



Rajgir, District: Nalanda, Bihar – 803 116

Ph. No: 06112 255330

Web: www.nalandauniv.edu.in

Limited Tender Enquiry

No. NU/NIQ/ENGG./MC/2016-17/04/ 444

Date: 29 September 2016

To

Dear Sir

On behalf of the Vice Chancellor, Nalanda University, Rajgir, Bihar, you are being invited to submit quotation for **Conducting Initial load test of Pile for Phase I Construction of Nalanda University's Proposed Permanent Campus at Rajgir, Bihar**, as per the Schedule of Quantities enclosed herein below as **Annexure I** and as per the Terms & Conditions specified here under:

1. **Last Date & Time for submission of quotations:** 05 October 2016, 1530 Hours
2. **Date & Time for opening of quotations:** 05 October 2016, 1600 Hours
3. **Venue for Submission & opening of Quotations:** Nalanda University Interim Campus, At – Chhabilapur Road, Rajgir, District – Nalanda, Bihar – 803116.
4. **Earnest Money Deposit:** Rs. 36000/- (Rupees Thirty six thousand only) through DD from any Schedule Bank in favour of Nalanda University, payable at Rajgir, Bihar.
5. **Contractor:**
The Contractor shall mean any individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.
6. **Work Experience:**
The bidder must have experience of carrying out at least 100 meters of piling of minimum 450 mm diameter piles in any project and have carried out initial/routine load testing of piles. The bidders shall submit certificates issued by the client specifically mentioning the quantity of pile works been carried out or certified copies of bills may be enclosed as a proof of work experience.

7. Mode of Submission:

- a. The quotation may be sent by post or may be dropped in the Tender Box of the Nalanda University, Rajgir, placed in the Reception, on or before due date & time of receipt of offer as indicated above. Quotations which do not reach this office latest by 3:30 PM on the due date, will not be opened and will be summarily rejected. The Nalanda University will not be responsible for any delay in receipt of quotation by post whatsoever may be the reason.
- b. Quotations must be submitted by the time and date mentioned in the Schedule covered in the Notice Inviting Quotation (NIQ). The entire NIQ document downloaded by the bidder shall be submitted in a sealed cover after reading carefully and signing each page with seal of the bidder. The Schedule of Quantities as per Annexure I shall be duly filled for the rates and signatures affixed wherever required. The sealed cover shall be super scribed with "**CONDUCTING INITIAL LOAD TEST OF PILE FOR PHASE I CONSTRUCTION OF NALANDA UNIVERSITY'S PROPOSED PERMANENT CAMPUS AT RAJGIR, BIHAR**". The quotation shall be signed by a person legally authorized to enter into commitment on behalf of the Bidder. Bidder shall submit Power of Attorney in favour of the person who is authorized to enter into commitments on behalf of the Bidder. If the bidder is an individual, the quotation along with the NIQ shall be signed by such individual above the full type written name and current address.
- c. Copy of Certificates of PAN card, TIN/VAT Registration, and Service Tax Registration should be submitted along with the bid.
- d. NALANDA UNIVERSITY will not be bound by any Power of Attorney granted by the Bidder or changes in the constitution of the firm made subsequent to submission of the bid or after the award of the contract. The University may, however, recognize such Power of Attorney and changes after obtaining proper legal advice, the cost of which will be borne by the Bidder.
- e. The cancellation of any document such as Power of Attorney, Partnership Deed etc. should be communicated by the Bidder to the NALANDA UNIVERSITY in writing well in time, failing which NALANDA UNIVERSITY shall have no responsibility or liability for any action taken by NALANDA UNIVERSITY on the strength of the said documents.
- f. Should the Bidder have a relative or relatives in NALANDA UNIVERSITY or one or more of its shareholders are a relative or relatives of the shareholder(s) employed in a superior capacity in NALANDA UNIVERSITY, the relevant authority inviting the quotations shall be informed of the facts at the time of submission of the bid, failing which the bid may be disqualified or if such fact subsequently comes to light, NALANDA UNIVERSITY reserves the right to take any other action as it deems fit in accordance with any applicable Law, Rules, Regulations of the like in force.
- g. **Performance Guarantee:**
The bidder whose tender is accepted, will be required to furnish performance guarantee of an amount equal to 5% (five Percent) of the tendered amount within three working days from the issue of Letter of Intent/Letter of award. The performance guarantee shall be in the form of Demand Draft/Banker's Cheque/Pay

Order/Fixed Deposit Receipt, in favour of Nalanda University payable at Rajgir, Bihar of any Scheduled bank. In case the tenderer fails to deposit the requisite performance guarantee within the period as indicated above, the EMD furnished by the bidder shall be forfeited without any further notice to the bidder. The performance guarantee shall be returned to the contractor after 30 (thirty) days post successful completion of the work. After submission of the Performance Guarantee.

8. Validity of Quotations:

The offer shall be kept valid for a period of 90 days (Ninety days) from the date of opening of quotation.

9. Prices:

The Bidder should quote both in figures and in words (English) the rates for each item in the Schedule of Quantities (Annexure I). The amount for each item should be worked out and entered. The tendered amount for the work including any taxes applicable as extra shall be entered in the quotation both in figures and in words. The price part shall be duly signed and stamped on each page. Prices shall be quoted in Indian National Rupees (INR) only.

10. Billing & Payments:

The Contractor shall submit the bill(s) / invoice(s) in a format to be decided between the NALANDA UNIVERSITY and the Contractor. The NALANDA UNIVERSITY shall release the payments within 15 Days from the date of receipt of the Bill(s)/ invoice(s) duly certified by Engineer in-charge along with necessary supporting documents, if found in order. However, the sequence for releasing payments shall be as detailed below:

- a. 95% payment shall be released after completion of complete work in all respect.
- b. 5% payment shall be released after 60 days of successful completion of the works.

The tentative quantities are given in SOQ as Annexure –I. However the actual field joint measurement will be acceptable for payments of bills submitted.

11. Time Schedule:

The time stipulated for completion of works in all respect for Conducting Initial load test of Pile for Phase I Construction of Nalanda University's is **40 (Forty)** days from issuance of letter of award/work order.

12. Nalanda University's Rights:

NALANDA UNIVERSITY reserves the right to accept a quotation other than the lowest and to accept or reject any quotation in whole or part, or to reject all the quotations received with or without assigning any reasons.

13. Contract Document:

- a. The Bidder whose quotation has been accepted by NALANDA UNIVERSITY shall enter into a formal agreement with NALANDA UNIVERSITY on the date and place to be notified by NALANDA UNIVERSITY.
- b. Contract Documents for agreement shall be prepared after award of work as intimated to the successful Bidder through a Letter of Intent. Until the final Contract Documents are prepared and executed, the NIQ together with the annexed documents and the Bidder's acceptance thereof shall constitute a bidding contract between the successful Bidder and NALANDA UNIVERSITY. The statement of Agreed Variations, if any, shall be prepared based on the finally retained and agreed deviations, all relevant correspondences, minutes of meetings, addendum / amendments issued by NALANDA UNIVERSITY. Above mentioned contract document shall supersede all correspondences and Minutes of Meetings (MOMs) etc. held between NALANDA UNIVERSITY and the Bidder prior to issue of Letter of Intent. Any deviations of stipulations made and accepted by NALANDA UNIVERSITY after award of the job shall be treated as amendments to the contract documents made as above.
- c. Only the bidder in whose name this NIQ is issued shall be eligible for making the contract agreement with the UNIVERSITY.

14. Liquidated Damage:

If work is not completed within specified period a liquidation damage will be charged from contractor @ 2% per week from contractor up to maximum of 10% of contract value of tender.

15. Acceptance:

It is not binding to the University to accept the lowest or any tender. The Nalanda University reserves the right to accept or reject any offer at its option or place order with more than one supplier for full or part quantity of this enquiry without assigning any reason and the same shall be binding on suppliers unless otherwise stated in the offer. No correspondence shall be entertained on this account.

16. Disputes:

All disputes, if any, out of or in respect of this enquiry are to be settled at Rajgir or be tribunal only in any competent court situated at Rajgir/Patna, Bihar. Stated specifically to the contrary, it shall be deemed that you have agreed to all terms and conditions mentioned in the enquiry and the same shall be binding on you.

Enclosed: Annexure I – Schedule of Quantities

Sincerely

Sd/-
Engineering Section (Civil)
Nalanda University, Rajgir
District – Nalanda, Bihar



Annexure I

Schedule of Quantities

S.No	Description	Unit	Quantity	Rate (Rs)	Amount (Rs)
1	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Single pile upto 50 tonne Safe capacity : Initial test (Test Load 2.5 times the Safe capacity)	per test	18		
2	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap).				
	450 mm dia pile	meter	112.5		
	600 mm dia pile	meter	112.5		
3	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete up to plinth level. Thermo-Mechanically Treated bars TMT 500 D	Kg	5724.282		
				Total (In Rs.)=	
				Taxes as applicable @ = ----- %	
				Grand Total (In Rs.)	
Amount in words :					

TENDER DOCUMENT

**TECHNICAL SPECIFICATION
FOR
PILE LOAD TEST WORK**

20.5 LOAD TEST ON PILES

20.5.1 General

The bearing capacity of a single or group of piles shall be determined from test loading. It is most direct method for determining safe load on pile and it is more reliable on account of its being in-situ test. The load test on a concrete pile shall not be carried out earlier than 28 days of its casting. Initial test shall be carried out on test pile which is not used as working pile and Routine tests shall be carried out as a check on working pile. Routine test shall be one-half percent to two percent of total number of piles or as specified, applicable to vertical and lateral load. Load Test shall generally conform to provision made in IS 2911 (Part IV) which provides guidelines for determination of safe loads and conducting of different types of tests.

20.5.2 Types of loadings/tests

- (i) Vertical Load Test (Compression)
- (ii) Cyclic Vertical Load Test
- (iii) Lateral Load Test

20.5.3 Vertical Load Test

20.5.3.1 General: Compression load shall be applied to the pile top by means of a hydraulic jack against suitable load frame which is capable of providing reaction and settlement is recorded by suitable dial gauges. The contractor shall apprise of Engineer-in-Charge before test is conducted.

20.5.3.2 Preparation of Pile Head: Pile head shall be chipped off to horizontal plane, projecting steel shall be cut or bent and top finished smooth and leveled with plaster of Paris or similar synthetic material as specified to give a plane surface which is normal to the axis of the pile. A bearing plate with a hole at the centres shall be placed on the head of pile for the jacks to rest.

20.5.3.3 Loading Platform: A proper loading platform is installed as specified. Contractor shall ensure that when the hydraulic jack and load measuring devices are mounted on pile head the whole system will be stable on the maximum specified load. For single pile two dial gauges shall be fixed to the pile and bear on surfaces on reference frame. The dial gauges shall be placed in diametrically opposite positions and be equidistant from the pile axis. Four dial gauges are used for groups, having 0.01 mm sensitivity. The arrangement shall be approved by the Engineer-in-charge.

20.5.3.4 Application of Load: The test is carried out by applying a series of downward incremental load (20 per cent of safe loads on pile). In this method application of increment of test load and taking of measurement or displacement in each stage is maintained till the rate of displacement is either 0.1 mm in first 30 minutes or 0.2 mm in first one hour or 2 hours, whichever occurs first. The test load shall be maintained for 24 hours. This method is applicable for both initial and routine test. For testing of raker piles the loading shall be along its axis. Safe load on single pile for initial test is least of following:

(i) Two-thirds of the final load at which the total displacement attains a value of 12 mm unless otherwise stated, in such case the safe load should be corresponding to total displacement permissible.

(ii) 50 per cent of the final load at which the total displacement equal 10 per cent of pile diameter and 7.5 per cent of bulb diameter in case of under-reamed piles.

Routine test shall be carried for a test load of one and half times the working load, maximum settlement not to exceed 12 mm or as stated.

Safe load on group of piles for initial test shall be least of the two

(i) Final load at which total displacement is 25 mm or as stated.

(ii) Two-thirds of final load at which the total displacement is 40 mm.

Routine test shall be carried for a test load equal to not less than working load, the maximum settlement not to exceed 25 mm.

20.5.3.5 Maintained Load Method: This is applicable for both initial and routine test. In this method application of increment of test load and taking of measurement or displacement in each stage of loading is maintained till rate of displacement of the pile top is either 0.1 mm in first 30 minutes or 0.2 mm in first one hour or till 2 hours, whichever occurs first. If the limit of permissible displacement as given in 20.5.3.4 is not exceeded, testing of pile is not required to be continued further. The test load shall be maintained for 24 hours.

Pile test data such as load, displacement and time shall be recorded in suitable prescribed tabular form. Results can be presented by suitable curves.

Test shall be carried out in proper manner and to the entire satisfaction of the Engineer-in-charge. After the test is completed the test cap shall be dismantled and pile surface shall be resorted to original shape.

20.5.3.6 Measurement: Each completed test shall be enumerated for initial test, routine test separately.

20.5.3.7 Rate: The rate includes the cost of labour, material and all the operations described above such as preparatory work including installation of loading platform, applying load, preparing pile head for load test, trimming of pile head etc. complete.

20.5.4 Cyclic Vertical Load Testing

20.5.4.1 General: This process shall be used in case of initial test to find out separately skin friction and point bearing load on single piles of uniform diameter in conformity of provisions of IS Code 2911 (Part 4) for conducting of the test.

20.5.4.2 Preparatory Pile Head: As per clause 20.5.3.2.

20.5.4.3 Loading Platform: As per clause 20.5.3.3

20.5.4.4 Application of Load: Relevant provision as per clause 20.5.3.4 shall be applicable. The test may be continued up to 50 per cent over the safe load.

20.5.4.5 Test procedure given in Appendix E shall be followed.

Test shall be carried out in proper manner and to the entire satisfaction of the Engineer-in-charge.

After the test is completed, the test cap shall be dismantled and pile surface shall be restored to original shape.

20.5.4.6 Measurement: Each completed test shall be enumerated for different load ranges.

20.5.4.7 Rate: The rate includes the cost of labour, materials and all the operations described above such as preparatory work, trimming of pile head etc. complete.

20.5.5 Lateral Load Testing

20.5.5.1 Load Platform: A proper loading platform shall be installed as specified. Hydraulic jack is mounted with gauge between two piles or pile groups under test. Dial gauge tips shall rest on central portion of glass plate fixed on the side of pile.

20.5.5.2 Application of Load: Full load imposed by the jack shall be taken as lateral resistance on each pile or group. Load should be applied in increments of about 20 per cent of the estimated safe load. The next increment shall be applied after the rate of displacement is approximately equal to 0.1 mm per 30 minutes.

20.5.5.3 The safe lateral load on pile; is least of the following:

(i) Fifty per cent of the final load at which total displacement increases to 12 mm.

(ii) Final load when total displacement is 5 mm.

(iii) Load corresponding to any other specified displacement as per requirement. Pile group shall be tested as per actual conditions as far as possible.

20.5.5.4 Displacements: Displacement is read by at least two dial gauges of 0.1 mm sensitivity spaced at 30 cm and kept horizontally one above the other and displacement is interpolated at cut off level. One dial gauge placed diametrically opposite to jack shall directly measure displacement. Where, it is not possible to locate one of the dial gauges in the line of the jack axes, then two dial gauge may be kept at a distance of 30 cm at a suitable height and the displacement interpolated at load point from similar triangles.

Note: One of the methods of keeping dial gauge on pile surface is to chip off uneven concrete on the side of the pile and to fix a piece of glass 20 to 30 mm square. The dial gauge tips shall rest on the central portion of the glass plate.

Arrangement and test procedure shall be duly approved by the Engineer-in-Charge.

20.5.5.5 Measurement: Each completed test shall be enumerated for different load ranges.

20.5.5.6 Rate: The rate includes the costs of labour, materials and all the operations described above.