

Uttarakhand Landslide Mitigation and Management Center (ULMMC)

Government of Uttarakhand

6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun – 248013

E-mail id – ukmmmc@gmail.com



Letter No. 308 / 08 / ULMMC / 2024

Dated 15 October, 2024

सेवा में,

1. सम्पादक,
हिन्दुस्तान टाइम्स,
देहरादून।

2. सम्पादक,
दैनिक जागरण,
देहरादून।

विषय— उत्तराखण्ड भूस्खलन न्यूनीकरण एवं प्रबंधन केन्द्र, देहरादून के निविदा प्रकाशन के संबंध में।

महोदय,

कृपया आपको इस पत्र के साथ निविदा सूचना इस आशय के साथ संलग्न कर प्रेषित की जा रही है कि निविदा सूचना का प्रकाशन वृहद प्रचार एवं प्रसार हेतु समस्त राष्ट्रीय संस्करण में साईज 8x10 से.मी. (B&W) दिनांक 16 अक्टूबर, 2024 को DAVP (Directorate of Advertising and Visual Publicity) दरों पर प्रकाशित कराते हुए प्रकाशित की गयी विज्ञप्ति की प्रति बिल के साथ इस केन्द्र को भुगतान हेतु उपलब्ध कराने का कष्ट करें।

(डॉ० शान्तनु सरकार)
निदेशक

Uttarakhand Landslide Mitigation and Management Center (ULMMC)

Under Department of Disaster Management & Rehabilitation (Government of Uttarakhand)

4 Subhash Road, Uttarakhand Secretariat, Dehradun - 248001, Uttarakhand

Email id: ulmmc.ddn@gmail.com



NOTICE FOR REQUEST FOR BIDS

REFERENCE No. ~~38~~/08/INSTRUMENTS/ULMMC/2023

DATE: 15.10.2024

Uttarakhand Landslide Mitigation & management Centre (ULMMC) intends to procure instruments for conducting Geological, Geotechnical, Geophysical & Topographic Survey. Hence Bids are invited for the following Packages and the bid documents of which, can be downloaded from the website <https://uktenders.gov.in>. A complete set of bidding documents in English may be downloaded by interested eligible bidders from the website <https://uktenders.gov.in> which will be available from 16/October/2024 to 05/November/2024. Bids must be submitted online on the website <https://uktenders.gov.in> on or before 03:00 PM, 05/November/2024. Bids will be opened on 06/November/2024 at 12:30 PM.

S. No.	Package No.	Name of Package
1	02/ GOODS/RFB/ULMMC/2024	Procurement of Geological, Geo-technical, Geophysical & Topographic Survey Instruments

- Note:-1. The corrigendum for the above packages will be uploaded on website www.uktenders.gov.in.
2. Email id ulmmc.ddn@gmail.com may be contacted for any information related to the bids.
3. The pre bid meeting will be held on 22nd October 2024 4:30 PM

Dr. Shantanu Sarkar
Director ULMMC

GOVERNMENT OF UTTARAKHAND

Uttarakhand Landslide Mitigation & Management (ULMMC)
6th Floor, USDMA Building, IT Park, Sahastradhara Road,
Dehradun – 248013, Uttarakhand

**NATIONAL OPEN COMPETITIVE PROCUREMENT
(Two-Envelope Bidding Process with e-Procurement)**

FOR

**Procurement of Geological, Geo-technical, Topographical &
Geophysical Instruments Under ULMMC**

REQUEST FOR BIDS

(RFB)

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National Competitive Bidding

For

“Procurement of Geological, Geo-technical, topographical & Geophysical Instruments”

Time Schedule for the Bids:

Ref No.	02/ GOODS/RFB/ULMMC/2024
Date of commencement of downloading of bid document	16 th October 2024, Time: 04:00 PM
Pre Bid Meeting	22nd October 2024, Time: 03:30 PM
Last date for seeking clarification if any	25 th October 2024, Time: 05:00 PM
Bid Submission Start Date	30 th October 2024, Time: 10:00 AM
Last date for downloading of bid document from the E-procurement platform: http://uktenders.gov.in	05 th November 2024, Time: 12:00 PM
Last date and time for bid submission/ uploading of bid in E-procurement platform	05 th November 2024, Time: 03:00 PM
Original documents as per bid document are to be submitted up to	06 th November 2024, Time: 11:00 AM
Time and date of opening of technical bid of bids	06 th November 2024, Time: 12:30 PM
Date and time of opening of financial bids	Shall be informed after technical evaluation
Place of opening of bids and address for communication	Uttarakhand Landslide Mitigation and Management Center, 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun – 248013

Note:

(1) In the event of the specified date of opening of bids being declared a holiday for the Purchaser, the bids shall be opened on the next working day at the same time and venue.

(2) Completed bids shall be uploaded on the e-procurement platform by the Bidders using their user ID and addressed to the DG, ULMMC in the manner described under the Bid Document on or before the stipulated last date & time.

Request for Bids (RFB)

E-Procurement Notice

RFB Ref No. 02/ GOODS/RFB/ULMMC/2024

RFB Date: 16.10.2024

1. Uttarakhand Landslide Mitigation and Management Center, Government of Uttarakhand (Purchaser) now invites online encrypted bids from eligible entities i.e. genuine authorized dealers / Original Equipment Manufacturers (bidders) for the procurement of Geological, Geo-technical, topographical & Geophysical Instruments. More details on these goods and related services are provided in the schedule of requirements in this bidding document.
2. This RFB is open to all eligible bidders' i.e. genuine authorized dealers / Original Equipment Manufacturers (OEM) who wish to respond. Subject to restrictions noted in the bidding document, eligible entities cannot associate with other bidders to enhance their capacity to successfully carry out the procurement.
3. Bidders are advised to note the qualification criteria specified in bid document to qualify for award of the contracts. The Bidders are required to submit bids consisting of documents/information as specified in the bid document.
4. The bid document is available online and bids are to be submitted online through the e-procurement portal <http://uktenders.gov.in> only. Bids submitted in any other manner will not be accepted. Bidders are required to obtain Level III Digital signature from designated firms (available on e-proc. Portal and then register with the Government of Uttarakhand e-procurement platform and submit bids by using their user ID and Digital Signature.
5. Bidders must provide Bid Security as specified in the bid document and pay the bid processing fee as per requirement; before the Bid submission deadline at Office of ULMMC, 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun – 248013, Uttarakhand, either by registered post/speed post/courier or by hand, failing which the bids will be declared non- responsive and will not be opened.
6. Bids along with necessary enclosures must be uploaded to the website <http://uktenders.gov.in> as per bid schedule mentioned in bid document and first cover of the bids will be opened at the specified venue on the stipulated date and time, in the presence of the bidders or their authorized representatives who wish to attend. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at the same time and venue. The bidders must submit technical parts of the bid in the technical envelop and financial parts (BOQ & Financial Bid Submission Form) in the Financial envelop on e-portal. If the bidder submits technical information in the financial envelop or vice versa, the bid shall be deemed non-responsive.
7. The commercial bids of the bidders who are responsive and technically qualified will be opened through e-procurement portal on a date to be notified later.
8. Other details can be seen in the bidding document. The Purchaser shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Purchaser shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.

Sd/-
Director General,
ULMMC

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PART 1 – Bidding Procedures

Section I. Instructions to Bidders

A. General

1. Scope of Bid:

1.1. In connection with the Specific Procurement Notice, Request for Bids (RFB), specified in the Bid Data Sheet (BDS), the Purchaser, as specified in the BDS, issues this bidding document for the supply of Goods and, if applicable, any Related Services incidental thereto, as specified in Section V, Schedule of Requirements. The name, identification and number of lots (contracts) of this RFB are specified in the BDS.

1.2. Throughout this bidding document:

- a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, including if **specified in the BDS**, distributed or received through the electronic-procurement system used by the Purchaser) with proof of receipt.
- b) if the context so requires, “singular” means “plural” and vice versa; and
- c) “Day” means calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is an official working day of the Borrower. It excludes the Borrower’s official public holidays.

2. Fraud and Corruption

2.1. The Government of Uttarakhand requires compliance with the GoUK’s Anti- Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the GoUK’s Sanctions Framework, as set forth in Section VI, Fraud and Corruption

2.2. In further pursuance of this policy, bidders shall permit and shall cause their agents (whether declared or not), service providers, suppliers, and their personnel, to permit the GoUK to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the GoUK.

3. Conflict of Interest

- 3.1. A Bidder may be a firm that is a private entity, a state-owned enterprise or institution subject to ITB 3.4,
- 3.2. A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder:
 - (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
 - (b) receives or has received any direct or indirect subsidy from another Bidder; or
 - (c) has the same legal representative as another Bidder; or
 - (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Purchaser regarding this Bidding process; or
 - (e) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods/ works that are the subject of the Bid; or
 - (f) any of its affiliates has been hired (or is proposed to be hired) by the Purchaser or Borrower for the Contract implementation; or
 - (g) would be providing goods, works, or non- consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
 - (h) has a close business or family relationship with a professional staff of the ULMMC (or of the project implementing agency, or of a recipient of a part of the grant) who: (i) are directly or indirectly involved in the preparation of the bidding document or specifications of the Contract, and/or the Bid evaluation process of such Contract; or (ii) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the GoUK throughout the Bidding process and execution of the Contract

- 3.3. A firm that is a Bidder shall not participate in more than one Bid, except for permitted alternative Bids. Such participation shall result in the disqualification of all Bids in which the firm is involved.
- 3.4. Bidders that are state-owned enterprises or institutions in the Purchaser's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the GoUK, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Purchaser.
- 3.5. A Bidder shall not be under suspension from Bidding by the Purchaser as the result of the operation of a Bid-Securing Declaration or Proposal-Securing Declaration.

4. Eligible Goods and Related Services

- 4.1. All the Goods and Related Services to be supplied under the Contract may have their origin in any country in accordance with Section V.
- 4.2. For purposes of this ITB, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.
- 4.3. The term "origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

B. Contents of Request for Bids Document

5. Sections of Bidding Document

- 5.1. The bidding document consist of Parts 1, 2, and 3, which include all the sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 7.

PART 1 Bidding Procedures

- Section I - Instructions to Bidders (ITB)
- Section II - Bidding Data Sheet (BDS)
- Section III - Evaluation and Qualification Criteria

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- Section IV - Bidding Forms

PART 2 Supply Requirements

- Section V - Schedule of Requirements

PART 3 Contract

- Section VI - General Conditions of Contract (GCC)
- Section VII - Special Conditions of Contract (SCC)
- Section VIII - Contract Forms

5.2. The Specific Procurement Notice, Request for Bids (RFB), issued by the Purchaser is not part of this bidding document.

5.3. Unless obtained directly from the Purchaser or from www.uktenders.gov.in , the Purchaser is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the bidding document in accordance with ITB 7. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

5.4. The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information or documentation as is required by the bidding document.

6.1. The electronic bidding system specified in the BDS provides for online clarifications. A Bidder requiring any clarification on the bidding document may notify the Purchaser in writing as specified in the BDS. The Purchaser will respond to any request for clarification, provided that such request is received prior to the deadline for submission of Bids within a period specified in the BDS. Description of clarification sought and the response of the Purchaser shall be uploaded for information of all Bidders without identifying the source of request for clarification. Should the clarification result in changes to the essential elements of the bidding document, the Purchaser shall amend the bidding document following the procedure under ITB 7 and ITB 22.2. It is the bidder's responsibility to check on the e- procurement system, for any addendum/ amendment/ corrigendum to the bidding document.

6. Clarification of Bidding Document

7. Amendment of Bidding Document

- 7.1. At any time prior to the deadline for submission of Bids, the Purchaser may amend the bidding document by issuing addenda. The addendum will appear on the e- procurement system under “Latest Corrigendum” and email notification is also automatically sent to those bidders who have started working on the tender, or as **otherwise specified in BDS**.
- 7.2. Any addendum thus issued shall be part of the bidding document and shall be deemed to have been communicated to all the bidders.
- 7.3. To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Purchaser may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 22.2.

C. Preparation of Bids

8. Cost of Bidding

- 8.1. The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

9. Language of Bid

- 9.1. The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Purchaser, shall be written in English. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into English language, in which case, for purposes of interpretation of the Bid, such translation shall govern.

10. Documents Comprising the Bid

- 10.1. The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously online in two envelopes (two-envelope Bidding process). One envelope shall contain only information relating to the Technical Part and the other, only information relating to the Financial Part.
- 10.2. The Technical Part shall contain the following:
 - (a) **Letter of Bid – Technical Part** prepared in accordance with ITB 11;

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- (b) **Bid Security**, in accordance with ITB 18.1;
 - (c) **Alternative Bid – Technical Part**: if permissible, in accordance with ITB 12, the Technical Part of any Alternative Bid;
 - (d) **Authorization**: written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 19.3,
 - (e) **Qualifications**: documentary evidence in accordance with ITB 16 establishing the Bidder's qualifications to perform the Contract if its Bid is accepted;
 - (f) **Bidder's Eligibility**: documentary evidence in accordance with ITB 16 establishing the Bidder's eligibility to bid;
 - (g) **Eligibility of Goods and Related Services**: documentary evidence in accordance with ITB 15, establishing the eligibility of the Goods and Related Services to be supplied by the Bidder;
 - (h) **Conformity**: documentary evidence in accordance with ITB 15, that the Goods and Related Services conform to the bidding document;
 - (i) **Manufacturer's authorization**: as required in the prescribed format;
 - (j) any other document required **in the BDS**.

10.3. The **Financial Part** shall contain the following:

- a) **Letter of Bid – Financial Part**: prepared in accordance with ITB 11 and ITB 13;
- b) **Price Schedules**: completed prepared in accordance with ITB 11 and ITB 13;
- c) **Alternative Bid - Financial Part**; if permissible in accordance with ITB 12, the Financial Part of any Alternative Bid; and
- d) any other document **required in the BDS**.

11. Process of Bid Submission

10.4. The Technical Part shall not include any financial information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part, the Bid shall be declared non-responsive.

10.5. The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

11.1. The Letter of Bid – Technical Part, Letter of Bid – Financial Part, and Price Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 19.3. All blank spaces shall be filled in with the information requested.

11.2. Entire Bid including the Letter of Bid and filled-up Price Schedules shall be submitted online on e-procurement system specified in ITB 6.1. Details and process of online submission of the tender and relevant documents are given in the website mentioned above. Scanned copies of documents listed in clauses 11 and 11.3 should also be uploaded on this website.

11.3. **Submission of Original Documents:** The bidders are required to separately submit (i) original demand drafts towards the cost of bid document and registration on e-procurement website (if not previously registered) (as per RFB); and (ii) original bid security in approved form, with the office **specified in the BDS**, before the Bid submission deadline, either by registered/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened. Hard copy of rest of the bid is not to be submitted.

12. Alternative Bids

12.1. Unless otherwise specified **in the BDS**, Alternative Bids shall not be considered.

13. Bid Prices and Discounts

13.1. The prices and discounts quoted by the Bidder in the Letter of Bid – Financial Part and in the Price Schedules shall conform to the requirements specified below.

13.2. All lots (contracts) and items must be listed and priced separately in the Price Schedules.

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- 13.3. The price to be quoted in the Letter of Bid – Financial Part, in accordance with ITB 11.1 shall be the total price of the Bid, excluding any discounts offered.
- 13.4. The Bidder shall quote any unconditional discounts and indicate the methodology for their application in the Letter of Bid – Financial Part, in accordance with ITB 11.1.
- 13.5. Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, unless otherwise specified **in the BDS**. A Bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB 29. However, if in accordance with the BDS, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a Bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.
- 13.6. If so specified in ITB 1.1, Bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise specified **in the BDS**, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their Bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 13.4 provided the Bids for all lots (contracts) are submitted and opened at the same time.
- 13.7. The terms EXW and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by the International Chamber of Commerce, as specified **in the BDS**.
- 13.8. Prices shall be quoted as specified in each Price Schedule included in Section IV, Bidding Forms. The disaggregation of price components is required solely for the purpose of facilitating the comparison of Bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered.

Prices shall be entered in the following manner:

(a) For Goods:

- (i) the price of the Goods quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all duties (customs, excise etc.) and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
- (ii) any Purchaser's Country vat, sales tax and other taxes which will be payable on the Goods if the Contract is awarded to the Bidder; and
- (iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) specified **in the BDS**.

(b) **For Goods manufactured outside the Purchaser's Country, to be imported:**

- (i) the price of the Goods, quoted CIP named place of destination, in the Purchaser's Country, as specified in the BDS;
- (ii) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified in the BDS;

(c) **For Goods manufactured outside the Purchaser's Country, already imported:**

- (i) the price of the Goods, including the original import value of the Goods; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported.
- (ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;
- (iii) the price of the Goods, obtained as the difference between (i) and (ii) above;

- (iv) any Purchaser's Country sales and other taxes

which will be payable on the Goods if the Contract is awarded to the Bidder; and

- (v) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified in the BDS.
- (d) for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements,
 - (i) the price of each item comprising the Related Services (inclusive of any applicable taxes).

14. Currencies of Bid and Payment

- 14.1. The Bidder shall quote the Price in Indian Rupees only.

15. Documents Establishing the Eligibility and Conformity of the Goods and Related Services

- 15.1. To establish the eligibility of the Goods and Related Services in accordance with ITB 4, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.
- 15.2. To establish the conformity of the Goods and Related Services to the bidding document, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VII, Schedule of Requirements.
- 15.3. The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.
- 15.4. The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period **specified in the BDS** following commencement of the use of the goods by the Purchaser.

15.5. Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.

16. Documents Establishing the Eligibility and Qualifications of the Bidder

16.1. To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid – Technical Part, included in Section IV, Bidding Forms.

16.2. The documentary evidence of the Bidder's qualifications to perform the Contract if its Bid is accepted shall establish to the Purchaser's satisfaction:

- (a) that, if required **in the BDS**, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;
- (b) that, if required **in the BDS**, in case of a Bidder not doing business within the Purchaser's Country the Bidder is or will be (if awarded the Contract) represented by an Agent equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications;
- (c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria; and
- (d) Supplies for any particular item in each schedule of the bid should be from one manufacturer only. Bids from agents offering supplies from different manufacturers for the same item of the schedule in the bid will be treated as non-responsive.

17. Period of Validity of Bids

17.1. Bids shall remain valid for the Bid Validity period specified **in the BDS**. The Bid Validity period starts from the date fixed for the Bid submission deadline (as prescribed by the Purchaser in accordance with ITB 21.1). A Bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.

17.2. In exceptional circumstances, prior to the expiration of the Bid validity period, the Purchaser may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB 18, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 17.3.

17.3. If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity period, the Contract price shall be determined as follows:

- (a) in the case of fixed price contracts, the Contract price shall be the Bid price adjusted by the factor specified **in the BDS**;
- (b) in the case of adjustable price contracts, no adjustment shall be made;
- (c) in any case, Bid evaluation shall be based on the Bid price without taking into consideration the applicable correction from those indicated above.

18. Bid Security

18.1. The Bidder shall furnish as part of the Technical Part of its Bid, a Bid Security, as specified **in the BDS**, in original form and, in the amount specified **in the BDS**.

18.2. If a Bid Security is specified pursuant to ITB 18.1, the Bid Security shall be a demand guarantee in any of the following forms at the Bidder's option:

- (a) an unconditional, irrevocable, untransferable bank guarantee issued by a Nationalized/ Scheduled bank located in India;
- (b) another security specified **in the BDS**,

In the case of a bank guarantee, the Bid Security shall be submitted using the Bid Security Form included in Section IV, Bidding Forms. The Bid Security shall be valid for sixty (60) days beyond the original validity period of the Bid, or beyond any period of extension if requested under ITB 17.2

18.3. If a Bid Security is specified pursuant to ITB 18.1, any Bid not accompanied by a Bid Security in accordance with ITB 18.3 shall be rejected by the Purchaser as non-responsive.

18.4. If a Bid Security is specified pursuant to ITB 18.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the Contract and furnishing the Performance Security pursuant to ITB 49.

18.5. If a Bid Security is specified pursuant to ITB 18.1, the Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required Performance Security.

18.6. The Bid Security may be forfeited:

- (a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder in the Letter of Bid (Technical Part and/or Financial Part), or any extension thereto provided by the Bidder; or
- (b) if the Bidder does not accept the correction of its Bid Price pursuant to ITB 34; or
- (c) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB48; or
 - (ii) furnish a Performance Security in accordance with ITB 42.

19. Format and Signing of Bid

19.1. The Bidder shall prepare the Bid as per details given in ITB 20.

19.2. Bidders shall mark as "CONFIDENTIAL" information in their Bids which is confidential to their business.

19.3. The Bid shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified **in the BDS** and shall be uploaded along with the Bid.

- 19.4. Corrections if any in the bid can be carried out by editing the information before electronic submission on e- procurement portal.

D. Online Submission of Bids

20. Preparation of Bids

- 20.1. Bids shall be submitted online on the e-procurement system specified in BDS 6.1. Detailed guidelines for viewing bids and submission of online bids are given on the website. The Request for Bids under this Project is published on this website. Any citizen or prospective bidder can logon to this website and view the Request for Bids and can view the details of works for which bids are invited. A prospective bidder can submit its bid online; however, the bidder is required to have enrolment/registration in the website, and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any authorised certifying agency of Government of India (for class of DSC specified in **BDS**). The bidder should register in the website using the relevant option available. Then the Digital Signature registration has to be done with the e- token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token & the user id/ password chosen during registration. After getting the bid schedules, the Bidder should go through them carefully and submit the specified documents, along with the bid, otherwise the bid will be rejected.
- 20.2. The completed bid comprising of documents indicated in ITB 11, should be uploaded on the e-procurement portal along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security.
- 20.3. All the documents are required to be signed digitally by the bidder. After electronic online bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.
- 20.4. Physical, e-mail, Telex, Cable, or Facsimile bids will be rejected as non-responsive.

21. Deadline for Submission of Bids

21.1. Bids must be uploaded online no later than the date and time specified **in the BDS**.

21.2. The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the bidding document in accordance with ITB 7, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

22. Late Bids

22.1. The electronic bidding system would not allow any late submission of bids after due date & time as per server time.

23. Withdrawal, Substitution, and Modification of Bids

23.1. Bidders may modify their bids by uploading their request for modification before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bid document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by uploading the request before the deadline for submission of bids, however, if the bid is withdrawn, re- submission of the bid is not allowed (or allowed **if specified in BDS**).

23.2. Bids requested to be withdrawn in accordance with ITB 23.1 shall not be opened.

23.3. No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the expiration of the period of Bid validity specified by the Bidder on the Letter of Bid (Technical Part and/or Financial Part) or any extension thereof. This will result in the forfeiture of the Bid Security pursuant to ITB 18.7.

E. Public Opening of Technical Parts of Bids

24. Public Opening of Technical Parts of Bids

24.1. The Purchaser shall publicly open Technical Parts of all Bids received by the deadline at the date and time specified **in the BDS**, and this could also be viewed by the bidders online. The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids. In all cases, original documents submitted as specified in ITB 11.3 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 11.3 will be declared non-responsive and will not be opened. Thereafter, the bidders' name and such other details as the Purchaser may consider appropriate shall be notified as Technical Part bid opening summary.

24.2. In the event of the specified date of bid opening being declared a holiday for the Purchaser, the bids will be opened at the appointed time and location on the next working day.

24.3. The electronic summary of the bid opening will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Technical Parts of Bids, and alternative bids – technical parts if permitted in ITB 12, that are opened at Bid opening shall be considered further for evaluation

F. Evaluation of Bids – General Provisions

25. Confidentiality

25.1. Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until the information on Award the Contract is transmitted to all Bidders in accordance with ITB 41.

25.2. Any effort by a Bidder to influence the Purchaser in the evaluation or contract award decisions may result in the rejection of its Bid.

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- 25.3. Notwithstanding ITB 25.2, from the time of Bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the Bidding process, it should do so in writing.

26. Clarification of Bids

- 26.1. To assist in the examination, evaluation, comparison of the Bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the Bids, in accordance with ITB 34.
- 26.2. If a Bidder does not provide clarifications of its Bid by the date and time set in the Purchaser's request for clarification, its Bid may be rejected.

27. Deviations, Reservations, and Omissions

- 27.1. During the evaluation of Bids, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the bidding document;
 - (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and
 - (c) "Omission" is the failure to submit part or all of the information or documentation required in the bidding document.

28. Nonconformities, Errors and Omissions

- 28.1. Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities or omissions in the Bid which do not constitute a material deviation, reservation or omission.
- 28.2. Provided that a Bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Bid related to documentation requirements. Such omission shall not be related to any aspect of the price or substance of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

28.3. Provided that a Bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified **in the BDS**.

G. Evaluation of Technical Parts of Bids

29. Evaluation of Technical Parts

29.1. In evaluating the Technical Parts of each Bid, the Purchaser shall use the criteria and methodologies listed in ITB 30, ITB 31, and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.

30. Determination of Responsiveness

30.1. The Purchaser's determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 10.

30.2. A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:

- (a) if accepted, would:
 - (i) affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
 - (ii) limit in any substantial way, inconsistent with the bidding document, the Purchaser's rights or the Bidder's obligations under the Contract; or
- (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.

30.3. Bids from Agents, without proper authorization from the manufacturer as per Section IV, shall be treated as non-responsive.

30.4. The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in ITB 10 have been provided, and to determine the completeness of each document submitted.

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- 30.5. The Purchaser shall examine the technical aspects of the Bid submitted in accordance with ITB 15 and ITB 16, in particular, to confirm that all requirements of Section VII, Schedule of Requirements have been met without any material deviation or reservation, or omission.
- 30.6. The Purchaser shall examine the bid to confirm that the Bidder has accepted all terms and conditions specified in GCC and the SCC without material deviations or reservations. Deviations from or objections or reservations to critical provisions such as those concerning Performance Security (GCC Clause 18), Warranty (GCC Clause 28), Force Majeure (GCC Clause 32), Limitation of liability (GCC Clause 30), Governing law (GCC Clause 9) and Taxes & Duties (GCC Clause 17) will be deemed to be a material deviation. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
- 30.7. If a Bid is not substantially responsive to the requirements of bidding document, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

31. Qualification of the Bidders

- 31.1. The Purchaser shall determine, to its satisfaction, whether all eligible Bidders, whose Bids have been determined to be substantially responsive to the bidding document, meet the Qualification Criteria specified in Section III, Evaluation and Qualification Criteria.
- 31.2. The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 16. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, or any other firm(s) different from the Bidder.
- 31.3. If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

31.4. Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened at the second public opening.

H. Public Opening of Financial Parts of Bids

32. Public Opening of Financial Parts

32.1. Following the completion of the evaluation of the Technical Parts of the Bids, and the Bank has issued its no objection (if applicable), the Purchaser shall notify in writing those Bidders who have failed to meet the Qualification Criteria and/or whose Bids were considered non-responsive to the requirements in the bidding document, advising them of the following information:

- (a) their Technical Part of Bid failed to meet the requirements of the bidding document;
- (b) their Financial Part of the Bid shall not be opened; and
- (c) notify them of the date and time for public opening of the Financial Parts of the Bids.

32.2. The Purchaser shall, simultaneously, notify in writing those Bidders whose Technical Parts have been evaluated as substantially responsive to the bidding document and met the Qualification Criteria, advising them of the following information:

- (a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria;
- (b) their Financial Part of Bid will be opened at the public opening of Financial Parts;
- (c) notify them of the date and time of the second public opening of the Financial Parts of the Bids, as **specified in the BDS**.

32.3. The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Part of the Bid shall be opened publicly in the presence of Bidders' designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The bidder's names, the Bid prices, the total amount of each bid, including any discounts and Alternative Bid – Financial Part, and such other details as the Purchaser may consider appropriate will be notified online by the Purchaser at the time of bid opening.

In the event of the specified date of bid opening being declared a holiday for the Purchaser, the bids will be opened at the appointed time and location on the next working day.

- 32.4. The electronic summary of the bid opening will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Financial Part of Bids, Financial Parts of Alternative Bids and discounts that are opened and read out at Bid opening shall be considered further for evaluation.

I. Evaluation of Financial Parts of Bids

33. Evaluation of Financial Parts

- 33.1. To evaluate the Financial Part of each Bid, the Purchaser shall consider the following:
- (a) evaluation will be done for Items or Lots (contracts), as specified **in the BDS**; and the Bid Price as quoted in accordance with ITB 13;
 - (b) price adjustment due to discounts offered in accordance with ITB 13.4;
 - (c) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 28.3; and
 - (d) the additional evaluation factors specified in Section III, Evaluation and Qualification Criteria.
- 33.2. The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.
- 33.3. If this bidding document allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated cost of the lot (contract) combinations, including any discounts offered in the Letter of Bid - Financial Part, is specified in Section III, Evaluation and Qualification Criteria.
- 33.4. The Purchaser's evaluation of a Bid will exclude and not take into account:
- (a) in the case of Goods manufactured in India or goods of foreign origin already located in India, vat, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;

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- (b) Not used in the case of Goods manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;
 - (c) any allowance for price adjustment during the period of execution of the contract, if provided in the Bid.

33.5. The Purchaser's evaluation of a Bid may require the consideration of other factors, in addition to the Bid price quoted in accordance with ITB 13. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of Bids, unless otherwise specified **in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria. The criteria and methodologies to be used shall be as specified in ITB 33.1 (d).

**34. Correction of
Arithmetical Errors**

34.1. The e-procurement system automatically calculates the total amount from unit rates and quantities and the system also automatically populates the amount in words from the amount in figures and therefore there is no scope of discrepancy and need for arithmetic correction.

**35. Comparison of
Financial Parts**

35.1. The Purchaser shall compare the evaluated costs of all substantially responsive Bids established in accordance with ITB 33.1 to determine the Bid that has the lowest evaluated cost.

36. Abnormally Low Bids

36.1. An Abnormally Low Bid is one where the Bid price, in combination with other constituent elements of the Bid, appears unreasonably low to the extent that the Bid price raises material concerns with the Purchaser as to the capability of the Bidder to perform the Contract for the offered Bid price.

36.2. In the event of identification of a potentially Abnormally Low Bid, the Purchaser, unless otherwise **specified in the BDS**, shall seek written clarification from the Bidder, including a detailed price analyses of its Bid price in relation to the subject matter of the contract, scope, delivery schedule, allocation of risks and responsibilities and any other requirements of the bidding document.

36.3. After evaluation of the price analyses, in the event that the Purchaser determines that the Bidder has failed to demonstrate its capability to perform the contract for the offered Bid price, the Purchaser shall reject the Bid.

37. Most Advantageous Bid

37.1. Having compared the evaluated costs of Bids, the Purchaser shall determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that meets the Qualification Criteria and whose Bid has been determined to be:

- (a) substantially responsive to the bidding document, and
- (b) the lowest evaluated cost.

38. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids

38.1. The Purchaser reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to Contract Award, without thereby incurring any liability to Bidders. In case of annulment, all documents submitted and specifically, bid securities, shall be promptly returned to the Bidders.

J. Award of Contract

39. Award Criteria

39.1. It shall commence when the Purchaser has transmitted to each Bidder (that has not already been notified that it has been unsuccessful), the Purchaser shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid as specified in ITB 37.

40. Purchaser's Right to Vary Quantities at Time of Award

40.1. At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VII, Schedule of Requirements, provided this does not exceed the percentages specified in the BDS, and without any change in the unit prices or other terms and conditions of the Bid and the bidding document.

41. Notification of Award

- 41.1. Prior to the expiration of the Bid Validity Period or any extension thereof, the Purchaser shall transmit the Letter of Acceptance to the successful Bidder. The Letter of Acceptance shall specify the sum that the Purchaser will pay the Supplier in consideration of the execution of the Contract (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”).
- 41.2. At the same time, the Purchaser shall publish the Contract Award Notice which shall contain, at a minimum, the following information:
- (a) name and address of the Purchaser;
 - (b) name and reference number of the contract being awarded, and the selection method used;
 - (c) names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated;
 - (d) names of all Bidders whose Bids were rejected either as nonresponsive or as not meeting qualification criteria, or were not evaluated, with the reasons therefor; and
 - (e) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope.
- 41.3. The Contract Award Notice shall be published on a E-procurement website (GoUK website <http://uktenders.gov.in>) or on the Purchaser’s website with free access if available, or in the official gazette.
- 41.4. Until a formal Contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.

42. Signing of Contract

- 42.1. Promptly upon Notification of Award, the Purchaser shall send the successful Bidder the Contract Agreement.
- 42.2. Within twenty-one (21) days of receipt of the Contract Agreement, the successful Bidder shall (a) furnish the performance security in accordance with ITB 43; shall sign, date, and return the Contract Agreement to the Purchaser along with the documents listed at (a) above.

**43. Performance
Security**

- 43.1. Within twenty-one (21) days of the receipt of Letter of Acceptance from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC 18, using for that purpose the Performance Security Form included in Section X, Contract Forms.
- 43.2. Failure of the successful Bidder to submit the above- mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the Bidder offering the next Most Advantageous Bid.

**44. Procurement
Related Complaint**

- 44.1. The procedures for making a Procurement-related Complaint are as specified in the BDS.

Section II - Bid Data Sheet (BDS)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Reference	A. General
ITB 1.1	<p>The reference number of the Request for Bids (RFB) is : 02/GOODS/INSTRUMENT/RFB/ULMMC/2024</p> <p>The Purchaser is: Director General, Uttarakhand Landslide Mitigation and Management Center (ULMMC), 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun – 248013</p> <p>The name of the RFB is: <i>Procurement of Geological, Geo-technical & Geophysical Instruments for Uttarakhand Landslide Mitigation & Management, Dehradun, UTTARAKHAND.</i></p> <p>The number and identification of package comprising this RFB is: 04</p>
ITB 1.2(a)	<p>The Purchaser shall use the electronic-procurement system specified in BDS 7.1 to manage this Bidding process.</p>
	B. Contents of Bidding Document
ITB 6.1	<p>Electronic – Procurement System</p> <p>The Purchaser shall use the following electronic-procurement system to manage this Bidding process: www.uktenders.gov.in</p> <p>For <u>Clarification of Bid purposes</u> only, the Purchaser’s address is:</p> <p>Attention: Director General, ULMMC</p> <p>Address: 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun – 248013</p> <p>ZIP Code: 248013</p> <p>Country: India</p> <p>Telephone: 8447435898</p> <p>Electronic mail address: ulmmc.ddn@gmail.com</p> <p>Pre-bid meeting: 22nd October 2024, 04:00 PM</p>
ITB 6.1	<p>The addendum will appear on the e-procurement system under www.uktenders.gov.in and email notification is also automatically sent to those bidders who have started working on this tender.</p>

	C. Preparation of Bids
ITB 10.2 (k) & ITB 10.3 (d)	<p>General Instructions to Bidders</p> <p>The bidder must fulfil the following specifications/conditions: -</p> <ul style="list-style-type: none"> (a) Name and address, contact, email of the bidder. (b) Letter of Technical Bid Form. (c) Business Registration Certificates: (i.e. copy of partnership deed, Certification of incorporation or any other legal document to prove the business identity of the bidder) (d) The PAN No. and IT return certificate from Income Tax Department, GST certificate, Service Tax Registration Number etc. (e) Self-attested copies of the IT returns and GST return for last 3Year's (2020-21, 2021-22, 2022-23). (f) The Average Annual Turnover of the last three financial years (2020-21, 2021-22, 2022-23) of the Bidder should as per ITB.33.5. - Submit Audited Accounts as proof of evidence along with Auditors Reports thereon (DIN number to be mentioned in all CA certified documents). (g) The bid must be accompanied positive net worth certificate of the last three financial years (2020-21, 2021-22, 2022-23) of the Bidder certified by the Charter Accountant (DIN number to be mentioned in all CA certified documents). (h) Technical compliance of the Goods to the effect that the quoted goods meet the required technical specification along with the model Name and number proposed. (i) Copy of supply order/ work order/ award of contract for demonstration of past experience as required in the eligibility criteria of the bid document in last 5 financial year as per ITB.33.5 (2019-20,2020-21, 2021-22, 2022-23,2023-24). (j) Confirmation for validity of the bid for minimum 120 days from the last date of submission of bid. (k) The bidder shall disclose instance of previous past performance that may have resulted into adverse actions taken against the bidder during the last five years. (In case no adverse action taken against the bidder during the last five years, a self-declaration of the same on the letterhead of the firm to be submitted) (l) A original equipment's manufacturer's authorization is required. (If original equipment's manufacturer is a bidder, then this clause is not applicable. A self-declaration to the effect that he is the original equipment's manufacturer of the specified goods is to be submitted). Template of manufacturer's authorization is available in this request for bid document. (m) Bidder must have to Quote for all items in the schedule. If Bidder not quote for all items in the schedule, the bid shall be deemed non-responsive. <p>The bidder must submit technical parts of the bid in the technical envelop and financial parts (BOQ & Financial Bid Submission Form) in the Financial envelop. If the bidder submits technical information in the financial envelop or vice versa, the bid shall be deemed non-responsive.</p> <p>The Financial Bid Submission Form must be completed and submitted /uploaded on the e-portal (www.uktenders.gov.in) in PDF form in the Financial Envelope along with the BOQ. The Financial Bid Submission Form shall be the part of Commercial Bid and if the bidder fails to submit Financial Bid Submission Form, the bid shall be deemed non-responsive</p>

ITB 11	Note for Bidders: Bidders have to submit the bids on the e-procurement portal (www.uktenders.gov.in) along with the relevant required documents. For this purpose, the bidders shall fill up online, the forms that are available for online filling on the e-portal. The rest of the forms shall be download by the bidders and filled up. The filled-up pages shall then be scanned and uploaded on the e- procurement portal along with the scanned copies of the supporting documents.
ITB 11.3	<p>The following original documents shall be submitted through post/courier/ person to the Purchaser (Address- ULMMC, 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun –248013, Country: India) for verification and scrutiny on or before 06th November 2024 till 11:00 AM.:</p> <ul style="list-style-type: none"> (i) Notarized copy of Power of Attorney (On Rs.100/- Stamp Paper) of the person signing the bid along with copy of Board of resolution for authorization. (ii) Original Bid security in the form of Bank Guarantee/ FDR in favour of ADDITIONAL DIRECTOR GENERAL, ULMMC, Dehradun, Uttarakhand. The value of bid security (Earnest Money) is INR -(Refer ITB clause 19.1 for details) (iii) Original affidavit vouching for the correctness of the information furnished and documents uploaded (On Rs.100/- Stamp Paper). (iv) Non-refundable Tender Fee in the name of ADDITIONAL DIRECTOR GENERAL, ULMMC, Dehradun, Uttarakhand, inform of DD only (INR 10,000/-+ 18% GST). Tender Fee in any other form part from DD shall not be accepted. <p>Note: In case of non-submission/late submission of original documents as mentioned above, the bid shall be considered as non-responsive.</p>
ITB 12.1	Alternative Bids shall not be considered.
ITB 13.5	The prices quoted by the Bidder shall not be subject to adjustment during the performance of the Contract.
ITB 13.7	The Incoterms edition is Incoterms 2020
ITB 13.8 (a)(iii)	<p>Final Destination: Office of Director General, Uttarakhand Landslide Mitigation and Management Center</p> <p>Address: 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun – 248013</p>
ITB 15.4	Period of time the Goods are expected to be functioning (for the purpose of Support): 10 years
ITB 16.2 (a)	Manufacturer's authorization is: as per section V
ITB 16.2 (b)	After sales service is: as per section V
ITB 17.1	<p>The bid validity period shall be 120 days from the last date of bid submission deadline.</p> <p>Note: The bids having bid validity less than 120 days shall be considered as non-responsive.</p>
ITB 17.3 (a)	NA
ITB 18.1	<p>The Bid Security amount shall be-</p> <p>Schedule: 1 for Geo technical instruments- INR 24,500/- Only</p> <p>Schedule:2 for Geological instruments - INR 21,000/- Only</p> <p>Schedule:3 for Geophysical instruments - INR 4,00,000/- Only</p> <p>Schedule:4 for topographical instruments - INR 1,30,000/- Only</p>

	<p>The bid security shall be in the form of Bank guarantee or Fixed Deposit Receipt (FDR) from a scheduled national commercial bank, issued in favour of ADDITIONAL DIRECTOR GENERAL, ULMMC, Dehradun, Uttarakhand, 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun – 248013</p> <p>The validity of the Bid Security shall be 45 days more than the validity of the bid i.e. 120+45 days from the last date of bid submission.</p> <p>Note: The bids having validity of bid security less than 120+45 days shall be considered as non-responsive.</p>
ITB 19.3	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: Legally valid Power of Attorney to demonstrate the authority of the signatory to sign the Bid.
	D. Online Submission of Bids
ITB 20.1	<p>The bidding under this contract is electronic bid submission through website http://uktenders.gov.in Detailed guidelines for viewing bids and submission of online bids are given on the website. The Invitation for Bids under ULMMC is published on this website. Any citizen or prospective bidder can log on to this website and view the Invitation for Bids and can view the details of Lots for which bids are invited. The perspective bidder can submit bids online; however, the bidder is required to have enrolment/registration in the website and should have valid Digital Signature Certificate (DSC), for signing and encryption issued by the same Certifying Authority, in the form of smart card/e-token. The DSC can be obtained from any authorized certifying agencies. The bidder should register in the web site http://uktenders.gov.in using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the site. After this, the bidder can login the site through the secured login by entering the password of the e- token & the user id/ password chosen during registration.</p> <p>After getting the bid schedules, the Bidder should go through them carefully and then submit the documents as asked, otherwise, the bid will be rejected.</p> <p>The completed bid comprising of documents, should be uploaded on the website given above through e-tendering along with scanned copies (clearly readable) of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of bid security.</p>
ITB 21.1	<p>The deadline for uploading the Bids is:</p> <p>Date: 05th November 2024</p> <p>Time: 03:00 P.M.</p>
ITB 23.1	Re-submission of the bid is not allowed , if withdrawn.
E. Public Opening of Technical Parts of Bids	

ITB 24.1	<p>The online Bid opening shall take place on:</p> <p>Date: 06th November 2024</p> <p>Time: 12:30 p.m.</p> <p>The bid opening shall take place at</p> <p>Office of Director General, 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun – 248013 Country: India</p> <p>The purchaser inviting bids or its authorized representatives shall open the bids online which could be viewed by the bidders also online. In the event of the specified date for the opening of bids being declared a holiday, the bids shall be opened at the appointed time on the next working day.</p>
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H. Public Opening of Financial Parts of Bids

ITB 32.2 (c)	<p>Following the completion of the evaluation of the Technical Parts of the Bids, the Purchaser will notify all Bidders of the date and time of the public opening of Financial Parts.</p> <p>In addition to the above the Purchaser shall publish a notice of the public opening of the Financial Parts of the Bid on its website http://uktenders.gov.in</p>
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I. Evaluation of Financial Parts of Bids

ITB 32.1(a)	<p>Bidder must have to Quote for all items in the schedule. Evaluation will be done on schedule basis (item wise) and the determination of L1 will be done separately for each schedule on least Cost method (LCS). The details of item-consignee combination covered under each schedule are as under:</p>		
	Evaluation Schedules	Item/Category	Quantity
	Schedule 1	Geo technical instruments as Per Group A	1
	Schedule 2	Geological instruments as Per Group B	1
	Schedule 3	Geo physical instruments as Per Group B	1
	Schedule 4	Topographical instruments as Per Group B	1

ITB 33.5	<p>The Purchaser shall use the criteria and methodologies listed in this Section to evaluate Bids. By applying the criteria and methodologies the Purchaser shall determine the Most Advantageous Bid:</p> <p>(i) Financial Capability:</p> <p>a) For schedule 1 & 2: The bidder must have average annual Turnover of INR 30.00 Lakhs in any 3 years in last three years (2022-23,2021-22,2020-21). Certificate regarding annual sales turnover in last 3 years issued by the chartered accountant with Copy of ITRs and GST return of last 3 years to be submitted.</p> <p>b) For schedule 3: The bidder must have average annual Turnover of INR 100.00 Lakhs in any 3 years in last three years (2022-23,2021-22,2020-21). Certificate regarding annual sales turnover in last 3 years issued by the chartered accountant with Copy of ITRs and GST return of last 3 years to be submitted.</p> <p>c) For schedule 4: The bidder must have average annual Turnover of INR 60.00 Lakhs in any 3 years in last three years (2022-23,2021-22,2020-21). Certificate regarding annual sales turnover in last 3 years issued by the chartered accountant with Copy of ITRs and GST return of last 3 years to be submitted.</p> <p>(ii) Experience and Technical Capacity:</p> <p>a) For schedule 1 & 2: The bidder must have successfully completed contracts of supply to any govt department/PSU/authority of minimum value of INR 50.00 Lakhs in 3 single orders in the</p>
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	<p>past 5 Years (2022-23,2021-22,2020-21,2019-20 & 2018-19). (Purchase Order/supply order/ GeM CRAC in support of supply of the goods as specified above to be furnished to authenticate the same).</p> <p>b) For schedule 3: The bidder must have successfully completed contracts of supply to any govt department/PSU/authority of minimum value of INR 100.00 Lakhs in 3 single orders in the past 5 Years (2022-23,2021-22,2020-21,2019-20 & 2018-19). (Purchase Order/supply order/ GeM CRAC in support of supply of the goods as specified above to be furnished to authenticate the same).</p> <p>c) For schedule 4: The bidder must have successfully completed contracts of supply to any govt department/PSU/authority of minimum value of INR 60.00 Lakhs in 3 single orders in the past 5 Years (2022-23,2021-22,2020-21,2019-20 & 2018-19). (Purchase Order/supply order/ GeM CRAC in support of supply of the goods as specified above to be furnished to authenticate the same).</p> <p>The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria: <i>Not Applicable</i></p>															
ITB 36.2	Provisions related to Abnormally Low Bids do not apply.															
	J. Award of Contract															
ITB 39	<p>Please refer to the evaluation and award criteria on page Clause ITB 40.1 and Contract will be awarded schedule wise (item wise) and the determination of L1 will be done separately for each schedule. The details of item-consignee combination covered under each schedule are as under:</p> <table><tr><td>Evaluation Schedules</td><td>Item/Category</td><td>Quantity</td></tr><tr><td>Schedule 1</td><td>Geo technical instruments as Per Group A</td><td>1</td></tr><tr><td>Schedule 2</td><td>Geological instruments as Per Group B</td><td>1</td></tr><tr><td>Schedule 3</td><td>Geo physical instruments as Per Group B</td><td>1</td></tr><tr><td>Schedule 4</td><td>Topographical instruments as Per Group B</td><td>1</td></tr></table>	Evaluation Schedules	Item/Category	Quantity	Schedule 1	Geo technical instruments as Per Group A	1	Schedule 2	Geological instruments as Per Group B	1	Schedule 3	Geo physical instruments as Per Group B	1	Schedule 4	Topographical instruments as Per Group B	1
Evaluation Schedules	Item/Category	Quantity														
Schedule 1	Geo technical instruments as Per Group A	1														
Schedule 2	Geological instruments as Per Group B	1														
Schedule 3	Geo physical instruments as Per Group B	1														
Schedule 4	Topographical instruments as Per Group B	1														
ITB 43.1	<p>Within twenty-one (21) days of the receipt of Letter of Acceptance from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC 18, using for that purpose the Performance Security Form included in Section X, Contract Forms, i.e. Upon issuance of letter of award, the selected bidder will be liable to submit a performance security within 10 days of 10% of the Contract amount in form of FDR valid for 15 months from the date of issuance of letter of award.</p>															

Section III -Evaluation and Qualification Criteria

TECHNICAL PART

1. Qualification (ITB 32)

1. Qualification

1.1 Qualification Criteria

1.1.1 The Purchaser shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

(i) Financial Capability:

- a) **For schedule 1 & 2:** The bidder must have average annual Turnover of INR 50.00 Lakhs in any 3 years in last three years (2022-23,2021-22,2020-21). Certificate regarding annual sales turnover in last 3 years issued by the chartered accountant with Copy of ITRs and GST return of last 3 years to be submitted.
- b) **For schedule 3:** The bidder must have average annual Turnover of INR 100.00 Lakhs in any 3 years in last three years (2022-23,2021-22,2020-21). Certificate regarding annual sales turnover in last 3 years issued by the chartered accountant with Copy of ITRs and GST return of last 3 years to be submitted.
- c) **For schedule 4:** The bidder must have average annual Turnover of INR 60.00 Lakhs in any 3 years in last three years (2022-23,2021-22,2020-21). Certificate regarding annual sales turnover in last 3 years issued by the chartered accountant with Copy of ITRs and GST return of last 3 years to be submitted.

(ii) Experience and Technical Capacity:

- a) **For schedule 1 & 2:** The bidder should have supplied same or similar Category Products to any govt department/PSU/authority of minimum value of INR 30.00 Lakhs in 3 single orders in the past 5 Years (2022-23,2021-22,2020-21,2019-20 & 2018-19). (Purchase Order/supply order/ GeM CRAC in support of supply of the goods as specified above to be furnished to authenticate the same).
- b) **For schedule 3:** The bidder should have supplied same or similar Category Products to any govt department/PSU/authority of minimum value of INR 100.00 Lakhs in 3 single orders in the past 5 Years (2022-23,2021-22,2020-21,2019-20 & 2018-19). (Purchase Order/supply order/ GeM CRAC in support of supply of the goods as specified above to be furnished to authenticate the same).
- c) **For schedule 4:** The bidder should have supplied same or similar Category Products to any govt department/PSU/authority of minimum value of INR 60.00 Lakhs in 3 single orders in the past 5 Years (2022-23,2021-22,2020-21,2019-20 & 2018-19). (Purchase Order/supply order/ GeM CRAC in support of supply of the goods as specified above to be furnished to authenticate the same).
- d)

FINANCIAL PART

2. Evaluation (ITB 29, 30, and 33)

2.1. Evaluation Criteria (ITB 33.5)

The Purchaser shall use the criteria and methodologies listed in this Section to evaluate Bids. By applying the criteria and methodologies the Purchaser shall determine the Most Advantageous Bid. This is the Bid that meets the Qualification Criteria and has been determined to be:

- (a) substantially responsive to the bidding document, and
- (b) the lowest evaluated cost.

2.2. Multiple Contracts (ITB 33.3) – *Not Applicable*

2.3. Alternative Bids (ITB 12.1) – *Not Applicable*

Section IV -Bidding Forms

Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid submission]*

RFB No.:

Page _____ of _____ pages

1. Bidder's Name <i>[insert Bidder's legal name]</i>
2. Bidder's actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
3. Bidder's year of registration: <i>[insert Bidder's year of registration]</i>
4. Bidder's Address in country of registration: <i>[insert Bidder's legal address in country of registration]</i>
5. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
6. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4. <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITB 4.6 documents establishing: <ul style="list-style-type: none">• Legal and financial autonomy• Operation under commercial law• Establishing that the Bidder is not under the supervision of the Purchaser

Note: To be completed and submitted /uploaded as a part of the Technical bid.

Technical Bid Submission Form

[The Bidder shall fill in this Form in accordance with the instructions indicated No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid Submission]*

NCB No.: *[insert number of bidding process]*

Invitation for Bid No.: *[insert No of IFB]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

We, the undersigned, declare that:

(a) We have examined and have no reservations to the Bidding Documents, including Addenda No.: *[insert the number and issuing date of each Addenda]*;

(b) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods and Related Services *[insert a brief description of the Goods and Related Services]*;

(c) Our bid shall be valid for the period of time specified in ITB Sub-Clause 20.1, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 24.1, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(d) If our bid is accepted, we commit to obtain a performance security in accordance with ITB Clause 44 and GCC Clause 17 for the due performance of the Contract.

(e) We have no conflict of interest in accordance with ITB Sub-Clause 4.3.

(f) Our firm, its affiliates, or subsidiaries—including any suppliers for any part of the contract—has not been declared ineligible by the Bank, under the Purchaser's country laws or official regulations, in accordance with ITB Sub-Clause 4.6.

Signed: *[insert signature of person whose name and capacity are shown]*

In the capacity of *[insert legal capacity of person signing the Technical Bid Submission Form]*

Name: *[insert complete name of person signing the Technical Bid Submission Form]*

Duly authorized to sign the bid for and on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Note: To be completed and submitted /uploaded as a part of Technical Bid

(To be submitted in only with Commercial Bid)

[The Bidder shall fill in this Form in accordance with the instructions indicated No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid Submission]*

NCB No.: *[insert number of bidding process]*

Invitation for Bid No.: *[insert No of IFB]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

We, the undersigned, declare that:

(a) The total price of our Bid, excluding any discounts offered in item (d) below, is: *[insert the total bid price in words and figures, indicating the various amounts and the respective currencies];*

Price Schedule	Amount (in INR)
Total cost of equipment/Software's with warranty (as per technical specifications) excluding GST	
Total Excluding GST	
Amount of GST	
Total Amount including GST	

(b) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.

(c) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

(d) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

(e) We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely, "Prevention of Corruption Act 1988."

Signed: *[insert signature of person whose name and capacity are shown]*

In the capacity of *[insert legal capacity of person signing the Financial Bid Submission Form]*

Name: *[insert complete name of person signing the Financial Bid Submission Form]*

Duly authorized to sign the bid for and on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Important: To be completed and submitted /uploaded on the e-portal (www.uktenders.gov.in) in PDF form in the Financial Envelope along with the BOQ. This Form shall be the part of Commercial Bid and if the bidder fails to submit this Form, the bid shall be deemed non-responsive.

Price Schedule Forms

(To be submitted in Commercial Bid)

The Price Schedule Form (in Excel Format) documented separately and can be downloaded from e-procurement portal <http://uktenders.gov.in> along with the bid document.

Important: *The Financial Bid Submission Form must be completed and submitted /uploaded on the e-portal (www.uktenders.gov.in) in PDF form in the Financial Envelope along with the BOQ. The Financial Bid Submission Form shall be the part of Commercial Bid and if the bidder fails to submit Financial Bid Submission Form, the bid shall be deemed non-responsive.*

2. Manufacturer's Authorization

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its Bid, if so indicated in the BDS.]

Date: [insert date (as day, month and year) of Bid submission]

RFB No.:

To: [insert complete name of Purchaser]

WHEREAS

We [insert complete name of Manufacturer], who are official manufacturers of [insert type of goods manufactured], having factories at [insert full address of Manufacturer's factories], do hereby authorize [insert complete name of Bidder] to submit a Bid the purpose of which is to provide the following Goods, manufactured by us [insert name and or brief description of the Goods], and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

No company or firm or individual other than M/s. _____ are authorized to bid, and conclude the contract for the above goods manufactured by us against this specific RFB. [This para should be deleted for simple items where manufacturers normally sell the product through different stockists].

Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]

Name: [insert complete name(s) of authorized representative(s) of the Manufacturer]

Title: [insert title]

Duly authorized to sign this Authorization on behalf of: [insert complete name of Bidder]

Dated on _____ day of _____, _____ [insert date of signing]

[Note – Modify this format suitably in cases where manufacturer's warranty and guarantee are not applicable for the items for which bids are invited. If the supply consists of number of items, indicate the specific item (s) for which alone the above authorization is required.]

PART 2 – Supply Requirements

Section V- Schedule of Requirements

*ULMMC authorities reserve the full rights to increase/decrease the quantity of items at the time of award of tender as per its actual requirement. The quantities mentioned below in this tender against each item are only indicative/tentative nature. The approved design format of ULMMC for printing of various Registers/other paper stationery items shall be provided only to successful bidder(s) after the Award of work.

Table 1: List of instruments Required with Their Specifications

S.NO.	NAME OF INSTRUMENT WITH TECHNICAL SPECIFICATION	Unit	Quantity	Delivery Period	Destination
A.	Geotechnical Instruments				
1.	DIGITAL CONE PENETROMETER REF. STANDARDS IS 4968-1976 It is use to determine of liquid limit of soil sample. Specification: <ul style="list-style-type: none"> ❖ The unit should have a stainless-steel penetration test cone 35 mm long with smooth polished surface with an angle of 60°. ❖ Should have facility exists for adjusting cone height in relation to the specimen. ❖ Should have provision of recording & displaying temperature & humidity. ❖ System having analog 16-bit resolution and LED display ❖ Inbuilt real-time clock ❖ Provision for automatic taring of initial penetration reading ❖ automatic data storing for every test with storage facility of at least 2000 readings. Facility for data download either in text, or csv format. ❖ Dual mode operation: automatic & manual ❖ Displacement range 0 to 40 mm ❖ Least count of penetration measurement 0.01mm ❖ Suitable for operation on 220 v, 50 Hz, single-phase, ac supply. ❖ Calibration certification approved by NABL lab. ❖ Warranty period (minimum 1 year). 	No.	01	90 Days from award of contract	In the office as mentioned in BID Data Sheet ITB Clause 16.2(a)
2.	POINT LOAD MACHINE WITH DIGITAL LOAD GAUGE MANUAL / HAND OPERATED REF. STANDARDS IS:8764 (1998) It is used for determining the Indirect UCS (uniaxial compressive strength) of rock specimen. Specifications: <ul style="list-style-type: none"> ❖ Digital indicator with sensor up to 100 KN capacity with a least count of 0.01KN. ❖ Conical loading platens. ❖ Loading frame fitted with hydraulic jack. ❖ The apparatus is light and portable can be used both in the laboratory as well as in the field. ❖ Calibration certification approved by NABL lab. ❖ Warranty period (minimum 1 year). 	No.	01	90 Days from award of contract	
3.	SIEVE SHAKER WITH SIEVES REF. STANDARDS IS: 460-1985 (PART I) For carrying out the grain size analysis of soil. Specification: SIEVE SHAKER: <ul style="list-style-type: none"> ❖ The sieve shaker can carry up to 8 sieves of 20cm dia. ❖ Sieve shaker motorized, with time adjustment, for 200mm & 300mm dia. 	No.	01	90 Days from award of contract	

	<ul style="list-style-type: none">❖ This shaker provides 278 oscillations with a horizontal circular motion and 150 taps per minute with a vertical tapping motion to produce an effective sieving action.❖ Power connection: 1-phase, 150-220 volts 50/60hz clamping devices: supporting clamps & rods, standard”, “comfort”, for dry sieving❖ Measuring: 20 μm – 300mm suitable for sieving: dry❖ Vibrating frequency: 1400 R/min (minimum) vibrating amplitude: 1-4mm❖ Motor: speed regulator❖ Motor power: 120 W (minimum) and 0.25 HP (minimum) <p>SIEVE:</p> <ul style="list-style-type: none">❖ Sieve size diameter: 200 mm & 300mm❖ Sieve holding capacity: minimum 8 sieves.❖ Sieves, GI frame of 45 cm diameter❖ Sieves, GI frame of 30 cm diameter❖ Sieves, brass frame of 20 cm diameter❖ Warranty period (minimum 1 year).❖ Calibration certification approved by NABL lab. <p>PERFORATED PLATE GI FRAME SIEVES</p> <table><tr><th>APERTURE SIZE, MM (45 CM & 30 CM DIA)</th></tr><tr><td>80</td></tr><tr><td>63</td></tr><tr><td>45</td></tr><tr><td>31.5</td></tr><tr><td>22.4</td></tr><tr><td>11.2</td></tr><tr><td>4.75</td></tr><tr><td>PAN</td></tr></table> <p>BRASS WIRE CLOTH SIEVES</p> <table><tr><th>APERTURE SIZE (20 CM DIA)</th></tr><tr><td>4.75</td></tr><tr><td>2.36</td></tr><tr><td>1.18</td></tr><tr><td>0.6</td></tr><tr><td>0.425</td></tr><tr><td>0.3</td></tr><tr><td>0.15</td></tr><tr><td>0.075</td></tr><tr><td>PAN</td></tr></table>	APERTURE SIZE, MM (45 CM & 30 CM DIA)	80	63	45	31.5	22.4	11.2	4.75	PAN	APERTURE SIZE (20 CM DIA)	4.75	2.36	1.18	0.6	0.425	0.3	0.15	0.075	PAN				
APERTURE SIZE, MM (45 CM & 30 CM DIA)																								
80																								
63																								
45																								
31.5																								
22.4																								
11.2																								
4.75																								
PAN																								
APERTURE SIZE (20 CM DIA)																								
4.75																								
2.36																								
1.18																								
0.6																								
0.425																								
0.3																								
0.15																								
0.075																								
PAN																								
4.	<p>SOIL PERMEABILITY APPARATUS (Constant head and Falling head) REF. STANDARDS IS:2720 PART-XVII-1993 It is use to determine the Permeability of soil.</p> <p>Specifications: the equipment comprises one each:</p> <ul style="list-style-type: none">❖ Gun metal mould, 100 mm ID, x 127.3 mm high x 1000 ml volume.❖ Gun metal mould extension collar, 100 mm diameter x 60 mm high for the above mould.❖ Gun metal drainage base plate with a recess for a porous stone and with an outlet valve.❖ Metallic clamping ring.❖ Gun metal drainage cap top plate with a recess for a porous stone and fitted with an inlet valve and an air release valve).❖ porous stone for drainage cap.❖ porous stone for base plate.	No.	02	90 Days from award of contract																				

	<ul style="list-style-type: none"> ❖ set of glass stand pipes approximately mounted on a wooden board for measuring the change in water head. ❖ To read water head 2 no's meter scales are fixed between the tubes. ❖ A length of 3-meter-long rubber tubing with pinch cock is also supplied. ❖ Calibration certification approved by NABL lab. <p>Warranty period (minimum 1 year).</p>				
5.	<p>DIGITAL WEIGHING BALANCE (measure up to 50 KG)</p> <p>It is used to weight soil/rock sample.</p> <p>Specification:</p> <ul style="list-style-type: none"> ❖ Weight balance with Capacity 50 kg with 0.1 gm least count ❖ Calibration certification approved by NABL lab. ❖ Warranty period (minimum 1 year). 	No.	01	90 Days from award of contract	
6.	<p>DIGITAL WEIGHING BALANCE (measure up to 10kg)</p> <p>It is used to weight soil/rock sample.</p> <p>Specification:</p> <ul style="list-style-type: none"> ❖ Weight balance with Capacity 10 kg with 0.1 gm least count ❖ Calibration certification approved by NABL lab. ❖ Warranty period (minimum 1 year). 	No.	01	90 Days from award of contract	
7.	<p>DIGITAL WEIGHING BALANCE (measure up to 500 gm)</p> <p>It is used to weight soil/rock sample.</p> <p>Specification:</p> <ul style="list-style-type: none"> ❖ Weight balance with 500 gm with .01gm least count ❖ Calibration certification approved by NABL lab. ❖ Warranty period (minimum 1 year). 	No.	01	90 Days from award of contract	
8.	<p>HOT AIR OVEN</p> <p>It is used for drying soil sample.</p> <p>Specifications:</p> <ul style="list-style-type: none"> ❖ Capacity 125 liters. ❖ Temp range: +5°C to 200°C. ❖ Power ratings in watts: -2500 ❖ Control accuracy: ±0.5°C. ❖ Uniformity: ± 2.0 at 100.0°C ❖ Minimum 3 no. of shelves with height adjustable in 25mm steps. ❖ Glass window in-built into the door for easy viewing of samples, if available. ❖ Automatic cut off of heater & blower when door opened. ❖ Aero dynamic internal design for achieving horizontal air circulation. ❖ Solid and plain bottom without electricals. ❖ Outer body made of G.I epoxy coated ❖ Inner body made of stainless steel with clear bottom ❖ Calibration certification approved by NABL lab. <p>Warranty period (minimum 1 year).</p>	No.	02	90 Days from award of contract	
9.	<p>PROCTOR TEST APPARATUS</p> <p>REF. STANDARDS IS:2720 PART VII & VIII – 1983</p> <p>It is used to determine Optimum Moisture Content and Maximum Dry Density Soil Sample</p> <p>Specification:</p> <ul style="list-style-type: none"> ❖ Cylindrical metal mould, having an internal diameter of 100 mm and 150 mm ❖ Rammer, weighing (2.6 kg & 4.9kg) & having fall of (31cm & 45cm), with a flat circular face of 50MM diameter. 	No.	02	90 Days from award of contract	

	<ul style="list-style-type: none"> ❖ Sensitive balance, sensitivity ranging from 0.01 gm to 1 gram. ❖ Steel straight edge. ❖ Moisture containers. ❖ Sieve no. 4.75-mm, 19-mm and. 37.5 mm is sieves conforming to IS: 460 (part 1)-1978. ❖ Tray & scoop. ❖ Graduated cylinder makes Corning or Borosil. ❖ Mixing tools. (Spoon, trowel, spatula). ❖ Calibration certification approved by NABL lab. <p>Warranty period (minimum 1 year).</p>				
10.	<p>RAPID MOISTURE METER REF. STANDARDS IS:12175-1987 It is used to determine moisture content at site of soil sample.</p> <p>Specification:</p> <ul style="list-style-type: none"> ❖ The unit consists of a pressure vessel with clamp for sealing cap, capacity is 6 gms. ❖ Rubber sealing gasket, pressure gauge calibrated in percentage moisture content on the wet weight basis, a counter poised balance for weighing sample, a scoop for measuring carbide reagent, a bottle of reagent, one cleaning brush and a set of 4 steel balls for thorough mixing. complete in highly polished wooden carrying case with handle. pressure gauge calibrated 0-50% x0.50%, ❖ Calcium carbide powder (absorbent), standard scoop (for measuring absorbent). ❖ Water content determination generally takes 16 to 24 hours by oven drying method). ❖ Strong wooden case – apparatus is packed in easy to carry and store strong wooden case. ❖ Free calcium carbide – 1 box of calcium carbide powder extra free with the existing 1 box (i.e., total 2 calcium carbide boxes). ❖ Calibration certification approved by NABL lab. <p>Warranty period (minimum 1 year).</p>	No	02	90 Days from award of contract	
11.	<p>CASAGRANDE APPARATUS (LIQUID LIMIT DEVICE) HAND OPERATED REF. STANDARDS IS: 2720 (PART-V) BS 1377-2, ASTM D 4318 It is use for determining Liquid Limit of Soil.</p> <p>Specification:</p> <ul style="list-style-type: none"> ❖ Complete with one Casagrande-grooving tool, one ASTM grooving tools and a height gauge block. Hand ❖ Provision for automated fall counter with reset. ❖ Water measuring cylinders (1000 mL and 100 mL) ❖ Calibration certification approved by NABL lab. <p>Warranty period (minimum 1 year).</p>	No.	02	90 Days from award of contract	
12.	<p>DESICCATOR REF. STANDARDS IS:6128-1971 It is used to cooling/storage heated soil sample.</p> <p>Specification:</p> <ul style="list-style-type: none"> ❖ Borosilicate 250 mm diameter with plate and lid. <p>Warranty period (minimum 1 year).</p>	No.	02	90 Days from award of contract	
13.	<p>PYCNOMETER REF. STANDARDS IS: 2720 PART III (1980) It is use to determine specific gravity of clays, sand and gravel of size smaller than 10 mm.</p> <p>Specifications:</p> <ul style="list-style-type: none"> ❖ A gas jar of 1 liter capacity fitted with air rubber bug. ❖ Calibration certification approved by NABL lab. <p>Warranty period (minimum 1 year).</p>		02 (set)	90 Days from award of contract	

14.	DIRECT SHEAR APPARATUS (COMPUTERIZED) WITH ANALYSIS SOFTWARE REF. STANDARDS IS 2720 (PART-13) 1986 Specification: <ul style="list-style-type: none"> ❖ Shear box assembly: comprising direct shear box in two halves for a square specimen size 60 x 60 x 25 mm one pair of plain gripper plates, 2 pair of perforated gripper plates, 2 pair of porous stones, one top loading pad. ❖ Shear box housing accommodates the direct shear box assembly, complete with two ball roller strips. ❖ Specimen cutter 1 No. for cutting 60 x 60 x 25 mm specimen from larger samples. ❖ Set of weights: 0.05 Kg/cm²-4Nos, 0.1 Kg/cm²-1Nos, 0.2 Kg/cm² - 1Nos, 0.5 Kg/cm² -2Nos, 1.0 Kg/cm² -1Nos. ❖ 2kN Compression providing Ring ❖ Operation motorized ❖ Rates of Strain: 1.25, 0.625, 0.25, 0.125, 0.05, 0.025 (mm/min) 0.01, 0.005, 0.002, 0.001, 0.0004, 0.0002 ❖ Shear Box Assembly with Halves of the Shear Box: 2 Nos., Plane Gripper Plate: 2 Nos, Perforated gripper plate: 2Nos, Porous Stone :2 Nos., Top Loading Pad :1 No., Base Plate :1 No. ❖ Shear Box Housing with 2 linear bearing case with steel ball :1 No. ❖ Software's should plot graphs between Horizontal Displacement vs Vertical Displacement, Height vs Sq. root of time graph, Shear stress vs Horizontal Displacement, c & Ø (phi) value ❖ Calibration certification approved by NABL lab. ❖ Installation of instrument with satisfactory of employer. Warranty period (minimum 1 year).		01	90 Days from award of contract	
B.	Geological Instruments				
15.	N type ROCK SCHMIDT HAMMER (SWISS MAKE, original) Specification: <ul style="list-style-type: none"> ❖ Digital rebound hammer with case ❖ Type N: Standard impact energy 2.207 Nm and can be use on outcrop and on cores that should be at least moderate to high strength, weight <1200gms ❖ Automatic calculation of rebound value according to international standards. ❖ Include battery charger with micro-USB. ❖ Max. Impacts per series 99. ❖ Instrument memory > 5000 impacts. ❖ Memory capacity dependent on length of test series. ❖ Digital Display (backlit) 100 x 100 pixels, graphic. ❖ Battery life should be equal or > 5,000 impacts between charges. ❖ Should be featured with USB for charging and updates. Warranty period (minimum 1 year).	No.	01	90 Days from award of contract	
16.	L type ROCK SCHMIDT HAMMER (SWISS MAKE, original) Specification: <ul style="list-style-type: none"> ❖ Digital rebound hammer with case ❖ Type L: Low impact energy, 0.735 Nm, standard for testing weak rocks and cores of low strength and above of at least NX size (≥ 54 mm); <1000gms. ❖ Automatic calculation of rebound value according to international standards. ❖ Include battery charger with micro-USB. ❖ Max. Impacts per series 99. ❖ Instrument memory > 5000 impacts. ❖ Memory capacity dependent on length of test series. ❖ Digital Display (backlit) 100 x 100 pixels, graphic. ❖ Battery life should be equal or > 5,000 impacts between charges. 	No.	01	90 Days from award of contract	

	❖ Should be featured with USB for charging and updates. Warranty period (minimum 1 year).				
17.	GEOLOGICAL HAMMER Specification: <ul style="list-style-type: none"> ❖ Hammer should be crafted from solid steel, ensuring durability and strength. ❖ It should features a square striking face, available in either a milled or smooth finish, tailored for different tasks. ❖ Four hammer of 13-14 ounce weight, and two with 22-ounce head weight. ❖ Soft durable rubber grip secure hold. Warranty period (minimum 1 year).		06	90 Days from award of contract	
18.	PROFILOMETER (BARTON COMB) Specification: Used for measurement of the roughness profile of rock samples. <ul style="list-style-type: none"> ❖ Length: 300-400 mm ❖ Height: 100-150 mm ❖ Metal body. Warranty period (minimum 1 year).		02	90 Days from award of contract	
19.	HANDHELD G.P.S. Specification: <ul style="list-style-type: none"> ❖ 2.2" sunlight-readable display ❖ Display resolution with 240 x 320 pixels ❖ Support GPS and GLONASS satellites for faster positioning ❖ 3-axis compass and barometric altimeter ❖ Preloaded with topo Active maps ❖ Paperless geocaching ❖ >500 Waypoints/ Locations ❖ >24-hour battery life with 2 AA batteries ❖ Track Log: 10,000 points, >50 saved tracks ❖ 8 GB of internal memory plus a micro-SD™ card slot ❖ Extra Rechargeable batteries ❖ Calibration certification. Warranty period (minimum 1 year).		02	90 Days from award of contract	
C.	Geo Physical Instruments				
20.	Complete ERT (Electrical Resistivity Tomography) survey instruments, data processing software and other accessories: Data acquisition system: Resistivity system should comprise of: <ol style="list-style-type: none"> Compact and lightweight instrument with LCD display having 72 to 90 multi-electrodes. Display Type: LCD with Back light facility (daylight & nightlight visibility). Data Measurement: Direct 2-D & 3-D resistivity imaging. Direct measurement of SP and IP. Roll along for both 2D and 3D. Instrument should have facility to use the maximum number of electrodes provided. Number of Channel: in between 4 channels to 10 channels or better Output Current: >2000 mA Output Voltage: Min + 600V and 1200V or better peak-to-peak Output Power: 250W or better. Isolation: All channels are galvanically separated. Current Measurement Precision: 0.5% or better Voltage Measurement Precision: 0.5% or better Voltage Measuring Resolution: 1 mirco volt with 100% or 50% duty cycle Resistivity Accuracy: 0.5% or better Input Impedance: 100 Mohm or better Measurement Methods: Software controlled Roll Along/ Move 	No.	01	90 Days from award of contract	

	<p>Sequence facilities. Standard data formats, such as ASCII/CSV/DAT format and portable to Excel sheet</p> <p>p. Noise Reduction: Continuous digital stacking. Noise should be monitored before injection of current.</p> <p>q. Cable Design: Roll along data acquisition should also be possible to be carried-out.</p> <p>r. Automatic Ranging: It should be microprocessor controlled.</p> <p>s. Protection System: System must be Weatherproof, Humidity Proof & Shock Proof.</p> <p>t. Operating Temperature: -10 to +50 degree Centigrade.</p> <p>u. Communication to Desktop/Laptop through Wi-Fi/ Ethernet/ USB cables. Standard data formats, such as ASCII/CSV/DAT format and can be portable to excel sheet and be analyzed in standard software, such as Res2DInv/Res3DInv or other standard software.</p> <p>v. SP Compensation: through automatic linear drift correction</p> <p>w. Induced Polarization: measured over pre-defined windows.</p> <p>x. Measurement: SP should be measured for each quadrupole measurement. & It should have facility to measure the natural SP also.</p> <p>y. Power Source: Internal rechargeable battery source with compatible charger and external source for complete resistivity imaging field survey</p> <p>z. Self-test functions: Instrument must have inbuilt self-test functions as Battery Tester, Electrode Tester, Security Pack, Test Box, Pro Tester. If instrument does not have these inbuilt function, separate tools for above mentioned should be provided</p> <p>aa. Electrode type: Stainless steel electrodes or Galvanized electrodes.</p> <p>bb. Storage: Up to 32 GB</p> <p>cc. Calibration files: All calibration files should be provided with the instrument.</p> <p>Software and Processing methodology:</p> <p>a. Data Processing Methodology: Software should comprises with elimination noise, applying topography correction, blocking high and unwanted data, viewing pseudo sections of Rho and IP etc. The processed data should be portable to Excel Sheet.</p> <p>b. Survey designing Software: Graphical user interface to create 2-D and 3-D survey protocols for all standard and customized type arrays including Wenner, Schlumberger, Dipole-Dipole, Pole-Dipole, Pole-Pole and Multigradient. Facility for 2-D and 3-D visualization of protocols along with its orientation and position of Quadri poles and standard processing software.</p> <p>c. Modeling and Inversion Software: 1D, 2D and 3D inversion with smooth and few layered models, also performing forward modelling. Software and firmware updates should be easily available and performed by the user.</p> <p>d. Data Transfer: Data transfer from Resistivity Imaging System to PC/Laptop through Wi- Fi/ Ethernet/ USB cables or Real Time Data monitoring facility.</p> <p>Other Essential Accessories:</p> <p>a) Transportation Case: System must be portable supplied with Rugged Transportation case</p> <p>b) Cable with 10m Spacing: Suitable configuration of cable with 10 meters spacing</p> <p>c) GPS: System should have GPS (Internal/ External)</p> <p>d) At least two Spare rechargeable DC battery along with instrument must be provided along with a spare charger.</p> <p>e) Two sets of high quality hammer for electrodes fixing should be provided.</p> <p>f) Two set of good measuring tape of 100m each for field measurement should be provided.</p> <p>g) Two best quality multimeter for battery testing should be provided.</p>				
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	<p>h) Hard Carrying cases for instrument storage as well as transportation purposes, along with other necessary accessories required to carry out field investigations.</p> <p>i) Any other supplementary material necessary for smooth conduction of survey.</p> <p>Training, Demonstration and Warranty</p> <ul style="list-style-type: none"> Demonstration and Training of instrument and software should be provided free of the cost at ULMC office premises. <p>Comprehensive warranty for 02 years should be quoted applicable from date of commissioning/installation.</p>				
21.	<p>Complete SRT (Seismic Refraction Tomography) and MASW (Multi-Channel Analysis of Surface wave) survey instruments, Data processing software and Rugged carrying cases for instruments and other accessories</p> <p>Data Acquisition system: Acquisition system should comprise of:</p> <ol style="list-style-type: none"> Compact and lightweight integrated LCD display compatible with 48 or more channels and multiple units can be serialized. Display Type: LCD with Back light facility (daylight & nightlight visibility). Data Measurement: Direct 2-D & 3-D imaging. System should be capable to provide real time data on the display Instrument should have facility to use the maximum number of geophones provided. System should be compatible of doing survey for both. Geophones: 50 Geophones should be provided each of frequency 10Hz (for SRT) and 4.5 Hz (for MASW). Dynamic range: 144db or more. Should have built in GPS system. Sampling rate: 30 kHz or better. Operating Temperature: -10 to +50 degree Centigrade. Data Conversion: 24 real bits Sigma-Delta ADC (compatible with analog geophones of any resonance frequency). Distortion: 0.001% or better, so that even a minimum noise/distortion introduced into an audio signal by electronics components or systems can be taken into account Stacking: should have at least 900 impacts with 32 bits Unstack: Remove last shot from stack Input impedance: 2 MOhm or better.. Input gain: should be in the range of 0 db-48 db, can be selected by user Reference channel: Instrument must have at least 1 additional channel as reference channel. Trigger input: Trigger coil, make/break, geophone, TTL. Trigger sensitivity should be software adjustable. Source: Suitable sledge hammer of 10kg for conducting shallow seismic refraction and MASW survey. Also weight drop with mounting device (preferable 30kg) to achieve depth more than 50m should be provided. The weight drop should be easy to use. The weight drop plate should also be provided. Input Voltage Range: 0.4-0.5 vpp, 5-6 vpp, 12.5-13.5 vpp, we require multiple voltage range in instrument so that a variety of sensors can be used without clipping and minimal distortion, ensuring better data quality. Anti-alias filters: set automatically based on sampling rate. Digital filters: Band-pass, low-pass, Notch filters. Delay time: up to 2 minutes. Cross talk: Minimum -120 db or better. Interface: attached screen or external screen whichever applicable. aa. Protection System: System must be Weatherproof, Humidity Proof & Shock Proof. 	No.	01	90 Days from award of contract	

	<p>bb. Communication to Desktop/Laptop through Wi-Fi/ Ethernet/ USB cables. Standard data formats, such as ASCII/CSV/DAT format and can be portable to Excel sheet and be analyzed in standard software, such as SeisImager, or other standard software.</p> <p>cc. Velocity Analysis: Instrument should have on screen analysis of refractor velocity.</p> <p>dd. Battery & chargers: Built-in battery chargers for internal batteries and chargers for external batteries. Should have facility to remove internal batteries easily.</p> <p>ee. Cable configuration: Seismic cable 48 takeout with 5m spacing for seismic refraction survey compatible with both the survey.</p> <p>ff. Calibration files: All calibration files should be provided with the instrument.</p> <p>gg. Storage: Up to 32 GB</p> <p>Software and Processing methodology: Separate package of software for processing and inverting data from seismic refraction and MASW survey should be provided. The software's should have composed of following:</p> <p>a. Data Processing Methodology: - Software should comprises with elimination noise, topography correction, blocking high and unwanted data, viewing time series, pseudo section etc. The processed data should be portable to Excel Sheet. Analysis of multi acquisition Surface wave data considering both Rayleigh and Love waves (and their joint inversion), Vs30 calculation, Band- Low- High-pass filters.</p> <p>b. Survey designing Software: - Graphical user interface to create 2-D and 3-D survey protocols for all standard and customized.</p> <p>c. Modeling and Inversion Software: - 1D, 2D and 3D inversion with smooth and few layered models, also performing forward modelling. Software and firmware updates should be easily available and performed by the user. Tool for creating 2D sections should be there.</p> <p>d. Data Transfer: - Data transfer from seismograph to PC/Laptop through Wi- Fi/ Ethernet/ USB cables or Real Time Data monitoring facility. Standard data format such as ASCII/CSV/DAT format and can be portable to Excel sheet.</p> <p>e. All the license key along with regular update for at least 2 year should be provided.</p> <p>Other Essential Accessories:</p> <p>a) Transportation Case: - System must be portable supplied with rugged transportation case</p> <p>b) At least two Spare rechargeable DC battery along with instrument must be provided along with a spare charger.</p> <p>c) Two sets of high-quality hammer for geophones fixing should be provided.</p> <p>d) Two set of good measuring tape of 100m each for field measurement should be provided.</p> <p>e) Two best quality multi meter for battery testing should be provided.</p> <p>f) Hard Carrying cases for instrument storage as well as transportation purposes, along with other necessary accessories required to carry out field investigations.</p> <p>g) Any other supplementary material necessary for smooth conduction of survey.</p> <p>Training, Demonstration and Warranty</p> <p>a) Demonstration and Training at ULMMC office premises should be provided free of the cost.</p> <p>b) Comprehensive warranty for 02 years should be quoted applicable from date of commissioning/installation.</p>				
D.	Topographical Survey Instruments				
22.	<p>ELECTRONIC TOTAL STATION</p> <p>Specification:</p> <p>ANGLE MEASUREMENT</p>	No.	01	90 Days from award of contract	

<p>Accuracy: 1 sec Least Count: 0.1 to 0.5 sec</p> <p>TELESCOPE Magnification: >30X or better Image Erect Minimum Focus: <1.75 meter</p> <p>DISTANCE MEASUREMENT RANGE Measuring Time: 1.5sec With Single Prism: 4000 to 5500 meter or more Distance accuracy with Prism>1mm+2ppmXD Without Prism Measurement on 90% reflective Surface/ Target 1000 to 1500 Meter. Distance accuracy without Prism: 4mm+2ppmXD or better ATR (Auto Track Range): 600 to1000m Angular Accuracy of ATR: 1 Sec. Distance Least count: 0.1mm Rotating Speed Minimum 100 degree/sec or better</p> <p>PLUMMET: Laser/optical</p> <p>FEATURE: Surveying, Layout, Height measurement, missing distance measurement, Resection, Area Calculation, Sub Area division, reference Line, COGO, Projection Systems, select Geoids, Grid to Ground, select Coordinate in order NEZ & ENZ, settings (units, precision, parameters, etc.) graphical display of Survey Data with Zoom in Zoom Out, Pan facility, polygon, line Joining, Import Background Image & DWG file etc. Auto Rotating, Locking & Target Tracking, target Monitoring with user define time interval & its direct report. Direct background maps.</p> <p>ROBOTIC CONTROL UNIT/KEY BOARD/ with Field Bracket 5-inch Color, illuminated TFT, daylight readable touch screen and navigation, instrument control keys. Illuminated Alphanumeric hard/soft key board more used definable function keys for various operation on both sides.</p> <p>INTEGRATED SURVEYING Should have facility to Integrated with GNSS with Motorized Total Station.</p> <p>OPERATING SYSTEMS Platform Window /Android or latest</p> <p>COMPENSATOR: Dual Axis or more Compensator range + 3' or more MEMORY for RTS Internal Memory: 2 GB or more External Memory: 16 GB Pen drive or more. DRIVES Operation: 2 Servo Endless drives (Object focusing, Horizontal &Vertical) GUIDE LIGHT /LUMI GUIDE Inbuilt COMMUNICATION Memory Stick (Pen drive) & RS232 /USB Cable.</p> <p>POWER SUPPLY: Operating Time Internal Battery Minimum 4-7 hrs. (Li-ion)/- each Battery single charge. INTERFACE-RS232, USB, Bluetooth, WLAN, Radio External Power Port External power port required. ENVIRONMENTAL CONDITION</p> <p>Operating Temp (Instruments) -20deg C to +50 deg C Dust and water protection (Instruments) IP54 or more DATA DOWN LOADING (Instruments) Should Be Capable of</p>				
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	<p>Downloading/Uploading though Pen drive in Field. DATA Output Format Direct Export Survey Data in AutoCAD, DXF, CSV& TXT format, SHP., KML /KMZ etc. ALLACCESSORIES, Main EQUIPMENTS Should be Same OEM Make.</p> <ol style="list-style-type: none"> 1.Semi Motorized Total Station Instruments - 1no 2.360 deg. Prism for back sighting -1no. 3.Single Prism with holder- 2nos. 4.2.0m Pole with bubble 2nos. 5.Wooden tripod – 1no. 6.Hard Plastic carrying case for RTS -1nos. 7.Battery -2nos 8.Dual slot Charger set -1nos. 9.Carrying case -1nos. 10. Software processing-1 license to process 11. Background maps or on-base controller. 				
23.	<p>MULTI FREQUENCY DGPS (Differential Global Positioning System) SYSTEMS (BASE & 2 ROVER) GNSS ANTENNA WITH LAPTOP</p> <p>Specification: Fully Integrated Multi Frequency GNSS Antenna satellites tracking systems communication though Cable, Bluetooth.</p> <p>NO. OF CHANNELS 500 Equal or more</p> <p>SATELLITE SIGNALS GPS: L1C/A, L2C, L5 GLONASS: L1C/A, L1P, L2C/A, L2P, L3 SBAS: Gagan Galileo: E1, E5A, E5B, E5 ALTBOC, E6 BEIDOU: B1, B2, B3 NAVIC (IRNSS): L5 SBAS WAAS, EGNOS, GAGAN, MSAS</p> <p>POSITION RATE 20 Hz or more</p> <p>INTERNAL MEMORY 4 GB or more Static Accuracy H: 3mm+0.1ppm, V: 3.5mm+0.4ppm RTK Accuracy H: 8mm+1ppm, V: 15mm+1ppm Network RTK H: 8mm+0.5ppm, V: 15mm+0.5ppm Differential code H: 25cm, V: 50cm</p> <p>RTK Communication 1. Fully Integrated GSM/GPRS Modem &Integrated Radio modem for receive and transmit to cover distance 3-5km radius and good network support with GSM.</p> <p>INITIALIZATION TIME \leq5 Seconds</p> <p>ENVIRONMENTAL Temperature Operating –40 °C to +65 °C, Storage –40 °C to +75 °C Humidity Condensing 90% or more MIL STD MIL-STD-810 G/810F IP65 or more Drop 2 m onto hard surface. Status Indicator Data logging, RTK, Battery, etc.</p> <p>COMMUNICATION 1 Serial & Power, 1 Radio Modem Port, Integrated Bluetooth& Wi-fi etc.</p> <p>POWER SUPPLY Rechargeable Battery (backup >7 hrs More)/removable/ Li-ion each, External battery 9 V to 18 V with 30hrs</p>	No.	01	90 Days from award of contract	

	<p>INBUILT IMU BASED TILT COMPENSATION</p> <p>GNSS-Receivers should have Tilt compensation.</p> <ol style="list-style-type: none"> Measure accurate points without leveling the pole, making surveying in areas such as, tree, building corner accurate, fast and easy. Pole tilting -GNSS-Receiver should have 20°-30° tilting feature on either side of pole. <p>CONTROLLER SPECIFICATION</p> <p>Keyboard with Display, Internal Memory & Communication Full Alphanumeric Hard QWERTY with Numeric keyboard for numbering & function short keys. Minimum 5" Touch screen LCD/HD display with 5MP Camera with Flash inbuilt GPS for Reconnaissance Survey, Cellular modem, Battery status.</p> <p>Processor 1Ghz or better, RAM 1GB or more, Memory 4/ 8GB for Storage or better, external memory 16GB or better Bluetooth, Wi-fi, USB etc.</p> <p>Operating temp -20 deg C to 60 deg C</p> <p>MIL STD MIL-STD-810H/810F</p> <p>Operating system and Windows</p> <p>Battery backup 14 hrs./Li-ion each, in case single battery could not support 14 hours continuous operation, additional internal batteries and Dual Slot battery chargers or multiple chargers should be provided.</p> <p>ONBOARD CONTROLLER FEATURE</p> <p>The software should be able to log data for all the signals tracked & Static, Fast Static, RTK. Graphical Stake Automatic survey (by distance, by time Satellite view status (quality, position, sky view, satellites list, PDOP, HDOP, Line, polygon, area calculation, National grids, System settings (units, precision, parameters, COGO Functionality.</p> <p>Accept Background maps of JPEG/TIFF, DXF/DWG.</p> <p>Import / Export: to industry standard formats like CSV, DXF, Export CSV, DXF & KML etc. Data formats input and outputs</p> <p>CMR: CMR+, CMRX, NTRIP, input and outputs, Network RTK corrections from VRS, FKP and MAC/IMAX solution through NTRIP protocol RTCM: RTCM2, RTCM 3.0 RTCM 3.2</p> <p>POST PROCESSING & DRAWING SOFTWARE</p> <ul style="list-style-type: none"> ❖ The software should be a combined software capable of handling the GPS, TPS data ❖ Post processing: Processing of raw data of all signals like GPS GLONASS, GLONASS, and BEIDOU ETC and combined. ❖ Import & Export to RINEX Formats, ❖ Export to industry standard formats Like DXF, CSV & KML etc. ❖ Should be able to handle RTK data and be able to Process RTK data. ❖ Inbuilt CAD Platform Calculate distance & Angle between points, Line Joining, polygon, text, circle, etc. ❖ Automatic Survey Rep Ort Generation. ❖ Automatic contour generation, 3D visualization L-X section, Grid Plan, Traverse Adjustment, Area & volume calculation etc. <p>FOLLWING ACCESSORIES to be SUPPLIED (1 Base + 2 Rover)</p> <ul style="list-style-type: none"> ❖ GNSS Receiver 3nos. ❖ Minimum Li-ion Battery 6nos. ❖ Charger 3nos (Dual Slot or 2 no Charger with each Unit/ Receiver) ❖ Controller with battery & charger – 2nos. ❖ Controller Software 2 License. ❖ Data communication cable 3nos ❖ Tripod, Tribrach and Adaptor 3nos. ❖ Wooden tripod – 3nos ❖ Range Pole 2.5 Carbon Fiber 4nos. ❖ Bipod for carbon fiber pole -2nos. 				
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	<ul style="list-style-type: none">❖ Hard Plastic carrying case 3nos.❖ External Power Cable with 12v battery with cable -1nos. GNSS DATA Post Processing & DWG Software perpetual License LAPTOP: One number branded laptop with Scanner with 16 GB RAM or higher and 1 TB SSD hard disk Intel core i7 processor or higher. Suitable for scanner DATA acquisition and processing work having windows 10 or above OS (Pre loader with CD or DVD,) 15 inch or bigger screen, 8 GB NVidia or higher graphics card, internal/external USB port, USBMI Port, Lan Port, Mouse, WI-FI accessibility, battery for 4 hours or more Backup, Charger, bag				
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PART 3 - Contract

Section VI - General Conditions of Contract

1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) “GoUK” means the Government of Uttarakhand.
- (b) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- (e) “Day” means calendar day.
- (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) “GCC” means the General Conditions of Contract.
- (h) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (i) “Purchaser’s Country” is India.
- (j) “Purchaser” means the entity purchasing the Goods and Related Services, as **specified in the SCC**.
- (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, start-up, training and initial maintenance and other such obligations of the Supplier under the Contract.

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- (l) “SCC” means the Special Conditions of Contract.
 - (m) “Supplier” means the person, private or government entity, or a combination of the above, whose Bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
 - (n) “The Project Site,” where applicable, means the place named in the SCC.

2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.

2. Contract Documents

3.1 The ULMMC requires compliance with the GoUK’s Anti-Corruption Guidelines and its prevailing sanctions policies and procedures.

3. Fraud and Corruption

3.2 The Purchaser requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the Bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

4. Interpretation

4.1 If the context so requires it, singular means plural and vice versa.

4.2 Incoterms

- (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties there under shall be as prescribed by Incoterms **specified in the SCC**.
- (b) The terms EXW and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the **SCC** and published by the International Chamber of Commerce in Paris, France.

4.3 Entire Agreement

The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.

4.4 Amendment

No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

4.5 Nonwaiver

- (c) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (d) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.6 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

5. Language

- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be English. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified, in which case, for purposes of interpretation of the Contract, this translation shall govern.
- 5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

6 Notices

- 6.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the SCC. The term “in writing” means communicated in written form with proof of receipt.
- 6.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

7 Governing Law

- 7.1 The Contract shall be governed by and interpreted in accordance with the laws of the Union of India.

8 Settlement of Disputes

- 8.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 8.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.
- 8.3 Notwithstanding any reference to arbitration herein,
 - (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
 - (b) the Purchaser shall pay the Supplier any monies due the Supplier.

9 Inspections and Audit by the ULMHC

- 9.1 The Supplier shall keep and shall make all reasonable efforts to keep, accurate and systematic accounts and records in respect of the Goods in such form and details as will clearly identify relevant time changes and costs.

9.2 Pursuant to paragraph 2.2 e. of Appendix to the General Conditions the Supplier shall permit, the ULMMC and/or persons appointed by the ULMMC to inspect the Site and/or the accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the ULMMC if requested by the ULMMC. The Supplier's attention is drawn to Sub-Clause 3.1 which provides, inter alia, that acts intended to materially impede the exercise of the ULMMC's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the ULMMC's prevailing sanctions procedures).

10 Scope of Supply

10.1 The Goods and Related Services to be supplied shall be as specified in the Special Conditions of Contract.

11 Delivery and Documents

11.1 Subject to GCC Sub-Clause 30.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the SCC.

12 Supplier's Responsibilities

12.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 10, and the Delivery and Completion Schedule, as per GCC Clause 11.

13 Contract Price

13.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its Bid, with the exception of any price adjustments authorized in the SCC.

14 Terms of Payment

14.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the SCC.

14.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.

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- 14.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 14.4 The payments shall be made in Indian Rupees to the Supplier under this Contract.
- 15 Taxes and Duties**
- 15.1 The Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- 16 Performance Security**
- 16.1 If required as specified in the SCC, the Supplier shall, within twenty-one (21) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the SCC.
- 16.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 16.3 As specified in the SCC, the Performance Security, if required, shall be denominated in the Indian Rupees, and shall be in the format stipulated by the Purchaser in the SCC.
- 16.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the SCC.
- 17 Copyright**
- 17.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party
- 18 Confidential Information**
- 18.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract.

- 18.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.
- 18.3 The obligation of a party under GCC Sub-Clauses 18.1 and 18.2 above, however, shall not apply to information that:
- (a) the Purchaser or Supplier need to share with the GoUK or other institutions participating in the financing of the Contract;
 - (b) now or hereafter enters the public domain through no fault of that party;
 - (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
 - (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.
- 18.4 The above provisions of GCC Clause 18 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.
- 18.5 The provisions of GCC Clause 18 shall survive completion or termination, for whatever reason, of the Contract.

19 Specifications and Standards

19.1 Technical Specifications and Drawings

- (a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VII, Schedule of Requirements.
- (b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.
- (c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 30.

20 Packing and Documents

- 20.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 20.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the SCC, and in any other instructions ordered by the Purchaser.

21 Insurance

- 21.1 Unless otherwise specified in the SCC, the Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the SCC

22 Transportation and Incidental Services

- 22.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the supplier.
- 22.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in Schedule of Requirements and **SCC**:
- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
 - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
 - (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
 - (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 22.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services

23 Inspections and Tests

- 23.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the **SCC**.
- 23.2 The inspections and tests may be conducted on the premises of the Supplier, at point of delivery, and/or at the Goods' final destination, or in another place in the Purchaser's Country as specified in the **SCC**. Subject to GCC Sub-Clause 23.3, if conducted on the premises of the Supplier, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 23.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub- Clause 23.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.

- 23.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- 23.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 23.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 23.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 23.4.
- 23.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 23.6, shall release the Supplier from any warranties or other obligations under the Contract.

24 Liquidated Damages

24.1 Except as provided under GCC Clause 29, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in those SCC. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 32.

25 Warranty

- 25.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract
- 25.2 Subject to GCC Sub-Clause 19.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.
- 25.3 Unless otherwise specified in the SCC, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the SCC, or for eighteen (18) months after the date of shipment, whichever period concludes earlier.
- 25.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 25.5 Upon receipt of such notice, the Supplier shall, within the period specified in the SCC, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 25.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the SCC, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

26 Patent Indemnity

26.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 26.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

26.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 26.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

26.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.

26.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

26.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees and officers, from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

27 Limitation of Liability

27.1 Except in cases of criminal negligence or willful misconduct,

- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
- (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the Purchaser with respect to patent infringement

28 Change in Laws and Regulations

28.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in India where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause

29 Force Majeure

29.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

29.2 For purposes of this Clause, “Force Majeure” means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

29.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

30 Change Orders and Contract Amendments

30.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (c) the place of delivery; and
- (d) the Related Services to be provided by the Supplier.

30.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier’s performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier’s receipt of the Purchaser’s change order.

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- 30.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.
- 30.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

31 Extensions of Time

- 31.1 If at any time during performance of the Contract, the Supplier should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 11, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.
- 31.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 31.1.

32 Termination

- 32.1 Termination for Default
- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:
- (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 31;
- (ii) if the Supplier fails to perform any other obligation under the Contract; or
- (iii) if the Supplier, in the judgment of the Purchaser has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix to the GCC, in competing for or in executing the Contract.

- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 32.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed,
- (c) and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

32.2 Termination for Insolvency.

- (a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser

32.3 Termination for Convenience.

- (b) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (c) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
 - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
 - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

33 Assignment

- 33.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party

Section VII - Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC 1.1(j)	The Purchaser is: Office of Director General, Uttarakhand Landslide Mitigation and Management Center (ULMMC), 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun – 248013, Uttarakhand
GCC 1.1 (o)	The Project Site(s)/Final Destination(s) is/are : Office of Director General, Uttarakhand Landslide Mitigation and Management Center (ULMMC), 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun – 248013, Uttarakhand
GCC 4.2 (a)	The meaning of the trade terms shall be as prescribed by Incoterms.
GCC 4.2 (b)	The version edition of Incoterms shall be 2020
GCC 5.1	The language shall be <i>English</i>
GCC 6.1	For <u>notices</u> , the Purchaser's address shall be: Attention: The Director General, Uttarakhand Landslide Mitigation and Management Center (ULMMC), 6th Floor, USDMA Building, IT Park, Sahastradhara Road, Dehradun- 248013, Uttarakhand PIN Code: 248013 Country: India Telephone: Electronic mail address: ulmmc.ddn@gmail.com
GCC 7.1	The governing law shall be the law of: Republic of India
GCC 8.2	The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows: Settlement of Disputes The dispute settlement mechanism to be applied shall be as follows: 1. Any and all disputes or differences between the Parties arising out of or in connection with this Contract or its performance shall, so far as it is possible be settled amicably through direct informal negotiation between the Parties. 2. If after 30 (thirty) days of consultation or before, the department and the successful bidder have failed to reach an amicable settlement, on any or all disputes or differences arising out of or in connection with this Contract or its performance, It shall be referred to Additional Chief Secretary/Principal Secretary/Secretary, Disaster Management and Rehabilitation, Uttarakhand who shall be the sole arbitrator. 3. In case of non-acceptance of the Additional Chief Secretary/Principal Secretary/Secretary, Disaster Management and Rehabilitation, Uttarakhand decision, either party may request that the dispute to be referred to arbitrator(s) in accordance with the Arbitration and Conciliation Act, 1996. All Arbitration proceedings shall be held at Uttarakhand and the language of the arbitration

	<p>proceedings and that of all documents and communications between the parties shall be in English.</p> <p>4. In case the issues are not resolved in the arbitration proceedings then further legal action by the parties shall be referred and restricted to the jurisdiction of the Court in Dehradun, Uttarakhand</p>
GCC 10.1	The scope of supply for the Goods and Related Services to be supplied shall be as specified below: <i>Goods as per details as specified in BOQ, specifications & Schedule of requirement.</i>
GCC 11.1	<p>Details of Shipping and other Documents to be furnished by the Supplier are given below:</p> <p>Upon delivery of the goods to the transporter/consignee, the supplier shall notify the purchaser and mail the following documents to the Purchaser:</p> <p>(i) Three Copies of the Supplier invoice showing contract number, goods description, quantity, unit price, total amount;</p> <p>(ii) Delivery note, or acknowledgement of receipt of goods from the Consignee;</p> <p style="text-align: center;">and</p> <p>The above documents shall be received by the Purchaser before arrival of the Goods (except where it is handed over to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.</p>
GCC 13.1	<p>The prices charged for the Goods supplied and the related Services performed <i>shall not</i> be adjustable.</p> <p>If prices are adjustable, the method used to calculate the price adjustment is given in the attachment.</p>
GCC 14.1	Payment shall be made in Indian Rupees, as follows: within 30 days of submission of invoice against the goods supplied as per agreed specification and contract condition.
GCC 14.5	NA
GCC 16.1	<p>A Performance Security <i>shall be required.</i></p> <p>Upon issuance of letter of award, the selected bidder will be liable to submit a performance security within 10 days of 10% of the Proposal amount in form of BG/FDR valid for 30 months from the date of issuance of letter of award.</p>
GCC 16.3	If required, the Performance security shall be in the form of a “Bank Guarantee” or “FDR” in favour of the Purchaser.
GCC 16.4	(a) Discharge of the Performance Security shall take place not later than 45 days following the date of completion of the Supplier’s performance obligations, under the contract.
GCC 16.5	<p>Add as Clause 16.5 to the GCC the following:</p> <p>In the event of any contractual amendment, the Supplier shall, within 28 days of receipt of such amendment, furnish the amendment to the Performance Security, rendering the same valid for the duration of the Contract, as amended for 45 days after the completion of performance obligations including warranty obligations.</p>

GCC 21.1	The Goods supplied under the Contract shall be fully insured against loss by theft, destruction or damage incidental to manufacture or acquisition, transportation, storage, fire, flood, under exposure to weather and delivery at the designated project locations, in accordance with the applicable terms. The insurance charges shall be borne by the supplier and Purchaser shall not be required to pay such charges if incurred. The goods shall be delivered at the destination (FOR -> Freight on Road) in perfect condition
GCC 22.1	The Supplier is required under the Contract to transport the Goods duly insured to the specified final destination, and all related costs shall be included in the Contract Price.
GCC 22.2	NA
GCC 23.1	Supply all the required quantities of item(s) at the office of Director General, ULMMC, 6 th Floor. USDMA Building, IT Park, Dehradun having the Specifications as provided in ' Schedule of requirement (Section V) '.
GCC 23.2	The bidder will conduct 100% quality inspection and testing to ensure that each and every item complies with the specifications given in ' Schedule of requirement (Section V) ' and ensure that there should not be any physical damage(s) and shall contain all the required goods/items accessories before declaring all goods/items as "Ready for delivery".
GCC 24.1	<p>Liquidate Damages: In case of delay in submission and completion of contract, the following liquidated damages shall be applicable:</p> <ul style="list-style-type: none"> a) Notwithstanding, Director General, ULMMC has right to cancel the order and liquidated damages at 0.5% of the cost of undelivered equipment's per site per week shall be charged for every week's delay in delivery. b) The Bidder shall complete the installation and configuration within given time frame. Any delay beyond stipulated period shall attract additional penalty @ 0.5% per week of order value. c) Director General, ULMMC reserves its right to recover these amounts by any mode such as adjusting from any payments to be made by ULMMC to the firms. d) However, Director General, ULMMC may, at its discretion, waive the liquidated damages in case the delay cannot be attributed to the Bidder.
GCC 25.3	The warranty of the product supplied by the supplier should be as per Schedule of requirement (section V)
GCC 25.5 & GCC 25.6	The supplier has to rectify the defect indicated by the purchaser within 10 days after getting notice.
GCC 28.1	NA
GCC 32	Director General, ULMMC is authorized to terminate the contract at any point of time based on administrative/public/work interest.

Section VIII- Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

Notification of Award - Letter of Acceptance

[use letterhead paper of the Purchaser]

[date]

To: *[name and address of the Supplier]*

Subject: ***Notification of Award Contract No.***

This is to notify you that your Bid dated *[insert date]* for execution of the ***[insert name of the contract and identification number, as given in the SCC]*** for the Accepted Contract Amount of ***[insert amount in numbers and words in Rupees]***, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 21 days in accordance with the Conditions of Contract, using for that purpose the Performance Security Form included in Section X, Contract Forms, of the bidding document.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

Contract Agreement

[The successful Bidder shall fill in this form in accordance with the instructions indicated]

THIS AGREEMENT made

the *[insert: **number**]* day of *[insert: **month**]*, *[insert: **year**]*.

BETWEEN

- (1) *[insert complete name of Purchaser]*, a *[insert description of type of legal entity, for example, an agency of the Ministry of..... of the Government of {insert name of Country of Purchaser}, or corporation incorporated under the laws of {insert name of Country of Purchaser}]* and having its principal place of business at *[insert address of Purchaser]* (hereinafter called “the Purchaser”), of the one part, and
- (2) *[insert name of Supplier]*, a corporation incorporated under the laws of *[insert:country of Supplier]* and having its principal place of business at *[insert:address of Supplier]* (hereinafter called “the Supplier”), of the other part:

WHEREAS the Purchaser invited Bids for certain Goods and ancillary services, viz., *[insert brief description of Goods and Services]* and has accepted a Bid by the Supplier for the supply of those Goods and Services

The Purchaser and the Supplier agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
 - (a) this Agreement
 - (b) the Letter of Acceptance
 - (c) Letter of Bid – Technical Part
 - (d) the Letter of Bid– Financial Part and original completed Schedules including Price Schedules
 - (e) the Addenda Nos. _____(if any)
 - (f) Special Conditions of Contract
 - (g) General Conditions of Contract

-
- (h) the Specification (including Schedule of Requirements and Technical Specifications)
 - (i) Joint Venture Agreement [for JVs if permitted]
 - (j) any other document listed in GCC as forming part of the Contract
1. In consideration of the payments to be made by the Purchaser to the Supplier as specified in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
 2. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

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

For and on behalf of the Purchaser

Signed: *[insert signature]*

in the capacity of *[insert title or other appropriate designation]*

In the presence of *[insert identification of official witness—name, signature, address, date]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*

in the capacity of *[insert title or other appropriate designation]*

in the presence of *[insert identification of official witness - name, signature, address, date]*

Performance Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

Performance Guarantee No *[insert guarantee reference number]*

Date *[insert date of issue of the guarantee]*

To: *[name of Purchaser]*

..... *[address of Purchaser]*

WHEREAS *[name and address of Supplier¹²]* (hereinafter called "the Applicant") has undertaken, in pursuance of Contract No. _____ dated _____ to execute *[name of Contract and brief description of Goods and related Services]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Applicant shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Applicant such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Applicant, up to a total of *[amount of guarantee¹³]* *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Applicant before presenting us with the demand.

¹²In the case of a JV, insert the name of the Joint Venture

¹³An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract and denominated in Indian Rupees.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Goods and related Services to be supplied thereunder or of any of the Contract documents which may be made between you and the Applicant shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until (i.e.) 45 days following the Completion date of the Contract including any warranty obligations¹⁴, and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date _____

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

The EMD fees is to be submitted as per RFP clause 18.1

UTTARAKHAND LANDSLIDE MITIGATION AND MANAGEMENT CENTER (ULMMC)

MINUTES OF PRE-BID MEETING

Letter no: 335/08/ULMMC/2023

Date: 28.10.2024

Package Name: Request for Bids for Procurement of Geological, Geo-technical & Geophysical Instruments for Uttarakhand Landslide Mitigation & Management, Dehradun, UTTARAKHAND

Package/Ref. No. : 02/GOODS/RFB/ULMMC/2024

Date & Time of Pre-bid Meetings: 22/10/2024 at 16:00 Hrs. IST

Employer/Client:

S. No.	Name & Designation of Officer	Organization
1.	Dr. Shantanu Sarkar, Director	ULMMC
2.	Dr. Mohit Kumar, Principal Consultant	ULMMC
3.	Er. Shiva, Executive Engineer	ULMMC
4.	Mr. Vikas, Procurement Expert	ULMMC
5.	Mr. Sarthak Chaudhary, Assistant Engineer	ULMMC

Representatives from Perspective Bidders:

S. No.	Name & Designation of Officer	Organization
1.	Mr. Amarendra Kumar, Dy. General Manager-Sales	M/s Hexagon Geosystems India Pvt Ltd
2.	Mr. Sandeep Kumar, Director- Sales & Marketing	M/s APSL Solutions LLP
3.	Mr. Prayag Raj Singh, AM – Business Development	M/s shijay projects
4.	Mr. Ankit Kumar, Application Engineer	M/s Pan India
5.	Ms. Reetika, Manager	M/s Pan India
6.	Mr. Chetn Sharma, Assistant manager	M/s shijay projects
7.	Mr. Hitesh Maheshwari, Sales Engineer	M/s Heico
8.	Mr. Pankaj Kumar, Application Engineer	M/s Aimco Solutions

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Table-1: Clarifications

S. No.	RFB Reference	Gist of the Query	Response	Reference to Sl. No. of Addendum	Remarks
1	2	3	4	5	6
1	ITB 32.1 (a) Page no. 39	Request a change in the evaluation process to be conducted on an item-wise basis in place of schedule basis. An item-wise evaluation will enable multiple bidders to participate in the process, creating a competitive environment that can lead to better pricing outcomes. In contrast, a schedule-wise evaluation often limits competition and may lead to scenarios where a single bidder gains pricing advantages due to lack of options, ultimately impacting the department's budget efficiency.	Not accepted	NA	N/A
2	Section V: Schedule of Requirement Technical Specs. 20. Complete ERT (Electrical Resistivity Tomography) survey instruments, data processing software and other accessories Pg. 55	The specifications need to be amended as: e. Number of Channel: in between 2 channels or better. f. Output Current: >2500 mA g. Output Voltage: Min + 800V and 1600V or better peak-to-peak h. Output Power: 200W or better. j. Current Measurement Precision: 0.2% or better k. Voltage Measurement Precision: 0.2% or better m. Resistivity Accuracy: 0.2% or better n. Input Impedance (+-15V): 100 Mohm or better y. Power Source: Internal rechargeable battery source with compatible charger or external source for complete resistivity imaging field survey	Not Accepted	N/A	N/A
3	Section V: Schedule of Requirement Technical Specs. 21. Complete SRT (Seismic Refraction Tomography) and MASW (Multi-Channel Analysis of	The specifications need to be amended as: a. Compact and lightweight integrated or external LCD display compatible with 48 or more channels and multiple units can be serialized. i. Should have built in or external GPS system. j. Sampling rate: 20 KHz or better. m. Distortion: 0.007% or better, so that even a minimum noise/distortion introduced into an audio signal by electronics components or systems can be taken into account.	Partially Accepted	Pls. refer Addendum-2	N/A

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S. No.	RFB Reference	Gist of the Query	Response	Reference to Sl. No. of Addendum	Remarks
1	2	3	4	5	6
	Surface wave) survey instruments, Data processing software and Rugged carrying cases for instruments and other accessories: Pg. 56	<p>n. Stacking: should have at least 900 impacts with 32 bits- Remove it</p> <p>q. Input gain: should be in the range from 0 db-47 db, or should be in the range from 0 db-52 db</p> <p>r. Reference channel: Instrument must have at least 1 additional channel as reference channel- Remove it</p> <p>u. Input Voltage Range: Changes to +/- 2.5 V (5V peak to peak) or remove it.</p> <p>x. Delay time: up to 2 minutes- Remove it</p> <p>y. Cross talk: Minimum -120 db or better- Remove it.</p> <p>cc. Velocity Analysis: Instrument should have on screen analysis of refractor velocity- Remove it.</p> <p>Software:</p> <p>b. Survey designing Software: - Graphical user interface to create 2D survey protocols for all standard and customized.</p> <p>c. Modelling and Inversion Software: - 1D, and 2D inversion with smooth and few layered models, also performing forward modelling. Software and firmware updates should be easily available and performed by the user. Tool for creating 2D sections should be there.</p>			
4	Section V: Schedule of Requirement Technical Specs. For Electronic Total Station Pg. 58	<p>The specifications need to be amended as:</p> <p>Angle Measurement Least Count: 0.1 sec, the term "least count" refers to the smallest value or increment that a measuring instrument can accurately detect and differentiate. Hence, I would suggest please allow only 0.1 sec smallest value.</p> <p>DISTANCE MEASUREMENT RANGE Measuring Time: 2.4 to 3.0 sec; Measurement range and accuracy depend on the environmental conditions. ATR (Auto Track Range): 1000 to 1500 m; As without prism measurement range has been asked the 1000m to 1500m. hence I would suggest ATR range should also be 1000-1500m. Rotating Speed Minimum 45-100 degree/sec or better; Since the Rotating speed limits the ability to capture the closest locations, I would advise setting the range to at least 45 degrees.</p> <p>FEATURE: Import Background Image & DWG file etc. Please amend as Import Background Image or DWG file etc.; Image file is feature of</p>	Partially Accepted	Pls. refer Addendum-3	N/A

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S. No.	RFB Reference	Gist of the Query	Response	Reference to Sl. No. of Addendum	Remarks
1	2	3	4	5	6
		<p>inbuilt camera in TS. Camera has not been asked in the technical specifications.</p> <p>POWER SUPPLY: Radio External Power Port External power port required: Could you please elaborate on the purpose of the external power port and radio?</p>			
5	<p>Section V: Schedule of Requirement</p> <p>Technical Specs. For MULTI FREQUENCY DGPS (Differential Global Positioning System) SYSTEMS (BASE & 2 ROVER) GNSS ANTENNA WITH LAPTOP</p> <p>Pg. 60</p>	<p>Specification:</p> <p>Controller Specification:</p> <p>Minimum 5" Touch screen LCD/HD display with 5MP Camera with Flash inbuilt GPS for Reconnaissance Survey. Request you to please remove inbuilt GPS from the controller. This is company specific. Please add a TFT LCD display as well and inbuilt distance meter so that offset can be taken in areas where physically cannot be reached in hilly terrain</p> <p>FOLLOWING ACCESSORIES to be SUPPLIED (1 Base + 2 Rover)</p> <ul style="list-style-type: none"> ❖ Charger 3nos (Dual Slot or 2 no Charger with each Unit/ Receiver) ❖ Controller with battery & charger – 2nos. <p>Please amend as 3 No Charger with Receiver and One Qty Charger for Controller.</p> <ul style="list-style-type: none"> ❖ Range Pole 2.5 Carbon Fiber 4nos: Please amend as: Range pole 2.15 ht carbon Fiber 4 No. 	Partially Accepted	Pls. refer Addendum-4	N/A

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Table-2: Addendum

S. No.	Clause No. ITB/GCC/SCC/Forms/ Specifications etc.	Existing	As Amended
1.	Section V: Schedule of Requirement Technical Specs. 5: Digital Weighing Balance (measure up to 50 KG) Pg. 52	It is used to weight soil/rock sample. Specification: ❖ Weight balance with Capacity 50 kg with 0.1 gm least count ❖ Calibration certification approved by NABL lab. ❖ Warranty period (minimum 1 year).	It is used to weight soil/rock sample. Specification: ❖ Weight balance with Capacity 50 kg with 1 KG least count. ❖ Calibration certification approved by NABL lab. ❖ Warranty period (minimum 1 year).
2.	Section V: Schedule of Requirement Technical Specs. 21: Complete SRT (Seismic Refraction Tomography) and MASW (Multi-Channel Analysis of Surface wave) survey instruments, Data processing software and Rugged carrying cases for instruments and other accessories Pg. 56	Complete SRT (Seismic Refraction Tomography) and MASW (Multi-Channel Analysis of Surface wave) survey instruments, Data processing software and Rugged carrying cases for instruments and other accessories Data Acquisition system: Acquisition system should comprise of: a. Compact and lightweight integrated LCD display compatible with 48 or more channels and multiple units can be serialized. b. Display Type: LCD with Back light facility (daylight & nightlight visibility). c. Data Measurement: Direct 2-D & 3-D imaging. d. System should be capable to provide real time data on the display e. Instrument should have facility to use the maximum number of geophones provided. f. System should be compatible of doing survey for both. g. Geophones: 50 Geophones should be provided each of frequency 10Hz (for SRT) and 4.5 Hz (for MASW). h. Dynamic range: 144db or more. i. Should have built in GPS system. j. Sampling rate: 30 kHz or better.	Complete SRT (Seismic Refraction Tomography) and MASW (Multi-Channel Analysis of Surface wave) survey instruments, Data processing software and Rugged carrying cases for instruments and other accessories Data Acquisition system: Acquisition system should comprise of: a. Compact and lightweight integrated or external LCD display compatible with 48 or more channels and multiple units can be serialized. b. Display Type: LCD with Back light facility (daylight & nightlight visibility). c. Data Measurement: Direct 2-D & 3-D imaging. d. System should be capable to provide real time data on the display e. Instrument should have facility to use the maximum number of geophones provided. f. System should be compatible of doing survey for both. g. Geophones: 50 Geophones should be provided each of frequency 10Hz (for SRT) and 4.5 Hz (for MASW). h. Dynamic range: 144db or more. i. Should have built in GPS system.

Handwritten signatures: Virendra, Dama

- k. Operating Temperature: -10 to +50 degree Centigrade.
- l. Data Conversion: 24 real bits Sigma-Delta ADC (compatible with analog geophones of any resonance frequency).
- m. Distortion: 0.001% or better, so that even a minimum noise/ distortion introduced into an audio signal by electronics components or systems can be taken into account
- n. Stacking: should have at least 900 impacts with 32 bits
- o. Unstack: Remove last shot from stack
- p. Input impedance: 2 MOhm or better..
- q. **Input gain: should be in the range of 0 db-48 db, can be selected by user**
- r. Reference channel: Instrument must have at least 1 additional channel as reference channel.
- s. Trigger input: Trigger coil, make/break, geophone, TTL. Trigger sensitivity should be software adjustable.
- t. Source: Suitable sledge hammer of 10kg for conducting shallow seismic refraction and MASW survey. Also weight drop with mounting device (preferable 30kg) to achieve depth more than 50m should be provided. The weight drop should be easy to use. The weight drop plate should also be provided.
- u. Input Voltage Range: 0.4-0.5 vpp, 5-6 vpp, 12.5-13.5 vpp, we require multiple voltage range in instrument so that a variety of sensors can be used without clipping and minimal distortion, ensuring better data quality.
- v. Anti-alias filters: set automatically based on sampling rate.
- w. Digital filters: Band-pass, low-pass, Notch filters.
- x. Delay time: up to 2 minutes.
- y. Cross talk: Minimum -120 db or better.
- z. Interface: attached screen or external screen whichever applicable.
- aa. Protection System: System must be Weatherproof, Humidity Proof & Shock Proof.

- j. **Sampling rate: 20 kHz or better.**
- k. Operating Temperature: -10 to +50 degree Centigrade.
- l. Data Conversion: 24 real bits Sigma-Delta ADC (compatible with analog geophones of any resonance frequency).
- m. Distortion: **0.007% or better**, so that even a minimum noise/ distortion introduced into an audio signal by electronics components or systems can be taken into account
- n. **Stacking: should have at least 900 impacts with 32 bits**
- o. Unstack: Remove last shot from stack
- p. Input impedance: 2 MOhm or better..
- q. **Input gain: should be in the range of 0 db-42 db or better**
- r. Reference channel: Instrument must have at least 1 additional channel as reference channel.
- s. Trigger input: Trigger coil, make/break, geophone, TTL. Trigger sensitivity should be software adjustable.
- t. Source: Suitable sledge hammer of 10kg for conducting shallow seismic refraction and MASW survey. Also weight drop with mounting device (preferable 30kg) to achieve depth more than 50m should be provided. The weight drop should be easy to use. The weight drop plate should also be provided.
- u. **Input Voltage Range: Removed**
- v. Anti-alias filters: set automatically based on sampling rate.
- w. Digital filters: Band-pass, low-pass, Notch filters.
- x. Delay time: up to 2 minutes.
- y. Cross talk: Minimum -120 db or better.
- z. Interface: attached screen or external screen whichever applicable.
- aa. Protection System: System must be Weatherproof, Humidity Proof & Shock Proof.
- bb. Communication to Desktop/Laptop through Wi-Fi/ Ethernet/ USB cables. Standard data formats, such as ASCII/CSV/DAT format and can be

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bb. Communication to Desktop/Laptop through Wi-Fi/ Ethernet/ USB cables. Standard data formats, such as ASCII/CSV/DAT format and can be portable to Excel sheet and be analyzed in standard software, such as SeisImager, or other standard software.

cc. Velocity Analysis: Instrument should have on screen analysis of refractor velocity.

dd. Battery & chargers: Built-in battery chargers for internal batteries and chargers for external batteries. Should have facility to remove internal batteries easily.

ee. Cable configuration: Seismic cable 48 takeout with 5m spacing for seismic refraction survey compatible with both the survey.

ff. Calibration files: All calibration files should be provided with the instrument.

gg. Storage: Up to 32 GB

Software and Processing methodology:

Separate package of software for processing and inverting data from seismic refraction and MASW survey should be provided. The software's should have composed of following:

a. Data Processing Methodology: - Software should comprises with elimination noise, topography correction, blocking high and unwanted data, viewing time series, pseudo section etc. The processed data should be portable to Excel Sheet. Analysis of multi acquisition Surface wave data considering both Rayleigh and Love waves (and their joint inversion), Vs30 calculation, Band- Low- High-pass filters.

b. Survey designing Software: - Graphical user interface to create 2-D and 3-D survey protocols for all standard and customized.

c. Modeling and Inversion Software: - 1D, 2D and 3D inversion with smooth and few layered models, also performing forward modelling. Software and firmware updates should be easily available and performed by the user. Tool for creating 2D sections should be there.

d. Data Transfer: - Data transfer from seismograph to PC/Laptop through Wi- Fi/ Ethernet/ USB cables or Real

portable to Excel sheet and be analyzed in standard software, such as SeisImager, or other standard software.

cc. Velocity Analysis: Removed

dd. Battery & chargers: Built-in battery chargers for internal batteries and chargers for external batteries. Should have facility to remove internal batteries easily.

ee. Cable configuration: Seismic cable 48 takeout with 5m spacing for seismic refraction survey compatible with both the survey.

ff. Calibration files: All calibration files should be provided with the instrument.

gg. Storage: Up to 32 GB

Software and Processing methodology:

Separate package of software for processing and inverting data from seismic refraction and MASW survey should be provided. The software's should have composed of following:

a. Data Processing Methodology: - Software should comprises with elimination noise, topography correction, blocking high and unwanted data, viewing time series, pseudo section etc. The processed data should be portable to Excel Sheet. Analysis of multi acquisition Surface wave data considering both Rayleigh and Love waves (and their joint inversion), Vs30 calculation, Band- Low- High-pass filters.

b. Survey designing Software: - Graphical user interface to create 2-D survey protocols for all standard and customized.

c. Modeling and Inversion Software: - 1D, and 2D inversion with smooth and few layered models, also performing forward modelling. Software and firmware updates should be easily available and performed by the user. Tool for creating 2D sections should be there.

d. Data Transfer: - Data transfer from seismograph to PC/Laptop through Wi- Fi/ Ethernet/ USB cables or Real Time Data monitoring facility. Standard data format such as ASCII/CSV/DAT format and can be portable to Excel sheet.

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		<p>Time Data monitoring facility. Standard data format such as ASCII/CSV/DAT format and can be portable to Excel sheet.</p> <p>e. All the license key along with regular update for at least 2 year should be provided.</p> <p>Other Essential Accessories:</p> <ol style="list-style-type: none"> Transportation Case: - System must be portable supplied with rugged transportation case At least two Spare rechargeable DC battery along with instrument must be provided along with a spare charger. Two sets of high-quality hammer for geophones fixing should be provided. Two set of good measuring tape of 100m each for field measurement should be provided. Two best quality multi meter for battery testing should be provided. Hard Carrying cases for instrument storage as well as transportation purposes, along with other necessary accessories required to carry out field investigations. Any other supplementary material necessary for smooth conduction of survey. <p>Training, Demonstration and Warranty</p> <ol style="list-style-type: none"> Demonstration and Training at ULMMC office premises should be provided free of the cost. Comprehensive warranty for 02 years should be quoted applicable from date of commissioning/installation. 	<p>e. All the license key along with regular update for at least 2 year should be provided.</p> <p>Other Essential Accessories:</p> <ol style="list-style-type: none"> Transportation Case: - System must be portable supplied with rugged transportation case At least two Spare rechargeable DC battery along with instrument must be provided along with a spare charger. Two sets of high-quality hammer for geophones fixing should be provided. Two set of good measuring tape of 100m each for field measurement should be provided. Two best quality multi meter for battery testing should be provided. Hard Carrying cases for instrument storage as well as transportation purposes, along with other necessary accessories required to carry out field investigations. Any other supplementary material necessary for smooth conduction of survey. <p>Training, Demonstration and Warranty</p> <ol style="list-style-type: none"> Demonstration and Training at ULMMC office premises should be provided free of the cost. Comprehensive warranty for 02 years should be quoted applicable from date of commissioning/installation.
3.	<p>Section V: Schedule of Requirement</p> <p>Technical Specs. For Electronic Total Station Pg. 58</p>	<p>ELECTRONIC TOTAL STATION</p> <p>Specification:</p> <p>ANGLE MEASUREMENT Accuracy: 1 sec Least Count: 0.1 to 0.5 sec</p> <p>TELESCOPE Magnification: >30X or better Image Erect Minimum Focus: <1.75 meter</p> <p>DISTANCE MEASUREMENT RANGE Measuring Time: 1.5sec With Single Prism: 4000 to 5500 meter or more Distance accuracy with Prism >1mm+2ppmXD</p>	<p>ELECTRONIC TOTAL STATION</p> <p>Specification:</p> <p>ANGLE MEASUREMENT Accuracy: 1 sec Least Count: 0.1 sec</p> <p>TELESCOPE Magnification: >30X or better Image Erect Minimum Focus: <1.75 meter</p> <p>DISTANCE MEASUREMENT RANGE Measuring Time With Single Prism: 4000 to 5500 meter or more Distance accuracy with Prism >1mm+2ppmXD</p>

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Without Prism Measurement on 90% reflective Surface/
Target: 1000 to 1500 Meter.

Distance accuracy without Prism: 4mm+2ppmXD or better

ATR (Auto Track Range): 600 to 1000 m

Angular Accuracy of ATR: 1 Sec.

Distance Least count: 0.1mm

Rotating Speed Minimum 100 degree/sec or better

PLUMMET: Laser/optical

FEATURE: Surveying, Layout, Height measurement, missing distance measurement, Resection, Area Calculation, Sub Area division, reference Line, COGO, Projection Systems, select Geoids, Grid to Ground, select Coordinate in order NEZ & ENZ, settings (units, precision, parameters, etc.) graphical display of Survey Data with Zoom in Zoom Out, Pan facility, polygon, line Joining, Import Background Image & DWG file etc. Auto Rotating, Locking & Target Tracking, target Monitoring with user define time interval & its direct report. Direct background maps.

ROBOTIC CONTROL UNIT/KEY BOARD/

with Field Bracket 5-inch Color, illuminated TFT, daylight readable touch screen and navigation, instrument control keys.

Illuminated Alphanumeric hard/soft key board more used definable function keys for various operation on both sides.

INTEGRATED SURVEYING

Should have facility to Integrated with GNSS with Motorized Total Station.

OPERATING SYSTEMS

Platform Window /Android or latest

COMPENSATOR:

Dual Axis or more

Compensator range + 3' or more

MEMORY for RTS

Internal Memory: 2 GB or more

External Memory: 16 GB Pen drive or more.

Without Prism Measurement on 90% reflective Surface/ Target: 1000 to 1500 Meter.

Distance accuracy without Prism: 4mm+2ppmXD or better

ATR (Auto Track Range): 600 to 1000 m or better

Angular Accuracy of ATR: 1 Sec.

Distance Least count: 0.1mm

Rotating Speed Minimum 45 degree/sec or better

PLUMMET: Laser/optical

FEATURE: Surveying, Layout, Height measurement, missing distance measurement, Resection, Area Calculation, Sub Area division, reference Line, COGO, Projection Systems, select Geoids, Grid to Ground, select Coordinate in order NEZ & ENZ, settings (units, precision, parameters, etc.) graphical display of Survey Data with Zoom in Zoom Out, Pan facility, polygon, line Joining, **Import Background Image or DWG file etc.** Auto Rotating, Locking & Target Tracking, target Monitoring with user define time interval & its direct report. Direct background maps.

ROBOTIC CONTROL UNIT/KEY BOARD/

with Field Bracket 5-inch Color, illuminated TFT, daylight readable touch screen and navigation, instrument control keys.

Illuminated Alphanumeric hard/soft key board more used definable function keys for various operation on both sides.

INTEGRATED SURVEYING

Should have facility to Integrated with GNSS with Motorized Total Station.

OPERATING SYSTEMS

Platform Window /Android or latest

COMPENSATOR:

Dual Axis or more

Compensator range + 3' or more

MEMORY for RTS

Internal Memory: 2 GB or more

External Memory: 16 GB Pen drive or more.

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	<p>DRIVES Operation: 2 Servo Endless drives (Object focusing, Horizontal & Vertical)</p> <p>GUIDE LIGHT /LUMI GUIDE Inbuilt</p> <p>COMMUNICATION Memory Stick (Pen drive) & RS232 /USB Cable.</p> <p>POWER SUPPLY:</p> <p>Operating Time Internal Battery Minimum 4-7 hrs. (Li-ion)/- each Battery single charge.</p> <p>INTERFACE-RS232, USB, Bluetooth, WLAN, Radio</p> <p>External Power Port External power port required.</p> <p>ENVIRONMENTAL CONDITION</p> <p>Operating Temp (Instruments)</p> <p>-20deg C to +50 deg C</p> <p>Dust and water protection (Instruments) IP54 or more.</p> <p>DATA DOWN LOADING (Instruments) Should Be Capable of Downloading/Uploading though Pen drive in Field.</p> <p>DATA Output Format Direct Export Survey Data in AutoCAD, DXF, CSV& TXT format, SHP, KML /KMZ etc.</p> <p>ALLACCESSORIES, Main EQUIPMENTS Should be Same OEM Make.</p> <ol style="list-style-type: none">1.Semi Motorized Total Station Instruments - 1no2.360 deg. Prism for back sighting -1no.3.Single Prism with holder- 2nos.4.2.0m Pole with bubble 2nos.5.Wooden tripod – 1no.6.Hard Plastic carrying case for RTS -1nos.7.Battery -2nos8.Dual slot Charger set -1nos.9.Carrying case -1nos.10. Software processing-1 license to process11. Background maps or on-base controller.	<p>DRIVES Operation: 2 Servo Endless drives (Object focusing, Horizontal & Vertical)</p> <p>GUIDE LIGHT /LUMI GUIDE Inbuilt</p> <p>COMMUNICATION Memory Stick (Pen drive) & RS232 /USB Cable.</p> <p>POWER SUPPLY:</p> <p>Operating Time Internal Battery Minimum 4-7 hrs. (Li-ion)/- each Battery single charge.</p> <p>INTERFACE-RS232, USB, Bluetooth, WLAN, Radio</p> <p>External Power Port/ Internal power port required.</p> <p>ENVIRONMENTAL CONDITION</p> <p>Operating Temp (Instruments)</p> <p>-20deg C to +50 deg C</p> <p>Dust and water protection (Instruments) IP54 or more</p> <p>Data Downloading (Instruments) Should Be Capable of Downloading/Uploading though Pen drive in Field.</p> <p>DATA Output Format Direct Export Survey Data in AutoCAD, DXF, CSV& TXT format, SHP, KML /KMZ etc.</p> <p>ALLACCESSORIES, Main EQUIPMENTS Should be Same OEM Make.</p> <ol style="list-style-type: none">1.Semi Motorized Total Station Instruments - 1no2.360 deg. Prism for back sighting -1no.3.Single Prism with holder- 2nos.4.2.0m Pole with bubble 2nos.5.Wooden tripod – 1no.6.Hard Plastic carrying case for RTS -1nos.7.Battery -2nos8.Dual slot Charger set -1nos.9.Carrying case -1nos.10. Software processing-1 license to process11. Background maps or on-base controller.
<p>Section V: Schedule of Requirement</p> <p>Technical Specs. For MULTI FREQUENCY DGPS (Differential Global Positioning System) SYSTEMS (BASE & 2 ROVER)</p>	<p>MULTI FREQUENCY DGPS (Differential Global Positioning System) SYSTEMS (BASE & 2 ROVER) GNSS ANTENNA WITH LAPTOP</p> <p>Specification:</p> <p>Fully Integrated Multi Frequency GNSS Antenna satellites tracking systems communication though Cable, Bluetooth.</p>	<p>MULTI FREQUENCY DGPS (Differential Global Positioning System) SYSTEMS (BASE & 2 ROVER) GNSS ANTENNA WITH LAPTOP</p> <p>Specification:</p> <p>Fully Integrated Multi Frequency GNSS Antenna satellites tracking systems communication though Cable, Bluetooth.</p>

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GNSS ANTENNA WITH
LAPTOP
Pg. 60

NO. OF CHANNELS 500 Equal or more

SATELLITE SIGNALS GPS: L1C/A, L2C, L5
GLONASS: L1C/A, L1P, L2C/A, L2P, L3
SBAS: Gagan
Galileo: E1, E5A, E5B, E5 ALTB0C, E6
BEIDOU: B1, B2, B3
NAVIC (IRNSS): L5
SBAS WAAS, EGNOS, GAGAN, MSAS

POSITION RATE 20 Hz or more

INTERNAL MEMORY

4 GB or more

Static Accuracy H: 3mm+0.1ppm, V: 3.5mm+0.4ppm

RTK Accuracy H: 8mm+1ppm, V: 15mm+1ppm

Network RTK H: 8mm+0.5ppm, V: 15mm+0.5ppm

Differential code H: 25cm, V: 50cm

RTK Communication 1. Fully Integrated GSM/GPRS Modem
& Integrated Radio modem for receive and transmit to cover
distance 3-5km radius and good network support with GSM.

INITIALIZATION TIME ≤ 5 Seconds

ENVIRONMENTAL

Temperature Operating -40°C to $+65^{\circ}\text{C}$, Storage -40°C to
 $+75^{\circ}\text{C}$

Humidity Condensing 90% or more

MIL STD MIL-STD-810 G/810F

IP65 or more

Drop 2 m onto hard surface.

Status Indicator Data logging, RTK, Battery, etc.

COMMUNICATION

1 Serial & Power, 1 Radio Modem Port, Integrated
Bluetooth & Wi-fi etc.

POWER SUPPLY

Rechargeable Battery (backup >7 hrs More)/removable/
Li-ion each, External battery 9 V to 18 V with 30hrs

NO. OF CHANNELS 500 Equal or more

SATELLITE SIGNALS GPS: L1C/A, L2C, L5
GLONASS: L1C/A, L1P, L2C/A, L2P, L3
SBAS: Gagan
Galileo: E1, E5A, E5B, E5 ALTB0C, E6
BEIDOU: B1, B2, B3
NAVIC (IRNSS): L5
SBAS WAAS, EGNOS, GAGAN, MSAS

POSITION RATE 20 Hz or more

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4 GB or more

Static Accuracy H: 3mm+0.1ppm, V: 3.5mm+0.4ppm

RTK Accuracy H: 8mm+1ppm, V: 15mm+1ppm

Network RTK H: 8mm+0.5ppm, V: 15mm+0.5ppm

Differential code H: 25cm, V: 50cm

RTK Communication 1. Fully Integrated GSM/GPRS
Modem & Integrated Radio modem for receive and
transmit to cover distance 3-5km radius and good
network support with GSM.

INITIALIZATION TIME ≤ 5 Seconds

ENVIRONMENTAL

Temperature Operating -40°C to $+65^{\circ}\text{C}$, Storage -40°C
to $+75^{\circ}\text{C}$

Humidity Condensing 90% or more

MIL STD MIL-STD-810 G/810F

IP65 or more

Drop 2 m onto hard surface.

Status Indicator Data logging, RTK, Battery, etc.

COMMUNICATION

1 Serial & Power, 1 Radio Modem Port, Integrated
Bluetooth & Wi-fi etc.

POWER SUPPLY

Rechargeable Battery (backup >7 hrs More)/removable/
Li-ion each, External battery 9 V to 18 V with 30hrs

14/10/2018 Wam

INBUILT IMU BASED TILT COMPENSATION

GNSS-Receiver should have Tilt compensation.

- a. Measure accurate points without leveling the pole, making surveying in areas such as, tree, building corner accurate, fast and easy.
- b. Pole tilting -GNSS-Receiver should have 20°-30° tilting feature on either side of pole.

CONTROLLER SPECIFICATION

Keyboard with Display, Internal Memory & Communication Full Alphanumeric Hard QWERTY with Numeric keyboard for numbering & function short keys. Minimum 5" Touch screen LCD/HD display with 5MP Camera with Flash inbuilt GPS for Reconnaissance Survey, Cellular modem, Battery status.

Processor 1Ghz or better, RAM 1GB or more, Memory 4/8GB for Storage or better, external memory 16GB or better Bluetooth, Wi-fi, USB etc.

Operating temp -20 deg C to 60 deg C

MIL STD MIL-STD-810H/810F

Operating system and Windows

Battery backup 14 hrs./Li-ion each, in case single battery could not support 14 hours continuous operation, additional internal batteries and Dual Slot battery chargers or multiple chargers should be provided.

ONBOARD CONTROLLER FEATURE

The software should be able to log data for all the signals tracked & Static, Fast Static, RTK. Graphical Stake Automatic survey (by distance, by time Satellite view status (quality, position, sky view, satellites list, PDOP, HDOP, Line, polygon, area calculation, National grids, System settings (units, precision, parameters, COGO Functionality.

Accept Background maps of JPEG/TIFF, DXF/DWG.

Import / Export: to industry standard formats like CSV, DXF, Export CSV, DXF & KML etc. Data formats input and outputs
CMR: CMR+, CMRX, NTRIP, input and outputs, Network RTK corrections from VRS, FKP and MAC/IMAX solution through NTRIP protocol RTCM: RTCM2, RTCM 3.0 RTCM 3.2

INBUILT IMU BASED TILT COMPENSATION

GNSS-Receiver should have Tilt compensation.

- a. Measure accurate points without leveling the pole, making surveying in areas such as, tree, building corner accurate, fast and easy.
- b. Pole tilting -GNSS-Receiver should have 20°-30° tilting feature on either side of pole.

CONTROLLER SPECIFICATION

Keyboard with Display, Internal Memory & Communication Full Alphanumeric Hard QWERTY with Numeric keyboard for numbering & function short keys. Minimum 5" Touch screen LCD/HD/TFT display with 5MP Camera with Flash inbuilt GPS for Reconnaissance Survey, Cellular modem, Battery status.

Processor 1Ghz or better, RAM 1GB or more, Memory 4/8GB for Storage or better, external memory 16GB or better Bluetooth, Wi-fi, USB etc.

Operating temp -20 deg C to 60 deg C

MIL STD MIL-STD-810H/810F

Operating system and Windows

Battery backup 14 hrs./Li-ion each, in case single battery could not support 14 hours continuous operation, additional internal batteries and Dual Slot battery chargers or multiple chargers should be provided.

ONBOARD CONTROLLER FEATURE

The software should be able to log data for all the signals tracked & Static, Fast Static, RTK. Graphical Stake Automatic survey (by distance, by time Satellite view status (quality, position, sky view, satellites list, PDOP, HDOP, Line, polygon, area calculation, National grids, System settings (units, precision, parameters, COGO Functionality.

Accept Background maps of JPEG/TIFF, DXF/DWG.

Import / Export: to industry standard formats like CSV, DXF, Export CSV, DXF & KML etc. Data formats input and outputs

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POST PROCESSING & DRAWING SOFTWARE

- ❖ The software should be a combined software capable of handling the GPS, TPS data
- ❖ Post processing: Processing of raw data of all signals like GPS GLONASS, GLONASS, and BEIDOU ETC and combined.
- ❖ Import & Export to RINEX Formats,
- ❖ Export to industry standard formats Like DXF, CSV & KML etc.
- ❖ Should be able to handle RTK data and be able to Process RTK data.
- ❖ Inbuilt CAD Platform Calculate distance & Angle between points, Line Joining, polygon, text, circle, etc.
- ❖ Automatic Survey Rep Ort Generation.
- ❖ Automatic contour generation, 3D visualization L-X section, Grid Plan, Traverse Adjustment, Area & volume calculation etc.

FOLLOWING ACCESSORIES to be SUPPLIED (1 Base + 2 Rover)

- ❖ GNSS Receiver 3nos.
- ❖ Minimum Li-ion Battery 6nos.
- ❖ Charger 3nos (Dual Slot or 2 no Charger with each Unit/ Receiver)
- ❖ Controller with battery & charger – 2nos.
- ❖ Controller Software 2 License.
- ❖ Data communication cable 3nos
- ❖ Tripod, Tribrach and Adaptor 3nos.
- ❖ Wooden tripod – 3nos
- ❖ Range Pole 2.5 Carbon Fiber 4nos.
- ❖ Bipod for carbon fiber pole -2nos.
- ❖ Hard Plastic carrying case 3nos.
- ❖ External Power Cable with 12v battery with cable -1nos.

GNSS DATA Post Processing & DWG Software perpetual License

LAPTOP:

One number branded laptop with Scanner with 16 GB RAM or higher and 1 TB SSD hard disk Intel core i7 processor or higher. Suitable for scanner DATA acquisition and processing work having windows 10 or above OS (Pre loader with CD or DVD,) 15 inch or bigger screen, 8 GB NVidia or higher graphics card, internal/external USB port, USDMI

CMR: CMR+, CMRX, NTRIP, input and outputs, Network RTK corrections from VRS, FKP and MAC/IMAX solution through NTRIP protocol RTCM: RTCM2, RTCM 3.0 RTCM 3.2

POST PROCESSING & DRAWING SOFTWARE

- ❖ The software should be a combined software capable of handling the GPS, TPS data
- ❖ Post processing: Processing of raw data of all signals like GPS GLONASS, GLONASS, and BEIDOU ETC and combined.
- ❖ Import & Export to RINEX Formats,
- ❖ Export to industry standard formats Like DXF, CSV & KML etc.
- ❖ Should be able to handle RTK data and be able to Process RTK data.
- ❖ Inbuilt CAD Platform Calculate distance & Angle between points, Line Joining, polygon, text, circle, etc.
- ❖ Automatic Survey Rep Ort Generation.
- ❖ Automatic contour generation, 3D visualization L-X section, Grid Plan, Traverse Adjustment, Area & volume calculation etc.

FOLLOWING ACCESSORIES to be SUPPLIED (1 Base + 2 Rover)

- ❖ GNSS Receiver 3nos.
- ❖ Minimum Li-ion Battery 6nos.
- ❖ Charger 3nos (Dual Slot or 2 no Charger with each Unit/ Receiver)
- ❖ Controller with battery & charger – 2nos.
- ❖ Controller Software 2 License.
- ❖ Data communication cable 3nos
- ❖ Tripod, Tribrach and Adaptor 3nos.
- ❖ Wooden tripod – 3nos
- ❖ Range Pole 2.15 ht Carbon Fiber 4nos.
- ❖ Bipod for carbon fiber pole -2nos.
- ❖ Hard Plastic carrying case 3nos.
- ❖ External Power Cable with 12v battery with cable - 1nos.

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		Port, Lan Port, Mouse, WI-FI accessibility, battery for 4 hours or more Backup, Charger, bag	GNSS DATA Post Processing & DWG Software perpetual License LAPTOP: One number branded laptop with Scanner with 16 GB RAM or higher and 1 TB SSD hard disk Intel core i7 processor or higher. Suitable for scanner DATA acquisition and processing work having windows 10 or above OS (Pre loader with CD or DVD,) 15 inch or bigger screen, 8 GB NVIDIA or higher graphics card, internal/external USB port, USDMI Port, Lan Port, Mouse, WI-FI accessibility, battery for 4 hours or more Backup, Charger, bag
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Note: 1. The selected firm must provide support as per specification from all the OEMs in case of any compatibility/integration issue.
2. Rest of the Terms & Conditions of the Bid Document shall remain same.

Queries of the bidder have been clarified.

Recommended By:

[Signature]
25/10/24
Procurement Expert,
ULMMC

[Signature]
APD, U-PREAPARE

[Signature]
Fe, ULMMC

[Signature]
Director General,
ULMMC
Director General
Uttarakhand Landslide Mitigation & Management Center, Dehradun

Signature Not Verified
Digital Signature by SHANTANU SARKAR
Date: 2024.10.28 14:24:41 IST
Location: Uttarakhand UT

[Signature]
25/10/24
Director,
ULMMC
(Dr. Shantanu Sarkar)
Director
Uttarakhand Landslide Mitigation & Management Center, Dehradun
ADG, ULMMC

UTTARAKHAND LANDSLIDE MITIGATION AND MANAGEMENT CENTER (ULMMC)

MINUTES OF PRE-BID MEETING

Letter no: 335/08/ULMMC/2023

Date: 28.10.2024

Package Name: Request for Bids for Procurement of Geological, Geo-technical & Geophysical Instruments for Uttarakhand Landslide Mitigation & Management, Dehradun, UTTARAKHAND

Package/Ref. No. : 02/GOODS/RFB/ULMMC/2024

Date & Time of Pre-bid Meetings: 22/10/2024 at 16:00 Hrs. IST

Employer/Client:

S. No.	Name & Designation of Officer	Organization
1.	Dr. Shantanu Sarkar, Director	ULMMC
2.	Dr. Mohit Kumar, Principal Consultant	ULMMC
3.	Er. Shiva, Executive Engineer	ULMMC
4.	Mr. Vikas, Procurement Expert	ULMMC
5.	Mr. Sarthak Chaudhary, Assistant Engineer	ULMMC

Representatives from Perspective Bidders:

S. No.	Name & Designation of Officer	Organization
1.	Mr. Amarendra Kumar, Dy. General Manager-Sales	M/s Hexagon Geosystems India Pvt Ltd
2.	Mr. Sandeep Kumar, Director- Sales & Marketing	M/s APSL Solutions LLP
3.	Mr. Prayag Raj Singh, AM – Business Development	M/s shijay projects
4.	Mr. Ankit Kumar, Application Engineer	M/s Pan India
5.	Ms. Reetika, Manager	M/s Pan India
6.	Mr. Chetn Sharma, Assistant manager	M/s shijay projects
7.	Mr. Hitesh Maheshwari, Sales Engineer	M/s Heico
8.	Mr. Pankaj Kumar, Application Engineer	M/s Aimco Solutions

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Table-1: Clarifications

S. No.	RFB Reference	Gist of the Query	Response	Reference to Sl. No. of Addendum	Remarks
1	2	3	4	5	6
1	ITB 32.1 (a) Page no. 39	Request a change in the evaluation process to be conducted on an item-wise basis in place of schedule basis. An item-wise evaluation will enable multiple bidders to participate in the process, creating a competitive environment that can lead to better pricing outcomes. In contrast, a schedule-wise evaluation often limits competition and may lead to scenarios where a single bidder gains pricing advantages due to lack of options, ultimately impacting the department's budget efficiency.	Not accepted	NA	N/A
2	Section V: Schedule of Requirement Technical Specs. 20. Complete ERT (Electrical Resistivity Tomography) survey instruments, data processing software and other accessories Pg. 55	The specifications need to be amended as: e. Number of Channel: in between 2 channels or better. f. Output Current: >2500 mA g. Output Voltage: Min + 800V and 1600V or better peak-to-peak h. Output Power: 200W or better. j. Current Measurement Precision: 0.2% or better k. Voltage Measurement Precision: 0.2% or better m. Resistivity Accuracy: 0.2% or better n. Input Impedance (+-15V): 100 Mohm or better y. Power Source: Internal rechargeable battery source with compatible charger or external source for complete resistivity imaging field survey	Not Accepted	N/A	N/A
3	Section V: Schedule of Requirement Technical Specs. 21. Complete SRT (Seismic Refraction Tomography) and MASW (Multi-Channel Analysis of	The specifications need to be amended as: a. Compact and lightweight integrated or external LCD display compatible with 48 or more channels and multiple units can be serialized. i. Should have built in or external GPS system. j. Sampling rate: 20 KHz or better. m. Distortion: 0.007% or better, so that even a minimum noise/distortion introduced into an audio signal by electronics components or systems can be taken into account.	Partially Accepted	Pls. refer Addendum-2	N/A

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S. No.	RFB Reference	Gist of the Query	Response	Reference to Sl. No. of Addendum	Remarks
1	2	3	4	5	6
	Surface wave) survey instruments, Data processing software and Rugged carrying cases for instruments and other accessories: Pg. 56	<p>n. Stacking: should have at least 900 impacts with 32 bits- Remove it</p> <p>q. Input gain: should be in the range from 0 db-47 db, or should be in the range from 0 db-52 db</p> <p>r. Reference channel: Instrument must have at least 1 additional channel as reference channel- Remove it</p> <p>u. Input Voltage Range: Changes to +/- 2.5 V (5V peak to peak) or remove it.</p> <p>x. Delay time: up to 2 minutes- Remove it</p> <p>y. Cross talk: Minimum -120 db or better- Remove it.</p> <p>cc. Velocity Analysis: Instrument should have on screen analysis of refractor velocity- Remove it.</p> <p>Software:</p> <p>b. Survey designing Software: - Graphical user interface to create 2D survey protocols for all standard and customized.</p> <p>c. Modelling and Inversion Software: - 1D, and 2D inversion with smooth and few layered models, also performing forward modelling. Software and firmware updates should be easily available and performed by the user. Tool for creating 2D sections should be there.</p>			
4	Section V: Schedule of Requirement Technical Specs. For Electronic Total Station Pg. 58	<p>The specifications need to be amended as:</p> <p>Angle Measurement Least Count: 0.1 sec, the term "least count" refers to the smallest value or increment that a measuring instrument can accurately detect and differentiate. Hence, I would suggest please allow only 0.1 sec smallest value.</p> <p>DISTANCE MEASUREMENT RANGE Measuring Time: 2.4 to 3.0 sec; Measurement range and accuracy depend on the environmental conditions. ATR (Auto Track Range): 1000 to 1500 m; As without prism measurement range has been asked the 1000m to 1500m. hence I would suggest ATR range should also be 1000-1500m. Rotating Speed Minimum 45-100 degree/sec or better; Since the Rotating speed limits the ability to capture the closest locations, I would advise setting the range to at least 45 degrees.</p> <p>FEATURE: Import Background Image & DWG file etc. Please amend as Import Background Image or DWG file etc.; Image file is feature of</p>	Partially Accepted	Pls. refer Addendum-3	N/A

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S. No.	RFB Reference	Gist of the Query	Response	Reference to Sl. No. of Addendum	Remarks
1	2	3	4	5	6
		<p>inbuilt camera in TS. Camera has not been asked in the technical specifications.</p> <p>POWER SUPPLY: Radio External Power Port External power port required: Could you please elaborate on the purpose of the external power port and radio?</p>			
5	<p>Section V: Schedule of Requirement</p> <p>Technical Specs. For MULTI FREQUENCY DGPS (Differential Global Positioning System) SYSTEMS (BASE & 2 ROVER) GNSS ANTENNA WITH LAPTOP</p> <p>Pg. 60</p>	<p>Specification:</p> <p>Controller Specification:</p> <p>Minimum 5" Touch screen LCD/HD display with 5MP Camera with Flash inbuilt GPS for Reconnaissance Survey. Request you to please remove inbuilt GPS from the controller. This is company specific. Please add a TFT LCD display as well and inbuilt distance meter so that offset can be taken in areas where physically cannot be reached in hilly terrain</p> <p>FOLLOWING ACCESSORIES to be SUPPLIED (1 Base + 2 Rover)</p> <ul style="list-style-type: none"> ❖ Charger 3nos (Dual Slot or 2 no Charger with each Unit/ Receiver) ❖ Controller with battery & charger – 2nos. <p>Please amend as 3 No Charger with Receiver and One Qty Charger for Controller.</p> <ul style="list-style-type: none"> ❖ Range Pole 2.5 Carbon Fiber 4nos: Please amend as: Range pole 2.15 ht carbon Fiber 4 No. 	Partially Accepted	Pls. refer Addendum-4	N/A

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Table-2: Addendum

S. No.	Clause No. ITB/GCC/SCC/Forms/ Specifications etc.	Existing	As Amended
1.	Section V: Schedule of Requirement Technical Specs. 5: Digital Weighing Balance (measure up to 50 KG) Pg. 52	It is used to weight soil/rock sample. Specification: ❖ Weight balance with Capacity 50 kg with 0.1 gm least count ❖ Calibration certification approved by NABL lab. ❖ Warranty period (minimum 1 year).	It is used to weight soil/rock sample. Specification: ❖ Weight balance with Capacity 50 kg with 1 KG least count. ❖ Calibration certification approved by NABL lab. ❖ Warranty period (minimum 1 year).
2.	Section V: Schedule of Requirement Technical Specs. 21: Complete SRT (Seismic Refraction Tomography) and MASW (Multi-Channel Analysis of Surface wave) survey instruments, Data processing software and Rugged carrying cases for instruments and other accessories Pg. 56	Complete SRT (Seismic Refraction Tomography) and MASW (Multi-Channel Analysis of Surface wave) survey instruments, Data processing software and Rugged carrying cases for instruments and other accessories Data Acquisition system: Acquisition system should comprise of: a. Compact and lightweight integrated LCD display compatible with 48 or more channels and multiple units can be serialized. b. Display Type: LCD with Back light facility (daylight & nightlight visibility). c. Data Measurement: Direct 2-D & 3-D imaging. d. System should be capable to provide real time data on the display e. Instrument should have facility to use the maximum number of geophones provided. f. System should be compatible of doing survey for both. g. Geophones: 50 Geophones should be provided each of frequency 10Hz (for SRT) and 4.5 Hz (for MASW). h. Dynamic range: 144db or more. i. Should have built in GPS system. j. Sampling rate: 30 kHz or better.	Complete SRT (Seismic Refraction Tomography) and MASW (Multi-Channel Analysis of Surface wave) survey instruments, Data processing software and Rugged carrying cases for instruments and other accessories Data Acquisition system: Acquisition system should comprise of: a. Compact and lightweight integrated or external LCD display compatible with 48 or more channels and multiple units can be serialized. b. Display Type: LCD with Back light facility (daylight & nightlight visibility). c. Data Measurement: Direct 2-D & 3-D imaging. d. System should be capable to provide real time data on the display e. Instrument should have facility to use the maximum number of geophones provided. f. System should be compatible of doing survey for both. g. Geophones: 50 Geophones should be provided each of frequency 10Hz (for SRT) and 4.5 Hz (for MASW). h. Dynamic range: 144db or more. i. Should have built in GPS system.

Handwritten signatures: *Vijay* *Wanna*

- k. Operating Temperature: -10 to +50 degree Centigrade.
- l. Data Conversion: 24 real bits Sigma-Delta ADC (compatible with analog geophones of any resonance frequency).
- m. Distortion: 0.001% or better, so that even a minimum noise/ distortion introduced into an audio signal by electronics components or systems can be taken into account
- n. Stacking: should have at least 900 impacts with 32 bits
- o. Unstack: Remove last shot from stack
- p. Input impedance: 2 MOhm or better..
- q. **Input gain: should be in the range of 0 db-48 db, can be selected by user**
- r. Reference channel: Instrument must have at least 1 additional channel as reference channel.
- s. Trigger input: Trigger coil, make/break, geophone, TTL. Trigger sensitivity should be software adjustable.
- t. Source: Suitable sledge hammer of 10kg for conducting shallow seismic refraction and MASW survey. Also weight drop with mounting device (preferable 30kg) to achieve depth more than 50m should be provided. The weight drop should be easy to use. The weight drop plate should also be provided.
- u. Input Voltage Range: 0.4-0.5 vpp, 5-6 vpp, 12.5-13.5 vpp, we require multiple voltage range in instrument so that a variety of sensors can be used without clipping and minimal distortion, ensuring better data quality.
- v. Anti-alias filters: set automatically based on sampling rate.
- w. Digital filters: Band-pass, low-pass, Notch filters.
- x. Delay time: up to 2 minutes.
- y. Cross talk: Minimum -120 db or better.
- z. Interface: attached screen or external screen whichever applicable.
- aa. Protection System: System must be Weatherproof, Humidity Proof & Shock Proof.

- j. **Sampling rate: 20 kHz or better.**
- k. Operating Temperature: -10 to +50 degree Centigrade.
- l. Data Conversion: 24 real bits Sigma-Delta ADC (compatible with analog geophones of any resonance frequency).
- m. Distortion: **0.007% or better**, so that even a minimum noise/ distortion introduced into an audio signal by electronics components or systems can be taken into account
- n. **Stacking: should have at least 900 impacts with 32 bits**
- o. Unstack: Remove last shot from stack
- p. Input impedance: 2 MOhm or better..
- q. **Input gain: should be in the range of 0 db-42 db or better**
- r. Reference channel: Instrument must have at least 1 additional channel as reference channel.
- s. Trigger input: Trigger coil, make/break, geophone, TTL. Trigger sensitivity should be software adjustable.
- t. Source: Suitable sledge hammer of 10kg for conducting shallow seismic refraction and MASW survey. Also weight drop with mounting device (preferable 30kg) to achieve depth more than 50m should be provided. The weight drop should be easy to use. The weight drop plate should also be provided.
- u. **Input Voltage Range: Removed**
- v. Anti-alias filters: set automatically based on sampling rate.
- w. Digital filters: Band-pass, low-pass, Notch filters.
- x. Delay time: up to 2 minutes.
- y. Cross talk: Minimum -120 db or better.
- z. Interface: attached screen or external screen whichever applicable.
- aa. Protection System: System must be Weatherproof, Humidity Proof & Shock Proof.
- bb. Communication to Desktop/Laptop through Wi-Fi/ Ethernet/ USB cables. Standard data formats, such as ASCII/CSV/DAT format and can be

Vikas Visup Wahan

bb. Communication to Desktop/Laptop through Wi-Fi/ Ethernet/ USB cables. Standard data formats, such as ASCII/CSV/DAT format and can be portable to Excel sheet and be analyzed in standard software, such as SeisImager, or other standard software.

cc. Velocity Analysis: Instrument should have on screen analysis of refractor velocity.

dd. Battery & chargers: Built-in battery chargers for internal batteries and chargers for external batteries. Should have facility to remove internal batteries easily.

ee. Cable configuration: Seismic cable 48 takeout with 5m spacing for seismic refraction survey compatible with both the survey.

ff. Calibration files: All calibration files should be provided with the instrument.

gg. Storage: Up to 32 GB

Software and Processing methodology:

Separate package of software for processing and inverting data from seismic refraction and MASW survey should be provided. The software's should have composed of following:

a. Data Processing Methodology: - Software should comprises with elimination noise, topography correction, blocking high and unwanted data, viewing time series, pseudo section etc. The processed data should be portable to Excel Sheet. Analysis of multi acquisition Surface wave data considering both Rayleigh and Love waves (and their joint inversion), Vs30 calculation, Band- Low- High-pass filters.

b. Survey designing Software: - Graphical user interface to create 2-D and 3-D survey protocols for all standard and customized.

c. Modeling and Inversion Software: - 1D, 2D and 3D inversion with smooth and few layered models, also performing forward modelling. Software and firmware updates should be easily available and performed by the user. Tool for creating 2D sections should be there.

d. Data Transfer: - Data transfer from seismograph to PC/Laptop through Wi- Fi/ Ethernet/ USB cables or Real

portable to Excel sheet and be analyzed in standard software, such as SeisImager, or other standard software.

cc. Velocity Analysis: Removed

dd. Battery & chargers: Built-in battery chargers for internal batteries and chargers for external batteries. Should have facility to remove internal batteries easily.

ee. Cable configuration: Seismic cable 48 takeout with 5m spacing for seismic refraction survey compatible with both the survey.

ff. Calibration files: All calibration files should be provided with the instrument.

gg. Storage: Up to 32 GB

Software and Processing methodology:

Separate package of software for processing and inverting data from seismic refraction and MASW survey should be provided. The software's should have composed of following:

a. Data Processing Methodology: - Software should comprises with elimination noise, topography correction, blocking high and unwanted data, viewing time series, pseudo section etc. The processed data should be portable to Excel Sheet. Analysis of multi acquisition Surface wave data considering both Rayleigh and Love waves (and their joint inversion), Vs30 calculation, Band- Low- High-pass filters.

b. Survey designing Software: - Graphical user interface to create 2-D survey protocols for all standard and customized.

c. Modeling and Inversion Software: - 1D, and 2D inversion with smooth and few layered models, also performing forward modelling. Software and firmware updates should be easily available and performed by the user. Tool for creating 2D sections should be there.

d. Data Transfer: - Data transfer from seismograph to PC/Laptop through Wi- Fi/ Ethernet/ USB cables or Real Time Data monitoring facility. Standard data format such as ASCII/CSV/DAT format and can be portable to Excel sheet.

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		<p>Time Data monitoring facility. Standard data format such as ASCII/CSV/DAT format and can be portable to Excel sheet.</p> <p>e. All the license key along with regular update for at least 2 year should be provided.</p> <p>Other Essential Accessories:</p> <ol style="list-style-type: none"> Transportation Case: - System must be portable supplied with rugged transportation case At least two Spare rechargeable DC battery along with instrument must be provided along with a spare charger. Two sets of high-quality hammer for geophones fixing should be provided. Two set of good measuring tape of 100m each for field measurement should be provided. Two best quality multi meter for battery testing should be provided. Hard Carrying cases for instrument storage as well as transportation purposes, along with other necessary accessories required to carry out field investigations. Any other supplementary material necessary for smooth conduction of survey. <p>Training, Demonstration and Warranty</p> <ol style="list-style-type: none"> Demonstration and Training at ULMMC office premises should be provided free of the cost. Comprehensive warranty for 02 years should be quoted applicable from date of commissioning/installation. 	<p>e. All the license key along with regular update for at least 2 year should be provided.</p> <p>Other Essential Accessories:</p> <ol style="list-style-type: none"> Transportation Case: - System must be portable supplied with rugged transportation case At least two Spare rechargeable DC battery along with instrument must be provided along with a spare charger. Two sets of high-quality hammer for geophones fixing should be provided. Two set of good measuring tape of 100m each for field measurement should be provided. Two best quality multi meter for battery testing should be provided. Hard Carrying cases for instrument storage as well as transportation purposes, along with other necessary accessories required to carry out field investigations. Any other supplementary material necessary for smooth conduction of survey. <p>Training, Demonstration and Warranty</p> <ol style="list-style-type: none"> Demonstration and Training at ULMMC office premises should be provided free of the cost. Comprehensive warranty for 02 years should be quoted applicable from date of commissioning/installation.
3.	<p>Section V: Schedule of Requirement</p> <p>Technical Specs. For Electronic Total Station Pg. 58</p>	<p>ELECTRONIC TOTAL STATION</p> <p>Specification:</p> <p>ANGLE MEASUREMENT Accuracy: 1 sec Least Count: 0.1 to 0.5 sec</p> <p>TELESCOPE Magnification: >30X or better Image Erect Minimum Focus: <1.75 meter</p> <p>DISTANCE MEASUREMENT RANGE Measuring Time: 1.5sec With Single Prism: 4000 to 5500 meter or more Distance accuracy with Prism >1mm+2ppmXD</p>	<p>ELECTRONIC TOTAL STATION</p> <p>Specification:</p> <p>ANGLE MEASUREMENT Accuracy: 1 sec Least Count: 0.1 sec</p> <p>TELESCOPE Magnification: >30X or better Image Erect Minimum Focus: <1.75 meter</p> <p>DISTANCE MEASUREMENT RANGE Measuring Time With Single Prism: 4000 to 5500 meter or more Distance accuracy with Prism >1mm+2ppmXD</p>

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Without Prism Measurement on 90% reflective Surface/
Target: 1000 to 1500 Meter.

Distance accuracy without Prism: 4mm+2ppmXD or better

ATR (Auto Track Range): 600 to 1000 m

Angular Accuracy of ATR: 1 Sec.

Distance Least count: 0.1mm

Rotating Speed Minimum 100 degree/sec or better

PLUMMET: Laser/optical

FEATURE: Surveying, Layout, Height measurement, missing distance measurement, Resection, Area Calculation, Sub Area division, reference Line, COGO, Projection Systems, select Geoids, Grid to Ground, select Coordinate in order NEZ & ENZ, settings (units, precision, parameters, etc.) graphical display of Survey Data with Zoom in Zoom Out, Pan facility, polygon, line Joining, Import Background Image & DWG file etc. Auto Rotating, Locking & Target Tracking, target Monitoring with user define time interval & its direct report. Direct background maps.

ROBOTIC CONTROL UNIT/KEY BOARD/

with Field Bracket 5-inch Color, illuminated TFT, daylight readable touch screen and navigation, instrument control keys.

Illuminated Alphanumeric hard/soft key board more used definable function keys for various operation on both sides.

INTEGRATED SURVEYING

Should have facility to Integrated with GNSS with Motorized Total Station.

OPERATING SYSTEMS

Platform Window /Android or latest

COMPENSATOR:

Dual Axis or more

Compensator range + 3' or more

MEMORY for RTS

Internal Memory: 2 GB or more

External Memory: 16 GB Pen drive or more.

Without Prism Measurement on 90% reflective Surface/ Target: 1000 to 1500 Meter.

Distance accuracy without Prism: 4mm+2ppmXD or better

ATR (Auto Track Range): 600 to 1000 m or better

Angular Accuracy of ATR: 1 Sec.

Distance Least count: 0.1mm

Rotating Speed Minimum 45 degree/sec or better

PLUMMET: Laser/optical

FEATURE: Surveying, Layout, Height measurement, missing distance measurement, Resection, Area Calculation, Sub Area division, reference Line, COGO, Projection Systems, select Geoids, Grid to Ground, select Coordinate in order NEZ & ENZ, settings (units, precision, parameters, etc.) graphical display of Survey Data with Zoom in Zoom Out, Pan facility, polygon, line Joining, **Import Background Image or DWG file etc.** Auto Rotating, Locking & Target Tracking, target Monitoring with user define time interval & its direct report. Direct background maps.

ROBOTIC CONTROL UNIT/KEY BOARD/

with Field Bracket 5-inch Color, illuminated TFT, daylight readable touch screen and navigation, instrument control keys.

Illuminated Alphanumeric hard/soft key board more used definable function keys for various operation on both sides.

INTEGRATED SURVEYING

Should have facility to Integrated with GNSS with Motorized Total Station.

OPERATING SYSTEMS

Platform Window /Android or latest

COMPENSATOR:

Dual Axis or more

Compensator range + 3' or more

MEMORY for RTS

Internal Memory: 2 GB or more

External Memory: 16 GB Pen drive or more.

Handwritten signature

Handwritten signature

		<p>DRIVES Operation: 2 Servo Endless drives (Object focusing, Horizontal & Vertical)</p> <p>GUIDE LIGHT / LUMI GUIDE Inbuilt</p> <p>COMMUNICATION Memory Stick (Pen drive) & RS232 / USB Cable.</p> <p>POWER SUPPLY:</p> <p>Operating Time Internal Battery Minimum 4-7 hrs. (Li-ion)/- each Battery single charge.</p> <p>INTERFACE-RS232, USB, Bluetooth, WLAN, Radio</p> <p>External Power Port External power port required.</p> <p>ENVIRONMENTAL CONDITION</p> <p>Operating Temp (Instruments)</p> <p>-20deg C to +50 deg C</p> <p>Dust and water protection (Instruments) IP54 or more.</p> <p>DATA DOWN LOADING (Instruments) Should Be Capable of Downloading/Uploading though Pen drive in Field.</p> <p>DATA Output Format Direct Export Survey Data in AutoCAD, DXF, CSV & TXT format, SHP, KML / KMZ etc.</p> <p>ALL ACCESSORIES, Main EQUIPMENTS Should be Same OEM Make.</p> <ol style="list-style-type: none"> 1. Semi Motorized Total Station Instruments - 1no 2. 360 deg. Prism for back sighting - 1no. 3. Single Prism with holder - 2nos. 4. 2.0m Pole with bubble 2nos. 5. Wooden tripod - 1no. 6. Hard Plastic carrying case for RTS - 1nos. 7. Battery - 2nos 8. Dual slot Charger set - 1nos. 9. Carrying case - 1nos. 10. Software processing - 1 license to process 11. Background maps or on-base controller. 	<p>DRIVES Operation: 2 Servo Endless drives (Object focusing, Horizontal & Vertical)</p> <p>GUIDE LIGHT / LUMI GUIDE Inbuilt</p> <p>COMMUNICATION Memory Stick (Pen drive) & RS232 / USB Cable.</p> <p>POWER SUPPLY:</p> <p>Operating Time Internal Battery Minimum 4-7 hrs. (Li-ion)/- each Battery single charge.</p> <p>INTERFACE-RS232, USB, Bluetooth, WLAN, Radio</p> <p>External Power Port/ Internal power port required.</p> <p>ENVIRONMENTAL CONDITION</p> <p>Operating Temp (Instruments)</p> <p>-20deg C to +50 deg C</p> <p>Dust and water protection (Instruments) IP54 or more</p> <p>Data Downloading (Instruments) Should Be Capable of Downloading/Uploading though Pen drive in Field.</p> <p>DATA Output Format Direct Export Survey Data in AutoCAD, DXF, CSV & TXT format, SHP, KML / KMZ etc.</p> <p>ALL ACCESSORIES, Main EQUIPMENTS Should be Same OEM Make.</p> <ol style="list-style-type: none"> 1. Semi Motorized Total Station Instruments - 1no 2. 360 deg. Prism for back sighting - 1no. 3. Single Prism with holder - 2nos. 4. 2.0m Pole with bubble 2nos. 5. Wooden tripod - 1no. 6. Hard Plastic carrying case for RTS - 1nos. 7. Battery - 2nos 8. Dual slot Charger set - 1nos. 9. Carrying case - 1nos. 10. Software processing - 1 license to process 11. Background maps or on-base controller.
	<p>Section V: Schedule of Requirement</p> <p>Technical Specs. For MULTI FREQUENCY DGPS</p> <p>(Differential Global Positioning System) SYSTEMS (BASE & 2 ROVER)</p>	<p>MULTI FREQUENCY DGPS</p> <p>(Differential Global Positioning System) SYSTEMS (BASE & 2 ROVER) GNSS ANTENNA WITH LAPTOP</p> <p>Specification:</p> <p>Fully Integrated Multi Frequency GNSS Antenna satellites tracking systems communication though Cable, Bluetooth.</p>	<p>MULTI FREQUENCY DGPS</p> <p>(Differential Global Positioning System) SYSTEMS (BASE & 2 ROVER) GNSS ANTENNA WITH LAPTOP</p> <p>Specification:</p> <p>Fully Integrated Multi Frequency GNSS Antenna satellites tracking systems communication though Cable, Bluetooth.</p>

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GNSS ANTENNA WITH
LAPTOP
Pg. 60

NO. OF CHANNELS 500 Equal or more

SATELLITE SIGNALS GPS: L1C/A, L2C, L5
GLONASS: L1C/A, L1P, L2C/A, L2P, L3
SBAS: Gagan
Galileo: E1, E5A, E5B, E5 ALTB0C, E6
BEIDOU: B1, B2, B3
NAVIC (IRNSS): L5
SBAS WAAS, EGNOS, GAGAN, MSAS

POSITION RATE 20 Hz or more

INTERNAL MEMORY

4 GB or more

Static Accuracy H: 3mm+0.1ppm, V: 3.5mm+0.4ppm

RTK Accuracy H: 8mm+1ppm, V: 15mm+1ppm

Network RTK H: 8mm+0.5ppm, V: 15mm+0.5ppm

Differential code H: 25cm, V: 50cm

RTK Communication 1. Fully Integrated GSM/GPRS Modem
& Integrated Radio modem for receive and transmit to cover
distance 3-5km radius and good network support with GSM.

INITIALIZATION TIME ≤ 5 Seconds

ENVIRONMENTAL

Temperature Operating -40°C to $+65^{\circ}\text{C}$, Storage -40°C to
 $+75^{\circ}\text{C}$

Humidity Condensing 90% or more

MIL STD MIL-STD-810 G/810F

IP65 or more

Drop 2 m onto hard surface.

Status Indicator Data logging, RTK, Battery, etc.

COMMUNICATION

1 Serial & Power, 1 Radio Modem Port, Integrated
Bluetooth & Wi-fi etc.

POWER SUPPLY

Rechargeable Battery (backup >7 hrs More)/removable/
Li-ion each, External battery 9 V to 18 V with 30hrs

NO. OF CHANNELS 500 Equal or more

SATELLITE SIGNALS GPS: L1C/A, L2C, L5
GLONASS: L1C/A, L1P, L2C/A, L2P, L3
SBAS: Gagan
Galileo: E1, E5A, E5B, E5 ALTB0C, E6
BEIDOU: B1, B2, B3
NAVIC (IRNSS): L5
SBAS WAAS, EGNOS, GAGAN, MSAS

POSITION RATE 20 Hz or more

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4 GB or more

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Modem & Integrated Radio modem for receive and
transmit to cover distance 3-5km radius and good
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Temperature Operating -40°C to $+65^{\circ}\text{C}$, Storage -40°C
to $+75^{\circ}\text{C}$

Humidity Condensing 90% or more

MIL STD MIL-STD-810 G/810F

IP65 or more

Drop 2 m onto hard surface.

Status Indicator Data logging, RTK, Battery, etc.

COMMUNICATION

1 Serial & Power, 1 Radio Modem Port, Integrated
Bluetooth & Wi-fi etc.

POWER SUPPLY

Rechargeable Battery (backup >7 hrs More)/removable/
Li-ion each, External battery 9 V to 18 V with 30hrs

14/10/2018 Wam

INBUILT IMU BASED TILT COMPENSATION

GNSS-Receiver should have Tilt compensation.

- a. Measure accurate points without leveling the pole, making surveying in areas such as, tree, building corner accurate, fast and easy.
- b. Pole tilting -GNSS-Receiver should have 20°-30° tilting feature on either side of pole.

CONTROLLER SPECIFICATION

Keyboard with Display, Internal Memory & Communication Full Alphanumeric Hard QWERTY with Numeric keyboard for numbering & function short keys. Minimum 5" Touch screen LCD/HD display with 5MP Camera with Flash inbuilt GPS for Reconnaissance Survey, Cellular modem, Battery status.

Processor 1Ghz or better, RAM 1GB or more, Memory 4/8GB for Storage or better, external memory 16GB or better Bluetooth, Wi-fi, USB etc.

Operating temp -20 deg C to 60 deg C

MIL STD MIL-STD-810H/810F

Operating system and Windows

Battery backup 14 hrs./Li-ion each, in case single battery could not support 14 hours continuous operation, additional internal batteries and Dual Slot battery chargers or multiple chargers should be provided.

ONBOARD CONTROLLER FEATURE

The software should be able to log data for all the signals tracked & Static, Fast Static, RTK. Graphical Stake Automatic survey (by distance, by time Satellite view status (quality, position, sky view, satellites list, PDOP, HDOP, Line, polygon, area calculation, National grids, System settings (units, precision, parameters, COGO Functionality.

Accept Background maps of JPEG/TIFF, DXF/DWG.

Import / Export: to industry standard formats like CSV, DXF, Export CSV, DXF & KML etc. Data formats input and outputs
CMR: CMR+, CMRX, NTRIP, input and outputs, Network RTK corrections from VRS, FKP and MAC/IMAX solution through NTRIP protocol RTCM: RTCM2, RTCM 3.0 RTCM 3.2

INBUILT IMU BASED TILT COMPENSATION

GNSS-Receiver should have Tilt compensation.

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Processor 1Ghz or better, RAM 1GB or more, Memory 4/8GB for Storage or better, external memory 16GB or better Bluetooth, Wi-fi, USB etc.

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MIL STD MIL-STD-810H/810F

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Accept Background maps of JPEG/TIFF, DXF/DWG.

Import / Export: to industry standard formats like CSV, DXF, Export CSV, DXF & KML etc. Data formats input and outputs

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POST PROCESSING & DRAWING SOFTWARE

- ❖ The software should be a combined software capable of handling the GPS, TPS data
- ❖ Post processing: Processing of raw data of all signals like GPS GLONASS, GLONASS, and BEIDOU ETC and combined.
- ❖ Import & Export to RINEX Formats,
- ❖ Export to industry standard formats Like DXF, CSV & KML etc.
- ❖ Should be able to handle RTK data and be able to Process RTK data.
- ❖ Inbuilt CAD Platform Calculate distance & Angle between points, Line Joining, polygon, text, circle, etc.
- ❖ Automatic Survey Rep Ort Generation.
- ❖ Automatic contour generation, 3D visualization L-X section, Grid Plan, Traverse Adjustment, Area & volume calculation etc.

FOLLOWING ACCESSORIES to be SUPPLIED (1 Base + 2 Rover)

- ❖ GNSS Receiver 3nos.
- ❖ Minimum Li-ion Battery 6nos.
- ❖ Charger 3nos (Dual Slot or 2 no Charger with each Unit/ Receiver)
- ❖ Controller with battery & charger – 2nos.
- ❖ Controller Software 2 License.
- ❖ Data communication cable 3nos
- ❖ Tripod, Tribrach and Adaptor 3nos.
- ❖ Wooden tripod – 3nos
- ❖ Range Pole 2.5 Carbon Fiber 4nos.
- ❖ Bipod for carbon fiber pole -2nos.
- ❖ Hard Plastic carrying case 3nos.
- ❖ External Power Cable with 12v battery with cable -1nos.

GNSS DATA Post Processing & DWG Software perpetual License

LAPTOP:

One number branded laptop with Scanner with 16 GB RAM or higher and 1 TB SSD hard disk Intel core i7 processor or higher. Suitable for scanner DATA acquisition and processing work having windows 10 or above OS (Pre loader with CD or DVD,) 15 inch or bigger screen, 8 GB NVidia or higher graphics card, internal/external USB port, USDMI

CMR: CMR+, CMRX, NTRIP, input and outputs, Network RTK corrections from VRS, FKP and MAC/IMAX solution through NTRIP protocol RTCM: RTCM2, RTCM 3.0 RTCM 3.2

POST PROCESSING & DRAWING SOFTWARE

- ❖ The software should be a combined software capable of handling the GPS, TPS data
- ❖ Post processing: Processing of raw data of all signals like GPS GLONASS, GLONASS, and BEIDOU ETC and combined.
- ❖ Import & Export to RINEX Formats,
- ❖ Export to industry standard formats Like DXF, CSV & KML etc.
- ❖ Should be able to handle RTK data and be able to Process RTK data.
- ❖ Inbuilt CAD Platform Calculate distance & Angle between points, Line Joining, polygon, text, circle, etc.
- ❖ Automatic Survey Rep Ort Generation.
- ❖ Automatic contour generation, 3D visualization L-X section, Grid Plan, Traverse Adjustment, Area & volume calculation etc.

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- ❖ GNSS Receiver 3nos.
- ❖ Minimum Li-ion Battery 6nos.
- ❖ Charger 3nos (Dual Slot or 2 no Charger with each Unit/ Receiver)
- ❖ Controller with battery & charger – 2nos.
- ❖ Controller Software 2 License.
- ❖ Data communication cable 3nos
- ❖ Tripod, Tribrach and Adaptor 3nos.
- ❖ Wooden tripod – 3nos
- ❖ Range Pole 2.15 ht Carbon Fiber 4nos.
- ❖ Bipod for carbon fiber pole -2nos.
- ❖ Hard Plastic carrying case 3nos.
- ❖ External Power Cable with 12v battery with cable - 1nos.

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		Port, Lan Port, Mouse, WI-FI accessibility, battery for 4 hours or more Backup, Charger, bag	GNSS DATA Post Processing & DWG Software perpetual License LAPTOP: One number branded laptop with Scanner with 16 GB RAM or higher and 1 TB SSD hard disk Intel core i7 processor or higher. Suitable for scanner DATA acquisition and processing work having windows 10 or above OS (Pre loader with CD or DVD,) 15 inch or bigger screen, 8 GB NVidia or higher graphics card, internal/external USB port, USDMI Port, Lan Port, Mouse, WI-FI accessibility, battery for 4 hours or more Backup, Charger, bag
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Note: 1. The selected firm must provide support as per specification from all the OEMs in case of any compatibility/integration issue.
2. Rest of the Terms & Conditions of the Bid Document shall remain same.

Queries of the bidder have been clarified.

Recommended By:

[Signature]
25/10/24
Procurement Expert,
ULMMC

[Signature]
APD, U-PREAPARE

[Signature]
Fe, ULMMC

[Signature]
Director General,
ULMMC
Director General
Uttarakhand Landslide Mitigation &
Management Centre, Dehradun

[Signature]
25/10/24
Director,
ULMMC
Dr. Shantanu Sarkar
Director
Uttarakhand Landslide Mitigation &
Management Center, Dehradun
ADG, ULMMC