

# **GOVERNMENT OF HIMACHAL PRADESH**

**Tender for**

**Topographical Survey & Geotechnical Investigation**

**for**

**“Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla-06, Himachal Pradesh”**

**Tender No: HSCC/D&E/SHIMLA/GEOTECH\_SURVEY/2022**



**HSCC (INDIA) LTD.**  
(A Subsidiary of NBCC (India) Limited)  
(A GOVERNMENT OF INDIA ENTERPRISE)  
E-6(A), Sector-1, NOIDA(U.P.) 201301 (India)

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**Name of Work: Tender for Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/ Malyana, Shimla, Himachal Pradesh.**

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## **NOTICE INVITING e-TENDER**

**GOVERNMENT OF HIMACHAL PRADESH  
NOTICE INVITING TENDER**

Governor, Himachal Pradesh through Principal, Super Specialty Block/Hospital, Shimla, Himachal Pradesh through their Executing Agency HSCC (India) Limited invites bids through e-tendering for the Work“Geotechnical Investigation & Topographical Survey for Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh.

Tenders are available online from 27.04.2022& Last date of Bid submission shall be 04.05.2022 up to 14:30 Hrs. Please refer detailed NIT available on e-tender portal [www.tenderwizard.com/HSCC](http://www.tenderwizard.com/HSCC), HSCC website [www.hsccltd.co.in](http://www.hsccltd.co.in) and CPP portal. Corrigendum/Amendment to this tender, if any, would appear only on said websites.

Tender for Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh.

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**Tender for Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana / Malyana, Shimla, Himachal Pradesh.**

**Tender No. HSCC/D&E/SHIMLA/GEOTECH\_SURVEY/2022, Date:27.04.2022**

**NOTICE INVITING e-TENDER – Detailed**

Governor, Himachal Pradesh through Principal, Super Specialty Block/Hospital, Shimla, Himachal Pradesh through their Executing Agency HSCC (India) Limited invites online bids through e-tendering from the eligible Firms to carry out “Geotechnical Investigation & Topographical Survey for Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh”

Details are as follows:

Name & description of work	Completion period	Estimated cost (Rs.)	Tender Fee/Bid Security (in Rs.)	Sale of Tender	Date of Submission & opening
Geotechnical Investigation & Topographical Survey for Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana / Malyana, Shimla, Himachal Pradesh.	04 Weeks	1,52,000/-	Tender Fee of Rs.500/- and EMD of Rs.3,040/-	27.04.2022 to 04.05.2022 up to 13:00 hrs	04.05.2022 up to 14:30 hrs& Opening at 15:00 hrs on 04.05.2022

The bidder would be required to register at HSCC e-tender portal <http://www.tenderwizard.com/HSCC>. The bid document is available online from 27.04.2022. The bidder is required to have Digital Signature Certificate (DSC) from one of the authorized Certifying Authorities for submission of the bids.

The bidders are required to submit

1. (a) Original non-refundable Demand Draft of Rs.500/- (Rs. Five Hundred only) as cost of

Tender for Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh.

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bid, in favour of “HSCC (India) Ltd.” payable at Noida

(b) Original bid security in form of Demand Draft (DD) for Rs.3,040/- (Rs. Three Thousand and Forty Only) in favour of “HSCC (India) Ltd.” payable at Noida

The above documents should be submitted to the office of “Deputy General Manager(Civil Structure), HSCC (India) Ltd., Plot no. E-6(A), Sector-1, Noida (U.P) Pin – 201301”, before date and time fixed for opening of bid either by registered post or by hand failing which the bid will be declared non-responsive.

In case of the Firms/Consultants registered as MSEs under Ministry of Micro, Small & Medium Enterprises should upload required documents/proof to avail the benefit of exemption from payment of tender fee and Earnest Money Deposit. Duly certified relevant registrations certificate is/are to be uploaded.

The documents to be uploaded online are listed at **Annexure – IV**.

Complete Tender Document has been made available at e-tender portal <http://www.tenderwizard.com/HSCC>

HSCC reserves the right to accept or reject any application without assigning any reason or incurring any liability whatsoever.

Prospective bidders are advised to regularly scan through HSCC e-tender portal <http://www.tenderwizard.com/HSCC> as corrigendum/amendments etc., if any, will be notified on this portal only and separate advertisement will not be made for this.

Conditional tenders and tenders not filled in figure and words are liable to be rejected.

In case of date of opening of tender is declared /happened to be a public holiday; the tender will be opened on the next working day.

The bids shall be valid for 90 days from the last date of submission.

HSCC (India) Ltd.

## DEFINITIONS

1. **“BID/Tender”** shall mean documents issued by HSCC (India) Limited to the prospective Bidder. The word **“Tender”** is synonymous with **“Bid”**.
2. **“Bid Validity”** shall mean the period for which the Bids shall remain valid.
3. **“Bidder”** shall mean the party participating in the Tendering process pursuant to and in accordance with the terms of this document. The word **“Tenderer”** is synonymous with **“Bidder”**.
4. **“Contract Agreement”** shall mean the agreement to be signed between the Successful Tenderer and the competent authority of HSCC (India) Limited/ their authorized representative.
5. **“Date of commencement of work”** shall mean the date of award of work or the date of handing over of required documents, whichever is later in accordance with the phasing if any, as indicated in the tender document.
6. **“Engineer in Charge” (EIC)** means the Engineer Officer as authorized by HSCC (India) Limited..
7. **“HSCC (India) Limited”/“HSCC”** shall mean HSCC (India) Limited, having its corporate office at E-6(A), Sector 1, Noida–201 301 appointed by Governor, Himachal Pradesh though Principal, Super Speciality Block/Hospital, Shimla, HP as an Executing Agency for the project.
8. **“Letter of Award”** shall mean the letter issued by the HSCC (India) Limited to the Successful Tenderer inviting him to sign the Contract Agreement.
9. **“Project/Work”** shall mean Topographical Survey & Geotechnical Investigation for

Tender for Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh.

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“Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh.

10. **“Site”** shall mean the place where the works under the Project are to be carried out and the details of which are provided in this document.
11. **“Successful Tenderer”** shall mean the Tenderer declared technically and financially successful for the Project and with whom, the Contract Agreement shall be signed.
12. **“Similar Works”** as defined in eligibility criteria.
13. **“Executing Agency”** means HSCC (India) Limited as Executing Agency of Governor, Himachal Pradesh through Principal, Super Speciality Block/Hospital, Shimla, HP.
14. **“NIT”** means **Notice Inviting Tender**. The word **“Notice Inviting Tenders”** is synonymous with **“Notice Inviting Bids”**.
15. **“Owner/Client/Principal Employer/Employer”** shall mean Principal, Super Specialty Block/Hospital, Shimla, Himachal Pradesh.
16. **“Accepting Authority”** means Deputy General Manager (Civil Structures), HSCC (India) Limited on behalf of Principal, Super Specialty Block/Hospital, Shimla, Himachal Pradesh.

Tender for Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh.

**INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING FORMING PART OF BID DOCUMENT**

Governor, Himachal Pradesh through Principal, Super Specialty Block/Hospital, Shimla, Himachal Pradesh through their Executing Agency HSCC (India) Limited invites online bids through e-tendering from the eligible Firms to carry out “Geotechnical Investigation & Topographical Survey for Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh”

Name & description of work	Completion period	Estimated cost (Rs.)	Tender Fee/Bid Security (in Rs.)	Sale of Tender	Date of Submission & opening
Geotechnical Investigation & Topographical Survey for Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana / Malyana, Shimla, Himachal Pradesh.	04 Weeks	1,52,000/-	Tender Fee of Rs.500/- and EMD of Rs.3,040/-	27.04.2022 to 04.05.2022 up to 13:00 hrs	04.05.2022 up to 14:30 hrs& Opening at 15:00 hrs on 04.05.2022

1. Firms who fulfill the following requirements shall be eligible to apply
  - i. Should have successfully completed similar works as mentioned below during last seven years ending previous day of last date of submission of tenders
    - a. Three similar completed works consisting not less than the amount equal to 40% of the estimated cost.  
Or
    - b. Two similar completed works consisting not less than the amount equal to 60% of the estimated cost.  
Or
    - c. One similar completed works consisting not less than the amount equal to 80% of the estimated cost.

Similar works here mean Topographical Survey and/or Geotechnical Investigation Works of Large Construction Projects.



The past experience in similar nature of work should be supported by certificates issued by the client’s organization. In case the work experience is of Private sector the completion certificate shall be supported with copies of Corresponding TDS Certificates.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to previous day of last date of submission of tenders

- ii. Proof of average annual gross turnover of last three financial year 2018-19, 2019-20, 2020-21 should not be less than Rs. 18.24 Lakhs (Rupees Eighteen Lakhs and Twenty Four Thousand Only). The firm should not have incurred any loss in more than two years during last three years ending on 2020-21. The year in which no turnover is shown, would be considered for working out the average.
  - iii. Should have successfully completed Topographical Survey of any value during last seven years ending last day of month previous to the one in which applications are invited.
  - iv. Should have successfully completed Geotechnical Investigation of any value during last seven years ending last day of month previous to the one in which applications are invited
2. The bid can only be submitted after uploading the mandatory scanned documents such as Demand Draft or Pay order of any Scheduled Bank towards cost of bid document and Bid Security in favour “HSCC (India) Limited”, payable at Noida.” as per details given in the Bid Document.
  3. Firms can upload documents in JPG format or PDF format.
  4. The Technical bid shall be opened first on due date and time as mentioned above. The time and date of opening of financial bid of firms qualifying the technical bid shall be communicated to them at a later date.
  5. Prospective bidders are advised to regularly scan through HSCC e-tender portal [http://www.tenderwizard.com/HSCCAs corrigendum/amendments etc.](http://www.tenderwizard.com/HSCCAs%20corrigendum/amendments%20etc.), if any, will be notified on this portal only and separate advertisement will not be made for this.
  6. (a) Original non-refundable Demand Draft of Rs.500/- (Rs. Five Hundred only) as cost of bid, in favour of “HSCC (India) Ltd.” payable at Noida

Tender for Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh.

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The above documents should be submitted to the office of “Deputy General Manager (Structure), HSCC (India) Ltd., Plot no. E-6(A), Sector-1, Noida (U.P) Pin – 201301”, before date and time fixed for opening of bid either by registered post or by hand failing which the bid will be declared non-responsive.

In case of the Firms/Consultants registered as MSEs under Ministry of Micro, Small & Medium Enterprises should upload required documents/proof to avail the benefit of exemption from payment of tender fee and Earnest Money Deposit. Duly certified relevant registrations certificate is/are to be uploaded.

7. The last date of submission of bid is 04.05.2022 up to 14:30hrs. The bids shall be opened on the same day at 15:00 hrs.
8. The EMD of all other unsuccessful agencies shall be refunded within one month of finalization of appointment of consultant.
9. The Lump sum Consultancy charges quoted shall remain firm throughout the validity of contract. The consultancy charges should include cost of material, labour, tools and equipments, transport charges, all taxes, royalties, octroi etc. payable on all transactions for the due performance of work under this contract.
10. Income tax shall be deducted from Agency’s bill as per Government of India norms.

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**Brief Description of Projects:**

Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana / Malyana, Shimla, Himachal Pradesh.

**Pre-Qualifying Criteria**

Following is the pre-qualification criteria for the tenderers:

Consultants working with CPWD, Railways, MES, P & T Deptt., State PWD’s, Semi govt. Organizations and Institutes or in reputed private Sector Firms who have:

Firms who fulfill the following requirements shall be eligible to apply

- i. Should have successfully completed similar works as mentioned below during last seven years ending previous day of last date of submission of tenders
  - a. Three similar completed works consisting not less than the amount equal to 40% of the estimated cost.  
Or
  - b. Two similar completed works consisting not less than the amount equal to 60% of the estimated cost.  
Or
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The past experience in similar nature of work should be supported by certificates issued by the client’s organization. In case the work experience is of Private sector the completion certificate shall be supported with copies of Corresponding TDS Certificates.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to previous day of last date of submission of tenders

Tender for Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh.

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- ii. Proof of average annual gross turnover of last three financial year 2018-19, 2019-20 & 2020-21 should not be less than Rs. 18.24 Lakhs (Rupees Eighteen Lakhs and Twenty Four Thousand Only). The firm should not have incurred any loss in more than two years during last three years ending on 2020-21. The year in which no turnover is shown, would be considered for working out the average.
- iii. Should have successfully completed Topographical Survey of any value during last seven years ending last day of month previous to the one in which applications are invited.
- iv. Should have successfully completed Geotechnical Investigation of any value during last seven years ending last day of month previous to the one in which applications are invited

The competent authority to pre-qualify shall have the powers to relax any condition/criteria for pre-qualification if it considers expedient to do so.

**A. SCOPE OF WORK**

**1. TOPOGRAPHICAL SURVEY, COLLECTION OF FIELD DATA AND REPORT SUBMISSION**

The Scope of work is detailed as under: -

- 1.1 Carrying out topographical survey including transferring the level from nearest available permanent G.T.S. benchmark
- 1.2 Establishment of bench mark at nearby permanent structures including all labour and materials. The reduced level with respect to M.S.L. shall be engraved at each location of the bench mark as well as corresponding reference be given on the Survey Plan.
- 1.3 Spot leveling of total area of land/plot by taking spot levels at 5 m center to center grid and contour intervals at 0.5 m.
- 1.4 Digital Map of Land along with coordinates based on GPS & KDL.
- 1.5 To locate on the survey plan in A1/A0 sheet to the scale of 1:200 with all permanent & temporary structures along with existing storm, sewer & water line, power (HT & LT) & telecommunication lines/poles, trees of various girths, roads, water supply, sewer, drainage line and also any other important features etc. adjacent and within the total area of plot, if any.
- 1.6 Existing water supply source data shall be collected and supplied as under:-
  - a) Location and alignment of potable water source with reference to area under survey.
- 1.7 Details about Sewer and storm water drain / nallah passing through/near the complex indicating the following details:-
  - a) Location and alignment of drain / nallah
  - b) Invert level / L-Section of the drain / nallah indicating slope.
  - c) Cross-section of the nallah / drain at suitable locations.
- 1.8 Location of the road near the site indicating its layout with reference to site and the crown levels (L-section) of road/railway at 20 m. interval along the alignment are to be indicated.
- 1.9 Details of Municipal/Public sewer line:
  - a) Location, material, diameter and alignment of the existing sewer lines running in and around the project site. Location for suggested outfall point for sewerage of the proposed Complex.

- b) Location of manholes with size, ground level and invert levels of sewer line running around/near the project site.
- 1.10 Details of the proposed approach road connecting main road to project site to be supplied as under: -
- a) Alignment of the road
  - b) L-Section of the road indicating ground levels at 10 m centre to centre between main road and entrance of project site.
  - c) Cross-section of the road extending up to 10 m distance on both sides of centre of road with levels at 5m c/c.
  - d) Crown level of the main road at the junctions with the proposed approach road.
  - e) Details - such as L.S. & C.S., Bed level, H.F.L. etc. of the cross drainage, if any.
- 1.11 Details of the existing boundary wall, temporary and permanent structures, if any, inside the site including the following shall be collected and supplied: -
- a) Cross section of the wall
  - b) Length, width, height, area and no of stories of each building including details of materials used in construction.
  - c) Location of existing trees (along with height and girth of the trees) and other permanent/ temporary structures.
  - d) Electric overhead lines (LT/ HT), telephone lines.
  - e) The agency shall submit colored photographs (about 25) showing the major features of the site and its surroundings.

- 1.12 All survey, grid levels shall be done by Total Station and contour plan shall be prepared on computer through digitization process and the soft copy shall be provided for the same immediately.
- 1.13 On completion of all fieldwork, collection of pertinent field data and preparation of drawings the agency shall submit a formal draft report containing all the information/field observations and drawings, in triplicate for review of Supervising Agency. Thereafter the agency shall visit to Supervising Agency’s office for detail discussions on Supervising Agency's comments if any. After discussion with the Supervising Agency, the agency shall incorporate the agreed modifications in the draft report at their own cost and submit Three copies of the detailed final report (plastic coated with spiral binding) and Three sets of drawings (the drawings shall bear the logo of HSCC and the format of the same can be obtained from HSCC) along with a set of reproducible drawings and related CD. The agency shall also submit along with report a copy of field book in original or an authenticated copy of the same duly certified by Engineer.
- 1.14 Description and photos of general surrounding and plot and of the team while carrying out the work awarded.
- 1.15 The any above is not relevant or not covered in the report to be specifically listed out in draft report and obtain the above from HSCC/Client. Otherwise agency has to provide the same without an extra cost or paid accordingly.
- 1.16 Payment shall be made for actual survey area.

## **2. GEOTECHNICAL INVESTIGATION AND REPORT SUBMISSION**

- 2.1 Detailed Geo-technical Investigation is to be carried out of the area of plot and submission of a detailed Geo-technical report which shall be the basis for the design and detailing of foundations for buildings and structures.
- 2.2 Item wise list of investigations to be conducted along with approximate estimated quantities are given at Schedule of Quantities against which the agency shall quote the rates in figures as well as in words. However, payment shall be made as per quantities actually executed.
- 2.3 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 entire field as well as laboratory investigation, analysis and interpretation of data collected and preparation of a Geo-technical report.
- 2.4 The Agency shall make their own arrangements for locating the coordinates and positions of bore holes, trial pits and other field tests as per the drawings/sketches supplied to him and for determining the reduced levels (R.L's) at these locations with respect to the single bench mark indicated by the Engineer. Two established reference lines will be indicated to him.
- 2.5 All the field and laboratory data shall be recorded in the proforma recommended in Indian Standards codes. The Agency shall submit to the HSCC one copy of field borelogs and all the field records (countersigned by the Engineer) soon after the completion of each borehole/test.
- 2.6 The Agency shall interact with HSCC 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.
- 2.7 FIELD INVESTIGATIONS –SOIL
  - 2.7.1 BORING
    - a) 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 and on ascertaining preliminary nature of subsoil profile, the Engineer



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.

- b) All boreholes shall extend up to the depth as directed by the Engineer. 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 HSCC 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.
- c) On completion of the boreholes, the Agency shall backfill all the bore holes as directed by the Engineer. The boreholes shall not be back filled till verified by the Engineer. Arrangements shall be made by the agency to preserve the boreholes so that the depth can be verified.

## 2.7.2 SAMPLING

### 2.7.2.1 General

All the accessories required for sampling and the method of sampling shall conform to IS: 2132. All the disturbed and undisturbed samples collected in the field shall be classified at the site as per IS: 1498.

### 2.7.2.2 Disturbed Sample

Disturbed soil samples shall be collected from bore holes at regular intervals. Jar samples weighing approximately 1 Kg. shall be collected in bore holes at 0.5 m below ground level and at every identifiable change of strata to supplement the boring records. Samples shall be immediately stored in air tight jars and shall fill the jar as far as possible.

Sufficient number of soil samples shall be collected. Disturbed soil samples shall be collected for field identification and conducting tests such as sieve analysis, index properties, specific gravity, chemical analysis, (chemical tests on undisturbed samples to be done so that representative chemical state of the total depth of the soil is obtained) etc. Undisturbed samples shall be collected to estimate the physical strength and settlement properties of the soil.

### 2.7.2.3 Undisturbed Sample

In each borehole undisturbed sample shall be collected at every change of strata and depths of 1.0 m, 3.0 m, 6.0 m, 10.0 m and as directed by the Engineer. Undisturbed samples shall be of 100 mm dia and 450 mm length. Samples shall be collected in such a manner that the structure of the soils and its moisture content do not get altered.

The specifications for the accessories required for sampling and the sampling procedure shall conform to IS: 1892 and IS: 2132. Undisturbed sampling in sand shall be done using compressed air technique mentioned in IS: 8763.

2.7.2.4 One of the methods shall be adopted for determining the ground water table in bore holes as per IS: 6935 and as per the instructions of the Engineer.

a) Sub-soil water samples

Sub-soil water samples shall be collected for carrying out chemical analysis thereon. Representative samples of ground water shall be collected when it is first encountered in boreholes before the addition of water to aid boring or drilling.

b) Chemical analysis of water samples shall include determination of PH value; turbidity; sulphate; carbonate; nitrate and chloride contents; presence of organic matter and suspended

## 2.8 LABORATORY TESTING

### 2.8.1 Essential Requirements

- a. Tests indicated in the schedule of items shall be performed on soil, water and rock samples as per relevant IS codes.
- b. Laboratory tests shall be conducted using approved apparatus complying with the requirements of Indian Standards or other approved standards for this class of work. The tests shall be conducted at an approved laboratory.

### 2.8.2 Tests

Tests as indicated in this specification and as called for by the Engineer shall be conducted. These tests shall include but not be limited to the following: -

- a) Tests on Disturbed and Undisturbed samples: -
  - Visual and Engineering Classification
  - Sieve analysis and Hydrometer analysis

- Liquid, Plastic and Shrinkage limits
  - Specific Gravity
  - Chemical Analysis
  - Swell pressure and free swell index determination (applicable only for black cotton soil)
- b) Tests on undisturbed samples
- Bulk density and moisture content
  - Relative density (for sand)

### 2.8.3 Salient Test Requirement

- a) Chemical analysis of sub-soil shall include determination of pH value, carbonate, sulphate (both SO<sub>3</sub> and SO<sub>4</sub>), 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 (%).
- b) Chemical analysis of sub-soil water sample include the determination of the properties such as colour, odour, turbidity, pH value and specific conductivity both at 25<sup>0</sup> C and chemical contents such as Carbonates, Sulphates (both SO<sub>3</sub> and SO<sub>4</sub>), 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.

## 2.9 REPORT

### 2.9.1 General

- a. On completion of all the field and laboratory work, the Agency shall submit a formal report containing Geological information of the region, procedure adopted for investigation, field observations, summarised 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 Agency shall submit three copies of the report in draft form for the Supervising Agency's review. The format of the cover page of the reports shall be got approved by the Engineer.
- b. The Agency's qualified Geotechnical Engineer shall visit Supervising Agency's office for a detailed discussion on Supervising Agency's comments on his draft report. During the discussions, Supervising Agency shall decide as to the modifications that

need to be done in the draft report. Thereafter the Agency shall incorporate in his report the agreed modifications and after getting the amended draft report approved, six 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.

- c. 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 Agency shall acquaint himself about the type of structures, foundation loads and other information required from the Engineer.

#### 2.9.2 Data to be furnished

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

- a. A plot plan in A1/A0 sheet showing the locations and reduced levels of all field tests e.g. boreholes, trial pits, etc., properly drawn to scale and dimensioned with reference to the established grid lines.
- b. A true cross section of all individual boreholes and trial 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.
- c. 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 IS: 6065 (each soil profile to be submitted in separate sheets).
- d. 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.
- e. Plot of Standard Penetration Test (N values both uncorrected and corrected) with depth for identified areas.
- f. Results of all laboratory tests summarized 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'.

- g. 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 alongwith relevant calculations.
- h. Soil resistivity Test results
- i. For all consolidation tests, the following curves shall be furnished:-
  - e vs log p
  - or 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.

### 2.9.3 Recommendations

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

#### 2.9.3.1 For Shallow foundations

The following shall be indicated with comprehensive supporting calculations.

- a) Net safe allowable bearing pressure for isolated footings and continuous strip footings of suitable sizes ( Varying from 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. Such Footings to be suggested for single storeyed buildings are proposed.
- b) 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 .

- c) Rate and magnitude of settlement expected of the structure.
- d) Recommendations shall also include Soaked CBR Value.

#### 2.9.3.2 For Pile foundations

If piling is required, the following shall be indicated with comprehensive supporting calculations:-

- a) Type of pile and reasons for recommending the same duly considering the soil characteristics.
- b) Suitable founding strata for the pile and the pile depth at respective locations.
- c) Estimated length of pile for 450 mm dia, 500 mm, 600 mm dia and any other diameter to be suggested by the investigating agencies.
- d) Type of pile- End bearing and/or Frictional resistance and whether bored cast-in-situ or Pre cast driven pile shall be indicated separately. The estimated pile capacity clearly identifying the end bearing and treated resistance capacities contributes in the total capacity.
- e) Magnitude of negative skin friction, if any, to be considered in pile design.

**B. GENERAL CONDITIONS OF CONTRACT**

The General Conditions of Contract are as under.

**I. Security Deposit**

Security deposit at the rate of 5% of the amount of each running bill shall be retained and the same shall be released after six months of the successful completion of the work at site. However no interest shall be payable to the Agency for the amount of security deposit for the period retained by HSCC.

**II. Delay and extension**

If the work is delayed by force majeure or any other cause in the absolute discretion of Employer is beyond the Agency's control, they shall immediately upon the happening of such event contributing to delays give notice thereof in writing to Employer 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 HSCC to proceed with the work.

Request for extension of time shall be made by the Agency in writing within seven days of the happening of the event causing delay. The survey Agency shall also indicate with any such request, the period for which extension is required. In any such case HSCC 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 HSCC in regard to the extension will be communicated to the Agency in writing within a reasonable time but no compensation or any extra amount shall be paid for such extension granted by HSCC.

**III. Compensation payable for delay in completion**

The Agency shall be liable to pay compensation to HSCC in case of delay in fulfilling obligation under this agreement for causes solely attributable to the survey Agency at 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.

#### **IV. Risk Prejudice Clause**

In case progress of any part of Agency's work is found to be unsatisfactory by HSCC at any time during the execution vis-a-vis, the terms of contract, HSCC shall give the Agency a fortnight's notice in writing asking for their plans for remedying the situation and to complete the job within the time mutually agreed, 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 HSCC, HSCC shall have the right to withhold that portion of the work and get the same done at the risk and cost of the Agency after giving one weeks' notice.

#### **V. Settlement of Disputes**

All disputes that may arise between the parties in connection with this contract shall be attempted to be resolved amicably and through mutual considerations. That in event of the dispute /differences are not resolved amicably, all such disputes shall be referred to a sole Arbitrator to be appointed by Directorate of Medical Education, Govt. of Maharashtra. The arbitration proceedings shall be governed by the provisions of The Arbitration and Conciliation Act 1996. The seat of arbitration shall be New Delhi. The award passed by Arbitrator shall be final and binding between the parties. The language of Arbitration shall be English.

#### **VI. Jurisdiction of Court**

All disputes arising out of the contract shall have the jurisdiction of courts of the Union Territory of Delhi only.

#### **VII. Termination/Determination or Recession of Agreement:**

The accepting authority, without any prejudice to its rights by an advance notice of 15 days in writing absolutely determines/terminates the contract in any of the following cases:

- a. If the Consultant being a firm/Company shall pass a resolution or the court shall make any order that the firm/company shall be wound up or if receiver or a manager on behalf of a creator is appointed or if circumstances arise which entitle the court or creditor to appoint a receiver or a manager which entitles the court to make winding order.



- b. If the Consultant commit breach of any of the terms of the agreement or when the Consultant have made themselves liable under any of the clauses aforesaid, the Accepting Authority shall have powers:
- To determine or rescind the agreement.
  - To engage another Consultant to carry out the balance work and recovery from the consultants the excess amount, if any, so spent by the HSCC in the completion of the work assigned to the consultant
- c. In the event of termination, the consultant shall be liable to refund the excess payment if any made to them over and above what is due in terms of drawings/details prepared by the consultant.

#### **VIII. Breach of Trust**

Unless otherwise directed by HSCC specifically, the Agency 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 HSCC and the Agency for with without any prior notice to him. In such event, no job will be entrusted to him in future by HSCC.

#### **IX. Discussions with HSCC and Approvals**

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

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

#### **X. Guarantee and liability of the Agency**

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

**XI. Unit Rates**

The Lump sum / Unit rates quoted shall remain firm throughout the validity of the contract. The rate shall include cost of materials, labor, tools and equipments, transport charges, taxes, royalties, octroi, GST/service tax 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 before. No escalation shall be paid on whatever account it may be.

**XII. 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 Agency shall remain firm for the complete job as directed by the Engineer.

**XIII. Mobilization advance**

No Mobilization advance shall be paid.

**XIV. Income tax**

Income tax shall be deducted from Agency's bill as per rules.

**XV. Computerized output**

The Agency shall prepare a CD of the complete work assigned to them including drawings, report work, data, and other documents & the same shall be submitted to HSCC after completion of job. All drawings shall be on AUTOCAD and in A1 & A4 sizes only

**XVI. Return of earnest Money**

Earnest Money of the unsuccessful bidders shall be returned after the expiry of bid validity period.

**XVII. Forfeiture of Earnest Money:**

- a. If consultant withdraws his tender before the expiry of the validity period, or before the issue of letter of acceptance, whichever is earlier, or makes any modification in the terms and conditions of the tender which are not acceptable to the department, then the

HSCC shall, without prejudice to any other right or remedy, be at liberty to forfeit entire amount of the earnest money absolutely.

- b. In case the Consultant fails to commence the work specified in the tender documents on the 15th day or such time period as mentioned in letter of award, after the date on which the Engineer-in-charge issues written orders to commence the work, or from the date of handing over of site, whichever is later, the HSCC shall, without prejudice to any other right or remedy, be at liberty to forfeit whole the earnest money absolutely.
- c. If only a part of the work as shown in the tender is awarded, and the Consultant does not commence the work, the amount of the earnest money to forfeit to the accepting authority should be worked out with reference to the estimated cost of the work so awarded.
- d. In case of forfeiture of earnest money as prescribed in (i) to (iii) above, the consultant shall not be allowed to participate in the retendering process of the work

**C. COMPLETION TIME**

Total time period for completion of job will be as per following from the date of issue of letter of award. The work is to be done in phases in order of priority as given below:-

**Table-1**

Sr. No.	Particulars	Collection of Field Data	Submission of Draft Report	Submission of Final Report
1.	Topographical Survey, Collection of Field Data and Report Submission(as per scope of work Sr.No. 1)	2 weeks from date of award of work	3 weeks from date of award of work	1 week from the date of receipt of comments on Draft report from HSCC
2.	Geotechnical Investigations (as per Scope of WorkSr.No. 2)	2 weeks from date of award of work	3 weeks from date of award of work	1 week from the date of receipt of comments on Draft report from HSCC

**D. MODE OF PAYMENT**

**Table-2**

Sr.No.	Stage of Work	Percentage of Total fees payable
1.	On submission of draft Report along with field information	40
2.	On submission of final Report including photographs, calculation sheets, complete in all respects, in a CD & hard bound copy of 3 sets.	60

## **SPECIAL CONDITIONS OF CONTRACT**

1. The time allowed for carrying out the work will be 04 Weeks from the date of Award of the work. Consultant shall note that “Time is the essence of the Contract”.

2. The site for the work is available

The description of the work is as follows: Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/Malyana, Shimla, Himachal Pradesh.

Bidder are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the site, the means of access to the site accommodation they may require and in general shall themselves obtain all necessary information as to risk, contingencies and other circumstances which may influence or affect their tender. A tender shall be deemed to have full knowledge of the site whether he inspects if or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own costs all materials, tool and plants, water, electricity access, facilities for workers and all other services required for execution the work unless otherwise specially provided for in the contract document. Submission of a tender by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specification of the work to be done and any other local conditions and other factors having a bearing on execution of the work.

3. The competent authority does not bind himself to accept the lowest or any other tender and reserves to himself the authority to reject any or all the tenders received without the assignment of a reason. All tenders, in which any of the prescribed conditions are not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.
4. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the consultant who resort to canvassing will be liable to rejection.
5. The competent authority reserves to himself the right of accepting the whole or any part of the tender and the bidders shall be bound to perform the same at the rate quoted.

6. The consultant shall not be permitted to tender for work in the M/s HSCC (responsible for award and execution of contracts) in which his near relative is posted in HSCC. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relative to any Group A& B officer in the HSCC’s Engineering Department. Any breach of this condition by the bidder would render him liable to debar for further tendering in the HSCC for at least 5 years.
7. No Engineer or other employee in Engineer or Administrative duties in Engineering Department of the HSCC is allowed to work as bidder for a period of two year after his retirement from HSCC’s service without the previous permission of the competent authority in writing. This contract is liable to be cancelled in either the bidder or any of his employees is found at any time to be such a person who had no obtained the permission to the competent authority as aforesaid before submission of the tender or engagement in the Consultant’s service.
8. No price preference to any corporate society /registered society, Govt. Public Sector undertaking/bodies shall be given and tenders shall be exclusive dealt with on merit.
9. Each bidder shall submit only one tender. Joint Venture is not applicable for this tender. A bidder who submits or participates in more than one tender will be disqualified.
10. Interpretations corrections and changes to the tender document shall be made by addendum if required.
11. Each Bidder shall ascertain prior to submitting his tender that he has received all addenda issued and he shall so acknowledge their receipt in his tender.
12. The provision in the Tender document shall govern over the contents of the paragraph if in contradiction or variation.

**LETTER OF PROPOSAL/ UNDERTAKING FROM THE BIDDER**

To  
The Deputy General Manager(Civil Structures)  
HSCC India Limited  
E-6(A), Sector-1  
Noida – 201301

Sir

**Reg.: Tender for Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/ Malyana, Shimla, Himachal Pradesh.**

We submit our financial bid here with in accordance with the terms and conditions mentioned in the Request for Proposal (RFP).

We understand that

- You are not bound to accept the lowest or any bid received by you, and you may reject all or any bid
- We do hereby declare that the information furnished in application and supplementary formats at Annexure-III & IV is correct to best of our Knowledge and belief and no part of information is false.
- If our bid is accepted, we are responsible for the due performance of the contract.
- Bidder means the bidder who is decided and declared so after examination of commercial bids.
- Time is the essence of the contract.

Date:

Place:

Yours faithfully

Signature of Authorized Signatory  
Name of Signatory  
Designation  
Seal of Firm/Consultant

**Price Bid for Tender for Topographical Survey & Geotechnical Investigation for “Construction of Additional Block (Blood Bank, Mortuary, Diagnostic labs, Guest Rooms & other infrastructure” for Atal Institute of Medical Super Specialties (AIMSS) at Chamyana/ Malyana, Shimla, Himachal Pradesh”.**

Sr. No.	Description	Unit	Quantity	Rate	Amount
<b>1</b>	<b>Topographical Survey, Collection of field data and reports/drawings Submission:</b>				
	(a) Topographical Survey, Collection of field data and reports/drawings Submission as per scope of work.	Acre	5		
	(b) Construction of Bench Mark and providing fencing around them	No	4		
<b>2</b>	<b>Soil boring, sampling, chemical analysis and report submission:</b>				
	Boring minimum 100mm dia exploration boreholes in all kinds of soil upto N<50 including STP test at every 1.5m interval up to refusal including collection of undisturbed/disturbed sample and also change in strata as per IS code of practice. The scope also include recording of water table, conducting necessary test as per scope of work, chemical analysis of water and soil, Soaked CBR Value and recommendation etc.	RM	100		
<b>3</b>	Drilling/Boring in formation/strata <b>extra over and above item No 2(N&gt;50)</b> upto 10% core recovery using the necessary bit including collection of samples, necessary test and recommendation.	RM	50		
	Total Consultancy charges include GST at the applicable rates as per govt. of India norms and all other levies, taxes, duties etc. (In Figures) (in Rs.)				
	Total Consultancy charges include GST at the applicable rates as per govt. of India norms and all other levies, taxes, duties etc. ( In Words) (in Rs.)				

Authorized Signatory of Agency with Seal



**DETAILS OF ALL WORKS OF SIMILAR NATURE COMPLETED**

**DURING THE LAST SEVEN YEARS ENDING LAST DAY OF THE MONTH PREVIOUS TO  
THE ONE IN WHICH THE BIDS ARE INVITED**

SI.No	Name of Work/ Project & location	Owner of sponsoring Organization	Cost of Work	Date of Commencement As per contract	Stipulated Date of completion	Actual date of completion	Litigation/ Arbitration Pending/ in Progress with details*	Name & address/ Telephone No. of officer to whom reference may be made	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

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

**Copy of work Orders and Completion Certificates of the above works should also be submitted.**

Signature of Applicant.

**CHECKLIST****TECHNICAL PACKAGE (Part – I):**

<b>Sr.No.</b>	<b>Name of Document</b>	<b>Mode of submission</b>	<b>Page No.</b>
1.	<p>(a) Original non-refundable Demand Draft of Rs.500/- (Rs. Five Hundred only) as cost of bid, in favour of “HSCC (India) Ltd.” payable at Noida</p> <p>(b) Original bid security in form of Demand Draft (DD) for Rs.3,040/- (Rs. Three Thousand and Forty Only) in favour of “HSCC (India) Ltd.” payable at Noida</p> <p>The above documents should be submitted to the office of “Deputy General Manager (Civil Structure), HSCC (India) Ltd., Plot no. E-6(A), Sector-1, Noida (U.P) Pin – 201301”, before date and time fixed for opening of bid either by registered post or by hand failing which the bid will be declared non-responsive.</p>	<p>In Original before the date and time fixed for opening of bid either by registered post or by hand</p> <p>&amp;</p> <p>Copy Online</p>	
	<p>In case of the Firms/Consultants registered as MSEs under Ministry of Micro, Small &amp; Medium Enterprises should upload required documents/proof to avail the benefit of exemption from payment of tender fee and Earnest Money Deposit. Duly certified relevant registrations certificate is/are to be uploaded.</p>	Online	

**TECHNICAL PACKAGE (Part – II):**

<b>Sr.No.</b>	<b>Name of Document</b>	<b>Mode of submission</b>	<b>Page No.</b>
1.	All the information required for pre-qualification as mentioned in at Page No.10, 11	Online only	
2.	Annexures I& III		
3.	Whole tender document duly signed by authorised person and stamped		

**FINANCIAL PACKAGE COMPRISING OF:**

<b>Sr. No.</b>	<b>Name of Document</b>	<b>Mode of submission</b>
1.	Digitally signed bid / Price Bid (Annexure-II)	Online