

## AGENDA ITEM SUMMARY

<b>Meeting Date:</b>	FEBRUARY 5, 2020
<b>Agenda Category:</b>	CONSENT BUSINESS
<b>Agenda Item Number:</b>	10 D
<b>Subject:</b>	ENGINEERING SERVICES, FORCE MAIN DESIGN FOR NEWLY ANNEXED PROPERTY, JACOBS ENGINEERING GROUP (WASTEWATER TREATMENT DEPARTMENT)

<b>Attachments:</b>	Memorandum; scope and fee proposal; aerials; boring proposal
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<b>Staff Contact:</b>	Wastewater Treatment Director Elmore
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<b>Background:</b>	The recently annexed Tucker Headquarters property near Fiske Boulevard and Interstate 95 has created a need for the installation of a force main to support the 246 acres that has been annexed into the City. The Wastewater Treatment Department is requesting that Jacobs Engineering provide engineering design services for this project in accordance with the contract terms of the Agreement for Professional Services at a cost of \$85,699.00.
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<b>Reference:</b>	Wastewater Treatment Budget/Jacobs Engineering Agreement for Professional Services
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<b>Suggested Action:</b>	Authorize the expenditure of \$85,699.00 for Jacobs Engineering to provide engineering design services for the force main to support the recently annexed Tucker Headquarters property
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# MEMORANDUM

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TO: Dr. Brenda Fettrow, City Manager  
FROM: Jim Elmore, WWT Director  
DATE: December 30, 2019  
SUBJECT: Newly Annexed Property (Tucker Headquarters)  
Force Main Design

*approved  
to go to  
Council  
Dr. Fettrow  
1/24/2020*

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Jacobs Engineering Group, Inc. has prepared a scope and fee proposal to provide professional engineering design services for a force main to support the newly annexed 246 acres (Tucker Headquarters) of property near Fiske Boulevard and Interstate 95.

The 4,300 foot force main route will cross Stadium Parkway, I-95 and Barnes Boulevard before connecting to the existing 8-inch Barnes Boulevard force main east of City Lift Station 29.

I am recommending Jacobs Engineering design this force main in accordance with the contract terms of the Agreement for Professional Services signed on November 7, 2018, at a cost of \$85,699.00 to be paid from account No. 400-0035-535.3111.

Submitted for council's approval.



225 E. Robinson Street  
Suite 505  
Orlando, FL 32801

October 22, 2019

Mr. Jim Elmore  
Director  
City of Rockledge  
Wastewater Treatment & Water Reclamation  
1700 Jack Oates Blvd.  
Rockledge, FL 32955

**Subject: Headquarters Force Main  
Scope and Fee Proposal**

Dear Mr. Elmore:

As requested by the City of Rockledge, Jacobs is preparing a scope and fee proposal to provide professional engineering design services for a new force main to support a newly annexed area on the southwest side of the existing city limits. Services proposed herein by Jacobs Engineering Group, Inc (Jacobs) will be performed in accordance with the contract terms of the Agreement for Professional Services for the City of Rockledge (agreement approved by the City of Rockledge on November 7, 2018). Our project understanding, suggested scope of services, and proposed schedule and fee are presented below.

## **PROJECT UNDERSTANDING**

The City of Rockledge proposes to construct a new sanitary force main originating at Fiske Blvd. and traversing north to Barnes Blvd. The new force main will support additional flow generated from future commercial and residential development planned for the area southwest of Barnes Blvd. and Stadium Parkway. The anticipated force main route will cross Stadium Parkway, I-95 and Barnes Blvd., traversing approximately 4,300 feet. The new force main is proposed to tie-into an existing 8-inch force main north of Barnes Blvd just east of Lift Station No. 29.

Our anticipated scope of services is to provide the following:

## **SCOPE OF SERVICES**

### **1. HYDRAULIC ASSESSMENT**

Jacobs will perform a hydraulic assessment of the impacted service area by utilizing the city's existing Innovyze InfoWater SA model. We will use physical data provided in the current hydraulic model as a basis for the assessment. In addition, Jacobs will also employ

the city's GIS data, record drawings, field notes, and operational staff feedback to incorporate the new force main into an updated steady-state model.

The existing model will be used to identify capacity deficiencies and/or system restrictions with the addition of the new Headquarters force main under anticipated peak wet weather flow conditions. If applicable, the steady-state model inputs will be adjusted to maintain previously established hydraulic criteria. Jacobs will provide a hydraulic assessment of up to two different simulation and connection scenarios expected to include the following route: new Headquarters force main from Fiske Blvd., under I-95 to the north side of Barnes Blvd. east of Lift Station No. 29 (near Lowe's).

Additional or new hydraulic validation of the existing model file and field testing are not anticipated with this scope of work. Jacobs will work collaboratively with the City of Rockledge to establish the flow criteria for the hydraulic assessment. No additional flow monitoring is anticipated as part of the scope of work.

## 2. FORCE MAIN DESIGN

- Develop 60% and 100% detailed design submittals for the proposed improvements identified during Phase 1 and described herein.
- The 60% design submittal will include design drawings, specifications, and an AACE Class 3 cost estimate.
- Participate in a 60% Design Review Meeting with the City and incorporate comments received into the 100% Design submittal.
- The 100% design submittal will include design drawings, specifications, and an AACE Class 1 cost estimate. Include a suggested sequence of construction in Division 1.
- Jacobs shall prepare for and conduct an internal Quality Assurance/Quality Control review for each detailed design submittal.
- Specifications shall be in the latest standard CSI format and drawings will be in AutoCAD 2017 or later with City standard details utilized as appropriate.
- During detailed design efforts, Jacobs shall consider constructability and maintenance issues with regard to location, access, and existing utilities.
- With the 100% Design submittal, prepare and submit a Notification for Construction of a Domestic Wastewater Collection/Transmission System to FDEP Central District. Anticipated permit fees are \$250.
- The City will be provided with one electronic copy (.pdf) and five sets of 11"x17" drawings and technical specifications (hard copy) at the completion of the 50% and 90% design. For 100% design, Jacobs will provide the above with two full-size (24" x 36")

drawing sets and an electronic copy of the design drawings in original format.

- In providing opinions of cost, financial analyses, economic feasibility projections, for the project, Jacobs has no control over cost or price of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, Jacobs makes no warranty that Client's actual project costs, financial aspects, economic feasibility, will not vary from Jacobs' opinions, analyses, projections, or estimates

### 3. SURVEY

- Develop a topographical survey and associated base mapping needed to support the force main design and vertical alignment based on the proposed improvements.
- Field survey will generate topographic and planimetric information and base mapping for drawings to support the force main design. Survey shall establish both horizontal and vertical alignment of the facilities and will note survey monuments, topographic features, surface features (pavements, curbs, retaining walls, trees, etc.), utilities, right-of-way limits, property lines, property information, and elevations.
- Surveying services shall include traffic control and access agreements if necessary.

### 4. GEOTECHNICAL SERVICES

- Geotechnical Engineering Services will be provided by a sub-consultant
- Jacobs anticipates a total of seven borings – five borings along the proposed Stadium Parkway, S. Fiske Blvd. and Barnes Blvd. corridor and one boring on each side of the proposed I-95 crossing location. Borings shall be taken to a depth of approximately 10 feet along the route corridor and up to 20 feet for the highway crossing borings. It is expected that boring locations will be accessible with truck and ATV-mounted equipment. Traffic control will be provided if necessary for maintenance of traffic during boring operations.
- Prepare a geotechnical data report based on the results of field investigations. The geotechnical data report will provide recommendations for pipe bedding support, earthwork, excavation, and dewatering.
- The findings and recommendations detailed in the geotechnical data report will be addressed during the design phase
- In soils, foundation, groundwater, and other subsurface investigations, the actual

characteristics may vary significantly between successive test points and sample intervals and at locations other than where observations, exploration, and investigations have been made. Because of the inherent uncertainties in subsurface evaluations, changed or unanticipated underground conditions may occur that could affect total project cost and/or execution. These conditions and cost/execution effects are not the responsibility of Jacobs

## 5. BIDDING SERVICES

- Bidding services will begin with the Advertisement For Bid. A period of sixty (60) days shall be included between Advertisement and Receipt of Bids.
- Attend Pre-Bid Meeting: Participate in a one-day Pre-Bid Meeting at City of Rockledge offices. Compile questions raised during the Pre-Bid Meeting from perspective contractors and address these questions in an addenda, if necessary.
- Questions Raised During Bidding: Review written questions from bidders and potential equipment suppliers on the Contract Documents to determine if there is a need to address. If it is determined that any questions require a response or clarification to the drawings or specifications, Jacobs shall prepare a written response to include in an addendum.
- Preparation of Addenda: Prepare up to two addenda during the bidding process and distribute addenda.
- Review bids received by the City and provide a written evaluation of all bids for compliance with contract documents.

## 6. CONSTRUCTION ADMINISTRATION SUPPORT

- Prepare required number of contract documents for distribution as "Issued for Construction" sets.
- Attend the Pre-Construction Meeting and up to two construction progress meetings.
- Review and process project submittals and shop drawings. Provide responses to Requests-for- Information (RFIs), as deemed necessary by the City
- Conduct up to two site visits to observe construction progress and conformance with the Contract Documents. It is assumed these trips will coincide with attendance at construction progress meetings.
- The presence or duties of Jacobs' personnel at a construction site, whether as onsite representatives or otherwise, do not make Jacobs or Jacobs' personnel in any way responsible for those duties that belong to City and/or the construction contractor or other entities, and do not relieve the construction contractor or any other entity of their obligations, duties, and responsibilities, including, but not limited to, all construction



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methods, means, techniques, sequences, and procedures necessary for coordinating and completing all portions of the construction work in accordance with the construction Contract Documents and any health or safety precautions required by such construction work.

## SCHEDULE

Task Description	Calendar Days from NTP
60% Design Submittal	75
100% Design Submittal	105
Bidding Services	185
CA Support	290

## BASIS OF PAYMENT

For the Headquarters Force Main Project, we propose a time and materials contract with a not to exceed amount. Contract shall be based on labor billing rates with monthly billings determined by the actual work hours completed for the period and expenses reimbursed as occurred with no additional markup. Our proposed level of effort and billing rates for the scope of services described herein is provided in the table below. An allowance of 5% has been included in the total design fee for Owner initiated changes and unplanned provisions.

Title/Role	Billing Rate	Hours	Price
Project Manager	\$186.00	98	\$18,228
Senior Project Engineer	\$166.00	60	\$9,960
Project Engineer	\$102.00	184	\$18,768
Senior CAD Designer	\$134.00	122	\$16,348
Senior Administrative	\$92.00	8	\$736
Quality Control Reviewer	\$206.00	8	\$1,648
<b>Total Labor</b>		<b>480</b>	<b>\$65,688</b>
Subconsultant: Geotechnical	\$4,300.00	N/A	\$4,300
Subconsultant: Surveying	\$11,000.00	N/A	\$11,000
Expenses	\$630.00	N/A	\$630
<b>Subtotal</b>			<b>\$81,618</b>
Allowance (5%)			\$4,081
<b>Total Fee</b>			<b>\$85,699</b>

We want to thank the City of Rockledge for the continued opportunity to provide professional engineering services. Our team is committed to providing efficient design services for the City of Rockledge to support the City's annexation and growth. We would be happy to discuss with you in further detail any questions you may have with our scope and fee proposal.

Yours sincerely,



**Cory J. Hooper, P.E.**  
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**Jeremy S. Gaston, P.E.**  
Project Manager  
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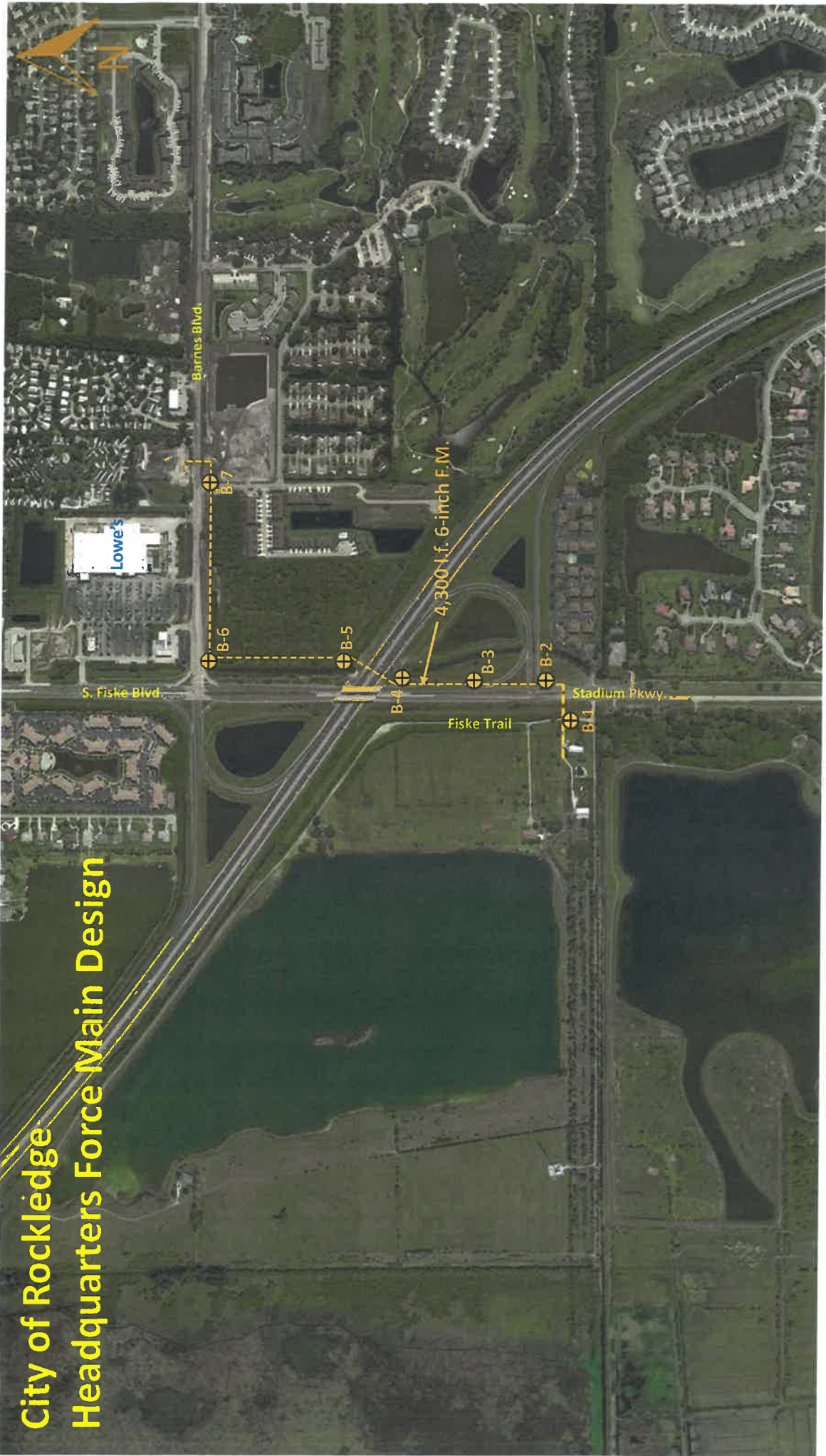


# City of Rockledge Headquarters Force Main Design



Start approximately 100 feet west of Stadium Pkwy. along Fiske Trail  
Cross Stadium Pkwy. and I-95 and route along Barnes Blvd R/W (anticipate south side)  
Cross Barnes Blvd. and terminate north side of Barnes Blvd within R/W  
Assume typical R/W corridor for force main, private property may be encountered near Fiske Trail  
I-95 crossing may be straight or perpendicular, attempt to stay near Stadium Pkwy. R/W  
Total length estimate is 4,300 l.f.

# City of Rockledge Headquarters Force Main Design



# City of Rockledge Headquarters Force Main Design Boring Descriptions

Boring B-1: South end of Fiske Trail, exact location TBD, try to avoid private property (10-foot depth)

Boring B-2: East side Stadium Pkwy. R/W between near Prosperity Place and I-95 on-ramp (10-foot depth)

Boring B-3: East side Stadium Pkwy. R/W just north of I-95 exit ramp onto Stadium Pkwy. (10-foot depth)

Borings B-4 and B-5: South and north sides of I-95, best locations TBD  
(up to 20 feet depth pending highway elevations at crossing)

Boring B-6: Near the intersection (SE Corner) of Barnes Blvd. and S. Fiske Blvd. (10-foot depth)

Boring B-7: South side Barnes Blvd. R/W, near Playa Del Sol Dr.

**Note: 6-inch PVC Force Main (est. 3 feet depth)**