

Dated: 27.02.2024

AMENDMENT No.– II

Project Name: Tender for “Construction of 600 Bedded General Hospital, 250 Bedded Cancer Hospital & 250 Bedded Super Specialty Hospital at Rajarshee Chattrapati Shahu Maharaj Government Medical College at Kolhapur, Maharashtra on Comprehensive Design, Engineering, Procurement and Construction (EPC) basis”

Tender No. HSCC/RCSMGMC/KOLHAPUR/EPC/2024/30, dated 09/02/2024

This has reference to subject work, the following Amendment may be noted, which shall be treated as a part of the contract to be uploaded along with tender/ bid:

- (1) Reply to Pre-Bid Queries raised by bidders during pre -bid meeting held on 16.02.2024 at HSCC, Head Office, Noida are attached at **Annexure – I**.

All other terms & conditions remain unchanged.

Prospective bidders are advised to regularly visit through HSCC e-tender portal **<https://hsccltd.co.in>** & HSCC website **<https://hsccltd.co.in>** as corrigendum/amendments etc. if any, will be notified on this portal only and no separate advertisement will be made for this.

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Chief General Manager
HSCC (India) Ltd.

Name of Work : Tender for "Construction of 600 Bedded General Hospital, 250 Bedded Cancer Hospital & 250 Bedded Super Specialty Hospital at Rajarshree Chattrapati Shahu Maharaj Government Medical College at Kolhapur, Maharashtra on Comprehensive Design, Engineering, Procurement and Construction (EPC) basis"

Tender No. HSCC/RCSMGMC/KOLHAPUR/EPC/2024/30

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
1	Volume 1 - NIT	Clause 2 (ii)	3,4	(I) "Similar Work" shall mean "Construction of Non-Industrial and Non-Residential multistoried RCC framed structure having minimum Five Storeys including finishing works, water supply, drainage & sanitary installations, electrical works, Firefighting, LV works, Lifts and HVAC all executed under one agreement as turnkey contract for any state / central Govt. Bodies". Airports, Metro, Infrastructure & Power Projects shall not be considered. (II) Additional Qualifying Criteria "RCC framed structure Hospital building/ Composite Hospital Campus and allied services of Minimum 600 bed capacity with internal and external services including HVAC, Firefighting, STP etc. all composite executed under one contract on EPC mode for any state or Central Govt. Bodies". (iv) The past experience of similar nature of work should be supported by completion certificate(s) issued by the concerned organisation. In case the work experience is of Private sector, the completion certificate shall be supported with copies of Letter of Award, Agreement, Bill of Quantities, Certified Copy of Bills and copies of Corresponding TDS Certificates. Value of work will be considered commensurate with the value of TDS Certificates.	We understand that Similar Work and additional qualifying criteria means works executed through state or Central Government bodies. And Private jobs are not allowed. Hence, we understand that Clause 2 (iv) "In case the work experience is of Private sector, the completion certificate shall be supported with copies of Letter of Award, Agreement, Bill of Quantities, Certified Copy of Bills and copies of Corresponding TDS Certificates. Value of work will be considered commensurate with the value of TDS Certificates." is not relevant and Form D is also not applicable to be submitted. Kindly confirm.	As per Tender Conditions
2	Volume 1 - NIT	Clause 2 (ii)	3,4	(I) "Similar Work" shall mean "Construction of Non-Industrial and Non-Residential multistoried RCC framed structure having minimum Five Storeys including finishing works, water supply, drainage & sanitary installations, electrical works, Firefighting, LV works, Lifts and HVAC all executed under one agreement as turnkey contract for any state / central Govt. Bodies". Airports, Metro, Infrastructure & Power Projects shall not be considered. (II) Additional Qualifying Criteria "RCC framed structure Hospital building/ Composite Hospital Campus and allied services of Minimum 600 bed capacity with internal and external services including HVAC, Firefighting, STP etc. all composite executed under one contract on EPC mode for any state or Central Govt. Bodies".	We understand that Similar Work and additional qualifying criteria means works executed through state or Central Government bodies. We find that foreign certificate work experience is not relevant, since for similar works job should have executed under state or central government. Hence, We request you to kindly remove the foreign certificate clause. Kindly confirm.	As per Tender Conditions

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
				Foreign Certificate: (a) In case the work experience is for the work executed outside India, the bidders have to submit the completion/experience certificate issued by the owner duly signed & stamped, and affidavit to the correctness of the completion/experience certificates. The EPC/Contractor shall also submit the completion/experience certificates attested by the Indian Embassy/Consulate/High Commission in the respective country along with the bid. In the event of submission of completion /experience certificate by the Bidder in a language other than English, the English translation of the same shall be duly authenticated by Chamber of Commerce of the respective country and attested by the Indian Embassy/consulate/High Commission in the respective country. (b) For the purpose of evaluation of Bidders, the conversion rate of such a currency into INR shall be the daily representative exchange rate published by the IMF as on 7(Seven) days prior to the Last Date of Submission of tender including extension(s) given if any. In case of non-submission of above informations by bidders, the outside India work shall not be considered for prequalification.		
3	Volume 1 - Annexure I (Memorandum)	SI No. 6	10	Time allowed for Completion of Work - Overall, 24 Calendar Months (Twenty-Four Calendar Months)	Considering the overall scope of works including the statutory approvals & Design we request you to kindly consider the overall duration for this project as 30 months. Kindly Confirm.	As per Tender Conditions
4	Volume 1 - Annexure I (Memorandum)	SI No. 8	10	Interest Rate of Mobilization Advance - Simple Interest Rate of 10.00% (Ten Percent only) Per Annum	we request you to provide interest free mobilization advance. Kindly Confirm.	As per Tender Conditions
5	Volume 1 - Annexure I (Memorandum)	SI No. 16	11	Escalations - Not Applicable	Since Project Duration is more than 18 Months, we request you to kindly incorporate CPWD 10CC as escalation Clause for this project. Kindly confirm.	As per Tender Conditions
6	Volume 2 - Section 2 - ITT	Clause 21.5	17	The information about the public utilities (whether over ground or underground) like electrical/ telephone/ water supply lines, OFC Cables, open drain etc. is the responsibility of contractor to ascertain the utilities that are to be affected by the works through the site investigation.	If rerouting/ shifting of utilities is carried out by the Contractor it shall be measured and paid to Contractor at actuals with Time and Cost. We request you to kindly share the existing underground utilities plan so as to plan accordingly in the schedule. kindly confirm.	As per Tender Conditions. Nothing Extra shall be paid on this account.
7	Volume 2 - Section 3 - Clauses of Contract	Clause 3	38	If the amount of Security Deposit deducted in cash is more than Rs.10.00 lakhs (Rupees Ten lakhs only) in case of contract value more than 3.00 Crore, Rs.5 lakhs in case of contract value up to Rs.3.00 crore, the excess amount beyond Rs. 10 Lakhs or 5 lakhs (as the case may be) can be replaced by the contractor by submission of Bank Guarantee in the prescribed proforma of HSCC or Fixed Deposit Receipt (FDR) pledged in favour of HSCC (India) Limited of equivalent amount from any Nationalized Bank or all Commercial Scheduled Bank. The Bank Guarantee/ FDR shall be initially valid up to the 3 months beyond the stipulated defect liability period.	We request you to kindly allow the Contractor to submit the Bank guarantee for complete 2.5% of CV towards retention, so that there is no withheld in the monthly Running Account Bills. The Validity shall be same as per tender i.e 3 months beyond the stipulated defect liability period. Kindly confirm.	As per Tender Conditions

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8	Annexure A - Schedule of Stage Payment	Schedule of Stage Payments	2	Testing & commissioning & handing over to Client - 10%	As we are submitting PBG @5% of CV, retention @ 2.5% of CV. Withholding 10% of CV towards Testing & Commissioning and Handing over of project will have a serious impact the cash flow of the contractor. We request you to kindly limit the Testing & Commissioning & Handing over to client amount to limit to max 1% of CV. Kindly Confirm.	As per Tender Conditions
9	Annexure A - Schedule of Stage Payment	Schedule of Stage Payments	1 to 29	Schedule of Stage Payments	The percentage assigned to the each item of work indicated in the Payment schedule shall be further subdivided based on the actual quantum of work involved, which shall be mutually agreed during post award. Considering the fastrack nature of the project and the contactor required proper cashflow of the project, we request to allow us to submit the monthly RA bills as per the progress and the work done. The payment shall be released for parital completion of activities on the prorata basis.	"Amended - SCHEDULE OF STAGE PAYMENT OF WORKS (Annexure-A)" enclosed . However payment for the common services like electrical substation, AC plant room, ETP, STP etc. shall be made for executed work in once under one category i.e. 600 bedded hospital.
10	Volume 3 - SCC	Clause 26.2	23	If the aforesaid conciliation proceedings fail or the Conciliator fails to give proposal for settlement within the aforesaid period, either party may approach the Court of Competent Civil Jurisdiction at Delhi for adjudication of the disputes.	We seek arbitration as the dispute resolution mechanism in the contract "All disputes arising out of or in connection with this Contract, including any question regarding its existence, validity or termination, shall, unless amicably settled between the Parties, be finally settled by arbitration in accordance with the provisions of The Arbitration and Conciliation Act 1996 as amended to date by a sole arbitrator mutually appointed by the Parties. The seat of arbitration shall be Delhi. The arbitration proceedings shall be conducted in English. The award of the arbitrator shall be final and binding on the Parties."	As per tender conditions

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
11				General - No clause entitling Contractor to suspend/terminate the Contract	We seek inclusion of a clause entitling the Contractor to suspend or terminate the Contract on account of the Employer's/HSCC's defaults- "Suspension Rights- If Employer fails or delays to release any due payments and or perform any other obligations under this Contract, The Contractor may, after giving not less than 21 days' notice to Employer, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment or the breach of Employer is remedied. The Contractor's action shall not prejudice its other rights and entitlements including interest on delayed payments. If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work), it shall be entitled to : (a) an extension of time for any such delay, if completion is or will be delayed, and (b) payment of any such Costs incurred as a result thereto. Termination Rights: The Contractor shall be entitled to terminate the Contract if: a) The Employer has unduly delayed or withheld any payments breach of Employer is not remedied and/or continues despite suspension of contract by the Contractor b) Employer assigns, sublets or transfers this Contract in contravention to the terms of this Contract. c) Employer becomes bankrupt, insolvent, goes into liquidation (voluntary or otherwise), 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, an order for corporate insolvency resolution process or liquidation is passed by a court/ tribunal, change of Control, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events. d) the Employer substantially fails to perform, and such failure constitutes a material breach of, the Employer's obligations under the Contract; ; Except in events under (c) where the termination shall be immediate, the Contractor may upon giving 14 days' notice to Employer, terminate this Contract in any of the other events listed out hereinabove, without prejudice to its other rights under contract or otherwise; The Contractor shall be entitled to all outstanding payments for the works performed by the Contractor until such date of termination, the cost of the Goods ordered for the Project which have been delivered to the Contractor or of which the Contractor is liable to accept delivery, any other cost or expense which in the circumstances was reasonably incurred by the Contractor in the expectation of completing the Project and prompt return the performance securities furnished by the Contractor under this Contract, along with reasonable compensation."	As per tender conditions

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12				General - No clause providing relief for changes in laws	We seek insertion of the following clause providing relief for changes in law- "If after the date twenty-eight (28) days prior to the deadline for submission of bids, if there is any change in the applicable laws, regulations, rules (including the introduction of new laws and the repeal, consolidation or modification of existing laws, change in the judicial or official governmental interpretation or implementation of the laws, any permit, permission, license or approval to be obtained by the Contractor, introduction of new taxes, changes in rates of existing taxes, change in specifications), which affects the time allowed for carrying out the work as entered in the Contract or Contract Price, then the Contractor shall be entitled to due extension of time and adjustment of Contract Price to take account of such changes in laws"	As per Tender documents
13	Volume I - Annezure 1	Sl No 13	10	Time allowed for starting the work - ITT/14.0 The date of start of contract shall be reckoned from 10 days after the date of issue of letter of Award/handling over of the site.	Please confirm that complete and unencumbered access to site will be provided at the time of issue of letter of award.	As per Tender documents
14	Volume 2 - Section 2 - ITT	Clause 4.1	39	advance shall be paid in three installments as follows: i) First Installment of not more than fifty percent of total mobilization advance shall be paid after the agreement is signed and upon submission of performance guarantee for full amount as specified. ii) 2nd installment of not more than twenty five percent of total mobilization advance will be paid after the setting up of site office and site laboratory, complete mobilization of plant and machinery, scaffolding & shuttering materials etc. iii) 3rd installment of not more than twenty five percent of total mobilization advance shall be paid on completion of 10% of work in terms of cost and after the contractor has fully mobilized the work at site.	We request you to kindly provide Mobilization Advance in single installment against submission of Bank Guarantee. Kindly confirm.	As per Tender documents
15	Volume 2 - Section 2 - ITT	Clause 8.0	44	Compensation for delay of work @ 0.5% per week	We request to kindly accept, liquidated damages shall be 0.5% of the unfinished portion of the work per week of delay. Kindly Confirm.	As per Tender documents
16	Volume 2 - Section 2 - ITT	Clause 8.0	44	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.	We request to kindly accept, Maximum limit of liquidated damages shall be limited to 5% of CV. Kindly Confirm.	As per Tender documents
17	Volume 3 - SCC	Clause 10.1	3	The efforts will be made by the HSCC pursuing with Client to handover the site to the Contractor free of encumbrances. However, in case of any delay in handing over of the site to the Contractor by the Client then HSCC shall only consider suitable extension of time for the execution of the work. It should be clearly understood that the contractor will not be entitled for any extra claim on such account and HSCC shall not consider any revision in contract price or any other compensation whatsoever.	We seek that the Contractor shall be entitled to due extension of time and costs arising out of any such delay in handing over of the site which affects the Contractor's performance of the works.	As per Tender documents

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18	Volume 3 - SCC	Clause 11.2	6	The Contractor shall obtain all pre & post construction clearances/approvals from Environmental Authority, Municipal and other relevant statutory authorities/local bodies/Village Panchayat including Water supply agencies concerned, Electric Supply and inspectorate. Agencies concerned, such as, but not limited to, Police and Security Agencies, Chief Controller of Explosives, Fire Department, Civil Aviation Department, concerned in accordance to prevailing rules, Building Bye-Laws, Environment clearance (EIA), tree cutting etc.,	We request to kindly update on the status of environmental clearance of this project.	As per Tender documents
19	Volume 2 - Section 2 - ITT	Clause 21.6	18	The contractor shall be responsible to obtain necessary approval from the respective authorities for shifting/ re-alignment of existing public utilities. HSCC shall only assist the contractor for liaisoning in obtaining the approval from the concerned authorities.	We seek that the Contractor shall be entitled to due extension of time on account of any delays in the provision of necessary approvals by the respective authorities.	As per Tender documents
20	Volume 2	Clause 6.4	42	The contractor shall send to the Engineer-in-Charge once every three months, an up to date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Engineer-in-charge may authorize consideration of such claims on merits.	We seek deletion of "failing which the contractor shall be deemed to have waived his right."	As per Tender documents
21	Volume 2	Clause 8.0	43	If the contractor fails to maintain the required progress in terms of clause 16.0 or relevant clause of GCC & Special Conditions of Contract, to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the HSCC on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the Engineer in charge (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day / week (as applicable) that the progress remains below that specified in Clause 16.0 or the relevant clause in GCC & Special Conditions of Contract or that the work remains incomplete.	The liquidated damages stipulated in this clause shall be the sole compensation payable by the Contractor for its defaults mentioned in this clause. Please confirm.	As per Tender documents
22	Volume 2	Clause 8.0	44	The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with HSCC.	We seek deletion of "of any other". Parties' rights and remedies relating to this project to be restricted to this contract.	As per Tender documents
23	Volume 2	CC 8, 9, 11.1, 12, 23, 35, 52.2, 60, 67.4, 73.9,		"final and binding" provisions	We seek deletion of references to "finality" of the HSCC/Engineer-in-charge's decision in these clauses. All decisions of HSCC/Engineer-in-charge shall be subject to the dispute resolution mechanism in the contract.	As per Tender documents
24	Volume 2	Clause 11.3	47	And in case action is taken under any of the provision aforesaid the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.	Upon such termination, we seek that the Engineer-in-Charge shall certify all the works performed by the Contractor within 14 days from the date of termination, and such amounts shall be released to the Contractor within 45 days from the date of termination.	As per Tender documents

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
25	Volume 2	Clause 13	48	The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by HSCC because of action under this clause shall not exceed 10% of the tendered value of the work.	The Contractor shall only be liable to pay the differential increase in costs (as compared with the Contractor's estimated cost for such works) incurred by the Engineer-in-Charge towards such risk purchase works. Please confirm	As per Tender documents
26	Volume 2	Clause 14	49	If the suspension is ordered for reasons (ii) and (iii) in sub-para (a) above. i) The contractor shall be entitled to an extension of the time equal to the period of every such suspension plus 25% for completion period. No adjustment in contract price will be allowed for reasons of such suspension.	The Contractor shall also be entitled to reimbursement of actual costs incurred due to such suspension, including any site security costs, idling costs, storage costs, demobilisation and remobilisation expenses.	As per Tender documents
27	Volume 2	Clause 14	49	In the event of the Contractor treating the suspension as an abandonment of the Contract by HSCC, he shall have no claim to payment of any compensation on account of any profit or advantage which he may have derived from the execution of the work in full.	We seek deletion of this clause.	As per Tender documents
28	Volume 2	Clause 16.3	51	If the work(s) be delayed by: ...viii) Any other cause which, in the absolute discretion of the HSCC, is beyond the Contractor's control	We seek deletion of "in the absolute discretion of the HSCC"	As per Tender documents
29	Volume 3 - SCC	Clause 17	16	In case of delay in payment of bills due to any reason after prescribed time limit, the contractor shall not be entitled to any interest and other financial claim in this regard.	We seek deletion of this clause.	As per Tender documents
30	Volume 2	Clause 26.3	59	LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS	We seek deletion of this clause. Parties' rights and remedies relating to this project to be restricted to this contract.	As per Tender documents
31	Volume 2	Clause 37	67	If at any time after the commencement of the work the HSCC shall for any reason whatsoever is required to abandon the work or is not require the whole work thereof as specified in the tender to be carried out, the Engineer-in-Charge shall give notice in writing of the fact to the contractor, who shall have no claim to any payment of compensation whatsoever on account of any profit or advantage which he might have derived from the execution of the work in full, but which he did not derive in consequence of the foreclosure of the whole or part of the works.	Within thirty days of such foreclosure or termination, the Contractor shall be paid for the outstanding payments for the works performed by the Contractor until such date of termination, the cost of the Goods ordered for the Project which have been delivered to the Contractor or of which the Contractor is liable to accept delivery, any other cost or expense which in the circumstances was reasonably incurred by the Contractor in the expectation of completing the Project and promptly return the performance securities and security deposits furnished by the Contractor under this Contract.	As per Tender documents
32	Volume 2	Clause 40	68	Any delay in or failure to perform of either party, shall not constitute default so as to give rise to any claim for damages, to the extent such delay or failure to perform is caused by an act of God, or by fire, explosion, flood or other natural catastrophe, governmental legislation, orders or regulation etc. Failure of the client / owner to hand over the entire site and / or release funds for the project, to HSCC, shall also constitute force majeure.	We seek deletion of "Failure of the client / owner to hand over the entire site and / or release funds for the project, to HSCC, shall also constitute force majeure.". Such events shall be treated as client's defaults.	As per Tender documents

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
33	Volume 2	Clause 40	68	. If the failure / delay of the client /owner in handing over the entire site and / or in releasing the funds continues even on the expiry of the stipulated date of completion, HSCC, may, at the request of the contractor, foreclose the contract without any liability to either party. In the event of such foreclosure, the contractor shall not be entitled to any compensation whatsoever. If prior to such foreclosure the contractor has brought any materials to the site, the Engineer-in-Charge shall always have the option of taking over of all such materials at their purchase price or at the local current rates, whichever is lower.	We seek deletion of this extracted portion of the clause. The Contractor shall be entitled to compensation for the client's failure in handing over the entire site and / or in releasing the funds. Also, the Contractor's materials at site shall not be taken over in such circumstances, without the Contractor's consent.	As per Tender documents
34	Volume 2	Clause 41	68	The contractor shall have no claim whatsoever for compensation or idle charges against HSCC on any ground or for any reason, whatsoever.	We seek deletion of this clause. The Contractor shall be entitled to compensation including idle charges for any delays or defaults attributable to the client/HSCC/ other contractors engaged at site by the client/HSCC.	As per Tender documents
35	Volume 2	Clause 52.7	72	During the execution of work, if any damage shall occur to the treatment already done, either due to rain or any other circumstances, the same shall be rectified and made good to the entire satisfaction of Engineer-In-Charge by the contractor at his cost and risk.	To be modified as "During the execution of work, if any damage shall occur to the treatment already done, either due to rain or any other circumstances not attributable to client/HSCC/other contractors engaged at site by the client/HSCC, the same shall be rectified and made good to the entire satisfaction of Engineer-In-Charge by the contractor at his cost and risk."	As per Tender documents
36	Volume 2	Clause 60	74	Work shall be carried out in such a manner that the work of other Agencies operating at the site is not hampered due to any action of the Contractor. Proper Co-ordination with other Agencies will be Contractor's responsibility. In case of any dispute, the decision of HSCC shall be final and binding on the contractor. No claim whatsoever shall be admissible on this account	The Contractor shall be entitled to due extension of time and reimbursement of costs on account of any delay, hindrance or damage caused to the Contractor's works by such other agencies.	As per Tender documents
37	Volume 2	Clause 64	75	HSCC shall have the right to deduct or set off the expenses incurred or likely to be incurred by it in rectifying the defects and/or any claim under this agreement against the Contractor from any or against any amount payable to the contractor under this agreement including security deposit and proceeds of performance guarantee.	We seek deletion of "or likely to be incurred". All deductions and set off shall be with prior notice to the Contractor and shall be limited to actuals.	As per Tender documents
38	Volume 2	Clause 65	75	HSCC shall have the right to take possession of or use any completed or partially completed work or part of the work. Such possession or use shall not be deemed to be any acceptance of any work not completed in accordance with the contract agreement. If such prior possession or use by HSCC delays the progress of work an equitable adjustment in the time of completion will be made and the contract agreement shall be deemed to be modified accordingly.	If the client/HSCC takes over a part or parts of the Works that are ready for beneficial use, such part of the Works shall be deemed to have been accepted/taken over.	As per Tender documents
39	Volume 2	Proforma for Extension of time		"without prejudice to the right of the HSCC to recover compensation for delay in accordance with the provision made in Clause of the said agreement dated the _ / _ / _ . It is also clearly understood that the HSCC shall not consider any revision in contract price or any other compensation whatsoever due to grant of this extension."	We seek deletion of this portion of the proforma for extension of time. Such qualifiers shall not be applicable if the delays are not attributable to the Contractor.	As per Tender documents

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40	Volume 3 - SCC	Clause 16	13	If Extension of Time is granted without any LD, the withheld amount shall be released to the contractor. However, the decision of HSCC shall be final and binding in this matter.	We seek deletion of "However, the decision of HSCC shall be final and binding in this matter."	As per Tender documents
41	Volume 3 - SCC	Clause 16	13	Construction milestones : Completion of RCC works upto Plinth Level in 5 months	The LINAC block being complex structure and located in the sub structure *of Cancer Block requires more duration to complete , request this milestone is not applicable for LINAC structure	As per Tender documents
42	Volume II - NIT	Sl No.1	2	Last date & time of submission of Online Tender - Up to 26/02/2024 by 15:00 hrs (IST)	Since it is EPC contract ie Scope of work includes survey,investigation, preparation of Architectural design, Structural design and design of all buildings required services in bidder scope. In this regard we need some more time for preparation of drawings, quantification of items and we have to get competitive offers from potential vendors which require time for getting quotations and further evaluations. In this regard we request you to extend the bid submission by at least 30 days from the current submission date (of 26th February 2024) to submit our most competitive offer.	The last date & time of submission of online bid/tender has already been extended upto 15:00 upto 04.03.2024 vide Amendment No.-I dated 26.02.2024.
GENERAL QUERIES						
43				General	We request you to kindly share the geotechnical report/ Soil report of this project.	Geotechnical investigation report is enclosed for reference only
44				General	We request you to kindly provide the Masterplan of the Project in Autocad file indicating the Plot Boundary.	PDF drawing is available with tender documents
45				General	We request you to kindly provide the land within site premises for setting up the batching plant	As per Tender Documents
46				General	We request you to kindly provide the land within site premises for setting up the Labour Colony	As per Tender Documents
47				General	We request you to kindly provide the land within site premises for setting up the site temporary infrastructure facilities such as site office, storage material yard, material stacking, formwork and reinforcement yard.	As per Tender Documents
48				General	List of Makes for AV systems is not available. Kindly provide.	Refer technical specification
49				General	Most of the given ELV / IT specifications are specific to one make. Request to provide alternate makes.	As per Tender conditions
50				General	ELV Technical Specification is not available for AV System, Telephone Systems, MATV System, etc. Kindly provide.	please refere Technical Specs and DBR for ELV systems.

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51				General	ELV Liasioning works & statutory approvals for the incoming service provider cables to the campus shall be taken up from Client end. Kindly confirm.	Liasioning works for statutory approval in the scope of EPC contractor
52				General	List of Makes for Operation Theatre, CSSD, Kitchen, Mortuary, Laundry, MGPS, PTS, Bio Medical Waste Management System is not available. Request to kindly provide.	As per tender Conditions
ARCHITECTURE QUERIES						
53	General			Development Area	We request to share the Site area for the proposal & battery limit for the External Development	As per Tender conditions
54	General			Drawings	Request for Acad Format of Architectural, Structural & all MEP Services drawings	EPC Tender, detailed engineering is in the scope of bidder
55	General			Drawings	We request to share the Service buildings drawings and details	EPC Tender, detailed engineering is in the scope of bidder
56	General			Survey Drawing	Kindly share Topographical Survey Plan . Request to provide the drawing along with Contour plans ,Site spot levels and existing service lines in Acad Format	Topographical survey plan is attached for reference only
57	General			Compound Wall	We assume Compound wall is already present and hence there is no scope of work from the bidder end. Kindly confirm.	Front compound wall (600m approx.) and two gate complex (approx. 200 Sqm each) are in the scope of bidder
58	General			External Road	As the External access road to the Proposed development is falling outside the Boundary wall, we assume that the scope of work is excluded and it shall be established from Client side.	External Road is not in the scope of this bid
59	Volume03 SCC	11.2 Approvals Required	Pg 6	Platinum Rated Green Building Certification	For hospital buildings with Built-up area exceeding 1 Lakh sq.m, obtaining EIA clearance is mandatory. Therefore, its prudent to have GRIHA 3-Star rating for the project, as its requirements align with those mandated by EIA	Platinum Rated Green Building Certification
60	Volume04 DBR	Architceture, Structure & HVAC		GRIHA 3 Star Rating / IGBC Certification		
61	Volume 03 Specific Conditions of contract		Pg 13		We assume that as per SCC/Scope of work in NIT documents, the supply, installation of furniture is restricted to general furniture only such as tables, visitor chairs etc. other fit-out items like cabinets, shutters will be excluded from the present scope of work.	Furniture work is not in the scope of this bid.

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
62	Volume04 DBR	Architecture DBR Important Notes	Pg 8	The following areas shall not be reckoned with for working out the plinth area & other facilities and their cost shall be deemed to be included in the overall quoted cost of works: 1) Lift wells (except one floor), Staircase wells (except one floor), Shafts, Lift machine rooms, Stair Mummies, Chajjas, Water tank storage, elevated platform, handicap ramp etc. 2) Covered balconies, Cantilever projections, Refuge terrace area, Entrance porch.	For Plinth area Calculations, request you to consider the conditions as per latest CPWD PAR 2023/ IS Code including all amendments as on date.	As per Tender Conditions
63	Volume 05 Design Basis Report		Site Plan Pg 10	Series of pedestrian paths and roads will interconnect buildings in campus	Pedestrian paths not indicated in masterplan. Kindly provide the details	Pedestrian paths as per architectural planning, if any, is in the scope of bidder
64	Volume 05 Design Basis Report			External Finishes - Planters and water body in flamed granite	Request to provide the location and specifications details	As per architectural planning, if any, is in the scope of bidder
65	Volume 05 Design Basis Report		Arch Finishes Pg 42	Ceiling - Water/ Weather resistant False Ceiling	We assume the false ceiling refers to Moisture resistant gypsum board	Moisture resistant gypsum board false ceiling
66	Volume 05 Design Basis Report		Finishing Matrix Pg 54		Kindly provide dado height for lift lobby and OPD waiting spaces	Dado height in Lift Lobby - Upto false ceiling and OPD - 1500mm
67	Volume 05 Design Basis Report	General			Kindly furnish the list of furnitures to assess the requirement accurately.	Furniture work is not in the scope of this bid.
68	Volume 05 Design Basis Report		Landscape Pg 49		Kindly furnish the landscape scheme/ layout to assess the requirement accurately.	Landscape scheme/layout is in the bidder scope considering local architecture and approval of Engineer-in-charge
69	Volume 06 Tender Drawings	General			Kindly furnish the Master plan drawing with Finished floor level, Formed Ground level, Finished Road level, and Landscape levels with respect to RL of site.	Since it is a EPC Tender, required details are in the scope of bidder
70	Volume 06 Tender Drawings	General			Please clarify whether bidder is allowed to modify the grid dimensions for all the buildings, without modifying the building configurations and tallying/matching the overall built-up area	Bidder can modify grid dimensions
71	Volume04 DBR	4.3 Structure DBR		4.3 Brick Work	All Brick work shall be Flyash brick, unless otherwise specified. Please clarify / confirm whether bidder is allowed to propose AAC blocks for main walls and internal partition walls instead of Flyash bricks	As per Tender Conditions
72	Volume 06 Tender Drawings	250 bedded Super Specialty Block			Request to confirm all the department names catering to Super Specialty Block	Department names are already been shown in the respective drawings
73	Volume 06 Tender Drawings	250 bedded Super Specialty Block			Request to confirm the departments, ICUs will be catering to	As per tender documents

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
74	Volume 06 Tender Drawings	250 bedded Super Specialty Block		Dwg No- HSCC/KP/SSB/TD/021	Request to confirm regarding Staff entry point in the floorplan	As per tender documents
75	Volume 06 Tender Drawings	250 bedded Super Specialty Block		Dwg No- HSCC/KP/SSB/TD/023	Kindly indicate the location of dialysis ward in First Floor Plan (as mentioned in floorwise facilities summary, Vol 05 DBR Pg 32)	As per tender documents
76	Volume 06 Tender Drawings	250 bedded Super Specialty Block		Dwg No- HSCC/KP/SSB/TD/028	Kindly confirm the staff space provided in Sixth Floor will accomodate all required teaching staff	As per tender documents
77	Volume 06 Tender Drawings	250 bedded Super Specialty Block		Dwg No- HSCC/KP/SSB/TD/028	Kindly indicate capacity for seminar hall, staff halls and canteen space provided in Sixth Floor	As per tender documents
78	Volume 06 Tender Drawings	250 bedded Cancer Hospital		Dwg No- HSCC/KP/CH/TD/014	We assume that the dining space shown on the second-floor level is intended for staff usage only.	As per tender documents
79	Volume 06 Tender Drawings	250 bedded Cancer Hospital		Dwg No- HSCC/KP/CH/TD/016-017	General ward in the Third & Fourth floor (Grid no - N-P/11-15) Kindly clarify the department to be catered for	As per tender documents
80	Volume 06 Tender Drawings	250 bedded Cancer Hospital		Dwg No- HSCC/KP/CH/TD/017	Request to provide the detail for the Surgical Dental area present in the fifth floor	As per tender documents
81	Volume 06 Tender Drawings	250 bedded Cancer Hospital		Dwg No- HSCC/KP/CH/TD/018	Kindly provide the capacity of the Lecture hall in the sixth floor	As per tender documents
82	Volume 06 Tender Drawings	250 bedded Cancer Hospital			Request to provide Longitudinal section and Latitudinal Section through the building to understand the levels.	As per tender documents
83	Volume 04 DBR	Architecture DBR 600 Bedded GH	Pg 15-17	Floor Plan & Floor Wise Area Statement Mismatch	We understand there is area difference in Lower Ground floor (2700sq.m) & Ground floor (3500sq.m). But as per Drawing, Lower Ground floor & Ground floor plans seems to have same floor plate. Kindly clarify.	As per tender documents
84	Volume 06 Tender Drawings	600 Bedded General Hospital		Dwg No- HSCC/KP/GH/TD/003 - Lower ground floor plan	We request to confirm Staff entrance from Outside, as there are only 2 entrances (emergency & OPD) indicated in the plan. Also confirm the service entry to Hospital from Service Buildings.	As per tender documents
85	Volume 06 Tender Drawings	600 Bedded General Hospital		Dwg No- HSCC/KP/GH/TD/004 -Ground floor plan	There are lot of Consultation rooms & Wards. We request to specify the DEPARTMENTS which will be catering to the General Hospital.	As per tender documents
					We found that Minor OT's are missing in the OPD Complex. As per NMC 2023, every Surgical Allied OPD must have 1 Minor OT. Kindly confirm the requirement.	As per tender documents
					For 600 Bedded General Hospital, present Radiology & Diagnostics with 1 X-ray, 1 ECG, 1 Echo, 1 Ultrasound will not suffice. Additional requirement must be provided especially for Emergency & labour Complex. Kindly confirm.	As per tender documents

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
86	Volume06 Tender Drawings	600 Bedded General Hospital		Dwg No- HSCC/KP/GH/TD/005 -First floor plan	Kindly confirm the provision of 1 C-Section OT in the Labour Complex, as it will be difficult to transport patients from First Floor to Sixth Floor. Also Kindly indicate the requirement of Delivery, Labour Rooms & Other Supporting rooms in the Labour Complex	As per tender documents
87	Volume06 Tender Drawings	600 Bedded General Hospital			We found that Toilet provision for Public & Patients are considerably less in the OPD & IPD complex. Also Baths were missing in the IPD Toilets. Can the provision be calculated as per NBC?	As per tender documents
					Clinical Laboratories (Microbiology, Pathology & Bio-Chemistry, Histopathology) are missing in this Hospital. Kindly confirm the requirements.	As per tender documents
87	Volume06 Tender Drawings	600 Bedded General Hospital		Dwg No- HSCC/KP/GH/TD/007 -Sixth floor plan	As per Norms, Blood bank has to be located in the Ground floor or First Floor for easy accessibility to Public. Current location in Sixth Floor near OT Complex will be difficult for Public movement. Kindly Confirm.	As per tender documents
88	Volume06 Tender Drawings	600 Bedded General Hospital		Dwg No- HSCC/KP/GH/TD/008 -Seventh floor plan	Kindly specify the capacity, No. of staff & any other facilities to be accommodated in each office space	As per tender documents
89	Volume06 Tender Drawings	600 Bedded General Hospital		Dwg No- HSCC/KP/GH/TD/008 -Seventh floor plan	We found that Centralised Staff area (Change, Lockers & Toilet) is missing in the drawings. Do we require?	As per tender documents
90	Volume04 DBR	3 Hospital Blocks	Pg 54 - 57	Toilets -HDVT Flooring (size 1200mm x 1200mm)	We observed in the Architecture DBR that the specified size for Vitrified Tiles is 1200mm x 1200mm. Given numerous toilets in hospital buildings, with their layouts being smaller, laying tiles of this size could prove challenging resulting in increased wastage. Therefore, we request considering the use of Anti-Skid Ceramic tiles size of 300mm x 300mm instead . Kindly confirm.	As per tender documents
91	Volume06 Tender Drawings	3 Hospital Blocks		Flooring	In hospital buildings, where many rooms are less than 10-15 sq.m, we recommend using 600mm x 600mm vitrified tiles to mitigate challenges & thereby reducing wastage. Kindly Confirm	As per tender documents
	Volume06 Tender Drawings	3 Hospital Blocks		Major & Minor OT	We observed in the drawings that there are total of 17 Major OT's & 3 Minor OT's only in all three hospital blocks. Kindly confirm the total number of Modular OT's & Minor OT's in this project.	Modular OTs - 23 Nos. Integration and Data Management System of MOT (IOT) - 6 Nos. Minor OTs - 3 Nos.
STRUCTURE QUERIES						
92	Volume 5 - Design basis report - Structure	5.1 Geographic / topographic parameters	3 of 12	Seismic Zone IV	Seismic Zone as per IS 1893 is Zone III. Please clarify.	As per tender documents

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
93	Volume 5 - Design basis report - Structure	5.1 Geographic / topographic parameters	3 of 12	Wind speed is 44m/s	Wind speed as per IS 875 is 39m/s. Please clarify.	As per tender documents
94	Volume 5 - Design basis report - Structure	9.2 Reinforcement	9 of 12	Steel reinforcement shall be Grade Fe 500D	Fe 550D shall be used for rebar diameter Y12 and above. Please confirm.	As per tender documents
95	Volume 5 - Design basis report - Structure	5.2 Structural System	3 of 12	The sizes of the RCC structural elements shall be Roof slabs, Floor slabs, Walkways, Balconies, Canopies, Waste slab etc. – 150mm Precast roof slab, walls of cable/pipe trenches, Sun shade etc. – 100mm	Slab thickness shall be as per the design requirement only and not limited to thickness specified in tender clauses.	As per tender documents
96	Volume 4 - Technical specifications - Civil	Not available	-	Not available	Please provide waterproofing specifications	Water proofing shall be as per CPWD specifications and approval of Engineer-in-charge
GEOTECHNICAL QUERIES						
97	General				Please provide Geotechnical investigation report with details of Bore log data, water table, etc., to determine safe bearing capacity of soil for foundation design	Geotechnical investigation report is enclosed for reference only
98	General				Kindly provide the CBR values for design of Pavements	Geotechnical investigation report is enclosed for reference only
99	General				Kindly provide the Soil resistivity ERT details.	Bidders are advised to visit the site and get the required details
100	DBR-Structural	ROAD WORK, SURFACE PARKING, PLINTH PROTECTION	11.1		Please confirm type of Pavement/Pavers for the proposed site	Road will be planed as per approved Architectural drawings and their sections shall be designed as per relevant IRC and/or BIS code subjected to the minimum thickness shown in the relevant clause of DBR.
101	DBR-Structural	ROAD WORK, SURFACE PARKING, PLINTH PROTECTION	11.1		Kindly provide the detailed road drawings with cross sections, if any available. This will be helpful for undersanding the design inputs parameters.	Road will be planed as per approved Architectural drawings and their sections shall be designed as per relevant IRC and/or BIS code subjected to the minimum thickness shown in the relevant clause of DBR.
102	General				Please confirm the space availability for open excavation and distance of existing buildings from proposed site.	Bidders are advised to visit the site before submission of bid.

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
103	General				Kindly provide the High flood level (HFL) for the proposed site.	Bidders are advised to visit the site and get the required details
ELECTRICAL SYSTEM QUERIES						
104	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2. SCOPE OF WORK	2	SCOPE OF WORK The entire Design Basis Report, Specifications, List of Makes, Special Conditions of Contract etc. shall form Part of the Scope of Work. Tender for this project shall have following buildings as under:- • 600 Bed Hospital Block • 250 Bed Cancer Hospital • 250 Bed Super Specialty Block (SSB) • Service Block-1&2 • Basement Parking • Any other building as required & given in architecture plan.	In the scope of work, it's specified that two service blocks (Service Block-1 and Service Block-2) are required, and the master plan also indicates the presence of two blocks for the service building. We understood from the DBR that Service Block-1 is designated for ESS-1. Could you please provide details regarding the intended purpose of Service Block-2	service block -2 for other services.
105	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.3 ELECTRIC SUB-STATIONS	4	The rating and capacity of equipment indicated herein below are minimum to be provided. However, during detailed designing, if required and found necessary, the capacity / rating of the equipment may be increased by the EPC Contractor.	During detailed designing, if required and found necessary, the capacity / rating of the equipment may be upgraded based on engineering in charge or the approver. The bidder can claim the addition cost beyond the capacity indicated in the tender documents. Kindly confirm.	As per tender conditions
106	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.3.3 SUBSTATION GUIDELINES	5	Main LT Panels, all Hospital Block LT Panel, Main HVAC Panel, APFC Panel, AHF Panel shall be Design Verified Assembly (TTA) as per IEC 61439 and as per technical specifications. All Design Verified Assemblies (TTA) shall be smart type having switchgears (Incoming and Outgoing - ACB & MCCB) communicating their release data over Ethernet and BMS Compatible.	As per IEC 61439 standards the panel design will be followed. However, Our proposal is to classify panels above 1000A as TTA and the remaining panels as PTTA. Kindly confirm	As per DBR Main LT Panels in all three Block, Main HVAC Panel, APFC Panel, AHF Panel shall be Design Verified Assembly (TTA) as per IEC 61439.
107	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.3.3 SUBSTATION GUIDELINES	5	All LT and MV Panels shall have 30% spare outgoing feeders for different rating of feeders.	Please confirm shall we consider the LT/MV panel outgoing feeders spare as 20%	As per tender conditions
108	Volume 04 Technical specification	3.00 CAPACITOR PANEL	Page E-20 R0	It shall improve power factor up to 0.98 lagging from initial power factor.	There is a contradiction between two clauses, Kindly confirm that the bidder can target maximum PF of 0.98.	As per DBR 0.99 lagging PF to be considered.
	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.3.7 Power Factor Improvement & Harmonics Suppression:	8	Real time Automatic power factor control panels with Heavy duty capacitors, IGBT switched with 14% copper wound detuned reactor and Active Harmonic Filter are proposed to be provided in the substation to achieve overall power factor 0.99 (lagging) from existing Power Factor		
109	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.3.3 SUBSTATION GUIDELINES	5	All ACB shall be $I_{cs}+I_{cu}=I_{cw}=65kA$ for 1sec. Depending on transformer rating. For 2.5MVA transformer LT Panel, APFC panel have 65 kA for 1 sec fault level and for 2MVA and below will be of 50kA All MCCB shall have $I_{cs}=I_{cu}=100\%$	Breaking capacity of ACB and MCCB shall be decided based on the short circuit calculation of respective panels. Kindly confirm.	shall be as per DBR and tender conditions.

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
110	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.3.3 SUBSTATION GUIDELINES	5	All MCCB upto 200A & below will be thermal magnetic released with variable current setting with earth fault protection	All MCCB upto 200A & below will be thermal magnetic released with fixed current setting with earth fault protection . Kindly confirm	shall be as per DBR and tender conditions.
111	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.7.1 Lighting Design & Lighting Fixture	16	Dimmer with dimmable light fixtures will be provided in ICU, Pre-OT, Post-OT and Day Lighting area of Buildings as per Green Building Rating.	Its specified as dimmer with dimmable light fixtures will be provided in Day lighting area of Building. This description appears to be generic. Please provide the details of the daylighting area inorder to consider the Dimmer provision.	day lighting peripheral areas like waiting hall, corridore etc.
112	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.7.1 Lighting Design & Lighting Fixture	17	The lux level of all the area shall be as per NBC-2016 / PWD specification / IS Code and guidance of Engineer-in-Charge.	There is a contradiction between two clauses, we shall consider the lux level of the area as per NBC-2016/ PWD specification	shall be as per DBR and tender conditions.
		2.7.2 Indicative Design Specification for Lighting Fixture	20	Buildings shall be generally well illuminated. Lux level shall be provided in various areas conforming to NBC-2016/ Health care guidelines		
113	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.7 INTERNAL ELECTRIFICATION, LV & ALLIED WORKS:-	11	MS Conduits shall be surface mounted or laid on GI angle/channels with suitable hanging GI supports in areas wherever there is false ceiling provision. In case there is no provision for false ceiling, MS Conduits shall be concealed in concrete during slab casting.	Considering the difficulty in using MS conduits for concealed applications, we shall go with PVC conduits as per CPWD internal Electrification 2013 with latest amendment, Chapter no: 5, clause 5.13..Kindly confirm.	shall be as per DBR and tender conditions.
114	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.7 INTERNAL ELECTRIFICATION, LV & ALLIED WORKS:-	11	6A Plug Point / UPS Computer outlets (up to 3 outlets on one ckt.) - 2.5 sq.mm	Detail of socket / circuit shall be considered as follows. A) Not more than 2Nos 16A outlet / Circuit B) Not more than 4Nos 6A outlet / Circuit C) Not more than 1No 16A & 2Nos 6A outlet.	shall be as per DBR and tender conditions.
115	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.7 INTERNAL ELECTRIFICATION, LV & ALLIED WORKS:	15	General Wards with Each Bed- 6 A Raw Power points- 2 nos. 6/16 A Raw power points – 2 Nos. Nurse call bell point - 1 Nos. Night Lamp in each ward - 1 Nos. 6A Raw Power in each ward- 1 Nos. 6/16 A UPS power points – 1 Nos. - Each Bed Data Point -1nos Data Point - 1 Nos. - Each Bed ICU/ICCU Pre- OT , Post- OT, SICU, HDU, MICU, Post Labour ward, with Each Bed 6 A UPS Power points- 6 nos. Each Bed 6/16 A UPS power points – 6 Nos. Each Bed Nurse call bell point - 1 Nos. Each Bed Data Point -1nos Data Point - 1 Nos. - Each Bed	Our proposed scale of amenities for General Wards with Each Bed 6 A Raw Power points- 1 nos. Nurse call bell point - 1 Nos. Night Lamp in each ward - 1 Nos. 6A Raw Power in each ward- 1 Nos. 6/16 A UPS power points – 1 Nos. - Each Bed Data Point - 1 Nos. - Each Bed ICU/ICCU Pre- OT , Post- OT, SICU, HDU, MICU, Post Labour ward, with Each Bed 6 A UPS Power points- 4 nos. Each Bed 6/16 A UPS power points – 4 Nos. Each Bed Nurse call bell point - 1 Nos. Each Bed Data Point - 1 Nos. - Each Bed . Please confirm	shall be as per DBR and tender conditions.

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
116	General				We have noticed that there are more parking slots in Basement. However, there is no specification regarding electric vehicle (EV) charging. If there is a requirement for EV charging, please provide the necessary details and specifications.	As per local bylaws
117	General			Medical equipments, Kitchen, laundry etc.	We have considered only Bulk Power isolator on one location at Bulk medical Medical equipments like MRI, CT, Xray etc, Laundry, Kitchen and the items not part of the present bidder scope. All other small power, lighting, earthing, wirings, etc inside the medical equipments and the other services are part of equipments vendor scope. Kindly confirm.	As per DBR All Hospital Blocks, the separate distribution system shall be provided for Lighting load, Power, AHU & UPS load, Medical equipment panels
118	General			Scheme:: Single Line Diagram for distribution of power	Kindly share the preliminary scheme / drawing for the understanding of the proposed power distribution.	EPC Contractor shall design, engineering for smooth functioning of all blocks based on DBR, specs and tender conditions.
119	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES & IBMS SYSTEM	2.21 LIFTS	32		There is a contradiction between the DBR and the plan drawings regarding the number of elevators. Upon reviewing the plan drawings for the 600 bed General hospital block , one dumb waiter is missing in the plan and in DBR its mentioned as 2nos. Additionally, please provide the travel distance for those dumbwaiters. For 250 BED SS8 , there are 7 Nos of passenger lift is indicated on the plan and in DBR 6 Nos of passenger lift is mentioned. Kindly confirm the quantity of lift as per the requirement	shall be as per DBR.
ELV SYSTEM QUERIES						
120	Volume05 Design Basis Report -DBR Development of IT Infrastructure	Clause:3	Pdf Page No: 186	There shall be full strength 100%Wi-Fi coverage of the entire block which shall be achieved through outdoor/indoor Wireless Access Points of Wi-Fi 6 standard or higher. Heat Map Survey to be submitted for approval through OEM.	Bidder presume that Wi-Fi coverage is mainly to cover the Functional Areas except Staircases, Ramps, Toilets, Stores & External Areas. Kindly confirm?	The Wi-Fi coverage is required in all the areas including Staircases, Ramps, Stores etc.
121	Volume05 Design Basis Report -DBR Development of IT Infrastructure	I. Establishment of IT Infrastructure:	Pdf Page No: 187	SI should provide the internet connectivity at site during the implementation period of the project. Adequate speed of the internet should be (minimum 100 mbps or higher bandwidth) available as per the requirements of the project.	ELV Liasioning works & statutory approvals for the incoming service provider cables to the campus shall not considered under contractor Scope. Kindly confirm?	Internet connectivity has been asked during the implementation period only by the SI. Post implementation, Go-Live & Handing Over, necessary Internet Services will be arranged by client only.

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
122	Volume05 Design Basis Report -DBR Development of IT Infrastructure	VIII Development of Data Centre (DC) & Disaster Recovery Centre (DRC):	Pdf Page No: 191	Smart Racks as per the requirement or any other related work for completeness	Kindly Provide the specification for Smart Rack.	Smart racks are not required. Network & Server Racks should be provided as per requirement.
123	Volume05 Design Basis Report -DBR Development of IT Infrastructure	VIII Development of Data Centre (DC) & Disaster Recovery Centre (DRC):	Pdf Page No: 191	HSCC/Client will decide that out of 3 Hospitals, which one shall act as Disaster Recovery Centre & remaining 2 shall be Data Centre	Kindly confirm on the location of DC & DRC.	For reference purpose, General Hospital & Super Specialty Blocks will have the DC & Cancer Hospital will have DRC. However, exact locations will be finalized during the execution period only.
124	Volume05 Design Basis Report -DBR Development of IT Infrastructure	Minimum Computer Hardware requirement	Pdf Page No: 247	43. Data Centre - as mention in DBR & Specs - 2 No's.	Bidder presume that there are only 2 Datacenter (DC&DRC) in the Proposed campus.	There are 2 Data Centres (DCs) & 1 Disaster Recovery Centres (DRCs) in the proposed campus.
			Pdf Page No: 245	44. Data Recovery Centre - as mention in DBR & Specs - 1 No.		
			Pdf Page No: 195	2. Core Switch - 4 nos (2 in main DC and 2 in DRC) Two nos. of Core Switches (in each block server room) in a high availability configuration.		
125	Volume05 Design Basis Report -DBR LAN & WIFI	Network Architecture:	Pdf Page No: 195	Set up a Network (NOC) & Security Operating Centre (SOC) with Security Information & Event Management (SIEM) or Security Orchestration, Automation & Response (SOAR) solutions as per requirement of HSCC/Client.	Kindly Provide Room Requirement for IT Systems.	Exact room requirements will be provided during the execution period only. NOC & SOC as per IT Network/Cyber Security standards including guidelines of CERT-In shall be established.
126	Volume05 Design Basis Report -DBR LAN & WIFI	Network Architecture:	Pdf Page No: 195	<u>Core Switch:</u> These switches are high density 10G/40G port switches with a non-blocking architecture.	Bidder Presume that Core Switch shall have 40/100G & Distribution switch shall have 40G Uplink & 10G Downlink. Kindly confirm?	The Core/distribution Switch shall have 24x 1G/10G SFP+ Ports and 2x 40G/100G QSFP+ Port from Day 1. Refer IT Network Architecture of DBR.
	Volume04 Technical Specifications and Make List	1. Core Switch/Distribution Specification	Pdf Page No: 427	The Core/distribution Switch shall have 24x 1G/10G SFP+ Ports and 2x 40G/100G QSFP+ Port from Day 1.		
127	Volume05 Design Basis Report -DBR LAN & WIFI	Network Architecture:	Pdf Page No: 195	Server room on one block will be connected to all other two blocks server room through 12 core OFC Single mode in redundant mode in 2 different physical route via HPDE pipe and must have 40G/100G connectivity. Similar connectivity shall also be setup with existing Medical College at GMC, Kolhapur campus.	We Presume Our scope limit only with the New campus.	Connectivity to existing Medical College with Fibre Optics cable along with associated components is also in the scope of SI.
128	Volume05 Design Basis Report -DBR LAN & WIFI	Computer / LAN Networking/ Wi-Fi Points	Pdf Page No: 199	The maximum length of the Cat 6A cable from end user point to the Hub or Edge switches shall not be more than 70 meters. Beyond 80 m length, Fiber Optic Cable shall be used. For Cat6A cable from Access switch to Wi-Fi device shall not be more than 40 meters.	As per ANSI/TIA Standard Support CAT6A Cable upto 100m length with out any insertion/Signal Loss or delay. Hence Bidder Presume that OFC Cable along with converrtter if CAT6A Cable length goes more than 100 Meters.	As per tender Conditions

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
129	Volume05 Design Basis Report -DBR LAN & WIFI	Computer / LAN Networking/ Wi-Fi Points	Pdf Page No: 199-203	General Hospital - No. of Data Points	We Presume to follow the Amenities as per Indicative minimum electrical points requirement under clause 2.7 Internal Electrification , LV & Allied Works. Kindly confirm?	As per tender conditions
	Volume05 Design Basis Report -DBR ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2.7 INTERNAL ELECTRIFICATION, LV & ALLIED WORKS:	Pdf Page No: 123-125	xxv. Indicative minimum electrical points requirement is as under.		As per tender conditions
130	Volume05 Design Basis Report -DBR ELECTRICAL, ELV SERVICES& IBMS SYSTEM	Minimum Computer Hardware requirement:	Pdf Page No: 245	Minimum Computer Hardware requirement:	As there is a huge cost implication as it was mentioned as minimum, Successful bidder shall consider the Quantities as mentioned under this clause. Kindly confirm?	The quantities mentioned under minimum Computer Hardware requirement may be considered. There will not be much variation in requirement of the same. However, minor variation of some items may be there as per requirement of client/site.
131	Volume04 Technical Specifications and Make List	LIST OF APPROVED MAKES FOR ELECTRICAL SYSTEM	Page 3-3	52. PA system - Bose/ Honeywell /Harman/ Martin Audio	Bosch and Honeywell only having PA system and other having only audio system. Hence kindly include following makes : Optimus, TSG and TOA	As per tender Conditions
132	Volume04 Technical Specifications and Make List	LIST OF APPROVED MAKES FOR ELECTRICAL SYSTEM	Page 3-3	53. CCTV camera-- Bose/Sony/Honeywell-S60	Sony is not manufacturing CCTV cameras, hence kindly include the following makes: Pelco, Axis,Dvitel, Samsung Hanwha	As per tender Conditions
133	Volume04 Technical Specifications and Make List	LIST OF APPROVED MAKES FOR ELECTRICAL SYSTEM	Page 3-3	63. Field devices - Honeywell/L&T/Siemens/Schneider/carrier/Johnson/Dwyer	kindly include the Omicron and Greystone make for field devices since they are OEM for all makes as specified in the document	As per tender Conditions
134	Volume04 Technical Specifications and Make List	LIST OF APPROVED MAKES FOR ELECTRICAL SYSTEM	Page 3-3	64 -Access control system - Honeywell-Prowatch/Schneider/Lenel/Cardex/ Bosch	kindly include HID make since they are OEM for all the makes as specified.	As per tender Conditions
135	Volume04 Technical Specifications and Make List	LIST OF APPROVED MAKES FOR ELECTRICAL SYSTEM	Page 3-3	66 -CAT 6 UTP, CAT 6A UTP/STP, Optical Fibre-cable - Molex/Systimax/Panduit/Belden	kindly include R&M make for passive cabling in addition the above makes	As per tender Conditions

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
136	Volume04 Technical Specifications and Make List	LIST OF APPROVED MAKES FOR ELECTRICAL SYSTEM	Page 3-3	7. U/FTP Components (Passive devices for LAN)- Cat 6A U/FTP, Wall Plate 1 Port/2 Port, Power Cat6A Data Gate Jack, Cat 6A Patch Cord S/FTP, GANG Box, 24 Port Patch Panel CAT-6A - Molex / Systimax / Panduit / commscope/AMP/Legrand	kindly include R&M make for passive Items	As per tender Conditions
137	Volume04 Technical Specifications and Make List	LIST OF APPROVED MAKES FOR ELECTRICAL SYSTEM	Page 3-3	1.Core switch - Aruba/Ruckus/commscope /Cisco	Kindly include the Alcatel ,Arista and allied telesis make	As per tender Conditions
138	Volume04 Technical Specifications and Make List	LIST OF APPROVED MAKES FOR ELECTRICAL SYSTEM	Page 3-3	A2. Access switch - Aruba/Ruckus/Juniper/Cisco	Kindly include the Alcatel ,Arista and allied telesis make.	As per tender Conditions
HVAC QUERIES						
139	Volume05 Design Basis Report	1.3.14	10	All the air conditioned space in Hospital Block, Cancer Block & SSB Block fed by AHU shall have ducted supply & ducted return with GS5 / GI construction Duct. Auditorium & double height air conditioned areas shall also have supply & return both ducted.	Kindly Provide Auditorium drawing as mentioned in RFP DBR	A mini theater/ Audi is on 6th floor of Cancer Block. Design shall be as per tender condition.
140	Volume05 Design Basis Report	1.3.6	4	Kitchen exhaust shall be through wet Scrubber based on exhaust air quantity as per kitchen hood requirement. Fresh air supply to the kitchen shall be through air washer.	It is the understanding of the bidder that, kitchen exhaust shall be a dry scrubber. Kindly confirm	Yes. The kitchen exhaust shall be dry scrubber type.
		1.3.15	15	Complete Mechanical ventilation system with Air-washer & Dry Scrubber for Kitchen with grease trap and MS ducting with fire paint.		
141	Volume05 Design Basis Report	1.3.7	4	The central air conditioning system shall consist of Water Cooled centrifugal Chillers with VFD and active harmonic filters, fixed speed Primary Pumps, Variable Speed Secondary chilled water pumping system, fixed speed Condenser water pumps, Hot water generators for RH control / winter heating, Hot Water Pumps, Cooling Towers with VFD, Pressurized Expansion Tank, Vacuum Degasser, Electrochemical Water Treatment & Disinfection System, HVAC Plant room manager from chiller manufacturer.	Kindly confirm for chilled water circuit shall be a vacuum degasser or Air separator	Shall be as per tender condition.

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
		1.3.10	9	Pressurised expansion tank and air separator shall be considered in chilled water and hot water circuit in AC plant room.		
PHE						
142	Volume-5 DBR	2.4. Water Management System Page 86 of 289	86 of 289	Domestic water supply shall be fed through hydro pneumatic pumps for proposed General Hospital, SSB & Cancer Hospital Buildings at Kolhapur GMC Maharashtra.	In the clause 2.4 , Domestic supply shall be through Hydro pneumatic and as per clause 2.8.1 Half day storage shall be provided in Overhead tank. We consider that one common hydro pneumatic system will pump to the Domestic OHT located at three main buildings & one common hydro pneumatic system will pump to the Flushing OHT located at three main buildings. Kindly Confirm	Shall be as per tender condition.
143	Volume-5 DBR	2.8.1 Under Ground/Overhead Water Storage, Page 87 of 289	87 of 289	It is proposed to have underground storage of water equal to minimum one day requirement in case of Raw/Domestic/Flushing /Soft Water Tank/ Irrigation Water Tank .The Over Head Tanks at Terrace level shall be half day capacity		Shall be as per tender condition.
144	Volume-5 DBR	2.2 Source of Water Supply Page 85 of 289	85 of 289	The main sources of water are from the state water supply network/ Bore wells	The main Source of water shall be met through the state water supply Network. Alternate source shall be considered from borewell. Kindly share the existing bore well and state water supply quality withn the premise.	State/municipal water supply will be provided upto the plot boundary and internal arrangement in the scope of bidder. Further, required no. of Bore wells are in the scope of bidder
145	Volume-5 DBR	4.0 Sewerage System page 77 of 289	77 of 289	Pipes used for Sewerage disposal system shall be of RCC NP2/ Eco- drain SN 4 Nu- Drain UPVC pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings and NP3 class pipes with S&S joints conforming to (IS 458) from building 1st Manhole to sewerage treatment plant inlet chamber.	External Pipe from building to 1st Manhole shall be SN4 Drain pipe UPVC as per IS 15328 with fittings and the Main sewage line shall be NP3 RCC Hume pipe. Kindly confirm.	Shall be as per tender condition.
146	Volume-5 DBR	5.0 Storm Water Drainage & Rain Water Harvesting System, Page 79/289	79 of 289	The rainwater from the terraces, open surface areas, as per design, shall be collected in the clay brick masonry chambers with RCC NP-2/ Eco- drain SN 4 Nu- Drain Upvc pipes or of equivalent make, manufacture as per EN 13476 or equivalent as per I.S.15328 with fittings and NP-3 pipes, collection chambers and shall be ultimately connected to the main storm-water drainage system.	External Pipe from building to 1st Manhole shall be SN4 Drain pipe UPVC as per IS 15328 with fittings and the Main storm line shall be NP3 RCC Hume pipe. Kindly confirm.	Shall be as per tender condition.
147	Volume-5 DBR	DESIGN BASIS REPORT- HOT WATER SYSTEM INCLUDING SOLAR HWG, Page 96 of 289	96 of 289	3.0 Solar hotwater system:The per capita per day hot water demand for proposed 600 Bed General Hospital, 250 Bed SSB & 250 Bed Cancer Hospital Buildings is considered to be 30 LPCD for per beds and 5 LPCD for other staffs. The requirement of total Hot water all proposed buildings in the project is 53 cum/day.	For total 1100 Beds, the hot water demand per bed shall be 35Lpcd and the over all demand comes around 38.5 Cum/day. Also we consider the 20% of solar hot water system and rest through electric geysers. Kindly confirm the overall demand and solar hot water percentage as 20% of over all demand.	Shall be as per tender condition.

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
148	Volume 6, Tender drawings	Tender drawings		Plumbing Drawings	Kindly share the external & internal plumbing drawings & schemes.	It is a EPC Tender, Bidder may plan & design the plumbing work as per DBR and Technical specifications attached with the RFP.
149	Volume 5- DBR	Design Basis report, Plumbing, Clause 1.4, Page 74/289	74 of 289	1.4 Storm Water Drainage System & Rainwater Harvesting a. Collection and conveyance around the proposed buildings. b. Disposal of storm water to rain water Harvesting Pits/ Soak galleries, and balance shall be disposed in local city main drain/Natural Drains.	The storm water pipe network considered only for the proposed buildings and internal roads within 13 acres plot boundary and further connected to recharge pit at the outlet point. The storm network disposal shall be terminated at the entry/exit of the proposed site boundary. Kindly confirm.	As per tender documents
150	Volume 5- DBR	B. DESIGN BASES REPORT OF WATER TREATMENT PLANT (WTP), Clause 2.1, Page no. 84/289	84 of 289	2.1 Water Treatment Plant (525 KLD)	2.1 Water Treatment Plant (525 KLD) , Operation hours of WTP considered with 16 hours. Kindly confirm.	Confirmed
FPS QUERIES						
151	Volume 5 - DBR	1.00	97	Gas flooding system for panels, Computer Rooms & other sensitive areas	Others Since critical area is subjective term, gas flooding system has been considered only for Data Center. For other sensitive areas spelt, "SERVER ROOM" shall be considered	As per tender documents
152	Volume 5 - DBR	2.9	100	Mild steel/GI class 'C' pipes confirming to IS: 1239/3589 including all ductile iron fittings like bends, elbows, tees, couplings etc. shall be used in Fire Fighting system.	Kindly confirm "MS- class'C' " pipes shall be used in overall fire protection system	As per tender documents
153	Volume 5 - DBR	2.9	101	Pressure vessels shall be provided with all the terrace pumps & at plant room also.	Air vessl/pressure vessel is required only at UG pump room location. It is not required to be kept at each terrace pump.	As per tender documents
154	Volume 5 - DBR	2.1	101	Underground reservoir shall be provided of 400 KL capacity as per latest NBC-2016 requirement/ Local Fire Authority Bye laws.	Internal/external hydrants approximately more than 100 nos, doubled capacity 400 KL shall be considered as per NBC 2016 and Water demand for water curtain system shall be added additionally, kindly confirm.	As per NBC norms
155	Volume 5 - DBR	2.9.1	101	Pumps spec and sets - 2 electric , 1 Diesel, 2 jockey ,1 water curtain (2850 lpm & 180 lpm)	As per NBC 2016, One additional diesel pump shall be considered, since more than 100 nos hydrant, kindly confirm	Pumps spec and sets - 2 electric , 2 Diesel, 2 jockey, 1 water curtain

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
156	Volume 5 - DBR	3.2	102	One no. pressure gauge & 80 mm dia CI Butterfly Valve to be provided in each internal hydrant riser per floor.	a. Pressure guage at every landing floor/every floor is not necessary. One at ground floor level & one at terrace can be sufficient, Kindly confirm. b. Butterfly valve is not required since the hydrant is equipped with valve, Kindly confirm.	As per tender documents
157	Volume 5 - DBR	3.4	103	Water Curtains:- Brass water curtain nozzles (K factor 180) of approved make and manufacturer.	As per NBC 2016/ IS 15105 - Water curtain nozzles K-23 is sufficient for system. Kindly confirm	As per NBC norms
158	Volume 5 - DBR	2.9	129	Repeater panels shall be provided in various buildings as required	Repeater panel shall be provided at the main entrance of Security room, kindly confirm	As per tender documents
159	Volume 5 - DBR	2.9	129	Addressable intelligent dual type Fire Detectors is suggested.	Dual type detector shall be depend on single manufacturer instead optical smoke detector shall be considered which is widely available in market. Kindly confirm	As per tender documents
160	Volume 5 - DBR	2.9	129	Suitable addressable loop powered sounders/ hooters for 100db sound level are suggested. Directional sounder to be installed at Exit Point.	Sounder shall be powered from panel through the modules for operation. Also directional sounder is not required for exit point. Kindly confirm	As per tender documents
161	Volume 5 - DBR	5	105	For sprinkler system, fire annunciation panel needs to be considered.	Sprinkle flow switches are already monitored through fire alarm panel. Hence separate annunciator is not required. Kindly confirm.	As per tender documents
162	Volume 5 - DBR	2.9	130	Cabling shall be with Fire Survival Armoured copper cable or Fire survival Unarmoured cable in MS conduit wherever required due to non false celing.	FRLS with metal conduiting is sufficient as per IS Codes, kindly confirm.	as per tender conditions.
MGPS QUERIES						

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
163	Vol-4 Tech Specs	Technical Specifications for Medical Gas Pipeline System(MGPS)	506	1.5 LIQUID MEDICAL OXYGEN STORAGE TANK- 20KL + 10 KL CAPACITY The double walled Vacuum Insulated Evaporator shall be constructed of stainless steel inner vessel contained within a carbon steel outer vessel. The annular space between the vessels shall be filled with non-inflammable perlite insulation material to insulate under vacuum. The VIE should be self-pressurizing type by partial evaporation of liquid oxygen through a pressure building coil by a non-ferrous imported pressure regulator. The vessel shall be supplied as a functional whole with all materials of construction & the cleaning regime suitable for medical grade liquid oxygen.	Liquid oxygen tank shall be supplied by gas supplier on rental basis and statutory approval shall be obtained through gas supplier. Hence Liquid oxygen tank, Vapourizers, related accessories & statutory approval shall be not part of EPC contractors scope. All related infrastructure for liquid oxygen tank including piping downstream (Connection to oxygen manifold system) shall be provided by the EPC contractor. EPC Contractor shall coordinate with Liquid oxygen vendor as recommended by client. Kindly confirm.	As per tender Conditions.
164	Vol-4 Tech Specs	Technical Specifications for Medical Gas Pipeline System(MGPS)	520	10. GAS OUTLETS Terminal Units (Gas Outlets) with probes/Adaptors for O2, N2O, Compressed Air 4, Air 7, AGSS,Vacuum & CO2 (CO2 can be optional depending on the requirement) Configurations possible: surface, flush & Bead-head.	The gas outlets configuration shall be in Surface mounted and Bedhead panel for easy maintenance. Kindly confirm.	As per tender Conditions.
165	Vol-4 Tech Specs	Technical Specifications for Medical Gas Pipeline System(MGPS)	522	13. Supply of O2 Cylinders – Class D Type Should be as per BIS/IS/ASME Standard. 14. Supply of N2O Cylinders – Class D Type Should be as per BIS/IS/ASME Standard 15. Supply of CO2 Cylinders – Class D Type Should be as per BIS/IS/ASME Standard	Supply of gas cylinders shall be provided by the gas cylinder supplier on rental basis. So supply of cylinder shall not be part of EPC contractor scope. Please confirm.	As per tender Conditions.
ELECTRICAL AND LIFTS						
166	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	1. General a)	1	In case of any variance, electrical requirements given here in DBR or stringent among those shall supersede any other requirements mentioned in any other parts of EPC contract document & the instructions / directions of engineer-in-charge will be binding on the contractor	In case of any variance, Volume - II, Specific Conditions of Contract, Page No.7, 12. Order of Precedence of documents shall be considered.	As per Tender Conditions
167	DESIGN BASIS REPORT ELECTRICAL, ELV SERVICES& IBMS SYSTEM	2. SCOPE OF WORK	2 & 3	Electrical & Allied Services' required for proposed 600 Bed General Hospital, 250 Bed Cancer Hospital & 250 bed SSB at Kolhapur GMC, Maharashtra covers Electric Sub Stations, Transformer, D.G Set Installation work,..... Any other item missed out but essential for work will also be considered.	Items specified shall be considered. Please specify any other items apart from specified also to be considered.	As per Tender Conditions
168	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 1 of 3	1. HT VCB Panel Board/ RMU Siemens/L&T/ABB/Schneider	We presume to consider for HT VCB Panel Board / RMU 1. System Integrators of Siemens/L&T/ABB/Schneider	As per Tender Conditions

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
169	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 1 of 3	2. Transformer ABB/Indotech/ Siemens/ Voltamp /Crompton Greaves/Kirloskar.	Request you to kindly include the following makes for Transformers 1. Schneider 2. Sudhir Power Ltd.	As per Tender Conditions
170	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 1 of 3	3. Main LT Panel/ APFC panels / Active Harmonic Filter (AHF) Siemens/ L&T/ABB /Legrand/ Advance Panels/C&S/Tricolite/Risha Control Engineers Pvt. Ltd/Supertech control System	Request you to kindly include the following makes for Main LT Panel/ APFC panels / Active Harmonic Filter (AHF) 1. Authorised System Intregators of Siemens / L&T / ABB / Legrand / Schneider	As per Tender Conditions
171	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 1 of 3	4. Electrical (Floor Panels)/ Capacitor panel below 600kvar Tricolite/ Control & Switchgear/SPC Electrotech/Risha Control Engineers Pvt. Ltd./ Siemens/ L&T/ABB /Legrand/Advance Panels/KEPL/Supertech Control System	Request you to kindly include the following makes for Electrical (Floor Panels)/ Capacitor panel below 600kvar 1. Authorised System Intregators of Siemens / L&T / ABB / Legrand / Schneider	As per Tender Conditions
172	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 1 of 3	10. Diesel Engine C u m i n s / Caterpillar/ Perkins/ Kirlosker Oil Engine Ltd/	Request you to kindly include the following makes for Diesel Engine 1. Baudouin	As per Tender Conditions
173	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 1 of 3	12. Anti-vibration mounting D u n l o p / Gerb/ Resistoflex / Kanwar	Request you to kindly include the following makes for Anti-vibration mounting 1. DG OEM Design Validared Makes	As per Tender Conditions
174	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 2 of 3	18. ACB L & T 'U' Power(Omega)/ Siemens 3WL/ ABB-Emax2/ Legrand(DMX)/Aadhunik	Request you to kindly include the following makes for ACB 1. Schneider	As per Tender Conditions
175	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 2 of 3	19. Moulded Case Circuit Breaker L & T – (D sine/DL) / Siemens-VA/ ABB-TMA / /Legrand-DPX/Aadhunik	Request you to kindly include the following makes for Moulded Case Circuit Breaker 1. Schneider	As per Tender Conditions
176	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 2 of 3	35. Cable Trays/ Raceways O B O / L e g r a n d / Anant power	Request you to kindly include the following makes for Cable Trays/ Raceways 1. BEC 2. RMCON 3. MEM	As per Tender Conditions
177	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 2 of 3	40. MS conduit & Accessories B E C/ Steel Kraft	Request you to kindly include the following makes for MS conduit & Accessories 1. AKG 2. JPC	As per Tender Conditions
178	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 2 of 3	41. PVC conduit & Accessories (ISIMarked) Supreme/Prince/Finolex/BEC	Request you to kindly include the following makes for PVC conduit & Accessories (ISIMarked) 1. RMCON	As per Tender Conditions
179	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 3 of 3	46. Solar Power system(PV Cell) TATA Power Solar, BHEL, BEL / Inter Solar	Request you to kindly include the following makes for Solar Power system(PV Cell) 1. Adani Solar 2. MNRE Approved Solar Vendors	As per Tender Conditions

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
180	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 3 of 3	50. High Mast/Poles & Special Pole/external poles Phillips/Bajaj/ Jindal/Havells	Request you to kindly include the following makes for High Mast/Poles & Special Pole/external poles 1. Valmont 2. Transrail	As per Tender Conditions
181	Volume IV - Technical Specifications	List of Approved Makes for Electrical System	Page 3 of 3	59. Lifts/ Dumb Waiters/Escalators Otis / Mitsubishi/ Scheindler/ Fujitech / Hitachi	Request you to kindly include the following makes for Lifts/ Dumb Waiters/Escalators 1. Johnson 2. Thyssenkrupp	As per Tender Conditions
182	Volume V - DBR	Architectural DBR - Site Development area	8	• SURFACE PARKING AREA - 5000 SQM (APPOX) • HORTICULTURE AREA - 15000 SQM (APROX) • ROAD AREA – 12000 SQM (APROX) • PAVED AREA – 4000 SQM (APPX)	Please confirm if the Surface parking area, horticulture area, road area and Paved area are all indicated and included in the hatched colored portion of the masterplan as indicated below:- Is there are battery limit/extend we need to adhere to.	As per tender documents
183	Volume V - DBR	Architectural DBR - External finishes	12	• COMBINATION OF STONE AND TEXTURE PAINT . • UNITIZED GLAZING SYSTEM (GRIHA COMPLIANCE) • SPIDER GLAZING AT EXTERNAL WALL OF ENTRANCE LOBBY. • SAND BLASTED & FLAMMED GRANITE COMBINATION ON ENTRANCE & HANDICAP RAMP. • ALL OPEN CORRIDORS WILL HAVE SS RAILING BRUSH FINISH. • CONCRETE KERB ON EDGES OF FOOTPATHS, GREEN ISLANDS, ETC. • PAVER TILES + SANDSTONE + GRANITE + BLUE HARD STONE ON FOOTPATHS. • PLANTERS & WATER BODY IN FLAMMED GRANITE. • BOTTOM SURFACE OF THE PORCH & BUILDINGS WILL PLASTER / FALSE CEILING / PLASTIC EMULSION PAINT. • BUILDING FACADE LIGHTING	1. Please confirm the material for louver indicated in the 3d view. 2. Please confirm the material for brwon floor level projection	As per tender documents
184	Volume V - DBR	Architectural DBR - ARCHITECTURAL FINISHES	39	FLOORING- COMBINATION OF LIGHT AND DARK SHADE GRANITE WALL DADO- COMBINATION OF LIGHT AND DARK SHADE GRANITE LIGHT AND DARK SHADE GRANITE CEILING- WATER /WEATHER RESISTANT FALSE CEILING	1. Please confirm the main wall panel finish material. - Looks like veneer/wooden panelling 2. Please confirm Wooden/Aluminium louver material and Finish 3. Please confirm reflective surface with frit pattern or jaali detail material finish. 4. Please confirm Wooden panel material and Finish 5. Please confirm Wooden/Aluminium/stone front panel material and Finish	As per tender documents
185	Volume V - DBR	Architectural DBR - FINISHES GENERAL NOTES	57	•Decibel level at various areas like OPD, ICU, Waiting, Wards etc as per NBC / Hospital Norms /Standards.	Please share the overall list of rooms to be considered for decible level norms as per NBC/Hospital norms and Standards.	As per tender documents

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
186	Volume V - DBR	Architectural DBR - external finishes	12	ART WORK, SCULPTURE, WALL MURALS (METAL, GLASS MOSAIC TILES ETC) SHALL BE AS PER LOCAL ARCHITECTURAL AND SHALL BE DECIDED BY ENGINEER-IN -CHARGE .	Kindly confirm if this point is applicable for all external building finishes, Internal building finishes and Landscaping Finishes	As per tender documents
187	Volume V - DBR	Architectural DBR - GROUND FLOOR PLAN	17		Please specify Cafeteria area finishing in matrix	As per tender documents
188	Volume V - DBR	Architectural DBR - GROUND FLOOR PLAN	18		Please specify Ramp area finishing in matrix	As per tender documents
189	Volume V - DBR	Architectural DBR - Combined Basement	37		Please specify combined area basement finishing in matrix	As per tender documents
190	Volume V - DBR	Architectural DBR - sixth floor plan	36		Please specify seminar room, Meeting room and office cabin area finishing in matrix	As per tender documents
191	Volume V - DBR	Architectural DBR - sixth floor plan	30		Please specify Lecture hall finishing in matrix	As per tender documents
192	Volume V - DBR	Architectural DBR - Lower ground floor	24		Please specify Linac 1 and 2 finishing in matrix	As per AERB Norms
193	Volume 4: Technical Specifications LIST OF APPROVED MAKES: CIVIL WORKS	11. OPC/PPC 43 Grade Cement	598	Approved Make for Cement: ACC, Ultratech, Ambuja & J.K. Cement.	Additionally, please include the following makes. Cement: Bharathi, Ramco, Dalmia, Birla, Orient, Wonder.	As per Tender Conditions
194	Volume 4: Technical Specifications LIST OF APPROVED MAKES: CIVIL WORKS	18. Admixtures for concrete	599	CICO, BASF, Sika, Fosroc, Mc-Bauchmie, Pidilite, STP	Additionally, please include the following makes. CAC, Mapei, Gravis (L&T), Euclid, Chryso	As per Tender Conditions
195	Volume 4: Technical Specifications LIST OF APPROVED MAKES: CIVIL WORKS	39. Ready Mix Concrete	600	ACC, Lafarge (Nuvoco), Ultratech.	Additionally, please include the following makes. RMC: Hella InfraMarket, PRISM Johnson, RDC, Godrej.	As per Tender Conditions
196	Volume 4: Technical Specifications LIST OF APPROVED MAKES: CIVIL WORKS				Additionally, please include the following makes. Fly Ash: NTPC or equivalent GGBS: JSW, TATA STEEL	As per Tender Conditions

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
197	Volume 5. Design Basis Report\Structure DBR	9.0 REINFORCED CEMENT CONCRETE (RCC) 9.1 Concrete			Propose to use OPC53 blended with fly ash and GGBS in the batching plant. Please allow use of fly ash, GGBS, silica fume/ultrafine materials etc. in the production of concrete by direct blending with OPC at the batching plant as per Clause 5.2 of IS 456: 2000. Please confirm.	As per Tender Conditions
198	Volume 5. Design Basis Report\Structure DBR	9.0 REINFORCED CEMENT CONCRETE (RCC) 9.1 Concrete			Please provide geotechnical report.	As per Tender Conditions
199	Volume 5. Design Basis Report\Structure DBR	9.0 REINFORCED CEMENT CONCRETE (RCC) 9.1 Concrete			Please allow use of GGBS along with fly ash in binary and also in ternary combinations.	As per Tender Conditions
200	Annexure A - Schedule of Stage Payment	Cancer Hospital - Payment Schedule	14 Of 29, 15 of 29	Electrical - Subhead individual % is 12%, Breakup of Electrical Subhead % is 17%	There is a mismatch in subhead % of Electrical with breakup %. If it is 12%, Overall % is matching. Request to kindly confirm.	Refer "Amended - SCHEDULE OF STAGE PAYMENT OF WORKS (Annexure-A)" enclosed
201	Annexure A - Schedule of Stage Payment	Schedule of Stage payment		General	We observe that the overall Payment schedule is completely backloaded, this will have serious impact on the cashflow of the Contractor. Also, Testing & Commissioning is mentioned as 10%, which is extremely high in project. Request to kindly provide the revised payment schedule.	As per Tender Conditions
202	Volume 2 - GCC	Clause 23.5	56	Opening of Separate Bank Account for the Project: The Contractor shall maintain a separate account with a Scheduled Bank for the purpose of receiving all the payments under the Contract and for utilization of payments received from the employer for disbursement to sub-contractors, sub-vendors, PRW's, suppliers etc. for this contract. The Contractor shall maintain separate books of account for all payments under this contract and the Engineer-in- Charge shall have access to it at all times.	We seek deletion of this clause. Kindly confirm.	As per Tender Conditions
203	Volume 3 - SCC	Clause 11.1 (g)	5	Art work, Sculpture, Wall murals etc. shall be provided as per local architecture and approval of engineer-in-charge. The cost of art work about two (02) crores shall be deemed to be included in the overall quoted cost of work.	We understand cost of artwork of 2 crores includes artworks, sculptures, wall murals. Kindly confirm.	Cost of artwork of 2 crores includes artworks, sculptures, wall murals.

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
204	Volume 3 - SCC	Clause 14	10	'Execution' shall mean carrying out /cause to carry out every work by the contractor so as to fulfil his contractual obligation as per his Scope of Work commencing from the issue of Letter of Award including (but not limited to) Design, preparation of Drawings, Construction activities, approval processes etc. till completion/handing over of work also including Defects liability period & maintenance for two (02) years.	As per Annexure I - Memorandum, Defects Liability Period is 12 Months from date of completion. Request to kindly correct in SCC Clause 14 - Defects Liability Period & Maintenance as 12 months instead of two years.	The defects liability period is sixty (60) months from the date of handing over the project. It has to ensure the repair / restructuring of any instrumental defect with in defect liability period.
205		General		Car Parking Management System	Request to kindly include the makes: Somfy / Neptune / Bosch / Park N Secure / Secure Parking System / Omnitech /RevRoy	As per Tender Conditions
206		General		UVSS	Request to kindly include the makes: Infinite / Vehant / Automatic /RevRoy	As per Tender Conditions
207		General		Smart Racks (4 No's Per DC & DRC)	Request to kindly include the makes: Vertiv / Legrand / Rittal / Schneider	As per Tender Conditions
208		General		CCTV	Request to kindly include the makes: Bosch/Sony/Honeywell/Samsung Hanwha / Axis / Pelco / D-Link	As per Tender Conditions
209		General		Access Control System	Request to kindly include the makes: Honeywell- Prowatch/Schneider/Lenel/Cardex/ Bosch /HID /IDCUBE	As per Tender Conditions
210		General		BMS Field Devices	Request to kindly include the makes: Honeywell/L&T/Siemens/Schneider/carrier/Johnson/Dwyer /Techtrol /Omicron /Greystone/LabTech	As per Tender Conditions
211		General		U/FTP Components (Passive devices for LAN)- Cat 6A U/FTP, Wall Plate 1 Port/2 Port, Power Cat6A Data Gate Jack, Cat 6A Patch Cord S/FTP, GANG Box, 24 Port Patch Panel CAT-6A	Request to kindly include the makes: Molex/Systimax/Panduit/Belden / D-Link / R&M / 3C3 / AMP/Legrand/commscope	As per Tender Conditions
212		General		Optical Fibre Cable components (Passive devices for LAN)- 12 port MM/SM SC LIU Fibre Panel, SC Pigtail SM/MM, SC-LC Multimode/SinglemodePatchcord,6 core SM OS1 cable, 6 core MM OM3 cable	Request to kindly include the makes: Molex/Systimax/Panduit/Belden / D-Link / R&M / 3C3 / AMP/Legrand/commscope	As per Tender Conditions
213		General		Public address system	Request to kindly include the makes: Bosch/ Biamp/ Honeywell /Optimus/TSG/TOA	As per Tender Conditions
214		General		Core Switch	Request to kindly include the makes: Aruba/Ruckus/commscope /Cisco / D-Link / Alcatel / Allied Telesis / Juniper / Arista	As per Tender Conditions

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
215		General		Access Switch	Request to kindly include the makes: Aruba/Ruckus/commscope /Cisco / D-Link / Alcatel / Allied Telesis / Juniper / Arista	As per Tender Conditions
216		General		Network Management Solution	Request to kindly include the makes: Aruba/Ruckus/Motadata/Everest / Techbridge	As per Tender Conditions
217		General		Wireless Access Controller	Request to kindly include the makes: Cambium/Ruckus/Aruba /Cisco / D-Link	As per Tender Conditions
218		General		Wireless Access Point	Request to kindly include the makes: Cambium/Ruckus/Aruba /Cisco / D-Link	As per Tender Conditions
219		General		MATV Specification	Request to kindly provide MATV Specification which includes TV Socket Outlet, Multiswitch, Splitter Box/ Tap Off Boxes, Co Axial Cables, RG 59 Dual Shield MATV Cable, RG 6 Dual shield MATV Cable, RG6 Trishield MATV Cable, RG6 Quad Shield MATV Cable, RG11 Quad Shield MATV Cable.	As per Tender Conditions
220		General		Symmetrical Line Array Speakers, Flying Subwoofers, Loudspeakers, Power Amplifier, Digital Signal Processor, Digital Mixing Console, Microphone, Loudspeaker Cables	Request to kindly include the makes: L-Acoustics/ Bose/ Martin-Audio/ Labgruppen/ Powersoft/ Harman/ d&b audiotechnica / QSC/JBL / Meyer sound / Tamura / Harman / Key digital /Tannoy /Renkus Heinz	As per Tender Conditions
221		General		USB Player	Request to kindly include the makes: Sony/ Philips/ Samsung/ Bose	As per Tender Conditions
222		General		Audio Conference System/ Wireless Handheld and Lapel Microphones/ Wired Handheld/ Gooseneck Microphone	Request to kindly include the makes: Beyerdynamic/Clear One /Clock Audio/ Sony/ AKG-Harman / Sennheiser / Revolabs / Audio Technica	As per Tender Conditions
223		General		Equipment Rack	Request to kindly include the makes: Rittal/ Netrack/APW/ Legrand - Valrack / Chief/APW President	As per Tender Conditions
224		General		PVC Conduits & Raceways	Request to kindly include the makes: AKG/BEC/ Hensal/ Clipsal/ Polypack/ Precision/ Norpack	As per Tender Conditions
225		General		AV Controller	Request to kindly include the makes: Extron / Crestron / QSC / Kramer / Light ware / Liberty /Logitech	As per Tender Conditions
226		General		Video Projector	Request to kindly include the makes: Christie/ Sony/ Panasonic/ Philips/ Epson/ Barco/ Digital Projection	As per Tender Conditions
227		General		Projection Screen	Request to kindly include the makes: Draper/ Da-Lite/ Grandview/ Harkness/ Suvira/ Stewart Suvira / Liberty / Draper	As per Tender Conditions
228		General		LED Display Monitors	Request to kindly include the makes: LG/ Sony/ Panasonic/ Samsung	As per Tender Conditions

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
229		General		Video Wall/ Flat Panel	Request to kindly include the makes: Christie/ NEC/ Planar/ Sony/ Philips/ Panasonic/	As per Tender Conditions
230		General		Document Camera	Request to kindly include the makes: Lumens/ Elmo/ Wolf Vision/ Sony / Vaddio / Datavideo	As per Tender Conditions
231		General		Video Conferencing System & Secondary Camera	Request to kindly include the makes: Sony/ Polycom/ Pelco/ Cisco/ Lumens /QSC / Logitech /Bose /Liberty	As per Tender Conditions
232		General		HD PTZ Camera & Joystick	Request to kindly include the makes: Sony/ Panasonic/ Pelco/Cisco/Bosch/ Lumens Sony / Datavideo / Aver	As per Tender Conditions
233		General		Recorder/ Streamer	Request to kindly include the makes: Lumens/ Mediasite/ Mediapointe Sony / Datavideo / Aver / Lifesize / Liberty	As per Tender Conditions
234		General		HDMI / VGA Cable, Microphone cable, control cable, HDMI/ VGA patch cable, Speaker & Microphone cable	Request to kindly include the makes: Kramer/ Belden/ Klotz/ Extron/ Lightware/ Crestron/ Crystal / Klotz / Sommer / Gotham /Crestron / AMX / Keydigital /Logitech / Liberty	As per Tender Conditions
235		General		Cable Manager/ HD BaseT Transmitters/ HD BaseT receivers/ Scaler Extender/ Modular Matrix Switcher/ Multi Format Presentation Switcher/ HDMI Switcher/ HDMI Distribution Amplifier/ HD BaseT Distribution Amplifier/ Control System/ Wireless/Wired Touch Panel with accessories/ Button Control Panel with Accessories	Request to kindly include the makes: Kramer/ Extron/ Lightware / QSC / Crestron / Logitech /liberty / Blackbox / AMX	As per Tender Conditions
236		General		Junction Box	Request to kindly include the makes: ABB/L&T/Havells/Schneider/Legrand/ Hager/ OBO Bettermann/ Siemens/ Neptune Seimens / Leksa Lighting	As per Tender Conditions
237		General		Smart Podium	Request to kindly include the makes: Univeso / AHA / Tech Comm / Globus / EIS Techinfra /Elpro Tech	As per Tender Conditions
238		General		Interactive White Board	Request to kindly include the makes: Promethean / HiteVision / Smart interactive monitor- Wacom / Almo / IES /Globus	As per Tender Conditions
239		General		Audio Visual Specification - Projector Displays	Request to kindly provide the technical specification	please refer technical Specifications and DBR
240		General		Audio Visual Specification - Motorized Projector Screen	Request to kindly provide the technical specification	please refer technical Specifications and DBR
241		General		Audio Visual Specification - 4K Matrix Presentation Scaler Cum Switcher Type-1	Request to kindly provide the technical specification	please refer technical Specifications and DBR
242		General		Audio Visual Specification - 4K Matrix Presentation Scaler Cum Switcher Type-3	Request to kindly provide the technical specification	please refer technical Specifications and DBR
243		General		Audio Visual Specification - 5-Input 4K60 4:4:4 Presentation Switcher / Scaler	Request to kindly provide the technical specification	please refer technical Specifications and DBR

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
244		General		Audio Visual Specification 16x16 Modular Matrix Switcher, 4K HDBaseT Digital Media Input Card, 4K HDMI Input Card, 2-Channel 4K60 HDMI Output Card, 2-Channel 4K60 HDMI Output Card with De-embedded audio out, Multiformat Twisted Pair Transmitter with under table mount, 4K60 4:2:0 HDMI & VGA Wall-Plate Auto Switcher, HDMI Transmitter over twisted pair Type-1, HDMI Receiver over twisted pair Type-1, 4K@60 4:4:4 HDR HDMI Transmitter over HDBaseT Type-2, 4K@60 4:4:4 HDR HDMI Receiver over HDBaseT Type-2, HD BaseT Transmitter Type-3, HD BaseT Receiver Type-3, 1:4 HDBaseT Distribution Amplifier, 1:2 HDBaseT Distribution Amplifier, 1:2 4K HDMI Distribution Amplifier, Audio Video Controller Type-1, Audio Video Control System Type-2, 7" Wall & Table Mount PoE Touch Panel, 6-8 Button Control Keypad, 4K 3X1 HDMI & VGA Auto Switcher, Table mount Cable Manager, Video Conference System, 55" 4K UHD Display, PTZ CAMERA MONITORING PC & SOFTWARE, Wireless Presentation System, Documents Camera; Digital Podium, Wireless Handheld Microphone, Wireless Lapel Microphone, Gooseneck Microphone, Ceiling Array Microphone; Wired Handheld Microphone, Column Array Loudspeaker, Ceiling Loudspeaker, 16 Watts Surface mount Loudspeaker, 40 Watts Surface mount speakers, 100 Watts Surface mount speakers, Line Array Loudspeakers, Subwoofer, Front Fill Loudspeakers, Surround /Rear Fill Loudspeakers, Stage Monitor Speakers, Power Amplifier Type-1, Type -2, Type -3, Type -4, Type-5, Integrated Zone Amplifier Type-1, Type-2, Type-3, 12x8 Audio DSP with AEC, 12x8 Audio DSP, Digital Audio Mixer Type-1, Type-2, PTZ Camera, Camera Joystick, Recording and Streaming Device, DVD Cum USB Player, 24 port PoE Network Switch, 8 port PoE Network Switch, Shielded Twisted Pair Digital Cable, VGA + 3.5 Stereo Audio Cable, 6ft-15ft HDMI Cable, 35 ft / 50 ft HDMI Cable, Microphone Cable, Loudspeaker Cable Type-1, Type-2, Type-3	Request to kindly provide the technical specification	please refer technical Specifications and DBR
245	2. A.ii (II)	Additional qualifying criteria		The bidder should have successfully completed one work (either part of ii) (I) above or a separate one) as mentioned below during the last 7 years ending previous day of last date of submission of tenders: "RCC framed structure Hospital building/ Composite Hospital Campus and allied services of Minimum 600 bed capacity with internal and external services including HVAC, Firefighting, STP etc. all composite executed under one contract on EPC mode for any state or Central Govt. Bodies".	We request you to consider 450 bedded Hospital work as 600 bedded Hospital works are rarely executed or request to consider Multiple Hospital works combined	As per Tender Conditions
246	As per NIT			Time for completion of works is 24 months	Since the volume of work involved is more completing within 24 months will be difficult Hence we request you to increase the time duration to minimum 30 to 36 months	As per Tender Conditions
247	CC /10.0			Price Escalation is not applicable	In most of the Central / State Govt. works where the completion time is more than 18 months' price escalation will be considered hence, we request you to include price escalation clause.	As per Tender Conditions
248				GREEN BUILDING RATING - Platinum Rated Green Building Certification	Please clarify whether the certification can be obtained by any of the following agency's GRIHA/ IGBC / LEED.	Platinum Rated Green Building Certification

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
247				At the stage of Planning and designing the structural drawings need to be proof checked by any IIT	We request you to consider the proof checking of Structural drawings by Indian Institute of Science (IISC).	Structural drawings need to be proof checked by IIT Bombay/VNIT Nagpur. However, priority should be given to IIT, Bombay
248				In Payment Schedule 10 % of payment is allocated for Testing, commissioning and handover.	We request to reduce it to 5% with respect to specific services where testing, commissioning and handover is involved.	As per Tender Conditions
249				ELV & IT Services	Some of the specifications provided are leaned towards one specific brand. Hence, we request you to consider it to be more generic specifications.	As per Tender Conditions
250				AV System	Need technical specifications suiting Teaching Hospital requirements.	As per Tender Conditions and specifications
251				Last date & time of submission of Online Tender Up to 26/02/2024 by 15:00 hrs (IST)	Considering the complexity and scale of the project, we request an extension of the bid submission for further 15 days. This additional time will facilitate a more extensive and qualitative preparation of our bid, ensuring a comprehensive proposal that aligns with the project's requirements. We firmly believe that these adjustments will contribute to a more inclusive and competitive bidding process, ultimately leading to the selection of the most qualified and capable entities. We appreciate your attention to these matters and are confident that your consideration will strengthen the overall success of the project.	As per Tender Conditions
252	Vol 1, NIT, 2.0 A ii) (I), Page-3			Should have satisfactorily completed the following works in during Seven (7) years ending previous day of last date of submission of tenders:	Bidder presumes that satisfactorily completed works means work completed <u>during last seven completed financial years starting from 01.04.2016 and ending on last day of month previous to the one in which tenders are invited</u> will be considered for pre-qualification criteria. Kindly confirm.	As per Tender Conditions
253	Vol 1, NIT, 2.0 A ii) (II), Page-3			Additional qualifying criteria :- The bidder should have successfully completed one work (either part of ii)(I) above or a separate one) as mentioned below during the last 7 years ending previous day of last date of submission of tenders: "RCC framed structure Hospital building/ Composite Hospital Campus and allied services of Minimum 600 bed capacity with internal and external services including HVAC, Firefighting, STP etc. all composite executed under one contract on EPC mode for any state or Central Govt. Bodies".	We request you to modify the said clause as:- Additional qualifying criteria :- The bidder should have successfully completed one work (either part of ii)(I) above or a separate one) as mentioned below during last seven completed financial years starting from 01.04.2016 and ending on last day of month previous to the one in which tenders are invited. "RCC framed structure Hospital building/ Composite Hospital Campus and allied services of Minimum 500 bed capacity with internal and external services including HVAC, Firefighting, STP etc. all composite executed under one contract for any state or Central Govt. Bodies".	As per Tender Conditions

Sl. No	Vol. Ref.	Ref. / Cl. No.	Pg. No.	Tender Conditions	Bidder's Queries / Request	HSCC Reply / Clarification
254	Vol 1, NIT, Annexure -I, Memorandum, CC/4.0, Page- 10			Interest Rate of Mobilization Advance- Simple Interest Rate of 10.00% (Ten Percent only) Per Annum	We request you to allow 10% interest free advance payment to maintain cash flow.	As per Tender Conditions
255	Vol 1, NIT, Annexure -I, Memorandum, CC/2.0, Page- 10			Performance Guarantee- 5.00 % (Five Percent Only) of contract value within 15 days from the issue of Letter of Award	We request you to reduce the performance guarantee to the tune of 3% of contract value as per the standard practice of various govt dept like NHAI, MoRTH etc.	As per Tender Conditions
256	Vol 1, NIT, Annexure -I, Memorandum, CC/3.0, Page- 10			Security Deposit / Retention Money- 2.50 % (Two point Five Percent Only) of the gross value of each running /final bill.	We request you to delete the requirement of security deposit which is in addition to performance guarantee.	As per Tender Conditions
257	Vol 1, NIT, Annexure -I, Memorandum, CC/10.0, Page- 11			Escalations- Not Applicable.	Considering the volatile market Condition and the duration of the work of 24 months, we request you to provide escalation as per actual indices.	As per Tender Conditions
258	Volume 1 - NIT	Brief Scope of Work		The Design, Engineering, Procurement and Construction (EPC) basis (EPC) of RCC framed structure building including Civil works, Internal & External Electrical, PHE, Fire-fighting, STP, ETP, HVAC , IT, OT, CSSD, Kitchen, Mortuary , Laundry MGMS, PTS, BMWS, Solar hot water system, borewell, tactile tile flooring, wall guard, Horticulture, Landscaping, furniture, signages and external development works etc. as per scope of work and operation and maintenance during the defect liability period of 12 months. EPC agency shall design and prepare detailed working drawings for all works like Architecture, Finishing, Structural and services design such as Electrical, Lift, Plumbing, HVAC, Fire Fighting, Information Technology, BMWS, CSSD, MGMS, Laundry, Modular OT, tactile tile flooring, wall guard, borewell, IT, Solar hot water system, STP, ETP, WTP, UGT, Horticulture, landscaping, furniture, signages, Substation, DG Set and external development etc. as per scope of work and tender documents including preparation of coordinated drawings for all services and make all necessary co-ordination for satisfactory execution of all works/activities in time bound manner. Develop various 3 D views and model of the buildings.		Furniture work shall not be the part of the scope of this bid. Furniture work shall be dealt seperately. Defect Liability Period shall be 60 months from the date of taking over the facility complete in all respect by the GMC , Kolhapur in place of 12 months mentioned in the bid documents.
259	Volume04 Technical Specifications and Make List	Approved Make List Civil Works		Sl.No. 16 - Wooden Fire Check Doors - Navair, Pacific, Sukriti, Shakti-Hormann Sl.No. 17 - Metal Fire Check Doors - Navair, Shakti-Hormann, Godrej, Pacific, Sukriti, TATA.		Apprvd Make of Sl.No. 16 - Wooden Fire Check Doors & Sl.No. 17 - Metal Fire Check Doors - are Stand Deleted Wooden Fire Check Doors & Metal Fire Check Doors - shall be as per the IS 3614 : 2021 & relevant Tech. Specifications of the Items under this contract.

Annexure - A			
AMENDED - SCHEDULE OF STAGE PAYMENT OF WORKS			
Payment Schedule : The Amount quoted by the Contractor shall be divided as follows:			
S.no	Description	Individual %	Cumulative %
1	600 Bedded General Hospital	45%	45%
2	250 Bedded Cancer Hospital	28%	73%
3	250 Bedded Super Specialty Hospital	27%	100%
		100%	

Annexure - A (II)			
AMENDED - SCHEDULE OF STAGE PAYMENT OF WORKS			
Payment Schedule : The Amount quoted by the Contractor shall be divided as follows:			
S.no	Description	Individual %	Cumulative %
1	Civil, plumbing & Firefighting works	52%	52%
2	Electrical	12%	64%
3	HVAC	10%	74%
4	IT	5%	79%
5	SES	11%	90%
7	Testing & commissioning & handing over to Client	10%	100%
		100%	

Project :- Construction of 600 Bed General Hospital, 250 Bed Cancer Hospital & 250 Bed Super Specialty Hospital At Rajarshree Chhatrapati Shahu Maharaj Government Medical College, at Kolhapur Maharashtra on Comprehensive Design, Engineering, Procurement and Construction (EPC) basis.				
Client :- Medical Education and Research Department, Mumbai, Government of Maharashtra				
<u>SCHEDULE OF STAGE PAYMENT (600 Bedded General Hospital)</u>				
S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
1	Civil, plumbing & Firefighting works		52%	52%
	Planning, Designing, and Construction on EPC Basis of the 600 bedded General Hospital Building of LG+G+7 height i/c parking & Service Blocks, with Electrical, HVAC, IT, SES,all plumbing and firefighting works, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC			
1-A-i	Civil Architectural (Site Layout Plan with Building Coordinates, Submission of model,Building Plans, Sections and Elevations, Flooring Plans & Dado Details with sections and elevations, 3D Views for all locations such as Consultant room, lobby, ICU, Corridor, Toilet, OT, terrace garden etc and finishing schedule for all floors, Bunker, CT scan, MRI, Brachytherapy Room Details, Door and Window details, Road, parking, footpath layout and external development plans with sections, Plantation Layout mentioning species names, size and height,External Street Lighting layout plan with material schedule,External and internal signages details etc.), Structure drawings (Foundation drawings,Bunker/LINAC/Brachytherapy/Nuclear Medicine/Radiology structural details, Beam and slab reinforcement details, Road, trench, culvert, parking, RCC Drain, sewerage, effluent, storm water layout,Footpath Details, Underground tank details , STP and ETP details etc.), PHE drawings (Building plumbing and sanitary details, Sewerage scheme and details, Drainage scheme and details, Water supply scheme and details, STP, ETP, R.O- Mechanical GA, HFD etc., Rain Water Harvesting,Underground tank and water treatment plant schematic details, Water Pumps technical details and data sheet etc.), flooring & finishing & sinage works	100.00%	0.50%	
1-B	9			
	Pre-Construction Approvals/Clearances viz., Technical Clearance from Town and Country Planning Department, Environmental Clearance (EIA), Pre construction Clearance from Fire Department, Consent to establish from Pollution Control Board, Labour License, NOC from Forest Department, Construction Permit/License from Village Panchayat, NOC from Health Department etc. Post-construction Approvals viz., Consent to operate including EC compliances from Pollution Control Board, Occupancy Certificate from Village Panchayat, Final Clearance/NOC from Fire Department, GRIHA Certification (Minimum 3 star),Clearance from Electrical Inspectorate & Lift Inspectorate etc.	100.00%	0.50%	
1-C	Construction: Civil Works			
1-C-1	Foundation Work:			
1-C-1.i	On completion of foundation and substructure up to plinth level	9.00%	25.00%	
1-C-2	Super Structure RCC Work of the entire building from ground floor to stair roof, overhead tank, mumty, LMR etc.	35.00%		
1-C-3	Walls & Partion :Brickwork & partitioning work including brick work	6.00%		
1-C-4	Doors & Windows i/c windows to meet Acoustical requirement.	6.00%		
1-C-5	Flooring, skirting, dado, wall lining work, acoustic insulation, wall guard, tactile tile flooring etc.	18.00%		
1-C-6	False Ceiling , terracing , water proooofing etc.	8.00%		
1-C-7	Finishing work :Internal & External Plaster & Painting	5.00%		
1-C-8	External Structure Glazing, GRC Jali, External Cladding including framing and water-proofing etc	9.00%		
1-C-9	SS/MS Railing (including epoxy painting) /Grills/domes etc	2.00%		
1-C-10	Other Works:Signages (Internal & External),Internal Courtyard – Hard landscaping	2.00%		
1-D	Fire fighting System works (Execution)			
1-D-1-i	Wet Riser System /Down Comer System	35.00%	5.00%	
1-D-1-ii	Automatic Sprinkler System	20.00%		
1-D-1-iii	Fire Extinguishers	10.00%		
1-D-1-iv	Fire Hydrant Installation as per DBR/Specification	25.00%		
1-D-1-v	Fire sealing of the ducts and shafts	10.00%		
1-E	Execution of Internal PHE works including water supply and sewerage system including fittings and fixtures			
1-E-1-i	Laying & Fixing of Internal water Supply & Seweargae Pipe Lines	35.00%	5.00%	
1-E-1-ii	Installation of Fitting & fixtures	65.00%		
2	External Development: Planning, Designing, and Construction on EPC Basis of External Development including various infrastructure required and as specified in the approved Master plan including Roads Street Lighting, Tree Plantation Horticulutre, Landscaping etc. with support services & allied facilities by incorporating stipulated specifications, as per scope of work and directions of Engineer In charge			

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
2-A	Construction			
2-A-i	On completion of foundation and substructure up to plinth level	6.00%	8.00%	
2-A-ii	RCC works up to terrace including mummy & machine room	10.00%		
2-A-iii	Walls & Partion , Doors & Windows,Flooring,Skirting & Dado	3.50%		
2-A-iv	False Ceiling, terracing, water proofing etc.	2.00%		
2-A-v	Plaster & Painting, External finishing/Cladding & Structure glazing & Plinth Protection	1.50%		
2-A-vi	Railing /Grills/domes etc	1.00%		
2-A-vii	Signage	1.00%		
2-A-viii	Horticulture Operations including 30cm earth filing , grassing , tree plantations/shurbs and potted Plants etc.	5.00%		
2-A-a	External and Internal Roads , Footpaths & Parking : Base Preparation Formation Level, Compaction, GSB Laying & Compaction, Cocerete in Pavment, ExpansionJoint Treatment, Paver Block / CC Flooring in footpath, Footpath Railing, Kerbstone in Footpath & Road Dividers, Paver Block/ Concrete Flooring in Parking with Demarcation/ signages.			
2-A-ai	Formation Level, Compaction, GSB Laying & Compaction	15.00%		
2-A-aai	Cocerete in Pavment, ExpansionJoint Treatment,	20.00%		
2-A-aaii	Paver Block / CC Flooring in footpath, Footpath Railing, Kerbstone in Footpath & Road Dividers	15.00%		
2-A-aiv	Paver Block/ Concrete Flooring in Parking with Demarcation/ signages.	20.00%		
2-B	External PHE works (Execution)			
2-B-i	Underground Tank	12.00%	8.00%	
2-B-ii	Domestic Terrace Tank	9.00%		
2-B-iii	Fire Terrace Tank	1.00%		
2-B-iv	Solar Hot water System	2.00%		
2-B-v	Sewage & Effluent Treatment Plant (STP & ETP)	14.00%		
2-B-vi	Borewell	1.00%		
2-B-vii	Hydropneumatic system/WTP/Softner/RO/water cooler	5.00%		
2-B-Vii	Water curtain	1.00%		
2-B-viii	External Sewer & Drainage	9.00%		
2-B-ix	Filter Water Supply (Distribution Lines & Perpherial Grid)	10.00%		
2-B-x	Unfiltered Water Supply Distribution Lines	11.00%		
2-B-xi	Storm Water Drainage pipelines	11.00%		
2-B-xii	Rain water harvesting	14.00%		
II	Electrical		12%	64%
	Planning, Designing, and Construction on EPC Basis of the 600 beded General Hospital Building of LG+G+7 height i/c parking & Service Blocks, with Electrical, HVAC, IT, SES,all plumbing and firefighting works, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC			
1-A-i	Submission of Credential, Shop Drawings & technical datasheets for Electrical works viz., Electrical power and lighting layout plans, Transformer technical details and data sheet, Electrical Substation Layout and GA drawings and technical datasheets of all electrical panels such as HT,LT, MV and road lighting panels etc., GA drawings and technical data sheets of busduct , DG set and AMF panel, Earthing details Layout and lightening protection drawing, Cable schedule (Internal and external),External Street Lighting Layout,CCTV, telephone, Fire alarm system, PAS,Nurse call system, Access control, BMS Layout, Lift and dumb waiter Technical datasheets and drawings	1.47%		
1-A-ii	Submission and approval of shop drawings for conduting and wiring of elctrical layout of lighting , power of all the floors	0.15%		
1-A-iii	Submission and approval of shop drawings for conduting and wiring of elctrical layout of LV works (i.e. CCTV,PA system, FDA, EPABX, access control IBMS, NCS, solar PV , external CCTV and PA etc.) of all the floors	0.29%		
1-A-iv	Submission and approval of shop drawings for elctrical layout of sub station.	0.59%		
1-A-v	Submission and approval of Technical data sheet of all electrical equipments.	0.44%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
1-B	Internal Electrical works :			
1-B1-i	Slab conduiting ,wall conduiting, wiring (Point wiring , 5amp & 15/20 amp) , GI Boxes, switch plates and sockets , , and all other accessories	9.09%		
1-B1-ii	supply and laying of Slab conduiting ,& wall conduiting (complete up to points)	2.73%		
1-B1-iii	supply and Fixing of GI Boxes & wiring of Points , 5Amp plug and 15 Amp points etc ,complete	3.64%		
1-B1-iv	supply and Fixing of switch and sockets and terminations of wires	2.73%		
1-B2	Distribution Boards and MCBs completes with Accessories	0.88%		
1-B2-i	supply of Distribution Boards with MCBs	0.53%		
1-B2-ii	Installation with MCBs in DB all accesories with termination of all wires with ferruling	0.35%		
1-B3	Submain ,conduiting and submain wiring , cable tray raceway etc	10.90%		
1-B3-i	Supply of Submain ,conduiting and submain wiring , cable tray raceway	5.45%		
1-B3-ii	Installation / laying of Submain ,conduiting and submain wiring , cable tray raceway	5.45%		
1-B4	Rising Mains, end feed units & tap off etc completes with accessories	2.28%		
1-B4-i	Supply of Rising Mains, end feed units & tap off etc completes with Accessories	1.60%		
1-B4-ii	Installation of Rising Mains, end feed units & tap off etc completes with Accessories	0.68%		
1-B5	MV panels, /Floor panels, Metering panels	1.30%		
1-B5-i	Supply of MV panels, /Floor panels, Metering panels	0.91%		
1-B5-i	Installation of MV panels, /Floor panels, Metering panels	0.39%		
1-B6	Light Fixtures, fans Exhaust fans and Aviation Light and accessories .	3.89%		
1-B6-i	Supply of Light Fixtures, fans Exhaust fans and Aviation Light and accessories .	2.72%		
1-B6-ii	Installation of Light Fixtures, fans Exhaust fans and Aviation Light and accessories .	1.17%		
	L V SYSTEM			
1-C1	CCTV Surveillance System including cameras, switches, cables, conduiting etc,	3.82%		
1-C1-i	Slab conduiting/ wall conduiting for CCTV system	0.38%		
1-C1-ii	Wiring of CCTV system	1.15%		
1-C1-iii	Supply of CCTV System	1.34%		
1-C1-iv	Installation of CCTV System	0.96%		
1-D1	Fire Alarm System including conduiting ,all devices , panel, hooters , cables etc	3.31%		
1-D1-i	Slab conduiting/ wall conduiting for FDS system	0.33%		
1-D1-ii	Wiring for FDA devices	0.99%		
1-D1-iii	Supply of FDA system including , switches, patch cords etc	1.32%		
1-D1-iv	Installation of FDA System complete	0.66%		
1-E1	Public Address system ncluding conduiting ,all devices, Speakers, amplifries cables etc	0.98%		
1-E1-i	Slab conduiting/ wall conduiting	0.10%		
1-E1-ii	Wiring for PA system	0.29%		
1-E1-iii	Supply of PA system	0.39%		
1-E1-iv	Installation of PA System	0.20%		
1-E1	Audio Visual system completes with devices & accessories	0.63%		
1-E1-i	Slab conduiting/ wall conduiting	0.06%		
1-E1-ii	Wiring for AV system	0.19%		
1-E1-iii	Supply of AV system	0.25%		
1-E1-iv	Installation of AV System	0.13%		
1-F1	Telepone/ IPBAX system completes with devices & accessories	3.03%		
1-F1-i	Slab conduiting/ wall conduiting	0.30%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
1-F1-ii	wiring for IPBAX system	0.91%	12.00%	
1-F1-iii	Supply of IPBAX system including all software and all accessories to complete the commissioning the system	0.91%		
1-F1-iv	Supply of Instruments	0.30%		
1-F1-v	Installation of IPBAX System	0.61%		
1-G1	TV system	0.18%		
1-G1-i	Slab conduiting/ wall conduiting	0.07%		
1-G1-ii	wiring for TV system/ GI box and switch sockets and other necessary items for commissioning the system	0.11%		
1-H1	Nurse call bell system with devices & accessories	3.51%		
1-H1-i	Slab conduiting/ wall conduiting	0.35%		
1-H1-ii	Wiring for NCS system	1.05%		
1-H1-iii	Supply of NCS system including all software and all accessories to complete the commissioning the system	1.40%		
1-H1-iv	Installation of NCS System	0.70%		
	LIFT AND DUMB WAITER			
1-I1	Lifts & dumb waiter with all accessories for commissioning	7.14%		
1-I1-i	Supply of Lifts and Dumb waiter	4.28%		
1-I1-ii	Installation of Lifts and Dumb waiter for commissioning	2.86%		
	BMS			
1-J1	Building Management system with devices & accessories	5.09%		
1-J1-i	Slab conduiting/ wall conduiting	0.51%		
1-J1-ii	wiring for BMS system	1.27%		
1-J1-iii	Supply of BMS system including all software and all accessories to complete the commissioning the system	1.78%		
1-J1-iv	Installation of BMS System	1.53%		
2	External Development: Planning, Designing, and Construction on EPC Basis of External Development including various infrastructure required and as specified in the approved Master plan including Roads Street Lighting, Tree Plantation Horticulture, Landscaping etc. with support services & allied facilities by incorporating stipulated specifications, as per scope of work and directions of Engineer In charge			
	External Electrical:			
2A	HT panels	2.54%		
2A-i	supply	1.78%		
2A-ii	Installation	0.76%		
2B	Main LT Panels	5.10%		
2B-i	supply	3.57%		
2B-ii	Installation	1.53%		
2C	APFC Panel	2.97%		
2C-i	supply	2.08%		
2C-ii	Installation	0.89%		
2D	BUS DUCT	2.41%		
2D-i	supply	1.69%		
2D-ii	Installation	0.72%		
2E-i	Transformer	6.75%		
2E-i	supply	4.73%		
2E-ii	Installation	2.03%		
2F	DG-Set and synchronisation panel with control cabling & other accessories to complete for commissioning the system	7.82%		
2F-i	supply	5.47%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
2F-ii	Installation	2.35%		
2G	HT CABLES	0.58%		
2G-i	Supply of HT cables	0.41%		
2G-ii	Laying of HT Cabled	0.17%		
2H	LT CABLES	5.01%		
2H-i	Supply of LT/ Control Cables cables	3.51%		
2H-ii	Laying of LT/ Control Cables	1.50%		
2I	Earthing	1.44%		
2I-i	Supply	0.72%		
2I-ii	Installation	0.72%		
2J	Solar Photovoltaic Power generation	3.20%		
2J-i	Supply	1.60%		
2J-ii	Installation	1.60%		
2K	External Lighting	0.74%		
2K-i	supply	0.37%		
2K-ii	Installation	0.37%		
2L	Safety Materials	0.02%		
2L-i	Supply	0.01%		
2L-ii	Installation	0.01%		
2M	Boom barrier	0.13%		
2M-i	supply	0.09%		
2M-ii	Installation	0.04%		
2N	UPS	2.86%		
2N-i	Supply of UPS	1.72%		
2N-ii	Installation of UPS	0.29%		
2N-iii	Supply Battery of UPS	0.57%		
2N-iv	Installation Battery of UPS	0.29%		
2O	Fire Suppression system (Gas flooding System)	0.93%		
2O-i	Supply	0.56%		
2O-ii	Installation	0.37%		
III	HVAC		10%	74%
	Planning, Designing, and Construction on EPC Basis of the 600 beded General Hospital Building of LG+G+7 height i/c parking & Service Blocks, with Electrical, HVAC, IT, SES,all plumbing and firefighting works, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC ``			
	Submission of Credential, Shop Drawings for HVAC works viz., SLD layout for Master plan, HVAC electrical system, Plant Room technical details, drawings for cooling tower, chillers, pumps etc, Ducting layout, drawings of HVAC Plant Room etc.	60.00%	0.25%	
	Submission of technical datasheets for HVAC works viz., Plant Room equipment technical details, data sheet and drawings for cooling tower, chillers, pumps, AHU, HWG, Fans, etc, Low side & electrical technical data sheet etc.	40.00%		
1-B	HVAC -Works			
1-B-i	Highside Equipment			
1	Supply of CHILLER	14.35%		
2	Installation of CHILLER	6.15%		
3	SUPPLY OF PUMP	2.10%		
4	INSTALLATION OF PUMP	0.90%		
5	SUPPLY OF COOLING TOWER	1.40%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
6	INSTALLATOION OF COOLING TOWER	0.60%	9.75%	
7	SUPPLY OF OTHER EQUIP Viz. Hot Water Generator	0.35%		
8	INSTALLATION OF OTHER EQUIP Viz. Hot Water Generator	0.15%		
1-B-ii	Low Side Equipment			
1	SUPPLY OF AHU+CSU	7.56%		
2	INSTALLATION OF AHU+CSU	3.24%		
3	SUPPLY OF Ventilation Fans VIZ INLINE, AXIAL, CENTRIFUGAL, AIR WASHER, FAN SECTION ETC	3.99%		
4	INSTALLATION OF OF Ventilation Fans	1.71%		
5	SUPPLY OF OTHER EQUIP VIZ EXPENSION TANK	0.42%		
6	INSTALLATION OF OTHER EQUIP VIZ EXPENSION TANK	0.18%		
1-B-iii	SUPPLY OF Piping & Fittings VIZ VALVES ETC	12.32%		
1	INSTALLATION OF Piping & Fittings VIZ VALVES ETC	5.28%		
1-B-iv	SUPPLY OF Ducting	10.36%		
1	INSTALLATION OF Ducting	4.44%		
2	SUPPLY OF ADP	3.22%		
3	INSTALLATION OF ADP	1.38%		
1-B-v	SUPPLY OF Insulation	5.81%		
1	INSTALLATION OF Insulation	2.49%		
1-B-vi	HVAC Electrical works			
1	SUPPLY OF Panels VIZ Main HVAC, distribution , starter etc.	2.80%		
2	Installation OF Panels VIZ Main HVAC, distribution , starter etc.	1.20%		
3	Supply of Cable	5.32%		
4	Installation of of Cable	2.28%		
IV	IT		5.00%	79%
	Planning, Designing, and Construction on EPC Basis of the TCCC Building of B+LGF+G+4 height with all plumbing and firefighting works, LINAC, Nuclear Medicine, High dose therapy, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	IT & Special Services drawing & Design Deliverables viz.,submission of agency credentials, technical datasheets, shop drawings	100.00%	0.25%	
1-B	IT SERVICES (Execution)			
1-B-i	HMIS including Tele-Medicine Software	14.36%		
	Against Preparation & Acceptance by Client	4.31%		
	Implementation and acceptance of Application Software (User Acceptance Testing).	5.74%		
	Completion of Training, Final Acceptance Test (FAT) and Go Live.	2.87%		
	Handing over of the system to client.	0.72%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.72%		
1-B-ii (a)	PACS Software	5.13%		
	Against Preparation & Acceptance by Client	1.54%		
	Implementation and acceptance of Application Software (User Acceptance Testing).	2.05%		
	Completion of Training, Final Acceptance Test (FAT) and Go Live.	1.03%		
	Handing over of the system to client.	0.26%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.26%		
1-B-ii (b)	PACS Hardware	12.82%		
	Delivery of the equipments at site subject to submission of inspection report.	8.97%		
	Installation and commissioning of the equipments.	2.56%		
	Handing over to client	0.64%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.64%		
1-B-iii	Server Hardware & System Software	10.26%		
	Delivery of the equipments at site subject to submission of inspection report.	7.18%		
	Installation and commissioning of the equipments.	2.05%		
	Handing over to client	0.51%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.51%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
1-B-iv	Lan & Wifi Components	20.51%	4.75%	
	Delivery of the equipments at site subject to submission of inspection report.	14.36%		
	Installation and commissioning of the equipments.	4.10%		
	Handing over to client	1.03%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	1.03%		
1-B-v	Computer Hardware including Tele-Medicine Hardware etc.	20.51%		
	Delivery of the equipments at site subject to submission of inspection report.	14.36%		
	Installation and commissioning of the equipments.	4.10%		
	Handing over to client	1.03%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	1.03%		
1-B-vi (a)	QMS Hardware	4.10%		
	Delivery of the equipments at site subject to submission of inspection report.	2.87%		
	Installation and commissioning of the equipments.	0.82%		
	Handing over to client	0.21%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.21%		
1-B-vi (b)	QMS Software	2.05%		
	Against Preparation & Acceptance by Client	0.62%		
	Implementation and acceptance of Application Software (User Acceptance Testing).	0.82%		
	Completion of Training, Final Acceptance Test (FAT) and Go Live.	0.41%		
	Handing over of the system to client.	0.10%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.10%		
1-B-vii	Network & Application Support Engineers	10.26%		
	1st year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	2nd Year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	3rd year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	4th year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	5th year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
V	SES		11%	90%

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
	Planning, Designing, and Construction on EPC Basis of the 600 beded General Hospital Building of LG+G+7 height i/c parking & Service Blocks, with Electrical, HVAC, IT, SES,all plumbing and firefighting works, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC			
	Submission of Credential , Shop Drawings & technical datasheets for specialized services viz., Kitchen, CSSD, Laundry, PTS, Operation Theatres, MGPS , BWMS, Mortuary etc.	100.00%	0.25%	
	Special Services			
1-A-i	Medical Gas Manifold System	29.00%	10.75%	
1-A-ii	Modular Operation Theatre	32.00%		
1-A-iii	Minor Operation Theatre	2.00%		
1-A-iv	CSSD	14.00%		
1-A-v	Laundry	5.00%		
1-A-vi	Kitchen	3.00%		
1-A-vii	Pneumatic Tube Transfer System	12.00%		
1-A-viii	BWMS	2.00%		
1-A-vii	Mortuary	1.00%		
	*The stage payment of Special Services is further subdivided as (a) 75% against supply & installation of equipment/items (b) 15% against testing & commissioning of special services and (c) 10% against demonstration & handing over of special			
VII	Testing, Commissioning and Handover		10%	100%
1	Testing and Commissioning	50%	5%	
2	Handover to the Client	50%	5%	
Note: A. Items/Specifications to be provided at any location even though left out in the above provisions but is required as per functional requirements and as per approved drawings shall be provided as per				

Project :- Construction of 600 Bed General Hospital, 250 Bed Cancer Hospital & 250 Bed Super Specialty Hospital At Rajarshree Chhatrapati Shahu Maharaj Government Medical College, at Kolhapur Maharashtra on Comprehensive Design, Engineering, Procurement and Construction (EPC) basis.				
Client :- Medical Education and Research Department, Mumbai, Government of Maharashtra				
SCHEDULE OF STAGE PAYMENT (250 Bedded Cancer Hospital)				
S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
I	Civil, plumbing & Firefighting works		52%	52%
	Planning, Designing, and Construction on EPC Basis of the 250 Bedded Cancer Hospital Building of LG+G+6 B56height, i/c Parking and Service Blocks with all Electrical, HVAC, IT, SES ,with all plumbing and firefighting works, LINAC, Nuclear Medicine, High dose therapy, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC			
1-A-i	Civil Architectural (Site Layout Plan with Building Coordinates, Submission of model,Building Plans, Sections and Elevations, Flooring Plans & Dado Details with sections and elevations, 3D Views for all locations such as Consultant room, lobby, ICU, Corridor, Toilet, OT, terrace garden etc and finishing schedule for all floors, Bunker, CT scan, MRI, Brachytherapy Room Details, Door and Window details, Road, parking, footpath layout and external development plans with sections, Plantation Layout mentioning species names, size and height,External Street Lighting layout plan with material schedule,External and internal signages details etc.), Structure drawings (Foundation drawings,Bunker/LINAC/Brachytherapy/Nuclear Medicine/Radiology structural details, Beam and slab reinforcement details, Road, trench, culvert, parking, RCC Drain, sewerage, effluent, storm water layout,Footpath Details, Underground tank details , STP and ETP details etc.), PHE drawings (Building plumbing and sanitary details, Sewerage scheme and details, Drainage scheme and details, Water supply scheme and details, STP, ETP, R.O- Mechanical GA, HFD etc., Rain Water Harvesting,Underground tank and water treatment plant schematic details, Water Pumps technical details and data sheet etc.), flooring & finishing & sinage works	100.00%	0.50%	
1-B	Upon receipt of Pre and post Local Body Clearances/Approvals/NOCs			
	Pre-Construction Approvals/Clearances viz., Technical Clearance from Town and Country Planning Department, Environmental Clearance (EIA), Pre construction Clearance from Fire Department, Consent to establish from Pollution Control Board, Labour License, NOC from Forest Department, Construction Permit/License from Village Panchayat, NOC from Health Department etc. Post-construction Approvals viz., Consent to operate including EC compliances from Pollution Control Board, Occupancy Certificate from Village Panchayat, Final Clearance/NOC from Fire Department, GRIHA Certification (Minimum 3 star),Clearance from Electrical Inspectorate & Lift Inspectorate etc.	100.00%	0.50%	
1-C	Construction: Civil Works			
1-C-1	Foundation Work:			
1-C-1.i	On completion of foundation and substructure up to plinth level	9.00%	25.00%	
1-C-1.ii	On completion of LINAC, brachytherapy, High dose therapy & Nuclear Medicine	3.00%		
1-C-2	Super Structure RCC Work of the entire building from ground floor to stair roof, overhead tank, mumty, LMR etc.	34.00%		
1-C-3	Walls & Partion :Brickwork & partitioning work including brick work	6.00%		
1-C-4	Doors & Windows i/c windows to meet Acoustical requirement.	6.00%		
1-C-5	Flooring, skirting, dado, wall lining work, acoustic insulation, wall guard, tactile tile flooring etc.	17.00%		
1-C-6	False Ceiling , terracing , water proofing etc.	8.00%		
1-C-7	Finishing work :Internal & External Plaster & Painting	5.00%		
1-C-8	External Structure Glazing, GRC Jali, External Cladding including framing and water-proofing etc	8.00%		
1-C-9	SS/MS Railing (including epoxy painting) /Grills/domes etc	2.00%		
1-C-10	Other Works:Signages (Internal & External),Internal Courtyard – Hard landscaping	2.00%		
1-D	Fire fighting System works (Execution)			
1-D-1-i	Wet Riser System /Down Comer System	35.00%	5.00%	
1-D-1-ii	Automatic Sprinkler System	20.00%		
1-D-1-iii	Fire Extinguishers	10.00%		
1-D-1-iv	Fire Hydrant Installation as per DBR/Specification	25.00%		
1-D-1-v	Fire sealing of the ducts and shafts	10.00%		
1-E	Execution of Internal PHE works including water supply and sewerage system including fittings and fixtures			
1-E-1-i	Laying & Fixing of Internal water Supply & Seweargae Pipe Lines	35.00%	5.00%	
1-E-1-ii	Installation of Fitting & fixtures	65.00%		
2	External Development: Planning, Designing, and Construction on EPC Basis of External Development including various infrastructure required and as specified in the approved Master plan including Roads Street Lighting, Tree Plantation Horticultutre, Landscaping etc. with support services & allied facilities by incorporating stipulated specifications, as per scope of work and directions of Engineer In charge			
2-A	Construction			
2-A-i	On completion of foundation and substructure up to plinth level	6.00%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
2-A-ii	RCC works up to terrace including mummy & machine room	10.00%	8.00%	
2-A-iii	Walls & Partion , Doors & Windows,Flooring,Skirting & Dado	3.50%		
2-A-iv	False Ceiling, terracing, water prooofing etc.	2.00%		
2-A-v	Plaster & Painting, External finishing/Cladding & Structure glazing & Plinth Protection	1.50%		
2-A-vi	Railing /Grills/domes etc	1.00%		
2-A-vii	Signage	1.00%		
2-A-viii	Horticulture Operations including 30cm earth filing , grassing , tree plantations/shurbs and potted Plants etc.	5.00%		
2-A-a	External and Internal Roads , Footpaths & Parking : Base Preparation Formation Level, Compaction, GSB Laying & Compaction, Cocerete in Pavment, ExpansionJoint Treatment, Paver Block / CC Flooring in footpath, Footpath Railing,			
2-A-ai	Formation Level, Compaction, GSB Laying & Compaction	15.00%		
2-A-aii	Cocerete in Pavment, ExpansionJoint Treatment,	20.00%		
2-A-aiii	Paver Block / CC Flooring in footpath, Footpath Railing, Kerbstone in Footpath & Road Dividers	15.00%		
2-A-aiv	Paver Block/ Concrete Flooring in Parking with Demarcation/ signages.	20.00%		
2-B	External PHE works (Execution)			
2-B-i	Underground Tank	12.00%	8.00%	
2-B-ii	Domestic Terrace Tank	9.00%		
2-B-iii	Fire Terrace Tank	1.00%		
2-B-iv	Solar Hot water System	2.00%		
2-B-v	Sewage & Effluent Treatment Plant (STP & ETP)	14.00%		
2-B-vi	Borewell	1.00%		
2-B-vii	Hydropneumatic system/WTP/Softner/RO/water cooler	5.00%		
2-B-Vii	Water curtain	1.00%		
2-B-viii	External Sewer & Drainage	9.00%		
2-B-ix	Filter Water Supply (Distribution Lines & Perpherial Grid)	10.00%		
2-B-x	Unfiltered Water Supply Distribution Lines	11.00%		
2-B-xi	Storm Water Drainage pipelines	11.00%		
2-B-xii	Rain water harvesting	14.00%		
II	Electrical		12%	64%
	Planning, Designing, and Construction on EPC Basis of the 250 Bedded Cancer Hospital Building of LG+G+6 height, i/c Parking and Service Blocks with all Electrical, HVAC, IT, SES ,with all plumbing and firefighting works, LINAC, Nuclear Medicine, High dose therapy, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC			
1-A-i	Submission of Credential, Shop Drawings & technical datasheets for Electrical works viz., Electrical power and lighting layout plans, Transformer technical details and data sheet, Electrical Substation Layout and GA drawings and technical datasheets of all electrical panels such as HT,LT, MV and road lighting panels etc., GA drawings and technical data sheets of busduct , DG set and AMF panel, Earthing details Layout and lightening protection drawing, Cable schedule (Internal and external),External Street Lighting Layout,CCTV, telephone, Fire alarm system, PAS,Nurse call system, Access control, BMS Layout, Lift and dumb waiter Technical datasheets and drawings	1.47%		
1-A-ii	Submission and approval of shop drawings for conduting and wiring of elctrical layout of lighting , power of all the floors	0.15%		
1-A-iii	Submission and approval of shop drawings for conduting and wiring of elctrical layout of LV works (i.e. CCTV,PA system, FDA, EPABX, access control IBMS, NCS, solar PV , external CCTV and PA etc.) of all the floors	0.29%		
1-A-iv	Submission and approval of shop drawings for elctrical layout of sub station.	0.59%		
1-A-v	Submission and approval of Technical data sheet of all electrical equipments.	0.44%		
1-B	Internal Electrical works :			
1-B1-i	Slab conduting ,wall condouting, wiring (Point wiring , 5amp & 15/20 amp) , GI Boxes, switch plates and sockets , , and all other accessories	9.09%		
1-B1-ii	supply and laying of Slab conduting ,& wall conduting (complete up to points)	2.73%		
1-B1-iii	supply and Fixing of GI Boxes & wiring of Points , 5Amp plug and 15 Amp points etc ,complete	3.64%		
1-B1-iv	supply and Fixing of switch and sockets and terminations of wires	2.73%		
1-B2	Distribution Boards and MCBs completes with Accessories	0.88%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
1-B2-i	supply of Distribution Boards with MCBs	0.53%	12.00%	
1-B2-ii	Installation with MCBs in DB all accessories with termination of all wires with ferruling	0.35%		
1-B3	Submain ,conduiting and submain wiring , cable tray raceway etc	10.90%		
1-B3-i	Supply of Submain ,conduiting and submain wiring , cable tray raceway	5.45%		
1-B3-ii	Installation / laying of Submain ,conduiting and submain wiring , cable tray raceway	5.45%		
1-B4	Rising Mains, end feed units & tap off etc completes with accessories	2.28%		
1-B4-i	Supply of Rising Mains, end feed units & tap off etc completes with Accessories	1.60%		
1-B4-ii	Installation of Rising Mains, end feed units & tap off etc completes with Accessories	0.68%		
1-B5	MV panels, /Floor panels, Metering panels	1.30%		
1-B5-i	Supply of MV panels, /Floor panels, Metering panels	0.91%		
1-B5-ii	Installation of MV panels, /Floor panels, Metering panels	0.39%		
1-B6	Light Fixtures, fans Exhaust fans and Aviation Light and accessories .	3.89%		
1-B6-i	Supply of Light Fixtures, fans Exhaust fans and Aviation Light and accessories .	2.72%		
1-B6-ii	Installation of Light Fixtures, fans Exhaust fans and Aviation Light and accessories .	1.17%		
	L V SYSTEM			
1-C1	CCTV Surveillance System including cameras, switches, cables, conduiting etc,	3.82%		
1-C1-i	Slab conduiting/ wall conduiting for CCTV system	0.38%		
1-C1-ii	Wiring of CCTV system	1.15%		
1-C1-iii	Supply of CCTV System	1.34%		
1-C1-iv	Installation of CCTV System	0.96%		
1-D1	Fire Alarm System including conduiting ,all devices , panel, hooters , cables etc	3.31%		
1-D1-i	Slab conduiting/ wall conduiting for FDS system	0.33%		
1-D1-ii	Wiring for FDA devices	0.99%		
1-D1-iii	Supply of FDA system including , switches, patch cords etc	1.32%		
1-D1-iv	Installation of FDA System complete	0.66%		
1-E1	Public Address system including conduiting ,all devices, Speakers, amplifiers cables etc	0.98%		
1-E1-i	Slab conduiting/ wall conduiting	0.10%		
1-E1-ii	Wiring for PA system	0.29%		
1-E1-iii	Supply of PA system	0.39%		
1-E1-iv	Installation of PA System	0.20%		
1-E1	Audio Visual system completes with devices & accessories	0.63%		
1-E1-i	Slab conduiting/ wall conduiting	0.06%		
1-E1-ii	Wiring for AV system	0.19%		
1-E1-iii	Supply of AV system	0.25%		
1-E1-iv	Installation of AV System	0.13%		
1-F1	Telephone/ IPBAX system completes with devices & accessories	3.03%		
1-F1-i	Slab conduiting/ wall conduiting	0.30%		
1-F1-ii	wiring for IPBAX system	0.91%		
1-F1-iii	Supply of IPBAX system including all software and all accessories to complete the commissioning the system	0.91%		
1-F1-iv	Supply of Instruments	0.30%		
1-F1-v	Installation of IPBAX System	0.61%		
1-G1	TV system	0.18%		
1-G1-i	Slab conduiting/ wall conduiting	0.07%		
1-G1-ii	wiring for TV system/ GI boxes and switch sockets and other necessary items for commissioning the system	0.11%		
1-H1	Nurse call bell system with devices & accessories	3.51%		
1-H1-i	Slab conduiting/ wall conduiting	0.35%		
1-H1-ii	Wiring for NCS system	1.05%		
1-H1-iii	Supply of NCS system including all software and all accessories to complete the commissioning the system	1.40%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
1-H1-iv	Installation of NCS System	0.70%		
	LIFT AND DUMB WAITER			
1-II	Lifts & dumb waiter with all accessories for commissioning	7.14%		
1-II-i	Supply of Lifts and Dumb waiter	4.28%		
1-II-ii	Installation of Lifts and Dumb waiter for commissioning	2.86%		
	BMS			
1-J1	Building Management system with devices & accessories	5.09%		
1-J1-i	Slab conduiting/ wall conduiting	0.51%		
1-J1-ii	wiring for BMS system	1.27%		
1-J1-iii	Supply of BMS system including all software and all accessories to complete the commissioning the system	1.78%		
1-J1-iv	Installation of BMS System	1.53%		
2	External Development: Planning, Designing, and Construction on EPC Basis of External Development including various infrastructure required and as specified in the approved Master plan including Roads Street Lighting, Tree Plantation Horticulture, Landscaping etc. with support services & allied facilities by incorporating stipulated specifications, as per scope of work and directions of Engineer In charge			
	External Electrical:			
2A	HT panels	2.54%		
2A-i	supply	1.78%		
2A-ii	Installation	0.76%		
2B	Main LT Panels	5.10%		
2B-i	supply	3.57%		
2B-ii	Installation	1.53%		
2C	APFC Panel	2.97%		
2C-i	supply	2.08%		
2C-ii	Installation	0.89%		
2D	BUS DUCT	2.41%		
2D-i	supply	1.69%		
2D-ii	Installation	0.72%		
2E-i	Transformer	6.75%		
2E-i	supply	4.73%		
2E-ii	Installation	2.03%		
2F	DG-Set and synchronisation panel with control cabling & other accessories to complete for commissioning the system	7.82%		
2F-i	supply	5.47%		
2F-ii	Installation	2.35%		
2G	HT CABLES	0.58%		
2G-i	Supply of HT cables	0.41%		
2G-ii	Laying of HT Cabled	0.17%		
2H	LT CABLES	5.01%		
2H-i	Supply of LT/ Control Cables cables	3.51%		
2H-ii	Laying of LT/ Control Cables	1.50%		
2I	Earthing	1.44%		
2I-i	Supply	0.72%		
2I-ii	Installation	0.72%		
2J	Solar Photovoltaic Power generation	3.20%		
2J-i	Supply	1.60%		
2J-ii	Installation	1.60%		
2K	External Lighting	0.74%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
2K-i	supply	0.37%		
2K-ii	Installation	0.37%		
2L	Safety Materials	0.02%		
2L-i	Supply	0.01%		
2L-ii	Installation	0.01%		
2M	Boom barrier	0.13%		
2M-i	supply	0.09%		
2M-ii	Installation	0.04%		
2N	UPS	2.86%		
2N-i	Supply of UPS	1.72%		
2N-ii	Installation of UPS	0.29%		
2N-iii	Supply Battery of UPS	0.57%		
2N-iv	Installation Battery of UPS	0.29%		
2O	Fire Suppression system (Gas flooding System)	0.93%		
2O-i	Supply	0.56%		
2O-ii	Installation	0.37%		
III	HVAC		10%	74%
	Planning, Designing, and Construction on EPC Basis of the 250 Bedded Cancer Hospital Building of LG+G+6 height, i/c Parking and Service Blocks with all Electrical, HVAC, IT, SES, with all plumbing and firefighting works, LINAC, Nuclear Medicine, High dose therapy, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC ``			
	Submission of Credential, Shop Drawings for HVAC works viz., SLD layout for Master plan, HVAC electrical system, Plant Room technical details, drawings for cooling tower, chillers, pumps etc, Ducting layout, drawings of HVAC Plant Room etc.	60.00%	0.25%	
	Submission of technical datasheets for HVAC works viz., Plant Room equipment technical details, data sheet and drawings for cooling tower, chillers, pumps, AHU, HWG, Fans, etc, Low side & electrical technical data sheet etc.	40.00%		
1-B	HVAC -Works		9.75%	
1-B-i	Highside Equipment			
1	Supply of CHILLER	14.35%		
2	Installation of CHILLER	6.15%		
3	SUPPLY OF PUMP	2.10%		
4	INSTALLATION OF PUMP	0.90%		
5	SUPPLY OF COOLING TOWER	1.40%		
6	INSTALLATION OF COOLING TOWER	0.60%		
7	SUPPLY OF OTHER EQUIP Viz. Hot Water Generator	0.35%		
8	INSTALLATION OF OTHER EQUIP Viz. Hot Water Generator	0.15%		
1-B-ii	Low Side Equipment			
1	SUPPLY OF AHU+CSU	7.56%		
2	INSTALLATION OF AHU+CSU	3.24%		
3	SUPPLY OF Ventilation Fans VIZ INLINE, AXIAL, CENTRIFUGAL, AIR WASHER, FAN SECTION ETC	3.99%		
4	INSTALLATION OF Ventilation Fans	1.71%		
5	SUPPLY OF OTHER EQUIP VIZ EXPENSION TANK	0.42%		
6	INSTALLATION OF OTHER EQUIP VIZ EXPENSION TANK	0.18%		
1-B-iii	SUPPLY OF Piping & Fittings VIZ VALVES ETC	12.32%		
1	INSTALLATION OF Piping & Fittings VIZ VALVES ETC	5.28%		
1-B-iv	SUPPLY OF Ducting	10.36%		
1	INSTALLATION OF Ducting	4.44%		
2	SUPPLY OF ADP	3.22%		
3	INSTALLATION OF ADP	1.38%		
1-B-v	SUPPLY OF Insulation	5.81%		
1	INSTALLATION OF Insulation	2.49%		
1-B-vi	HVAC Electrical works			
1	SUPPLY OF Panels VIZ Main HVAC, distribution, starter etc.	2.80%		
2	Installation OF Panels VIZ Main HVAC, distribution, starter etc.	1.20%		
3	Supply of Cable	5.32%		
4	Installation of of Cable	2.28%		
IV	IT		5.00%	79%
	Planning, Designing, and Construction on EPC Basis of the TCCC Building of B+LGF+G+4 height with all plumbing and firefighting works, LINAC, Nuclear Medicine, High dose therapy, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	IT & Special Services drawing & Design Deliverables viz., submission of agency credentials, technical datasheets, shop drawings	100.00%	0.25%	
1-B	IT SERVICES (Execution)			
1-B-i	HMIS including Tele-Medicine Software	14.36%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
	Against Preparation & Acceptance by Client	4.31%	4.75%	
	Implementation and acceptance of Application Software (User Acceptance Testing).	5.74%		
	Completion of Training, Final Acceptance Test (FAT) and Go Live.	2.87%		
	Handing over of the system to client.	0.72%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.72%		
1-B-ii (a)	PACS Software	5.13%		
	Against Preparation & Acceptance by Client	1.54%		
	Implementation and acceptance of Application Software (User Acceptance Testing).	2.05%		
	Completion of Training, Final Acceptance Test (FAT) and Go Live.	1.03%		
	Handing over of the system to client.	0.26%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.26%		
1-B-ii (b)	PACS Hardware	12.82%		
	Delivery of the equipments at site subject to submission of inspection report.	8.97%		
	Installation and commissioning of the equipments.	2.56%		
	Handing over to client	0.64%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.64%		
1-B-iii	Server Hardware & System Software	10.26%		
	Delivery of the equipments at site subject to submission of inspection report.	7.18%		
	Installation and commissioning of the equipments.	2.05%		
	Handing over to client	0.51%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.51%		
1-B-iv	Lan & Wifi Components	20.51%		
	Delivery of the equipments at site subject to submission of inspection report.	14.36%		
	Installation and commissioning of the equipments.	4.10%		
	Handing over to client	1.03%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	1.03%		
1-B-v	Computer Hardware including Tele-Medicine Hardware etc.	20.51%		
	Delivery of the equipments at site subject to submission of inspection report.	14.36%		
	Installation and commissioning of the equipments.	4.10%		
	Handing over to client	1.03%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	1.03%		
1-B-vi (a)	QMS Hardware	4.10%		
	Delivery of the equipments at site subject to submission of inspection report.	2.87%		
	Installation and commissioning of the equipments.	0.82%		
	Handing over to client	0.21%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.21%		
1-B-vi (b)	QMS Software	2.05%		
	Against Preparation & Acceptance by Client	0.62%		
	Implementation and acceptance of Application Software (User Acceptance Testing).	0.82%		
	Completion of Training, Final Acceptance Test (FAT) and Go Live.	0.41%		
	Handing over of the system to client.	0.10%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.10%		
1-B-vii	Network & Application Support Engineers	10.26%		
	1st year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	2nd Year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	3rd year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	4th year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	5th year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
V	SES		11%	90%
	Planning, Designing, and Construction on EPC Basis of the 250 Bedded Cancer Hospital Building of LG+G+6 height, i/c Parking and Service Blocks with all Electrical, HVAC, IT, SES, with all plumbing and firefighting works, LINAC, Nuclear Medicine, High dose therapy, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC			
	Submission of Credential, Shop Drawings & technical datasheets for specialized services viz., Kitchen, CSSD, Laundry, PTS, Operation Theatres, MGPS etc.	100.00%	0.25%	
	Special Services			
1-A-i	Medical Gas Manifold System	29.00%	10.75%	
1-A-ii	Modular Operation Theatre	33.00%		
1-A-iii	Minor Operation Theatre	2.00%		
1-A-iv	CSSD	15.00%		
1-A-v	Laundry	5.00%		
1-A-vi	Kitchen	3.00%		
1-A-vii	Pneumatic Tube Transfer System	13.00%		
	*The stage payment of Special Services is further subdivided as (a) 75% against supply & installation of equipment/items (b) 15% against testing & commissioning of special services and (c) 10% against demonstration & handing over of special services to Client.			
VII	Testing, Commissioning and Handover		10%	100%
1	Testing and Commissioning	50%	5%	
2	Handover to the Client	50%	5%	
Note: A. Items/Specifications to be provided at any location even though left out in the above provisions but is required as per functional requirements and as per approved drawings shall be provided as per direction of Engineer-in-Charge and the rates for same shall be deemed to be inclusive in quoted rates of the contractor. Nothing extra on this account shall be payable. B. SUPPLY OF EQUIPMENT/ITEMS : 1. Supply means the supply of complete items /equipments along with all accessories to complete the installation 2. Installation means placing and installation of the equipment with all its accessories complete in all respect in their respective locations and ready for commissioning.				

Project :- Construction of 600 Bed General Hospital, 250 Bed Cancer Hospital & 250 Bed Super Specialty Hospital At Rajarshree Chattrapati Shahu Maharaj Government Medical College, at Kolhapur Maharashtra on Comprehensive Design, Engineering, Procurement and Construction (EPC) basis.				
Client :- Medical Education and Research Department, Mumbai, Government of Maharashtra				
SCHEDULE OF STAGE PAYMENT (250 Bedded Super Specialty Hospital)				
S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
I	Civil, plumbing & Firefighting works		52%	52%
	Planning, Designing, and Construction on EPC Basis of the 250 bedded Super Specialty Hospital Building of LG+G+6 height i/c Parking and Service Blocks with all Electrical, HVAC, IT, SES, plumbing and firefighting works, UGT, STP, ETP, WTP B249etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC			
1-A-i	Civil Architectural (Site Layout Plan with Building Coordinates, Submission of model,Building Plans, Sections and Elevations, Flooring Plans & Dado Details with sections and elevations, 3D Views for all locations such as Consultant room, lobby, ICU, Corridor, Toilet, OT, terrace garden etc and finishing schedule for all floors, Bunker, CT scan, MRI, Brachytherapy Room Details, Door and Window details, Road, parking, footpath layout and external development plans with sections, Plantation Layout mentioning species names, size and height,External Street Lighting layout plan with material schedule,External and internal signages details etc.), Structure drawings (Foundation drawings,Bunker/LINAC/Brachytherapy/Nuclear Medicine/Radiology structural details, Beam and slab reinforcement details, Road, trench, culvert, parking, RCC Drain, sewerage, effluent, storm water layout,Footpath Details, Underground tank details , STP and ETP details etc.), PHE drawings (Building plumbing and sanitary details, Sewerage scheme and details, Drainage scheme and details, Water supply scheme and details, STP, ETP, R.O- Mechanical GA, HFD etc., Rain Water Harvesting,Underground tank and water treatment plant schematic details, Water Pumps technical details and data sheet etc.), flooring & finishing & sinage works	100.00%	0.50%	
1-B	Upon receipt of Pre and post Local Body Clearances/Approvals/NOCs			
	Pre-Construction Approvals/Clearances viz., Technical Clearance from Town and Country Planning Department, Environmental Clearance (EIA), Pre construction Clearance from Fire Department, Consent to establish from Pollution Control Board, Labour License, NOC from Forest Department, Construction Permit/License from Village Panchayat, NOC from Health Department etc. Post-construction Approvals viz., Consent to operate including EC compliances from Pollution Control Board, Occupancy Certificate from Village Panchayat, Final Clearance/NOC from Fire Department, GRIHA Certification (Minimum 3 star),Clearance from Electrical Inspectorate & Lift Inspectorate etc.	100.00%	0.50%	
1-C	Construction: Civil Works			
1-C-1	Foundation Work:			
1-C-1-i	On completion of foundation and substructure up to plinth level	9.00%	25.00%	
1-C-2	Super Structure RCC Work of the entire building from ground floor to stair roof, overhead tank, mummy, LMR etc.	35.00%		
1-C-3	Walls & Partion :Brickwork & partitioning work including brick work	6.00%		
1-C-4	Doors & Windows i/c windows to meet Acoustical requirement.	6.00%		
1-C-5	Flooring, skirting, dado, wall lining work, acoustic insulation, wall guard, tactile tile flooring etc.	18.00%		
1-C-6	False Ceiling , terracing , water proofing etc.	8.00%		
1-C-7	Finishing work :Internal & External Plaster & Painting	5.00%		
1-C-8	External Structure Glazing, GRC Jali, External Cladding including framing and water-proofing etc	9.00%		
1-C-9	SS/MS Railing (including epoxy painting) /Grills/domes etc	2.00%		
1-C-10	Other Works:Signages (Internal & External),Internal Courtyard – Hard landscaping	2.00%		
1-D	Fire fighting System works (Execution)			
1-D-1-i	Wet Riser System /Down Comer System	35.00%	5.00%	
1-D-1-ii	Automatic Sprinkler System	20.00%		
1-D-1-iii	Fire Extinguishers	10.00%		
1-D-1-iv	Fire Hydrant Installation as per DBR/Specification	25.00%		
1-D-1-v	Fire sealing of the ducts and shafts	10.00%		
1-E	Execution of Internal PHE works including water supply and sewerage system including fittings and fixtures			
1-E-1-i	Laying & Fixing of Internal water Supply & Seweargae Pipe Lines	35.00%	5.00%	
1-E-1-ii	Installation of Fitting & fixtures	65.00%		
2	External Development: Planning, Designing, and Construction on EPC Basis of External Development including various infrastructure required and as specified in the approved Master plan including Roads Street Lighting, Tree Plantation Horticulture, Landscaping etc. with support services & allied facilities by incorporating stipulated specifications, as per scope of work and directions of Engineer In charge			
2-A	Construction			
2-A-i	On completion of foundation and substructure up to plinth level	6.00%		
2-A-ii	RCC works up to terrace including mummy & machine room	10.00%		
2-A-iii	Walls & Partion , Doors & Windows,Flooring,Skirting & Dado	3.50%		
2-A-iv	False Ceiling, terracing, water proofing etc.	2.00%		
2-A-v	Plaster & Painting, External finishing/Cladding & Structure glazing & Plinth Protection	1.50%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
2-A-vi	Railing /Grills/domes etc	1.00%	8.00%	
2-A-vii	Signage	1.00%		
2-A-viii	Horticulture Operations including 30cm earth filling , grassing , tree plantations/shurbs and potted Plants etc.	5.00%		
2-A-a	External and Internal Roads , Footpaths & Parking : Base Preparation Formation Level, Compaction, GSB Laying & Compaction, Cocerete in Pavment, ExpansionJoint Treatment, Paver Block / CC Flooring in footpath, Footpath Railing, Kerbstone in Footpath & Road Dividers, Paver Block/ Concrete Flooring in Parking with Demarcation/ signages.			
2-A-ai	Formation Level, Compaction, GSB Laying & Compaction	15.00%		
2-A-aia	Cocerete in Pavment, ExpansionJoint Treatment,	20.00%		
2-A-aiaa	Paver Block / CC Flooring in footpath, Footpath Railing, Kerbstone in Footpath & Road Dividers	15.00%		
2-A-aiv	Paver Block/ Concrete Flooring in Parking with Demarcation/ signages.	20.00%		
2-B	External PHE works (Execution)			
2-B-i	Underground Tank	12.00%	8.00%	
2-B-ii	Domestic Terrace Tank	9.00%		
2-B-iii	Fire Terrace Tank	1.00%		
2-B-iv	Solar Hot water System	2.00%		
2-B-v	Sewage & Effluent Treatment Plant (STP & ETP)	14.00%		
2-B-vi	Borewell	1.00%		
2-B-vii	Hydropneumatic system/WTP/Softner/RO/water cooler	5.00%		
2-B-Vii	Water curtain	1.00%		
2-B-viii	External Sewer & Drainage	9.00%		
2-B-ix	Filter Water Supply (Distribution Lines & Perpherial Grid)	10.00%		
2-B-x	Unfiltered Water Supply Distribution Lines	11.00%		
2-B-xi	Storm Water Drainage pipelines	11.00%		
2-B-xii	Rain water harvesting	14.00%		
II	Electrical		12%	64%
	Planning, Designing, and Construction on EPC Basis of the 250 beded Super Specialty Hospital Building of LG+G+6 height i/c Parking and Service Blocks with all Electrical, HVAC, IT, SES, plumbing and firefighting works, UGT, STP, ETP, WTP B249etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC			
1-A-i	Submission of Credential, Shop Drawings & technical datasheets for Electrical works viz., Electrical power and lighting layout plans, Transformer technical details and data sheet, Electrical Substation Layout and GA drawings and technical datasheets of all electrical panels such as HT,LT, MV and road lighting panels etc., GA drawings and technical data sheets of busduct , DG set and AMF panel, Earthing details Layout and lightening protection drawing, Cable schedule (Internal and external),External Street Lighting Layout,CCTV, telephone, Fire alarm system, PAS,Nurse call system, Access control, BMS Layout, Lift and dumb waiter Technical datasheets and drawings	1.47%		
1-A-ii	Submission and approval of shop drawings for conduting and wiring of elctrical layout of lighting , power of all the floors	0.15%		
1-A-iii	Submission and approval of shop drawings for conduting and wiring of elctrical layout of LV works (i.e. CCTV,PA system, FDA, EPABX, access control IBMS, NCS, solar PV , external CCTV and PA etc.) of all the floors	0.29%		
1-A-iv	Submission and approval of shop drawings for elctrical layout of sub station.	0.59%		
1-A-v	Submission and approval of Technical data sheet of all electrical equipments.	0.44%		
1-B	Internal Electrical works :			
1-B1-i	Slab conduting ,wall condouting, wiring (Point wiring , 5amp & 15/20 amp) , GI Boxes, switch plates and sockets , , and all other accessories	9.09%		
1-B1-ii	supply and laying of Slab conduting ,& wall conduting (complete up to points)	2.73%		
1-B1-iii	supply and Fixing of GI Boxes & wiring of Points , 5Amp plug and 15 Amp points etc ,complete	3.64%		
1-B1-iv	supply and Fixing of switch and sockets and terminations of wires	2.73%		
1-B2	Distribution Boards and MCBs completes with Accessories	0.88%		
1-B2-i	supply of Distribution Boards with MCBs	0.53%		
1-B2-ii	Installation with MCBs in DB all accesorries with termination of all wires with ferruling	0.35%		
1-B3	Submain ,conducting and submain wiring , cable tray raceway etc	10.90%		
1-B3-i	Supply of Submain ,conducting and submain wiring , cable tray raceway	5.45%		
1-B3-ii	Installation / laying of Submain ,conducting and submain wiring , cable tray raceway	5.45%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
1-B4	Rising Mains, end feed units & tap off etc completes with accessories	2.28%	12.00%	
1-B4-i	Supply of Rising Mains, end feed units & tap off etc completes with Accessories	1.60%		
1-B4-ii	Installation of Rising Mains, end feed units & tap off etc completes with Accessories	0.68%		
1-B5	MV panels, /Floor panels, Metering panels	1.30%		
1-B5-i	Supply of MV panels, /Floor panels, Metering panels	0.91%		
1-B5-ii	Installation of MV panels, /Floor panels, Metering panels	0.39%		
1-B6	Light Fixtures, fans Exhaust fans and Aviation Light and accessories .	3.89%		
1-B6-i	Supply of Light Fixtures, fans Exhaust fans and Aviation Light and accessories .	2.72%		
1-B6-ii	Installation of Light Fixtures, fans Exhaust fans and Aviation Light and accessories .	1.17%		
	L V SYSTEM			
1-C1	CCTV Surveillance System including cameras, switches, cables, conduiting etc,	3.82%		
1-C1-i	Slab conduiting/ wall conduiting for CCTV system	0.38%		
1-C1-ii	Wiring of CCTV system	1.15%		
1-C1-iii	Supply of CCTV System	1.34%		
1-C1-iv	Installation of CCTV System	0.96%		
1-D1	Fire Alarm System including conduiting ,all devices , panel, hooters , cables etc	3.31%		
1-D1-i	Slab conduiting/ wall conduiting for FDS system	0.33%		
1-D1-ii	Wiring for FDA devices	0.99%		
1-D1-iii	Supply of FDA system including , switches, patch cords etc	1.32%		
1-D1-iv	Installation of FDA System complete	0.66%		
1-E1	Public Address system ncluding conduiting ,all devices, Speakers, amplifries cables etc	0.98%		
1-E1-i	Slab conduiting/ wall conduiting	0.10%		
1-E1-ii	Wiring for PA system	0.29%		
1-E1-iii	Supply of PA system	0.39%		
1-E1-iv	Installation of PA System	0.20%		
1-E1	Audio Visual system completes with devices & accessories	0.63%		
1-E1-i	Slab conduiting/ wall conduiting	0.06%		
1-E1-ii	Wiring for AV system	0.19%		
1-E1-iii	Supply of AV system	0.25%		
1-E1-iv	Installation of AV System	0.13%		
1-F1	Telepone/ IPBAX system completes with devices & accessories	3.03%		
1-F1-i	Slab conduiting/ wall conduiting	0.30%		
1-F1-ii	wiring for IPBAX system	0.91%		
1-F1-iii	Supply of IPBAX system including all software and all accessories to complete the commissioning the system	0.91%		
1-F1-iv	Supply of Instruments	0.30%		
1-F1-v	Installation of IPBAX System	0.61%		
1-G1	TV system	0.18%		
1-G1-i	Slab conduiting/ wall conduiting	0.07%		
1-G1-ii	wiring for TV system/ GI boex and switch sokets and other necessary items for commissiiong the system	0.11%		
1-H1	Nurse call bell system with devices & accessories	3.51%		
1-H1-i	Slab conduiting/ wall conduiting	0.35%		
1-H1-ii	Wiring for NCS system	1.05%		
1-H1-iii	Supply of NCS system including all software and all accessories to complete the commissioning the system	1.40%		
1-H1-iv	Installation of NCS System	0.70%		
	LIFT AND DUMB WAITER			
1-I1	Lifts & dumb waiter with all accesories for commissioning	7.14%		
1-I1-i	Supply of Lifts and Dumb waiter	4.28%		
1-I1-ii	Installation of Lifts and Dumb waiter for commissioning	2.86%		
	BMS			
1-J1	Building Management system with devices & accessories	5.09%		
1-J1-i	Slab conduiting/ wall conduiting	0.51%		
1-J1-ii	wiring for BMS system	1.27%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
1-J1-iii	Supply of BMS system including all software and all accessories to complete the commissioning the system	1.78%		
1-J1-iv	Installation of BMS System	1.53%		
2	External Development: Planning, Designing, and Construction on EPC Basis of External Development including various infrastructure required and as specified in the approved Master plan including Roads Street Lighting, Tree Plantation Horticulture, Landscaping etc. with support services & allied facilities by incorporating stipulated specifications, as per scope of work and directions of Engineer In charge			
	External Electrical:			
2A	HT panels	2.54%		
2A-i	supply	1.78%		
2A-ii	Installation	0.76%		
2B	Main LT Panels	5.10%		
2B-i	supply	3.57%		
2B-ii	Installation	1.53%		
2C	APFC Panel	2.97%		
2C-i	supply	2.08%		
2C-ii	Installation	0.89%		
2D	BUS DUCT	2.41%		
2D-i	supply	1.69%		
2D-ii	Installation	0.72%		
2E-i	Transformer	6.75%		
2E-i	supply	4.73%		
2E-ii	Installation	2.03%		
2F	DG-Set and synchronisation panel with control cabling & other accessories to complete for commissioning the system	7.82%		
2F-i	supply	5.47%		
2F-ii	Installation	2.35%		
2G	HT CABLES	0.58%		
2G-i	Supply of HT cables	0.41%		
2G-ii	Laying of HT Cabled	0.17%		
2H	LT CABLES	5.01%		
2H-i	Supply of LT/ Control Cables cables	3.51%		
2H-ii	Laying of LT/ Control Cables	1.50%		
2I	Earthing	1.44%		
2I-i	Supply	0.72%		
2I-ii	Installation	0.72%		
2J	Solar Photovoltaic Power generation	3.20%		
2J-i	Supply	1.60%		
2J-ii	Installation	1.60%		
2K	External Lighting	0.74%		
2K-i	supply	0.37%		
2K-ii	Installation	0.37%		
2L	Safety Materials	0.02%		
2L-i	Supply	0.01%		
2L-ii	Installation	0.01%		
2M	Boom barrier	0.13%		
2M-i	supply	0.09%		
2M-ii	Installation	0.04%		
2N	UPS	2.86%		
2N-i	Supply of UPS	1.72%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
2N-ii	Installation of UPS	0.29%		
2N-iii	Supply Battery of UPS	0.57%		
2N-iv	Installation Battery of UPS	0.29%		
2O	Fire Suppression system (Gas flooding System)	0.93%		
2O-i	Supply	0.56%		
2O-ii	Installation	0.37%		
III	HVAC		10%	74%
	Planning, Designing, and Construction on EPC Basis of the 250 beded Super Specialty Hospital Building of LG+G+6 height i/c Parking and Service Blocks with all Electrical, HVAC, IT, SES, plumbing and firefighting works, UGT, STP, ETP, WTP B249etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge+B246			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC ``			
	Submission of Credential, Shop Drawings for HVAC works viz., SLD layout for Master plan, HVAC electrical system, Plant Room technical details, drawings for cooling tower, chillers, pumps etc, Ducting layout, drawings of HVAC Plant Room etc.	60.00%	0.25%	
	Submission of technical datasheets for HVAC works viz., Plant Room equipment technical details, data sheet and drawings for cooling tower, chillers, pumps, AHU, HWG, Fans, etc, Low side & electrical technical data sheet etc.	40.00%		
1-B	HVAC -Works			
1-B-i	Highside Equipment		9.75%	
1	Supply of CHILLER	14.35%		
2	Installation of CHILLER	6.15%		
3	SUPPLY OF PUMP	2.10%		
4	INSTALLATION OF PUMP	0.90%		
5	SUPPLY OF COOLING TOWER	1.40%		
6	INSTALLATOION OF COOLING TOWER	0.60%		
7	SUPPLY OF OTHER EQUIP Viz. Hot Water Generator	0.35%		
8	INSTALLATION OF OTHER EQUIP Viz. Hot Water Generator	0.15%		
1-B-ii	Low Side Equipment			
1	SUPPLY OF AHU+CSU	7.56%		
2	INSTALLATION OF AHU+CSU	3.24%		
3	SUPPLY OF Ventilation Fans VIZ INLINE, AXIAL, CENTRIFUGAL, AIR WASHER, FAN SECTION ETC	3.99%		
4	INSTALLATION OF OF Ventilation Fans	1.71%		
5	SUPPLY OF OTHER EQUIP VIZ EXPENSION TANK	0.42%		
6	INSTALLATION OF OTHER EQUIP VIZ EXPENSION TANK	0.18%		
1-B-iii	SUPPLY OF Piping & Fittings VIZ VALVES ETC	12.32%		
1	INSTALLATION OF Piping & Fittings VIZ VALVES ETC	5.28%		
1-B-iv	SUPPLY OF Ducting	10.36%		
1	INSTALLATION OF Ducting	4.44%		
2	SUPPLY OF ADP	3.22%		
3	INSTALLATION OF ADP	1.38%		
1-B-v	SUPPLY OF Insulation	5.81%		
1	INSTALLATION OF Insulation	2.49%		
1-B-vi	HVAC Electrical works			
1	SUPPLY OF Panels VIZ Main HVAC, distribution , starter etc.	2.80%		
2	Installation OF Panels VIZ Main HVAC, distribution , starter etc.	1.20%		
3	Supply of Cable	5.32%		
4	Installation of of Cable	2.28%		
IV	IT		5.00%	79%
	Planning, Designing, and Construction on EPC Basis of the TCCC Building of B+LGF+G+4 height with all plumbing and firefighting works, LINAC, Nuclear Medicine, High dose therapy, UGT, STP, ETP, WTP etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	IT & Special Services drawing & Design Deliverables viz.,submission of agency credentials, technical datasheets, shop drawings	100.00%	0.25%	
1-B	IT SERVICES (Execution)			
1-B-i	HMIS including Tele-Medicine Software	14.36%		
	Against Preparation & Acceptance by Client	4.00%		
	Implementation and acceptance of Application Software (User Acceptance Testing).	5.00%		
	Completion of Training, Final Acceptance Test (FAT) and Go Live.	2.31%		
	Handing over of the system to client.	1.54%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	1.46%		
1-B-ii (a)	PACS Software	5.13%		
	Against Preparation & Acceptance by Client	0.99%		
	Implementation and acceptance of Application Software (User Acceptance Testing).	1.50%		
	Completion of Training, Final Acceptance Test (FAT) and Go Live.	1.03%		
	Handing over of the system to client.	0.80%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.81%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
1-B-ii (b)	PACS Hardware	12.82%	4.75%	
	Delivery of the equipments at site subject to submission of inspection report.	8.97%		
	Installation and commissioning of the equipments.	2.00%		
	Handing over to client	1.20%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.64%		
1-B-iii	Server Hardware & System Software	10.26%		
	Delivery of the equipments at site subject to submission of inspection report.	7.00%		
	Installation and commissioning of the equipments.	2.05%		
	Handing over to client	0.69%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.51%		
1-B-iv	Lan & Wifi Components	20.51%		
	Delivery of the equipments at site subject to submission of inspection report.	13.00%		
	Installation and commissioning of the equipments.	4.10%		
	Handing over to client	1.38%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	2.03%		
1-B-v	Computer Hardware including Tele-Medicine Hardware etc.	20.51%		
	Delivery of the equipments at site subject to submission of inspection report.	13.00%		
	Installation and commissioning of the equipments.	4.10%		
	Handing over to client	1.38%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	2.03%		
1-B-vi (a)	QMS Hardware	4.10%		
	Delivery of the equipments at site subject to submission of inspection report.	2.00%		
	Installation and commissioning of the equipments.	0.82%		
	Handing over to client	1.07%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.21%		
1-B-vi (b)	QMS Software	2.05%		
	Against Preparation & Acceptance by Client	0.62%		
	Implementation and acceptance of Application Software (User Acceptance Testing).	0.82%		
	Completion of Training, Final Acceptance Test (FAT) and Go Live.	0.41%		
	Handing over of the system to client.	0.10%		
	Successful completion of 5 years onsite OEM warranty & maintenance support.	0.10%		
1-B-vii	Network & Application Support Engineers	10.26%		
	1st year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	2nd Year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	3rd year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
	4th year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		

S/N	Particulars	Break-up of Total % Payable Cost		
		Item %	Individual %	Cumulative %
	5th year	2.05%		
	Qtr 1+ Qtr 2	1.03%		
	Qtr 3+Qtr 4	1.03%		
V	SES		11%	90%
	Planning, Designing, and Construction on EPC Basis of the 250 beded Super Specialty Hospital Building of LG+G+6 height i/c Parking and Service Blocks with all Electrical, HVAC, IT, SES, plumbing and firefighting works, UGT, STP, ETP, WTP B249etc., with support services & allied facilities by incorporating stipulated specifications as per scope of work and directions of Engineer In charge			
1-A	On submission and approval of Good for construction Drawings & Design Deliverables from HSCC			
	Submission of Credential , Shop Drawings & technical datasheets for specialized services viz., Kitchen, CSSD, Laundry, PTS, Operation Theatres, MGPS etc.	100.00%	0.25%	
	Special Services			
1-A-i	Medical Gas Manifold System	29.00%	10.75%	
1-A-ii	Modular Operation Theatre	33.00%		
1-A-iii	Minor Operation Theatre	2.00%		
1-A-iv	CSSD	15.00%		
1-A-v	Laundry	5.00%		
1-A-vi	Kitchen	3.00%		
1-A-vii	Pneumatic Tube Transfer System	13.00%		
	*The stage payment of Special Services is further subdivided as (a) 75% against supply & installation of equipment/items (b) 15% against testing & commissioning of special services and (c) 10% against demonstration & handing over of special services to Client.			
VII	Testing, Commissioning and Handover		10%	100%
1	Testing and Commissioning	50%	5%	
2	Handover to the Client	50%	5%	

Note:
A. Items/Specifications to be provided at any location even though left out in the above provisions but is required as per functional requirements and as per approved drawings shall be provided as per direction of Engineer-in-Charge and the rates for same shall be deemed to be inclusive in quoted rates of the contractor. Nothing extra on this account shall be payable.

B. SUPPLY OF EQUIPMENT/ITEMS :

- 1. Supply** means the supply of complete items / equipments along with all accessories to complete the installation
- 2. Installation** means placing and installation of the equipment with all its accessories complete in all respect in their respective locations and ready for commissioning.

REPORT ON GEOTECHNICAL INVESTIGATION

REPORT FOR

H.S.C.C. (INDIA), LIMITED

SITE

**CONSTRUCTION OF 600 BEDED GENERAL HOSPITAL,
250 BEDED CANCER HOSPITAL & 250 BEDED SUPER
SPECIALITY HOSPITAL**

**AT RAJASHREE CHATRAPATI SHAHUJI MAHARAJ
GOVT. MEDICAL COLLEGE KOLHAPUR (MAHARASHTRA)**

DATE

FEBRUARY, 2024

BY

**ADVAIT EARTH MOVERS,
CHARAN, KOLHAPUR**

ADVAIT EARTH MOVERS

A. K. Ladi
Proprietor
0

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1.0 INTRODUCTION

For the proposed construction of Hospital buildings, site investigation work was undertaken. To ascertain the site subsoil strata, soil investigation work was carried out. This report presents soil investigation results such as sub-soil stratification, test results and net safe bearing pressure to be considered for design.

2.0 SITE LOCATION

Construction of General Hospital, Cancer Hospital and Super Speciality Hospital at RSCM Govt, Medical College, Kolhapur.

The project site located at Shenda Park area of Kolhapur city of Maharashtra State. The investigated land is sloping and undulating.

3.0 PROPOSED CONSTRUCTION

An R.C.C. multistoried buildings and allied structures are proposed at the site.

4.0 SCOPE OF INVESTIGATION

The investigation scope consists of drilling and sampling in a total of ten boreholes (BH-01 to BH-10) and carrying out relevant laboratory tests on representative soil and rock samples.

5.0 FIELD WORK

Drilling and sampling was carried out using single core tube rotary wash boring. Field work performed during February, 2024. The engineer in-charge decided locations were used. Separate log sheet for each of the bore holes is prepared and attached herewith. Sub-soil conditions are as described in bore logs. Following table gives bore hole depth information.

Borehole No.	Closing Depth	Depth in Murum	Depth in Jointed Rock
BH-01	10.00 m	06.30 m	03.70 m
BH-02	10.00 m	05.00 m	05.00 m
BH-03	10.00 m	01.00 m	09.00 m
BH-04	10.00 m	00.50 m	09.50 m
BH-05	10.00 m	02.50 m	07.50 m
BH-06	10.00 m	03.00 m	07.00 m
BH-07	10.00 m	04.50 m	05.50 m
BH-08	10.00 m	01.50 m	08.50 m
BH-09	10.00 m	01.50 m	08.50 m
BH-10	10.00 m	03.00 m	07.00 m

6.0 GEOGRAPHICAL PROFILE / GEOLOGY OF KOLHAPUR

Kolhapur is an inland city located in *south-west Maharashtra state*, 373 km south of Mumbai and 230 km south of Pune. Kolhapur district is the southernmost district of Maharashtra. Its headquarter is Kolhapur City which is an ancient city. The city is situated on the banks of river Panchganga and is known as 'Dakshin Kashi'. Kolhapur is seat of Goddess Mahalaxmi and is one of the Shaktipeeths mentioned in Indian mythology.

Kolhapur lies above the foothills of the Sahyadri ranges and therefore has flat topography. Soil type is rich black soil and in some areas there are hard strata. Ground water is available at 15-20 ft below ground in Gavthan areas while in outskirts it is at 50-70ft. The normal annual rainfall is 1239 mm.

In general, major portion of the Kolhapur district covers the 'Deccan trap' (Cretaceous to Eocene age); only in the southern extremities the rocks of the Dharwar (Archean age) and Lower Kaladgi series are exposed (Proterozoic Age).

7.0 SOIL PROFILE

The arrangement of various soil layers can be best shown in the form of a soil profile. A soil profile is a graphical representation of underground conditions along a given line on the ground surface. Along each borehole depth the separate soil layers are shown at the correct elevations and are clearly identified.

From the logs of ten boreholes drilled, following subsoil profile can be concluded.

Stratum One: Murum-Boulder (Thickness = 0.50 m to 6.30 m)

Stratum Two: Jointed Rock : Grey colour basalt.

Murum: Murum is nothing but iron stone gravels mixed with red clay, resulting from the disintegration of rock. Percentage of clay varies depending on degree of weathering.

Ground Water Levels:

Ground water accumulation in boreholes was monitored during and after completion of drilling activities. Based on our measurement in the completed boreholes, ground water was not met to the final explored depth of 10 meters EGL during our period of investigation. Seasonal and annual fluctuations in ground water levels can be expected.

8.0 LABORATORY TESTING

Laboratory test were carried out in a number of selected soil samples in order to acquire necessary information with regards to the physical and mechanical properties of the soil layers and further on to evaluate and determined the parameters required for the calculations / design of foundation.

Field and Laboratory work was executed generally in accordance with IS specifications listed below.

IS 1122: Method of test for determination of true specific gravity of natural Building stone

IS 1124: Method of test for determination of water absorption, apparent specific gravity and porosity of natural building stone

IS 1498: Classification and identifications of soil for general engineering purposes.

IS 1892: Code of practice for subsurface investigation of foundation.

IS 1904: Code of Practice for design and construction of foundations in soil

IS 2131: Method for standard penetration test for soil.

IS 2720: Method of test for Soils

IS 6403: Code of practice for Determination of bearing capacity of shallow foundations

IS 8009 Part I: Code of practice for calculation of settlements of foundations

IS 9143: Method of test for Unconfined Compressive Strength of Rock Core

IS 12070: Code of practice for Design and Construction of Shallow Foundations on Rock

IS 13030: Method of Test for Porosity, Density on Rock Soil and Rock samples taken to the laboratory and following tests conducted.

8.1 Murum Soil Testing

- Mechanical Sieve Analysis

Mechanical Sieve Analysis of Murum sample

Grain size distribution:

To determine the range of sizes of particles in the soil, grain size analysis carried out by sieving sample using standard set of sieves. The mechanical analysis gives fractions of gravel, sand and silt and clay.

Sample	Gravel Content	Sand Content	Clay & Silt Content
Sample-1	92.47 %	7.17 %	0.37 %

Sample-2	100.0 %	0.00 %	0.0
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8.2 Testing of Rock Samples

Following test conducted on rock sample and results are as indicated.

- Dry Density
- Crushing Strength Test
- Water Absorption

9.0 GEOTECHNICAL ASSESSMENT

9.1 Murum Strata: Open Foundation

The safe bearing capacity is the minimum of values obtained from shear failure criteria and settlement criteria based on SPT values. The murum strata available is somewhat more weathered at top than at depth.

Procedure as per IS 6403 has been followed.

$$q_{unet} = C N_c S_c d_c i_c + q (N_q - 1) S_q d_q i_q + 0.5 B \gamma N_\gamma S_\gamma d_\gamma i_\gamma W'$$

c : Cohesion of Soil

N_c, N_q, N_γ are bearing capacity factors from Table 1 IS 6403

S_c, S_q, S_γ are: Shape Factor from Table 2 IS 6403,

d_c, d_q, d_γ are depth Factor from clause 5.1.2.2 of IS 6403

i_c, i_q, i_γ are Inclination Factor from clause 5.1.2.3 of IS 6403

D - Depth of Foundation

W' : Water Table Correction from clause 5.1.2.4 of IS 6403

9.2 Jointed Rock Strata:

The site investigated has hard rock strata available at depth. A reference was made to IS-12070: Safe Bearing Capacity of Shallow Foundations on Rock. Table 3 in this code has used co-relation between the net safe bearing pressure on the rock with Rock Mass

Rating Values. To find out total rock mass rating, a reference is made from IS: 13365 (Part I): 1998. This classification defines the total RMR value, which is related to net safe bearing pressure.

Net Safe Bearing Pressure Based on RMR as per IS-12070

Classification No.	I	II	III	IV	V
Rock Description	Very Good	Good	Fair	Poor	Very Poor
R M R	100-81	80-61	60-41	40-21	20-0
q_{ns} (t/m ²)	600-448	440-288	280-151	145-58	55-40

Rock classes with respect to dry density and porosity is as below:

Class	Dry Density (gm/cc)	Category	Porosity (%)	Category
1	Less than 1.8	Very Low	Over 30	Very High
2	1.8 – 2.2	Low	30 – 15	High
3	2.2 - 2.55	Moderate	15 – 05	Medium
4	2.55 – 2.75	High	05 - 01	Low

5	Over 2.75	Very High	Less than 01	Very Low
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Classification based on strength of intact rock material is as below:

Uniaxial Compressive Strength MPa	Qualitative Description
< 1	Extremely Weak
1 – 5	Very Weak
5 – 25	Weak
25 – 50	Medium Strong
50 - 100	Strong
100 - 250	Very Strong
> 250	Extremely Strong

The rock quality relation between RQD and fracture frequency:

RQD %	Fracture Frequency	Description
0 – 25	Over 15	Very Poor
25 – 50	15 – 8	Poor
50 - 75	8 – 5	Fair
75 – 90	5 – 1	Good
90 - 100	Less than 1	Excellent

9.3 Assessment of Liquefaction Potential

As per IS 1893, liquefaction is defined as the state in which the shear strength of primarily saturated cohesion less soils become negligible

during earthquake shaking. In this condition the soil tends behave like a fluid mass.

The liquefaction potential can be assessed using the SPT values. The following points are noted for the soils encountered at the site with reference to liquefaction susceptibility assessment:

1. The Kolhapur District lies in Zone III of the seismic map of India.
2. For project sites located in zone III, IV & V saturated sands with corrected SPT values less than 15 up to 5 m and less than 25 below 10 m may liquefy.
3. Ground water was not met during investigation.
4. Sand like strata is not available, moreover SPT values are quite high for murum strata.

The vast majority of liquefaction hazards are associated with saturated sandy and silty soils of low plasticity and density. Cohesive soils with clayey content greater than 15% are generally not considered susceptible to soil liquefaction. Liquefaction generally occurs in cohesion less sands, silts, and fine-grained Gravel deposits of Holocene to late Pleistocene age in areas where the ground water is shallow than 15 meters. Considering that the foundation will rest on Such a stratum that it will get the N – Value greater than 25 with little or no penetration of split spoon or dynamic cone. Since it is evidence that the stress caused due to earthquake is less than that required for liquefaction.

As per our assessment of the available borehole data, we are of the opinion that there is no liquefaction potential in the event of earthquake.

10.0 RECOMMENDATIONS

Open Foundation:

It is recommended to adopt open foundation as per foundation system. Soil at site location is not chemically aggressive. The top layer is murum followed by rock strata. It is recommended to rest foundation on hard firm strata. Safe Bearing Capacity Based on field testing and bore hole data is as given below (open foundation in murum stratum):

Location	Founding Depth	Soil Type	Allowable Net Bearing Capacity
BH-01 to BH-10	2.00 m	Murum	40 ton/m ²

ADVAIT EARTH MOVERS

A K Lad
Proprietor

BORE LOG SHEET - 01

Project : Construction of General Hospital, Cancer Hospital & Super Speciality Hospital
 Location : At RSM Govt, Medical College, Kolhapur (M.S.)
 Dia. of Borehole: 100mm/ Nx
 Depth of GWT : ---
 Co-ordinate : ---
 Ground R. L. : ---

Bore Hole No. : BH-01
 Depth of Bore Hole : 10.00 m
 Date of Commencement : 09/02/2024
 Date of Completion : 10/02/2024

Scale	Depth m	Log	Description of Strata	SPT-N Value	CR	RQD	Core No./ Length cm
1.0							
2.0				12, 18, R			
3.0			Murum-Boulder		Nil	Nil	Sample Bag
4.0							
5.0							
6.0	6.30						
7.0	7.00				62.85%	Nil	1 2 3 4 5 6 7 8 9 4, 3, 5, 13, 4, 4, 3, 4, 4,
8.0	8.50		Greyish Basalt Rock		90.66%	87.33%	10 11 12 13 14 15 16 28, 22, 10, 19, 38, 5, 14,
9.0					93.33%	87.33%	17 18 19 20 21 22 23 18, 19, 23, 14, 19, 38, 9,
10.0	10.00						
The Bore Hole Terminated at 10.00 m depth							
GWT : Ground Water Table				SPT : Standard Penetration Test			
CR : Core Recovery				Note : Log & Report prepared based on data			
RQD : Rock Quality Designation				and information provided by contractor/driller.			

ADVAIT EARTH MOVERS


 Proprietor

BORE LOG SHEET - 02

Project	Construction of General Hospital, Cancer Hospital & Super Speciality Hospital		
Location	At RSM Govt. Medical College, Kolhapur (M.S.)		
Dia. of Borehole:	100mm/ Nx	Bore Hole No. :	BH-02
Depth of GWT	---	Depth of Bore Hole :	10.00 m
Co-ordinate		Date of Commencement :	10/02/2024
Ground R. L.		Date of Completion :	11/02/2024

Scale	Depth m	Log	Description of Strata	SPT-N Value	CR	RQD	Core No./ Length cm
1.0			Murum-Boulder	14, 22, R	Nil	Nil	Sample Bag
2.0							
3.0							
4.0							
5.0	5.00						
6.0	6.50		Greyish Basalt Rock		84.00%	68.66%	1 2 3 4 5 6 7 8 9 10, 10, 3, 4, 6, 4, 6, 38, 45,
7.0					90.66%	68.66%	10 11 12 13 14 15 15, 24, 8, 14, 24, 1,
8.0	8.00					16 17 18 19 15, 7, 9, 9,	
9.0	9.50				93.33%	86.00%	20 21 22 23 24 16, 26, 29, 21, 11,
10.0	10.00				90.00%	90.00%	25 26 27 14, 12, 5,
		The Bore Hole Terminated at 10.00 m depth					

GWT : Ground Water Table
 CR : Core Recovery
 RQD : Rock Quality Designation

SPT : Standard Penetration Test

Note : Log & Report prepared based on data and information provided by contractor/driller.

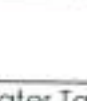
ADVAIT EARTH MOVERS

AKKhad
Proprietor

BORE LOG SHEET - 03

Project : Construction of General Hospital, Cancer Hospital & Super Speciality Hospital
 Location : At RSM Govt. Medical College, Kolhapur (M.S.)
 Dia. of Borehole: 100mm/ Nx
 Depth of GWT : ---
 Co-ordinate : ---
 Ground R. L. : ---

Bore Hole No. : BH-03
 Depth of Bore Hole : 10.00 m
 Date of Commencement : 10/02/2024
 Date of Completion : 11/02/2024

Scale	Depth m	Log	Description of Strata	SPT-N Value	CR	RQD	Core No./ Length cm
1.0	1.00		Murum-Boulder		Nil	Nil	Sample Bag
2.0	2.50		Greyish Basalt Rock		75.33%	61.33%	1 2 3 4 5 6 7 3, 5, 3, 12, 22, 13, 8 8 9 10 17, 18, 10,
3.0	3.00				77.33%	51.33%	11 12 13 14 15 16 17 5, 6, 9, 13, 11, 3, 7, 18 19 20 21 22 23 3, 2, 17, 4, 18, 18,
4.0	4.00				87.33%	76.66%	24 25 26 27 28 2, 20, 9, 5, 33, 29 30 31 32 15, 23, 10, 14,
5.0	5.50				76.00%	44.00%	33 34 35 36 37 38 39 4, 8, 5, 3, 13, 12, 9, 40 41 42 43 44 45 46 12, 13, 4, 5, 6, 4, 16,
6.0	6.00				90.00%	71.33%	47 48 49 50 51 52 23, 13, 19, 9, 12, 3, 53 54 55 56 57 4, 3, 9, 10, 30,
7.0	7.00				90.66%	62.00%	58 59 60 61 62 63 64 10, 11, 9, 2, 8, 3, 5, 65 66 67 68 69 70 71 21, 8, 4, 11, 4, 22, 18,
8.0	8.50						
9.0	9.00						
10.0	10.00						
			The Bore Hole. Terminated at 10.00 m depth				

GWT : Ground Water Table

CR : Core Recovery

RQD : Rock Quality Designation

SPT : Standard Penetration Test

Note : Log & Report prepared based on data and information provided by contractor/driller.

ADVAIT EARTH MOVERS

AKheer

Proprietor

BORE LOG SHEET - 04

Project : Construction of General Hospital, Cancer Hospital & Super Speciality Hospital
 Location : AI RSM Govt. Medical College, Kolhapur (M.S.)
 Dia. of Borehole: 100mm/ Nx
 Depth of GWT : ---
 Co-ordinate : ---
 Ground R. L. : ---

Bore Hole No. : BH-04
 Depth of Bore Hole : 10.00 m
 Date of Commencement : 11/02/2024
 Date of Completion : 12/02/2024

Scale	Depth m	Log	Description of Strata	SPT-N Value	CR	RQD	Core No./ Length cm
	0.50		Murum-Boulder		Nil	Nil	Sample Bag
1.0			Greyish Basalt Rock		76.66%	46.00%	1 2 3 4 5 6 7 7, 7, 8, 6, 12, 8, 17,
2.0	2.00						8 9 10 11 12 10, 16, 6, 4, 14,
3.0					76.66%	55.33%	13 14 15 16 17 18 5, 7, 8, 11, 7, 10,
4.0	3.50						19 20 21 22 18, 19, 5, 25,
5.0					82.00%	82.00%	23 24 25 26 27 28 29, 34, 26, 13, 10, 11,
6.0	5.00						29 30 31 32 33 2, 3, 58, 19, 9,
7.0	6.50				88.00%	58.66%	34 35 36 37 8, 6, 5, 22,
8.0					88.66%	50.00%	38 39 40 41 42 43 44 13, 9, 7, 6, 11, 6, 11,
9.0	8.00						45 46 47 48 49 50 51 52 17, 12, 5, 6, 11, 7, 4, 8,
10.0	9.50				96.00%	74.00%	53 54 55 56 57 58 59 20, 8, 8, 4, 10, 17, 12,
	10.00				72.00%	72.00%	60 61 62 63 64 6, 16, 17, 19, 7,
			The Bore Hole Terminated at 10.00 m depth				

GWT : Ground Water Table
 CR : Core Recovery
 RQD : Rock Quality Designation

SPT : Standard Penetration Test

Note : Log & Report prepared based on data and information provided by contractor/driller.

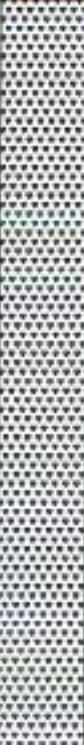
ADVAIT EARTH MOVERS

A Kheer

BORE LOG SHEET - 05

Project : Construction of General Hospital, Cancer Hospital & Super Speciality Hospital
 Location : At RSM Govt. Medical College, Kolhapur (M.S.)
 Dia. of Borehole: 100mm/ Nx
 Depth of GWT : —
 Co-ordinate : —
 Ground R. L. : —

Bore Hole No. : BH-05
 Depth of Bore Hole : 10.00 m
 Date of Commencement : 12/02/2024
 Date of Completion : 13/02/2024

Scale	Depth m	Log	Description of Strata	SPT-N Value	CR	RQD	Core No./ Length cm
1.0			Murum-Boulder	12, 21, R	Nil	Nil	Sample Bag
2.0	2.50						
3.0			Greyish Basalt Rock	72.66%	18.00%	1 2 3 4 5 6 7 8 9 10 11 4.6, 7.3, 5.5, 4.2, 3.8, 12 13 14 15 16 17 18 4.8, 5.5, 7.15, 2.	
4.0	4.00						
5.0				79.33%	46.66%	19 20 21 22 23 24 25 8.5, 11.5, 4.10, 4. 26 27 28 29 30 31 32 8.5, 13.6, 15.4, 21.	
6.0	5.50						
7.0				80.00%	62.00%	33 34 35 36 37 2.10, 9.21, 13. 38 39 40 41 42 8.8, 22.10, 17.	
8.0	7.00						
9.0				85.33%	85.33%	43 44 45 46 53, 26, 25, 24.	
10.0	8.50						
				85.33%	78.66%	47 48 49 50 51 52 60, 2, 24, 8, 12, 22.	
	10.00						
The Bore Hole Terminated at 10.00 m depth							

GWT : Ground Water Table

CR : Core Recovery

RQD : Rock Quality Designation

SPT : Standard Penetration Test

Note : Log & Report prepared based on data and information provided by contractor/driller.

ADVAIT EARTH MOVERS

Akshay
 Proprietor

BORE LOG SHEET - 06

Project : Construction of General Hospital, Cancer Hospital & Super Speciality Hospital
 Location : At RSM Govt. Medical College, Kolhapur (M.S.)
 Dia. of Borehole: 100mm/ Nx
 Depth of GWT : ---
 Co-ordinate :
 Ground R. L. :
 Bore Hole No. : BH-06
 Depth of Bore Hole : 10.00 m
 Date of Commencement : 12/02/2024
 Date of Completion : 13/02/2024

Scale	Depth m	Log	Description of Strata	SPT-N Value	CR	RQD	Core No./ Length cm
1.0			Murum-Boulder	14, R, R	Nil	Nil	Sample Bag
2.0							
3.0	3.00						
4.0	4.00		Highly Jointed Rock		74.00%	23.00%	1 2 3 4 5 6 7 8 9 10 3, 2, 7, 13, 7, 10, 4, 5, 4,
				11 12 13 14 15 16 2, 3, 3, 6, 3, 5,			
5.0	5.50		Greyish Basalt Rock		75.33%	47.33%	17 18 19 20 21 22 6, 8, 7, 9, 19, 28,
6.0					71.33%	57.33%	28 29 30 31 32 12, 7, 9, 5, 25,
7.0	7.00						33 34 27, 22,
8.0	8.50				84.00%	79.33%	35 36 37 38 39 32, 7, 20, 43, 24,
9.0					76.66%	76.66%	40 41 42 43 44 45 21, 30, 16, 17, 37, 17,
10.0	10.00		The Bore Hole Terminated at 10.00 m depth				
GWT : Ground Water Table				SPT : Standard Penetration Test			
CR : Core Recovery				Note : Log & Report prepared based on data and information provided by contractor/driller.			
RQD : Rock Quality Designation							

ADVAIT EARTH MOVERS

AKheer
Proprietor

BORE LOG SHEET - 07

Project	Construction of General Hospital, Cancer Hospital & Super Speciality Hospital		
Location	At RSM Govt. Medical College, Kolhapur (M.S.)		
Dia. of Borehole:	100mm/ Nx	Bore Hole No. :	BH-07
Depth of GWT	----	Depth of Bore Hole :	10.00 m
Co-ordinate		Date of Commencement :	14/02/2024
Ground R. L.		Date of Completion :	15/02/2024

Scale	Depth m	Log	Description of Strata	SPT-N Value	CR	RQD	Core No./ Length cm
1.0			Murum-Boulder	11, 19, R	Nil	Nil	Sample Bag
2.0							
3.0							
4.0							
	4.50						
5.0			Highly Jointed Rock		64.00%	Nil	1 2 3 4 5 4.5, 7.8, 8.8,
	5.50						
6.0							
7.0							
	7.00						
			Greyish Basalt Rock				6 7 8 9 10 11 12 13 5.4, 4.7, 3.2, 7.12, 14 15 16 17 18 19 20 7.8, 5.8, 8.8, 20.16,
8.0							
9.0							
10.0							
	8.50						21 22 23 24 25 26 16.60, 15.20, 27.23,
	10.00						27 28 29 30 31 32 7.20, 5.4, 17.19, 33 34 35 36 37 11.16, 7.8, 14,
			The Bore Hole Terminated at 10.00 m depth				

GWT : Ground Water Table
 CR : Core Recovery
 RQD : Rock Quality Designation

SPT : Standard Penetration Test
 Note : Log & Report prepared based on data and information provided by contractor/driller.

ADVAIT EARTH MOVERS

AKL
Proprietor

BORE LOG SHEET - 08

Project : Construction of General Hospital, Cancer Hospital & Super Speciality Hospital
 Location : At RSM Govt. Medical College, Kolhapur (M.S.)
 Dia. of Borehole: 100mm/ Nx
 Depth of GWT : ----
 Co-ordinate :
 Ground R. L. :
 Bore Hole No. : BH-08
 Depth of Bore Hole : 10.00 m
 Date of Commencement : 15/02/2024
 Date of Completion : 16/02/2024

Scale	Depth m	Log	Description of Strata	SPT-N Value	CR	RQD	Core No./ Length cm
1.0	1.50		Murum-Boulder		Nil	Nil	Sample Bag
2.0			Highly Jointed Rock		58.00%	Nil	1 2 3 4 5 6 7 6,3,3,2,3,5,7,
3.0	3.50				52.00%	Nil	8 9 10 11 12 13 14 9,7,9,9,8,5,2, 15 16 17 18 19 4,6,8,3,8,
4.0			Greyish Basalt Rock		80.66%	70.00%	20 21 22 23 24 16,8,13,8,12, 25 26 27 11,40,13,
5.0	5.00				90.00%	75.33%	28 29 30 31 32 16,33,21,12,5, 33 34 35 36 6,3,8,31,
6.0	6.50				86.66%	76.66%	37 38 39 40 41 3,15,6,4,11, 42 43 44 45 46 19,16,2,33,21,
7.0	8.00				86.66%	83.33%	47 48 49 50 51 52 14,26,28,28,29,5,
8.0	9.50				74.00%	74.00%	53 54 19,18,
9.0	10.00		The Bore Hole Terminated at 10.00 m depth				
10.0							

GWT : Ground Water Table
 CR : Core Recovery
 RQD : Rock Quality Designation

SPT : Standard Penetration Test

Note : Log & Report prepared based on data and information provided by contractor/driller.

ADVAIT EARTH MOVERS

Akheer
Proprietor

BORE LOG SHEET - 09

Project : Construction of General Hospital, Cancer Hospital & Super Speciality Hospital
 Location : At RSM Govt. Medical College, Kolhapur (M.S.)
 Dia. of Borehole: 100mm/ Nx
 Depth of GWT : ---
 Co-ordinate : ---
 Ground R. L. : ---

Bore Hole No. : BH-09
 Depth of Bore Hole : 10.00 m
 Date of Commencement : 15/02/2024
 Date of Completion : 16/02/2024

Scale	Depth m	Log	Description of Strata	SPT-N Value	CR	RQD	Core No./ Length cm
1.0	1.50		Murum-Boulder		Nil	Nil	Sample Bag
2.0	3.00		Highly Jointed Rock		34.00%	09.33%	1 2 3 4 5 7 8 7, 5, 14, 6, 6, 7, 6,
3.0	4.50		Greyish Basalt Rock		80.66%	66.00%	9 10 11 12 13 7, 4, 19, 16, 6, 14 15 16 17 19, 27, 5, 18,
4.0	6.00				81.33%	79.33%	18 19 20 21 22 28, 19, 22, 10, 10, 23 24 25 11, 19, 3,
5.0	7.50				86.00%	86.00%	26 27 28 29 30 31 14, 12, 39, 27, 18, 19,
6.0	9.00				87.33%	85.33%	32 33 34 35 25, 3, 18, 24, 36 37 38 23, 11, 27,
7.0	10.00				76.00%	76.00%	39 40 41 42 43 18, 16, 11, 17, 14,
8.0		The Bore Hole Terminated at 10.00 m depth					

GWT : Ground Water Table
 CR : Core Recovery
 RQD : Rock Quality Designation

SPT : Standard Penetration Test
 Note : Log & Report prepared based on data
 and information provided by contractor/driller.

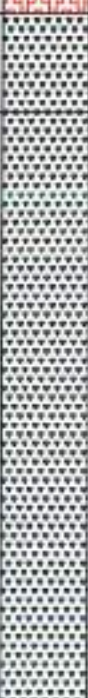
ADVAIT EARTH MOVERS

Akheer
Proprietor

BORE LOG SHEET - 10

Project : Construction of General Hospital, Cancer Hospital & Super Speciality Hospital
 Location : AI RSM Govt. Medical College, Kolhapur (M.S.)
 Dia. of Borehole: 100mm/ Nx
 Depth of GWT : ---
 Co-ordinate :
 Ground R. L. :

Bore Hole No. : BH-10
 Depth of Bore Hole : 10.00 m
 Date of Commencement : 16/02/2024
 Date of Completion : 17/02/2024

Scale	Depth m	Log	Description of Strata	SPT-N Value	CR	RQD	Core No./ Length cm
1.0			Murum-Boulder	13, 20, R	Nil	Nil	Sample Bag
2.0							
3.0	3.00						
4.0	4.00		Highly Jointed Rock		80.00%	10.00%	<u>1 2 3 4 5 6 7 8 9</u> 9, 8, 6, 3, 4, 3, 5, 2, 4, <u>10 11 12 13 14 15</u> 5, 5, 10, 7, 4, 5,
5.0	5.50		Greyish Basalt Rock		74.66%	54.00%	<u>16 17 18 19 20</u> 5, 6, 5, 7, 13, <u>21 22 23 24</u> 29, 21, 18, 8,
6.0					82.66%	82.66%	<u>25 26 27 28 29 30</u> 19, 14, 33, 15, 18, 25,
7.0	7.00						<u>31 32 33 34 35</u> 25, 2, 3, 22, 13, <u>36 37 38</u> 20, 16, 23,
8.0	8.50				75.33%	72.00%	
9.0							<u>39 40 41 42 43</u> 20, 7, 39, 29, 38,
10.0	10.00				88.66%	84.00%	
The Bore Hole Terminated at 10.00 m depth							

GWT : Ground Water Table
 CR : Core Recovery
 RQD : Rock Quality Designation

SPT : Standard Penetration Test

Note : Log & Report prepared based on data and information provided by contractor/driller.

ADVAIT EARTH MOVERS


 Proprietor

Construction of General Hospital, Cancer Hospital & Super Speciality Hospital at RCM Govt. Medical College Kolhapur. (Maharashtra State)



BH-01 Borehole Sample



BH-02 Borehole Sample

ADVAIT EARTH MOVERS

K. K. K.
Proprietor

Construction of General Hospital, Cancer Hospital & Super Speciality Hospital at RCSM Govt. Medical College Kolhapur. (Maharashtra State)



BH-03 Borehole Sample



BH-04 Borehole Sample

ADVAIT EARTH MOVERS

A. K. Kulkarni
Proprietor

Construction of General Hospital, Cancer Hospital & Super Speciality Hospital at RCSI Govt. Medical College Kolhapur. (Maharashtra State)



BH-05 Borehole Sample



BH-06 Borehole Sample

ADVAIT EARTH MOVERS

Akshay
Proprietor

Construction of General Hospital, Cancer Hospital & Super Speciality Hospital at RCSM Govt. Medical College Kolhapur. (Maharashtra State)



BH-07 Borehole Sample



BH-08 Borehole Sample

Construction of General Hospital, Cancer Hospital & Super Speciality Hospital at RCSM Govt. Medical College Kolhapur. (Maharashtra State)



BH-09 Borehole Sample



BH-10 Borehole Sample

ADVAIT EARTH MOVERS

AKKhad
Proprietor

Construction of General Hospital, Cancer Hospital & Super Speciality Hospital at RCSM Govt. Medical College Kolhapur. (Maharashtra State)



Borehole Drilling in Progress

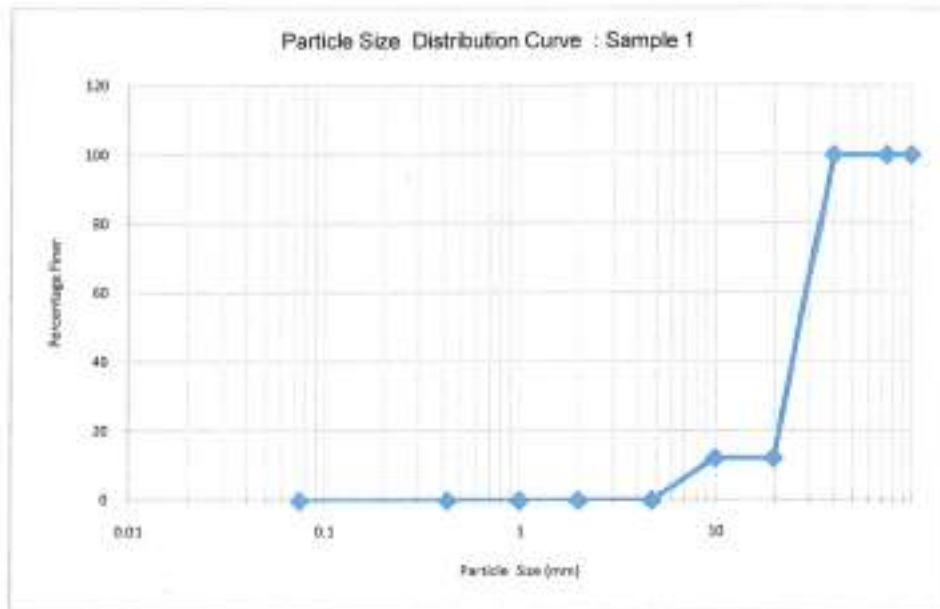


Borehole Drilling in Progress

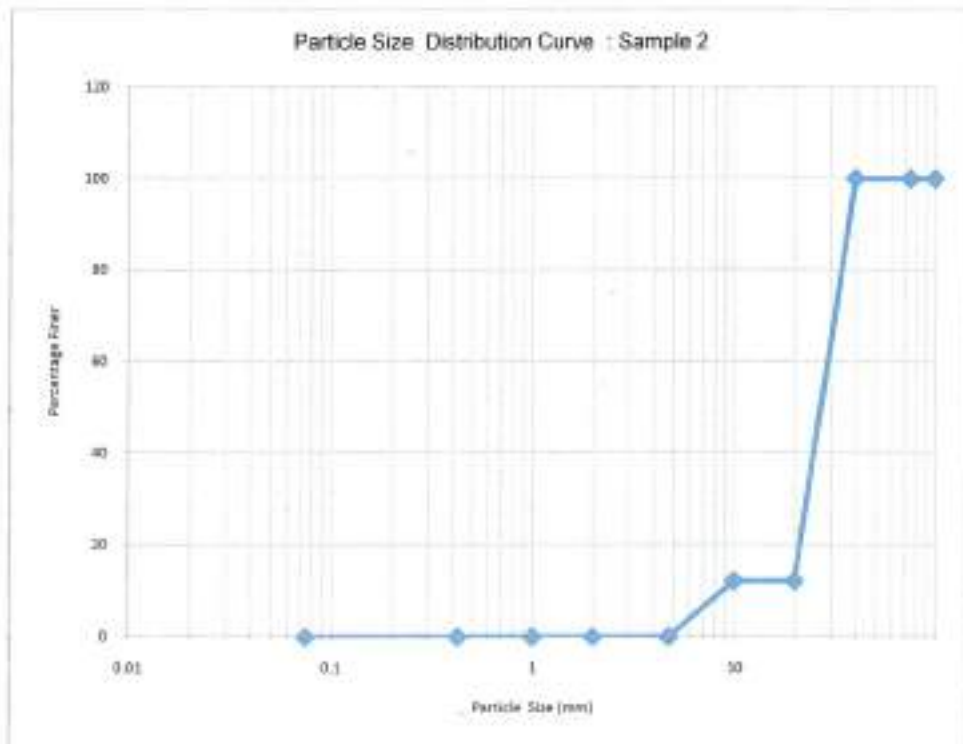
ADVAIT EARTH MOVERS

AKheer
Proprietor

Mechanical Sieve Analysis of Murum Sample



Sample 1: Gravel = 92.47 %, Sand = 7.17 %, Clay & Silt = 0.37 %



Sample 2: Gravel = 100.0 %, Sand = 0.0 %, Clay & Silt = 0.0 %

Rock Core Test Results

Bore Hole No.	Rock Piece No.	Rock Dry Density	Water Absorption	Uniaxial Comp. Strength (Kg/cm ²)
BH-01	10	2.908 gm/cc	0.15%	321.85
BH-02	2	2.795 gm/cc	0.43%	190.94
BH-03	13	2.947 gm/cc	0.23%	361.92
BH-04	09	3.004 gm/cc	0.13%	617.40
BH-05	17	2.979 gm/cc	0.27%	649.24
BH-06	21	3.021 gm/cc	0.16%	639.68
BH-07	18	3.391 gm/cc	0.22%	644.25
BH-08	25	3.045 gm/cc	0.08%	757.37
BH-09	12	2.936 gm/cc	0.12%	761.38
BH-10	20	2.963 gm/cc	0.09%	684.71

ADVAIT EARTH MOVERS

AKheer
Proprietor

Calculation of Safe Bearing Capacity of Murum Soil

Calculation of Allowable SBC As Per IS : 1904 / 6403

FOUNDATION WIDTH [M] = 1.5

FOUNDATION LENGTH [M] = 2.0

FOUNDATION DEPTH [M] = 2.0

WATER TABLE DEPTH [M] = 2.5

ANGLE OF INTERNAL FRICTION [deg.] = 34

[N] SPT VALUE-CORRECTED = 33

COHESION [KG/CM²] = 0.01

SOIL DENSITY [KG/M³] = 1850

FACTOR OF SAFETY = 2.5

PERMISSIBLE SETTLEMENT [MM] = 25

NET SBC FROM GENERAL SHEAR FAILURE CRITERIA = 61.4 [T/M²]

NET SBC FROM LOCAL SHEAR FAILURE CRITERIA = 16.82 [T/M²]

AVERAGE OF ABOVE TWO CRITERIAS {a} = 39.11 [T/M²]

NET SBC FROM SETTLEMENT CRITERIA {b} = 60.30 [T/M²]

NET ALLOWABLE SBC : MINIMUM OF {a} & {b} = 39.11 [T/M²]

GROSS ALLOWABLE SAFE BEARING CAPACITY = 41.88 [T/M²]

ADVAIT EARTH MOVERS

A. K. Lad
Proprietor

Computation of Safe Bearing Capacity of Rock

Recovery Ratio and Rock Quality Designation (For Rock Strata):

Bore Hole	Core Recovery (%)	Rock Quality Designation (%)
BH-01	62.85/90.66/93.33	Nil/87.33/87.33
BH-03	75.33/77.33/87.33	61.33/51.33/76.66
BH-05	72.66/79.33/80.00	18.00/46.66/62.00
BH-09	34.00/80.66/81.33	9.33/66.00/79.33

Rock mass rating is worked out as below. Procedure as given in IS 13365 (P1) - 1998 has been followed:

Parameter	Rating			
	BH-01	BH-03	BH-05	BH-09
Strength of Intact Rock	03	03	03	02
Rock Quality Designation	00	06	03	02
Spacing of Discontinuity	04	07	05	05
Condition of Discontinuity	12	15	14	12
Ground Water Cond.	04	06	04	04
Adjust. for jt. orientation	-04	-04	-04	-04
Total =	19	33	25	21
Bearing Capacity (t/m ²) =	55	114	79	58

