

# NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED

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



Ref: 4806/024/MJZ/01/1047

Date: June 17, 2025

## YELLOW LINE MASS TRANSIT CORRIDOR, GUJRANWALA

### GEOTECHNICAL INVESTIGATIONS

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

Dear Sir,

Scaled bids (Technical and Financial in separate sealed envelopes) are invited in accordance with the attached BOQs and qualification criteria from drilling Contractors/Companies for carrying out the geotechnical investigations for the subject project.

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 40 m depth below existing ground level (EGL), by straight rotary drilling rig, performance of SPTs, excavation of testpits, performance of field density tests, 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/ Percussion Sets Required	Time for Completion of Field Investigations	Time for Completion of Laboratory Testing	Total Time for Completion of Field & Laboratory Investigations
1	3	30 days	15 days	45 days

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 two day 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 two cars 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.

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P.O.Box: 1351, Lahore, Pakistan



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 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. 300,000/- at the time of submission of bids in the form of pay order or bank draft 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 1100 hours on or before July 07, 2025. Technical bids would be opened on the same day at 1130 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](http://www.nespak.com.pk)).

for National Engineering Services Pakistan (Pvt.) Limited

  
(MUHAMMAD JAHAN ZEB)  
f General Manager/ Head

Geotechnical & Geoenvironmental Engineering Division

**YELLOW LINE MASS TRANSIT CORRIDOR, GUJRANWALA**

**GEOTECHNICAL INVESTIGATION  
BILL OF QUANTITIES**

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
<b>A</b>	<b>FIELD INVESTIGATIONS</b>				
A1	Mobilization and demobilization of at least three (3) straight rotary/heavy percussion 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) hand auger along with allied accessories at site including shifting from one investigation point to another. The equipment shall be sufficient to complete the investigations within the time schedule.	L.S.	Job		
A3	Execution of six (6) boreholes up to maximum depth of 20 m and twenty-four (24) boreholes up to maximum depth of 10 to 15 m 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.	420		
A4	Execution of four (4) boreholes up to maximum depth of 40 m and four (4) boreholes up to maximum depth of 30 m in overburden soils below existing ground level by straight rotary/heavy percussion drilling method including backfilling of boreholes to their original position using cement-sand-bentonite mix.	L.M.	280		
A5	Execution of ten (10) boreholes up to a maximum depth of 10 m in soils below existing ground level by hand auger boring method including backfilling of boreholes to their original position using cement-sand-bentonite mix.	L.M.	100		
A6	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.	740		
A7	Collection of undisturbed soil samples from boreholes through Shelby/Denison/Hitcher samplers, including their waxing, labelling, packing, storage & transportation to an approved testing laboratory.	No.	60		
A8	Mobilization and demobilization of testpit excavation and testing equipment complete in all respect including shifting from one investigation point to another. The equipment shall be sufficient to complete the investigations within the time schedule.	L.S.	Job		
	<b>Investigation for Proposed Road Widening Areas:</b>				
A9	Excavation of sixteen (16) testpits up to a maximum depth of 1.0 m, within the proposed road widening areas, in soils below existing ground level including backfilling of pits to original condition.	L.M.	16		
A10	Performance of field density tests by sand replacement method in testpits generally @ 1 test/pit at selected horizons, including determination of in-situ bulk and dry density and collection of small disturbed samples in moisture tins for moisture content determination in laboratory by oven drying method as well as labelling, packing, storage & transportation to an approved testing laboratory.	No.	16		
A11	Collection of composite bulk soil samples from testpits (minimum weight 60-120 kg, as per soil layer type) including their labelling, packing, storage & transportation to an approved laboratory.	No.	16		
	<b>Investigation for Existing Road or Carriageway:</b>				
A12	Extraction of 4 inch diameter cores from asphalt pavement one (1) core per lane on disturbed and undisturbed asphalt surface. The activity includes labelling, packing, storage, and transportation of core samples to an approved testing laboratory for further analysis. Report thickness of asphalt layers and any cracks or discontinuity found in cores.	No.	24		
A13	Excavation of eighteen (18) test pits on existing carriageway up to subgrade level, including exposing existing road / pavement layers and backfilling of pits to original condition including casting of one (01) foot thick P C C (1:2:4) pad at the top of each pit for level surfacing.	L.M.	18		
A14	Performance of field density tests by sand replacement method in testpits generally @ 3 tests/pit, one on each layer, i.e. base course, sub-base course and sub-grade, including determination of in-situ bulk and dry density and collection of small disturbed samples in moisture tins for moisture content determination in laboratory by oven drying method as well as labelling, packing, storage & transportation to an approved testing laboratory.	No.	54		
A15	Collection of composite soil samples from base course, sub-base course and sub-grade layer (minimum weight 60-120 kg, as per layer type) including their labelling, packing, storage & transportation to an approved laboratory.	No.	54		
A16	Sampling from Quarries in the closest proximity of the proposed road alignment (minimum weight 60-120 kg), labelling and packing, storage into proper sampling bags and transportation to the Engineer's approved laboratories for checking the suitability for source approval.	No.	4		
A17	Sampling from Borrow areas for embankment / earth fills and subgrade in the closest proximity of the proposed road alignment (minimum weight 60-120 kg), labelling and packing, storage into proper sampling bags and transportation to the Engineer's approved laboratories for checking the suitability for source approval.	No.	10		
A18	Sampling from Fine Aggregate Sources in the closest proximity of the proposed road alignment, (minimum weight 60 kg), labelling and packing, storage into proper sampling bags and transportation to the Engineer's approved laboratories for checking the suitability for source approval.	No.	2		
A19	Collection of water samples (if encountered) from boreholes including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	8		
	<b>Sub-Total A</b>	<b>Rs.</b>			

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

The preferred method of drilling is straight rotary drilling. Percussion boring will be allowed only in case of presence of gravelly soils subject to approval by the Engineer.

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 two cars shall be arranged by the contractor.



**YELLOW LINE MASS TRANSIT CORRIDOR, GUJRANWALA**

**GEOTECHNICAL INVESTIGATION**

**BILL OF QUANTITIES**

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
<b>B. LABORATORY TESTING</b>					
B1	Sieve analysis	No.	200		
B2	Hydrometer analysis	No.	15		
B3	Liquid and plastic limits	No.	80		
B4	Natural Moisture Content	No.	60		
B5	Bulk density & dry density	No.	60		
B6	Direct Shear with stress strain measurements (Soil Samples)	No.	30		
B7	Unconfined Compression with stress strain measurements (Soil Samples)	No.	30		
B8	Consolidation with Swell Pressure Measurements	No.	10		
B9	Modified AASHTO Compaction Test	No.	60		
B10	3-Point Soaked CBR Test	No.	60		
B11	Bitumen Extraction Test	No.	24		
B12	Asphalt Gradation after extraction	No.	24		
B13	Asphalt Core Density Test	No.	24		
B14	Sieve analysis with F.M.	No.	6		
B15	Specific gravity	No.	10		
B16	Water Absorption	No.	10		
B17	Loss Angeles Abrasion Test (500 Rev)	No.	4		
B18	Clay Lumps and Friable Particles	No.	4		
B19	Sodium Sulphate Soundness Test	No.	6		
B20	Sand Equivalent Test	No.	6		
B21	Petrography	No.	2		
B22	Sulphate content of soil	No.	15		
B23	Chloride content of soil	No.	15		
B24	Organic matter content of soil	No.	15		
B25	Complete chemical analysis of water samples i/c TDS, Cl, SO <sub>4</sub> & pH	No.	8		
<b>Sub- Total B</b>			<b>Rs.</b>		

Name of Laboratory:

Total (A+B)=

Rs.



**YELLOW LINE MASS TRANSIT CORRIDOR, GUJRANWALA**  
**GEOTECHNICAL INVESTIGATIONS**

**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.

**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 Eligibility Based on Past Performance with NESPAK**

Firms that have previously undertaken geotechnical investigation assignments for NESPAK and have received an unsatisfactory performance certificate within the past six (06) months shall be disqualified.

**1.4 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)
1	Technical Manager	B.Sc. Civil Engg.	1	5
2	Site Geologist/ Supervisor / Engineer	B.Sc. Geology/ B.Sc. Civil Engg. / B.Sc. Geological Engg.	3	2
3	HSE Supervisor	HSE Certification course	1	1



Sr. No.	Position	Qualification*	No.	Minimum Experience (Years)
4	Driller	Literate	3	3
5	Skilled Labor	-	As Required	-

### 1.5 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
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	3
2	Percussion Boring Set (>250 mm diameter), complete in all respects including tripod, chisel / bit etc.	3
3	Hand auger set/light percussion drilling equipment, complete in all respects, and accompanied by other accessories such as casing sets for boring	1
4	Casing sets having various diameters for all types of boring at least 50 m in length with casing bits	3
5	Standard penetration test equipment complete in all respects including all rods, split spoon sampler, hammer and containers etc.	3
6	Shelby/Denison/Pitcher samplers	3
7	UDS tubes & Split Spoon Samplers	As Required
8	Hydraulic jacks with all accessories for the extraction of casings	2
9	Electrically operated sounder for groundwater level measurement	2
10	Testpit excavation equipment complete in all aspects	As required
11	Field density test apparatus complete in all respect as per relevant ASTM standard.	As required
12	Equipment/machinery for the extraction of cores from asphalt pavement complete in all respect	1
13	Wooden box for the preservation of undisturbed soil samples	As required
14	Transport for mobilization of equipment	As required

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



## **1.6 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. 15 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.

## **1.7 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.

## **1.8 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)
2023 – 2024	
2022 – 2023	
2021 – 2022	

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





