1 & v2 Snooping
9.5	The switch should support IPv6 Host support for IPv6 Addressing
9.6	The switch should support IPv6 Port Access Control Lists
9.7	The switch should support IPv6 Router Access Control Lists

9.8	The switch should support IPv6 Stateless Auto Config
9.9	The switch should support Radius and TACACS+ over IPv6
10	PoE Features
10	Total PoE Power budget should be at least 365 W
10	The switch should support both IEEE 802.3af Power over Ethernet (PoE) and IEEE 802.3at PoE+ standard.
10	PoE power allocation of the switch should be dynamic and flexible power allocation should be supported across all ports.

17.3 Specification of L2 8 port POE switch- quantity as per requirement:

S/N	Item	Specification
1	Hardware	8 x 10/100/1000BaseT PoE, 2 x 1G SFP or 2 x 1G Copper
2		19" Rack mountable, support for 23/24" rack.
3		Internal power supply unit that supports input voltages between 100 and 240VAC.
4		Operating temperature: 0°C to +45°C
5		Support for IEEE 802.3az or Energy-Efficient Ethernet (EEE)
6		The switch should be capable of working in an ultra-low power mode during periods of non operation hours.
7		Mean time between failure - at least 100,000 hours
8	Power over Ethernet (PoE)	Support for PoE and PoE+as per IEEE standard
9		PoE Power budget of at least 65 watt, so that each of the 8 downlink port is capable of supplying 15.4 W PoE power.
10	Performance	Forwarding rate for 64 Byte Packet - at least 14 Mpps
11		Switching Bandwidth - at least 20 Gbps
12		At least 250 VLAN
13	Memory	At least 256 MB DRAM
14		At least 128 MB Flash

18.CABLING FOR DATA SYSTEM

Structured Cabling System and Component Specifications

<u>Structured cabling system, Category 6A</u>	
Networks Supported	Support for Fast Ethernet, Gigabit Ethernet(1000BASE-T), 10 Gigabit Ethernet (10GBASE-T), Token Ring,ATM 155 Mbps, TP-PMD 100 Mbps, ISDN, video analog and digital,(VoIP).
Qualification	Offered product OEM shall be of global repute and be part of standard committees like TIA or ISO. Documentary evidence to be submitted.
Support in India	OEM shall be having presence in India for atleast 10 years. OEM shall have ISO 9001:2015 and 14001 certified manufacturing facility in India.
Performance characteristics to be provided along with bid	Shall have Intertek certified 4 connector channel compliance to the requirements of ANSI/TIA 568-C.2 and ISO/IEC 11801 for CAT6A. Certificates to be provided with test results for Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR.
Site Certification	Site certification to be done by OEM certified installer for 25 years and certificate to be issued from OEM.

18.1 Category 6A, ANSI/TIA 568-C.2

1	CAT-6A F/UTP Cable, 23 AWG bare solid copper, with cross filler pair separator, Channel optimized to 500 Mhz or more.
2	Meets ANSI/TIA 568-C.2 Category 6A specifications. Cat 6A F/UTP Cabling channel report need to submit for 4 Connector Channel Performance tested by Intertek (ETL)in compliance to ANSI/TIA 568-C.2 & ISO 11801
3	Aluminium Foil Shielded. Polyester tape encapsulating the 4 pairs beneath the AL Foil. Must have Drain wire and Rip cord to be integrated in the cable.
4	Worst Case Cable Skew :45nsec/100 meters
5	Mutual Capacitance:5.6 nF/100 m @ 500 MHz
6	Characteristic Impedence : 100± 15 Ohm
7	Cable Outside Diameter:not more than 7.3 mm
8	Insulation: Polyethylene / Polyolefin
9	Support for transmission standards of ANSI/TIA-568-C.2, CENELEC EN 50288-6-1, ISO/IEC 11801 Class EA
10	DC Resistance Max: 66.58 ohms/km
11	Operating Voltage, maximum:300 Vac
12	Nominal Velocity of Propagation (NVP): 72 %
13	Solid Cable should be compliance to RoHS.
14	LSZH outer jacket in compliance to IEC 60332-1, IEC 61034-2, IEC 60754-2 and UL
15	Bend Radius: upto29.00 mm
16	Performance under 4 connector channel @ 500Mhz shall comply the min values as below – NEXT : 40dB or higher PSNEXT: 36.5 dB or higher Return Loss : 25 dB or higher Insertion Loss: 42.74 dB or less
17	Shall be RoHS 2011/65/EU compliant
1	Modular Shielded Jacks shall meet and exceed following application standards: ISO/IEC 11801 Ed.2.2, Class EA ANSI/TIA 568-C.2

	ISO/IEC 60603-7-1 3rd Edition ISO/IEC 60603-7-51 1st Edition IEEE 802.3at IEEE 802.3bt Type 4; 4-Pair PoE
2	DC Resistance: 69 milli ohms.
3	DC Resistance imbalance : 20 milli ohms.
4	Insulating resistance 500 Mega ohms minimum.
5	Jack retention in panel/faceplate: 50N
6	Shall have optional integrated hinged dust caps for protection from dust ingress.
7	Contact Material: Beryllium copper, plated with 1.27 mm [.000050] thick gold
8	Meets and exceeds ISO/IEC 11801 Class EA, ANSI/TIA 568-C.2 Category 6A component specifications
9	Conductor type: Shall be capable to accept 26–22 AWG solid conductors and in cable OD range of 5 – 9 mm.
10	The outlet is of IDC (insulation Displacement Contact) 180 deg punch type
11	Voltage: 150 volts AC maximum
12	Flammability: UL 94V-0
13	Termination: Shielded jack should support uniform hassle free termination technology and be able to ensure performance in each termination without dependency on expertise of technician. The modular jacks should contain integrated cutting blades used during termination to allow all four pairs of a four pair cable to be terminated at one time.
14	RoHS 2011/65/EUcompliant

18.2 Jack Panels

Type - 24-port, Shielded Twisted Pair, Category 6A, ANSI/TIA 568-C.2

1	Modular, PCB based Shielded Twisted pair, Category 6A, ANSI/TIA 568-C-2, Jack Panel with rear cable manager
2	Panel shall accept individual shielded CAT6A jack modules and pre loaded with grounding strip.
3	Automated punching mechanism for all 4 pairs termination in single punch, allowing wires between 22 – 26 AWG sizes.
4	Category 6A shielded patch panels shall meet or exceed channel specifications of ANSI/TIA-568-C.2 Category 6A and ISO/IEC 11801 Class EA up to 500 MHz
5	Shall support T568A/T568B colourcoding.
6	Cable Guide way to guide the cable on the rear side
7	1U size for 6/12/24 Ports and 2U for 48 Ports.
8	UL Listed& ETL channel certified.

9	Jack Panel should be RoHS Compliant.
---	--------------------------------------

18.3 Faceplates

Type	<u>1-port/2-port/4-port, White shuttered with admin labels and label covers</u>
Material	ABS / UL 94 V-0
No. of ports	One / two/ four
	High Impact Plastic Body ABS FR Grade 86 x 86 mm
	Flush mountable or surface mountable with a back mount frame

18.4 Workstation / Equipment Cords

Type - Category 6A

1	CAT6A S/FTP Patch cords shall be of multi strand copper cable with ETL 4 connector channel certified for ANSI/TIA 568-C.2 and ISO/IEC 11801
2	With transparent slim snag-less boot
3	Terminals with gold contacts, 1.27 micron
4	Patch cord shall have Insulation Resistance of minimum 500 mOhm
5	Outer sheath shall be LSZH as per IEC 60332-1
6	Cord outer diameter shall be not more than 6 mm.
7	Cable construction of patch cord shall be of CAT7 stranded copper, 7/26AWG
8	Pairs in Metal Foil, 4 pair stranded S/FTP cable
9	Compliance: UL 1863 IEC 60603-7
10	Material : ROHS compliant

18.5 Specification for Fiber

Multimode Fiber optic Cable

Cable Type	6/12-core, Multimode, 10G Ethernet OM3, Armored, loose-tube, CST armour, Gel Filled
Fiber type	50 / 125, Laser Grade, 250 micron primary coated buffers
No. of cores	6/12
Fiber identification	Individual fibers shall be color coded as per TIA 598 color scheme
Cable Compliance	Shall meet and exceed the requirements of Telcordia GR-20; EN 50173; ISO/IEC 11801; ANSI/TIA 568 C.3
Attenuation	
@850nm	2.7 dB / KM

@1300nm	0.7 dB / KM
Bandwidth	
@850nm	1500 MHz-KM
@1300nm	500 MHz-KM
Max distance supported	
1000 Base SX	100m
1000 Base Lx	600m
10GBase-SR & SW	300m
10GBase-LX4	300m
Tensile rating	1250N or better
Maximum Crush resistance	3000N or better
Operating Temperature	-20 Degree C to +70 Degree C
Armor	Corrugated Steel tape Armor
Outer jacket	High density polyethylene, anti - termite, anti - rodent suitable for direct burial application. Min thickness 2mm.
Strength member	Cable shall have peripheral strength member of aramid glass yarns.
Compliance	ROHS compliant

18.6Fiber Optic Patch panels

Specifications	Requirement
Fiber Management shelf	The fiber management shelf shall have compact design and be ideal for high density front patching applications.
	Should be fully loaded and factory fitted assembly with no assembling required during installation at site
	• High Density: 1U: 6/12/24/48 Fiber terminations
	• Should be supplied loaded with LC adapters, splice trays, LC MM OM3 Pigtailed and fiber management rings
	Shall have latching locks to protect drawer shelf from accidental slides.
	• Shall have min 4 cable inlets from rear of shelf
Drawer style shelf	o Easy access to splicing tray
	o Easy access to back side of connector
Accessories	Fiber management guides, radius controls & secure tie downs provided
	Pre loaded with labeling strips and grounding lugs
	Sealed cable inlets for dust and rodent protection
Material	Min 16 gauge CRCA sheet with powder coating

Compact size (mm)	44 x 450 x 320 (HxWxD)
Pigtails loaded in Shelf:	
Type	LC Type, OM3, min 1 mtr
Attenuation	<=0.3 dB, at 850 nm
Return Loss	>= 20 dB
Cable Info	50/125 um
Outer Dia	0.9 mm
Jacket material	LSZH
Compliance	ROHS / ELV Compliant

18.7 Fiber Optic Patch Cord LC-LC TYPE.

Fiber Optic Patch Cords	OM3 Patch Cord MM patch cord LC/UPC-LC/UPC TYPE
Make and Type	LC to LC Duplex tuned Fiber Optic Patch Cord, 50/125 Micron, OM3
Cable Sheath	LSZH
Cable Diameter	1.8 x 3.6 mm
Insertion Loss	MAX .3 db at 850nm
Return Loss	> 30 db at mated condition
Length	3 Mtrs, 5 Mtrs
Temperature Range	-10 Degree C to +60 Degree C
ROHS	ROHS/ELV Compliant

19. Specification of Digital Signage Visual Display System

Visual display units shall be installed at strategic locations especially in entry area, reception, Waiting Lounge, Parking Zone, Main Entrance etc as per requirement of approval authority. Specification for VDU system: Professional LED display, Screen size diagonal 32” minimum, Resolution full HD, Connectivity: HDMI, USB, VGA with inbuilt media player.

20. ELV System Approve Make List

ELV System Approve Make List		
A	Public Address System	
1	Wall/Ceiling/Horn Speaker (for PA system)	HONEWELL/BOSCH/TOA/JBL/Harman
2	Amplifier	HONEWELL/BOSCH/TOA/JBL/ Harman
3	Controller	HONEWELL/BOSCH/TOA/JBL/ Harman
4	Call Station	HONEWELL/BOSCH/TOA/JBL/ Harman
B	CCTV System	
1	All Types of Cameras	HONEWELL/PELCO/BOSCH/ Neos/ Hikvision
2	NVR	HONEWELL/BOSE/PELCO /Neos/ Hikvision
3	VM Software	HONEWELL/BOSE/PELCO/ Neos/ Hikvision
C	IT & Telecom System	
1	All Application Server	HP/DELL/CISCO
2	Networking Switch	CISCO/DLINK/ALCATEL/HP
3	IPPABX System	CISCO/ALCATEL/NEC
4	IPPABX Server	HP/DELL/CISCO
5	IP/SIP Phone	CISCO/ALCATEL/NEC
6	Firewall/UTM	SOPHOS/CISCO/JUNIPER/DLINK
7	Wireless System	CISCO/DLINK/ALCATEL
D	All IT Passive components	MOLEX/COMSCOPE/LEGRAND/Dlink
E	MS Conduit / GI Conduit (ISI Marked)	
1	PVC Conduit (ISI Marked)	BEC/ AKG / ATUL /PRACTO
2	Perforated Cable Tray	BEC/ POLYPACK/ AKG /ATUL/ PROFA
F	VIDEO CONFERENCE SYSTEM / AV & Digital Signage system	
1	Video Conferencing System	CISCO/POLYCOM/LOGITECH
2	All Type of Display	LG/SAMSUNG/ PANASONIC
3	All types Speaker	HARMAN/LACOUSTIC/BOSE/D&B
4	Motorized Screen	ELITE/DREPPER/DALITE/SUVERA
5	All type of Microphone	SHURE/AKG/BEYERDYNAMIC
6	Amplifier ,Mixture ,DSP & Controller	HARMAN/LACOUSTIC/BOSE/D&B
7	Projector	SONY/NEC/EPSON/BARCO/CHRISTIE
8	Digital Podium	GLOBUS/UNIVISO/EAPL
9	Cables and connector for AV Integration	BELDEN/KRYSTEL/KRAMER/ NUMERIC

SECTION 5.7
PAYMENT SCHEDULE

Sl.	Activity/ Milestone	% of Project Cost
1	On approval of Concept Plan, Architectural Plan, Elevation, Structural Details including Soil Investigation Report	0.50%
2	On approval of Working Drawings (Architectural) as required.	0.50%
3	On approval of Working Drawings (Structural) as required.	0.50%
4	On approval of Working drawing for other Services, Design Details. (e.g. S & P Works, Water Supply, Power, Electrical facilities, Waste Water Disposal, Bio-Medical Waste Treatment & Disposal, Roads, Pavement, Drains, Landscaping etc.) including approval of the drawing & procurement of clearance from statutory bodies like Municipality, Panchayat, Pollution control Board etc.	0.50%
5	On completion of "As Built Drawing".	1.00%
6	RCC frame foundation and superstructure of the entire building	
	a) On completion of first 100% in all respect.	25.00%
7	On completion of Brick work of the entire building from ground floor to top floor including mummy.	
	a) On completion of 100%	10.00%
8	Plastering (inside & outside) of the entire building from ground floor to top floor including mummy, external façade complete in all respect.	
	a) On completion of 100%	5.00%
9	Flooring & Cladding work in all respect of the building from ground floor to top floor.	
	a) On completion of 100%	5.00%
10	Supply and fixing of Doors (Wooden flush door, Panel door, Solid PVC door, Fire Resistant door, Toughened Glass Door, Rolling Shutter & Metal door) and Windows with glass and grills etc.	
	a) On completion of Supply and fixing of Door in all respect 100%	1.00%
11	Putty & Painting works from ground floor to top floor including Staircase.	
	a) On completion of 100%	3.00%
12	Staircase hand railing & other railing etc. of the entire building.	
	a) On completion of first 100% as required	1.00%
13	Internal & External Pipeline for water & sewerage system etc. of the entire building.	
	a) On completion of 100%	2.00%
14	Fixing of sanitary & Plumbing fittings/ fixtures for the entire building.	2.00%
15	Roof Water Proofing Treatment and other water proofing works complete in all respect.	2.00%
16	Septic Tank with Soak pit of the entire project.	5.00%
17	Road, Pathway, plinth protection etc. complete in all respect of the entire Project.	
	a) On completion of first 100% in all respect.	10.00%
18	Bore-Well, Pump of the entire project.	6.00%
19	Internal electrical installation including Conduiting, Cabling, Wiring including all type of switch boards, proper electrical dressing with ferruling arrangement/tagging, installation of floor DBs etc.	
	a) On completion of 100% Roof conduiting wall conduiting, chase cutting, back encloser fixing for switch board & DB complete in all respect.	5.00%
	b) On completion of 100% electrical wire pulling, Switch Board & Accessories fixing, laying of internal cable with cable tray complete in all respect.	5.00%
20	Supply & installation of Building floor DBs with components	
	all cable termination 100% complete in all respect.	3.00%
21	SITC of all electrical fittings & fixtures (all types of light & fan etc.), complete in all respect.	
	a) On completion of 100% SITC of electrical fittings & fixtures complete in all respect.	6.00%
22	SITC of Signage both Internal & external of the buildings for the entire project.	1.00%

Sl.	Activity/ Milestone	% of Project Cost
		100.00%

SECTION 6
GENERAL CONDITIONS OF
CONTRACT (GCC)

SECTION – 6

GENERAL CONDITIONS OF CONTRACT (GCC)

1

General Provisions

1.1

Definitions

In the Conditions of Contract (“these Conditions”), the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.

1.1.1

The Contract

1.1.1.1 **“Contract”** means the Agreement, these Conditions, the Employer’s Requirements, the Tender, and the further documents (if any) which are listed in the Contract Agreements.

1.1.1.2 **“Agreement”** means the Agreement referred to in Sub- Clause 1.6 [Agreement], including any annexed documents.

1.1.1.3 **“Employer’s Requirements”** means the document in Section – 5 of the Bidding Documents titled Employer’s Requirements, as included in the Contract, and any additions and modifications to such document in accordance with the Contract. Such document specifies the purpose, scope, and/or design and/or other technical criteria, technical specifications, technical requirements for the Works.

1.1.1.4 **“Tender”** means the Contractor’s signed offer for the Works and all other documents which the Contractor submitted therewith (other than these Conditions and the Employer’s Requirements, if so submitted), as included in the Contract.

1.1.1.5 **“Performance Security”** and **“Schedule of Payments”** mean the documents so named (if any), as included in the Contract.

1.1.2

Parties and Persons

1.1.2.1 **“Party”** means the Employer or the Contractor, as the context requires.

1.1.2.2 **“Employer”** means West Bengal Medical Services Corporation Limited and includes its successors-in-interest and/ or assigns.

1.1.2.3 **“Contractor”** means the person(s) named as contractor in the Agreement and the legal successors in title to this person(s).

- 1.1.2.4 **“Employer’s Representative”** means the person(s) named by the Employer in the Contract or appointed from time to time by the Employer under Sub-Clause 3.1 [The Employer’s Representative], who acts on behalf of the Employer.
- 1.1.2.5 **“Contractor’s Representative”** means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [Contractor’s Representative], who acts on behalf of the Contractor.
- 1.1.2.6 **“Employer’s Personnel”** means the Employer’s Representative, the assistants referred to in Sub-Clause 3.2 [Other Employer’s Personnel] and all other staff, labour and other employees of the Employer’s and of the Employer’s Representative, and any other personnel notified to the Contractor, by the Employer or the Employer’s Representative, as Employer’s Personnel.
- 1.1.2.7 **“Contractor’s Personnel”** means the Contractor’s Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and any other personnel assisting the Contractor in the execution of the Works.

1.1.3

Dates, Tests, Periods and Completion

- 1.1.3.1 **"day"** means a calendar day and **"year"** means 365 days.
- 1.1.3.2 **"Commencement Date"** means the date notified under Sub-Clause 8.1 [Commencement of Works], unless otherwise defined in the Contract Agreement.
- 1.1.3.3 **"Time for Completion"** means the time for completing the Works or a Section (as the case may be) under Sub-Clause 8.2 [Time for Completion], as stated in the Particular Conditions (with any extension under Sub-Clause 8.5 [Extension of Time for Completion]), calculated from the Commencement Date.
- 1.1.3.4 **"Tests on Completion"** means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [Tests on Completion] before the Works or a Section (as the case may be) are taken over by the Employer.
- 1.1.3.5 **"Taking-Over Certificate"** means a certificate issued under Clause 10 [Employer's Taking Over].
- 1.1.3.6 **"Tests after Completion"** means the tests (if any) which are specified in the Contract and which are carried out under Clause 12 [Tests after Completion] after the Works or a Section (as the case may be) are taken

over by the Employer.

- 1.1.3.7 **"Defects Notification Period"** means the period for notifying defects in the Works or a Section (as the case may be) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], calculated from the date on which the Works or Section is completed as certified under Sub-Clause 10.1 [Taking Over of the Works and Sections]. This period shall be three years.
- 1.1.3.8 **"Performance Certificate"** means the certificate issued under Sub-Clause 11.9 [Performance Certificate].

1.1.4

Money and Payments

- 1.1.4.1 **"Contract Price"** means the agreed amount stated in the Agreement for the planning, design, execution and completion of the Works and the remedying of any defects, and includes adjustments (if any) in accordance with the Contract.
- 1.1.4.2 **"Cost"** means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.
- 1.1.4.3 **"Final Statement"** means the statement defined in Sub-Clause 14.11 [Application for Final Payment].
- 1.1.4.4 **"Statement"** means a statement submitted by the Contractor as part of an application for payment under Clause 14 [Contract Price and Payment].
- 1.1.4.5 **"Currency"** means Indian National Rupees (INR).
- 1.1.4.6 **"Defects Liability Period"** means three years from the date of issuance of Taking Over Certificate.

1.1.5

Works and Goods

- 1.1.5.1 **"Contractor's Equipment"** means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Employer's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.
- 1.1.5.2 **"Goods"** means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.
- 1.1.5.3 **"Materials"** means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.
- 1.1.5.4 **"Permanent Works"** means the permanent works to be planned, designed and executed by the Contractor under the Contract.
- 1.1.5.5 **"Plant"** means the apparatus, machinery and vehicles intended to form or forming part of the Permanent Works.
- 1.1.5.6 **"Section"** means a part of the Works specified as a Section (if any).
- 1.1.5.7 **"Temporary Works"** means all temporary works of every kind (other than Contractor's Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.
- 1.1.5.8 **"Works"** mean the Permanent Works and the Temporary Works, or either of them as appropriate.
- 1.1.5.9 **Deleted**
- 1.1.5.10 **"Project"** Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis in West Bengal/ Central gridline. Name of building in the sites as explained in detail in the Bill of Quantities (BOQ).
- 1.1.5.11 **"Services"** means and include services ancillary to the supply of Products and performance of Works including without limiting to transportation and supply at the point of consignee and such other obligations as required under this Contract.

1.1.6

Other Definitions

- 1.1.6.1 **"Contractor's Documents"** means the calculations, computer programs

and other software, drawings, manuals, models and other documents of a technical nature supplied by the Contractor under the Contract; as described in Sub-Clause 5.2 [Contractor's Documents].

- 1.1.6.2 **"Country"** means India.
- 1.1.6.3 **"Variation"** means any change to the Employer's Requirements or the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].
- 1.1.6.4 **"Force Majeure"** is defined in Clause 19 [Force Majeure].
- 1.1.6.5 **"Laws"** means all national (or state) legislation, statutes, ordinances and other laws, and regulations and bye-laws of any legally constituted public authority.
- 1.1.6.6 **"Performance Security"** means the security (or securities, if any) under Sub-Clause 4.2 [Performance Security].
- 1.1.6.7 **"Site"** means the places where the Permanent Works are to be executed and to which Plants, Materials and Products are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.

1.2 Interpretation

In the Contract, except where the context requires otherwise:

- (a) words indicating one gender include all genders;
- (b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- (c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- (d) "written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record. The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

1.3

Communications

Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices and requests, these communications shall be:

- (a) in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission; and
- (b) delivered, sent or transmitted to the address for the recipient's communications as stated in the Contract. However:
 - (i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and
 - (ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.

1.4

Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed.

Law and Language

The Contract shall be governed by the laws of India only.

The language in the contract shall be English only. The language for communication for the purpose of this Contract shall be English only.

In addition to this, any document, which is in any language other than English, shall be translated to English and certified.

If there are versions of any part of the Contract which are written in more than one language, the version which is in English shall prevail.

The Contractor shall familiarize himself with the local laws and administration of West Bengal and comply by them.

1.5**Priority of Documents**

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- (a) the Agreement [including the Financial Bid/ Bill of Quantities (BOQ)],
- (b) these General Conditions of Contract,
- (c) the Employer's Requirements,
- (e) the bidding documents and any other documents forming part of the Contract.

1.6**Agreement**

The Contract shall come into full force and effect on the date stated in the Agreement. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Agreement shall be borne by the Contractor.

1.7**Compliance with Laws**

The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated:

- (a) the Contractor shall have obtained (or shall obtain) the planning, zoning or similar permission for the Permanent Works, and any other permissions described in the Employer's Requirements as having been (or being) obtained by the Contractor; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so. However, the Employer shall assist and/or facilitate (without any recourse or liability) obtaining of all permits, licences, approval, clearances, No Objection Certificates and the like, as required by the Laws and shall sign such documents as may be required by statute. The cost for obtaining the sanctions and/or permission in respect of such permit, licence, approval, No Objection Certificate, clearance and the like, shall be paid by the Contractor, which shall be reimbursed by the Employer within 60 days from the date of submission of necessary documents claiming reimbursement including supporting documents; and
- (b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the planning, design, execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so. However, the Employer shall assist and/or facilitate (without any recourse or liability) obtaining of all permits, licences and approval, as required by the Laws and shall sign such documents as may be required by statute.

1.8

Care and Supply of Documents

Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Employer six copies of each of the Contractor's Documents.

The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Employer's Requirements, the Contractor's Documents, and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.

If a Party becomes aware of an error or defect of a technical nature in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

1.9

Confidentiality

Both Parties shall treat the details of the Contract as private and confidential, except to the extent necessary to carry put obligations under it or to comply with applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous agreement of the Employer.

1.10

Employer's Use of

Contractor's Documents As between the Parties, the Contractor shall retain the copyright and other intellectual

property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

- (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- (c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.

1.11

Contractor's Use of

Employer's Documents As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Employer's Requirements and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract.

They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

1.12

Confidential Details

The Contractor shall not be required to disclose, to the Employer, any information which the Contractor described in the Tender as being confidential. The Contractor shall disclose any other information which the Employer may reasonably require in order to verify the Contractor's compliance with the Contract.

2

The Employer

2.1

Right of Access to the Site

The Employer shall give the Contractor right of access to, and possession of, all parts of the Site within 14 days of the issuance of Letter of Acceptance / Notification of

Award. The right and possession may not be exclusive to the Contractor. However, the Employer may withhold any such right or possession until the Performance Security has been received.

If the Contractor suffers delay as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.5 [Extension of Time for Completion].

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

However, if and to the extent that the Employer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents including submission of Performance Security, the Contractor shall not be entitled to such extension of time.

2.2

Permits, Licences or Approvals

It will be the duty of the Contractor to apply for and obtain any permits, licences, approvals, clearances or No Objection Certificates required by the Laws of the Country, which the Contractor is required to obtain under Sub-Clause 1.13 [Compliance with Laws] for commencement of construction, completion of construction, delivery of Goods and Products including clearance through customs, supply, installation and commissioning of Goods and Products. It is made clear that such list is not exhaustive and is merely indicative in nature. Upon obtaining of such permits, licenses, approvals, clearance or no objection certificate from the appropriate authority, the Contractor shall provide a copy of such permits, licenses, approvals, clearance or no objection certificate to the Employer. It is made clear that failure to do so, the Employer shall be entitled to take action in terms of Clause 4.23 of these Conditions the delivery of Goods and Products, including clearance through customs.

2.3

Employer's Personnel

The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site:

- (a) co-operate with the Contractor's efforts and
- (b) take actions similar to those which the Contractor is required to take under Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.24 [Protection of the Environment].

2.4

Employer's Claims

If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, it shall give notice and particulars to the Contractor. However notice is not required for payments due under Sub-Clause 4.25 [Electricity, Water and Gas] or for other services requested by the Contractor.

The notice shall be given as soon as practicable after the Employer became aware of

the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the Employer considers itself to be entitled in connection with the Contract. The Employer shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the amount (if any) which the Employer is entitled to be paid by the Contractor, and/or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].

The Employer may deduct this amount from any moneys due, or to become due, to the Contractor. The Employer shall only be entitled to set off against or make any deduction from an amount due to the Contractor, or to otherwise claim against the Contractor, in accordance with this Sub-Clause or with sub-paragraph (a) and/or (b) of Sub-Clause 14.6 [Interim Payments].

Whenever any claim or claims for payment of a sum of money arises out of or under the Contract or against the Contractor, the Employer's Representative or the Employer shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the Mobilisation Advance Bank Guarantee and/or Performance Security, if any deposited by the Contractor, pending finalization or adjudication of any such claim. In the event of the Performance Security, being insufficient to cover the claimed amount or amounts, the Employer's Representative or 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 may at any time thereafter become payable to the Contractor under the same Contract or any other Contract with the Employer's Representative of the Employer or any contracting person through the Employer's Representative pending finalisation of/adjudication of any such claim.

It is an agreed term of the Contract that the sum of money or moneys so withheld or retained under the lien referred by the Employer's Representative or the Employer will be kept withheld or retained as such by the Employer's Representative or 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 limited company, the Employer's Representative or 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 found payable to any limited company.

3

The Employer's Administration

3.1

The Employer's Representative

The Employer may appoint an Employer's Representative to act on its behalf under the Contract. In this event, it shall give notice to the Contractor of the name, address, duties

and authority of the Employer's Representative.

The Employer's Representative shall carry out the duties assigned to him, and shall exercise the authority delegated to him, by the Employer. Unless and until the Employer notifies the Contractor otherwise, the Employer's Representative shall be deemed to have the full authority of the Employer under the Contract, except in respect of Clause 15 [Termination by Employer].

If the Employer wishes to replace any person appointed as Employer's Representative, the Employer shall give a notice to the Contractor.

3.2

Other Employer's Personnel

The Employer or the Employer's Representative may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials.

3.3

Delegated Persons

All these persons, including the Employer's Representative and assistants, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by a delegated person, in accordance with the delegation, shall have the same effect as though the act had been an act of the Employer. However:

- (a) unless otherwise stated in the delegated person's communication relating to such act, it shall not relieve the Contractor from any responsibility it has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances;
- (b) any failure to disapprove any Works, Plants, Materials or Products shall not constitute approval, and shall therefore not prejudice the right of the Employer to reject the Works, Plants, Materials or Products; and
- (c) if the Contractor questions any determination or instruction of a delegated person, the Contractor may refer the matter to the Employer, who shall promptly confirm, reverse or vary the determination or instruction.

3.4

Instructions

The Employer may issue to the Contractor instructions which may be necessary for the Contractor to perform his obligations under the Contract. Each instruction shall be given in writing and shall state the obligations to which it relates and the Sub-Clause (or other term of the Contract) in which the obligations are specified. If any such instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

The Contractor shall take instructions from the Employer, or from the Employer's Representative or an assistant to whom the appropriate authority has been delegated under this Clause.

3.5

Determinations

Whenever these Conditions provide that the Employer shall proceed in accordance with this Sub-Clause to agree or determine any matter, the Employer shall consult with the Contractor in an endeavour to reach agreement. If agreement is not achieved, the Employer shall make a reasonable determination in accordance with the Contract, taking due regard of all relevant circumstances and after giving an opportunity to the Contractor of being heard.

The Employer shall give notice to the Contractor of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination, unless the Contractor gives notice, to the Employer, of his dissatisfaction with a determination within 14 days of receiving it. Either Party may then refer the dispute to arbitration in accordance with Sub-Clause 20.3 [Arbitration].

4

The Contractor

4.1

Contractor's General Obligations

The Contractor shall plan, design, execute and complete the Works and commissioning of the Products in accordance with the Contract, and shall remedy any defects in the Works and Products. When completed, the Works or the Products shall be fit for the purposes for which the Works or the Products are intended as defined in the Contract.

The Contractor, after obtaining any necessary consent from any relevant authority, shall submit to the Employer, proposals showing the layout of pedestrian routes, lighting, signs, and guarding any road opening or traffic diversion which may be required in connection with the execution of the Works and which the Contractor intends to construct. Any consent given by the Employer to such proposals shall not relieve the Contractor of any obligation under the Contract or absolve the Contractor from any liability for or arising from such proposals or the implementation thereof.

The Contractor's proposals for erection of all ancillary and Temporary Works shall be in conformity with the proposals submitted along with the tender and modifications thereto as approved by the Employer.

The Contractor shall submit drawings, supporting design calculations where called for by the Employer and other relevant details of all such works to the Employer for approval at least 45 days before it desires to commence such works and the Employer shall endeavour to get such drawings and designs approved within a period of 30 days from the date of submission of such designs and drawings. Approval by the Employer of any such proposal shall not relieve the Contractor of his responsibility for the adequacy of such works.

No extra payment will be made for complying with the provisions of this clause and the cost of the work under this element shall be deemed to be included in the Financial Bid.

The Contractor shall provide the Plants and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this plan, design, execution, completion and remedying of defects.

The Works shall include any work which is necessary to satisfy the Employer's Requirements, or is implied by the Contract, and all works which (although not mentioned in the Contract) are necessary for stability or for the completion, or safe and proper operation, of the Works.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations, of all methods of construction and of all the Works.

The Contractor shall, whenever required by the Employer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Employer.

The Contractor shall survey and fix the alignment, set out the buildings maintaining vertical & horizontal clearances and keeping in view important site references and obligatory locations in consultation with the Employer. GTS bench mark, temporary bench marks and three control points on all straights & other details shall be obtained by the Contractor. However, the Employer shall assist and/or facilitate (without any recourse or liability) in such obtaining of GTS bench mark, temporary bench marks etc.

The Contractor shall establish at its cost, at suitable points, additional reference lines and bench marks as may be necessary. The Contractor shall remain responsible for the sufficiency and accuracy of all his benchmarks and reference lines. It shall take precautions to see that lines, points and bench marks fixed by the Employer are not disturbed by its work and shall make good any damage thereto.

4.2

Performance Security

The Contractor shall obtain (at its cost) a Performance Security for proper performance, equal to 10% of Contract Price, prior to execution of the Agreement.

The Performance Security should be submitted in the form of a Bank Guarantee from a scheduled bank. No Performance Security will be accepted from the Contractor, if the location of the branch of the bank is not situated within the municipal limits of any of the cities of Kolkata, Bidhannagar and New Town Kolkata. The Performance Security shall have a validity of **39 months** and claim expiry of 51 months, upon expiry of 38 months from the date of issue of Performance Security but prior to expiry of the 39 months period, the Contractor shall revalidate the Performance Security for another 36 months period/ upto completion of DLP period whichever is lesser. The Contractor shall continue to keep its Performance Security duly validated and enforceable for such successive periods of 36 months or for such shorter period as may be directed by the Employer, until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and all defects have been remedied.

The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract in the event of:

- (a) failure by the Contractor to extend the validity of the Performance Security as described in the preceding paragraph, in which event the Employer may claim the

- full amount of the Performance Security,
- (b) failure by the Contractor to pay the Employer an amount due, as either agreed by the Contractor or determined under Sub-Clause 2.4 [Employer's Claims] or Clause 20 [Claims, Disputes and Arbitration], within 42 days after the signing of the Contract or determination,
 - (c) failure by the Contractor to remedy a default within such reasonable period as may be specified by the Employer in its notice after receiving the Employer's notice requiring the default to be remedied, or
 - (d) circumstances which entitle the Employer to termination under Sub-Clause 15.2 [Termination by Employer], irrespective of whether notice of termination has been given.

The Employer shall return the Performance Security to the Contractor within 21 days after the Contractor has become entitled to receive the Performance Certificate.

4.3

Contractor's Representative

The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract.

Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Employer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked, or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, as far as practicable, without the prior consent of the Employer, revoke the appointment of the Contractor's Representative or appoint a replacement.

The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.4 [Instructions].

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Employer has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

The Contractor's Representative and all these persons shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language].

4.4

Deleted.

4.5

Deleted.

4.6

Time of supply of Products

Deleted

Deleted

4.7

Special provisions For Products

- (i) All major and minor spare parts shall be available with the Contractor/ manufacturer for a period of 10 years from the date of supply.
- (ii) The Contractor shall have a team of trained and experienced service engineers available to remedy defects in the Products and/ or repair any breakdown therein, who shall be available to take inspection of such defect/ breakdown in the Products, within a period of 24 hours, from the reporting of such defect/ breakdown by the Employer.
- (iii) The Contractor shall supply 2 copies of user manual in hard copy and in compact disc of each Products supplied.
- (iv) One copy of maintenance manual with Block diagram, parts price list, troubleshooting procedure and detailed preventive maintenance protocol is to be provided by the Contractor to the Employer.
- (v) Certificates of test and calibration with complete details done at factory, prior to dispatch shall be sent with the installation report by the Contractor to the Employer.
- (vi) Compliance Report with respect to specifications of the offered Make/ Brand and model of the Products shall be submitted by the Contractor. Non-compliance/ partial compliance shall be explained clearly in the Remarks column. While filing compliance against each item in Technical Specifications sheet, actual values shall be furnished along with "yes" or "no" reply.

4.8

Safety Procedures

4.8.1.

Codes etc to be complied with

The Contractor shall ensure and arrange at its cost, fire and the safety provisions, as provided under National Building Code of latest edition, Bureau of Indian Standards, safety manuals of the Employer, if any, and such provisions as are locally in force from time to time for all labour, directly or indirectly employed in the works for performance of this Contract. The Contractor will indemnify the Employer from any consequence arising due to Contractor's failure in respect of safety provisions.

Following Codes may be referred to in this connection:

- IS 5916 Safety code for construction involving use of hot bituminous materials.
- IS 7293 Safety code for working with construction machinery
- IS 7969 Safety code for handling and storage of building materials.
- IS 8989 Safety code for erection of concrete framed structures.
- IS 13415 Protective barriers in and around buildings - Code of Safety
- IS 13416 Preventive measures against hazards at work places - Recommendations (Parts - 1 to 5)

4.8.2

First Aid & Industrial Injuries

4.8.2.1

First aid facilities at easily accessible place shall be provided by the Contractor as per the applicable labour laws or Rules of the Authority controlling the area where

work is carried out.

4.8.2.2. The Contractor shall make arrangements with hospitals for ambulance service and for treatment of industrial injuries to meet eventualities leading to the need for such facilities. The Employer's Representative shall be informed of their telephone numbers and addresses of the Hospitals.

4.8.2.3 Details of all critical industrial injuries shall be reported promptly to the Employer's Representative.

4.8.2.4 Report shall cover type, nature, cause, physician's report and action for prevention of those types again.

4.8.3 General Safety Rules

4.8.3.1 Smoking within plant, restricted areas, closed areas, near storage place of lubricant oil and fuel etc. is strictly prohibited.

4.8.3.2 The Contractor shall erect and maintain barricades required in connection with its operation to guard or protect

(a) Excavation

(b) Hoisting/lifting

(c) Slab openings

(d) Hazardous areas

(e) Employer's existing property likely to be subjected to damage by the Contractor's operations

(f) Unloading spots

4.8.4 Accidents - Precautions at Worksite

No materials on the sites shall be so stacked or placed as to cause danger or inconveniences to any person or to the public. The Contractor shall provide all necessary fencing and lights to protect the public from accidents and shall be bound to bear 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 costs which may be awarded in any such suit, action or proceeding, to any such person or which may, with the consent of the Contractor be paid to compromise any claim by any such person. In case any damage or destruction of public utilities is caused at the site by any act or omission of the Contractor, the Contractor shall also be liable to bear the costs and expenses for replacement or repair of such public utilities and all costs and expenses arising in connection thereto, upon such costs and expenses being determined by the Employer or the appropriate Government body. The Employer shall have the right to deduct all costs and expenses arising out of application of this clause, from the monthly bills payable to the Contractor.

4.8.5 Electrical Equipments - Precautions

All temporary and permanent electrical installations, power distribution and supply required for execution of Works shall be carried out conforming to existing industrial and domestic safety rules and regulations. Important specific points to be noted are as under,

- (i) Meter room and main switches should be freely accessible at all times and fully protected against all weather conditions.
- (ii) Power distribution system shall be identifiable with display marking on switches.
- (iii) All power distribution shall be carried out with coated, adequately insulated and of appropriate current/load rating cables. It shall be securely routed for this purpose. No loose, naked, hanging wires shall be permitted.
- (iv) Over load protection devices shall be installed whenever and wherever heavy current/load consuming construction plant or machinery susceptible to hazard is in use and as directed by the Employer's Representative.
- (v) Metallic plugs and sockets shall be used in field work. Switch board shall be in close proximity so as to have quick control over the supply.
- (vi) Proper and adequate earthing connection should be provided for all installations, plant and machinery and distribution system.
- (vii) Hand lamps and inspection lamps shall be adequately insulated and guarded with wire mesh and should have proper plugs for use.
- (viii) Security and illuminatory light shall be secured firmly and protected to withstand all weather conditions.

4.8.6

Maintenance of Safety Devices

All scaffoldings, ladders and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate maintenance facilities shall be provided at or near places at work.

4.8.7

Personal Safety

- (a) All necessary personal safety equipment as considered adequate by the Employer's Representative shall be available for use of persons employed on the Site and maintained in a condition suitable for immediate use and the Contractor shall take adequate steps to ensure proper use of equipment by those concerned.
- (b) Workers employed on mixing asphaltic materials, cement, and lime mortars/ concrete shall be provided with protective footwear and protective gloves.
- (c) Those engaged in handling any materials which are injurious to eyes shall be provided with protective goggles.
- (d) Workers employed on erection works, etc. shall be provided with helmets, safety belts etc.
- (e) Workers employed on concrete finishing, welding, painting and other works above 2 metres height shall be provided with a suitable safety belt, as per the applicable Factory Rules.

4.8.8 Storing Fuel, Oil and Lubricant

The Contractor shall take approval from the Safety Officer of the Employer for storing the lubricants, oil and fuel at site for running the machinery required for the construction.

4.8.9 Fire Extinguishing

Suitable, sufficient number of fire extinguishers for all types of fire, shall be provided at work site. In addition, sufficient number of fire buckets filled with water and sand shall also be provided. The firefighting equipment as outlined above shall be dispersed in a suitable and purposeful manner.

4.8.10 Fire Precautions

The Contractor shall comply with regulations of the controlling authority in force at the Site of the Works relating to the precautions to be taken against fire hazards.

4.8.11 Protection arrangements at the site of Works

Adequate protection against any form of damage or deterioration shall be provided for in all sections of the Works. This shall include protective tapes, casings, guard rails and the like, which shall be provided as necessary. Particular care shall be taken to protect finished surfaces during the execution of adjacent in-situ work. The Contractor shall carry out all steps necessary and comply with the directions and instructions of the Employer's Representative to its satisfaction.

4.8.12 Safety Arrangements for labour

The Contractor shall, at its own expense, arrange for the safety provisions as given above and as required by the Employer's Representative, in respect of all labour directly or indirectly employed for performance of the work and shall provide all facilities in connection therewith. In case the Contractor fails to make arrangements to provide necessary facilities as aforesaid, the Employer's Representative shall be entitled to do so and recover the cost thereof, from the Contractor.

4.8.13 Safety Manual

The Contractor shall submit a Safety Manual indicating the safety measures proposed to be adopted in light of above provisions, for approval of the Employer's Representative.

4.8.14 Accidents - Reporting

The Contractor shall, within twenty four (24) hours of the occurrence of any accident on, or about the Site, or in connection with the execution of the Works, report such accident to the Employer's Representative and to the appropriate authority wherever such report is required by law. The Contractor will indemnify the Employer from all accident cases.

4.8.15**Security Measures**

The Contractor shall be responsible at its cost for security of Works for the duration of the Contract and shall provide and maintain continuously adequate security personnel to fulfill these obligations. The requirements of security measures shall include, but not limited to, maintenance of Law and order at site, provision of all lighting, guard, flagmen, and other measures necessary for protection of Works within the camps and elsewhere at site, for all materials delivered to the site and all persons employed in connection with the Works continuously throughout working and non-working periods including nights, Sundays, holidays, for the duration of the Contract (including the Defects Liability Period). At work sites in close proximity of traffic corridors where public are likely to come close to the work area, suitable fencing as directed by the Employer's Representative should be provided.

4.8.16

The Contractor shall not disturb the ongoing activities of adjacent Institute, if any. It shall take care that its activities do not result in any kind of accidents, spread of any infection etc. in the campus. At the same time it shall as well ensure that its personnel are safe and do not get any infection from the hospital activities.

4.9**Quality Assurance**

The Contractor shall institute a quality assurance system / manual to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Employer shall be entitled to audit any aspect of the system. The Employer, at its sole discretion, may direct the Contractor to send the sample for quality check to any national or regional institution in respect of each of the sites. The system / manual should cover the following items as minimum :

- i) Q.A. Plan for Basic Construction Materials indicating the details of tests to be undergone before use in works.
- ii) Q.A. Plan for site activities indicating the details of tests to be conducted at the various stages of construction for various activities.
- iii) In house/on site testing facilities to be developed for materials, site activities and calibration of equipments.
- iv) Site documents to be maintained including records of results of tests for materials and workmanship, inventory record on availability of vital materials and their consumption vis-à-vis design requirements, site inspection records, quality audit record, safety audit record, site progress record, etc.
- v) Check lists for source approval of materials etc., check lists for site activities and proforma for recording results of tests.
- vi) Method statements for important construction activities.

Details of all procedures and compliance documents shall be submitted to the Employer for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Employer, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of its duties, obligations or responsibilities under the Contract.

4.10

Site Data

The Employer shall have made available to the Contractor for his information, prior to signing of the Contract, all relevant data in the Employer's possession in respect of the Site. Such relevant data shall be indicative only and not exhaustive.

The Contractor shall be responsible for verifying and interpreting all such data. The Employer shall have no responsibility for the accuracy, sufficiency or completeness of such data. The Employer reserves the right to obtain reports on soil testing or other site data from independent agencies, tally the same with the reports submitted by the Contractor and to appoint any committee comprising of such persons as may be decided by the Employer for determining the tolerance limit of variance and suggest necessary changes, which shall be binding on the Contractor.

The responsibility of Contractor under this sub-clause is full and final and no claim by the Contractor for additional payment or extension of time shall be allowed on the ground of any misunderstanding or misapprehension by the Contractor or that incorrect or insufficient information was given to the Contractor or that it failed to obtain correct and sufficient information.

4.11

Sufficiency of the Contract Price

The Contractor shall be deemed to have satisfied himself as to the correctness and sufficiency of the Contract Price.

Unless otherwise stated in the Contract, the Contract Price covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper planning, design, execution and completion of the Works and the remedying of any defects.

4.12

Unforeseeable Difficulties

Except as otherwise stated in the Contract:

- (a) the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works;
- (b) by signing the Contract, the Contractor accepts total responsibility for having foreseen all difficulties and costs of successfully completing the Works; and
- (c) the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs.

4.13

Rights of Way and Facilities

The Contractor shall bear all costs and charges for special and/or temporary rights-of-way which it may require, including those for access to the Site. The Contractor shall also obtain, at its risk and cost, any additional facilities outside the Site which it may require for the purposes of the Works.

4.14

Avoidance of

Interference

The Contractor shall not interfere unnecessarily or improperly with:

- (a) the convenience of the public, or
- (b) the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others.

The Contractor shall indemnify and hold the Employer harmless against and from damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

The Contractor shall maintain a safe environment for patients, personnel and public around, if any.

The Contractor shall ensure that its employees do not leave the Site at any time without the permission of the Employer's Representative.

The Contractor shall ensure that the vehicles, machines and equipments, which it uses, are safe and do not cause any harm to patients, students, personnel or public around, if any.

All equipment shall operate under all conditions of load without any sound or vibration, which is objectionable and beyond the limits specified by the relevant laws. In case of rotating machinery sound or vibration noticeable outside the room in which it is installed or annoyingly noticeable inside its own room shall be considered objectionable. The Contractor at its own expenses shall correct such conditions.

Existing roads and other public roads may be used by the Contractor at his risk and cost to carry out construction activities, with prior approval of the competent authority. The Contractor's heavy construction traffic or tracked equipment shall not travel on any public road or bridge, unless the Contractor has made arrangements with the authority concerned and has obtained the approval of the Employer's Representative to such arrangements. The Contractor shall include in his price the cost of strengthening any such public road or bridge if he considers it would be necessary. The Contractor shall repair any damage to the road or bear the cost thereof due to movement of contractor's plants and equipment, vehicles etc. to the specifications and satisfaction of road authorities as well as of Employer's Representative.

The Contractor shall plan transportation of construction materials to work site in accordance with traffic regulations enforced by local traffic authorities from time to time and in such a way that road accidents are avoided and minimum inconvenience is caused.

No claim whatsoever shall be entertained on this account. The transportation of certain equipments and materials and launching may not be possible during day and may have to be carried out within time schedule specified by traffic police.

The Contractor must note that the Works at most of the sites have to be executed inside the premises of a working hospital. Hence no part of its works shall interfere or damage

or cause harm to the existing activities of the neighbouring institute.

The Contractor shall ensure that the noise levels are not high and do not disturb the patients inside the hospital and academic activities.

Proper barricading shall be provided to ensure the safety of works and public.

4.15

Access Route

The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

Except as otherwise stated in these Conditions:

- (a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- (b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
- (c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route,
- (d) the Employer does not guarantee the suitability or availability of particular access routes, and
- (e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

4.16

Transport of Goods and Products

Unless otherwise stated:

- (a) the Contractor shall give the Employer not less than 21 days' notice of the date on which any Plant or a major item of other Goods or Products will be delivered to the Site;
- (b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and Products and other things required for the Works;
- (c) the Contractor shall be responsible for making all transport arrangements and for payment of freight and insurance costs for the shipment and delivery of Goods and Products and other things required for the Works and
- (d) the Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods or Products, and shall negotiate and pay all claims

arising from their transport.

4.17

Inspection of Goods and Products

All Goods and Products may be subjected to inspection and testing by the Employer or its designated representatives at all times and places including the period of manufacture and in any event prior to final acceptance by the Employer.

Neither the carrying out of any inspection of the Goods nor any failure to undertake any such inspections shall relieve the Contractor of any of their warranties or the performance of any obligations under the Contract.

For such Goods or Products as may be specified by the Employer from time to time, the Contractor has to obtain prior approval from the Employer's Representative for selection of any particular Make/Brand or any particular category/subcategory of such Make/Brand. If any Make/Brand or any category/ sub-category thereof is not available in the market, the Employer's Representative can add or substitute Make/Brand or any particular category/sub-category of such Make/Brand apart from that in the list at any stage during progress of the Works, but only upon due application in this respect from the end of Contractor corroborated by necessary documents. The decision in this regard taken by the Employer will be final and binding.

For Goods or Products supplied from within India:

- a) For Goods or Products supplied from within India, the Employer retains the right to perform pre-shipment inspection at the manufacturer's premises, if necessary or any place where the Goods or Products have been commissioned and are currently in use and an independent quality control laboratory testing at its own cost.
- b) The Employer will retain the right to perform further inspections and quality testing at any time till the satisfactory installation of Goods or Products, as it deems fit, at its own cost.

Should any inspected or tested Goods or Product fail to conform to the specifications, the Employer shall reject them and the Contractor shall replace the rejected Goods or Product free of cost to the Employer, within a period of 45 (forty-five) days or such other period as may be specified by the Employer, of intimating such rejection.

4.18.

Acceptance and Rejection of Goods and Products

Under no circumstances shall the Employer be required to accept any Goods or Products that do not conform to the specifications of or requirements of the Contract. The Employer may accept the Goods or Product upon the successful completion of acceptance tests, as may be specified in the Contract or otherwise agreed in writing by the Parties. In no case shall the Employer be obligated to accept any Goods or Product unless and until the Employer has inspected the Goods or Products following commissioning of the Goods or Products in accordance with the requirements of the Contract. The Goods or Products shall be deemed to be accepted only after the

Employer provides written acceptance.

Provided that, upon supply and installation of the Goods comprising the Works, the right of such Goods shall vest on the Employer and the Contractor will be the custodian of all such Goods till installation, commissioning and handing over to the Employer. The Contractor shall also execute notarised Indemnity Bond as provided in Form - 15 of Section – 4 (Bidding Forms) in favour of the Employer for Goods and Products, warranting the safety and security thereof and that it or its men and agents will not take any steps for removal, defacement, disfiguring or destruction of such Goods or Products or any part thereof. Along with the Indemnity Bond in original, the Contractor shall submit along with the Goods or Products, the following documents: (a) Manufacture Test Certificate (b) Original Invoice of purchase of such Goods or Products (c) Material Receipt Note (signed in triplicate and containing the endorsement of the Employer's Representative, certifying delivery of such Goods or Products at site)

Notwithstanding any other rights of, or remedies available to, the Employer under the Contract, in case any of the Goods or Products are defective or otherwise does not conform to the specifications or other requirements of the Contract, the Employer may, at its sole option, reject or refuse to accept the Goods or Products, and the Contractor agrees promptly to replace such Goods or Products with Goods or Products of equal or better quality.

Provided that commissioning of the Goods or Products within the meaning of this GCC, will mean and shall be deemed to include obtaining necessary No Objection Certificates or clearances or approvals which may be required for operation of such Goods or Products.

4.19.

Consumables relating to Goods

Consumables relating to electro-mechanical equipment (except diesel generator fuel) pertaining to the Goods shall be supplied by the Contractor at its own cost till the expiry of the Defects Liability Period.

4.20

Title

Unless otherwise expressly provided in the Contract, title in and to the Plants, Materials or Products shall pass from the Contractor to the Employer upon delivery of such Plants, Materials and Products and their acceptance by the Employer in accordance with the requirements of the Contract.

4.21

Warranties

Without limitation of any other warranties stated in or arising under the Contract, the Contractor warrants and represents that:

- (a) The Goods or Products including all packaging and packing thereof, conform to the specifications of the Contract, are fit for the purposes for which such Goods or Products are ordinarily used and for the purposes expressly made known in writing by the Employer to the Contractor, and shall be of even quality, free from faults and defects in design, material, manufacture and workmanship under normal use in the conditions prevailing in the country of final destination;
- (b) If the Contractor is not the original manufacturer of the Goods or Products, the

- Contractor shall provide the Employer with the benefit of all manufacturers warranties in addition to any other warranties required to be provided hereunder;
- (c) The Goods or Products are of the quality, quantity and description required by the Contract;
 - (d) The Goods or Products are free from any right of claim by any third-party and unencumbered by any title or other rights, including any liens or security interests and claims of infringement of any intellectual property rights, including, but not limited to, patents, copyright and trade secrets.
 - (e) Unless otherwise indicated in the Technical Specifications, this warranty shall remain valid for 3 (three) years after the Goods or Products have been commissioned at the final destination indicated in the Contract subject to issue of certificate regarding date of commissioning issued by the Employer.
 - (f) During the warranty, free comprehensive annual maintenance and repairs services including testing and calibration, labour and spares shall be provided by the Contractor during the period of warranty. If necessary, the Contractor shall engage qualified person to carry out maintenance, repair etc.
 - (g) If the Contractor, having been notified, fails to remedy the defect(s) within the stipulated period, the Employer may proceed to take such remedial action as may be necessary, at the Contractor's risk and expense and without prejudice to any other rights which the Employer may have against the Contractor under the Contract.

The Contractor shall visit each installation site as recommended in the manufacturer's technical/ service/ operational manual, but at least once in three months during the warranty period for preventive maintenance.

The Goods or Products shall be new and unused and remanufactured/ reconditioned/ demo Goods or Products will not be acceptable and undertaking of the manufacturer to this effect shall be submitted by the Contractor to the Employer. The Contractor shall remain responsive to the needs of the Employer for any services that may be required in connection with any of the Contractors warranties under the Contract. During any period in which the Contractors warranties are effective, upon notice by the Employer that the Goods or Products do not conform to the requirements of the Contract, the Contractor shall replace the defective Goods or Products with Goods or Products of the same or better quality or fully reimburse the Employer for the purchase price paid for the defective Goods or Products; and if having been notified by any means, the Contractor fails to replace the defective Goods or Products within 30 days or such other period as may be specified by the Employer. The Employer may proceed to take such remedial action as may be necessary, at the Contractors risk and expense and without prejudice to any other rights which the Employer may have against the Contractor under the Contract.

4.22

Comprehensive

Maintenance

Contract

(Including Spare parts) Deleted

4.23

Contractor's Equipment The Contractor shall be responsible for all Contractor's Equipment. When brought on to

the Site, Contractor's Equipment shall be deemed to be exclusively intended for the execution of the Works.

For any imported Contractor's Equipment or part thereof offered by the Contractor, it will have to make its own arrangements for import formalities and procurement of equipment without involving the Employer in any way for any clearance certificates /licenses /assistance.

The Employer may, at its sole discretion, assist (but is not obligated to) the Contractor, where required, in obtaining clearance through the Customs for Constructional Plant, Materials and other things required for the Works.

The Contractor shall obtain all permits / licenses and pay for any and all fees required for the inspection, approval and commissioning of their installation.

4.24

Protection of the Environment

The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of its operations.

The Contractor shall maintain ecological balance by preventing deforestation, water pollution and defacing of natural landscape. The Contractor shall so conduct its construction operations as to prevent any avoidable destruction, scarring or defacing of natural surrounding in the vicinity of work. In respect of ecological balance, the Contractor shall observe the following instructions for which no extra payments will be made.

(a) Where destruction, scarring, damage or defacing may occur as a result of operations relating to Permanent or Temporary Works, the same shall be repaired, replanted or otherwise corrected at Contractor's expense. All work areas shall be smoothened and graded in a manner to conform to natural appearance of the landscape as directed by the Employer's Representative.

(b) All trees and shrubbery, which are not specifically required to be cleared or removed for construction purposes, shall be preserved and shall be protected from any damage that may be caused by Contractor's construction operations and equipment or by their Employees/Workers. The removal of trees or shrubs will be permitted only after prior approval of the Employer's Representative. Special care shall be exercised where trees or shrubs are exposed to injuries by construction equipment, blasting, excavating, dumping, chemical damage or other operation and the Contractor shall adequately protect such trees by use of protective barriers or other methods approved by the Employer's Representative. Trees shall not be used for anchorage. The Contractor shall be responsible for injuries to trees and shrubs caused by his operations and Employees/Workers. The terms "injury" shall include, without limitation, bruising, scarring, tearing and breaking of roots, trunks or branches. All injured trees and shrubs shall be restored as nearly practicable, without delay, to their original condition at Contractor's expense.

(c) Where trees have to be necessarily cut for progressing temporary or permanent works, the Contractor shall arrange for compensatory afforestation as may be required by Environmental Rules and Regulations.

(d) In the conduct of construction activities and operation of equipments, the Contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent and otherwise minimize air/ noise pollution.

(e) Excessive emission of dust into the atmosphere will not be permitted during manufacture, handling and storage of concrete aggregates/fly ash/ earth/building materials and the Contractor shall use such methods and equipment as are necessary for collection and disposal or prevention of dust during these operations. The Contractor's method of storing and handling cement shall also include means of eliminating atmospheric discharge of dust. Equipment and vehicles that give objectionable emission of exhaust gases shall not be operated. Burning of materials resulting from cleaning of trees branches, combustible construction materials and rubbish may be permitted only when atmospheric conditions for burning are considered favourable.

(f) Special care must be exercised in ensuring that the labour housed in labour camp within the work site area do not indulge in any activity like drinking alcohol, taking drugs, etc, and other activities that may affect the ecological balance such as cutting of shrubs for fuel, creating open air nuisance etc.

The Contractor shall not cut or destroy any tree in the campus to the maximum extent possible. In case any tree is to be cut he shall obtain prior permission from the competent authority under the relevant laws and shall plant equal number of saplings or adhere to the requirements of the prevailing Environmental laws / terms of the permission, whichever is more stringent. The Employer may assist the Contractor in obtaining such permission, including signing necessary documents. The Contractor shall use all means to minimize the effluents from its construction work and transportation activity or any other activity in the course of the execution of the Works.

The Contractor shall take necessary steps for installation of grid connected roof-top solar photovoltaic systems of 50 KW capacity as per "Alo Shree" programme of the Government of West Bengal, in all the buildings forming part of the Project, to make the Project self-sustaining in utilization of power.

The Contractor shall also make necessary provisions for rain water harvesting in each Project site, set up Water Treatment Plant and Sewerage Treatment Plant as specified under Section – 5 (Employer's Requirements) and ensure that the buildings constructed do fall under the category of Green buildings as per the applicable rules in the State of West Bengal and that the buildings are energy efficient as far as possible.

4.25

Electricity, Water and Gas

The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services it may require.

4.26

Employer's Equipment

The Employer shall not supply any material, tools, plant, machinery or equipment. The Contractor has to arrange all tools, plant, equipment as well as construction materials required for the work.

4.27

Progress Report

Unless otherwise stated, fortnightly progress reports shall be prepared by the Contractor and submitted to the Employer in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted fortnightly thereafter, each within 7 days after the last day of the period to which it relates.

Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

Each report shall include:

- (a) charts and detailed descriptions of progress, including each stage of design, Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection, testing, commissioning and trial operation;
- (b) photographs and videographs showing the status of manufacture and of progress on the Site;
- (c) for the manufacture of each main item of Plants and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of;
 - (i) commencement of manufacture,
 - (ii) Contractor's inspections,
 - (iii) tests,
 - (iv) shipment and arrival at the Site, and
 - (v) installation
- (d) the details described in Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment];
- (e) copies of quality assurance documents, test results and certificates of Materials;
- (f) list of Variations, notices given under Sub-Clause 2.4 [Employer's Claims] and notices given under Sub-Clause 20.1 [Contractor's claims];
- (g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and
- (h) comparisons of actual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

4.28

Security of the Site

- (a) the Contractor shall be responsible for keeping unauthorised persons off the Site, and
- (b) authorised persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by (or on behalf of) the Employer, as authorised personnel of the Employer's other contractors on the Site.

4.29

Contractor's Operations

on Site

The Contractor shall confine its operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Employer as working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.

During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction, and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required. All surface and sub-soil drains at the site shall be maintained in a clean, sound and satisfactory state of performance.

Upon the issue of the Taking-Over Certificate for the Works, the Contractor shall clear away and remove all Contractor's Equipments, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfill obligations under the Contract.

4.30

Watching and Lighting

The Contractor shall in connection with the Works, provide and maintain at his own cost all lights, guards, fencing and watching when and where necessary or as required by the Employer's Representative or by any duly constituted authority, for the protection of the Works, or for the safety and convenience of the public or others.

4.31

Way leaves etc.

The Contractor shall bear all costs and charges for special or temporary way leaves required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional accommodation outside the Site required by him for the purposes of the Works.

4.32

Office for the

Employer

The Contractor will provide free of cost furnished accommodation for the Employer's Representative and its staff, at the site of work, in terms of Section- 5 (Employer's Requirements).

4.33

Fossils, Discoveries

Items of Value

All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the

Employer, who shall issue instructions for dealing with it and shall take step in accordance with law upon intimating the competent authority. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.5 [Extension of Time for Completion], and after receiving this further notice, the Employer shall proceed in accordance with Sub- Clause 3.5 [Determinations] to agree or determine these matters.

The Contractor must note that the Project may involve some items of demolition. If during such works, the Contractor finds any items of salvage value, which can be sold, it shall indicate the same in the fortnightly progress report submitted to the Employer and sell it off only after the approval from the Employer. The Contract shall be solely entitled to the sale proceeds of such items of salvage value and/ or debris accumulated during demolition and/ or construction works in the Site and neither the Employer nor any Government instrumentality can lay its claim to such sale proceeds.

4.34 Production of Vouchers etc by the Contractor

The Contractor shall, whenever required produce or cause to be produced for examination by the Employer's Representative any quotation, invoice, cost or other account, book of accounts, voucher, receipt, letter, memorandum, paper of writing or any copy of or extract from any such document and also furnish information and returns verified in such manner as may be required in any way relating to the execution of this Contract or relevant for verifying or ascertaining cost of execution of this Contract and the decision of the Employer's Representative on the question of relevancy of any documents, information or return being final and binding on the parties. The Contractor shall similarly produce vouchers etc. if required to prove to the Employer's Representative that the materials supplied by him, are in accordance with the specifications laid down in the Contract.

The obligations imposed by the Employer as above are without prejudice to the obligations of the Contractor under any statute, rules or orders binding on the Contractor.

5

Design

5.1

General Design

Obligations

The Contractor shall be deemed to have scrutinised the Employer's Requirements (including design criteria and calculations, if any). The Contractor shall be responsible for the design of the Works and for the accuracy of such Employer's Requirements (including design criteria and calculations), except as stated below.

The Employer shall not be responsible for any error, inaccuracy or omission of any kind in the Employer's Requirements as originally included in the Contract and shall not be deemed to have given representation of accuracy or completeness of any data or information, except as stated below, Any data or information received by the Contractor, from the Employer or otherwise, shall not relieve the Contractor from his responsibility for the design and execution of the Works.

The Contractor shall submit its structural drawing upto plinth level and concept architectural design as vetted by the institutions recommended by the Employer and make a Microsoft Power Point presentation to the Employer or its designated representatives or the approval authority within 35 days from the date of issue of Letter of Acceptance / Notification of Award.

If the Employer's Representative has reasonable cause for being dissatisfied with the Contractor's drawings or documents the Employer shall, within a period of 14 days from the date of submission, require the Contractor in writing to make such amendments thereto as the Employer may consider necessary. The Contractor shall make and be bound by such amendments at no additional expense to the Employer and shall resubmit the amended drawings or documents for the Employer's approval for the execution of Works within the next 7 days. The Employer shall then intimate the Contractor its in-principle approval to such amended drawings or documents within the next 7 days. The Employer, at its sole discretion may approve such design, drawing or documents in a phased manner so as to expedite the Works.

No extension of time or extra payment shall be given to the Contractor to comply with the above.

Should it be found at any time after notification of consent that the relevant drawings or documents do not comply with the Contract or do not agree with drawings or documents in relation to which the Employer has previously notified its consent, the Contractor shall, at its own expense, make such alterations or additions as, in the opinion of the Employer, are necessary to remedy such non-compliance or non-agreement and shall submit all such varied or amended drawings or documents for the consent of the Employer.

In no circumstances, the Contractor shall commence the construction work beyond 75 days from the date of Notification of Award / Letter of Acceptance.

5.2

Contractor's Documents The Contractor's Documents shall comprise the technical documents specified in the Employer's Requirements, documents required to satisfy all regulatory approvals, and the documents described in Sub-Clause 5.6 [As-Built Documents] and Sub-Clause 5.7 [Operations Maintenance and Service Manuals] and shall include the following :

- (a) Detailed drawings including the structural working drawings, architectural working drawings, electrical working drawing including air-conditioning, fire fighting, drainage, pavement drawing, sanitary and water supply, bio-medical waste disposal etc.
- (b) Consolidated statement in a tabular form for the Standards and Specifications being followed in the design and for materials to be used including that for flooring, internal and external finishes
- (c) List of suppliers from whom the materials are proposed to be procured
- (d) Tests required to be carried out in the Contract
- (e) Outline safety plan for the site and an outline quality plan

Unless otherwise stated in the Employer's Requirements, the Contractor's Documents shall be written in English only.

The Contractor shall include in his design, in additions to space and operational needs, considerations of provisions for infection control, life safety, and protection of affected person during construction and the progress of the Project as detailed out in Employer's Requirements.

The Contractor shall also include in his design provision of landscaping, parking and setting things back into the shape as the original as said in Employer's Requirements.

The Contractor shall satisfy himself that the Design Data, in the case of submissions up to and including the proposed Design, comply with the Employer's Requirements and is in accordance with, and incorporates the Contractor's Technical Proposals.

In the case of submissions subsequent to the proposed Design, the Design Data shall be in accordance with Employer's Requirements and the accepted Design.

The Contractor shall prepare all Contractor's Documents, and shall also prepare any other documents necessary to instruct the Contractor's Personnel.

If the Employer's Requirements describe the Contractor's Documents which are to be submitted to the Employer for review, they shall be submitted accordingly, together with a notice as described below. In the following provisions of this Sub-Clause, (i) "review period" means the period required by the Employer for review, and (ii) "Contractor's Documents" exclude any documents which a required to be submitted for review.

Unless otherwise stated in the Employer's Requirements, each review period shall not exceed 21 days, calculated from the date on which the Employer receives a Contractor's Document and the Contractor's notice. This notice shall state that the Contractor's Document is considered ready, both for review in accordance with this Sub-Clause and for use. The notice shall also state that the Contractor's Document complies with the Contract, or the extent to which it does not comply.

The Employer may, within the review period, give notice to the Contractor that a Contractor's Document fails (to the extent stated) to comply with the Contract. If a Contractor's Document so fails to comply, it shall be rectified, resubmitted and reviewed in accordance with this Sub-Clause, at the Contractor's cost.

For each part of the Works, and except to the extent that the Parties otherwise agree:

- (a) execution of such part of the Works shall not commence prior to the expiry of the review periods for all the Contractor's Documents which are relevant to its design and execution;
- (b) execution of such part of the Works shall be in accordance with these Contractor's Documents, as submitted for review; and
- (c) if the Contractor wishes to modify any design or document which has previously been submitted for review, the Contractor shall immediately give notice to the Employer. Thereafter, the Contractor shall submit revised documents to the Employer in accordance with the above procedure.

Any such agreement (under the preceding paragraph) or any review (under this Sub-Clause or otherwise) shall not relieve the Contractor from any obligation or responsibility.

5.3

Contractor's Undertaking The Contractor undertakes that the design, the Contractor's Documents, the execution and the completed Works will be in accordance with:

- (a) the Laws in the Country, and
- (b) the documents forming the Contract, as altered or modified by Variations.

5.4

Technical Standards and Regulations

The design, the Contractor's Documents, the execution and the completed Works shall comply with the Country's technical standards, building, construction and environmental laws, Laws applicable to the product being produced from the Works, and other standards specified in the Employer's Requirements, applicable to the Works, or defined by the applicable Laws.

All these Laws shall, in respect of the Works and each Section, be those prevailing when the Works or Section are taken over by the Employer under Clause 10 [Employer's Taking Over].

If changed or new applicable standards come into force in the Country after the Letter of Acceptance/ Notification of Award, the Contractor shall give notice to the Employer and (if appropriate) submit proposals for compliance. In the event that:

- (a) the Employer determines that compliance is required, and
- (b) the proposals for compliance constitute a variation,

then the Employer shall initiate a Variation in accordance with Clause 13 [Variations and Adjustments].

In the case of any class of work for which there is no such specification as referred to in Sub-Clause 5.2 above, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case, there is no such specification in Bureau of Indian Standards, the work shall be carried out as per manufacturer's specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Employer's Representative.

5.5

Training

The Contractor shall carry out the training of Employer's Personnel in the operation and maintenance of the Works to the necessary staffs and/or employees of the Employer, as may be indicated by the Employer in writing within 30 days of installation of the equipments. The Contractor shall also provide relevant manual of each of the equipments. If the Contract specifies training which is to be carried out before taking-over, the Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until this training has been completed. During each preventive maintenance service, training to be imparted to the Employer's staff, as may be specified by the Employer.

5.6

As-Built Documents

The Contractor shall prepare, and keep up-to-date, a complete set of "as-built" records of the execution of the Works, showing the exact as-built locations, sizes and details of the work as executed. These records shall be kept on the Site and shall be used exclusively for the purposes of this Sub-Clause. Six copies shall be supplied to the Employer prior to the commencement of the Tests on Completion.

In addition, the Contractor shall supply to the Employer as-built drawings of the Works, showing all Works as executed, and submit them to the Employer for review under Sub-Clause 5.2 [Contractor's Documents]. The Contractor shall obtain the consent of the Employer as to their size, the referencing system, and other relevant details.

Prior to the issue of any Taking-Over Certificate, the Contractor shall supply to the Employer the specified numbers and types of copies of the relevant as-built drawings, in accordance with the Employer's Requirements. The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until the Employer has received these documents.

5.7

Operation, Maintenance and Service

Manuals

Prior to commencement of the Tests on Completion, the Contractor shall supply to the Employer provisional operation, maintenance and service manuals (both in physical and electronic copies) in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair the Plant.

The Works shall not be considered to be completed for the purposes of Taking Over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until the Employer has received final operation and maintenance manuals in such detail, and any other manuals specified in the Employer's Requirements for these purposes.

5.8

Design Error

If errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the Contractor's Documents, they and the Works shall be corrected at the Contractor's cost, notwithstanding any consent or approval under this Clause.

6

Staff and Labour

6.1

Engagement of Staff and Labour

The Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport. Agency should engage labours who are registered under Mahatma Gandhi NREGS through Job Cards in reference to The Kolkata Gazette memo no. 1140 PRD-33011/1/2024-MGNREGA SEC, dated – 07.03.2024.

6.2

Rates of Wages and

Conditions of Labour The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work; is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor. The Contractor must familiarize himself and comply with relevant labour laws like Minimum Wages Act, 1948 and Contract Labour (Regulation and Abolition) Act, 1970, etc. No extra payment whatsoever shall be made to the Contractor to comply with the rules and laws.

6.3

**Persons in the Service
of Others**

The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.

6.4

Labour Laws

The Contractor shall comply with all the relevant labour laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.

The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

6.5

Working Hours

No work shall be carried out on the Site on locally recognised days of rest, or outside normal working hours, unless:

- (a) otherwise stated in the Contract,
- (b) the Employer gives consent, or
- (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Employer.

Where work is permitted outside normal working hours by the Employer's Representative to facilitate the Contractor's operations, temporary lighting equipment as per approved layout shall be provided, installed, maintained for the duration of the contract and removed after completion of work by and at the expense of the Contractor.

No extra payment will be made to the Contractor for the provision of temporary lighting and fire prevention measures.

6.6

**Facilities for Staff and
Labour**

The Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Employer's Requirements. The Contractor at his cost shall maintain all accommodation in a clean and sanitary condition.

The Contractor shall not permit any of the Contractor's Personnel to maintain any

temporary or permanent living quarters within the structures forming part of the Permanent Works.

The Contractor shall prepare and submit compliance reports of adherence to labour laws as and when desired by the Employer's Representative.

6.7

Health and Safety

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

The Contractor shall send, to the Employer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Employer may reasonably require.

6.8

Contractor's

Superintendence

Throughout the design and execution of the Works, and as long thereafter as is necessary to fulfill the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [Law and Language]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

6.9

Contractor's Personnel

The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Employer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

6.10

Records of Contractor's Personnel and Equipment

The Contractor shall submit, to the Employer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Employer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

6.11

Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

6.12

Removal from Site of Undesirable Person

The Employer's Representative may require the Contractor to dismiss or remove from the site of the work any person or persons in the Contractor's employ upon the work who may be incompetent or misconduct himself and the Contractor shall forthwith comply with such requirements.

6.13

Unauthorised Occupation of Buildings during Construction

It shall be the responsibility of the Contractor to see that the buildings under construction is not occupied by anybody unauthorisedly during construction, and is handed over to the Employer's Representative with vacant possession of complete buildings. If such buildings though completed is occupied illegally, then the Employer's Representative shall have the option to refuse to accept the said buildings/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay a levy upto 5% of tendered value of work may be imposed by the Employer's Representative whose decision shall be final both with regard to the justification and quantum and be binding on the Contractor.

However, the Employer's Representative, through a notice, may require the Contractor to remove the illegal occupation any time on or before construction and delivery.

Nothing in Clause 6.13 as stated hereinabove, shall be deemed to restrict or limit the right of the Employer to forcibly evict the illegal occupants by taking recourse of proceedings as per the applicable Laws and initiation of proceedings for evicting such unauthorised occupants shall under no circumstances take away any of the rights of the Employer, as provided in Clause 6.13 above.

7.1

Manner of Execution The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:

- (a) in the manner (if any) specified in the Contract,
- (b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and;
- (c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

7.2

Samples The Contractor shall submit samples to the Employer, for review in accordance with the procedures for Contractor's Documents described in Sub-Clause 5.2 [Contractor's Documents], as specified in the Contract and at the Contractor's cost. Each sample shall be labelled as to origin and intended use in the Works.

7.3

Inspection

The Employer's Personnel shall at all reasonable times:

- (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and:
- (b) during production, manufacture and construction (at the Site and, to the extent specified in the Contract, elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plants and production and manufacture of Materials.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

In respect of the work which Employer's Personnel are entitled to examine, inspect, measure and/or test, the Contractor shall give notice to the Employer whenever any such work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Employer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Employer does not require to do so. If the Contractor fails to give the notice, it shall, if and when required by the Employer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

7.4

Testing

This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).

The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the relevant tests as per IS Code efficiently. The Contractor shall agree, with the Employer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

The Employer may, under Clause 13 [Variations and Adjustments], vary the location or

details of specified tests, or instruct the Contractor to carry out additional tests to show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.

The Employer shall give the Contractor not less than 24 hours' notice of the Employer's intention to attend the tests. If the Employer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Employer, and the tests shall then be deemed to have been made in the Employer's presence.

If the Contractor suffers delay and/or incurs Cost from complying with these instructions or as a result of a delay for which the Employer is responsible, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.5 [Extension of Time for Completion].

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

The Contractor shall promptly forward to the Employer duly certified reports of the tests. When the specified tests have been passed, the Employer shall endorse the Contractor's test certificate, or issue a certificate to the Contractor to that effect. If the Employer has not attended the tests, it shall be deemed to have accepted the readings as accurate.

7.5

Rejection

If, as a result of an examination, inspection, measurement or testing, any Plants, Materials, Goods design or workmanship is found to be defective or otherwise not in accordance with the Contract, the Employer may reject the Plants, Materials, Goods, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.

If the Employer requires this Plant, Materials, Goods, design or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.4 [Employer's Claims] pay these costs to the Employer.

7.6

Remedial Work

Notwithstanding any previous test or certification, the Employer may instruct the Contractor to:

- (a) remove from the Site and replace any Plant or Materials or Goods which is not in accordance with the Contract,
- (b) remove and re-execute any other work which is not in accordance with the Contract, and

- (c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.

If the Contractor fails to comply with any such instruction, which; complies with Sub-Clause 3.4'[Instructions], the Employer shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.4 [Employer's Claims] pay to the Employer all costs arising from this failure.

7.7

Ownership of Plant and Materials

Each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, become the property of the Employer, free from liens and other encumbrances, when it is delivered to the Site.

7.8

Royalties

Unless otherwise stated in the Employer's Requirements, the Contractor shall pay all royalties, rents and other payments for:

- (a) natural Materials obtained from outside the site, and
- (b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.

8

Commencement, Delays and Suspension

8.1

Commencement of Works

- (a) The date of commencement of the Works shall be the date of the handing over possession of the Site.
- (b) The Contractor shall however commence the design and execution of the Works as soon as is reasonably practicable after the date of Letter of Acceptance / Notification of Award and shall then proceed with the Works with due expedition and without delay.

However, under no circumstances, commencement of Works shall be delayed on the guise of any site clearance or relocation of services.

8.2

Time for Completion

Time for Completion of the entire project is 24 months.

The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:

- (a) achieving the passing of the Tests on Completion, and
- (b) completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of Taking Over under Sub-Clause 10.1 [Taking Over of the Works and Sections].

8.3

Programme

Activities in the initial works program would be arranged as per the Works Break Down Structure (WBS) of the work developed by the Contractor in consultation with and approved by the Employer's Representative.

As soon as possible after the Contract is concluded the Contractor shall submit a Net Work (PERT/CPM) Time and Progress Chart for each activity and milestone and get it approved by the Employer's Representative. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the Works. It shall indicate sequence of various activities of the phased requirement of Plants and Equipments to be deployed by the Contractor, the forecast of the dates of commencement and completion of various trades of sections of the Works and may be amended as necessary by agreement between the Employer's Representative and the Contractor within the limitations of time imposed in the Contract documents and further to ensure good progress during the execution of the Works, the Contractor shall in all cases in which the time allowed for any Works, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per milestones approved by the Employer.

After the work has started, the Contractor shall deliver in every fortnight to the Employer an update of the construction programme showing changes, if any, in planning or progress scheduling and reflecting the progress of all the activities of the network and the project status as at the end of previous month.

If the Contractor falls behind the approved construction programme by more than one month, he shall, within fourteen days of the date of such information, submit for approval, a revision of the construction programme showing the proposed measures, including augmentation of plant, labour and material resources to complete the works on time.

Whenever the Contractor proposes to change the construction program he shall immediately advise the Employer's Representative in writing and, if the Employer's Representative considers the change a major one, the Contractor shall submit a revised program for approval.

Detailed Network Plan (Works Programme)

The Employer's monitoring team will have access to all the data/information of the Contractor, required for the assessment of the progress and monitoring. If necessary, the monitoring team will visit the Vendor/Contractor's works in order to assess the status of critical activities.

The Employer will hold periodic Project Status Review Meetings. The Contractor shall depute his Engineers/Managers at appropriate level as decided by the Employer to attend the Review Meetings.

The Contractor shall provide additional inputs whenever there is a possible slippage in the completion schedule. Such additional inputs may require supplementing of equipment, personnel, work in excess of the normal work per day, and work in excess of the normal work per week or other resources. Provisions under Sub-Clause 8.7 will be applicable in cases of delays due to the Contractor.

8.4 Execution of Work

8.4.1 Mobilisation

Period of Mobilisation shall be 14 days counting from the stipulated date of start of work as mentioned in Letter of Acceptance/ Notification of Award by the Employer's Representative. The Contractor shall carry out following activities within this period stated. It shall submit to the Employer's Representative within the same 14 day period, the stipulated date of start, the proposed layout of locating offices, stores, godowns, yards, water, electric network etc. for approval of the Employer's Representative.

Minimum following activities shall be completed within the mobilization period of 14 days or such extended period as approved by the Employer's Representative.

- Site office of the Contractor
- Line out including establishing of grid line levels and its approval from the Employer's Representative.
- Tapping electric and water connections
- One cement godown and steel yard
- Obtaining insurance policies as per the Contract
- Obtaining labour licences, as required
- Obtaining approval of local authorities and complying with any statutory requirements prior to actual start of Work.
- Establishing water and electric network within site.
- Submitting construction programme as detailed in Sub-Clause 8.3 and its approval by the Employer's Representative.

8.4.2 Setting out of Works

The Contractor shall be responsible for the true and proper setting-out of the Works in relating to original points, lines and levels of reference given by the Employer's Representative in writing and for the correctness, subject as above mentioned, of the position, levels, dimension and alignment of all parts of the Works and for the provision of all necessary instruments, appliances and labour in connection

therewith. If, at any time during the progress of the Works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required so to do by the Employer's Representative shall, at his own cost, rectify such error to the satisfaction of the Employer's Representative. The checking of any setting-out or of any line or level by the Employer's Representative shall not in any way relieve the Contractor of his responsibility for the correctness thereof and the Contractor shall carefully protect and preserve all bench-marks, sight-rails, pegs and other things used in setting-out the works. The Contractor shall use latest equipments like Total Station/Theodolite and Auto level etc for setting out the Works.

8.4.3 Deleted.

8.4.4 Temporary Works

8.4.4.1 The Contractor is entirely responsible for the design, construction, maintenance and removal of all Temporary Works employed in carrying out the Contract. Within a reasonable time (and in any case not less than 15 days) before it intends to commence construction of any temporary works, the Contractor shall submit full particulars including drawings of the same, for the approval of the Employer's Representative. The Employer's Representative's approval will in no way relieve the Contractor of its responsibility for the safety of the Works, operators, adjoining property, structures or services and compliance with appropriate regulations and codes of practice. Documents for temporary works supporting adjoining buildings, property and public utilities and roads shall also be submitted to the appropriate authority for their approval if requested /required.

8.4.4.2 The Temporary Works shall be designed and constructed in such a manner as to enable the permanent structures to be built around them without detriment to their effectiveness and due allowance will be deemed to have been made for all necessary adjustments thereto to enable the Works to proceed.

8.4.4.3 Timber shoring, boards, struts or similar items shall not be left in position upon completion of the Works without the written consent of the Employer's Representative.

8.4.4.4 All services or utilities on or adjoining the site which are required to be maintained operational shall be protected from movement, subsidence or damage from any cause whatsoever by adequate temporary props, struts, shores and protective screens to the approval of the Employer's Representative and the agent of the service or utility.

8.4.4.5 The Contractor shall make safe and reinstate all areas affected by temporary works.

8.4.4.6 The Contractor shall use properly designed and manufactured steel staging platforms for carrying out work above 3.0 m height. All required staging for supporting, centering, shuttering of beams, slab, masonry work, etc. shall be carried out strictly as per the Supplier's instructions or approved arrangement. It is to be noted that designing of such work shall be carried out by the Contractor and shall be submitted for approval of the Employer's Representative. No work above 3.0 m shall be permitted

without compliance of this condition.

8.4.5 Plant, Temporary Works & Materials - Exclusive Use

All constructional plants, temporary works and materials provided by the Contractor shall, when brought on to the site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the site to another, without the consent, in writing, of the Employer's Representative, which shall not be unreasonably withheld.

8.4.6 Use of Site only for Works

The Contractor shall not use any portion of the Site for purpose not connected with the Works without the prior written approval of the Employer's Representative. He shall maintain permanent and Site access roads free of spillage and shall not interfere with the flow of traffic. Also same shall apply to terraces and other developed areas.

8.4.7 Name Board at Site

The Contractor shall prepare and display name board at site as per design approved by the Employer's Representative. It shall have

- Name of Works
- Name of Employer
- Name of Consulting Architect (if any)
- Name of Project Management Consultant (if any)
- Name of Contractor

8.4.8 Site Drainage/Cleaning/Nuisance

8.4.8.1 All water which may accumulate on the Site during the progress of the works or in trenches and excavation, shall be removed from the site to the satisfaction of the Employer's Representative at the Contractor's cost.

8.4.8.2 The Site shall be maintained free from rubbish. Proper stacking of scaffolding materials, shuttering material, bricks/brick bats, steel pieces, etc. needed for work on day to day basis shall be organized. Heaps in unplanned manner and disorderly fashion shall not be permitted. The Employer's Representative's decision in this matter shall be final.

8.4.8.3 The Contractor shall not, at any time, cause or permit any nuisance on the Site or do anything which shall cause unnecessary disturbance or inconvenience to the Employer, tenants or occupants of other properties near the site and to the public in general.

8.4.9 Disposal of Rubbish

(i) The Contractor shall cart away from Site and deposit where directed by the Employer's Representative all refuse, etc. arising from the Works both as it accumulates and at completion of the Works at the direction of the Employer's Representative.

(ii) It is the responsibility of the Contractor to obtain a certificate from the local authorities concerned to the effect that all rubbish arising out of Contractor's activities at the construction site or any other offsite activities borrow pits and/or disposal area (s) has been properly disposed off.

8.4.10 Shift Working

The Contractor shall be allowed to work in three shifts with prior approval of the Employer's Representative.

8.4.11 Urgent Repairs

If, by reason of any accident or failure, or other event occurring to, in, or in connection with the Works or any part thereof, either during the execution of the Works or during the period of Maintenance, any remedial or other work or repair shall, in the opinion of the Employer's Representative, be urgently necessary for the safety of the Works and the Contractor is unable or unwilling at once to do such work or repair, the Employer may employ and pay other persons to carry out such work or repair as the Employer's Representative may consider necessary. If the Work or repair so done by the Employer is work which, in the opinion of the Employer's Representative, the Contractor was liable to do at his own expense under the Contract, all expenses properly incurred by the Employer in so doing shall be recoverable from the Contractor by the Employer or may be deducted by the Employer from any moneys due or which may become due to the Contractor. Provided always that the Employer's Representative, shall, as soon after the occurrence of any such emergency as may be reasonably practicable, notify the Contractor thereof in writing.

8.4.12 Contractor to search

The Contractor shall, if required by the Employer's Representative in writing, search under the directions of the Employer's Representative for the cause of any defect, imperfection or fault appearing during the progress of the Works or within the Period of Maintenance (Defect Liability Period). If such defect, imperfection or fault shall be one for which the Contractor is liable, the cost of the work carried out in searching as aforesaid shall be borne by the Contractor and it shall in such case repair, rectify and make good such defect, imperfection or fault at its own expense in accordance with the provisions of Clause 17 hereof.

8.5

Extension of Time for Completion

The Contractor at the discretion of the Employer may be granted subject to Sub-Clause

20.1 [Contractor's Claims] an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking Over of the Works and Sections] is or will be delayed by any of the following causes:

- (a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]),
- (b) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

If the Contractor is of the opinion that it should be allowed an extension of the Time for Completion, the Contractor shall give notice to the Employer in accordance with Sub-Clause 20.1 [Contractor's Claims] pointing out the grounds for such extension. Extension of Time shall only be granted by the Employer, if the Employer's find the grounds to be reasonable and acceptable. When determining each extension of time under Sub-Clause 20.1, the Employer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

8.6

Rate of Progress

If, at any time:

- (a) actual progress is too slow to complete within the Time for Completion, and/or
- (b) progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [Programme],

other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Employer may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Employer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.4 [Employer's Claims] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

8.7

Delay Damages

If the Contractor fails to maintain the required progress in terms hereof, or to complete the work and clear the site on or before the Date for Completion or extended date of completion, it shall, without prejudice to any other right or remedy available under the law to the Employer on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below.

This will also apply to items or group of items for which a separate period of

completion has been specified.

Compensation for delay of work @1.50% of tendered value per month of delay to be computed on per day basis.

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the tendered value of work or of the tendered value of the item or group of items of work for which a separate period of completion is originally given.

The penalty shall not relieve the Contractor from his obligation to complete the Works or from any other of its obligations and liabilities under the Contract.

The Contractor shall co-ordinate his program to the extent feasible with the program of other Contractors to be engaged at the Site or in the vicinity of the Site as furnished by the Employer's Representative so that the project can be completed in time as per the overall programme.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other Contract with the Employer. In case, the Contractor does not achieve a particular milestone as approved by the Employer or the rescheduled milestone(s), the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of Extension of Time. Withholding of this amount on failure to achieve a milestone, shall be automatic without any notice to the Contractor. However, if the Contractor catches up with the progress of Work on the subsequent milestone(s), the withheld amount shall be released. In case the Contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.

8.8

Suspension of Work

The Employer may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.

The Employer may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9 and 8.11 shall not apply.

8.9

Consequences of Suspension

If the Contractor suffers delay for complying with the Employer's instructions under Sub-Clause 8.8 [Suspension of Work], and/or from resuming the work, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.5 [Extension of Time for Completion], and

After receiving this notice/the Employer shall proceed in accordance with Sub-Clause

3.5 [Determinations] to agree or determine these matters.

The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [Suspension of Work].

8.10

Compliance with The Contractor is to ensure that full compliance of the norms of MCI in West Bengal / Central Guideline or any such apex statutory authority regulating medical education in India, as applicable on the date of submission of bid .

8.11

Prolonged Suspension If the suspension under Sub-Clause 8.8 [Suspension of Work] has continued for more than 84 days, the Contractor may request the Employer's permission to proceed. If the Employer does not give permission within 28 days after being requested to do so, the Contractor may, by giving notice to the Employer, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

8.12

Resumption of work After the permission or instruction to proceed is given, the Parties shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension.

8.13

Damages for Products Save and except as provided elsewhere in the Conditions, the Contractor shall ensure that at no point of time, any Products are non-functional beyond 7 days of intimation of such non-functionality from the end of the Employer. In case the Products are found to be non-functional beyond a period of 7 days, the following delay damages shall be applicable on per diem basis beyond the period of 7 days:

- (a) Products whose value is below INR 10,000/- : INR 300/- per extra day
- (b) Products whose value is above INR 10,000/- but below INR 1,00,000/- - INR 500/- per extra day
- (c) Products whose value is above INR 1,00,000/- but below INR 10,00,000/- - INR 1,000/- per extra day
- (d) Products whose value is above INR 10,00,000/- - INR 3,000/- per extra day

9

Tests on Completion

9.1

Contractor's Obligations The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4, [Testing] after providing the documents in accordance with Sub-Clause 5.6 [As-Built Documents] including tests prescribed in NBC 2005 & IS and / or instructed by Employer's Representative.

The Contractor shall give to the Employer not less than 21 days' notice of the date after

which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Employer shall instruct.

The Tests on Completion shall be carried out in the following sequence:

- (a) pre-commissioning tests, which shall include the appropriate inspections and ("dry" or "cold") functional tests to demonstrate that each item of Plants or Materials can safely under-take the next stage, ;
- (b) commissioning tests, which shall include the specified operational tests to demonstrate that the Works or Section can be operated safely and as specified, under all available operating conditions; and
- (c) trial operation, which shall demonstrate that the Works or Section perform reliably and in accordance with the Contract.

During trial operation, when the Works are operating under stable conditions, the Contractor shall give notice to the Employer that the Works are ready for any other Tests on Completion, including performance tests to demonstrate whether the Works conform to the criteria specified in the Employer's Requirements and with the Performance Guarantees.

Trial operation shall not constitute a taking-over under Clause 10 [Employer's Taking Over]. Any product produced by the Works during trial operation shall be the property of the Employer.

In considering the results of the Tests on Completion, appropriate allowances shall be made for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed each of the Tests on Completion described in sub-paragraph (a), (b) or (c), the Contractor shall submit a certified report of the results of these Tests to the Employer.

9.2

Delayed Tests

If the Tests on Completion are being unduly delayed by the Contractor, the Employer may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which it shall give notice to the Employer.

If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. These Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

9.3

Retesting

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [Rejection] shall apply, and the Employer or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.

9.4

Failure to Pass Tests on Completion

If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Failure to Pass Tests on Clause 9.3 [Retesting], the Employer shall be entitled to:

- (a) order further repetition of Tests on Completion under Sub-Clause 9.3;
- (b) if the failure deprives the Employer of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Employer shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [Failure to Remedy Defects]; or
- (c) issue a Taking-Over Certificate.

In the event of sub-paragraph (c), the Contractor shall proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to the Employer as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, the Employer may require the reduction to be (i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking-Over Certificate is issued, or (ii) determined and paid under Sub-Clause 2.4 [Employer's Claims] and Sub-Clause 3.5 [Determinations].

10

Employer's Taking Over

10.1

Taking Over of the Works and Sections

Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by the Employer when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.

The Contractor may apply by notice to the Employer for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section. If such Sections comprise of supply, installation, commissioning and testing of any Goods, such taking over by Employer can only take place, once the Contractor obtains necessary certification from the appropriate authorities (as may be necessary), as per applicable laws.

The Employer shall, within 28 days after receiving the Contractor's application:

- (a) issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of

the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or

- (b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

If the Employer fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 28 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

10.2

Taking Over of Parts of the Works due to Default of the Contractor and Recovery of Additional Cost

Parts of the Works (other than Sections) shall not be taken over or used by the Employer, except as may be stated in the Contract or as may be agreed by both Parties.

If Contractor:

- i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Employer's Representative; or
- ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Employer's Representative; or
- iii) Fails to complete the work(s) or items of work with individual dates of completion, on or before the date (s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Employer's Representative

the Employer's Representative on behalf of the Employer, without prejudice to any other right or remedy against the Contractor which have either accrued or accrue thereafter to the Employer, by a notice in writing to take the part work / part incomplete work of any item (s) out of his hands and shall have powers to:

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

In such an event, the Contractor shall be liable for loss / damage suffered by the Employer because of action under this clause and to compensate for this loss or damage, the Employer shall be entitled to recover a sum equivalent to 20% of the value of the part work / part incomplete work so taken away subject to a maximum limit of 10% of the tendered value of the work.

The value of the work taken away shall be calculated for the items and Quantities taken away, at the Contract rates including price variation as applicable on the date when notice in writing for taking away part work, was issued to the Contractor. The Contractor from whom part work is being taken out, shall not be allowed to participate in the tendering process for carrying out such work.

The amount to be recovered from the Contractor as determined above, shall, without prejudice to any other right or remedy available to the Employer as per law or as per agreement, will 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 it shall be liable pay the same within 30 days.

If the Contractor fails to pay the required sum within the aforesaid period of 30 days, the Employer's Representative on behalf of the Employer shall have the right to sell any or all of the Contractor's 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 Employer's Representative, the Contractor shall have no claim to compensation for any loss sustained by it by reasons 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.

10.3

Interference with Tests on Completion

If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Employer is responsible, the Contractor shall carry out the Tests on Completion as soon as practicable.

If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out the Tests on Completion, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.5 [Extension of Time for Completion], and
- (b) payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

11

Defects Liability

11.1

Completion of Outstanding Work

and Remedying Defects In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract (fair wear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable thereafter, the Contractor shall:

- (a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Employer, and
- (b) execute all work required to remedy defects or damage, as may be notified by the Employer on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).

If a defect appears or damage occurs, the Employer shall notify the Contractor accordingly.

11.2

Cost of Remedying Defects

All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:

- (a) the design of the Works,
- (b) Plants, Materials, Goods, Products or workmanship not being in accordance with the Contract,
- (c) improper operation or maintenance which was attributable to matters for which the Contractor is responsible (under Sub-Clauses 5.5 to 5.7 or otherwise), or
- (d) failure by the Contractor to comply with any other obligation.

If and to the extent that such work is attributable to any other cause, the Employer shall give notice to the Contractor accordingly, and Sub-Clause 13.3 [Variation Procedure] shall apply.

11.3

Extension of Defects Notification Period

The Employer shall be entitled subject to Sub-Clause 2.4 [Employer's Claims] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or damage. However, a Defects Notification Period shall under no circumstances be extended, beyond the expiry of the Defects Liability Period.

If delivery and/or erection of Plant and/or Materials was suspended under Sub-Clause 8.8 [Suspension of Work] or Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/or Materials would otherwise have expired.

11.4

Failure to Remedy Defects

If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by (or on behalf of) the Employer, on or by which the defect or damage is

to be remedied. The Contractor shall be given reasonable notice of this date.

If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Employer may (at its option):

- (a) carry out the work itself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.4 [Employer's Claims] pay to the Employer the costs reasonably incurred by the Employer in remedying the defect or damage;
- (b) agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [Determinations]; or
- (c) if the defect or damage deprives the Employer of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contract or otherwise, the Employer shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

11.5

Removal of Defective Work

If the defect or damage cannot be remedied expeditiously on the Site and the Employer gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.

11.6

Further Tests

If the work of remedying of any defect or damage may affect the performance of the Works, the Employer may require the repetition of any of the tests described in the Contract, including Tests on Completion and/or Tests after Completion. The requirement shall be made by notice within 28 days after the defect or damage is remedied.

These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [Cost of Remedying Defects], for the cost of the remedial work.

11.7

Right of Access

Until the Taking-over Certificate has been issued, the Contractor shall have the right of access to all parts of the Works and to records of the operation and performance of the Works, except as may be inconsistent with the Employer's reasonable security restrictions.

11.8

Contractor to Search

The Contractor shall, if required by the Employer, search for the cause of any defect,

under the direction of the Employer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Cost of the search plus reasonable profit shall be agreed or determined in accordance with Sub-Clause 3.5 [Determinations] and shall be added to the Contract Price.

11.9

Performance Certificate Performance of the Contractor's obligations shall not be considered to have been completed until the Employer has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract.

The Employer shall issue the Performance Certificate within 28 days after the expiry of the Defects Liability Periods. If the Employer fails to issue the Performance Certificate accordingly, the Performance Certificate shall be deemed to have been issued on the date 28 days after the date on which it should have been issued, as required by this Sub-Clause.

Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

11.10

Unfulfilled Obligations After the Performance Certificate has been issued, each Party shall remain liable for the fulfillment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.

11.11

Clearance of Site Upon receiving the Performance Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.

If all these items have not been removed within 28 days after the Employer issues the Performance Certificate, the Employer may sell or otherwise dispose of any remaining items. The Employer shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.

Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Employer's costs, the Contractor shall pay the outstanding balance to the Employer

12

Tests after Completion

12.1

Procedure for Tests after Completion

If Tests after Completion are specified in the Contract, this Clause shall apply, unless otherwise stated:

- (a) the Contractor shall provide any other plant, equipment and suitably qualified and experienced staff, as are necessary to carry, out the Tests after Completion efficiently; and

- (b) the Contractor shall carry out the Tests after Completion in the presence of such Employer's and/or Contractor's Personnel as either Party may reasonably request.

the Tests after Completion shall be carried out as soon as is reasonably practicable after the Works or Section have been taken over by the Employer. The Employer shall give to the Contractor 21 days' notice of the date after which the Tests after Completion will be carried out. Unless otherwise agreed, these Tests shall be carried out within 14 days after this date, on the day or days determined by the Employer.

The results of the Tests after Completion shall be compiled and evaluated by the Contractor, who shall prepare a detailed report. Appropriate account shall be taken of the effect of the Employer's prior use of the Works.

12.2

Delayed Tests

If the Contractor incurs costs as a result of any unreasonable delay by the Employer to the Tests after Completion, the Contractor shall (i) give notice to the Employer and (ii) be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this Cost and profit.

If, for reasons not attributable to the Contractor, a Test after Completion on the Works or any Section cannot be completed during the Defects Notification Period (or any other period agreed upon by both Parties), then the Works or Section shall be deemed to have passed this Test after Completion.

12.3

Retesting

If the Works, or a Section, fail to pass the Tests after Completion:

- (a) sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying of Defects] shall apply, and
- (b) either Party may then require the failed Tests, and the Tests after Completion on any related work, to be repeated under the same terms and conditions.

12.4

Failure to Pass Tests after Completion

If and to the extent that this failure and retesting are attributable to any of the matters listed in sub-paragraphs (a) to (d) of Sub-Clause 11.2 [Cost of Remedying Defects] and cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.4 [Employer's Claims] pay these costs to the Employer.

If the Works, or a Section, fail to pass a Test after Completion and the Contractor proposes to make adjustments or modifications (on behalf of) the Employer that right of access to the Works or Section cannot be given until a time that is convenient to the Employer and to satisfy this Test, within a reasonable period of receiving, notice by (or on behalf of) the Employer of the Contractor to receive this notice during the relevant Defects Notification Period, the Contractor shall not be relieved of this obligation.

13

Variation and Adjustments

13.1

Right to Vary

Variations may be initiated by the Employer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. A Variation shall not comprise the omission of any work which is to be carried out by others.

The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Employer stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, (ii) it will reduce the safety or suitability of the Works, or (iii) it will have an adverse impact on the achievement of the Performance Certificate. Upon receiving this notice, the Employer shall cancel, confirm or vary the instruction.

If there is any change and/or alteration in the Guidelines of the MCI or the apex statutory authority regulating medical education in India prior to issue of Taking Over Certificate by the Employer, which requires the Contractor to make changes and vary the construction, the Contractor shall be required to make appropriate changes and vary its construction so as to comply with such Guidelines. Such change and/or alteration in the Guidelines shall also constitute a Variation.

13.2

Value Engineering

The Contractor may, at any time, submit to the Employer a written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Employer of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.

The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].

13.3

Variation Procedure

If the Employer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why it cannot comply (if this is the case) or by submitting:

- (a) a description of the proposed design and/or work to be performed and a programme for its execution,
- (b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion and
- (c) the Contractor's proposal for adjustment to the Contract Price.

The Employer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.

Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Employer to the Contractor, who shall acknowledge receipt.

Upon instructing or approving a Variation, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine adjustments to the Contract Price and the Schedule of Payments. These adjustments shall include reasonable profit, and shall take account of the Contractor's submissions under Sub-Clause 13.2 [Value Engineering] if applicable.

13.4

Payment in Applicable

Currencies

Payment under this Contract shall be made only in Indian Rupees.

13.5

Foreclosure of Contract

due to Abandonment or

Reduction in Scope

of Works

If at any time after acceptance of the tender, the Employer 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 Employer's Representative 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 it might have derived from the execution of the Works in full but which it did not derive in consequence of the foreclosure of the whole or part of the Works.

The Contractor shall be paid for Works executed at site to be decided by the Employer.

13.6

Daywork

For work of a minor or incidental nature, the Employer may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the daywork schedule included in the Contract, and the following procedure shall apply. If a

daywork schedule is not included in the Contract, this Sub-Clause shall not apply.

Before ordering Goods or Products for the work, the Contractor shall submit quotations to the Employer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any such Goods or Products.

Except for any items for which the daywork schedule specifies that payment is not due, the Contractor shall deliver each day to the Employer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

- (a) the names, occupations and time of Contractor's Personnel,
- (b) the identification type and time of Contractor's Equipment and Temporary Works, and
- (c) the quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Employer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Employer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payments].

14

Contract Price and Payment

14.1

The Contract Price

Unless otherwise stated:

- (a) payment for the Works shall be made on the basis of the lump sum Contract Price; and
- (b) the Contractor shall pay all taxes, duties and fees required to be paid by it under the Contract, and the Contract Price shall not be adjusted for any of these costs.

14.2

Mobilisation Advance Deleted

14.3

Application for Interim Payments

The Contractor shall submit a Statement in two copies to the Employer after the end of each month in respect of each site, in a form approved by the Employer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the relevant report on progress in accordance with Sub-Clause 4.21 [Progress Reports].

The Statement shall include the following items, as applicable, which shall be expressed in INR, in the sequence listed:

- (a) the estimated contract value in accordance with Payment Schedule (including Variations but excluding items described in sub-paragraphs (b) and (c) below);
- (b) any other additions, or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
- (c) the deduction of amounts included in previous Statements.

14.4

Schedule of Payments

Schedule of Payments is specified in Section 5.7A – Payment Schedule of the Employer's Requirements in which the Contract Price will be paid.. Such Schedule of Payments for planning, design and construction of the Works shall be subject to the condition that the Contractor shall not submit more than one bills per month per site, provided that each such running account bill shall relate to one or more completed activities of the Project as described in Section - 5 (Employer's Requirements).

Fund for the work will be released in two phase, 1st phase is after submission of 1st RA bill (approx 50% work completed) & 2nd phase will be released after completion of work, through Financial Management System MPLADS.

Hence, the 1st bill of the agency will be paid after completing 50% of the work as per Schedule of Payments is specified in Section 5.7A – Payment Schedule and the final bill of the agency will be paid after completing 100% of the work as per Schedule of Payments is specified in Section 5.7A – Payment Schedule.

14.5

Deleted.

14.6

Interim Payments

No amount will be paid until the Employer has received and approved the Performance Security. Thereafter, the Employer shall within 7 days after receiving a Statement and supporting documents, give to the Contractor notice of any items in the Statement with which the Employer disagrees, with supporting particulars. Payments due shall not be withheld, except that:

- (a) if any thing supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and .had been so notified by the Employer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Employer may, by any payment, make any correction or modification that should properly be made to any amount previously considered due. Payment shall not be deemed to indicate the Employer's acceptance, approval, consent or satisfaction.

14.7

Timing of Payments

Except as otherwise stated in Sub-Clause 2.4 [Employer's Claims], the Employer shall pay to the Contractor:

- (a) the first tranche of Mobilisation Advance within 30 days after the date of delivery of possession of the Site subject to commencement of work at the site including setting up of site office etc. both for Contractor and the Employer
- (b) the amount which is due in respect of each Statement, other than the Final Statement, within 15 working days after receiving the Statement and supporting documents; and
- (c) the final amount due, within 60 working days after receiving the Final Statement and written discharge in accordance with Sub-Clause 14.11 [Application for Final Payment] and Sub-Clause 14.12 [Discharge].

Payment of the amount due in INR shall be made into the bank account, nominated by the Contractor.

14.8

Provisions for Recording of Progress vis-à-vis Payment

- (a) **Cement** : For different cement related executed items, consumption of cement statement for relevant item as per CPWD latest SOR will be followed. In case the said item is not available in CPWD SOR, WBPWD SOR will be followed for the same if the item is available there. In case same is not available in any of the two, same will be calculated on fundamental engineering basis.
- (b) **Steel, aggregates, bricks etc.** : Same will be calculated on the basis of relevant IS Code and current WBPWD SOR. In case same is not available there, fundamental engineering basis will be followed for the same.
- (c) Measurement of steel will be on linear basis, lesser of the length as provided at site or as per approved drawing (provided the same is approved by the authority). If there be any variation between unit weight of the relevant steel as per IS Code, Unit weight with tolerance limit as per relevant IS Code may be allowed to use in the work if authority feels. However, payment will be made on the basis of unit weight as per physical test report, (provided it is within tolerance limit) subject to restriction that in no case the weight considered for billing purpose should exceed the standard weight as per IS:1786.
- (d) The Contractor should submit statement showing consumption of Steel, Bricks and other basic Building materials with every running account bill as well as with Final Bill to verify with supply/materials brought at site vis-à-vis quantity of materials consumed based on consumption chart mentioned herein above.
- (e) Whenever by computing the consumption of materials of any description in any

item or group of items of work requiring use of such materials –

- (i) If it is found that the Contractor has used less materials than are required by the specification and/or as shown in consumption chart mentioned herein above, the value of the quantity of materials less used (but within tolerance limit) shall be recovered from the Contractor at 10 (ten) percent extra over rate of materials as decided by the Employer's Representative based on purchase rate of the Contractor from Contractor's running account bill/Final Bill, provided the work so done is acceptable by the Employer. Otherwise, the work may be rejected and the Contractor has to rectify the same at his own cost and responsibility.
- (ii) Provided that recovery of materials used less as indicated in paragraph (i) above shall be subjected to the decision of the Employer's Representative who may allow Variation according to limit mentioned in relevant SOR as mentioned.

14.9

Supporting Documents

Copies of all such reports at various stages recording the progress of the Project and completion of the consequential Project milestone, shall be compulsorily appended with each running account bill as well as the Final Bill, failing which no payment shall be released by the Employer to the Contractor.

14.10

Statement at Completion

Within 60 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Employer six copies of supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payments], showing:

- (a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
- (b) any further sums which the Contractor considers to be due, and
- (c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

The Employer shall then give notice to the Contractor in accordance with Sub-Clause 14.6 [Interim Payments] and make payment in accordance with Sub-Clause 14.7 [Timing of Payments].

14.11

Application for Final Payment

Within 30 days after receiving the Taking Over Certificate for the Works, the Contractor shall submit, to the Employer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Employer:

- (a) the value of all work done in accordance with the Contract, and

- (b) any further sums which the Contractor considers to be due to him under the Contract or otherwise.

If the Employer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Employer may reasonably require and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Employer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement",

14.12

Audit

The Employer shall have the right to cause an audit and technical examination of the works and the draft final statement of the Contractor including all supporting vouchers, abstract, etc. to be made after payment of the draft final statement and if as a result of such audit and technical examination, any sum is found to have been overpaid in respect of any work done by the Contractor under the Contract or any work claimed to have been done by him under the Contract and found not to have been executed, the Contractor shall be liable to refund the amount of over payment and it shall be lawful for the Employer to recover the same from him in the manner prescribed in these General Conditions or in any other manner legally permissible.

However if, following discussions between the Parties and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Employer shall pay the agreed parts of the draft final statement in accordance with Sub-Clause 14.6 [Interim Payments] and Sub-Clause 14.7 [Timing of Payments]. Thereafter, if the dispute is finally resolved under Sub-Clause 20.3 [Arbitration], the Contractor shall then prepare and submit to the Employer a Final Statement.

14.13

Discharge

When submitting the Final Statement, the Contractor shall submit a written discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the out-standing balance of this total, in which event the discharge shall be effective on such date.

14.14

Final Payment

In accordance with sub-paragraph (c) of Sub-Clause 14.7 [Timing of Payments], the Employer shall pay to the Contractor the amount which is finally due, less all amounts previously paid by the Employer and any deductions in accordance with Sub-Clause 2.4[Employer's Claims].

14.15

Cessation of Employer's

Liability

The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- (a) in the Final Statement and also

- (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion].

However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.

15

Termination by Employer

15.1

Notice to Correct

If the Contractor fails to carry out any obligation under the Contract, the Employer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.

15.2

Termination by Employer

The Employer shall be entitled to terminate the Contract if the Contractor:

- (a) fails to comply with a notice under Sub-Clause 15.1/Notice to Correct],
- (b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,
- (c) without reasonable excuse fails to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension],
- (d) fails to comply with the milestone as approved by the Employer or such modified milestone as subsequently approved by the Employer,
- (e) If the Contractor being a company shall pass a resolution or the Court shall make an order that the Contractor 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 entitles the court to make a winding up order,.
- (f) If the Contractor shall suffer an execution being levied on its goods and allows it to be continued for a period of 30 days.
- (g) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or
- (h) gives or offers to give (directly or indirectly) to any person any bribe, gift commission or other thing of value, as an inducement or reward:
 - (i) for doing or forbearing to do any action in relation to the Contract, or

- (ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract,
- (i) if any of the Contractor's Personnel or agents gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (h). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination.

In any of these events or circumstances, the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub-paragraph (h) or (i), the Employer may by notice terminate the Contract immediately.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.

The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Employer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice for the protection of life or property or for the safety of the Works.

After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

The Employer shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site. The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Employer, these items may be sold by the Employer in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

In any case in which any of the powers conferred upon the Employer's Representative in terms hereof, 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 Employer's Representative 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 Employer's

Representative 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 Employer's Representative) 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 Employer's Representative, whose certificate thereof shall be final and binding on the Contractor. The Employer's Representative may also direct where required, the clerk of the works, foreman or other authorized agent of the Contractor 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 Employer's Representative 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 Employer's Representative 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.

15.3

Valuation at Date of Termination

As soon as practicable after a notice of term 15.2 [Termination by Employer] has taken effect, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.

15.4

Payment after Termination

After a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Employer may:

- (a) proceed in accordance with Sub-Clause 2.4 [Employer's Claims],
- (b) withhold further payments to the Contractor until the costs of design, execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Employer, have been established, and/or
- (c) recover from the Contractor any losses and damages incurred by the Employer and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [Valuation at Date of Termination], After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor.

15.5

Employer's Entitlement to Termination

The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor, The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice.

After this termination, the Contractor shall proceed in accordance with Clause 16 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release].

16

Cessation of Work and Removal of Contractor's Equipment

After a notice of termination under Sub-Clause 15.5 [Employer's Entitlement to Termination], or Sub-Clause 19.6 [Optional Termination, Payment and Release] has taken effect, the Contractor shall promptly:

- (a) cease all further work, except for such work as may have been instructed by the Employer for the protection of life or property or for the safety of the Works,
- (b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and
- (c) remove all other Goods from the Site, except as necessary for safety, and leave the Site.

17

Risk and Responsibility

17.1

Indemnities

The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

- (a) bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the design, execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, willful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and
- (b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss:
 - (i) arises but of or in the course of or by reason of the design, execution and completion of the Works and the remedying of any defects, and
 - (ii) is not attributable to any negligence, willful act or breach of the Contract by the Employer, the Employer's Personnel, their respective agents, or anyone directly or indirectly employed by any of them,

The Employer shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, willful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [Insurance Against Injury to Persons and Damage to Property].

17.2

Contractor's Care of the Works

The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section of the Works, responsibility for the care of the Section shall then pass to the Employer.

After responsibility has accordingly passed to the Employer, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.

If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Employer's Risks], the Contractor shall rectify the loss -or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.

The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

17.3

Employer's Risks

The risks referred to in Sub-Clause 17.4 below are:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country,
- (c) riot, commotion or disorder within the Country by persons other than the Contractor's Personnel and other employees of the Contractor,
- (d) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and

- (e) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.

17.4

Consequences of

Employer's Risks

If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Employer and shall rectify this loss or damage to the extent required by the Employer.

If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.5 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be added to the Contract Price.

After receiving this further notice, the Employer shall proceed in accordance with Sub Clause 3.5 [Determinations] to agree or determine these matters.

17.5**Intellectual and
Industrial Property
Rights**

In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.

Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.

The Employer shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:

- (a) an unavoidable result of the Contractor's compliance with the Employer's Requirements, or
- (b) a result of any Works being used by the Employer;
 - (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - (ii) in conjunction with any thing not supplied by the Contractor, unless such use was disclosed to the Contractor is stated in the Contract.

The Contractor shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to (i) the Contractor's design, manufacture, construction or execution of the Works, (ii) the use of Contractor's Equipment, or (iii) the proper use of the Works.

If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party

may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it, The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

17.6

Limitation of Liability

Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than under Sub-Clause 16.4 [Payment on Termination] and Sub-Clause 17.1 [Indemnities].

The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.25 [Electricity, Water and Gas], Sub-Clause 4.26 [Employer's Equipment], Sub-Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum stated as the Contract Price in the Agreement.

This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

18

Insurance

18.1

General Requirements

for Insurances Deleted

18.2

Insurance for Works

and contractor's

Equipment Deleted

18.3

Insurance against Injury

to Persons and

Damage to Property Deleted

18.4

Insurance for Contractor's

Personnel Deleted

19

Force Majeure

19.1

Definition of Force

Majeure

In this clause, Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below:

- (i) war, hostilities (whether war be declared or not), invasion, act of foreign enemies.
- (ii) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war;
- (iii) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel and other employees of the Contractor ,
- (iv) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
- (v) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity or flood.

19.2

Notice of Force Majeure

If a Party is or will be prevented from performing any of its obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days

after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.

The Party shall, having given notice, be excused performance of such obligations for so long as such Force Majeure prevents it from performing them.

Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

19.3

Duty to Minimise Delay Each Party shall at all times use all reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure.

A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

19.4

Consequences of Force Majeure

If the Contractor is prevented from performing any of his obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.5 [Extension of Time for Completion], and
- (b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [Definition of Force Majeure] and, in the case of sub-paragraphs (ii) to (iv), occurs in the Country, payment of any such Cost.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

19.5

Deleted.

19.6

Optional Termination, Payment and Release

If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment].

Upon such termination, the Employer shall pay to the Contractor the amounts payable for any work carried out till that date to be determined in terms of Sub-Clause 3.5.

19.7

Release from Performance

Under the Law

Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfill its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

- (a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and
- (b) the sum payable by the Employer to the Contractor shall be the same as Would have been payable under Sub-Clause 19.6 [Optional Termination, Payment and Release] if the Contract had been terminated under Sub-Clause 19.6.

20

Claim, Disputes and Arbitration

20.1

Contractor's Claims

If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract the Contractor shall give notice to the Employer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.

The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Employer. Without admitting liability, the Employer may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Employer to inspect all these records, and shall (if instructed) submit copies to the Employer.

Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Employer, the Contractor shall send to

the Employer a fully detailed claim which includes full supporting particulars 'of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim;
- (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Employer may reasonably require; and
- (c) the Contractor shall send a final claim within 30 days after the issuance of Taking Over Certificate of the Works, or within such other period as may be proposed by the Contractor and approved by the Employer.

Within 60 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Employer and approved by the Contractor, the Employer shall respond with approval, or with disapproval and detailed comments. It may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within such time,

Each interim payment shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

The Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.5 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

20.2

Amicable Settlement

Both Parties shall attempt to settle any dispute or difference between them amicably.

20.3

Arbitration

Unless settled amicably, all disputes and differences shall be settled by the parties by arbitration. Unless otherwise agreed by both Parties:

- (a) the dispute shall be settled under the rules of arbitration of the Arbitration & Conciliation Act, 1996,
- (b) the dispute shall be settled by a sole arbitrator to be appointed by the Additional Chief Secretary/ Principal Secretary/ Secretary, Department of Health & Family Welfare of the Government of West Bengal, India in accordance with the Act,
- (c) the arbitration shall be held at Kolkata, and Courts at Kolkata shall alone have jurisdiction (to the exclusion of all other Courts) to entertain all disputes arising out of the Contract, and
- (d) the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

SECTION 7
CONTRACT FORMS

SECTION – 7

CONTRACT FORMS

FORM OF AGREEMENT

(ON NON JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)

Agreement No. _____ dated _____

THIS AGREEMENT is made on ____ day of _____ Two Thousand _____ between WEST BENGAL MEDICAL SERVICES CORPORATION LIMITED (WBMSCL) hereinafter called the “Employer” (which expression shall, wherever the context so demands or requires, include their successors in office and assigns) of the One Part and M/s. _____ hereinafter called the “Contractor” (which expression shall wherever the context so demands or requires, include his/their successors and assigns) of the Other Part.

WHEREAS the Employer is desirous that Project should be executed and has by Notification of Award dated _____ accepted a tender submitted by the Contractor for the project at a total Contract Price of Rs. _____ /- (Rupees _____ only).

NOW THIS AGREEMENT WITNESSETH as follows :-

1. In this Agreement, words and expressions shall have the same meaning as are respectively assigned to them in the General Conditions of Contract hereinafter referred to.

2. **Documents**

The following documents in conjunction with Addenda/Corrigenda to Bidding Documents shall be deemed to form and be read and construed as part of this Agreement viz.

- i. Notice Inviting e-Tender
- ii. Instructions to Bidders

- iii. Evaluation and Qualifying Criteria
- iv. Bidding Forms
- v. Employer's Requirements
- vi. General Conditions of Contract.
- vii. Contract Forms.

3. **Previous Communications**

This document constitutes the entire Contract between the parties and supersedes all previous communications, whether oral or written, in relation to the Project to be undertaken in accordance with the Contract.

4. **Execution of Project**

In consideration of the payment to be made by the Employer to the Contractor as hereinafter mentioned, the Contactor hereby covenants with the Employer to execute, complete, remedy defects therein and maintain the Project in conformity in all respects with the provisions of the Contract.

5. **Payment**

The Employer hereby covenants to pay to the Contractor in consideration of the execution, completion, remedying of any defects therein and maintenance of the Works, 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.

6. **Commencement of the Project**

This Contract will remain in effect from _____ and expire on _____ unless terminated earlier in accordance with the provisions of the Contract.

7. **Acknowledgement**

The Contractor shall confirm acceptance of the terms of this Contract by signing and returning to WBMSCL the duplicate copy enclosed herewith within a period of 21 days from date of receipt of Notification of Award.

IN WITNESS whereof the parties hereto have caused their respective hands to be hereinto affixed the day and year first above written.

In the capacity of _____

On behalf of M/s. _____

(The Contractor)

In the presence of

Witnesses (Signature, Name &

Designation)

1.

2.

For and on behalf of WBMSCL

(The Employer)

In the presence of

Witnesses (Signature, Name &

Designation)

1.

2.

PROFORMA FOR BANK GUARANTEE FOR MOBILIZATION ADVANCE

(On Non-Judicial Stamp Paper of Appropriate Value)

To,

West Bengal Medical Services Corporation Ltd.

1. In consideration of, West Bengal Medical Services Corporation Ltd. (WBMSCL) (hereinafter called "The Employer") (which expression shall unless repugnant to the subject or context include its successors and assigns) having agreed under the terms and conditions of the Agreement No. _____ dated _____ with M/s. _____ a company within the meaning of the Companies Act, 2013 and having its registered office at _____ in the State of _____ (hereinafter called "the said bidder" which expression shall unless the context requires otherwise include _____ its _____ administrators, successors and assigns) in connection with the work of _____ (hereinafter called "the said Contract") to make at the request of the bidder a mobilisation advance of Rs. _____/(Rupees _____ only) for utilizing it for the purpose of the Contract on its furnishing a Guarantee acceptable to the Employer, we, _____ Bank incorporated under _____ and having one of our branches at _____ (hereinafter referred to as "the said Bank") do hereby guarantee the due recovery by the Employer of this said advance with interest thereon as provided according to the terms and conditions of the Contract. If the said bidder fails to utilize the said advance for the purpose of the Contract and/or the said advance together with interest thereon as aforesaid is not fully recovered by the Employer, we, _____ Bank hereby unconditionally and irrevocably undertake to pay to WBMSCL on demand and without demur to the extent of the said sum of Rs. _____/(Rupees _____ only), any claim made by the Employer on us for the loss or damage caused to or suffered by the Employer by reason of the Employer not being able to recover in full the said sum of Rs. _____/(Rupees _____ only) with interest as aforesaid.

2. We, _____ Bank further agree that the Employer shall be the sole judge of and as to whether the said bidder has not utilized the said advance or any part thereof for the purpose of the Contract and the extent of loss or damage caused to or suffered by the Employer on account of the said advance together with interest not being recovered in full and the decision of the Employer that the said bidder has not utilized the said advance or any part thereof for the purpose of the Contract and as to the amount or amounts of loss or damage caused to or suffered by the Employer shall be final and binding on us.

3. We, the said Bank, further agree that the Guarantee herein contained shall remain in force and effect during the period that would be taken for the performance of the said Contract and till the said advance with interest has been fully recovered and its claims satisfied or discharged and till the Employer certifies that the said advance with interest has been fully recovered from the said bidder, and accordingly shall have no claim under this Guarantee after 30 (thirty) days from the date of satisfactory completion of the said Contract (as per the mutually agreed Work Schedule) i.e. upto and inclusive of _____ (date) unless a notice of the claim under this Guarantee has been served on the Bank before the expiry of the said period i.e. _____ (date) in which case the same shall be enforceable against the Bank notwithstanding the fact, that the same is enforced after the expiry of the said period.

4. The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee or Indemnity, from time to time, to vary any of the terms and conditions of the said Contractor the advance or to extend time of performance by the said bidder or to postpone for any time and from time to time any of the powers exercisable by it against the said bidder and either to enforce or forbear from enforcing any of the terms and conditions governing the said Contract or the advance available to the Employer and the said Bank shall not be released from its liability under these presents by any exercise by the Employer of the liberty with reference to the matters aforesaid or by reasons of time being given to the said bidder or any other forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said bidder on any other matter or thing whatsoever which under the law relating to sureties would, but for this provision, have the effect of so releasing the Bank from its such liability.

5. It shall not be necessary for the Employer to proceed against the bidder before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank notwithstanding any security, which the Employer may have obtained or obtain

from the bidder shall at the time when proceedings are taken against the Bank hereunder, be outstanding or unrealized.

6. We, the said Bank, lastly undertaken not to revoke this Guarantee during its currency except with the previous consent of the Employer in writing and agree that any change in the constitution of the said bidder or the said Bank shall not discharge our liability hereunder.
7. If any further extension of this Guarantee is required the same shall be extended to such required periods on receiving instructions from the bidder M/s. _____ on whose behalf this Guarantee is issued.
8. Notwithstanding anything contained hereinbefore our liability under this Guarantee is restricted to Rs. _____/- (Rupees _____ only) together with interest @ _____. Our undertaking shall commence from the date of execution and shall remain in force upto _____.

Dated this _____ day of

_____ In presence of
Bank)

WITNESS

For and on behalf of (the

Signature _____

1. _____

Name _____

2. _____

Designation _____

Authorization No.

Seal of the Bank _____

The above Guarantee is accepted by the Employer

For WBMSCL

FORM OF PERFORMANCE SECURITY BANK GUARANTEE

In consideration of the Employer having agreed under the terms and conditions of contract made vide his Notification of Award No.———dated —— between West Bengal Medical Services Corporation Ltd. (WBMSCL) (the Employer) represented by its Managing Director and _____(hereinafter called "the said Contractor) for Planning, Design and *Planning, Design and Construction of building for development of State General Hospital at Bhatpara (ward no. 15 under Bhatpara Municipality) under development works by MPLADS fund on Turnkey Basis* alongwith supply of medical equipment and furniture in the State of West Bengal on Turnkey Basis (herein after called the said Agreement") the Contractor having agreed to production of a irrevocable Bank Guarantee for Rs. ----- (Rupees ----- Only) as a Security/Guarantee for compliance of his obligations in accordance with the terms and conditions in the said Agreement:

1. We ----- (indicate the name of the Bank) (hereinafter referred to as "the Bank" hereby undertake to pay to the WEST BENGAL MEDICAL SERVICES CORPORATION LTD., an amount not exceeding Rs. ----- (Rupees ----- only) on demand by WBMSCL.

2. We -----(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from WBMSCL for and on behalf of the Employer as an Agent/Power of Attorney Holder stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs.----- (Rupees -----only).

3. We, the said Bank further under take to pay to the Employer represented by WBMSCL for and on behalf of the Employer as an Agent/Power of Attorney Holder any money so demanded notwithstanding any dispute or disputes raised by the Contractor in any suit or proceeding pending before any court or Tribunal relating thereto, our liabilities under this present being absolute and unequivocal. The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment

thereunder and the Contractor shall have no claim against us for making such payment.

4. We ----- (Indicate the name of the Bank) further agree that the Guarantee herein contained shall remain in full force and effect for a period of 12 months from the date of issue and upon being extended for similar periods of 12 months each, it shall continue to be enforceable till all dues of the Employer under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till the Employer's Representative on behalf of the Employer certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor and accordingly discharges this Guarantee.
5. We ----- (indicate the name of the Bank) further agree with the Employer, that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Contractor(s) and to forbear from or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor or for any forbearance, act of omission on the part of the Employer or any indulgence by the Employer to the said Contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. This Guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.
7. This Guarantee will neither be cancelled nor revoked by the Bank without the written authorization of WBMSCL. For this purpose, the beneficiary WBMSCL would inform the Bank of their authorized signatories together with the specimen signatures.
8. This Guarantee shall be valid up to a period of 12 months from the date of issue unless extended on demand by the 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 the date of
expiry or the extended date of expiry of this Guarantee, all our liabilities under this
Guarantee shall stand discharged.

Dated the _____ day of _____ for _____ (indicate the
name of the Bank)".

Note : To be put in sealed cover by Bank and addressed to the concerned officer of
WBMSCL.