



Date: September 1, 2011

To: Thomas J. Bonfield, City Manager
Through: Theodore L. Voorhees, Deputy City Manager
From: Donald F. Greeley, Director, Water Management
Renee C. Lawrence, Civil Engineer, Water Management
Subject: Professional Engineering Services for the Teer Quarry Raw Water Storage and Pumping Facility Preliminary Site Design

Executive Summary

The Department issued a Request for Proposal (RFP) for Professional Engineering Services for the Preliminary Site Design Phase of the Teer Quarry Raw Water Storage and Pumping Facility. The Department received 5 responses to the RFP. Kimley-Horn & Associates, Inc. was selected and a scope of services for the contract was negotiated in the amount of \$943,820.00. As part of this preliminary site design phase, water supply classification permitting, environmental and geo-technical services will be conducted to design the short term off-line storage facility and formulate the transition to long term on-line facilities.

Recommendation

The Department of Water Management recommends that the City Council:

1. Authorize the City Manager to execute a contract with Kimley-Horn & Associates, Inc. for Professional Engineering Services in an amount not to exceed \$943,820.00 for the Teer Quarry Raw Water Storage and Pumping Facility Preliminary Site Design Phase; and
2. Establish a contingency fund for the contract in the amount not to exceed \$50,000.00; and
3. Authorize the City Manager to negotiate change orders for the contract provided that the cost of all change orders does not exceed 50,000.00, and the total project cost of \$993,820.00.

Background

The City has been evaluating Teer Quarry as a potential raw water supply reservoir since the mid-1990s. A Feasibility Study was completed in October 2003 and determined, based on the preliminary geological information, the quarry could be developed as a reservoir. A detailed Engineering Report completed in November 2005 reaffirmed the quarry could be developed as reservoir. The City became owner of the quarry in 2006.

As part of the permitting process the City submitted an Environmental Assessment to the North Carolina Department of Environment and Natural Resources (NCDENR). The City was issued a Finding of No Significant Impact (FONSI) from NCDENR to utilize Teer Quarry as supplemental off-line raw water storage.

The Preliminary Engineering Report received from Camp Dresser and McKee, in 2010, provided 3 alternative pumping configurations for the quarry site. The options presented included estimated costs for construction. Administration's review of the options identified the need to re-evaluate the project based upon the FONSI issued by NCDENR. The FONSI limited the methods by which the quarry could be filled and also designated that the facility could only be used as an "off-line" storage facility which adversely impacted the cost per million gallons for construction and operation when compared to the marginal increase in safe yield to the water system. Infrastructure surrounding the quarry, including the Eno River Intake and appurtenances and the raw water pipeline from Lake Michie also require re-evaluation as part of the design plans for a short-term storage and pumping facility.

Issues that influence the need to develop the quarry as a raw water storage facility include Durham's continued growth, the need to increase operational flexibility and redundancy of raw water storage.

This contract consist of preliminary site design for Durham's Teer Quarry "short term" use as an off-line raw water storage and pumping facility. The project work includes the following engineering services:

- A. Review of data and reports from the City
- B. Environmental evaluations and regulatory reviews with governing entities
- C. Water Supply Classification permitting
- D. Planimetric, topographical and geotechnical surveys and investigations
- E. Development of conceptual designs for pumping and piping infrastructure
- F. Eno River Intake modifications and related permitting
- G. "Emergency" use infrastructure requirements

Key elements in the design phase center around compliance with the guidelines designated in the FONSI, obtaining a permitted classification for the quarry as a water supply source and selecting the most cost effective pumping options to meet the City's needs for "emergency" withdrawals, short-term routine "off-line" usage that can be "readily" expanded to meet the long-term and 24-hour on-line operations.

Issues and Analysis

There were 5 firms that responded to the RFP:

- Black & Veatch
- KCI Associates
- Camp Dresser and McKee
- Hazen and Sawyer
- Kimley-Horn and Associates

Four firms were short listed to present their proposals to the selection committee. The selection committee was comprised of staff from the department and the Equal Opportunity/Equity Assurance Department. Based on their proposal and experience the committee selected the firm of Kimley-Horn and Associates for the project.

Alternatives

One alternate would be to not pursue the project thereby leaving the Eno River Intake and the emergency piping connections in their current conditions. This alternative does allow the

city to use temporary diesel powered pumps for emergency withdrawals from the Quarry as was done during the 2007 drought but does not allow the City to fill the quarry from the river.

Alternatives originally identified during the feasibility and preliminary engineering phases for the quarry site are still possible. The possible alternatives include raising current dam heights; thereby expanding Lake Michie and Little River, constructing pipeline and treatment plant infrastructure at Jordan Lake, or constructing a new reservoir at a new location.

Constructing facilities that utilize Jordan Lake may take approximately 10+ years based upon the progression of the project from the feasibility study phase through the design and construction phases.

Financial Impact

The immediate cost to the City for the contract with Kimley-Horn & Associates is \$943,820.00. The funds are currently available in the Teer Quarry Water Supply Capital Project, 4100P007-732000-P0800.

SDBE Summary

The Equal Opportunity/Equity Assurance Department reviewed the proposal submitted by Kimley-Horn and Associates, Inc. of Cary, North Carolina to determine compliance with the Ordinance to Promote Equal Business Opportunities in City Contracting. The goals for this project are MSDBE 3% and WSDBE 4%. It was determined that Kimley-Horn and Associates, Inc. is in compliance with the Ordinance to Promote Equal Business Opportunities in City Contracting.

SDBE REQUIREMENTS

Kimley-Horn and Associates, Inc. will subcontract to the following certified firms:

Firm	ID	City/State	Amount	% of Contract
A1 Consulting Group, Inc.	SDBE*	Morrisville, NC	\$ 447,800.00	52.14%
Cooper and Associates Surveyors, PA	WSDBE	Morrisville, NC	\$ 84,669.00	9.86%

*A1 Consulting Group, Inc. is an Asian American SDDBE and was used to fulfill the MSDDBE goal requirement for this project in compliance with the Ordinance to Promote Equal Business Opportunities in City Contracting.

The MSDDBE and WSDDBE goals were exceeded.

WORKFORCE STATISTICS

Workforce statistics for Kimley-Horn and Associates, Inc. are as follows:

Total Workforce	123	
Total Females	58	(47%)
Total Males	65	(53%)
Black Males	2	(2%)
White Males	63	(51%)

Other Males	0	(0%)
Black Females	3	(2%)
White Females	55	(45%)
Other Females	0	(0%)

Attachments