# NOTICE INVITING QUOTATION

**Sealed quotation is invited for the following outsourcing work by IIT Delhi conforming to technical specifications, terms and conditions as given below.**

Technical specifications for

**"Field Drilling, SPT/SCPT, Sampling and Testing at proposed Guru Govind Singh University at Shahadra, Delhi"**

**Description of Work:**

- Drilling of 8 boreholes up to 40 m depth or refusal, whichever is earlier including conducting standard penetration test and collection of disturbed and undisturbed soil samples. Boreholes of 150 mm diameter in soil shall be advanced by mechanized shell and auger rig. Standard Penetration tests (SPT) shall be conducted at 1.5 m intervals in the boreholes up to 15 m depth and thereafter at an interval of 3 m. Undisturbed soil samples shall be collected at 3 m intervals using 75 mm diameter thin walled tubes driven in the soil by light hammering. In addition, representative disturbed samples shall also be collected at frequent intervals. Test locations may be marked by tape measurements from fixed reference points on site.
- Conducting 4 numbers of static cone penetration tests (SCPT) using 20 tonnes capacity penetrometer with hydrualic feed. The static cone penetration tests shall be conducted up to 30 m depth or refusal to 20 tonnes capacity penetrometer, whichever is earlier.
- Conducting necessary laboratory tests for soil classification, bearing capacity determination and liquefaction analysis on selected soil samples after mutual discussion in your laboratory. The following laboratory tests shall be conducted: Combined sieve and hydrometer analysis; Atterberg's limits tests; Specific Gravity; Natural moisture content; Natural density and dry density; Unconsolidated Undrained (UU) triaxial shear tests or Unconfined Compression (UC) tests on cohesive soil samples; Direct shear tests on granular soil samples; Consolidation tests on cohesive soil samples; Chemical tests, namely, Sulphate test, Chloride test and pH test.
- Ground water table shall be observed / recorded as encountered in all boreholes during the course of investigation.
- Liquefaction potential assessment shall be performed based on both SPT and SCPT data.
- The final report shall be submitted in three copies with all laboratory and field data, liquefaction analysis and recommendations regarding type and depth of foundation with all relevant details.
- All work shall be done as per IS code of practice and general practice in the geotechnical profession. All test locations shall be backfilled by excavated soil.

The quoted charges should include equipment and personnel mobilization charges, and the charges for backfilling the test locations. The work should be completed within 40 days from the date of issue of the work order.

J. T. Shah
09.10.2014

R. P. Patel

**Terms and Conditions:**

The terms and conditions for submission of quotations are given below:

- Preference will be given to laboratories accredited to the National Accreditation Board for Laboratories (NABL). Please enclose the necessary accreditation certificate.
- A list of the important works carried out by the agency in the past should be provided.
- All safety measures shall be taken by the investigating agency at the site, including cordoning and guarding of the open boreholes. The investigating agency shall be solely responsible for any accident during the field investigation due to negligence or any other reason. IIT Delhi shall not bear any liability in this respect.
- Few undisturbed samples as decided by mutual discussion shall be sent to IIT Delhi for control testing.
- Quotation should be valid for at least 3 months.
- Quotations for commercial and technical bids must be submitted separately in sealed covers.
- Institute reserves right to accept or reject any quotation without assigning any reason.
- The last date for receipt of price offer is October 27, 2014 up to 5.00 PM.
- Sealed quotations to be submitted to

Dr. Bappaditya Manna (Room No. V-219)
Assistant Professor,
Civil Engineering Department,
Indian Institute of Technology (IIT) Delhi,
Hauz Khas, New Delhi 110 016.

J. T. Shah.
09.10.2014

R S Patel