

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED

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

WATER & AGRICULTURE DIVISION



Ref: 4876/061/MA/01/4338

Date: March 24, 2025

HIRING OF FIRM FOR HYDROGEOLOGICAL/GEOPHYSICAL INVESTIGATION THROUGH PUMPING OUT AND INSTALLATION OF PIEZOMETERS/OBSERVATION WELLS IN 10 KM BELT ASTRIDE OF NARA CANAL IN SINDH

Invitation of Bids for Hydrogeological /Geophysical investigations (Field and Laboratory Works)

Dear Sir,

Sealed bids (**Technical and Financial in separate sealed envelopes**) are invited in accordance with the attached **BOQ** and **qualification criteria** from drilling Contractors / companies for carrying out the hydrogeological/geophysical 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 & Provincial Revenue Authority (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 50 Numbers Piezometer/Observation wells up to 100 feet depth below natural surface level (NSL) and drilling, installation of 5 Numbers Tube wells by using reverse rotary / straight rotary drilling method and performance of pumping out tests and submission of analysis report. The field and laboratory work shall have to be completed according to the following time schedule:

Minimum No. of Straight Rotary Drilling Rigs/ Reverse rotary rigs Required	Time for Completion of Field Investigations	Time for Analysis of Pumping out test report & Submission of Water quality Lab report	Total Time
02	10 weeks	2 weeks	12 weeks

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/hydrogeologist and the successful bidder shall mobilize to the site on ten (10) days' notice after issuance of Letter of Award/Acceptance.

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.

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The successful bidder shall be responsible for providing the final pumping out analysis report (including tube wells drilling record, installation of casing material, summary of water quality) and detail report of installation of piezometer/observation wells including their coordinates to NESPAK, within the contract period. A premium of up to 25 % will be admissible on the official rates of the laboratory, selected for testing of soil /water 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 accredited laboratory should be provided on page no. 2 of 2(Annexure-1).

The bidders shall submit a bid security amounting to Rs.530,000/-(Rupees five hundred thirty thousand only) 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 1500 hours on or before April 14, 2025. Technical bids would be opened on the same day at 1600 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 Hydrogeological/Geophysical Investigations available at NESPAK website (www.nespak.com.pk).

for National Engineering Services Pakistan (Pvt.) Ltd.,



(MANSOOR ALI)
General Manager/Head

Hiring of firm for hydrogeological /Geophysical investigation through Pumping out and Installation of Piezometers/Observation Wells in 10Km belt Astride of Nara Canal in Sindh

INSTALLATION OF 50 NOS. PIEZOMETERS/OBSERVATION WELLS

BILL OF QUANTITIES

S.No.	Item	Unit	Approx. Quantity	Rate (Rs)	Amount (Rs)
1	Boring for tubewell in all water bearing soils from ground level upto100ft. Or 30.5 meter depth i/c sinking and withdrawing of casing pipe. (Item No.N-TUBEWELLS-1 (d), CSR-Sindh 2024) 150 mm dia(6"inch)	Rft	50		
2	Supplying and installing PVC strainers 'B' class of approved design quality and make i/c necessary sockets etc. complete. (Item No.N-TUBEWELLS-9, CSR-Sindh 2024) a) 100 mm (4" dia)	Rft	10		
3	Supplying and installing PVC Blind pipe 'B' class of approved design quality and make i/c necessary sockets etc. complete.(Item No.N-TUBEWELLS-14, CSR-Sindh 2024) a) 100 mm (4" dia)	Rft	40		
4	Pedstal 1.5'x1.5' around 4 Inch Casing Pipe with 1:1 ration (Non CSR)	LS	1		
5	Development of piezo meter with hand pump. (Provisional)	LS	1		
6	Providing Bail plug as per approved design at the bottom of PVC Blind pipe 'B' class 0.5 Rft. 1:1 Ratio	LS	1		
7	Shrouding with graded bajri (3/8"to1/8") or (9to3mm) in between bore and blind pipe for the following diameters of strainers. (Item No.N-TUBEWELLS-18, CSR-Sindh 2024)	Rft	10		
8	Providing bentonite seal around 4 inch PVC 'B' Class Casing (Non-CSR)	P.Pound	592		
9	Providing and fixing 4-inch PVC clean out with plug for piezometer	Job	1		
			Cost of 1 No. Piezometer		
			Sub-Total-B (Cost of 1No. X 50 Nos.) =		
			Total (A+B)		

Quantities shown above are tentative and are subject to modification in accordance with actual field conditions encountered during drilling at site.

Establishment of coordinates and ground elevation of all the boreholes using Total station/Differential GPS is included in the scope of work. The coordinates should be provided with reference to a permanenet bench mark established at site.

Reverse/straight rotary drilling method will be used for execution of boreholes in sandy/clayey soil & bedrock.

Contractor will be responsible for arrangement of Personnel Protective Equipment(PPEs) such as safety helmets and jackets for NESPAK site supervisory/visiting staff. However, percission method of boring can be used after approval of the the NESPAK site supervisor (if required).

All lithological /water samples must be labelled, stored and transported as per ASTM requirement.



Hiring of firm for hydrogeological /Geophysical investigation through Pumping out and Installation of Piezometers/Observation Wells in 10Km belt Astride of Nara Canal in Sindh

DRILLING AND INSTALLATION OF 5 NOS. TUBEWELLS, PERFORMANCE OF PUMING OUT TEST AND ANALYSIS

BILL OF QUANTITIES

Sr.No.	Schedule of Rates 2024,Ch:1, N-Tubewells Govt.of Sindh	Item Description	Unit	Qty	Rate	Amount
1	Ch:1,N-tubewells item mo.1	Boring for tube well in all water bearing soils from ground level upto 100 ft. or 30.5 meter depth i/c sinking and with drawing of casing pipe i) 450 mm (18" dia)	Rft	128		
3	Ch:1,N-Tubewells item mo.6	Taking and preserving 2 LBs (1 Kg) sample of per strata from borre holes.	P.Sample	26		
4	Ch:1,N-Tubewells item mo.7	Taking samples of water from bore hole and placing in two separate bottles.	P.Sample	2		
5	Ch:1N-Tubewells item mo.18	Shrouding with graded bajri (3/8"to 1/8") or (9 to 3 mm) in betweenbore and blind pipe for the following diameters of strainers. g)300 mm (12" dia)	RFT	128		
6	Ch:1N-Tubewells item mo.9	Supplying and installing PVC strainers 'B' class of approved design quality and make i/c necessary sockets etc. complete. f)300 mm (12" dia)	RFT	50		
7	Ch:1N-Tubewells item mo.14	Supplying and installing PVC Blind 'B' class of approved design quality and make i/c necessary sockets etc. complete. f)300 mm (12" dia)	RFT	70		
Non-Schedule of Rates						
8	Non-CSR	Supplying and installing PVC End plug Blind 'B' class of approved design quality and make i/c necessary sockets etc. complete (12" dia)	Each	1		
9	Non-CSR	Providing /fixing M.S. centerlizers Non-CSR	Each	3		
10	Non-CSR	Geophysical logging of bore (self potential resistivity Both short normal and Gama) complete in all respect. Non-CSR	Each	1		
11	Non-CSR	Collection of water sample from Tubewell, transportation of water sample from site to laboratory and performing chemical, physical and arsenic analysis of water from approved water testing Lab. Non-CSR	Each	1		
12	Non-CSR	Providing and fixing PVC Cap to cover the pump house casing upto 12" dia 1/4" thick including cutting, jointing and welding etc.. Non-CSR	Each	1		
13		Installation of 03 Nos. Observation Wells Each 100 ft deep at 5 meter, 10 meter and 30 meter distance from center of main tube well complete in all respect.				
13.1	Ch:1N-Tubewells item mo.1b	Boring for tubewell in all water bearing soils from ground level upto100ft.or30.5 meter depth i/c sinking and withdrawing of casing pipe. b) 100 mm (4" dia)	Rft	300		
13.2	Non-CSR	Supply and installation 2" dia uPVC pressure pipe (50mm) class B complete with solvent joint blank/slotted casing including end cap	Rft	300		
14	Non-CSR	Perform pump out testing (72 hours) as per specifications, analysis and submission of pump out test report.	Job	1		
					Cost of 01 No. Pump Out Test	
					Sub- Total A (cost of 1 No. X 5 Nos.) =	

Quantities shown above are tentative and are subject to modification in accordance with actual field conditions encountered during drilling at site.

Establishment of coordinates and ground elevation of all the boreholes using Total station/Differential GPS is included in the scope of work. The coordinates should be provided with reference to a permanenet bench mark established at site.

Reverse/straight rotary drilling method will be used for execution of boreholes in sandy/clayey soil & bedrock.

Contractor will be responsible for arrangement of Personnel Protective Equipment(PPEs) such as safety helmets and jackets for NESPAK site supervisory/visiting staff.

All lithological /water samples must be labelled, stored and transported as per ASTM requirement. Furthermore, National Water Quality Laboratory (NWQL) guidelines shall be followed for collection, transportation and testing of representaive samples from accredited laboratory.



**QUALIFICATION OF BIDDING CONTRACTORS FOR HYDROGEOLOGICAL
/GEOPHYSICAL INVESTIGATIONS FOR FEASIBILITY STUDY FOR EVALUATION OF
THE GROUNDWATER POTENTIAL WITHIN THE 10KM BELT ASTRIDE OF NARA CANAL
IN SINDH**

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 hydrogeological/geophysical investigations within the last three (03) years. This experience should specifically be of hydrogeological 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	Minimum No. with Each Unit						Minimum Experience (Years)
			Unit-1	Unit-2	Total				
1	Groundwater Expert	M. Sc Geology/Water Resources Engineering/ Hydrogeology	1	0	01				10
2	Site Geologist/ Hydrogeologist Supervisor / Site Engineer	M. Sc. Geology/ B.Sc. Civil Engg.	1	1	02				5



3	Driller	Literate	1	1	02					10
4	Assistant Driller	Literate	1	1	02					03
5	Foreman	Literate	1	-	01					15
6	Welder	Literate	1	-	01					5
7	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						
		Unit- 1	Unit - 2	Total				
1	Reverse/Straight Rotary Drilling rigs complete in all respects including drilling rods, bits (as per dimensions given in BOQs).	1	1	02				
2	D&T set complete in all respect comprising Suitable Diesel Engine, Turbine pump (1.5 cfs), shaft, column pipe set (100 feet), discharge head, orifice plate, discharge pipe	1	1	02				
3	Tripod with chain pulley 5 ton	1	1	02				
4	Water arrangement system for drilling purpose (pumps/water bowser), canvas pipe etc.	1	1	02				
5	One large tent	1	1	02				
6	Set of Table with 04 Nos. Chairs	1	1	02				
7	Water level Indicator	1	1	02				
8	imhoff cone (1000ml)	1	1	02				
9	Sounding wire (150 ft long)	1	1	02				
10	Measuring Tap (100 ft.)	1	1	02				
11	Digital TDS/EC meter	1	1	02				
12	Lighting arrangements	1	1	02				



Sr.	Equipment Type &	Minimum Number Required						
	complete in all respect with standby generator							
13	Sample box (Wooden box for the preservation of lithological samples/ polythene bag ½ kg	As required	As required					
14	Welding plant complete in all respect	1	1	02				
15	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. 50 million.

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 award 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



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)
2024 – 2025	
2022 – 2023	
2020 - 2021	

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



