

REQUEST FOR PROPOSAL

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Request for Proposal

Invitation for Quotations for Carrying out Geotechnical Studies in connection with new BG line between New Bhuj to Mandvi. (58.55 Km) {New Bhuj - Sukhpur existing BG line - 11.13 Km & Sukhpur – Mandvi proposed new BG line - 47.42 Km} on Ahmedabad Division of Western Railway.

Tender Reference No. DIMTS/Railways/WR/2023-24/31

September, 2023

Delhi Integrated Multi-Modal Transit System Limited
(DIMTS)

(A JV of Govt. of NCT of Delhi and IDFC Foundation)

8th floor, Block 1, Delhi Technology Park, Shastri Park, Delhi –
110053(India).

Letter Inviting Quotations

Letter No. DIMTS/Railways/WR/2023-24/31.

Date: 25/09/2023

Subject: - Invitation for Quotations for Carrying out Geotechnical Studies connection with new BG line between New Bhuj to Mandvi. (58.55 Km) {New Bhuj - Sukhpur existing BG line - 11.13 Km & Sukhpur – Mandvi proposed new BG line - 47.42 Km} on Ahmedabad Division of Western Railway.

- i. M/s DIMTS Ltd. invites sealed quotations for agencies for assisting DIMTS for the subject work. Last date and time for submission of quotations is up to 15:00 Hrs on 29.09.2023
- ii. **Scope of work:** The work is to be carried out as per scope of work and technical specifications.

Description of Site: Conducting Geotechnical Studies in connection new BG line between New Bhuj to Mandvi. (58.55 Km) {New Bhuj - Sukhpur existing BG line - 11.13 Km & Sukhpur – Mandvi proposed new BG line - 47.42 Km} on Ahmedabad Division of Western Railway

The agency should familiar itself with the present site condition before providing quotations.

- iii. **Completion Time:** Completion period for the said work will be 60 days from date of LOA.
- iv. **Timeline Schedule:**
 - a) The date of letter of award should be considered as date of start of work. The successful agency is required to organize the work immediate effect from date of issue of letter.
 - b) The schedule for the said work needs to be submitted in Bar Chart format before start of the work.
 - c) Execution of work on site is to be completed in 45 days.
 - d) The execution of work on site should be done in stretches of approx. 50 kms parallelly for faster execution by deployment of multiple teams.
 - e) Multiple teams need to be deployed along the stretch for faster completion of work.
 - f) Delivery of report and data should be in continuous manner after a period of 10 - 15 days from execution of GT work in the field, as per instructions issued by Engineer-in-charge.

v. **Bid Validity:**

- a) The validity of this bid is for a period of 45 days from the date of Publishing.

2. **QUALIFICATION CRITERIA**

- i. The bidder should have satisfactorily completed in its own name at least one work of similar nature of minimum value of INR 25.00 lakhs (Twenty-five Lakhs only) or three works of minimum value of INR 10 lakhs each (Ten Lakhs only). Similar nature of works implies work related to Geotechnical Investigation work for Railway/Highway projects.
- ii. Only such works shall be considered which are 100% physically completed in all respect and the completion certificate issued by client is to be furnished from client along with certificate of TDS deduction.
- iii. The bidder shall submit the details of such completed works in the form of experience certificate from client indicating the name of work, description of work done by the bidder, the value of contract executed, date of start, date of completion etc. as per the format given in **Annexure C**.
- iv. Credential certificate issued by Govt. organization / Semi Govt. organizations / Public sector undertakings / Autonomous bodies of Central / State Govt. / Municipal Bodies/ Public Ltd. companies listed on share market shall only be accepted for accessing the eligibility of bidder. The certificate issued from the company listed under Stock Exchange must be supported by TDS certificate issued by the company.
- v. Bidder is not eligible if DIMTS/any Govt./Semi Govt "company/entity" has terminated the contract within last three financial years and the current year.
- vi. Financial Credentials supported by Financial Certificate/CA certificate shall be submitted by the bidder. The average financial turnover should not be less than Rs. 50 lakhs per annum over last three financial years.

3. **SUBMISSION OF TENDER**

The tender is invited for Two Packet envelope system. The bidder is required to submit the quotations for technical proposal and financial proposal in separate sealed and labelled envelopes. The same is to be sent in a single labelled envelope at following office address:

Mr. Arvind Kr. Shrivastava

Address: M/s Delhi Integrated Multi Modal Transit System Limited, 8th Floor, Block -1, Delhi Technology Park, Shastri Park, New Delhi – 110053.

M/s DIMTS shall not be responsible for any delay in delivery of sealed packed Envelopes. Technical proposal from the quotations will be opened and evaluated. Further, the financial proposals of only technically qualified bidders will be opened.

4. EARNEST MONEY DEPOSIT (EMD)

- i. Bidders need to submit Earnest Money Deposit of INR 50,000.00/- (Fifty thousand only) in form of DD or FDR in separate sealed and labelled envelope along with financial proposal. The DD shall favor **“Delhi Integrated Multi Modal Transit System Limited, Delhi”**.
- ii. For successful bidder, EMD will be retained as initial security deposit for due and faithful fulfilment of the contract.

5. TERMS AND CONDITIONS:

- a) Contractor shall set out the work according to the plan and as directed by the Engineer or his representative. Reference pegs shall be fixed and kept clear of all obstructions. Sub-Contractor shall obtain the approval in writing from the Engineer for the correctness of the setting out and the reference marks before commencing the actual execution of the work.
- b) Cost of all materials, tools, plants, equipment, sheds etc. required for the work and all charges on account of their transportation, handling, erecting, dismantling after work shall be included in the rates quoted by Sub-contractor and no extra payment will be made for these. The rates quoted shall include cost of all ancillary items of work, if any, to complete the work as described in the stipulated duration of time and no extra payment shall be admissible on this account.
- c) The Engineer will have the right to inspect any or all the equipment's of the contractor before starting the work or at any time during the progress of the work and the contractor shall remove from site and not use any such equipment's as have been found unsuitable.
- d) During the course of work, the contractor shall afford all facilities, at his own expense, to the Engineer for inspecting the works, taking measurements and for all other activities as found necessary by the Engineer.
- e) The data/report/ submission of deliverables must be as per standards and satisfactory to the Client.
- f) The contractor shall make accessible to the Engineer all the laboratory equipment's, records, testing of samples etc. at all times during the progress of the work. The Client reserves the right to post full time or part time, one or more of their representatives in the laboratory of the contractor in order to ensure proper supervision of the work.

6. CONDITIONS FOR WORK:

FOR BORING/DRILLING WORKS-

- a) Bore holes shall be of 150mm nominal diameter. In non-rocky strata the bore hole is to be extended by shell and auger or any other approved method but wash boring or percussion boring shall not be adopted under any circumstances. The boring and drilling work shall be carried out as per IS: 1892-1962.
- b) The casing pipe shall be with smooth joints. Elevations of various strata and all levels that

are recorded and referred to shall be with respect to the benchmark to be given at any nearby convenient location by the Engineer.

- c) During the boring/drilling operation, all samples shall be systematically collected, correctly identified and properly stored and record properly in the field register.
- d) As soon as a bore hole is completed, the contractor shall submit to the Engineer in duplicate a field record of the boring made including identification report of soil stratum by approved field identification procedure as per IS code 1498-1970. In addition, a daily progress chart of the work shall be submitted giving the above information.
- e) While boring/ drilling, it shall be ensured that the casing does not advance ahead of the bore hole under any circumstances.
- f) Before conducting penetration tests or collection of samples from the bore hole, the bottom of the borehole shall be thoroughly cleaned. Cleaning may ordinarily be done by suitable clean-out augers, sand pumps or bailers, Cleaning shall extend to the edge of the casing and shall preferably be slightly deeper than the casing end.

FOR UNDISTURBED SAMPLES-

- a) Undisturbed soil samples of 100 mm dia. shall be taken as per IS 2132-1972 soon after the bore hole has been cleaned. It shall be sealed and labelled properly as provided in the referred IS Code. For non-cohesive soils, soil samples may be taken as per IS 1892-1962 or any other approved method.

FOR ROCK SAMPLES-

- a) Rock core samples of 50 mm dia. shall be taken form drill cores and the samples shall be marked to indicate their original position and orientation with respect to the parent rock mass. The samples shall be properly sealed by wax, labelled and stored immediately after collection so that these are moisture proof. They shall be sent for testing in a glass jar or wooden box with saw dust.

FOR LABORATORY TEST:

- a) On Soil samples-
 - i) Natural Moisture Content and NCC
 - ii) Atterberg Limit
 - iii) Specific gravity
 - iv) Particle Size Distribution
 - v) Direct Shear Test
 - vi) Triaxial test
 - vii) Natural density
 - viii) Unconfined compression test
 - ix) Consolidation test
- b) On Rock Samples-

- i) Water Absorption
 - ii) Specific Gravity
 - iii) UCS
 - iv) Determination of Modulus of Elasticity and Poisson's Ratio
 - v) Point load test
 - vi) Density & Porosity
- c) The type of actual tests required for each sample and other details shall be given from time to time by the Engineer to the contractor as the work progresses. The Engineer reserves the right to test some of the samples in his own laboratory or any other laboratory other than the contractor's at his own discretion.
 - d) The handling of samples, testing, reporting etc. shall be done as per the latest relevant IS Specifications.
 - e) Test result shall be submitted to the Engineer on day-to-day basis as the tests get completed.
 - f) Geotagged Image of Daily progress along with Various stages of Boring and other activity has to be shared as Daily progress report. DIMTS may nominate its representative to monitor the same. All details of whole work have to be submitted BH No wise in Hard disk as Trackable format with Base KMZ/KML file.

7. DELIVERABLES INCLUDE:

REPORTS TO BE SUBMITTED:

- a) After completion of the work the contractor shall submit the results of tests on regular intervals (or on demand of DIMTS) on various samples of each bore hole in a proper tabular form as per relevant IS codes along with his detailed Report in three copies.
- b) The Geotechnical Detailed Report format has to be prior approved from DIMTS as per applicable format.
- c) The Bore materials should be properly packed, preserved in core boxes and submitted to client as per IS Codes and the instruction of the client.

8. PROGRESS OF WORK AND COMPLETION SCHEDULE

- a) The Sub-Contractor should mobilize and commence the works with immediate effect from receipt of Work Order/LOA unless otherwise notified separately by DIMTS and should complete the works within 02 months from date of LOA.
- b) Sub-Contractor hereby agrees that time is of the essence. Therefore, The Sub-Contract Works are to be completed within the Sub-Contract Period.
- c) The Sub-Contractor has to submit detailed plan within 03 days from the date of LOA and the rate of progress will be monitored on fortnightly basis or as per requirement of DIMTS. Any shortfall/failure to achieve the required progress will be notified to the Sub-Contractor and Sub-Contractor shall submit a recovery plan within 03 Days for acceptance by DIMTS and adhere to the same.

9. METHODOLOGY AND ACCURACY STANDARDS

The Sub-contractor shall submit the detailed methodology within 3 days from LOA for carrying out work. This shall cover the details of equipment and specifications which shall be used for conducting various activities and completing the same in stipulated time.

The methodology shall also detail the equipment's relative accuracy ranges for taking up these works in compliance to the relevant technical specifications.

10. TERMS OF PAYMENT

1. The Sub-contractor is entitled for payments from time to time on back-to-back basis. DIMTS will pay the respective amounts within 30 days from the receipts of payment from Railway/Client for approved item of work.
2. 90% of due Payment will be released within 30 days and balance 10% (security deposit which will be deducted against each progressive bills till it reached to 5% of contract value) shall be released after 6 months of completion of work and submission of all related documents/data/inputs towards statutory compliances as applicable
3. No mobilization advance will be paid to shortlisted Sub-contractor.

11. PRICE VARIATION

In case of variation in quantity, revised rate approved by client as per GCC (General Conditions of Contract) of Indian Railway shall be applicable to contractor as follows:

- 1) Quantities operated in excess of 125% but up to 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender.
- 2) Quantities operated in excess of 140% but up to 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender.
- 3) Variation in quantities of individual items beyond 150% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender

12. SECURITY DEPOSITS

Security Money will be recovered from progressive bills @10% of the bill amount till it reaches 5% of contract value. The same shall be released after 6 months of completion of work and submission of all related documents/data/inputs towards statutory compliances as applicable.

13. QUANTITY VARIATION/AMENDMENT

This Work Order may be modified only by a written instrument duly executed by both of

us. All amendments and other modification hereof shall be in writing and shall be signed by both of us.

DIMTS reserves its right to vary quantities in Sub-Contractor scope to any extent. Unit rates will vary as per Price variation clause as state above. In case of unsatisfactory performance of the Sub-Contractor, DIMTS reserves the right to short close the work order at any particular time without any compensation.

14. QUALITY

Quality of works shall be as per the specifications of main contract and to the full satisfaction of DIMTS, Railway. It will be the sole responsibility of Sub-contractor to get acceptance of DIMTS for all the works executed as per the scope on different stages of works from the client. Any items of works carried out in bad workmanship or with defective materials, shall be rejected and Sub-Contractor shall not have any claim on the rejected work and should immediately redo/ repair the work at their own cost without any claim for extension of time or payment. The cost towards implementation of Standard Quality Plan will be to Sub-Contractor 's account.

15. SAFETY

Sub-Contractor should arrange for own PPE gear for his workmen and should also follow safety guidelines of Client (RAILWAY). It shall be the contractor's responsibility to take adequate precautions regarding safety of man and machineries including Licenses, Vehicle fitness report and other required as per Safety guidelines of client and applicable Rules/Laws. Any penalty levied by Employer on DIMTS due to safety lapses/violation of the sub-contractor shall be recovered from the dues of the sub-contract.

16. INSURANCE

Any insurance required for sub-contractor for his resources (Equipment's, Tools and manpower etc.) is in the scope of sub-contractor and shall be included in his rates

17. TAXES

Unit Price shall be inclusive of all applicable taxes, Duties, royalty etc. except GST, which is separately payable. Vendor has to submit the GST Challans for previous bill along with the next bill for processing of RA Bill.

18. LIQUIDATED DAMAGES

If the Sub-Contractor fails to complete the works within the specified time, Sub-Contractor

is liable to pay liquidated damages computed @ 0.5% per week of the Sub-Contract Price. The aggregate amount of such liquidated damages shall in no event exceed 10% of the Sub-Contract price.

19. GUARANTEE /WARRANTEE AND DEFECT LIABILITY PERIOD

The Sub-contractor shall strictly follow the Specifications, good engineering and construction practices to carry out the Works. The sub-contractor warrants that the construction material and workmanship shall be free from defects during the defect liability period which shall be 6 (Six) months from date of completion of work. In the event the sub-contractor fails to remove the defects within the time specified by the Employer /DIMTS, then DIMTS may proceed to remove such defects at the risk and cost of the sub-contractor and recover the amount from the bank guarantees or other dues of the sub-contractor.

20. RISK PURCHASE

In the event of failure of the sub-contractor to execute the order as per terms and conditions herein stipulated, a notice shall be given by DIMTS to improve the progress and/or increase resources or remedy any breach. If no corrective action is taken, within the time stipulated in the said notice, by the Sub-Contractor, DIMTS reserves the right to terminate the Work order in part or full and may get such works executed at the risk and cost of the Sub-Contractor. The Sub-contractor shall have no claims whatsoever against DIMTS for idling/delays etc. unless specified otherwise in this Work Order. It is also agreed that the sub-contract can be assigned to the Employer in the event of termination of the main Contract by the Employer.

21. GENERAL CONDITIONS

- a) It shall be noted by the Sub-contractor that where the work involves working in cultivated fields, bushes/high grass fields, river portion, the Survey Sub-contractor shall adopt all precautionary measures to safeguard life, property, structures, environment etc. and arrange permission of local authorities at its own cost and the rates shall include cost of all such measures. The safety norms for working in the river channel shall be ensured. All staff and instruments which shall be deployed for work by the Sub-contractor shall be insured prior to deployment. In case of any eventuality M/s DIMTS will not be responsible for any loss or damage to life and property of the manpower and equipment deployed by the Sub-contractor. Nothing extra will be paid on account of this by M/s DIMTS. The Sub-contractor will take adequate measures to ensure that there is no delay of work under any of the above circumstances.
- b) The Sub-contractor shall have no claim for compensation in case of delay/disruption in works due to obstruction in work by local people/villagers, strikes that may take place

during the progress of work. M/s DIMTS shall not be responsible for any loss or damage to the Sub-contractor's personnel, material, equipment, tools and plants for any cause whatsoever.

- c) The Sub-contractor shall make his own arrangements for the approaches for carrying his own equipment, tools, plants, labor and material etc. The Sub-contractor shall sort out any dispute for compensation for damage to the Govt/Private properties during GT work without involving M/s DIMTS.
- d) The Sub-contractor will not be allowed to further sub-let the work or any part thereof allotted to him without prior written permission of M/s DIMTS.
- e) The Sub-contractor and his representative shall carry a valid identity proof during the execution of work at site.
- f) With respect to their employees or assignees, the Sub-contractor shall be solely responsible for strictly following all Labour Laws, Industrial Laws, Factories Act, Contract Labour (Regulations & Abolition) Act, Minimum Wages Act, Payment of Bonus Act, Payment of Gratuity Act, Provident Fund Act, Workmen Compensation Act and such other laws which are applicable from time to time, including but not limited to the modification, amendments on additions which are made to these laws during the period of contract. The Sub-contractor shall have to, at his own expenses, comply with labour laws and keep DIMTS indemnified in respect thereof.
- g) Sub-contractor shall be fully responsible for all matters arising out of the performance of the contract and shall comply, at their own expenses, with all laws /acts/enactments/ orders/ regulations/ statutory obligations, whatsoever of the Government of India, State Government, Local Self Government or any Statutory Authority.
- h) In case of breach of contract on account of the vendor, the agreement shall be treated as null and void and the respective amount as EMD and SD shall be forfeited/encased. DIMTS reserve his rights to do so and any legal/ arbitral proceedings shall be entertained in jurisdictions of Delhi – NCR.
- i) If the contract is foreclosed or determined by Client/Railway, this contract shall also be liable to be foreclosed or determined, at sole discretion of DIMTS without any damage/compensation, payable to contractor.
- j) DIMTS shall have a right to terminate this Work Order without assigning any reason at any time

22. SPECIAL CONDITIONS

- a) The Laboratory for Testing on Soil and rock Sample should be accredited from National Accreditation Board for Testing and Calibration Laboratories (NABL). The Certificate for the accreditation needs to be provided along with the tender documents.
- b) The bidder must have calibrated instruments as per the specifications mentioned in

Annexure A.

- c) The contractor should appoint a qualified graduate engineer at every site of the ongoing work. Failure to do so will result in deduction of 10% of the payment amount.

23. SIGNING OF "NO CLAIM" CERTIFICATE

The Sub-contractor shall not be entitled to make any claim whatsoever against M/s DIMTS under or by virtue of or arising out of the contract, nor shall the M/s DIMTS entertain or consider any such claim if made by the contractor after he shall have signed a "No Claim certificate" in favor of the M/s DIMTS in such form as stipulated, after the works are finally measured up. The contractor shall be debarred from disputing the correctness of any item covered by the "No claim Certificate" or demanding a reference to arbitration in respect thereof.

- a) The bidder, whose bid has been accepted, will be notified of the award of work by the M/s DIMTS by issue of a Letter of Acceptance prior to expiration of the validity of the quotation.
- b) The Letter of Acceptance will be issued in duplicate. One copy of Letter of Acceptance shall be returned duly signed and stamped. The Letter of Acceptance shall be a binding contract between the M/s DIMTS and the contractor.

24. DISPUTES

All disputes relating to this RFP or on any issue whether arising during the progress of the work or after the completion or abandonment thereof or any matter directly or indirectly connected with the work shall in the first place be referred to a sole conciliator appointed / nominated by CEO, DIMTS on receipt of such request from either party. The arbitration proceedings shall be governed by Indian Arbitration and Conciliation Act, 1996.

25. FORCE MAJEURE:

'Force Majeure' as embodied in this contract shall mean, war declared or undeclared, civil war, forest fire, major flood and earthquake, pandemic situation, lockdown imposed by Government as herein or in the contract documents expressly provided. Only the existence of 'force majeure' circumstances as defined in this clause hereof shall afford the GT Sub-contractor a ground for extension of time for or any operation(s) involved therein, but inclement or unforeseen weather, strike, shutdown, third-party breach, delay in payment or commercial hardship shall not afford the Sub-contractor. a ground for extension of time or relieve the Sub-contractor of his/her obligations under the contract, nor will any shutdown or late time charges be payable by the client to the Sub-contractor for any delay in the commencement, progress or completion of the work due to any reason whatsoever, inclusive due to the existence of force majeure circumstances.

As soon as the cause of Force Majeure is removed, the party, whose ability to perform its obligations has been affected, shall notify the other of such cessation and the actual delay incurred in such affected activity producing necessary evidence in support thereof. From the dates of occurrence of a case of Force Majeure, obligations of the party affected shall be suspended during the continuance of such inability so caused until the cause itself and the inability resulting there from have been removed and the agreed time of completion of the respective obligations under this contract shall stand extended by a period equal to the period of delay occasioned by such events.

Should one or both parties be prevented from fulfilling the contractual obligations by a state of Force Majeure lasting for a period of six months or more, the two parties shall consult each other and decide regarding the future execution of this contract.

Arvind Kr. Shrivastava

Consultant

RAILWAYS/ DIMTS

Encl:

1. Forms (Annexure A, B and C)
2. Financial Proposal (Scope of Work)

Annexure A

Details of Plant and Machinery already available with the firm

S.No	Particulars of Equipment, Plant/ Machinery	No. of Unit	Kind and make	Capacity	Date by which the plant/ machinery would be available for use of this work	Age & Condition
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1						
2						
3						
4						
5						
6						
7						

This is to certify that all equipment indicated from S. No (---) to S. No (---) is available with the firm.

Date:

Signature of Tenderer/s with seal

Annexure B

List of Engineers/ Personnel already available/ proposed to be employed for deployment on this work:

S.No	Name & Designation	Qualification	Professional Experience	Organization with whom working	Date by which personnel will be available for this work
(1)	(2)	(3)	(4)	(5)	(6)
1					
2					
3					
4					
5					
6					

Date:

Signature of Tenderer/s with seal

Annexure C

Statement of work executed/ completed by the contractors

S. No	Name and Place of Work	Authority/ agency for which work was carried out	Date of award & agreement no.	Date of completion (original/ actual)	Agreement/ Completion Cost	Principal/ technical features work in brief	Page No. at which relevant certificate/ documents are attached
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1							
2							
3							
4							
5							
6							

Date:

Signature of Tenderer/s with seal

Financial Proposal

Scope of Work for Project: - Carrying out Geotechnical Studies in connection with new BG line between New Bhuj to Mandvi. (58.55 Km) {New Bhuj - Sukhpur existing BG line - 11.13 Km & Sukhpur – Mandvi proposed new BG line - 47.42 Km} on Ahmedabad Division of Western Railway.

S.No.	Description	Unit	Qty	Rate	Amount
1	Exploratory drilling of boreholes down to required depth, drilling of 150mm dia. boreholes in all type of soils except hard rock & large boulders (boulder core more than 30cm) including refilling, reinstating surface and disposing off surplus material including use of mechanical rigs with power operated winches as well as percussion/chiselling tool for advancing through occasional seams of hard strata to be employed, where necessary in Dry area. 0m to 10m	M	1030	530.00	5,45,900.00
2	Exploratory drilling of boreholes down to required depth, drilling of 150mm dia. boreholes in all type of soils except hard rock & large boulders (boulder core more than 30cm) including refilling, reinstating surface and disposing off surplus material including use of mechanical rigs with power operated winches as well as percussion/chiselling tool for advancing through occasional seams of hard strata to be employed, where necessary in Dry area. 10m to 20m.	M	300	550.00	1,65,000.00
3	Exploratory drilling of boreholes down to required depth, drilling of 150mm dia. boreholes in all type of soils except hard rock & large boulders (boulder core more than 30cm) including refilling, reinstating surface and disposing off surplus material rigs with power operated winches as well as percussion/chiselling tool for advancing through occasional seams of hard strata to be employed, where necessary in Dry area. 20 to 30 cm.	M	300	560.00	1,68,000.00
4	Drilling of NX size borehole (75mm dia.) in all types of hard rock and collection of rock core samples from boreholes and preserving in boxes 0m to 10m	M	150	1,233.16	1,84,974.00

5	Drilling of NX size borehole (75mm dia.) in all types of hard rock and collection of rock core samples from boreholes and preserving in boxes 10m to 20m	M	54	1,295.25	69,943.50
6	Drilling of NX size borehole (75mm dia.) in all types of hard rock and collection of rock core samples from boreholes and preserving in boxes 20 m to 30m	M	36	1,381.10	49,719.60
7	Taking out 100mm dia. & 450mm long undisturbed samples of soil from bore holes, including provision of air tight containers for packing and, labeling incl. transporting the samples to laboratory. Piston sampler shall be used for extracting undisturbed samples where necessary. Samples shall be collected as per IS:2720.	Each	36	55.61	2,001.96
8	Taking out 100mm dia. & 450mm long disturbed samples of soil from bore holes, including provision of air tight containers for packing and, labeling incl. transporting the samples to laboratory. Piston sampler shall be used for extracting undisturbed samples where necessary. Samples shall be collected as per IS:2720.	Each	67	59.38	3,978.46
9	Conducting standard penetration test as per IS:2131 at approximate 1.5m intervals in bore holes, as directed by the Engineer in charge	Each	1088	323.94	3,52,446.72
10	Conducting laboratory Tests on collected soil samples as per relevant IS code Moisture Content / Dry Density	Each	114	107.98	12,309.72
11	Conducting laboratory Tests on collected soil samples as per relevant IS code Atterberg Limits	Each	456	215.96	98,477.76
12	Conducting laboratory Tests on collected soil samples as per relevant IS code Specific Gravity.	Each	228	215.96	49,238.88
13	Conducting laboratory Tests on collected soil samples as per relevant IS code Grain size analysis including Hydrometer analysis	Each	456	296.95	1,35,409.20
14	Conducting laboratory Tests on collected soil samples as per relevant IS code Direct Shear Test	Each	228	809.87	1,84,650.36
15	Conducting laboratory Tests on collected soil samples as per relevant IS code Consolidation Test	Each	114	2,699.58	3,07,752.12
16	Conducting Laboratory tests on collected ROCK SAMPLES as per relevant IS code Density Test	Each	114	107.98	12,309.72
17	Conducting Laboratory tests on collected ROCK SAMPLES as per relevant IS code Water Absorption & Porosity	Each	114	108.38	12,355.32
18	Conducting Laboratory tests on collected ROCK SAMPLES as per relevant IS code Hardness.	Each	114	53.99	6,154.86
19	Conducting Laboratory tests on collected ROCK SAMPLES as per relevant IS code Modulus of Elasticity.	Each	114	2,159.66	2,46,201.24

20	Preparation and submission of final report giving complete and comprehensive record of investigation, laboratory test reports and calculations in approved format.	Each	1	31,315.16	31,315.16
				Total=	26,38,138.58
				Add GST@18%=	4,74,864.94
				Grand Total=	31,13,003.52
				Says=	31,13,003.00
Amount in Words: - (Rupees Thirty-One Lakh Thirteen Thousand Three only)					
% Below/above					
Amount excluding G.S.T					
Final Amount including GST					
Amount in Words: -					

**Signature (with stamp) of
Authorized Signatory**

**Note:*

1. Contractor should quote single percentage above/below/at par on total amount of BOQ
2. The rates are inclusive of all materials, transport, labour, all lead and lift, tools & plants, machineries for completion of items except otherwise specified in the schedule of quantities.
3. In case of any discrepancy/mismatch in the amount of the quote, the lowest of the amount mentioned in figures and words will be considered.