

M/s HLL INFRA TECH SERVICES LTD. (HITES)
(Subsidiary of HLL Lifecare Ltd., A Government of India Enterprise)

NOTICE INVITING QUOTATIONS

FOR

**SOIL INVESTIGATION FOR PROPOSED CONSTRUCTION
OF CRITICAL CARE UNIT (CCU), KOTTAYAM, KERALA**

NIQ No. HITES/IDS/NIQ/GI/CCU-KTYM/2023-24/07



Golden Jubilee Block, HLL Bhavan,
Poojappura P.O
Thiruvananthapuram
PH: 0471 - 2775500

HLL INFRA TECH SERVICES LTD (HITES)

NOTICE INVITING QUOTATION

NIQ No. HITES/IDS/NIQ/GI/CCU-KTYM/2023-24/07 Dated 25.09.2023

HITES invites NIQ from **empanelled** Geotechnical consultants for conducting Soil Investigation at proposed Construction of Critical Care Unit (CCU), Kottayam, Kerala.

The last date of receipt of sealed quotation is 03.10.2023 at 3.00 PM

NIQ document is available at www.hllhites.com/tender/.

Any amendment / corrigendum will be published in HITES website only.

Deputy General Manager (ID)
HITES

DISCLAIMER

This document has been prepared by HITES for the selection of agency to conduct Soil Investigation for the proposed Construction of Critical Care Unit (CCU), Kottayam, Kerala.

This document is neither an agreement, nor an offer or invitation to perform work of any kind to any party.

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

Further, HITES does not claim that the information is exhaustive. Respondents to this document are required to make their own inquiry/ survey and will be required to confirm, in writing, that they have done so and they did not rely solely on the information given herein.

HITES reserves the right not to proceed with the empanelment or to alter the timetable reflected in this document or to change the process or procedure to be applied. It also reserves the right to decline to discuss the empanelment further with any respondent.

No reimbursement of cost of any type or on any account will be made to persons or entities submitting their quotations.

A. Details of NIQ

Sl. No.	Description	Details
1	NIQ no.	HITES/IDS/NIQ/GI/CCU-KTYM/2023-24/07 dated 25.09.2023
2	Name of work	Soil Investigation at proposed Construction of Critical Care Unit (CCU), Kottayam, Kerala.
3	Issue of Tender documents	Documents will be issued to empaneled agencies and shall be available at http://hllhites.com/tenders .
4	Last Date & time of Submission of Bids	03.10.2023 @ 15.00 hrs
5	Date & time of opening of Technical Bids	03.10.2023 @ 15.30 hrs
6	Place of submission and opening of bids	HLL Infra Tech Services Ltd Golden Jubilee Block, 2 nd Floor HLL Bhavan, Poojappura.P.O Trivandrum-12 Tel: 0471 2775500/568 The bids will be opened on the designated date and time in the presence of bidders who choose to attend the bid opening. Late bids will not be accepted.
7	Mode of submission of quotation	The bidder shall submit the offers within the due date & time in a sealed envelope super scribing “Soil Investigation at proposed Construction of Critical Care Unit (CCU), Kottayam, Kerala”, addressed to: Deputy General Manager (ID) HLL Infra Tech Services Ltd Golden Jubilee Block, 2 nd Floor HLL Bhavan, Poojappura.P.O Trivandrum-12 The envelope shall contain the following: (i) Duly filled price bid signed & sealed by the authorized representative (ii) All pages of NIQ document signed & sealed by the authorized representative Note: Conditional bids will not be accepted

B. SCOPE OF SERVICES & DELIVERABLES:

1. Description:

HITES has been appointed as Consultant for the “Construction of Critical Care Unit (CCU), Kottayam, Kerala”.

The present NIQ is for selection of Geotechnical consultant for conducting Soil Investigation at proposed Construction of Critical Care Unit (CCU), Kottayam, Kerala

2. Proposed Site:

Site is located in the existing campus of Government Medical College Kottayam. The proposed site plan with borehole locations is enclosed.

3. Details of proposed building:

The proposed building is Critical Care Unit (CCU) at Government Medical College Kottayam.

- The area of the building (CCU) - 3870 Sqm
- Number of floors - G+4
- Number of bore holes - 3 No's

It is proposed to conduct soil investigation for 3 number of bore holes in the proposed site. The geotechnical consultant needs to verify and confirm the location based on the proposed building footprint.

4. Scope of Work:

(i) Geotechnical Investigation and Report submission

- Detailed Geo-technical Investigation shall be carried out for the area of plot and submission of a detailed Geo-technical report from NABL accredited/State Government/Central Government institutions labs, which shall be the basis for the design and detailing of foundations for the buildings.
- Item wise list of investigations shall be conducted along with approximate Estimated Quantities that are given in the Schedule of Quantities against for which the Consultant shall quote the rates in figures as well as in words. However, payment shall be made as per quantities actually executed.
- The work shall include mobilization of all necessary equipment's, providing necessary Engineering supervision and technical personnel, skilled and unskilled labour etc. as required to carry out the soil investigation of the entire field as well as laboratory investigation, analysis and Interpretation of data collected and preparation of a Geo-technical report.
- The Consultant shall make their own arrangements for locating the coordinates and positions of bore holes, trial pits, penetration tests and other field tests and for determining the reduced levels (R.L's) as per the requirements.

- All the field and laboratory data shall be recorded in the Performa recommended in relevant Indian Standards codes. The Consultant shall submit to the HITES one copy of field bore logs and all field records soon after the completion of each borehole/test.
- The Consultant shall interact with HITES and get acquainted with the broad guidelines about the different types of structures envisaged and in assessing the load intensities on the foundations for the various structures of the project in order to enable him to make specific recommendations for the depth, founding stratum, type of foundation and the allowable bearing pressure.
- The Consultant shall carry out all work meant within specifications even if not explicitly mentioned under the scope. All work shall be executed to the satisfaction of the Engineer-in-Charge.

(ii) Field Investigations - Soil

a. Boring:

- i. Bore holes shall be taken at specified locations to obtain information about the subsoil profile, its nature and strength and to collect soil samples for strata identification and conducting laboratory tests. The sequence of boring shall be fixed with the approval of the Engineer-in-Charge and on ascertaining preliminary nature of subsoil profile, the Engineer in Charge shall reserve the right to increase or decrease the number of proposed Bore holes by any limit. However, payment shall be made as per actual quantities executed. The minimum diameter of the bore holes shall be 150 mm and boring shall be carried out in accordance with the provisions of latest relevant IS codes for lab investigation, penetration test for soil, subsurface investigations for foundation etc.
 - ii. All boreholes shall extend up to the desired depths or refusal whichever is met earlier complete in all respect as directed by the Engineer-in-Charge. The refusal criteria shall be strictly as per IS: 1892. When the boreholes are to be terminated in soil strata an additional Standard Penetration Test shall be carried out at the termination depth. No extra payment shall be made for carrying out Standard Penetration Tests. The site data shall be made available to HITES as and when each bore is completed either by fax/ courier/speed post/hand delivery showing location of the borehole on the plan and the soil data along with visual description. The comments regarding the strata and the nature of variations shall also be included.
 - iii. On completion of the boreholes, the Consultant shall backfill all the bore holes as directed by the Engineer-in-Charge. The boreholes shall not be back filled until verified by the Engineer-in-Charge. Arrangements shall be made by the Consultant to preserve the boreholes so that the depth can be verified.
- Tests on undisturbed samples
 - Bulk density and moisture content
 - Relative density (for sand)

- Unconfined compression test
- Box shear test (in case of sand)
- Tri-axial shear tests: (Depending on the type of soil and Field conditions on undisturbed or remoulded samples).
- Unconsolidated undrained
- Consolidated undrained test with the measurement of Pore Water Pressure.
- Consolidated drained.
- Consolidation Test (In case of cohesive soil)
- Particle size Analysis
- Atterberg Limits

b. Salient Test Requirement:

- i. Chemical analysis of sub-soil shall include determination of pH value, carbonate, sulphate (both SO₃ and SO₄), chloride and nitrate contents; organic matter; salinity and any other chemical harmful to the foundation material. The contents in soil shall be indicated as percentage (%).
- ii. Chemical analysis of sub-soil water sample includes the determination of the properties such as colour, odour, turbidity, pH value and specific conductivity both at 250 C and chemical contents such as Carbonates, Sulphates (both SO₃ and SO₄), Chlorides, Nitrates, Organic matter and any other chemical harmful to the foundation material. The contents such as Sulphates, Saltpetre, etc. shall be indicated as ppm by weight.

c. General:

- i. On completion of all the field and laboratory work (NABL accredited/State Government/Central Government institutions labs), the Consultant shall submit a formal report containing Geological information of the region, procedure adopted for investigation, field observations, summarized test data, conclusion and recommendations. The report shall include detailed bore-logs, subsoil sections, field test results, laboratory observations and test results both in tabular as well as graphical form, practical results both in tabular as well as graphical form, practical and theoretical considerations for the interpretation of test results, the supporting calculations for the conclusions drawn, etc. Initially the Consultant shall submit three copies of the report in draft form for review.
- ii. The Consultant 's qualified Geotechnical Engineer shall have detailed discussion with HITES on his draft report. During the discussions, HITES shall decide as to the modifications that need to be done in the draft report. Thereafter the Consultant shall incorporate in his report the agreed modifications and after getting the amended draft report approved, three copies of the detailed final report (in A4 size and spiral binding with plastic covers) shall be submitted along with one set of reproducible of the graphs, tables, etc.

- iii. The detailed final report based on field observation, in-situ and laboratory tests shall encompass theoretical as well as practical considerations for foundations for different types of structures envisaged in the area under investigation. The Consultant shall acquaint himself about the type of structures, foundation loads and other information required from the Engineer in Charge.
- iv. The Consultant shall arrange all required facilities at site including water / electricity etc., required for the scope of work at their own cost.

d. Data to be furnished:

The report (in soft as well as hard copy) shall also include, but not limited to, the following: -

- i. A true cross section of all individual bore holes and trail pits with reduced levels and coordinates showing the classification and thickness of individual stratum, position of ground water table, various in-situ tests conducted and samples collected at different depths and the rock stratum, if met with.
- ii. A set of longitudinal and transverse soil profiles connecting various boreholes in order to give a clear picture of the variation of the subsoil strata as per the latest IS codes (latest version). Each soil profile to be submitted in separate sheets.
- iii. Past observations and historical data, if available, for the area or for other areas with similar soil profile or with similar structures in the surrounding areas.
- iv. Plot of Standard Penetration Test (N values both uncorrected and corrected) with depth for identified areas.
- v. Results of all laboratory (NABL accredited/State Government/Central Government institutions labs) tests summarized (i) for each sample and for each layer along with all the relevant charts, tables, graphs, figures, supporting calculations, conclusions and photographs of representative rock cores.
- vi. For all tri-axial shear tests stress vs strain diagrams as well as Mohr's circle envelopes shall be furnished. If back pressure is applied for saturation, the magnitude of the same shall be indicated. The value of modulus of elasticity, E shall be furnished for all tests along with relevant calculations.
- vii. Soil resistivity Test results
 - a. For all consolidation tests, the following curves shall be furnished: - e vs log p
 - b. e vs p and as per applicability

Compression vs log t or Compression vs square root of t

(Depending upon the shape of the plot for proper determination of co-efficient of consolidation). The point showing the initial condition of the soil shall be marked on curves.

The procedure adopted for calculating the compression index from the field curve and settlement of soil strata shall be clearly specified. The time required for 50% and 90% primary consolidation along with secondary settlements, if significant, shall also be calculated.

viii. Drilling into the underlying rock, coring, logging, sampling (if encountered) and testing wherever necessary. Mention the RQD values when the strata encountered with hard rock with its uniaxial compression strength.

(iii) **Recommendations:**

Recommendations shall be given area wise duly considering the type of soil, structure and foundation in the area as per the latest IS code. The recommendations shall include but not be limited to the following: -

a. for shallow foundations

The following shall be indicated with comprehensive supporting calculations:

- Net safe allowable bearing pressure for isolated strip footings of suitable sizes (Varying from Footings and continuous 1 to 4m) at suitable foundation depth as per site condition below ground level considering both shear failure and settlement criteria, giving reasons for type of shear failure adopted in the calculations.
- Net safe allowable bearing pressure for Raft Foundation at suitable foundation depth as per site condition below ground level considering both shear failure and settlement criteria, giving reasons for type of shear failure adopted in the calculations. Such Footings to be suggested for Raft Foundation giving data for modulus of Sub grade Reaction.
- Rate and magnitude of settlement expected of the structure.

b. for Deep Foundation/Pile Foundation

The following shall be indicated with comprehensive supporting calculations. If pile foundation is required, provide all parameters viz. safe load, lateral load, uplift capacities etc related to design of pile foundation with supporting calculation.

5. Computerized output

The Consultant shall prepare a CD / pen drive of the complete work assigned to them including drawings, report work, data, and other documents & the same shall be submitted to HITES after completion of job. All drawings shall be on AUTOCAD only. All Reports/ investigation data in 03 (three) sets to be attached in copy including Drawings etc. complete. If any.

C. TERMS & CONDITIONS OF NIQ

1. Introduction:

HITES has been appointed as Consultant for the construction of proposed Critical Care Unit (CCU), Kottayam, Kerala.

The present NIQ is for selection of Geotechnical consultant for conducting Soil Investigation of proposed Construction of Critical Care Unit (CCU), Kottayam, Kerala.

2. Letter of award

Letter of award will be issued to the lowest quoted consultant by HITES. The selected consultant shall enter into an agreement with HITES within 10 days of issue of letter of award.

3. Completion Period

The selected consultant shall start the work immediately after award of work. Mobilization period will be 5 days from the date of issue of letter of award. Six (6th) day from the date of issue of letter of award will be reckoned as start date.

Total time period for completion of work will be as given below: -

Particulars(a)	Submission of Draft report (b)	Submission of Final Report (c)
Soil Investigation Report	10 Days from the date of start of work	15 Days from the date of start of work

4. Delay and extension

If the work is delayed by force majeure or any other cause in the absolute discretion of HITES, which is beyond the Consultant's control, the Consultant shall immediately upon the happening of such event contributing to delays give notice thereof in writing to HITES/Engineer-in-Charge but shall nevertheless use constantly their best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of HITES to proceed with the work.

Request for extension of time shall be made by the Consultant in writing within seven days of the happening of the event causing delay. The Consultant shall also indicate with any such request, the period for which extension is required. In any such case HITES may give a fair and reasonable extension of time for completion of individual items or group of items of work for which separate period of completion is specified in the contract as a whole, but it shall be the sole discretion of the Employer to grant or refuse such extension.

The decision of HITES in regard to the extension will be communicated to the Consultant in writing within a reasonable time but no compensation or any extra amount shall be paid for such extension granted by HITES.

5. Compensation for delay

The Consultant shall be liable to pay compensation to HITES in case of delay in fulfilling obligation under this agreement for causes solely attributable to the Consultant @ 1% (One percent) of contract amount per week of delay subject to maximum of 5% (five percent only) of the total contract price towards their contract. HITES being sole judge for the assessment of delay.

6. Risk & Cost Clause

In case progress of any part of Consultant's work is found to be unsatisfactory by HITES at any time during the execution vis-à-vis the terms of contract, HITES shall give the Consultant a fortnight's notice in writing asking for their plans for remedying the situation and to complete the job within the time decided by Engineer in Charge/HITES, subject however to the conditions that the entire work falling within their scope of work shall be completed within the stipulated time. On the failure to remedy the situation as per agreed time with HITES, HITES shall have the right to withhold that portion of the work and get the same done at the risk and cost of the Consultant after giving one weeks' notice. For execution of balance work under risk and cost, the amount deducted towards performance security or amount payable to the Consultant will be utilized by HITES.

7. Termination of Contract

HITES reserves the right to terminate, or postpone the work on account of fulfillment of contractual obligation(s) or any sufficient cause, HITES being sole judge of the same. The Consultant shall be paid for the useful work done up to the date of termination. HITES shall determine the credit to be given to the Consultant for the value of the work executed by the Consultant. The Consultant shall give HITES all the data, compiled report, drawings etc. prepared by them till the date of termination before the final dues are paid to the Consultant. Even after the termination of agreement, the Consultant shall continue to cooperate with HITES to such a reasonable extent as may be necessary to clarify or explain any reports or recommendations in documents or detailing made by them.

8. Breach of Trust

Unless otherwise directed by HITES specifically, the Consultant shall not contact directly or indirectly the client or any other authorities connected with the project. Non-compliance of this clause shall be treated as breach of trust resulting in the termination of contract between HITES and the Consultant for which without any prior notice to him. In such event, no job will be entrusted to him in future by HITES.

9. Confidentiality

The Consultant agrees that all knowledge and information not within the public domain which may be acquired during the carrying out of this contract shall be for all time and for all

purpose regarded as strictly confidential and shall not be directly or indirectly disclosed to any person without the written permission of HITES.

10. Discussions with HITES and Approvals

The Consultant shall make themselves available at reasonable notice to be present for discussions with HITES. The Consultant shall also provide assistance, advice and information to HITES as may be required from time to time for discussions with HITES officials or other agencies appointed by HITES connected with the work.

The Consultant shall get approved the work done by him at every stage throughout the period from HITES. However, such approval by HITES shall not be deemed to absolve the Consultant of the total responsibility of the correctness and soundness of the work and other obligations under this contract.

11. Guarantee and liability of the Consultant

The Consultant shall be liable for all consequence of errors and omissions arising from errors solely attributable to Consultant or on the part of their employees to the extent and with the limitation specified by HITES.

12. Periodical Progress Report

The Consultant shall prepare and submit periodical progress reports and status of works being performed by them. Such submissions of reports and review and approvals, if any, thereof by HITES shall not be deemed to absolve the responsibilities of the completion of the assignment. Detailer for timely

13. Variation in scope of work and schedule of quantity

The scope of work & schedule of quantities may vary to any extent. The rates quoted by the Consultant shall remain firm for the complete job as directed by the Engineer in Charge. The Consultant will be paid for the actual executed quantity of work.

14. Mobilization Advance

No Mobilization advance shall be paid.

15. Tax

The consultant shall pay all the taxes and duties applicable. GST at actuals will be reimbursed to the Consultant. All statutory deductions shall be made from Consultant's bill as per rules.

16. Arrangement for Power & Water

The Consultant shall make his/ their own arrangements for obtaining electrical connections and water of desired quality and make necessary payments directly to the departments concerned and nothing will be paid extra for the same.

17. Dispute Resolution

Any disputes or differences whatsoever arising out of the contract shall be mutually discussed and settled by the parties. All disputes or differences whatsoever arising between the parties

to this contract which cannot be settled by mutual discussion or shall be settled under the provisions of Arbitration & Conciliation Act 1996 (As amended).

The courts at Thiruvananthapuram shall have jurisdiction to entertain and adjudicate any disputes.

18. Payment Terms

Payment for the scope of work will be released in following stages:

Sl. No.	Stage of Work	Percentage of Total fees payable
1.	After submission of Report and recommendation	90 %
2.	After completion of foundation works by the Contractor	10 %

19. Price Bid

The Consultant shall submit their offer in the proforma provided as Annexure- A of this NIQ. The price offer shall be submitted in letter head of the Consultant duly signed & sealed by their authorized representative in all pages.

Consultant must ensure to quote rate of each item, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO). The Unit rates quoted shall remain firm throughout the validity of the contract. The rate shall include cost of materials, machineries, labour (including lodging and boarding charges), removal of bushes and vegetation as required to carry out and complete the scope of work without any hindrances, tools and equipment's, transport charges, taxes, royalties, octroi, GST etc. payable on all transactions for the due performance of work under this contract. The rates shall be given in the schedule, as specified herein itself positively. No additional cost or escalation shall be paid on whatever accounts it maybe.

Rate quoted shall be binding for any quantity of each of the items.

L1 will be arrived based on the total amount quoted as per the BOQ.

HITES reserves the right to negotiate with the lowest bidder if required before award of work.

PRICE BID

To
 Deputy General Manager (ID)
 HLL Infra Tech Services Ltd
 Golden Jubilee Block, 2nd Floor
 HLL Bhavan, Poojappura.P.O
 Trivandrum-12

SUB: SOIL INVESTIGATION AT PROPOSED CONSTRUCTION OF CRITICAL CARE UNIT (CCU), KOTTAYAM, KERALA.

Ref: NIQ NO. HITES/IDS/NIQ/GI/CCU-KTYM/2023-24/07

We (Name of consultant) submit our price bid for the subject work as below:

SI No	Details	Rate, Rs/Unit.	Qty	Amount in Rs
1	Mobilization including transportation of all necessary plant and equipments and materials of boring, field testing and sampling, including loading & unloading, Site clearance needed if any and demobilization after completing the work. (Site visit may be done prior to quote)		Lumpsum	
2	Setting up boring rig at each bore hole locations including carrying all necessary plant, equipment and materials of boring and field tests and collection of samples at each bore hole location.	/Each Bore hole	3	
3	Boring with rotary power drilling equipments in all types of soil excluding hard rock or medium rock for starta including conducting S.P.T and recovery of samples at specific intervals.			
a)	Upto 10m	/m	1	
b)	For next 10m upto a depth of 20m	/m	1	
c)	From 20m to 30m depth from GL	/m	1	
d)	From 30m to 40m depth from GL	/m	1	
e)	Boring through soft rock/ boulders/latriite (except hard rock). N value >50 using Tungsten carbide core drilling as per specification.			

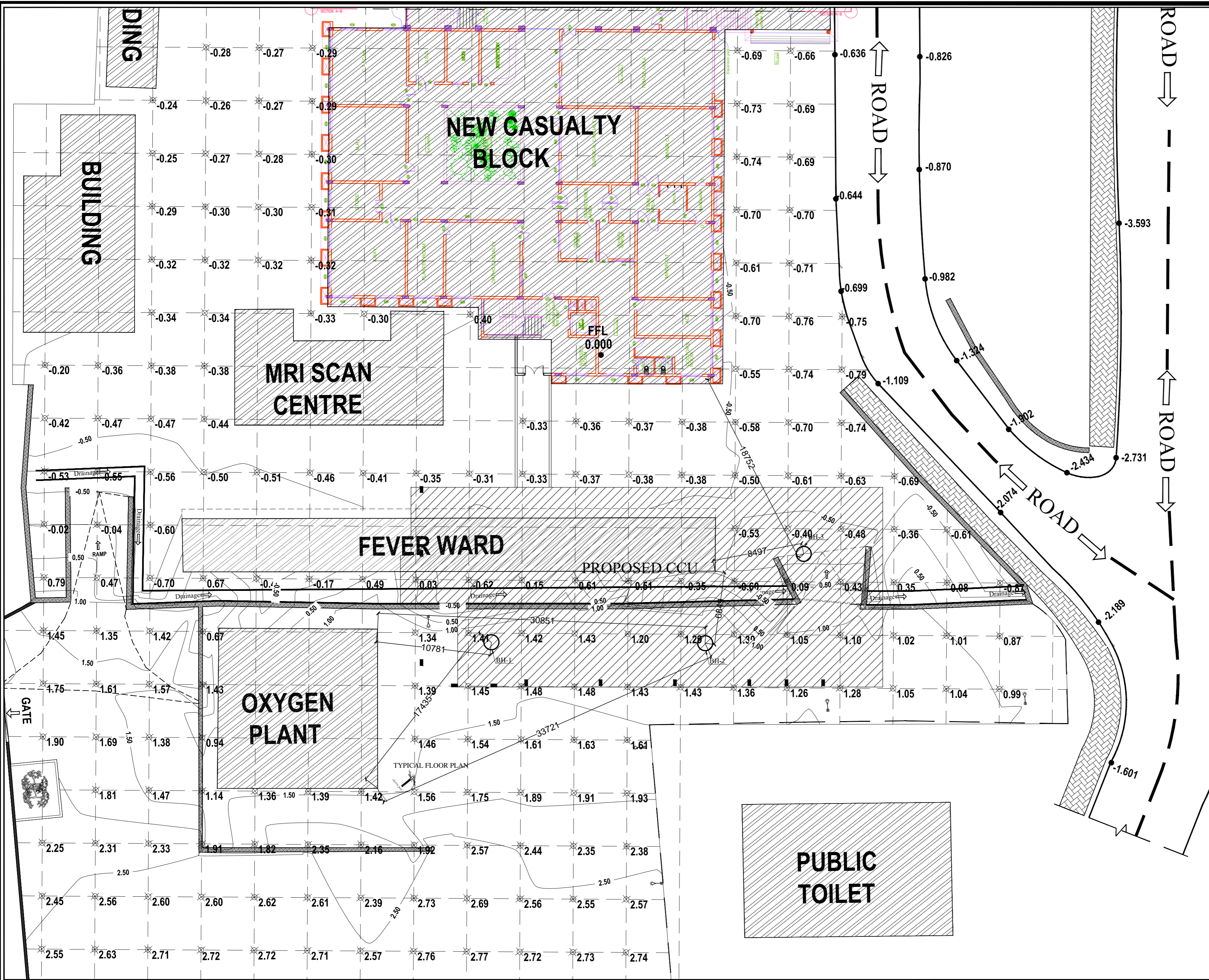
i)	0 to 10m	/m	1	
ii)	10 to 20m	/m	1	
iii)	20 to 30m	/m	1	
f)	Boring through hard rock / boulders using Tungsten carbide drill coring as per specification (minimum of 2.5m to 3m per borehole is required to assess the type of joints, rock etc)	/m	1	
4	A comprehensive report with Compilation of all field data with recommendation for a suitable foundation after conducting necessary lab tests (report in triplicate)	/Set	1	
5	Total estimated amount for the work			
6	ADD GST @18%			
7	Total including GST (in figure)			
	Total including GST (in words)			

For..... (name of Consultant)

Details of authorized signatory

Note:

- (i) **Price bid to be submitted on letter head of the organization, signed and sealed by the authorized representative of the organization.**
- (ii) **The quantity mentioned in in Sl.no. 2 & 3 is for comparison purpose to select the lowest bidder. Amount will be paid for the actual work executed at site.**



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NOTE / LEGEND
 1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS SHALL NOT BE SCALED OFF FROM THE DRAWING.
 3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWING AND STRUCTURAL DRAWINGS

REVISIONS					
NO.	DATE	DESCRIPTION	DSN	CKD	APD
R0	21/09/2023	INITIAL ISSUE	G.G.R	G.G.R	A.A.R

NAME OF CLIENT/ OWNER

HEALTH & FAMILY WELFARE
 DEPARTMENT, GOVT. OF KERALA

A & E DESIGN & PMC

HITES
 HILL INFRA TECH SERVICES LTD
 (A fully owned subsidiary of HLL Lifecare Ltd.)
 (A Government of India Enterprise)
 THIRUVANANTHAPURAM-12
 Tel: +91 471 2775500 web: www.hillhites.com

PROJECT TITLE:

PROPOSED CRITICAL CARE UNIT,
 KOTTAYAM

DRAWING TITLE: STRUCTURAL

BORE HOLE LOCATION

DWG NO:

HITES/IDD/GOK/CCU/KTM/2023-24/S-01

STATUS: GFC SCALE: N T S

DESIGNED BY	SIGN	DATE
GREENSHIMA G RAJ (M/C)		21/09/2023
APPROVED BY ANIL A R (VP/ID)		21/09/2023