

SUPPLEMENTAL WORK ORDER

17-0048-UT

Date:	1/12/2022
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1. PROJECT INFORMATION:

Project Title:	East WRF Filter Feed Pump Station & Force Main Improvements Design and Bid Phase Services	
City Project Number:	17-0048-UT	
City Plan Set Number:	2021018	
Consultant Project Number:	03720-052-02	

2. SCOPE OF SERVICES:

Jones Edmunds & Associates, Inc. is pleased to provide the City of Clearwater with this proposal for the design, permitting, and bid phase services to improve the East WRF Filter Feed Pump Station (FFPS) and force main.

The existing FFPS consists of a large rectangular single-compartment concrete wetwell that houses four submersible non-clog pumps (two 20 horsepower (Hp), and two 75 Hp), electrical panels, and an external valve vault that houses discharge piping and valves (check and plug valves) for each pump. The discharge piping connects to a 30-inch-diameter force main that feeds the effluent filters.

Due to age, condition, and risk/consequence of failure, the FFPS pump discharge piping, valves, and 30-inch-diameter force main need to be replaced. Other FFPS equipment is also outdated and is suspected to be in poor condition and needs replacing. These components need to be improved so that they can continue to reliably serve the City. In addition, the City wishes to raise the FFPS electrical panels, protect exposed electrical leads from UV damage, and raise the top of the wetwell, if practical, to an elevation of 11 feet NAVD88 (9 feet flood elevation plus 2 feet free board/safety margin) or higher to provide reliable operation during storm surge.

The WRF influent pump station has a higher pumping capacity than the FFPS. During extreme wet weather conditions, the disparity in the pumping rates could lead to

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clarifier overflows. For this reason, the City would also like to potentially increase the FFPS capacity to match the influent pump station capacity and evaluate the reuse of the old pumps as spares for the IPS or similar pump station owned by the City.

The FFPS is the only means to convey clarifier effluent to the filters, and therefore it is a critical pump station for plant reliability. If maintenance or repairs are required within the wetwell, costly bypass pumping is required. Accordingly, a two-compartment wetwell is preferred to allow for maintenance/repairs while the other compartment remains in service.

Jones Edmunds determined design flows, reviewed and selected pump types, evaluated the condition of the force main, and assessed rehabbing or replacing the wet well in 2018. The work was documented in the basis of design report dated December 2018. As part of this project, Jones Edmunds will continue with the design and bid phase services of using the 30% documents provided in the basis of design report (BDR). In the BDR, Jones Edmunds recommended the City proceed by installing new non-clog submersible pumps in the existing FFPS wet well, relocate the FFPS valve assembly above-grade to increase the accessibility of the valves, implement the recommended structural modifications and electrical and I&C upgrades, and install a new buried PVC force main between the FFPS and effluent filters using the existing force main footprint. This scope of services includes the work to complete the design and bid phase services for the project. Details of the Scope of Services are further defined below. The design plans shall be compiled using the City of Clearwater CAD standards, as attached.

I. PRE-DESIGN PHASE:

Task 1.1: PREVIOUSLY COMPLETED

II. DESIGN PHASE:

Task 2.1: PREVIOUSLY COMPLETED

Task 2.2: Progress Meeting

As part of this Task, Jones Edmunds will:

- a. Attend a Kickoff Meeting and Site Visit at the East WRF to obtain and discuss the history of the project, update goals of the project considering current facility plan efforts, confirm existing facilities, improvements and design conditions, review 2018 comments on City's summary of comment forms, and address any additional comments from the City's operation and maintenance staff (if necessary). It is noted that the existing conditions have changes since completion of the BDR including some emergency repairs and VFD changes to the FFPS.
- b. Prepare and distribute a meeting agenda, including previous 30% design documents (BDR and Drawings). Prepare and submit meeting minutes to attendees by e-mail.

III. FINAL DESIGN PHASE (Plans and Specifications):

Task 3.1: 60% Design Submittal

As part of the 60% Design Submittal, Jones Edmunds will:

- a. Incorporate the City's previous 30% Design Review Comments and progress the design.
- b. Prepare the following documents:
 - City's Summary of Comments Form containing responses to the City's previous comments.
 - 60% Design Plans. The Design Plans will be developed using the City's CAD standards. The 60% Design Plans are expected to include:
 - G1 – Cover Sheet
 - G2 – Abbreviation, Symbols, and General Notes
 - D1 – Force Main Demolition Plan
 - D2 – Filter Feed Pump Station Demolition Plan and Section
 - C1 – Civil Site Plan and Bypass Piping Layout
 - C2 – Filter Feed Pump Station Site Plan
 - C3 – Effluent Filters Site Plan
 - M1 – Filter Feed Pump Station Plan
 - M2 – Filter Feed Pump Station Sections
 - E1 – Electrical Site Plan
 - E2 – Electrical One-Line Diagram
 - E3 – Electrical Room Plan
 - I1 – Overall Piping, Instrumentation, and Controls (P&ID) Diagram
 - 60% Specifications. The 60% design specifications are expected to include:
 - Division 11 – Equipment
 - Division 15 – Mechanical
 - Division 16 – Electrical
- c. Attend a 60% Design Review Meeting to obtain and discuss the City's comments, agree on modifications to the Submittal Documents. Prepare and distribute a meeting agenda. Prepare and submit meeting minutes to attendees by e-mail.

Deliverables

- 60% Submittal – Submit an electronic PDF version of the 60% Design specifications and plans. Submit one hard copy of the 60% specifications and plans.
- 60% meeting agenda and minutes.
- City's Summary of Comments Form.

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Key Assumptions

- Jones Edmunds assumes one meeting is required to review the 60% submittal.
- This design does not include reviewing or raising the elevation of the electrical room attached to the administration building to account for resiliency or sea level rise. It is limited to the area of the existing filter feed pump station.

Task 3.2: 90% Design Submittal

As part of the 90% Design Submittal, Jones Edmunds will:

- a. Incorporate the City's previous 60% Design Review Comments and progress the design.
- b. Prepare the following documents:
 - City's Summary of Comments Form containing responses to the City's previous comments.
 - 90% Design Plans. The Design Plans will be developed using the City's CAD standards. The 90% Design Plans are expected to include:
 - G1 – Cover Sheet
 - G2 – Abbreviation, Symbols, and General Notes
 - D1 – Force Main Demolition Plan
 - D2 – Filter Feed Pump Station Demolition Plan and Section
 - C1 – Civil Site Plan and Bypass Piping Layout
 - C2 – Filter Feed Pump Station Site Plan
 - C3 – Effluent Filters Site Plan
 - C4 – Standard Details
 - S1 – FFPS Plan
 - S2 – FFPS Sections
 - S3 – FFPS Details and Standard Details
 - M1 – Filter Feed Pump Station Plan
 - M2 – Filter Feed Pump Station Sections
 - M3 – FFPS Details
 - M4 – Standard Details
 - E1 – Electrical Site Plan
 - E2 – Electrical One-Line Diagram
 - E3 – Electrical Room Plan
 - E4 – Electrical Schedule, Schematic, and Details
 - E5 – Electrical Schedule and Details
 - I1 – P&ID
 - I2 – Control System Diagram
 - I3 – Control Panel Details
 - 90% Specifications. The 90% design specifications are expected to include:
 - Division 1 – General Requirements

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- Division 2 – Site Construction
 - Division 3 – Concrete
 - Division 5 – Metals
 - Division 9 – Finishes
 - Division 11 – Equipment
 - Division 15 – Mechanical
 - Division 16 – Electrical
- Updating the opinion of probable construction cost.
- c. Attend a 90% Design Review Meeting to obtain and discuss the City's comments, agree on modifications to the Submittal Documents. Prepare and distribute a meeting agenda. Prepare and submit meeting minutes to attendees by e-mail.

Deliverables

- 90% Submittal – Submit an electronic PDF version of the 90% Design specifications and plans. Submit one hard copy of the 90% specifications and plans.
- Engineer's Opinion of Probable Construction Cost.
- 90% meeting agenda and minutes.
- City's Summary of Comments Form.

Key Assumptions

- Jones Edmunds assumes one meeting is required to review the 90% submittal.

Task 3.3: 100% Design Submittal

- a. Incorporate the City's 90% Design Review Comments and progress the design.
- b. Prepare the following documents:
 - City's Summary of Comments Form containing responses to the City's previous comments.
 - 100% Design Plans. The design plans will be developed using the City's CAD standards. The 100% Design Plans are expected to include the sheets as previously listed under Task 3.2.
 - Contract Documents and 100% Specifications. The Contract Documents include the City's front ends (Section I, II, III, IV, and V). The 100% specifications will include Jones Edmunds Technical Specifications including Divisions 1, 2, 3, 5, 9, 11, 15, and 16 which will be inserted into City Section IVa.
 - An opinion of probable construction cost.
- c. Attend a Review Meeting to obtain and discuss the City's comments, agree on modifications to the Submittal Documents, and discuss the Bidding and

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Construction Schedule. Prepare and distribute a meeting agenda. Prepare and submit meeting minutes to attendees by e-mail.

Deliverables

- 100% Submittal – Submit an electronic PDF version of the 100% Design specifications and plans. Submit one hard copy of the 100% specifications and plans.
- 100% meeting agenda and minutes.
- Engineer's Opinion of Probable Construction Cost.
- City's Summary of Comments Form.

Key Assumptions

- Jones Edmunds assumes one meeting is required to review the 100% submittal.

Task 3.4: Bid Documents Submittal

- a. Incorporate the City's previous 100% Design Review Comments and complete the design.
- b. Prepare the following documents:
 - City's Summary of Comments Form containing responses to the City's previous comments.
 - Design Plans.
 - Contract Documents and Specifications.
 - An opinion of probable construction cost.

Deliverables

- Submit up to three hard copies and an electronic version (i.e., CD/DVD or USB drive) containing PDFs and original file (e.g., Word and CAD) of the Bid Document Submittal. Plans are to be full sized. The Plans, Contract Documents, and Specifications will be signed, dated, and sealed.

Key Assumptions

- Jones Edmunds assumes no meeting is required with City staff to review the final bid documents prior to issuance for bid.

IV. PERMITTING:

Task 4.1: WRF Permitting Assistance

Jones Edmunds will provide the following FDEP permitting assistance related to the WRF:

- a. Attend one pre-application meeting with the FDEP and the City.

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- b. Prepare the required FDEP wastewater permit application forms after the 60% design activities are completed:
- 62-620.910(1), Wastewater Facility or Activity Permit Application – General Information – Form 1.
 - 62-620-910(2), Wastewater Permit Application Form 2A for Domestic Wastewater Facilities and associated permit application package, including calculations, exhibits, maps, and the drawings and specifications.
 - Respond to up to two Requests for Additional Information (RAI) from FDEP.

Deliverables:

- Jones Edmunds will prepare the FDEP meeting agenda and minutes. Jones Edmunds will prepare and submit the draft permit application package for City review. Jones Edmunds will submit one electronic copy of the fully executed permit application package to the City.

Key Assumptions

- Jones Edmunds will use FDEP's standard application forms as provided on the FDEP website.
- Jones Edmunds assumes one meeting per permit application and two RAIs will be sufficient to satisfy the applications.
- An allowance of \$500 is included in the fee estimate for the permit application fee. If any additional permits are required for the project an amendment to the scope of services and fee will be required.

Task 4.2: Stormwater Permitting Assistance

Jones Edmunds will also provide the following FDEP permitting assistance related to the environmental resource permit (ERP):

- a. Conduct an evaluation on the stormwater system including review of the existing ERP and a comparison of pre-improvement impervious areas to the post-improvement areas to determine if there is an increase or no increase in impervious area.
- b. Attend an ERP meeting with FDEP to discuss the existing stormwater system and future proposed improvements.
- c. JE will design the modifications to provide a sufficient system to accommodate the proposed improvements.
- d. JE will also prepare and submit an ERP permit and respond up to two RAIs from the FDEP.

Deliverables:

- Jones Edmunds will prepare the FDEP meeting agenda and minutes.

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- Jones Edmunds will use FDEP's standard application forms as provided on the FDEP website.
- Jones Edmunds assumes one meeting per permit application and two RAIs will be sufficient to satisfy the applications.

Key Assumptions

- It is assumed that the project area will not impact wetlands.
- An allowance of \$2,000 is included in the fee estimate for the permit application fee. If any additional permits are required for the project an amendment to the scope of services and fee will be required.

Task 4.3: City Building Permit

- a. Attend a Building Permit coordination meeting.
- b. Prepare and submit the application and drawings to the City building department.
- c. Prepare and submit a building permit amendment if required by the City.

Deliverables

- Jones Edmunds will electronically submit the building permit application.

Key Assumptions

- The General Contractor will be responsible for obtaining the Building Permit.

V. BIDDING PHASE:

Task 5.1: Bid Phase Services

- a. Prepare a Pre-Bid Meeting agenda, attend and lead Pre-Bid Meeting (the City's Operations and Engineering staff will be in attendance), and prepare Pre-Bid Meeting minutes to be distributed by the City to all potential bidders.
- b. Review Requests for Information (RFIs) from bidders and issue addendum if necessary.
- c. Evaluate the bidders' bid proposals and provide the City with a recommendation for award.
- d. Prepare and provide a conformed set of Contract Documents (drawings and specifications) to the City.

Key Assumptions

- Jones Edmunds assumes one pre-bid meeting for the project.
- Jones Edmunds has budgeted for three RFIs and addenda.
- Jones Edmunds has budgeted for five bid proposals.
- ADA compliant bid documents are not included in this scope of services.

VI. CONSTRUCTION PHASE (if applicable):

Task 6.1: Not Included.

3. PROJECT GOALS:

The project goal is to design a replacement to the existing FFPS and force main components that are outdated and in poor condition to eliminate the potential for an on-site unauthorized discharge and provide reliable operation during a storm surge event. The outcome and benefit of the project will be to provide the City with an improved FFPS and force main that can continue to provide reliable service while being more cost effective to operate and maintain, lowering the City's power and maintenance costs. Work products that will be developed during and at completion of this project will be provided as summarized under Tasks I and IV and include the project catalog.

4. FEES:

The total cost per task and/or phase for these engineering services is provided in Attachment "A". This price includes all labor and expenses anticipated to be incurred by Jones Edmunds & Associates, Inc. for the completion of these tasks in accordance with Professional Services Method "A" – Hourly Rate, for a fee not to exceed One hundred and fifty-five thousand, three hundred and sixty-four Dollars (\$155,364.00).

Permit applications fees are expected to be incurred in the amount of \$2,500 for this work. Permit application fees will be paid by the consultant and invoiced to the City as a reimbursable.

5. SCHEDULE:

The project is to be completed in **340** days from issuance of notice-to-proceed. The project deliverables are to be phased as follows:

Kickoff Meeting	14 calendar days
60% Design Submittal	75 calendar days
Client Review	90 calendar days
90% Design Submittal	150 calendar days
Client Review	165 calendar days
Final (100%) Design Submittal	210 calendar days
Client Review	225 calendar days
Bid Documents Submittal	250 calendar days
Bid Phase Services	340 Calendar days

6. STAFF ASSIGNMENT:

The firm's staff assignments to this project include:

Thomas W. Friedrich, BCEE, PE	Project Officer / Client Services / QAQC
Peter Simms, PE	Senior Department Manager / QAQC
David Yonge, PhD, PE	Department Manager / QAQC
Sean Menard, PE, CDT, ENV SP	Engineer of Record/Project Manager
Tracy Dayton, PE, ENV SP	Stormwater Engineer
Chris Makransky, EI	Engineer Intern
John Kramer	Senior Designer
Gregg Fruecht	Constructability Reviews
John Sobczak, PE	Structural - Wekiva Engineering, Inc.
Pete Hoanshelt, PE	Electrical Engineer – EMI, Inc.

The City's staff assignments to this project include:

Jordan Hicks, PE	Project Manager
Jack Sadowski	East WRF Lead Operator
Michael Gilliam	Public Utilities Manager (Maintenance)
Mike Flanigan	Public Utilities Assistant Director
Kervin St. Aimee	Maintenance
Roger Johnson	Stormwater
Jeremy J. Brown, PE	Utilities Engineering Manager
Richard G. Gardner, PE	Public Utilities Director

7. CORRESPONDENCE/REPORTING PROCEDURES:

Consultant's project correspondence shall be directed to:

Sean Menard with copies to David Yonge and Thomas Friedrich

All City project correspondence shall be directed to:

Jordan Hicks with copies to Jeremy Brown, Mike Flanigan and Richard Gardner

8. INVOICING/FUNDING PROCEDURES:

City Invoicing Code: 3217321-530100-96214

For work performed, invoices shall be submitted monthly to:

**Attn: Stephanie Sansom, Division Controller
City of Clearwater, Engineering Department
PO Box 4748
Clearwater, Florida 33758-4748.**

Contingency services will be billed as incurred only after written authorization provided by the City to proceed with those services.

9. INVOICING PROCEDURES:

At a minimum, in addition to the invoice amount(s) the following information shall be provided on all invoices submitted on the Work Order:

1. Purchase Order, Project and Invoice Numbers and Contract Amount.
2. The time period (begin and end date) covered by the invoice.
3. A short narrative summary of activities completed in the time period.
4. Contract billing method – Lump Sum or Hourly Rate.
5. If Lump Sum, the percent completion, amount due, previous amount earned and total earned to date for all tasks (direct costs, if any, shall be included in lump sum amount).
6. If Hourly Rate, hours, hourly rates, names of individuals being billed, amount due, previous amount earned, the percent completion, total earned to date for each task and other direct costs (receipts will be required for any single item with a cost of \$50 or greater or cumulative monthly expenses greater than \$100).
7. If the Work Order is funded by multiple funding codes, an itemization of tasks and invoice amounts by funding code.

10. CONSIDERATIONS:

Consultant acknowledges the following:

1. The Consultant named above is required to comply with Section 119.0701, Florida Statutes, where applicable.
2. All City directives shall be provided by the City Project Manager.
3. "Alternate equals" shall not be approved until City Project Manager agrees.
4. All submittals must be accompanied by evidence each has been internally checked for QA/QC before providing to City.

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5. Consultants/Contractors are not permitted to use City-owned equipment (i.e., sampling equipment, etc.).
6. Documents posted on City website must ADA accessible.

11. ADDITIONAL CONSIDERATIONS:

All work orders should include considerations for the following:

1. Sea Level Rise and Flood Resilience, as applicable.
2. Submittal of a Critical Path Method (CPM) Schedule(s).
3. Submittal of a Project Catalog with the following items, as appropriate:
 - a. Data requests, assumptions, critical correspondence, meeting agenda, sign-in sheets, meeting minutes, document comment-response log(s), technical memorandum/reports, addenda, progress reports, regulatory correspondence, and other project-related documents.
 - b. If construction project, also include design plans, conformed plans, change orders, field orders, RFIs, work change directives, addenda, progress reports, shop drawing and progress submittals, as-builts, record drawings, and other project-related documents such as O&M manuals and warranty information.
 - c. At the conclusion of the project, ENGINEER will combine this information into a Project Catalog and submit to the City for review and comment.
4. Arc Flash labeling requirements:
 - a. All electrical designs and construction shall adhere to NFPA 70 E "Standard for Electrical Safety in the Workplace".
 - b. Updated calculations of Fault and Arc Flash, and provisions for new or updated Arc Flash equipment labeling shall be included in the contract documents.

12. SPECIAL CONSIDERATIONS:

None

13. SIGNATURES:

PREPARED BY:



Stanley F. Ferreira, Jr., PE
President and CEO
Jones Edmunds & Associates, Inc.

January 12, 2022

Date

JCrowley 12/21/2021

Bleerman 12/21/2021

APPROVED BY:

Tara Kivett, PE
City Engineer
City of Clearwater

Date

ATTACHMENT "A"**CONSULTANT WORK ORDER – PROJECT FEES TABLE**

East WRF Filter Feed Pump Station & Force Main Improvements Design and Bid Phase Services

JonesEdmunds & Associates, Inc

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City of Clearwater

CONSULTANT WORK ORDER

PROJECT FEES TABLE

Task	Description	Subconsultant Services	Labor	Total
2.0	Design Phase			
2.2	Progress Meeting	\$0.00	\$2,640.00	\$2,640.00
Design Phase Total:				\$2,640.00
3.0	Final Design Phase Plans and Specifications			
3.1	60% Design Submittal	\$15,315.00	\$24,480.00	\$39,795.00
3.2	90% Design Submittal	\$9,860.00	\$21,760.00	\$31,620.00
3.3	100% Design Submittal	\$5,039.00	\$22,950.00	\$27,989.00
3.4	Bid Documents Submittal	\$1,260.00	\$11,550.00	\$12,810.00
Final Design Plans and Specifications Total:				\$112,214.00
4.0	Permitting Services			
4.1	WRF Permitting Assistance	\$0.00	\$9,045.00	\$9,045.00
4.2	Stormwater Permitting Assistance	\$0.00	\$9,565.00	\$9,565.00
4.3	City Building Permit	\$0.00	\$2,870.00	\$2,870.00
Permitting Services Total:				\$21,480.00
5.0	Bid Phase Services			
5.1	Bid Phase Services	\$650.00	\$15,880.00	\$16,530.00
Bid Phase Services Total:				\$16,530.00
SUBTOTAL, LABOR AND SUB-CONTRACTORS:				\$152,864.00
6.0	Permit Fees			\$2,500
7.0	Other Direct Costs (prints, photocopies, postage, etc.) (Not applicable to lump sum Work Orders)			
GRAND TOTAL:				\$155,364.00

ATTACHMENT "B"

CONSULTANT WORK ORDER – CITY DELIVERABLES

East WRF Filter Feed Pump Station & Force Main Improvements Design and Bid Phase Services
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CONSULTANT WORK ORDER

CITY DELIVERABLES

1. FORMAT:

The design plans shall be compiled utilizing the following methods:

1. City of Clearwater CAD standards.
2. Datum: Horizontal and Vertical datum shall be referenced to North American Vertical Datum of 1988 (vertical) and North American Datum of 1983/90 (horizontal). The unit of measurement shall be the United States Foot. Any deviation from this datum will not be accepted unless reviewed by City of Clearwater Engineering/Geographic Technology Division.

2. DELIVERABLES:

The design plans shall be produced on bond material, 24" x 36" at a scale of 1" = 20' unless approved otherwise. Upon completion the consultant shall deliver all drawing files in digital format with all project data in Autodesk Civil 3D file format.

NOTE: If approved deviation from Clearwater CAD standards are used the Consultant shall include all necessary information to aid in manipulating the drawings including either PCP, CTB file or pen schedule for plotting. The drawing file shall include only authorized fonts, shapes, line types or other attributes contained in the standard release of Autodesk, Inc. software. All block references and references contained within the drawing file shall be included. Please address any questions regarding format to Mr. Tom Mahony, at (727) 562-4762 or email address Tom.Mahony@myClearwater.com.

All electronic files (including CAD and Specification files) must be delivered upon completion of project or with 100% plan submittal to City of Clearwater.