

**PURCHASING DEPARTMENT  
101 EAST 11<sup>TH</sup> STREET  
SUITE G13  
CHATTANOOGA, TENNESSEE  
37402**

**Request for Qualifications (RFQ) for the City of Chattanooga**

*Qualifications will be received at 101 East 11<sup>th</sup> Street, Suite G13, Chattanooga, TN 37402 until 4:00 P.M., on February 20, 2015*

**Requisition No.: 106987  
Department.: Waste Resources  
Buyer & e-mail: Geoffrey Hipp hipp\_g@chattanooga.gov**

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**Project: Short Circuit Study and Arc Flash Hazard Analysis for  
Pump Stations and CSO Facilities**

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**\*\*\*QUALIFICATIONS MUST BE RECEIVED BY\*\*\*  
4:00 P.M., Eastern on February 20, 2015**

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**The City of Chattanooga reserves the right to reject any and/or all submittals,  
waive any informalities in the submittals received, and to accept any  
submittal which in its opinion may be for the best interest of the City.**

**The City of Chattanooga will be non-discriminatory in the purchase of all goods  
and services on the basis of race, color or national origin.**

**The City's Standard Terms and Conditions may be found on website:  
([www.chattanooga.gov/purchasing/standard-terms-and-conditions](http://www.chattanooga.gov/purchasing/standard-terms-and-conditions))**

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**Note: ALL SUBMITTALS MUST BE SIGNED**  
All submittals received are subject to the terms and conditions contained herein. The undersigned Offeror acknowledges having received, reviewed, and agrees to be bound to these terms and conditions, unless specific written exceptions are otherwise stated.

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**PLEASE PROVIDE THE FOLLOWING INFORMATION:**

**Company Name:** \_\_\_\_\_  
**Mailing Address:** \_\_\_\_\_  
**City & Zip Code:** \_\_\_\_\_  
**Phone/Toll Free No.:** \_\_\_\_\_  
**Fax No.:** \_\_\_\_\_  
**E-Mail Address:** \_\_\_\_\_  
**Contact Person:** \_\_\_\_\_  
**Company Title:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_

# Request for Qualifications

## **Professional Services for Short Circuit Study and Arc Flash Hazard Analysis for Pump Stations and CSO Facilities**

**City of Chattanooga, Tennessee**

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**January 2015**



# **Section 1**

## **Introduction**

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**REQUEST FOR QUALIFICATIONS  
FOR PROFESSIONAL SERVICES FOR  
SHORT CIRCUIT STUDY AND ARC FLASH HAZARD ANALYSIS  
FOR PUMP STATIONS AND CSO FACILITIES  
WASTE RESOURCES DIVISION  
CITY OF CHATTANOOGA, TENNESSEE  
January 2015**

**1.0 INTRODUCTION**

**1.1 BACKGROUND**

**A. GENERAL**

The City of Chattanooga (City) is requesting qualifications (RFQ) from qualified vendors for the purpose of conducting a Short Circuit Study and Arc Flash Hazard Analysis for pump stations and Combined Sewer Overflow (CSO) treatment facilities for the Waste Resources Division, 455 Moccasin Bend Road, Chattanooga, TN 37405. It is the City's intention that this project result in the establishment of safety requirements in accordance with NFPA 70E, and will include calculations for each applicable site for the degree of arc flash hazard, identification of correct personal protective equipment (PPE) for employees, identification of appropriate tools for safe working, training for workers on the hazards of arc flash, and placement of appropriate warning labels at each site.

**B. Current Practices**

The Waste Resources Division is responsible for operation of the Moccasin Bend Wastewater Treatment Plant (MBWWTP), as well as 69 sewage pumping stations, 8 flood control pump stations, and 8 CSO treatment facilities. In 2011, a short circuit study and arc flash hazard analysis was completed for the Moccasin Bend Wastewater Treatment Plant. In 2012 an arc flash hazard analysis was completed for five of the pump stations and one of the CSO Facilities. Implementation of the arc flash safety program has been delayed pending completion of the study for the remaining sites, since Waste Resources personnel are responsible for all sites, and the safety program will apply to all. The completed study for MBWWTP and the other six sites is available for review upon request.

Current staffing of operations and maintenance personnel at the pump station and CSO facility sites consists of four (4) electricians with Journeyman license, five (5) additional electrical workers, along with mechanics, and pump station/CSO operators. When necessary, the City employs contracted electrical workers with Journeyman licenses, as well as contracted mechanical workers.

## **1.2 PURPOSE OF REQUEST**

The purpose of this RFQ is to select a Consultant/Contractor to complete a short circuit study and arc flash hazard analysis, along with associated tasks described in the Scope of Work, in order to upgrade the Waste Resources Division electrical safety program to include requirements of NFPA 70E. This project will compliment the short circuit study and arc flash hazard analysis that has already been completed for the wastewater plant and six (6) other sites, will perform the same work for the pump stations and CSO facilities, and will provide for equipment labeling and implementation of the associated requirements. Vendor selected for this project will determine the incident energy potentially present at the City's electrical equipment using IEEE 1584 current standards, the associated Hazard/Risk Category, and the appropriate PPE for workers.

## **Section 2**

# **Qualifications Package Instructions**

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## **2.0 QUALIFICATIONS PACKAGE INSTRUCTIONS**

### **2.1 INTRODUCTION**

Seven (7) bound copies and one (1) unbound copy of qualifications shall be submitted

All submittals shall be contained in a sealed envelope or box marked:

**“QUALIFICATIONS FOR SHORT CIRCUIT STUDY AND ARC FLASH HAZARD ANALYSIS FOR PUMP STATIONS AND CSO FACILITIES – WASTE RESOURCES DIVISION”.**

The original and copies of the submittal shall be indexed with tabs for each section. All submittals shall be submitted no later than **4:00 p.m. EST, on Friday, February 20, 2015** to the attention of:

City of Chattanooga Purchasing  
Attn: Geoffrey Hipp  
Suite G-13, 101 East 11<sup>th</sup> Street  
Chattanooga, TN 37402

Submittals shall be limited to a *maximum of 20 pages* printed on one or both sides. Resumes of key staff to be assigned to this project shall be limited to one (1) page per person and projects demonstrating experience shall be limited to one (1) page per project. To use less paper, the submitter may use front and back of each sheet. The submitter may provide a front cover, blank back cover, and cover letter additionally, which are not included in the page count limit.

***NOTE:** RFQ responses shall address only the information requested in the RFQ. The City is not interested in "fluff or filler". It is interested in the resumes of the people that will be working on the projects and descriptions of similar projects that they have worked on singularly or together. Resumes of others who will not be working on the project or project descriptions that are not recent or not relevant to the RFQ are not wanted.*

### **2.2 QUALIFICATIONS WITHDRAWAL PROCEDURE**

Qualifications may be withdrawn up until the date and time set above for opening of submittals. Any submittal not so withdrawn shall, upon opening, constitute an irrevocable offer for a period of ninety (90) days to provide the services set forth in the submittal or until one of the submittals has been accepted and a contract has been executed between the City and the successful submitter.

### **2.3 RESERVATION OF CITY RIGHTS**

- A. The City reserves the right to request clarification of information submitted and to request additional information of one or more submitters.
- B. The City reserves the right to negotiate a contract for the work covered by this RFQ with the next most qualified finalist if the successful finalist does not execute a contract within fifteen (15) days after submission of a contract by the CITY.

The City reserves the right to negotiate all elements that comprise the selected submittal.

- C. The City reserves the right, after opening the submittals or at any other point during the selection process, to reject any or all submittals, modify or postpone the intended project, evaluate any alternatives offered or accept the submittal that, in the City's sole judgment, is in its best interest.
- D. The City reserves the right to terminate the contract if the Contractor fails to perform the work described herein upon giving the Contractor a thirty (30) day written notice of the intention to do so.

#### **2.4 FACILITY VISIT**

No formal site visits are scheduled because of the short response time.

#### **2.5 ADDITIONAL REQUESTS FOR INFORMATION**

The RFQ is considered to be self-explanatory and should not require any additional requests for information.

All contacts should be made through:

City of Chattanooga Purchasing  
Attn: Geoffrey Hipp  
Suite G-13, 104 East 11<sup>th</sup> Street  
Chattanooga, TN 37402  
e-mail: hipp\_g@chattanooga.gov

The City specifically requests that any contact concerning this Request for Qualifications to be made exclusively with the Buyer until selection has been completed. Failure to honor this request will be negatively viewed in the selection process.

## **2.6 AFFIRMATIVE ACTION PLAN**

The City of Chattanooga is an equal opportunity employer and during the performance of this Contract, the Contractor agrees to abide by the equal opportunity goals of the City of Chattanooga as follows:

- A. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- B. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor; state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or handicap.
- C. The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- D. In all construction contracts or subcontracts in excess of \$10,000 to be performed for the City of Chattanooga, any contractor and/or subcontractor is further required to file in duplicate within ten (10) days of being notified that it is the lowest responsible bidder, an affirmative action plan with the EEO Director of the City of Chattanooga. This plan shall state the Contractor's goals for minority and women utilization as a percentage of the work force on this project.
- E. This Plan or any attachments thereto shall further provide a list of all employees annotated by job function, race, and sex who are expected to be utilized on this project. This plan or attachment thereto shall further describe the methods by which the Contractor or Subcontractor will utilize to make good faith efforts at providing employment opportunities for minorities and women. During the term of this contract, the Contractor upon request of the City will make available for inspection by the City of Chattanooga copies of all payroll records, personnel documents, and similar records or documents that may be used to verify the Contractor's compliance with these Equal Opportunity provisions.

## **Section 3**

### **Submittal Contents**

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### **3.1 GENERAL INFORMATION**

The submitter shall provide the following general information:

- A. Identify the name, address, telephone, and facsimile numbers of the entity and the principal contact person.
- B. Identify the type of firm or organization and describe the entity that will serve as the contracting party.
- C. Provide the history, ownership, organization, and background of the entity.
- D. Identify any relevant lawsuits or litigation, permit violations, or contract disputes for similar projects developed by the entity.

### **3.2 QUALIFICATIONS AND EXPERIENCE**

The submitter shall provide the following regarding technical qualifications and experience dealing with short circuit studies and arc flash hazard analysis, requirements of NFPA 70E, and associated equipment labeling and PPE.

#### **A. General Experience**

The submitter shall provide a summary of the experience of the submitter's personnel (and/or project team) in the performance of arc flash hazard analyses.

The submitter shall have been in business providing electrical equipment evaluations, power system one-line diagrams, short circuit studies, coordination studies, arc flash studies, and similar evaluations of electrical equipment in the water distribution/wastewater collection industry or a substantially similar industry for at least five (5) years. Submitter shall provide description of qualifications related to knowledge of electrical standards such as ANSI C37, ANSI/IEEE399, and NFPA 70E.

#### **B. Arc Flash Calculations Experience**

The submitter shall provide a summary of experience of the personnel and/or project team in performing arc flash calculations compliant with IEEE 1584, and in the use of SKM Power Tools software.

#### **C. Equipment Labeling**

Identify the person(s) who will be responsible for labeling all equipment based on the findings of the arc flash hazard analysis.

#### **D. Training of Owner's Employees**

Identify the person, firm, institution, or organization that will be provided by submitter to perform training of Owner's employees in Hazard/Risk Categories and the associated PPE required. Provide information on qualifications and experience of trainer.

## E. References

Provide at least three (3) references of recent, similar projects performed by entity and/or project team personnel. Provide a description of the project scope, the owner for whom the project was performed, project location, and the name, address, and contact information of a representative of the owner who is knowledgeable of the project.

### 3.3 SCOPE OF WORK

This project consists of a short circuit study and arc flash hazard analysis for all applicable City sewer/storm pump stations and CSO facilities, associated equipment labeling for these facilities as well as for the Moccasin Bend Wastewater Treatment Plant equipment, based on the short circuit study and arc flash hazard analysis already performed for it. Also included in the project scope is the provision of employee training on the arc flash hazard program requirements. The study will extend from the 12.47kV utility interface and downstream to include all low voltage equipment fed from each motor control center. Low voltage equipment will be considered to be all major distribution panels and busways. Motors 50 horsepower and above will be considered as major equipment and the analysis will extend to each motor. Small motor loads less than 50 horsepower will be considered for the calculation of low voltage fault current only, and will be modeled as connected directly to the low voltage busses. Some of the small motor loads may be combined and modeled as a single induction motor.

#### General Scope of Work

- A. The submitter shall provide all labor, benefits, equipment, materials, insurance, transportation, and other related services required in connection with the performance of the short circuit study and arc flash hazard analysis as described in this RFQ.
- B. The submitter shall obtain all necessary permits required from all applicable federal, state, and local regulatory agencies necessary for the performance of this work.
- C. All of the products and services provided by the submitter shall be completed in a professional and workmanlike manner. All products and services provided shall be in compliance with all applicable statutes, rules, ordinances and regulations, including, but not limited to International Electrical Testing Association, IEEE, ANSI standards, and NFPA 70E.
- D. The submitter's personnel shall comply with all City, Waste Resources Division, and Moccasin Bend WWTP work rules and regulations when on site.
- E. The submitter shall coordinate all access to each site with City representatives and observe security requirements at each site.

- F. The products and services furnished by the submitter shall be subject to inspection and approval by the City's designated representative, but the manner and method of providing the products and services shall be the responsibility of the submitter.
- G. The submitter shall provide a written safety plan for submitter's personnel prior to the start of the work.

#### Specific Scope of Work

- A. Submitter will collect electrical component information such as protective device nameplate and settings, cable type, size and length, motor nameplate, etc. directly from each applicable piece of equipment whenever possible. If access to a piece of equipment is not possible (such as it being energized, or cables buried or submerged), assumptions may be made based on the existing drawings and input from plant maintenance personnel.
- B. Submitter will prepare a one-line diagram of the power systems.
- C. Submitter will perform a short circuit study in accordance with ANSI C37.
- D. Submitter will perform a coordination study in accordance with ANSI/IEEE 399.
- E. Submitter will perform an arc flash study in accordance with NFPA 70E. Arc flash study will be performed using SKM Power Tools software designed specifically for this purpose, and all calculations will comply with IEEE 1584.
- F. Submitter will provide arc flash warning nameplates for each individual equipment item, and will include nameplates for equipment at the Moccasin Bend Wastewater Treatment Plant based on the arc flash hazard analysis completed in August, 2011 and for the analysis completed on six (6) sites in November 2012.
- G. Submitter will prepare arc flash evaluation report listing incident energy, arc flash boundary and hazard risk category for each bus location. Submitter will also prepare an equipment evaluation report comparing protective device ratings to calculated short circuit current and provide mitigation recommendations to hazard/risk level 3 when feasible.
- H. Submitter will install all arc flash labeling on equipment in accordance with current NFPA 70E standards.

- I. Submitter will provide training of City's employees on the requirements associated with the arc flash hazard categories, labeling standards, and PPE requirements. Training will be provided for employees in electrical maintenance as well as mechanical maintenance and those responsible for routine operation of the equipment. Training shall consist of classroom type as well as field training. Training shall be user friendly and developed and performed at the education level of those being trained. Training shall be coordinated with the Waste Resources Division Occupational Safety Specialist. Training will involve multiple training sessions to ensure that all appropriate personnel on various shifts receive the training.
  
- J. Submitter will provide five (5) hard copies and three (3) electronic copies of the final report, including all calculations, spreadsheets, one-line diagrams, and hazard risk category.

### **3.4 PACKAGE SUBMITTAL COMPONENTS**

The submittal package should include the following components, at a minimum:

- A. All information and items requested in Section 3.1.
- B. All information and items requested in Section 3.2.
- C. A detailed description of submitter's approach to completion of the Scope of Work.
- D. Expected project schedule and time of expected completion after receiving contract from the City.

### **3.5 CITY SUPPLIED SERVICES**

The City will provide the following as required to complete the project:

- A. The City will provide access to its electrical equipment at each applicable pump station and CSO facilities, as well as at the wastewater treatment plant. Where possible, City personnel will assist in accessing information from motors, cables, nameplates, etc.
- B. The City will provide existing drawings on any applicable equipment as well as any other requested information in the City's possession on the equipment.
- C. The City will provide a copy of the arc flash hazard analysis already completed for the Moccasin Bend Wastewater Treatment Plant, dated August 23, 2011, and for six (6) of the pump stations/CSO sites dated November 16, 2012.
- D. The City will provide space onsite for submitter to perform work and training.
- E. The City will designate a person to coordinate this work with the submitter.

- F. The City will provide copies of all related reports for the remote telemetry system for pump stations and CSO facilities.

### **3.6 TERMS AND CONDITIONS**

These terms and conditions shall apply to all parts of the RFQ described herein.

- A. This submittal and associated contract, if awarded, shall comply with applicable rules and conditions found in the City of Chattanooga's "Standard Terms and Conditions" (<http://www.chattanooga.gov/purchasing/standard-terms-and-conditions>).
- B. Except for information and data that is protected under law as confidential, all reports, permits, applications, etc. filed in connection with the work will be available for public inspection.
- C. The submitter shall not transfer or assign any interest in this project contract to another party or person without the prior written consent of the City.
- E. The submitter shall indemnify, defend, and save harmless the City, its elected officials, managers, employees, and agents from and against all claims, suits, actions, orders, judgments, penalties or decrees entered by reason of or as a result of the submitter's gross negligence in the performance of the work under this contract. Indemnification shall extend to indirect, consequential, and pollution damages as well as attorney's fees.
- F. During the term of the contract, the submitter shall maintain in force the following minimum amounts of insurance coverage:
  - 1. Workers Compensation Insurance - statutory
  - 2. Employee's Liability - \$100,000
  - 3. Comprehensive General Liability Insurance - \$3,000,000
  - 4. Automobile Liability Insurance - \$3,000,000

City shall be named as additional insured on the above policies. The City shall be notified by the submitter at least thirty (30) days in advance of any cancellation of insurance, changes in insurance carriers, or any actions relative the above in insurance requirements.
- G. Length of contract term will be negotiated with the successful submitter. In the event that changes in federal or state laws and regulations require modification of the Contract, the City and submitter agree to cooperate, as the circumstances require.
- H. In the event the submitter:
  - 1. Fails to initiate services on the date specified or otherwise agreed upon;
  - 2. Fails to provide all of the required documentation for his personnel, insurance, and any other documentation required by this RFQ at the specified times;

3. After having begun services, abandons them for any reason;
4. Suspends or refuses to continue services; or
5. Defaults in any manner in the performance under the terms of the Contract for a period of thirty (30) consecutive days (unless the submitter is prevented from continuing for reasons beyond its control);

The City of Chattanooga shall have the right to terminate the Contract immediately upon the written notification by the City for the reasons listed above and the City shall have interim services completed by another Service Provider in any reasonable manner at the initial submitter's expense. The City shall have the right to terminate the Contract after giving a thirty-day (30) written notice to the submitter.

- I. Any contract resulting from the acceptance of a submittal by the City shall be in a form acceptable to the City and shall contain, as a minimum, those terms and conditions contained in this RFQ.

## **Section 4**

# **Review and Evaluation of Qualifications**

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#### **4.0 REVIEW AND EVALUATION OF QUALIFICATIONS**

##### **4.1 REVIEW COMMITTEE**

A committee consisting of individuals selected by the Waste Resources Division will receive all qualifications submitted. The City, in its sole judgment, will decide if a submittal is viable.

##### **4.2 SELECTION CRITERIA**

Selection of Consultant/Contractor for contract/agreement negotiation will be based on qualifications and experience using the following criteria:

- A. Experience and capabilities of the Consultant/Contractor for the project.
- B. Experience with performing similar projects.
- C. Available resources for the project.
- D. Demonstrated ability to meet schedule for similar projects.
- E. Demonstrated ability to meet budget for similar projects.

##### **4.3 SELECTION OF FINALIST**

After the review of the qualifications by the Review Committee, the City may, at its sole option, elect to reject all submittals or elect to pursue the project further. In the event that the City decides to pursue the project further, the City will select the highest ranked finalist to negotiate a contract or agreement.