



Date: April 17, 2018

To: Thomas J. Bonfield, City Manager
Through: W. Bowman Ferguson, Deputy City Manager
From: Donald F. Greeley, Director, Water Management
Subject: W. Club Boulevard Corridor Utility Rehabilitation – Contract for Professional Engineering Services

Executive Summary

The Department of Water Management (DWM) issued a Request for Qualifications (RFQ) for Professional Engineering Services to provide evaluation, design, and construction services for replacing waterlines in three (3) areas of the City. This proposed contract addresses one (1) of the areas, W. Club Boulevard and 9th Street, as shown in Attachment 1. The other two areas, W. Main Street and N. Elizabeth Street, have been addressed under a separate professional services contract.

Dewberry Engineers Inc. (Dewberry) was selected for the W. Club Boulevard Corridor Utility Rehabilitation project. The overall project includes waterline replacement and both sanitary sewer and storm sewer evaluation, rehabilitation, and replacement. A scope of services for the first phase of the project has been negotiated in the amount of \$825,585.00. The first phase includes field data collection (survey, CCTV, geotechnical, etc.), public outreach, and preparation of a Preliminary Engineering Report (PER). The upfront effort on this project is more substantial than typically experienced in an effort to mitigate construction issues within a busy corridor. Examples of this effort includes a survey that goes beyond the right-of-way; an in-depth tree survey; manhole inspections, CCTV, smoke testing, and dye testing of the sanitary sewer; and evaluation of storm sewers.

Following approval of the PER, two amendments are expected to be forthcoming. One will include further field data collection, final design, and permitting (estimated at roughly \$400,000.00); followed by another for bidding and construction-related services (estimated at approximately \$500,000.00).

The total construction cost of the project is anticipated to be roughly \$8,000,000.00 to \$10,000,000.00 dependent upon PER findings.

Recommendation

The Department of Water Management recommends that City Council:

1. Authorize the City Manager to execute a contract with Dewberry Engineers Inc. for Professional Engineering Services in an amount not to exceed \$825,585.00 for the W. Club Boulevard Corridor Utility Rehabilitation contract;
2. Establish a contingency fund for the contract in the amount not to exceed \$82,559.00;
3. Authorize the City Manager to negotiate change orders for the contract provided that the total project cost does not exceed \$908,144.00.

Background

The central part of the City’s water distribution system is over one hundred years old. This central part represents approximately 16% (~200 miles) of the system and is comprised predominantly of old cast iron mains. These mains are well beyond their service life. Water main breaks are becoming more common in these mains and these mains have a high degree of tuberculation (mineral deposit buildup). This buildup of mineral deposits within the mains reduces their carrying capacity and reduces fire flow. The Water Distribution Rehabilitation Program was created, funded within the Capital Improvement Program (CIP), to replace this aging infrastructure. The central part of the system is also where Durham is experiencing significant growth associated with redevelopment, especially in the Downtown Area.

The program typically has two types of projects:

1. Large-scale waterline replacements throughout an entire area of the City
2. Smaller-scale individual projects focused on resolving repeated maintenance issues.

This is for a smaller-scale, individual project resulting from mains with increased break histories. One downtown area will be addressed by this project. It extends on W. Club Boulevard from Hillandale Road to 9th Street, along 9th Street from W. Club Boulevard to Markham Avenue, and a few adjoining side streets with similar maintenance issues. This area is shown on Attachment 1.

The proposed project will initially include field data collection (survey, CCTV, geotechnical, etc.), public outreach, and preparation of a PER. The PER will evaluate alignment alternatives for approximately 12,910 linear feet (LF) of water main. It will also evaluate the condition of sanitary sewer mains and storm drainage lines within the project area to minimize the need for any future impacts within the corridor. Following approval of the PER, amendments will be forthcoming that will include further field data collection, final design, permitting, bidding, and construction-related services.

Issues and Analysis

In May 2017, the DWM advertised for a RFQ. The following ten firms responded to the RFQ:

McKim and Creed	Timmons Group	WithersRavenel
CJS Conveyance	JC Waller	The Wooten Company
Dewberry	Critek	AECOM
Pennoni		

Three firms were short-listed and conducted in-person presentations for the selection committee. The selection committee was comprised of staff from the DWM Utility Engineering Division and the Equal Opportunity/Equity Assurance Department.

In their proposal and presentation, Dewberry recognized that a key component to these water and sewer rehabilitation/replacement projects was the coordination and early field data collection needed to construct a project in a popular neighborhood. They also presented an experienced project team with a history of success on similar projects. Based on their proposal and presentation, the committee selected Dewberry for the project.

The table below summarizes the funds requested as a part of Phase I:

Description	Lump Sum	Not-To-Exceed	Total Cost
Task 1 - Project Management and Meetings		\$32,020	\$32,020
Task 2 - Preliminary Data Collection		\$264,174	\$264,174
Task 3 - Sewer Collection System Condition Assessment		\$125,716	\$125,716
Task 4 - Storm Drain Crossings Assessment		\$32,572	\$32,572
Task 5 - Valve Assessment, Hydrant Audit, and Meter Audit		\$27,878	\$27,878
Task 6 - Tree Health and Risk Assessment	\$24,168		\$24,168
Task 7 - Level A Subsurface Utility Investigation		\$21,820	\$21,820
Task 8 - Preliminary Geotechnical Investigation		\$19,624	\$19,624
Task 9 - Environmental Investigation		\$16,739	\$16,739
Task 10 - Curb Ramp and Crosswalk Audit	\$23,240		\$23,240
Task 11 - Preliminary Traffic and Pedestrian Control Plan	\$35,140		\$35,140
Task 12 - Public Notification and Communication		\$118,788	\$118,788
Task 13 - Preliminary Engineering Reporting	\$43,706		\$43,706
Task 14 - Allowance for Additional Services		\$40,000	\$40,000
Total Phase I Cost	\$126,254	\$699,331	\$825,585

The preliminary field data effort on this project is more substantial than typically experienced in an effort to mitigate construction issues within a busy corridor. Examples of this effort includes a survey that goes beyond the right-of-way; an in-depth tree survey; and manhole inspections, CCTV, smoke testing, and dye testing of the sanitary sewer.

Future phases/amendments are anticipated to cost approximately \$400,000.00 for further field-data collection, final design and permitting; followed by another for roughly \$500,000.00 for bidding and construction-related services. Construction alone is anticipated to cost between \$8,000,000.00 and \$10,000,000.00. These values may vary after the findings presented in the PER. Currently, the total projected cost of the project is estimated to be between \$9,725,000.00 and \$11,725,000.00 (for both professional engineering services and construction).

Alternatives

Alternative #1 – Do not move forward with the project. This alternative would likely result in a future significant increase of waterline breaks, increasing maintenance costs and traffic disruptions.

Alternative #2 – Do not move forward with the contract and prepare all design plans in-house. Department staff does not have the resources or availability to perform the field services needed and prepare design plans for projects of this magnitude. This alternative would result in delayed construction and increased waterline breaks in the interim.

Financial Impact

The funds are currently available in the following accounts:

Water design	4100P002-731004-P0BBU	\$507,440.00
Sanitary sewer design	4100P002-731004-P28BU	\$285,573.00
Storm sewer design	4300L045-728600-LK107	\$32,572.00
Contingency (water)	4100P002-731900-P0BBU	\$50,744.00
Contingency (sanitary sewer)	4100P002-731900-P28BU	\$28,558.00
Contingency (storm sewer)	4300L045-731900-LK107	\$3,257.00

Total

\$908,144.00

Equal Business Opportunity Summary

Dewberry will subcontract to the following UBE firms:

<u>Firm</u>	<u>ID</u>	<u>City/State</u>	<u>Amount</u>	<u>% of Contract</u>
Hollins Construction Services	M/UBE	Wake Forest, NC	\$7,245	1
CH Engineering, PLLC	W/UBE	Raleigh, NC	\$116,015	15
Three Oaks Engineering	W/UBE	Durham, NC	\$86,000	10
SEPI Engineering & Construction	W/UBE	Raleigh, NC	\$35,496.84	4
Falcon Engineering	W/UBE	Raleigh, NC	\$20,500	2

The MUBE goal was initially met by Dewberry Engineers, Inc. However, the DWM needed to restructure the scope of work following solicitation in the best interest of the project. This resulted in a reduction of MUBE participation during the first phase. Subsequent phases will exceed the initial MUBE goal.

Workforce Statistics

Workforce statistics for Dewberry are as follows:

Total Workforce		148
Total Females	41	(28%)
Total Males	107	(72%)
Black Males	1	(1%)
White Males	102	(69%)
Other Males	4	(2%)
Black Females	8	(6%)
White Females	30	(20%)
Other Females	3	(2%)

Attachments

Attachment 1 – Figures

Attachment 2 – Agreement

Attachment 3 – EOE Compliance Report

Attachment 4 – Notice of Intent to Award