



NORTHWEST OHIO

**Flood Mitigation
Partnership, INC.**

Request for Qualifications

Geotechnical Drilling and Testing Services

October 2009

Northwest Ohio Flood Mitigation Partnership

Northwest Ohio Flood Mitigation Partnership
101 W. Sandusky St., Suite 200
Findlay, OH 45840
567-251-3802
www.floodpartnership.org

Purpose:

The Northwest Ohio Flood Mitigation Partnership is issuing this Request for Qualifications (RFQ) from geotechnical consulting firms to perform Phase I Geotechnical drilling and testing for the Blanchard River Flood Protection Project.

Background:

The Northwest Ohio Flood Mitigation Partnership, Inc (Partnership) is a private/non-profit organization whose purpose is to expedite the design and development of a flood mitigation plan to be implemented in coordination with responsible public authorities in the Blanchard River Watershed.

In April of 2008, the City of Findlay and the Village of Ottawa signed Feasibility Cost Share Agreements with the United States Army Corps of Engineers (CoE) to develop a flood damage reduction project for the Blanchard River Watershed. The Partnership will be the contracting party with oversight from the CoE.

Project Boundaries:

The project boundaries will consist mainly of the City of Findlay and the Village of Ottawa. It may be necessary to perform drilling and testing outside of this target area.

Partnership Participation in the Projects:

The Partnership will designate a technical representative to work closely with the selected firm and the CoE.

Scope of Work:

See Exhibit A

Submittal Requirements:

Each response shall include:

1. A cover letter signed and dated by a representative who is authorized to respond to this RFQ on behalf of the firm;
2. The number of years in business as the entity submitting a response and the total years experience of the principal individuals of the responding firm;
3. Types of services offered;

4. Number of projects completed in Ohio;
5. Largest geotechnical project completed in the last five years;
6. Examples of U S Army Corps of Engineer projects the firm has worked;
7. Experience as a consultant to other governmental agencies;
8. Names of all officers, partners or owners of the firm;
9. Number and technical expertise of staff;
10. Project manager's name and resume;
11. Resumes of key personnel;
12. Organizational chart indicating managerial relationship among key personnel and role of each individual;
13. Indemnities and available insurance (e.g., errors and omissions, sudden accidental, workman's compensation, etc.); and
14. References with point of contact.

Submittal Instructions:

Interested firms shall submit three (3) original copies of their responses. Responses must be received by the Partnership no later than **4:00pm on Friday, October 30, 2009** at the following address:

Northwest Ohio Flood Mitigation Partnership
101 W. Sandusky St., Suite 200
Findlay, OH 45840
Subject: Geotechnical Drilling and Testing Services
Attention: Anthony Iriti

Facsimile or electronically transmitted responses will **not** be accepted. Postmarks will not be accepted in lieu of actual receipt. Late responses will not be opened nor considered.

Evaluation Criteria:

1. Response compliance with the requirements of the RFQ
2. Project Manager qualifications
3. Number and size of similar projects
4. Government coordination experience
5. Reference check

Responses will be reviewed by Partnership staff, the Hancock County Engineer, the Findlay City Engineer and the Army Corps of Engineers. A firm will be selected to perform the required services based upon qualifications.

Questions:

Questions will **only** be accepted by mail or email until **October 26, 2009**. Address all questions to:

Northwest Ohio Flood Mitigation Partnership
101 W. Sandusky St., Suite 200
Findlay, OH 45840
Subject: Geotechnical Drilling and Testing Services
Attention: Anthony Iriti
Email: apiriti@floodpartnership.org

Questions and answers will be posted no later than **October 28, 2009** to the Partnership's website at: www.floodpartnership.org

Contingencies:

This RFQ does not represent a commitment or an offer by the Partnership to enter into an agreement with a firm or to pay any costs incurred in the preparation of a response to this RFQ. All submitted responses and any information made a part of the responses, becomes the property of the Partnership and will not be returned. The Partnership has sole discretion and reserves the right to reject any and all responses received with respect to this RFQ and to cancel the RFQ at any time prior to entering into a formal agreement with one or more firms responding to this RFQ.

All documents submitted to the Partnership will be deemed public records and made available for general public view. Any proprietary or confidential information should be submitted under separate cover.

EXHIBIT A

Scope of Services

BLANCHARD RIVER FLOOD PROTECTION PROJECT AT OTTAWA

FEASIBILITY STUDY

SCOPE OF WORK FOR GEOTECHNICAL DRILLING, SAMPLING AND TESTING

1. Background

A geotechnical drilling, sampling, and testing program will be executed to support a feasibility study for the Blanchard River Flood Control Project in Ottawa, OH. The United States Army Corps of Engineers – Buffalo District (USACE) is performing the feasibility study. The Village of Ottawa will execute the geotechnical drilling and testing program as a portion of their cost sharing responsibilities.

2. Geotechnical Drilling and Sampling Contractor Qualifications

The Contractor shall have qualified staff and equipment to capably perform the work described herein. The staff shall be under the supervision of at least one licensed Professional Engineer. The Professional Engineer shall be registered in the State of Ohio, and have specialized experience in executing geotechnical drilling and sampling programs for a minimum of five (5) years. The staff shall also include at least one Geotechnical Engineer or Certified Professional Geologist to provide full time oversight of drilling operations, preparation of field logs, and collection and protection of samples. The Geotechnical Engineer shall be a Professional Engineer or Engineer-in-Training with a minimum of two (2) years experience performing geotechnical investigations. The Certified Professional Geologist shall be certified by the American Institute of Professional Geologists, and have a minimum of two (2) years experience performing geotechnical investigations.

3. Geotechnical Testing Laboratory Qualifications

The Laboratory shall have qualified staff and equipment to capably perform the work described herein. The staff shall be under the supervision of at least one licensed Professional Engineer. The Professional Engineer shall be registered in the State of Ohio and shall have specialized experience in executing geotechnical testing programs for a minimum of five (5) years. The Geotechnical Testing Laboratory shall be capable of performing soils tests in accordance with standard test procedures adopted by AASHTO and ASTM. All Geotechnical Testing Laboratories shall have and maintain AASHTO accreditation which demonstrates compliance with AASHTO R18 and ASTM D3740 for the following ASTM test procedures: D421, D422, D4318, D698, D854, D2166, D2435, D2216, and D2850.

6. Standard Penetration Testing (SPT)

SPT and associated drilling shall be accomplished in accordance with ASTM D1586. A calibrated, automatic hammer shall be used for SPT. SPT shall be performed at depths listed in Table 2. The borehole shall be cleaned prior to each Standard Penetration Test.

DEPTH RANGE (FEET)	BEGINNING DEPTH FOR SPT (FEET)
0 to 10	1, 3, 5, 7, 9
10 to 20	11.5, 14, 16.5, 19
Below 20	24 and every 5 feet thereafter until SPT refusal

Table 2 – SPT Depths

7. SPT Sample Collection

SPT sample recovery, to the nearest 0.1 foot, shall be clearly noted on boring logs. Samples shall be packaged, labeled, preserved, and transported in accordance with ASTM D4220 Group B. Representative samples, approximately 5 inches long, shall be placed into moisture-proof sample jars. Lids of sample jars shall be tightly sealed and wrapped in electrical tape to ensure against moisture loss. Sample catchers shall be used when necessary to ensure sample recovery. Use of sample catchers shall be noted on boring logs. In soils where sample recovery with a 2-inch O.D. sampler is limited by gravel, a 3-inch O.D. split spoon shall be used and noted on boring logs. SPT samples shall be shipped to USACE, at the following address, within three business days of collection.

Reed Vetovitz

U.S. Army Corps of Engineers

1776 Niagara Street

Buffalo, NY 14207

8. SPT Hammer Calibration

A calibrated, automatic hammer shall be used. The calibration shall have been in accordance with ASTM D4633, and the latest calibration records shall be kept with the drill rig. The energy ratio for the hammer shall be clearly noted on boring logs along with the measured N value and the N₆₀ value for each Standard Penetration Test. The N₆₀ value shall be calculated by the following equation.

$$N_{60} = N_m \times (ER/60)$$

N₆₀ = normalized N value to nearest whole number

N_m = measured N value

ER = drill rod energy ratio, expressed as a percent, for the system

9. Thin-Walled Tube Sampling

Thin-walled tube sampling shall be accomplished in accordance with ASTM D1587. USACE will specify locations and depths for thin-walled sampling. Piston sampling may be required to recover soft soils. Samples collected with thin-walled tubes shall be packaged, labeled, preserved, and transported in accordance with ASTM D4220 Group D using suitable shipping containers. Sample ends shall be sealed immediately in the field with o-ring packers and the ends of the tube shall be capped and sealed to ensure against moisture loss. Samples shall be transported to the testing laboratory within one day of collection. Samples shall be protected from freezing at all times.

10. Boring Log Preparation

The following information shall be included on all boring logs.

- Boring number
- Boring latitude and longitude in the following format (XX degrees XX.XXX minutes)
- Reference datum for latitude and longitude
- Drilling firm
- Name of driller
- Name of Geotechnical Engineer or Geologist
- Method of drilling
- Diameter of augers and casing
- Description of drill rig
- Date boring started and completed
- SPT hammer energy ratio
- Date of last hammer calibration
- SPT sampler dimensions
- Depth groundwater first encountered to the nearest 0.1 foot
- Depth groundwater at the completion of drilling to the nearest 0.1 foot
- SPT sampling depths to the nearest 0.1 foot
- Blow counts for every 0.5 foot of SPT drive

- Measured SPT N values
- SPT N_{60} values
- Recovery length for each SPT to the nearest 0.1 foot
- Use of sample retainers
- Depths of strata changes to the nearest 0.5 foot
- Dimensions of thin-walled sampler
- Thin-walled sampling depths to the nearest 0.1 foot
- Length of thin-walled sampler advance to the nearest 0.1 foot
- Length of thin-walled sample recovery to the nearest 0.1 foot
- Methods and materials (including quantity) used to seal the boring
- Any general remarks concerning the drilling operations
- Thickness of pavement, sod, or topsoil cover at the surface
- Descriptions of all soil strata encountered including:
 1. Consistency of fine-grained soils (i.e. very soft, soft, medium, stiff, very stiff, hard)
 2. Density adjective of coarse-grained soils (i.e. very loose, loose, medium dense, dense, very dense)
 3. Soil moisture (i.e. dry, moist, wet)
 4. Soil color
 5. Particle-size description for coarse-grained soils (i.e. fine, medium, coarse)
 6. Names of main and minor soil types [i.e. gravel(ly), sand(y), silt(y), clay(ey)]
 7. Estimated geologic name (i.e. fill, alluvium, glaciolacustrine, till)

A copy of field boring logs shall be emailed or faxed to USACE within one business day of completion of the boring.

11. Sealing of Borings

Borings shall be sealed in accordance with the *Ohio Department of Transportation's Policy for Sealing Geotechnical Exploratory Borings*.

12. Extrusion of Thin-Walled Tube Samples

The Professional Engineer described in Section 3 of this Scope of Work shall provide general oversight of sample extrusion. Thin-walled tube samples shall be carefully extruded within two days of collection. Extruded samples shall be promptly logged, photographed, and wrapped in accordance with ASTM D4220 to ensure against moisture loss. Thin-walled tube sample logs shall include the following information.

- Boring number
- Date of extrusion
- Boring depth associated with top of sample
- Boring depth associated with bottom of sample
- Boring depth associated with any strata changes within the length of the sample
- Descriptions of various soil strata observed in the sample

A copy of thin-walled tube sample photographs and logs shall be emailed to USACE within one business day of extrusion.

13. Laboratory Testing of Thin-Walled Samples

The Professional Engineer described in Section 3 of this Scope of Work shall provide general oversight of laboratory testing. USACE may specify the following tests of thin-walled samples.

- Moisture Content (ASTM D2216)
- Atterberg Limits (ASTM D4318)
- Particle Size Analysis (ASTM D422)
- Specific Gravity (ASTM D854)
- Unconfined Compressive Strength (ASTM D2166)
- Unconsolidated Undrained Triaxial (ASTM D2850)
- Laboratory Miniature Vane (ASTM D4648)
- Consolidation (ASTM D2435)

14. Submittals

The following documents shall be submitted to USACE for approval prior to commencement of drilling operations.

- Resume of the Professional Engineer described in Section 2 of this Scope of Work. The resume shall include professional license information and a list of projects to indicate experience.
- Resume of the Professional Engineer described in Section 3 of this Scope of Work. The resume shall include professional license information and a list of projects to indicate experience.
- Resume of the Geotechnical Engineer or Certified Professional Geologist described in Section 2 of this Scope of Work. The resume shall include license/certification information and a list of projects to indicate experience
- License information for the Professional Land Surveyor described in Section 4 of this Scope of Work.
- Field boring log form to be used.
- Description of the drilling equipment to be used.
- Description of drilling methods to be used.
- Description of the sampling rods, sampler, and drive-weight assembly to be used for SPT.
- Description of the procedures to be used, and the personnel to be involved, to ensure that thin-walled tubes are packaged, labeled, preserved, and transported to the testing laboratory in accordance with ASTM D4220 Group D and Section 9 of this Scope of Work.
- Description of the procedures to be used to seal boreholes in accordance with the *Ohio Department of Transportation's Policy for Sealing Geotechnical Exploratory Borings*.
- Copies of the AASHTO accreditation certificates listed in Section 3 of this Scope of Work.

15. Drilling, Sampling, and Testing Report

The Drilling, Sampling, and Testing Report shall be signed and stamped by the Professional Engineer described in Section 2 of this Scope of work and include the following:

- Resume of the Professional Engineer that provided general oversight for the geotechnical drilling and sampling program.
- Resume of the Geotechnical Engineer or Certified Professional Geologist that provided full time oversight of drilling operations, preparation of field logs, and collection and protection of samples.
- Boring logs
- Description of the drilling equipment used.
- Description of the drilling methods used.
- Description of SPT equipment used.
- Description of the procedures used, and the personnel involved, to ensure that thin-walled tubes were packaged, labeled, preserved, and transported to the testing laboratory in accordance with ASTM D4220 Group D and Section 9 of this Scope of Work.
- Description of the procedures used to sealed boreholes in accordance with the *Ohio Department of Transportation's Policy for Sealing Geotechnical Exploratory Borings*.
- A laboratory testing appendix including the resume of the Professional Engineer that provided general oversight for the geotechnical testing program, laboratory logs of thin-walled tube samples, laboratory photographs of extruded thin-walled tube samples, and all laboratory test reports prepared in accordance with the applicable ASTM standard signed and stamped by the Professional Engineer described in Section 3 of this Scope of Work.
- A land survey appendix including the boring locations and elevations signed and stamped by the Professional Land Surveyor described in Section 4 of this Scope of Work.