

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED

NESPAK HOUSE: 1-C, Block-N, Model Town Extension, Lahore - 54700, Pakistan



Ref: 4531/024/KY/01/0709

Date: November 7, 2024

As per distribution

RAVI RIVERFRONT URBAN DEVELOPMENT PROJECT (RRUDP) RIVER TRAINING WORKS AND BARRAGES FEASIBILITY STUDY

GEOTECHNICAL INVESTIGATION FOR RETAINING WALLS AND BARRAGES

- 1) PHASE-II: START OF BARRAGE 1 TO BARRAGE 2
- 2) PHASE-III: START OF BARRAGE 2 TO BARRAGE 3

Invitation of Bids for Geotechnical Investigations (Field and Laboratory Works)

Dear Sir,

Sealed bid (Technical and Financial in separate sealed envelopes) are invited in accordance with the attached BOQs (for two phases, i.e. Phase-II and Phase-III, separately) and qualification criteria from drilling Contractors/Companies for carrying out the geotechnical investigations for the subject project.

The bidders may quote for one or both phases. However, in order to qualify for both phases, the bidder shall demonstrate its capability in terms of equipment, personnel and financial resources to complete the works in time as per attached qualification criteria.

The companies capable of carrying out subject work are requested to provide their Company's Profile and the following documents along with their sealed bids:

1. PEC Registration Certificate
2. FBR & PRA Registration Certificates
3. List of Similar Projects completed during last three years
4. Financial Capability
5. Equipment Capability
6. Personnel Capability
7. Litigation History
8. HSE Policies

The work comprises; execution of boreholes up to 30 m depth below existing ground level (EGL) in overburden soils by straight rotary drilling rigs, performance of cone penetration testing, performance of SPTs in boreholes, performance of field permeability testing, collection of disturbed / undisturbed soil samples, collection of water samples and laboratory testing of selected soil/water samples. The field and laboratory work shall have to be completed according to the following time schedule:

Sr. No.	Minimum No. of Straight Rotary Drilling Rigs Required	Minimum No. of CPTu equipment complete in all respect	Time for Completion of Field Investigations	Time for Completion of Laboratory Testing	Total Time for Completion of Field & Laboratory Investigations
Phase-II	2	1	25 days	10 days	35 days
Phase-III	2	1	25 days	10 days	35 days

Telephone : +92-42-99090000
E-mail : info@nespak.com.pk
Website : www.nespak.com.pk

Fax : +92-42-99231950
P.O.Box : 1351, Lahore, Pakistan

TUV
AUSTRIA

Google kmz file of tentative proposed retaining wall alignments is attached.

Your bid shall be valid for a time period of ninety (90) days after the bid opening. **The work shall be executed under the instructions and full-time supervision of NESPAK engineers/geologists and the successful bidder shall mobilize to the site on three days' notice after issuance of Letter of Award/Acceptance.** Pick and Drop (residence to site and site to residence as well as movement at site from one investigation point to another as per requirement of site) of consultant's staff via car shall be arranged by the contractor.

The coordinates and ground elevations of all the investigation points by total station shall have to be provided to NESPAK before completion of investigation at site by the Contractor. The approved laboratory, where testing is to be carried out, shall be pursued by the successful bidder for timely completion of the assigned laboratory testing. The successful bidder shall be responsible for providing the CPTu report, borehole logs, summary of laboratory test results and detailed laboratory test results to NESPAK, within the contract period. **A premium of up to 25 % will be admissible on the official rates of the soil laboratory, selected for testing of samples. This premium has been allowed as compensation to the Contractor for making advance payment to the laboratory and later following-up for obtaining test results in time. The name of the laboratory should be provided on page 2 of 2 (Annexure-I).**

The basis of payment shall be the actual work carried out and approved by the Engineer, as measured by the Contractor and certified by the Engineer and valued at the rate and prices as quoted by you in your bid.

The bidders shall submit a bid security amounting to Rs. 50,000/- at the time of submission of bids in the form of pay order or bank draft in favor of M/s NESPAK.

The bidders shall submit separate bid securities for each phase at the time of bid submission. A bid security of Rs. 50,000/- for Phase-II and Rs. 50,000/- for Phase-III is required in the form of a pay order or bank draft, payable in favor of M/s NESPAK.

Your **most competitive** sealed bids (**inclusive of all taxes**) in accordance with the BOQ and qualification criteria, should reach the office of the undersigned by 1400 hours on or before November 25, 2024. Technical bids would be opened on the same day at 1430 hours after their receipt in the presence of those bidders who wish to be present.

Financial bids would be opened after evaluation of Technical bids, at a time, date and venue announced and communicated to the technically responsive bidders in advance. However, the final decision to accept/reject any or all the bids as per PPRA rules solely lies with the undersigned. The entire work shall be carried out in accordance with the requirements of the General Bidding Documents for Geotechnical Investigations available at NESPAK website (www.nespak.com.pk).

for National Engineering Services Pakistan (Pvt.) Limited


(KAMRAN YOUSAF)
f General Manager/Head
Geotechnical & Geoenvironmental Engineering Division

**RAVI RIVERFRONT URBAN DEVELOPMENT PROJECT (RRUDP)
RIVER TRAINING WORKS AND BARRAGES
FEASIBILITY STUDY**

GEOTECHNICAL INVESTIGATION FOR RETAINING WALLS AND BARRAGES

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1. Qualification Criteria

Qualification will be based on the criteria given in the following paras regarding the Applicant's experience, personnel and equipment capabilities, financial position and litigation history, as demonstrated by the Applicant's responses in the Forms attached as Annex-A to this Document. The Employer reserves the right to waive minor deviations, if these do not materially affect the capability of an Applicant to perform the contract by the Applicant.

Experience and resources of the Company intended to be employed as sub-contractor shall not be taken into account in determining the Applicant's compliance with the qualifying criteria. However, for joint venture, collective experience, resources and financial soundness of all partners shall be considered.

The bidders may quote for one or both phases. However, in order to qualify for both phases, the bidder shall demonstrate its capability in terms of equipment, personnel and financial resources to complete the works in time as per attached qualification criteria.

1.1 General Information

The Applicant shall provide general information of his firm as per the format specified in the Application Form A-1 attached in Annex-A.

1.2 Experience of the Firm

The Applicant shall meet the following minimum criteria:

- 1) Successful experience as contractor in the execution of at least five (5) projects involving bulk of geotechnical investigations within the last three (03) years. This experience should specifically be of geotechnical investigations of similar nature. The Applicant will supply information as per the format specified in the Application Form A-2 attached in Annex-A.

1.3 Personnel Capabilities

The Applicant must have in his employment, suitably qualified and experience personnel to fulfill the positions tabulated below. The Applicant will supply information as per the format specified in the Application Form A-3 attached in Annex-A.



Sr. No.	Position	Qualification*	No.		Minimum Experience (Years)
			Phase-II	Phase-III	
1	Technical Manager	B.Sc. Civil Engg.	1	1	5
2	Site Geologist/ Supervisor / Engineer	M. Sc. Geology/ B.Sc. Civil Engg. / B.Sc. Geological Engg.	2	2	2
3	HSE Supervisor	HSE Certification course	1	1	1
4	Driller	Literate	2	2	3
5	Skilled Labor	-	As Required	As Required	-

1.4 Equipment Capabilities

The Applicant should own or have assured access to the following key items of equipment in full working order, and must demonstrate that, based on known commitments, these will be available for deployment on the proposed works.

Sr. No.	Equipment Type & Characteristics	Minimum Number Required	
		Phase-II	Phase-III
1	Straight Rotary Drilling rig complete in all respects including drilling rods, bits, mud pumps etc. along with at least one stand-by rig. The equipment shall be sufficient to complete the investigations within the time schedule	2	2
2	Minimum No. of CPT equipment complete in all respect	1	1
3	Hand auger boring sets complete in all respects including casing sets for hand auger	1	1
4	Casing sets having various diameters for all types of boring at least 30 m in length with casing bits	1	1
5	Standard penetration test equipment complete in all respects including all rods, split spoon sampler, hammer and containers etc.	2	2
6	Shelby/Denison/Pitcher samplers	2	2
7	UDS tubes & Split Spoon Samplers	As Required	As Required
8	Hydraulic jacks with all accessories for the extraction of casings	1	1
9	Electrically operated sounder for groundwater level measurement	1	1
10	Field Permeability Test Equipment	1	1
11	Wooden box for the preservation of undisturbed soil samples	As required	As required
12	Transport for mobilization of equipment	As required	As required



The Applicant will supply information as per the format specified in the Application Form A-4 attached in Annex-A.

1.5 Financial Capabilities

The Applicant shall meet the following minimum criteria:

- 1) Annual turnover, which is also termed as income from contracting for procurement of geotechnical investigations and is defined as billing for works completed during the last three (3) years of at least Rs. 8 million. Documentary proofs of the same shall be submitted in the form of letter of awards, completion certificates, etc.

The Applicant shall also provide evidence of financial health such as bank account statements, available line of credits, etc., to show the soundness of the Applicant's financial position for procurement of geotechnical investigations works. The Applicant will provide annual turnover of the geotechnical investigation works carried out by him during the last three years. The Applicant will supply annual turnover information as per the format specified in the Application Form A-5 attached in Annex-A.

1.6 Litigation History

The Applicant should provide accurate information on any litigation or arbitration resulting from Contracts completed or under execution over the last three (03) years. The Applicant will supply information as per the format specified in the Application Form A-6 attached in Annex-A. A consistent/ overwhelming history of litigation against the Applicant may result in rejection of the application. In case an Applicant claims Nil litigation, he shall submit the same statement on the letter head of his company.

1.7 Application of Health, Safety and Environmental Standards

The Applicant should provide the HSE Policies and supporting documentary evidence for the following:

- i) First Aid Box
- ii) Personnel Protective Equipments (PPEs)
- iii) Standard Operating Procedures (SOPs)
- iv) Health, Safety and Environmental (HSE) Policies
- v) HSE staff

The Applicant will supply information as per the format specified in the Application Form A-7 attached in Annex-A.



Application Form A-1

Page ___ of ___ Pages

General Information

All individual Applicants applying for qualification are requested to complete the information in this form. Nationality information (if applicable) is also to be provided for foreign owners as required under the PEC Bye-Laws as a Partnership.

1.	Name of Firm	
2.	Head Office Address	
3.	Telephone	Contact Person: Name: Title: Cell No.
4.	Fax	E-mail
5.	Place of Incorporation/Registration Certificates of the firm*	Year of incorporation/registration

*** Registration certificates must include:**

- Valid registration with Pakistan Engineering Council (PEC)
- Valid registration with Federal Board of Revenue (FBR)
- Valid registration with concerned Provincial Revenue Authority (PRA)
- Proof of active taxpayer of FBR & PRA



Financial Capabilities

Name of Applicant: _____

Year	Annual Turnover (in PKR)
2022 – 2023	
2021 – 2022	
2020 – 2021	

Note: Financial soundness certificate from the bank(s) as specified in section 1.5 must be provided by the Applicant



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PHASE-II: START OF BARRAGE 1 TO BARRAGE 2

BILL OF QUANTITIES

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
A.	FIELD INVESTIGATIONS				
A1	Mobilization and demobilization of at least two (2) straight rotary drilling rigs at site including shifting from one investigation point to another. The equipment shall be capable to complete the investigations within the time schedule.	L.S.	Job		
A2	Mobilization and demobilization of at least one (1) CPT equipment complete in every respect at site including shifting from one investigation point to another. The equipment shall be capable to complete the investigations within the time schedule.	L.S.	Job		
A3	Execution of i) eight (8) boreholes up to maximum depth of 30 m at Retaining Walls (left and right side) location, ii) two (2) boreholes up to maximum depth of 30 m at Barrage 2 location, in overburden soils below existing ground level by straight rotary drilling method including backfilling of boreholes to their original position using cement-sand-bentonite mix.	L.M.	300		
A4	Performance of Standard Penetration Tests (SPTs) in boreholes along with collection of SPT samples at 1 m interval in general, or as directed by Engineer, including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	290		
A5	Collection of undisturbed soil samples from boreholes through Shelby/Denison/Pitcher samplers, including their waxing, labelling, packing, storage & transportation to an approved testing laboratory.	No.	10		
A6	Performance of Cone Penetration Tests with Pore Water Pressure Measurement (CPTu) with performance of dissipation test (3 to 4 dissipation tests per location) at 4 locations using Dutch cone with maximum investigation depth up to 25 m below EGL. The color plots or graphs of CPT based soil behavior type, soil friction angle and undrained shear strength shall also be provided along with typical plots of tip resistance, sleeve friction, pore pressure and friction ratio in the submitted report, which must be signed and stamped by the testing agency).	L.M.	100		
A7	Performance of field permeability tests at selected horizons (using constant head/variable head method) in separately drilled holes by hand auger / light percussion up to about 5 to 10 m depth below existing ground level. The mobilization and demobilization of hand auger / light percussion, drilling of holes as well as backfilling of holes to their original position using cement-sand-bentonite mix are also included in this item.	No.	4		
A8	Collection of water samples (if encountered) from boreholes including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	3		
	Sub-Total A	Rs.			

Establishment of coordinates and ground elevations of all the investigation points using Total Station are included in the scope of work. The coordinates should be provided with reference to a permanent local bench mark.

All soil samples must be labelled, stored and transported as per ASTM. The area ratio and clearance ratio of the thin walled tube, should be in strict compliance with relevant ASTM standard.

The contractor shall get the Dial and Pressure Gauges calibrated by an approved testing laboratory before commencing the CPT and submit the test certificates to the Engineer for review and approval.

Pick and Drop (residence to site and site to residence as well as movement at site from one investigation point to another as per requirement of site) of consultant's staff via car shall be arranged by the contractor.



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PHASE-II: START OF BARRAGE 1 TO BARRAGE 2**

BILL OF QUANTITIES

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
B.	LABORATORY TESTING				
B1	Sieve analysis	No.	40		
B2	Hydrometer analysis	No.	15		
B3	Liquid and plastic limits	No.	20		
B4	Natural Moisture Content	No.	10		
B5	Bulk density & dry density	No.	10		
B6	Direct Shear (Soil Samples)	No.	5		
B7	Unconfined Compression (Soil Samples)	No.	5		
B8	Consolidation with Swell Pressure Measurements	No.	5		
B9	Sulphate content of soil	No.	5		
B10	Chloride content of soil	No.	5		
B11	Organic matter content of soil	No.	5		
B12	Complete chemical analysis of water samples i/c TDS, Cl, SO4 & pH	No.	3		
Sub- Total B				Rs.	

Name of Laboratory:

Total (A+B)=

Rs.



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PHASE-III: START OF BARRAGE 2 TO BARRAGE 3

BILL OF QUANTITIES

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
A.	FIELD INVESTIGATIONS				
A1	Mobilization and demobilization of at least two (2) straight rotary drilling rigs at site including shifting from one investigation point to another. The equipment shall be capable to complete the investigations within the time schedule.	L.S.	Job		
A2	Mobilization and demobilization of at least one (1) CPT equipment complete in every respect at site including shifting from one investigation point to another. The equipment shall be capable to complete the investigations within the time schedule.	L.S.	Job		
A3	Execution of i) six (6) boreholes up to maximum depth of 30 m and four (4) boreholes up to maximum depth of 15 m at Retaining Walls (left and right side) location, ii) two (2) boreholes up to maximum depth of 30 m at Barrage 3 location, in overburden soils below existing ground level by straight rotary drilling method including backfilling of boreholes to their original position using cement-sand-bentonite mix.	L.M.	300		
A4	Performance of Standard Penetration Tests (SPTs) in boreholes along with collection of SPT samples at 1 m interval in general, or as directed by Engineer, including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	288		
A5	Collection of undisturbed soil samples from boreholes through Shelby/Denison/Pitcher samplers, including their waxing, labelling, packing, storage & transportation to an approved testing laboratory.	No.	12		
A6	Performance of Cone Penetration Tests with Pore Water Pressure Measurement (CPTu) with performance of dissipation test (3 to 4 dissipation tests per location) at 4 locations using Dutch cone with maximum investigation depth up to 25 m below EGL. The color plots or graphs of CPT based soil behavior type, soil friction angle and undrained shear strength shall also be provided along with typical plots of tip resistance, sleeve friction, pore pressure and friction ratio in the submitted report, which must be signed and stamped by the testing agency).	L.M.	100		
A7	Performance of field permeability tests at selected horizons (using constant head/variable head method) in separately drilled holes by hand auger / light percussion up to about 5 to 10 m depth below existing ground level. The mobilization and demobilization of hand auger / light percussion, drilling of holes as well as backfilling of holes to their original position using cement-sand-bentonite mix are also included in this item.	No.	4		
A8	Collection of water samples (if encountered) from boreholes including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	3		
	Sub-Total A	Rs.			

Establishment of coordinates and ground elevations of all the investigation points using Total Station are included in the scope of work. The coordinates should be provided with reference to a permanent local bench mark.

All soil samples must be labelled, stored and transported as per ASTM. The area ratio and clearance ratio of the thin walled tube, should be in strict compliance with relevant ASTM standard.

The contractor shall get the Dial and Pressure Gauges calibrated by an approved testing laboratory before commencing the CPT and submit the test certificates to the Engineer for review and approval.

Pick and Drop (residence to site and site to residence as well as movement at site from one investigation point to another as per requirement of site) of consultant's staff via car shall be arranged by the contractor.



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PHASE-III: START OF BARRAGE 2 TO BARRAGE 3

BILL OF QUANTITIES

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
B.	LABORATORY TESTING				
B1	Sieve analysis	No.	45		
B2	Hydrometer analysis	No.	15		
B3	Liquid and plastic limits	No.	20		
B4	Natural Moisture Content	No.	10		
B5	Bulk density & dry density	No.	12		
B6	Direct Shear (Soil Samples)	No.	6		
B7	Unconfined Compression (Soil Samples)	No.	6		
B8	Consolidation with Swell Pressure Measurements	No.	4		
B9	Sulphate content of soil	No.	6		
B10	Chloride content of soil	No.	6		
B11	Organic matter content of soil	No.	6		
B12	Complete chemical analysis of water samples i/c TDS, Cl, SO4 & pH	No.	3		
Sub- Total B				Rs.	

Name of Laboratory:

Total (A+B)=

Rs.

