

City of Portsmouth
Portsmouth, New Hampshire

Department of Public Works

Testing, Special Inspections, and Subsurface Explorations

REQUEST FOR PROPOSAL

Sealed proposals, plainly marked, RFP# 46-08 Testing, Special Inspections, and Subsurface Explorations shall be addressed to the Finance/Purchasing Department, City Hall, 1 Junkins Avenue, Portsmouth, New Hampshire, 03801. **Proposals will be accepted until March 28, 2008 at 2:00 p.m.**

The City of Portsmouth is asking qualified Inspection and Testing Firms to prepare Proposals for the following services:

Inspections of on-site and/or laboratory testing during all aspects of a road project, including coordinating drilling operations (including site and boring layouts), determining underlying roadway characteristics, backfilling and patching of all holes, analyzing soil, rock and water samples, testing gradation, compaction and asphalt content.

Special Inspections and Testing services for municipal building projects to ensure design and materials adherence to construction specifications and industry standards, including contract construction inspections, structural steel inspection and testing, welding inspection, high-strength bolts inspection, concrete, masonry, soils (site prep, materials and lift thickness, compaction compliance) inspection, inspection and testing of piles and piers, Fireproofing, and Seismic and/or Wind Resistance.

This Request for Proposal may be obtained from the Finance/Purchasing Department on the third floor of City Hall, 1 Junkins Ave, Portsmouth, New Hampshire, by calling the Purchasing Clerk at 603-610-7227 or at our website www.cityofportsmouth.com. **Continue below for the complete Request for Proposal document.**

The City of Portsmouth reserves the right to reject any or all proposals, to waive technical or legal deficiencies, and to accept any proposal that it may deem to be in the best interest of the City.

**REQUEST FOR PROPOSAL FOR
Testing, Special Inspections, and Subsurface Explorations**

**I
Purpose**

The City of Portsmouth is asking qualified Inspection and Testing Firms to prepare Proposals for the following services:

Inspections of on-site and/or laboratory testing during all aspects of a road project, including coordinating drilling operations (including site and boring layouts), determining underlying roadway characteristics, backfilling and patching of all holes, analyzing soil, rock and water samples, testing gradation and asphalt content.

Special Inspections and Testing services for municipal roadway and building projects to ensure design and materials adherence to construction specifications and industry standards, including construction inspection services, subsurface explorations, structural steel inspection and testing, welding inspection, high-strength bolts inspection, concrete, masonry, soils (site prep, materials and lift thickness, compaction compliance) inspection, inspection and testing of piles and piers, Fireproofing, and Seismic and/or Wind Resistance.

**II
Scope of Work**

The work shall consist of the following items:

- 1) Detailed subsurface explorations to determine underlying roadway characteristics; such as depth of bituminous surface, depth of concrete roadway base, gradation of gravel base, and depth of refusal. Contractor shall use an approved drill rig and will be required to backfill and patch all test pits with an approved bituminous material. Contractor will also be required to call Dig-Safe for locations to be determined by the City of Portsmouth.
- 2) Periodic field nuclear density testing. Contractor shall provide a technician certified in the operation of nuclear density equipment.
- 3) Concrete testing to include the services of a technician on site to determine slump, air content and density of fresh concrete, prepare test cylinders, check cleanliness of forms and observe the arrangement of reinforcing steel against standards outlined in ACI 318 and ASTM A 706.
- 4) Laboratory analyses of road materials. Contractor shall provide various reports relating to sieve analyses and proctor determinations.
- 5) Construction inspection services. Contractor shall supply an inspector for municipal construction projects to ensure compliance with technical specifications including daily log reports and staff meetings as directed not to exceed one per week.

The following tests and inspections as required by IBC (2000), Chapter 17:

- 6) Structural steel inspections: Contractor shall inspect steel frame to verify compliance with the details shown on the approved construction documents, including “bracing, stiffening, member locations and proper application of joint details at each connection”. Inspectors **must be** certified as a CWI, MT, UT at a minimum. Uncertified personnel will not be allowed to work on our projects.
 - a. Welding inspections.
 - b. Inspections of high-strength bolts: periodic inspection of installation and tightening according to product or design specs.

- 7) Masonry construction
 - a. Verify periodically
 - i. proportions of site-prepared mortar.
 - ii. compliance of construction of mortar joints.
 - iii. compliance of location of reinforcement and connectors.
 - b. Inspect periodically to verify
 - i. Size and location of structural elements.
 - ii. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.
 - iii. Specified size, grade and type of reinforcement.
 - iv. Temperature protection of masonry.
 - v. And provide continuous inspection of welding of reinforcing bars.
 - c. Prior to grouting, periodically verify
 - i. Cleanliness of grout space.
 - ii. Placement of reinforcement and connectors.
 - iii. Proportions of site-produced grout.
 - iv. Construction of mortar joints.
 - v. Compliance with required inspection provisions of construction documents and approved submittals.
 - vi. And provide continuous inspection of grout placement to ensure compliance with code and construction document provisions.

- 8) Soils compliance
 - a. Site soil conditions: Contractor to determine that the site has been prepared in accordance with the approved soils report.
 - b. During fill placement: Contractor to determine the material being used and the maximum lift thickness comply with the approved report.
 - a. Evaluation of in-place density: Contractor shall determine, at the approved frequency, that the in-place dry density of the compacted fill complies with the approved report.

- 9) Pile foundations: Contractor shall be present when installed and during tests. Contractor shall submit a record of each installation and result of load tests. Records shall include the cutoff and tip elevation of each pile relative to a permanent reference.

- 10) Pier foundations: Contractor shall inspect pier foundations when building assigned to Seismic Design category C, D, E, or F.
- 11) Fireproofing: Contractor shall:
- a. Material Specifications: Monitor materials used for conformance with Construction Documents.
 - b. Laboratory-tested Fire Resistance Design: Review the compliance of materials, preparation, and application for fire resistance design as prescribed in the Construction Documents.
 - c. Surface Preparation: Monitor the preparation of structural surfaces to receive (spray or other) fireproofing. Surface preparation must be in accordance with fire-resistance design. Review prior to application of fire-resistant material.
 - a. Application: Review materials used and compliance with fire-resistant design. Monitor substrate temperature before and after application for compliance with manufacturer's approved written instructions. Verify ventilation during and after applications per manufacturer's instructions.
 - b. Curing and Ambient Condition: Monitor substrate temperature before and after application for compliance with manufacturer's approved written instructions. Verify ventilation during and after applications per manufacturer's instructions.
 - c. Thickness: Verify that average thickness of (sprayed or other) fire-resistant materials applied are not less than that required by design and schedule of thickness.
 - d. Density: Verify the density of each application is in accordance with the approved fire-resistant design and ASTM E 605. Samples and testing for structural systems should be selected per 1704.11.3.1 and 1704.11.3.2 (if/where applicable).
 - e. Bond Strength (if/where applicable): test and monitor the cohesive/adhesive bond strength of the cured material.. Bond strength shall not be less than 150 psf. Determine bond strength in accordance with ASTM E 736 and testing per 1704.11.5.1 and 1704.11.5.2.
- 12) QA's for Seismic and/or Wind Resistance: Contractor to provide QA plan for seismic requirements according to category of building AND/OR a plan for wind resistance, again, according to category of building, if required.

All equipment, samples, testing and laboratory methods shall be accordance with methods prescribed by the available pertinent publication of AASHTO, ASTM or FSS. Maximum density determination will be made as specified in AASHTO T 99 (Standard Proctor Test). In-place density determination will be made by AASHTO T 238 & T 239 (Nuclear Method).

All per diem and test prices to include transportation of personnel, all incidental laboratory charges, field equipment charges, administrative fees and reports *unless otherwise indicated*.

Contractor shall be required to obtain a Dig Safe number before digging or drilling operations commence.

III Proposal

The proposal shall include the following:

1. A Statement of Qualifications of the submitting firms and subcontractors including (3) three references for similar recent projects including current contact name and phone numbers.
2. The firm submitting the proposal shall employ a Registered Professional Engineer in the State of New Hampshire and such engineer or engineers shall be identified in the Statement of Qualifications.
3. Proposals shall include a brief resume of roads, bridges and municipal building work, and a breakdown of work such as field work, office work, etc.
4. Contractor shall price various tasks as outlined in the Scope of Work and Pricing Sheet.

By submitting a proposal, the firm consents to the City undertaking such investigation as it deems in its best interest to investigate the firm's qualifications.

The submitting firm assumes all responsibility for any costs it incurs in preparing a response to this Request for Proposal.

IV Selection Criteria and Award of Contract

The firms will be ranked on the following criteria: qualifications, including experience, staffing and reputation, as well as price. The City will enter into contract negotiations with the first-ranked firm. If the City cannot reach agreement with the first-ranked firm, the City will proceed to the next highest ranked firm. It is the City's intention that contract negotiations will be completed by April 30, 2008 for work to commence immediately. It is the City's intention to enter into a Contract for a period of at least one year with a maximum of three years.

Firms may assume for purposes or pricing that the selected Contractor will be required to maintain insurance throughout the period of the contract in sufficient amounts as to protect the Contractor from all claims and liabilities for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this Contract whether such operation by himself or by anyone directly or indirectly employed by him. The following amounts of insurance are anticipated:

- A. Comprehensive General Liability:
Bodily Injury or Property Damage - \$1,000,000
- B. Automobile and Truck Liability:
Bodily Injury or Property Damage - \$1,000,000
- C. Professional Liability:
Errors and Omissions - \$1,000,000
- D. Workers Comprehensive Insurance coverage for all people employed by the Contractor to perform work on this project.

<p>C. Concrete with Reinforcing Steel Field Inspection:</p> <ul style="list-style-type: none"> • Inspect reinforcing steel, including prestressing tendons and placement • Inspect reinforcing steel welding • Inspect bolts to be installed in concrete prior to and during placement of concrete • Verify use of required design mix of concrete • Perform quality-control testing on-site to include slump test, air content, concrete and air temperature of fresh concrete at the time of making specimens for strength tests • Inspect concrete (or shotcrete) placement for proper application techniques • Inspect for maintenance of specified curing temperature and techniques <p>Reinforced Concrete Report</p>	<p style="text-align: center;">Half Day Full Day</p> <p style="text-align: center;">Per Each</p>
<p>D. Pre-cast, Pre-stressed Concrete:</p> <ul style="list-style-type: none"> • Inspect for application of pre-stressing forces • Inspect grouting of bonded pre-stressing tendons in the seismic-force-resisting system (if applicable) • Inspect erection of pre-cast concrete members • Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs. <p>Pre-cast Concrete Reports</p>	<p style="text-align: center;">Half Day Full Day</p> <p style="text-align: center;">Per Each</p>

<p>E. Masonry</p> <ul style="list-style-type: none"> • Inspect proportions of site-prepared mortar and grout • Inspect placement of masonry units and construction of mortar joints and verify compliance • Inspect reinforcement and connectors, verify placement in compliance, as well as size and type • Inspect welding of reinforcing bars, placement of grout, size and location of anchors • Inspect cleanliness of grout space, proportions of site-produced grout, construction of mortar joints and grout placement <p>Masonry Report</p>	<p>Half Day Full Day</p> <p>Per Each</p>
<p>F. Structural Steel</p> <ul style="list-style-type: none"> • Inspect and verify materials for nuts, bolts, washers • Inspect high-strength bolting • Verify materials of structural steel • Inspect and verify weld-filler materials • Inspect welding of structural steel and reinforcing steel • Inspect steel frame joint details <p>Structural Steel Report</p>	<p>Half Day Full Day</p> <p>Per Each</p>
<p>G. Foundations:</p> <ul style="list-style-type: none"> • Inspect installation of pile and/or pier foundations and record load tests <p>Foundation Report</p>	<p>Half Day Full Day</p> <p>Per Each</p>
<p>H. Fireproofing:</p> <p>Monitor materials used, surface prep (including substrate temperature), application (including thickness and density) and bond strength</p> <p>Fireproofing Report</p>	<p>Half Day Full Day</p> <p>Per Each</p>

I. Plant inspections (Concrete, including pre-cast, pre-stressed; asphalt; and/or steel): Certified inspectors to provide on-site QA/QC for materials used, process, and adherence to specifications of project Plant Inspection Report	Half Day Full Day Per Each
I. Nuclear Density Gauge Rental	Per Hour
J. Project Engineer	Per Hour
K. Project Manager	Per Hour
L. Professional Engineer	Per Hour
M. Principal	Per Hour
LABORATORY TESTING	
A. Compression testing of 6"x12" cyl:	Each
B. Compression of Test-cyl made by others:	Each
C. Washed Sieve Analysis Includes coarse and fine aggregate and #200 wash	Each
D. Moisture Density Relationship: Modified or standard method	Each
E. Compression Test of Mortar Cubes	Each
F. Compression Test of Grout Prisms	Each
G. Compression test of masonry Prism – 2-high	Each
<i>MISCELLANEOUS AND TRAVEL</i>	
A. Mileage/Technician Time	
B. Sample Pick-ups only	
C. Overtime	

VI Reservation of Rights

The City of Portsmouth reserves the right to reject any and all proposals, to waive technical or legal deficiencies, and to accept any proposals that are deemed to be in the best interest of the city.