

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS

AGENDA ITEM SUMMARY

Meeting Date: September 9, 2025 Consent [X] Regular []
Public Hearing []

Department: Water Utilities Department

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: Consultant Services Authorization (CSA) No. 2 to the Consulting/Professional Services Utility Hydrogeologic Engineering Services (Contract) with Black & Veatch Corporation (Consultant) for the Water Treatment Plant (WTP) No. 9 Wellfield Improvements (Project) for a not to exceed amount of \$1,927,640.85.

Summary: On January 23, 2024, the Board of County Commissioners (BCC) approved the Palm Beach Water Utilities Department (PBCWUD) Contract (R2024-0068) with Consultant. CSA No. 2 will provide preliminary investigations to support the design for the construction of two new production wells, as well as the replacement production well 9W-6, and the rehabilitation of thirteen production wells (9W-18, 9W-20, 9W-21, 9W-22, 9W-23, 9W-24, 9W-25, 9W-26, 9W-27, 9W-28, 9W-29, 9W-30, and 9W-31). New production wells (9W-32, and 9W-33), as well as replacement well 9W-6R, would be drilled in accordance with the standard PBCWUD design. The rehabilitation of wells 9W-18, 9W-20, 9W-21, 9W-22, 9W-23, 9W-24 and 9W-25 will include mechanical and electrical improvements, and replacement of the existing wellhead and vault with new aboveground piping, valves, instrumentation, control panel and pumps. Rehabilitation without mechanical and electrical improvements are proposed for wells 9W-26, 9W-27, 9W-28, 9W-29, 9W-30, and 9W-31. During rehabilitation, the wellhead and additional equipment is removed prior to acidization, jetting, airlifting, and or pump development. A hydraulic model for the complete raw water system at WTP-9 is included with this work.

As part of design activities, the preliminary investigation to be completed by Consultant, will include multiple tasks. These tasks include data review, data collection and analysis, project coordination, field investigation, a well investigation and development of a hydraulic conveyance model, a topographic survey, subsurface utility exploration, three (3) detailed design packages, permitting, preparation of bid drawings for three (3) packages, and bidding support services. The overhead power lines in close proximity to 9W-31 will be evaluated. Tree disposition and landscaping plans for wells 9W-26, 9W-27 and 9W-28, located in close proximity to a wooded area with trees, will also be evaluated.

This Contract was presented to the Goal Setting Committee (Committee) on April 5, 2023, and the Committee established an Affirmative Procurement Initiative (API) of a minimum mandatory 20% Small Business Enterprise (SBE) subcontracting goal. Consultant committed to 25% SBE participation. The SBE proposed participation for this CSA No. 2 is 28.83%. To date, the overall participation achieved on this Contract is 29.22%. Consultant is headquartered in Kansas City, Missouri but maintains an office in Palm Beach County, from which the majority of the work will be undertaken. The Project is included in the PBCWUD FY 2025 budget. (PBCWUD Project No. 24-032) District 5 (MWJ)

Background and Justification: The rehabilitation, reconstruction, and replacement activities to be completed under this Project will result in conformance with the PBCWUD standard well design; thereby providing increased reliability as well as increased raw water capacity for WTP No. 9.

Attachments:

- 1. Two (2) Originals of CSA 2
- 2. Location Map
- 3. Ebix Compliance Summary Report

Recommended By: ALIBayat 8/16/2025
Department Director Date

Approved By: [Signature] 8/27/25
Assistant County Administrator Date

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2025	2026	2027	2028	2029
Capital Expenditures	\$1,927,641	0	0	0	0
Operating Costs	0	0	0	0	0
External Revenues	0	0	0	0	0
Program Income (County)	0	0	0	0	0
In-Kind Match County	0	0	0	0	0
NET FISCAL IMPACT	\$1,927,641	0	0	0	0
# ADDITIONAL FTE POSITIONS (Cumulative)	0	0	0	0	0

Budget Account No.: Fund 4011 Dept 721 Unit W004 Object 6541

Is Item Included in Current Budget? Yes X No

Is this item using Federal Funds? Yes No X

Is this item using State Funds? Yes No X

Reporting Category N/A

B. Recommended Sources of Funds/Summary of Fiscal Impact:

One (1) time expenditure from user fees, connection fees and balance brought forward.

C. Department Fiscal Review: Joany Foreman

III. REVIEW COMMENTS

A. OFMB Fiscal and/or Contract Development and Control Comments:

Lisa M. Mante 8/6/2025
OFMB QA 8/10
12/9/25

Theresa Mack 8/11/25
Contract Development and Control
7/28.7.25

B. Legal Sufficiency:

[Signature] 8/14/25
Assistant County Attorney

C. Other Department Review:

Department Director

CONSULTANT SERVICES AUTHORIZATION NO. 2
Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services
Utility Hydrogeologic Engineering Services
Resolution No. R2024-0068 Contract Dated January 23, 2024

Project Title: WTP No. 9 Wellfield Improvements

PBCWUD Project No.: 24-032

Consultant: Black & Veatch Corporation

Address: 2855 N University Drive Ste 210, Coral Springs, FL 33065

Budget Line Item No.: 4011-721- W004-6541

District No.: 5

This Consultant Services Authorization provides for: Professional Services for the improvements to the surficial aquifer water supply system at Palm Beach County Water Utilities Department (PBCWUD) Water Treatment Plant (WTP) 9 (WTP 9), located in Boca Raton, Florida.

(See ATTACHMENT A for detailed scope of services)

The Contract provides for 25% SBE participation. This Consultant Services Authorization includes 28.83% overall SBE participation. The cumulative SBE participation, including this Consultant Services Authorization is 29.22%.

1. Services completed by the Consultant to date:

See ATTACHMENT B.

2. Consultant shall begin work upon receipt of Notice to Proceed (NTP) correspondence.

3. The compensation to be paid to the Consultant for providing the requested services shall be:

A. Computation of time charges plus expenses, not to exceed \$1,927,640.85

B. Fixed price of \$0.00

C. Total \$1,927,640.85

4. This Authorization may be terminated, in whole or in part, by the County with or without cause in accordance with the Contract terms. In the event of termination not the fault of the Consultant, the Consultant shall be compensated for all services performed to termination date, together with reimbursable expenses (if applicable) then due in accordance with the Contract terms. Consultant agrees to waive any and all claims for lost profits or anticipated future profits in the event of a termination with or without cause under this Contract.

CONSULTANT SERVICES AUTHORIZATION NO. 2
Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services
Utility Hydrogeologic Engineering Services
Resolution No. R2024-0068 Contract Dated January 23, 2024

Project Title: WTP No. 9 Wellfield Improvements

PBCWUD Project No.: 24-032

5. SBE participation is included in ATTACHMENT C under this Authorization. The attached Schedule 1 defines the SBE applied to this Authorization and Schedule 2 establishes the SBE contribution from each Subconsultant (Letter of Intent).
6. This Authorization does not amend, change, or modify the Contract dated January 23, 2024, which remains in full force and effect.
7. All Attachments to this Authorization are incorporated herein and made a part of this Consultant Services Authorization.
8. The Contract and this Consultant Services Authorization is subject to the County Emergency Ordinance 2025-014, approved by the Board of County Commissioners on June 3, 2025.

CONSULTANT SERVICES AUTHORIZATION NO. 2
Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services
UTILITY HYDROGEOLOGIC ENGINEERING SERVICES
Resolution No. R2024-0068 Contract Dated January 23, 2024

Project Title: WTP NO. 9 WELLFIELD IMPROVEMENTS

PBCWUD Project No.: 24-032

IN WITNESS WHEREOF, this Authorization is accepted, subject to the terms, conditions and obligations of the aforementioned Contract.

PALM BEACH COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA

ATTEST:
MICHAEL A. CARUSO
CLERK & COMPTROLLER

Palm Beach County, Board
of County Commissioners

Signed: _____

Signed: _____

Maria G. Marino, Mayor

Typed Name: _____
Deputy Clerk

(Date)

Approved as to Form and Legal
Sufficiency

BLACK & VEATCH CORPORATION

(Consultant)

Robert Burchett

Signed: _____

(Print Name)

Robert Burchett

(Signature)

Typed Name: Michael W. Jones
County Attorney

F&C Area Execution Lead

(Title)

7/30/25

(Date)

STATE OF FLORIDA

COUNTY OF Orange

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization,
this 30th day of July, 2025, by Robert Burchett who is ☒ personally
known to me or ☐ has produced _____ as identification.

Christine Walewyn
(Signature of Notary Public - State of Florida)



Christine Walewyn
(Print, Type, or Stamp Commissioned Name of Notary Public)



BLACK & VEATCH

Black & Veatch Corporation
1641 Worthington Rd, Suite 420, West Palm Beach, FL 33409
P: +1 954-465-6872 E: friasre@bv.com

July 30, 2025

Palm Beach County
Water Utilities Department
9045 Jog Road
Boynton Beach, Florida

To whom it may concern,

I, Rafael Frias, III, P.E., Vice President—listed accordingly on Sunbiz—hereby delegate authority to Robert Burchett, P.E., F&C Area Execution Lead, to execute the Continuing Services Agreement (CSA) on behalf of Black & Veatch Corporation in connection with matters involving the Palm Beach County Water Utilities Department.

This letter serves as formal acknowledgment that Robert Burchett, P.E., has the signature authority to act and sign on behalf of the company in this capacity.

Should you have any questions or require further verification, please do not hesitate to contact me directly.

Sincerely,

Rafael Frias, III, P.E.
Vice President
(954) 465-6872
Black & Veatch Corporation

Building a World of Difference.®

LIST OF ATTACHMENTS

ATTACHMENT A	Scope of Services
ATTACHMENT B	Summary and Status of Consultant Services Authorizations
ATTACHMENT C	Office of Equal Business Opportunity Schedules 1 and 2
ATTACHMENT D	Project Schedule
ATTACHMENT E	Budget Summary
ATTACHMENT F	Summary of SBE Business Tracking
ATTACHMENT G	Location Map

ATTACHMENT A

SCOPE OF SERVICES

PBCWUD Project No.: 24-032

Project Title: WTP No. 9 Wellfield Improvements

Black & Veatch Corporation (CONSULTANT) shall perform:

The CONSULTANT shall perform wellfield improvements at the following Palm Beach County Water Utilities Department (PBCWUD) Water Treatment Plant (WTP) No. 9 (WTP 9) wells and conveyance system:

PBCWUD WTP 9 Well	Scope of Work
9W-6R	<ul style="list-style-type: none">Well Replacement of Well 9W-6 (offset from existing well and redrill new well)New Wellhead
9W-18	<ul style="list-style-type: none">Well RehabilitationWellhead Replacement
9W-20	<ul style="list-style-type: none">Well RehabilitationWellhead Replacement
9W-21	<ul style="list-style-type: none">Well RehabilitationWellhead Replacement
9W-22	<ul style="list-style-type: none">Well RehabilitationWellhead Replacement
9W-23	<ul style="list-style-type: none">Well RehabilitationWellhead Replacement
9W-24	<ul style="list-style-type: none">Well RehabilitationWellhead Replacement
9W-25	<ul style="list-style-type: none">Well RehabilitationWellhead Replacement
9W-26	<ul style="list-style-type: none">Well Rehabilitation
9W-27	<ul style="list-style-type: none">Well Rehabilitation
9W-28	<ul style="list-style-type: none">Well Rehabilitation
9W-29	<ul style="list-style-type: none">Well Rehabilitation
9W-30	<ul style="list-style-type: none">Well Rehabilitation
9W-31	<ul style="list-style-type: none">Well Rehabilitation
9W-32 (New Well 1)	<ul style="list-style-type: none">Drill Well (new)New Wellhead
9W-33 (New Well 2)	<ul style="list-style-type: none">Drill Well (new)New Wellhead

In addition to the work at these raw water wells, the following major components are included in the project:

- Wellfield Conveyance System Model for all water supply wells supplying WTP 9.
- Raw Water Main design from the existing raw water main near intersection of Southwest 3rd Street and Southeast 57th Avenue to the two (2) new wells to be installed at Veterans Memorial Park.

This Consultant Services Authorization (CSA) encompasses the following services related to the design of these improvements:

- ▣ Hydrogeological design.
- ▣ Civil design of site plan and erosion control features.
- ▣ Process mechanical design, utilizing Palm Beach County Water Utilities Department’s (PBCWUD) typical wellhead design.
- ▣ Electrical and Instrumentation and Control (I&C), utilizing PBCWUD’s typical well panel design.
- ▣ Survey services including a topographic survey with tree identification, easement and property ownership identification, and subsurface utility exploration.
- ▣ Applicable permitting with Palm Beach County, Florida Department of Environmental Protection (FDEP), Palm Beach County Engineering & Public Works Department, City of Boca Raton, Palm Beach County Department of Health (PBCDOH), and City of Boca Raton.
- ▣ Procurement support.

Task 1: Project Meetings and Administration

This task provides professional services to support the project and the project kickoff meeting. The subtasks include Project Kickoff Meeting and Project Coordination and Administration.

Subtask 1.1 – Project Meetings

CONSULTANT will prepare for and attend up to nineteen (19) meetings with PBCWUD, as follows:

- One (1) kickoff meeting to discuss project requirements and questions from the review of pertinent available data and present an initial work schedule.
- One (1) review meeting with PBCWUD to discuss the results of the model and comments from PBCWUD.
- Up to three (3) meetings with Palm Beach County Parks & Recreation (PBC P&R) and PBCWUD.
- One (1) review workshop meeting Wells 9W-26 to 9W-31 Rehabilitation TM (30% Design)
- One (1) review meeting with PBCWUD to discuss the Basis of Design Report (BODR) and comments from PBCWUD.
- Up to four (4) review meeting with PBCWUD to discuss the design submittals and comments from PBCWUD.
- Up to five (5) meetings led by PBCWUD, one (1) with each of the permitting Agencies Having Jurisdiction (AHJ) for the construction necessary for this project.
- Up to three (3) pre-bid meetings (one for each bid package).

Subtask 1.2 – Project Administration

Project coordination and administration provided by CONSULTANT will encompass the efforts necessary for project execution.

CONSULTANT shall provide the necessary communications with PBCWUD and coordination with its subconsultants including processing these invoices. CONSULTANT shall invoice PBCWUD on

a monthly basis for the portion of services completed on this project by maintaining accurate project documentation and project cost accounting system throughout the project. Each invoice will include a monthly progress report that identifies the services provided in the format required by the CSA.

CONSULTANT will develop a project schedule based upon the Notice to Proceed (NTP) date and distribute the updated schedule at the project kickoff meeting. The project schedule will identify the following information:

- Key project tasks and deliverables.
- Critical path, critical dates for data submission, deliverable reviews, decisions by PBCWUD, meetings, and workshops.

CONSULTANT will review, update, and submit to PBCWUD the updated project schedule periodically upon completion of major project elements.

Task 1 Deliverables

- Meeting agenda and minutes for up to eleven (11) project meetings, as follows:
 - One (1) kickoff meeting.
 - One (1) meeting to review Wells 9W-26 to 9W-31 Rehabilitation TM
 - One (1) hydraulic modeling meeting.
 - Up to three (3) meetings with PBC P&R
 - One (1) draft Basis of Design Review.
 - One (1) 60% Design Review Workshops, Bid Package No. 1.
 - Up to three (3) 90% Design Review Workshops, one (1) for each bid package.
- Attend up to five (5) meetings led by PBCWUD, one (1) with each of the AHJ for the construction necessary for this project.
- Attend up to three (3) pre-bid meeting led by PBCWUD.
- Eighteen (18) monthly invoice submittals, each of which will include the latest project schedule, subconsultant payment certifications (Office of Equal Business Opportunity Schedule 3 and 4 forms), and an overall cost accounting summary.

Task 1 Assumptions

- CONSULTANT will have local staff attend meetings present in-person, while non-local staff will be present virtually. This hybrid meeting will allow for effective communication between all parties involved in the review process and ensure that the review is conducted efficiently, while saving PBCWUD the travel expense for attendance of non-local staff. The purpose of the meeting is to highlight the design submittal and assumptions and obtain comments from PBCWUD. All review comments received during the workshop meeting will be compiled in the meeting minutes for incorporation into the next design submittal.

Task 2: Field Investigations, Engineering Analysis, and Basis of Design

This task provides professional services for site visits, data analysis, preliminary field investigation and review of historical data for site assessments, surveying, and geotechnical investigations.

The CONSULTANT team will review existing well information, perform an initial site visit at select well sites, and make use of existing information to complete the design.

The CONSULTANT will compile the information developed in this task into a BODR for this project.

Subtask 2.1 – Initial Site Visit

A site visit will be performed by CONSULTANT and PBCWUD immediately following the project kickoff meeting. The purpose of the kickoff site visit is for CONSULTANT to collect initial information necessary to develop the design documents for this project. During the kickoff site visit, CONSULTANT will observe and document the existing electrical equipment, instrumentation, well pump, valves, and piping. Observations from the kickoff site visit will be used by CONSULTANT to develop the design documents, including, but not limited to, demolition plans, new layout plans, piping and instrumentation diagrams (P&IDs), and electrical single line diagrams of the existing facility and the proposed facility. The site visit will be conducted at Wells 9W-6R, 9W-18, 9W-20 through 9W-31, and the proposed location of the two (2) new wells.

Subtask 2.2 – Data Collection and Analysis

To complete the design as efficiently as possible, CONSULTANT will make use of existing information to the extent available. CONSULTANT has already received the following documents from PBCWUD:

- Eastern Hillsboro Canal Wellfield Surficial Wells 17 to 25 Operations & Maintenance (O&M) Manual May 2005 ((Part A) Eastern Hillsboro Canal Surficial Aquifer Wells O&M Manual in a Portable Document Format (PDF) file)
- 5-Year Historical Pumping Rates, Head Pressure, Static & Drawdown Levels (5-year data 9w18-9w-25.pdf)
- Palm Beach County System 9 Wellfield Monitoring Report 2024 AMPS, Inc. (5-3 PBC 9w 2024 report_20240506091557.pdf)
- Proposed Well 9W-16 Site Plan Sheet C-22 from Project No. PBCWUD 19-022 Wellfield Improvements Phase I (Well 9W-16 As-Built S&S.pdf)
- Select Supervisory Control and Data Acquisition (SCADA) screenshots (Well SCADA data.pdf)
- WTP 9 Production Well Data 2018-Current.xlsx
- WTP 9 Well Data 2018-Current.xlsx
- WTP 9 Wells 1 - 25 Well Specs sheet.xlsx
- PBCWUD Surficial Aquifer Wellfield Condition Assessment Report, PBCWUD WTP 9 (PBCWUD 18-012 Condition Assessment 9.pdf)

CONSULTANT will submit an initial data request to PBCWUD within ten (10) business days of the NTP. The data request will include engineering and operational information that CONSULTANT anticipates needing during the evaluation, including the following:

- Geographic Information System (GIS) shapefiles with georeferenced information for the existing water mains.
- For Wells 9W-18 and 9W-20 through 9W-25 to be brought above grade, record drawings of the existing sites including:
 - Yard piping.
 - Electrical site plan and single line diagrams.
 - Existing control system block diagram and control system guidelines (if available).
- Any existing Topographical Survey or Subsurface Utility Engineering (SUE) – Ground-Penetrating Radar/Soft Digs.

CONSULTANT will contact Sunshine State One Call and utility companies identified with its associated design ticket for the raw water main route and the two (2) new wells. CONSULTANT will request available records from private and public utility companies for electric, gas, phone, cable TV, and communications utilities. CONSULTANT will review gathered as-builts (i.e., record drawings) and atlases from Palm Beach County and other agencies/municipalities having jurisdiction.

CONSULTANT will review and analyze the data provided within this task. If the existing record drawings are not available, CONSULTANT will develop the demolition drawings based on photos and other available information obtained during the site visit.

Subtask 2.3 – Well Investigation, Site Assessment, Well Siting and Coordination with Palm Beach County Parks & Recreation

CONSULTANT will provide field investigations performed at Wells 9W-6R, 9W-18, 9W-20 through 9W-31, the proposed location of two (2) new water supply wells, and the proposed route of the raw water main extension. The following investigations are expected to be included on the site checklist:

- Environmental considerations such as distance to nearby canals or other water bodies, proximity of trees to wells, and signs of animal nests near the site.
- Construction constraints such as overhead power lines or other visible utilities, proximity of adjacent property owners, and site access restrictions such as Homeowners Association restrictions.
- Site Assessment such as site dimensions, locations, physical condition, nameplate data, and other relevant information about existing equipment.
- The sites for the two (2) new wells will be investigated to account for the requirements of the PBC Unified Land Development Code (ULDC) wellfield protection zone rules, specifically Article 14 and the Appendix that details specific construction requirements for wells in proximity to existing sanitary sewer and reclaimed water facilities.
- Special Flood Hazards requirements of the ULDC based on the latest Federal Emergency Management Agency (FEMA) maps will be used to identify the 100-year flood elevation to establish the minimum elevation requirements for the design of the construction and improvements to these wells.

CONSULTANT shall assist PBCWUD in confirming the acceptable location of the two (2) new wells utilizing the investigation information, along with the requirements of the Florida Administrative Code (FAC) 62-532 Water Well Permitting and Construction Requirements for the elevations for the proposed electrical panels, concrete slabs, and required clearance to the vent elevation of wellhead assemblies.

Existing drawings, if available, will be redlined during the site investigations and extensive digital photographs will be taken for use during design. Site visits will be coordinated with PBCWUD. The findings from the site assessment will be used to develop the Task 4 – Detailed Design.

CONSULTANT will support PBCWUD in the coordination with Palm Beach County Parks & Recreation (PBC P&R) for the use of the Veterans Park property for the purpose of providing acceptable locations for the installations of the two (2) water supply wells. This coordination shall include up to three (3) meetings with PBC P&R and PBCWUD. CONSULTANT will provide the agenda and meeting minutes for these meetings. This meeting has been accounted for under Subtask 1.1 – Project Meetings.

Upon completion of the Well Investigations, CONSULTANT will provide Contract Documents for rehabilitation of Wells 9W-26 to 9W-31 by executing Subtask 4.2.1 – Detailed Design (90% Design), Bid Package No. 2, while the BODR is being developed. For this purpose,

CONSULTANT will prepare Technical Memorandum (TM) to identifies the recommended rehabilitation and maintenance for Wells 9W-26 to 9W-31. This Wells 9W-26 to 9W-31 Rehabilitation TM (30% Design) will be used to accelerate the rehabilitation and maintenance for these wells.

After a 2-week review period, CONSULTANT will conduct one (1) virtual Wells 9W-26 through 9W-31 Rehabilitation TM (30% Design) review workshop meeting with PBCWUD staff to present the Basis of Design Report (30% Design) TM for these wells. The purpose of the meeting is to review the design deliverable and describe the design in sufficient detail as to allow PBCWUD staff to provide comments. All review comments received during the workshop will be compiled in the meeting minutes for incorporation into the Detailed Design (90% Design), Bid Package No. 2 documents. CONSULTANT will respond to each comment and provide a comment resolution document. This meeting has been accounted for under Subtask 1.1 – Project Meetings.

Subtask 2.4 – Surveying Services and Subsurface Utility Locating Services

CONSULTANT shall provide the survey services necessary for this project and outlined below.

CONSULTANT will execute the topographic survey and subsurface utility locating services outlined below. The specifics for these services are provided in the attached subconsultant's proposal.

Subtask 2.4.1 – Topographic Survey

Topographic survey will be required to establish the locations for the following project components (Area of Survey):

- Replacement (offset and redrill) of Well 9W-6R.
- Wells 9W-18 and 9W-20 through 9W-25.
- Two (2) new water supply wells, including a 150-foot radius at each of the sites being considered for these new wells.
- New raw water main extension from the location of the two (2) new water supply wells at Veterans Memorial Park to the nearest existing raw water tie-in location at the intersection of Southwest 3rd Street and Southeast 57th Avenue.

For developing this scope of work, a topographic survey and Computer-Aided Design and Drafting (CADD) base map of the existing conditions along the approximate 4,800 Linear Feet (LF) of the proposed raw water main corridor. The corridor will be mapped from right-of way (ROW) / property lines. The topographic and utility designation data points (existing conditions) will be collected by terrestrial survey methods. In addition to this linear survey corridor, topography will be mapped in the vicinity of the two (2) proposed new well locations. The lateral limits will include one (1) side of the ROW of West Palmetto Park Road and Lyons Road and ending south at Southwest 57th Avenue and Southeast 3rd Street.

Subtask 2.4.2 – Subsurface Utility Locating Services

CONSULTANT will perform up to thirty-five (35) soft digs, consisting of seventeen (17) pervious digs and eighteen (18) impervious digs for this project, as necessary along the raw water main path. CONSULTANT will perform up to nine (9) pervious soft digs, as necessary for the two (2) new wells. Test holes will be utilized to expose utilities to the vertical and horizontal locations of existing infrastructure that may conflict with the design elements of the proposed construction.

Subtask 2.5 – Geotechnical Investigation

CONSULTANT shall provide the geotechnical investigation services necessary for this project and outlined below.

CONSULTANT will execute the geotechnical investigation services outlined below. The specifics for these services are provided in the attached subconsultant's proposal.

CONSULTANT will perform a program of geotechnical drilling, testing, and engineering services to support the design of the replacement (offset and redrill) of water supply Well 9W-6R, two (2) new aboveground raw water supply wells, and approximate 4,800-LF raw water transmission main extension. Geotechnical services include the collection of site and subsurface data within the footprint of the raw water transmission main and a summary of the test results in the form of a Geotechnical Engineering Report.

The geotechnical investigation will consist of one (1) standard penetration test (SPT) borings at each of the two (2) proposed well locations and at Well 9W-6R for a total of three (3) borings. The depth of these SPTs will be 150-feet. Each of the above borings will be advanced a minimum of 2-feet into competent limestone beneath the near-surface sands. The borings will be performed in general accordance with American Society for Testing and Materials (ASTM) D-1586 specifications.

The geotechnical field drilling will also include nine (9) SPT borings advanced to depths of 15-feet below existing site grade at approximate 500 linear feet intervals along the proposed raw water transmission main route. In addition, four (4) SPT borings will be advanced to a depth of 30-feet below existing grade at locations to be determined along the route.

The Geotechnical Engineering Report will include a description of findings and general site preparation and foundation design recommendations for support of the proposed construction. In order to provide information concerning the engineering properties of the soils encountered, laboratory tests will be performed to determine natural water content, organic content, and sieve analysis on representative soil samples collected from the site. The engineering report will include graphic logs of the test borings and a test boring location plan.

Subtask 2.6 – Basis of Design Report (30% Design)

Based on review of existing information and site investigations, CONSULTANT will develop Construction Contract Documents for selection of construction contractors on a competitive bid basis. CONSULTANT will prepare a BODR for the project. The BODR will be developed for the aspects of the project identified in the task below and this report will establish the basis of design for the Project. The BODR will constitute the 30% level design effort and will be enough detail to serve as a reference to guide for the detailed design of the project. The BODR will include drawings and figures, as needed, to illustrate the preliminary design layout.

The rehabilitation to Wells 9W-26 to 9W-31 is maintenance and the CONSULTANT will proceed directly to the development of that Bid Package 2. Deficiencies to these wells identified in this BODR will be incorporated into that rehabilitation and maintenance, as a field directive or change order to the successful bidder for that Work.

The BODR will describe the design criteria. The type, number, capacity, and size of all major facility components will be identified and will assist in the site selection for the new wells. Design objectives and criteria for the Capital Improvement Plan (CIP) will be developed.

After a 2-week review period, CONSULTANT will conduct one (1) virtual BODR design review workshop meeting with PBCWUD staff to present the Basis of Design Report (30% Design). The purpose of the meeting is to review the design deliverable and describe the design in sufficient detail as to allow PBCWUD staff to provide comments. All review comments received during the workshop will be compiled in the meeting minutes for incorporation into the Detailed Design (60% Design) documents. CONSULTANT will respond to each comment and provide a comment resolution document. This meeting has been accounted for under Subtask 1.1 – Project Meetings.

In general, and as applicable to each bid package, the BODR will include the following information:

- General project scope and background references.

- Design objectives.
- Basis of Design criteria including:
 - Equipment selections.
 - Design flood elevation.
 - Structural.
 - Electrical.
 - Raw water main trenchless crossings evaluation, as applicable.
- Drawings, as applicable per bid package:
 - Existing site plan.
 - Proposed site plan.
 - Conceptual design drawings.
 - Single line-diagram.
 - Control block diagram.
 - P&IDs.
 - Horizontal alignment of the proposed raw water main in a 1 inch = 20-feet scale. The sheets will have a topographic background with a stationed baseline and will display existing utilities.
- Prepare a Class 4 Opinion of Probable Construction Cost (OPCC) as per the Association for the Advancement of Cost Consulting International (AACE) Recommended Practice No. 18R-97 with an expected accuracy range between -30% and +50%. The OPCC will be provided for bid package 1 and bid package 3, separately. The OPCC from Subtask 4.2.1 – Detailed Design (90% Design) will be included in this section of the BODR.
- Assist PBCWUD with identifying locations for the replacement Well 9W-6R, and the siting of the two (2) new water supply wells by coordinating with PBC P&R. This is a collaborative effort to identify suitable parcels. One site visit will be provided to each site on the same day.
- Review the easements documents for the well locations.
- Summary of required permits, especially FAC 62-555 and FAC 62-320.

Task 2 Deliverables

- Kickoff site visit notes.
- Technical Memorandum for the recommended rehabilitation for 9W-26 to 9W-31
- Draft BODR and preliminary drawings, with the following exhibits:
 - Sixteen (16) site assessment checklist files.
 - Survey:
 - Signed and sealed reproducible AutoCAD drawing(s) of survey no larger than 22-inch by 34-inch on bond paper, one (1) set.
 - Electronic drawing files in AutoCAD file format. See the attached “Standards for Preparation of Electronic AutoCAD Drawings” for electronic file information.

- Signed and sealed legal easement descriptions, including figures, on each parcel or property on which easements are required, and this is assumed to be only at the locations for the two (2) new wells.
- SUE report and drawings.
- Geotechnical boring plan.
- Draft and final geotechnical engineering report.
- Wellfield Hydraulic Model Update Technical Memorandum, Final
- Comment resolution log, two (2) weeks after receipt of the final comment list.
- AACE Class 4 OPCC for each anticipated bid package.

Task 2 Assumptions

- Drawings will be prepared by CONSULTANT using Autodesk Revit Building Information Modeling software for the improvements at well sites and Civil3D for the raw water main. PBCWUD standard details, available and current at the time of the work, will be utilized as applicable. Where applicable PBCWUD standard details are not available, CONSULTANT's standard details will be utilized.
- PBCWUD will provide the title reports, including encumbrances, at the locations for the two (2) new wells.

Task 3: Wellfield Conveyance System Model

This task provides professional services to support the development of a hydraulic model of the wellfield conveyance system, which will be used to evaluate the pumping conditions of the existing wells to support selection of pump characteristics (i.e., “pump curves”) for proposed wells. The following subtasks outline each major component of Task 3.

PBCWUD will provide data from its WTP 9 Wellfield evaluation that is being provided by another consultant. This well performance test data will be combined with SCADA information to show the performance of the wellfield conveyance system, while testing the hydraulic performance at each well. The well performance test data that will be provided to the CONSULTANT will consist of the flow, discharge pressure, and well drawdown from each well, with the corresponding SCADA output recording during the test.

Subtask 3.1 – Build Conveyance Model and Validation

CONSULTANT will update the existing InfoWater wellfield model to InfoWater Pro software and will update well and conveyance piping information using data provided by PBCWUD. The model update will include the conveyance pipelines, well pumps, valves, controls, and groundwater levels.

CONSULTANT will work with the PBCWUD to select up to four (4) combinations of operating scenarios for the wells to validate the model results.

Subtask 3.2 – New Pump Selection Support

Prepare System Curves for New Pumps – CONSULTANT will use the hydraulic model to support the development of system curves to illustrate the hydraulic requirements for new well pumps at the two (2) new well locations considering the operational range of hydraulic conditions for the existing wells.

Confirm Pump Selection in the Model – CONSULTANT will input the new well pump curves from selected proposed pumps into the conveyance model to confirm the selected pumps are appropriate and meet the production capacity goals under the range of operating scenarios for the manifolded collection system for water supply wells.

Subtask 3.3 – Technical Memorandum

Draft Technical Memorandum – The CONSULTANT will prepare and submit to the PBCWUD a Draft Wellfield Hydraulic Model Update Technical Memorandum for review and comment.

After a 2-week review period, CONSULTANT will conduct one (1) virtual Wellfield Conveyance System Model review meeting with PBCWUD staff. The purpose of the meeting is to review the design deliverable and describe the design in sufficient detail as to allow PBCWUD staff to provide comments. All review comments received during the workshop will be compiled in the meeting minutes for incorporation into the Basis of Design Report (30% Design) design documents. CONSULTANT will respond to each comment and provide a comment resolution document. This meeting has been accounted for under Subtask 1.1 – Project Meetings.

Final Technical Memorandum – The CONSULTANT will address PBCWUD comments on the draft technical memorandum and submit a Final Wellfield Hydraulic Model Update Technical Memorandum.

Task 3 Deliverables

- Validated Wellfield Conveyance Models in InfoWater Pro.
- Wellfield Hydraulic Model Update Technical Memorandum (Draft and Final).
- All associated model files, input data, and scenario configurations used in the development and validation of the hydraulic model shall be provided to PBCWUD in native InfoWater Pro format as part of the final deliverable.

Task 3 Assumptions

- PBCWUD will provide to the CONSULTANT in GIS shapefile or geodatabase format as necessary to build conveyance model.
- PBCWUD has two (2) models of pumps that has been standardized for its raw water supply system, and the CONSULTANT will base the hydraulic design for the new wells on these standardized pumps.

Task 4: Detailed Design

For the scope of work described herein, CONSULTANT will provide three (3) separate bid packages as follows:

- Bid Package No. 1 – New Raw Water Main
- Bid Package No. 2 – Well Rehabilitation, only (Wells 9W-26 through 9W-31)
- Bid Package No. 3 – Wellhead Reconfiguration and Well Rehabilitation (9W-18 and 9W-20 through 9W-25) and New Raw Water Wells

Subtask 4.1 – New Raw Water Main (Bid Package No. 1)

CONSULTANT will provide Contract Documents for the raw water main extension required to connect the two (2) new raw water wells to an existing raw water main that serves WTP 9. This task consists of the design for approximately 4,500-LF of a new raw water main.

Subtask 4.1.1 – Detailed Design (60% Design)

CONSULTANT will prepare design drawings and specifications to a 60% level of completion based on comments received from PBCWUD on the BODR submittal for the scope of work described herein. CONSULTANT will commence this subtask only after PBCWUD has accepted the design criteria and the BODR. CONSULTANT will prepare details and site-specific installation

drawings and specifications for each well design. Documents will incorporate comments provided by PBCWUD on the BODR (Subtask 2.6 – 30% Design) per the comment resolution document.

CONSULTANT will review and modify PBCWUD front end specifications to be project specific, as well as prepare draft technical specifications for the major elements of this bid package. CONSULTANT will develop a preliminary construction schedule to estimate the duration of the construction.

CONSULTANT will prepare a Class 3 Opinion of Probable Construction Cost (OPCC) in accordance with AACE Recommended Practice No. 18R-97, with an expected accuracy range between -20% and +30%.

After a 2-week review period, CONSULTANT will conduct one (1) virtual Detailed Design (60% Design) review workshop meeting with PBCWUD staff. The purpose of the meeting is to review the design deliverable and describe the design in sufficient detail as to allow PBCWUD staff to provide comments. All review comments received during the workshop will be compiled in the meeting minutes for incorporation into the Detailed Design (90% Design) documents. CONSULTANT will respond to each comment and provide a comment resolution document. This meeting has been accounted for under Subtask 1.1 – Project Meetings.

As applicable to each bid package, drawings will include the following:

- General – Cover, index, location, general notes, legend, and abbreviations.
- Civil – Site plan showing route of the proposed raw water main.
- Raw water main horizontal and vertical alignment.

Subtask 4.1.1 – Deliverables

- Final Basis of Design Report incorporating comments provided by PBCWUD.
- 60% Design Drawings.
- 60% Technical Specifications.
- Preliminary Construction Schedule.
- AACE Class 3 OPCC.
- Comment resolution log, two (2) weeks after receipt of the final comment provided by PBCWUD.

Subtask 4.1.2 – Detailed Design (90% Design)

CONSULTANT will provide a 90% Design Submittal based on comments received from PBCWUD staff on the 60% Design Submittal for the scope of work described herein.

After a 2-week review period, CONSULTANT will conduct one (1) virtual Detailed Design (90% Design) review workshop meeting with PBCWUD staff. The purpose of the meeting is to review the design deliverable and describe the design in sufficient detail to allow PBCWUD staff to provide comments. All review comments received during the workshop will be compiled in the meeting minutes for incorporation into the Final Design (Issue for Permitting) documents. CONSULTANT will respond to each comment and provide a comment resolution document. This meeting has been accounted for under Subtask 1.1 – Project Meetings.

Subtask 4.1.2 – Deliverables

- 90% Detailed Design Documents – Draft Project Manual (Plans and Specification).
- Comment resolution log, two (2) weeks after receipt of the final comment provided by PBCWUD.

Subtask 4.1.3 – Final Design (Issue for Permitting)

CONSULTANT will provide a Final Design Submittal based on comments received from PBCWUD on the 90% Design Submittal for the scope of work described herein. The Final Design submittal shall be ready for permitting submittals to obtain a dry-run approval from regulatory agencies (i.e., Palm Beach County Planning, Zoning and Building Department).

Subtask 4.1.3 – Deliverables

- Final 100% drawings and specifications in portable document format (PDF).

Subtask 4.1.4 – Bid Document Submittal (Issue for Bids)

CONSULTANT will provide a Bid Document Submittal (Issue for Bidding) based on revising the Final Design (Issue for Permitting) documents to address and incorporate the comments received from PBCWUD and the permitting agencies on the Final Design (Issue for Permitting) documents. There will be no design changes to the final documents except as reviewed and approved by PBCWUD.

CONSULTANT will provide a Class 2 OPCC as per the AACE with an expected accuracy range between -15% and +20%.

Subtask 4.1.4 – Deliverables

- Final signed/sealed drawings and specifications in electronic PDF files for each bid package.
- AACE Class 2 OPCC.

Subtask 4.1.5 – Conformed Document Submittal (Issue for Construction)

CONSULTANT will provide Conformed Construction Documents consisting of the Bid Document Submittal revised to incorporate all addenda issued during the procurement process.

Subtask 4.1.5 – Deliverables

- Conformed Construction Documents.

Subtask 4.2 – Well Rehabilitation (Bid Package No. 2)

CONSULTANT will provide Contract Documents for rehabilitation of Wells 9W-26 through 9W-31. No permitting is required for the rehabilitation of these wells, as the rehabilitation is periodic maintenance.

Subtask 4.2.1 – Detailed Design (90% Design)

CONSULTANT will prepare design drawings and specifications to a 90% level of completion based on comments received from PBCWUD on the Wells 9W-26 to 9W-31 Rehabilitation TM (30% Design submittal for the scope of work described herein. CONSULTANT will commence this subtask only after PBCWUD has accepted the design criteria in the BODR. CONSULTANT will prepare site plans showing the location and layout of each well, and standard detail drawings and specifications for the rehabilitation for each well. Documents will incorporate comments provided by PBCWUD on the Wells 9W-26 to 9W-31 Rehabilitation TM (30% Design per the comment resolution document.

CONSULTANT will review and modify PBCWUD front-end specifications to be project specific, as well as prepare draft technical specifications for the major elements of this bid package. CONSULTANT will develop a preliminary construction schedule to estimate the duration of the construction.

CONSULTANT will prepare a Class 3 Opinion of Probable Construction Cost (OPCC) in accordance with AACE Recommended Practice No. 18R-97, with an expected accuracy range between -20% and +30%.

After a 2-week review period, CONSULTANT will conduct one (1) virtual Detailed Design (90% Design) review workshop meeting with PBCWUD. The purpose of the meeting is to review the design deliverable and describe the design in sufficient detail as to allow PBCWUD staff to provide comments. All review comments received during the workshop will be compiled in the meeting minutes for incorporation into the Final Design documents. CONSULTANT will respond to each comment and provide a comment resolution document. This meeting has been accounted for under Subtask 1.1 – Project Meetings.

As applicable to each bid package, drawings will include the following:

- General – Cover, index, location, general notes, legend, and abbreviations.
- Civil – Site plan showing the location and layout of each well, and standard detail drawings for each well.

Subtask 4.2.1 – Deliverables

- 90% Design Drawings.
- 90% Technical Specifications.
- Preliminary Construction Schedule.
- AACE Class 3 OPCC.

Subtask 4.2.2 – Final Design

CONSULTANT will provide a Final Design submittal based on comments received from PBCWUD on the Detailed Design (90% Design) submittal for the scope of work described herein. The Final Design submittal shall be ready to bid. PBCWUD shall review this submittal to provide comments and revisions necessary to update this submittal for CONSULTANT to provide the Bid Document Submittal (Issue for Bids).

Subtask 4.2.2 – Deliverables

- Final Design 100% drawings and specifications in PDF format for each Bid Package.

Subtask 4.2.3 – Bid Document Submittal (Issue for Bids)

CONSULTANT will provide a Bid Document Submittal (Issue for Bidding) based on revising the Final Design documents to address and incorporate the comments received from PBCWUD Final Design Submittal documents. There will be no design changes to the final documents except as reviewed and approved by PBCWUD.

CONSULTANT will provide a Class 2 OPCC as per the AACE with an expected accuracy range between -15% and +20%.

Subtask 4.2.3 – Deliverables

- Final signed/sealed drawings and specifications in electronic PDF files for each Bid Package.
- AACE Class 2 OPCC.

Subtask 4.2.4 – Conformed Document Submittal (Issue for Construction)

CONSULTANT will provide Construction Documents consisting of the Bid Document Submittal revised to incorporate all addenda issued during the procurement process.

Subtask 4.2.4 – Deliverables:

- Conformed drawings and specifications

Subtask 4.3 – New Raw Water Wells and Wellhead Reconfiguration and Well Rehabilitation (Bid Package No. 3)

CONSULTANT will provide Contract Documents for the replacement of Well 9W-6R (previously abandoned) and the installation of two (2) new water supply wells and Wellhead Reconfiguration and Well Rehabilitation (9W-18 and 9W-20 - 9W-25).

Subtask 4.3.1 – Detailed Design (90% Design)

CONSULTANT will prepare design drawings and specifications to a 90% level of completion based on comments received from PBCWUD on the BODR submittal for the scope of work described herein. CONSULTANT will commence this subtask only after PBCWUD has accepted the design criteria and the BODR. CONSULTANT will prepare details and site-specific installation drawings and specifications for each well design. Documents will incorporate comments provided by PBCWUD on the BODR, per the comment resolution document.

CONSULTANT will prepare a Class 3 OPCC as per AACE with an expected accuracy range between - 20% and +30%.

CONSULTANT will review and modify PBCWUD front-end specifications to be project specific, as well as prepare draft technical specifications for the major elements of this bid package. CONSULTANT will develop a preliminary construction schedule to estimate the duration of the construction.

After a 2-week review period, CONSULTANT will conduct one (1) virtual Detailed Design (90% Design) design review workshop meeting with PBCWUD staff. The purpose of the meeting is to review the design deliverable and describe the design in sufficient detail as to allow PBCWUD staff to provide comments. All review comments received during the workshop will be compiled in the meeting minutes for incorporation into the Final Design documents. CONSULTANT will respond to each comment and provide a comment resolution document. This meeting has been accounted for under Subtask 1.1 – Project Meetings.

As applicable to each bid package, drawings will include the following:

- General – Cover, index, location, general notes, legend, and abbreviations.
- Civil – Site plan showing the location of each well on the site; grading plan showing the existing and proposed grades around each well; standard details.
- Structural foundation plan, section and detail drawings showing the layout, dimensions, and details of the foundation for the wellhead at two (2) new water supply wells.
- Process mechanical plan and section and detail drawings showing the layout, cross sections, and specific details of each wellhead including well pump, valves, and piping.
- Electrical – General notes, site plan, site lighting, single-line, conduit and cable schedules, equipment layout, typical riser drawings, standard details.
- I&C – General notes, P&IDs, instrument details.

Subtask 4.3.1 – Deliverables

- Final Basis of Design Report incorporating comments provided by PBCWUD.
- 90% Design Drawings.
- 90% Technical Specifications.

- 90% Design Review Workshop with agenda and meeting minutes.
- AACE Class 3 OPCC.
- Preliminary Construction Schedule.
- Comment resolution log, two (2) weeks after receipt of the final comment provided by PBCWUD.

Subtask 4.3.2 – Final Design (Issue for Permitting)

CONSULTANT will provide a Final Design Submittal based on comments received from PBCWUD staff on the Detailed Design (90% Design) submittal for the scope of work described herein.

After a two (2) week review period, CONSULTANT will conduct one (1) virtual Final Design (Issue for Permitting) review workshop meeting with PBCWUD staff. The purpose of the meeting is to review the design deliverable and describe the design in sufficient detail as to allow PBCWUD staff to provide comments. All review comments received during the workshop will be compiled in the meeting minutes for incorporation into the Bid Document documents. CONSULTANT will respond to each comment and provide a comment resolution document. This meeting has been accounted for under Subtask 1.1 – Project Meetings.

Subtask 4.3.2 – Deliverables

- 90% Detailed Design Documents – Draft Project Manual (Plans and Specifications).
- Comment resolution log, two (2) weeks after receipt of the final comment list .

Subtask 4.3.3 – Bid Document Submittal (Issue for Bids)

CONSULTANT will provide a Bid Document Submittal (Issue for Bidding) based on revising the Final Design (Issue for Permitting) documents to address and incorporate the comments received from PBCWUD and the permitting agencies. There will be no design changes to the final documents except as reviewed and approved by PBCWUD.

CONSULTANT will provide a Class 2 OPCC as per the AACE with an expected accuracy range between -15% and +20%.

Subtask 4.3.3 – Deliverables

- Final Signed/Sealed drawings and specifications in electronic PDF files for each Bid Package.
- AACE Class 2 OPCC.

Subtask 4.3.4 – Conformed Document Submittal (Issue for Construction)

CONSULTANT will provide Conformed Construction Documents consisting of the Bid Document Submittal revised to incorporate all addenda issued during the procurement process.

Subtask 4.3.4 – Deliverables

- Conformed drawings and specifications for each bid package.

Task 5: Permitting Support

CONSULTANT will support the efforts by PBCWUD to obtain the necessary permits from the PBCDOH, Palm Beach County Engineering & Public Works Department, Palm Beach County Right of Way, and Palm Beach County Building Department for the scope of described herein. CONSULTANT will participate in pre-application meetings lead by PBCWUD with Palm Beach County Engineering & Public Works Department, City of Boca Raton, and the South Florida Water Management District (SFWMD) to discuss the permit requirements. CONSULTANT will also work

closely with all permitting agencies to obtain applicable permits for the project, including responding to requests for information (RFIs) from the permitting agencies by submitting a “dry-run” building permit application to the PBC Building Department. CONSULTANT will update design documents as necessary to address comments received from the permitting agencies. These changes will be included in the bid documents.

The following applications will be coordinated with PBCWUD, as part of the permit support task:

Subtask 5.1 – Palm Beach County Department of Health

CONSULTANT will prepare even (11) applications for a Permit to Construct Public Water Supply Components from the PBCDOH for this project, as follows:

- one (1) permit application for the raw water main
- Ten (10) permit applications for the sites with new or modified wellhead installations

Subtask 5.2 – Palm Beach County Planning, Zoning and Building Department

CONSULTANT will coordinate project details during the design phase with the Planning, Zoning and Building Department in anticipation of a Site Work Permit. CONSULTANT will prepare and PBCWUD will submit a courtesy permit application to the Planning, Zoning and Building Department and CONSULTANT will update drawings based on the Planning, Zoning and Building Department comments.

Subtask 5.3 – South Florida Water Management District

An Environmental Resource Permit (ERP) may be required for this project, as governed under FAC 62-330. With the current statewide ERP rule, FDEP holds the permitting authority for the ERP on industrial facilities. Coordination with SFWMD and FDEP will be required to verify the permitting authority on this project.

The CONSULTANT will prepare and submit a Request for Verification of an Exemption (https://floridadep.gov/sites/default/files/62-330_050_1.pdf). No modeling or analysis of the master stormwater management system and secondary/conveyance systems is included in this proposal.

Subtask 5.4 – Palm Beach County Engineering and Public Works

CONSULTANT will coordinate the project details during the design phase with the Engineering and Public Works Department in anticipation of the maintenance of traffic (MOT) required for the raw water main construction along Palmetto Park Road. CONSULTANT will incorporate requirements from the meeting in the project specifications. The CONTRACTOR will be responsible for preparing and submitting the MOT for approval.

Subtask 5.5 – Palm Beach County Right of Way

CONSULTANT will coordinate the project details during the design phase with Palm Beach County Land Development Division in anticipation of the ROW permit required for the raw water main construction along Lyons Road. CONSULTANT will incorporate requirements from the meeting in the project specifications. The CONTRACTOR will be responsible for preparing and submitting the MOT for approval.

Task 5 Deliverables

- Application submittal to PBCDOH for the project, using FAC form 62-555-900(1), with two (2) signed and sealed full-size set of plans and specification for each bid package.
- Four (4) signed and sealed full-size set of plans and specification for each bid package, along with the necessary permit applications for the respective AHJs for this project.

Task 5 Assumptions

- Fees and costs associated with permits will be paid by PBCWUD.
- CONSULTANT will respond to no more than two (2) requests for additional information from PBCDOH.
- CONSULTANT will receive the comments from the respective AHJs for this project and use this information to finalize the 100% for this project. CONSULTANT will not make an additional submittal or respond to the AHJ's comments.
- The selected Construction Contractors will be responsible for attaining the final construction permits for this project.

Task 6: Bid Phase Services

CONSULTANT will support the efforts by PBCWUD to award each of the three (3) bid packages for construction by qualified general contractors. CONSULTANT will provide the following services prior to, during, and immediately following Project advertisement.

Subtask 6.1 – Bid Package No. 1 - New Raw Water Main

- A. CONSULTANT will provide for PBCWUD's use in reproducing bidding documents one (1) signed and sealed electronic copy of:
1. Construction contract drawings.
 2. Technical specifications.
 3. Front-end documents.
 4. Geotechnical report
- B. Pre-Bid Conference. CONSULTANT will attend and assist PBCWUD, at a date and time selected and a place provided by PBCWUD. PBCWUD will facilitate the pre-bid meeting and provide the minutes of this meeting to the CONSULTANT. The purpose of this mandatory pre-bid conference is to complete the following:
- Confirm the types of information required by the Construction Contract Documents and the format in which bids are to be presented.
 - Review special Project requirements and Construction Contract Documents in general.
 - Receive requests for interpretations that will be issued to plan holders by addendum, if necessary.
- Pre-bid conference meeting minutes will be issued as one of the addenda noted in this task.
- C. Interpret bidding documents. CONSULTANT will address inquiries prior to the bid opening from contractors, subcontractors, suppliers, and public officials. Prepare and issue up to three (3) addenda to the Construction Contract Documents as required.
- D. Evaluate Bids. CONSULTANT will assist PBCWUD in reviewing the bids for completeness and accuracy. Consult, advise, and submit information on the responsiveness of the apparent low bidder, the acceptability of its major subcontractors, and the substitution of material and equipment proposed by the apparent low bidder. Pre-award services will include the following:
- Review and evaluate the qualifications of the apparent successful bidder and the proposed major or specialty subcontractors. The review and evaluation will include financial resources and reference checks on the bidder's previous experience.
 - Prepare and distribute a bid tabulation sheet, evaluate bids, and make a recommendation to PBCWUD concerning contract award.

Subtask 6.2 – Bid Package No. 2 – Well Rehabilitation

- A. CONSULTANT will provide for PBCWUD's use in reproducing bidding documents one (1) signed and sealed electronic copy of:
1. Construction contract drawings.
 2. Technical specifications.
 3. Front-end documents.
 4. Geotechnical report
- B. Pre-Bid Conference. CONSULTANT will attend and assist PBCWUD, at a date and time selected and a place provided by PBCWUD. PBCWUD will facilitate the pre-bid meeting and provide the minutes of this meeting to the CONSULTANT. The purpose of this mandatory pre-bid conference is to complete the following:
- Confirm the types of information required by the Construction Contract Documents and the format in which bids are to be presented.
 - Review special Project requirements and Construction Contract Documents in general.
 - Receive requests for interpretations that will be issued to plan holders by addendum, if necessary.
- Pre-bid conference meeting minutes will be issued as one of the addenda noted in this task.
- C. Interpret bidding documents. CONSULTANT will address inquiries prior to the bid opening from contractors, subcontractors, suppliers, and public officials. Prepare and issue up to three (3) addenda to the Construction Contract Documents as required.
- D. Evaluate Bids. CONSULTANT will assist PBCWUD in reviewing the bids for completeness and accuracy. Consult, advise, and submit information on the responsiveness of the apparent low bidder, the acceptability of its major subcontractors, and the substitution of material and equipment proposed by the apparent low bidder. Pre-award services will include the following:
- Review and evaluate the qualifications of the apparent successful bidder and the proposed major or specialty subcontractors. The review and evaluation will include financial resources and reference checks on the bidder's previous experience.
 - Prepare and distribute a bid tabulation sheet, evaluate bids, and make a recommendation to PBCWUD concerning contract award.

Subtask 6.3 – Bid Package No. 3 - New Raw Water Wells, Well Rehabilitation and Wellhead Reconfiguration

- A. CONSULTANT will provide for PBCWUD's use in reproducing bidding documents one (1) signed and sealed electronic copy of:
1. Construction contract drawings.
 2. Technical specifications.
 3. Front-end documents.
 4. Geotechnical report
- B. Pre-Bid Conference. CONSULTANT will attend and assist PBCWUD, at a date and time selected and a place provided by PBCWUD. PBCWUD will facilitate the pre-bid meeting and provide the minutes of this meeting to the CONSULTANT. The purpose of this mandatory pre-bid conference is to complete the following:
- Confirm the types of information required by the Construction Contract Documents and the format in which bids are to be presented.

- Review special Project requirements and Construction Contract Documents in general.
- Receive requests for interpretations that will be issued to plan holders by addendum, if necessary.

Pre-bid conference meeting minutes will be issued as one of the addenda noted in this task.

- C. Interpret bidding documents. CONSULTANT will address inquiries prior to the bid opening from contractors, subcontractors, suppliers, and public officials. Prepare and issue up to three (3) addenda to the Construction Contract Documents as required.
- D. Evaluate Bids. CONSULTANT will assist PBCWUD in reviewing the bids for completeness and accuracy. Consult, advise, and submit information on the responsiveness of the apparent low bidder, the acceptability of its major subcontractors, and the substitution of material and equipment proposed by the apparent low bidder. Pre-award services will include the following:
 - Review and evaluate the qualifications of the apparent successful bidder and the proposed major or specialty subcontractors. The review and evaluation will include financial resources and reference checks on the bidder's previous experience.
 - Prepare and distribute a bid tabulation sheet, evaluate bids, and make a recommendation to PBCWUD concerning contract award.

Task 6 Deliverables

- Responses to RFIs and addenda during the bid process, for each bid package.
- Award recommendation letter for each Bid Package.

Task 6 Assumptions

- PBCWUD will utilize the three (3) Contract Documents provided by the CONSULTANT for this project to solicit bid for the construction and services for this project.

Assumptions and Exclusions

This CSA is based upon the following:

- Within 2-weeks of the kickoff meeting, PBCWUD will provide existing drawings for the wells to be rehabilitated to allow CONSULTANT to proceed with the design tasks.
- Eight (8) OPCCs are included in the scope of services. The following is a summary of these submittals:
 - Subtask 4.2.1 – Detailed Design (90% Design), Bid Package No. 2, Class 3
 - Subtask 4.2.3 – Bid Document Submittal (Issue for Bids), Bid Package No. 2, Class 2
 - Subtask 2.6 – Basis of Design Report (30% Design), Bid Package No. 1, Class 4
 - Subtask 2.6 – Basis of Design Report (30% Design), Bid Package No. 2, Class 4
 - Subtask 4.1.1 – Detailed Design (60% Design), Bid Package No. 1, Class 3
 - Subtask 4.3.1 – Detailed Design (90% Design), Bid Package No. 3, Class 3
 - Subtask 4.2.3 – Bid Document Submittal (Issue for Bids), Bid Package No. 1, Class 2
 - Subtask 4.3.3 – Final Bid Document Submittal (Issue for Bids), Bid Package No. 3, Class 2
- CONSULTANT is not responsible for easement acquisitions.
- The land for the easements necessary for the two (2) new wells is anticipated to be located on existing County owned land or another municipal ROW. PBCWUD's easement acquisition is anticipated to be completed by PBCWUD during or before the execution of Task 4.
- Existing aboveground wellheads will not be modified.

- Hydraulic modeling to analyze the existing wellfield system for capacity and optimization and to identify system deficiencies and improvements is not included in this CSA.
- Environmental assessments are not included in this CSA.
- Construction Administration Support services will be provided in a subsequent construction phase of this project, and the scope and fees are not included in this CSA.
- Permit extension and renewals after the issuance of the initial permits are excluded from these services.
- PBCWUD shall pay all necessary permit application fees.
- All submittals will be electronic, unless otherwise noted.
- Non-local travel expenses for these services are included in Attachment E.
- No permits are required for the maintenance work associated with Bid Package 2.
- All final native files will be provide to PBCWUD by CONSULTANT upon completion of the project.

Supplemental Services

Certain assumptions have been made in preparing this Scope of Services. To the extent possible, they are stated herein and are reflected in the budget for services. If the work tasks or level of effort required are different from the assumptions presented, or if the Owner desires additional services (Supplemental Services), the resultant change may serve as a basis for modifying the CSA as agreed upon by both the Owner and CONSULTANT.

Supplemental services are not in the scope of work for this CSA. These services will be performed at Owner's request with compensation adjustments.

ATTACHMENT B

SUMMARY AND STATUS OF CONSULTANT SERVICES AUTHORIZATIONS

[illegible]

ATTACHMENT C

OFFICE OF EQUAL BUSINESS OPPORTUNITY SCHEDULE 1

Office of Equal Business Opportunity Compliance Programs

OEBO SCHEDULE 1*

SOLICITATION/PROJECT/BID NAME: WTP NO. 9 WELLFIELD IMPROVEMENTS SOLICITATION/PROJECT/BID NO.: 24-032
SOLICITATION OPENING/SUBMITTAL DATE: September 10, 2024 COUNTY DEPARTMENT: Palm Beach County Water Utilities Department

Section A PLEASE LIST THE DOLLAR AMOUNT OR PERCENTAGE OF WORK TO BE COMPLETED BY THE PRIME CONTRACTOR/CONSULTANT* ON THE PROJECT:

NAME OF PRIME RESPONDENT/BIDDER: Black & Veatch Corporation ADDRESS: 2855 N UNIVERSITY DRIVE STE 210, CORAL SPRINGS, FL 33065
CONTACT PERSON: Rafael E. Frias III, P.E. PHONE NO.: 754-229-3049 E-MAIL: FriasRE@bv.com

PRIME'S DOLLAR AMOUNT OR PERCENTAGE OF WORK: \$1,371,871.20
SBE Prime's must include their percentage or dollar amount in the Total Participation line under section B. Non-SBE ☒ SBE ☐

Section B PLEASE LIST THE DOLLAR AMOUNT OR PERCENTAGE OF WORK TO BE COMPLETED BY ALL SUBCONTRACTORS/SUBCONSULTANTS ON THE PROJECT BELOW:

Subcontractor/Sub consultant Name	(Check all Applicable Categories)		DOLLAR AMOUNT OR PERCENTAGE OF WORK
	Non-SBE	SBE	
1. Barnes, Ferland & Associates, Inc.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	\$376,520.60
2. Engineered Design Services LLC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	\$147,010.56
3. Pacifica Engineering Services, LLC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	\$32,238.49
4.	<input type="checkbox"/>	<input type="checkbox"/>	
5.	<input type="checkbox"/>	<input type="checkbox"/>	

(Please use additional sheets if necessary)

Total Bid/Offer Price \$ \$1,927,640.85
Total \$555,769.65
Total Certified SBE Participation \$ \$555,769.65

I hereby certify that the above information is accurate to the best of my knowledge: Rafael E. Frias III, P.E. Vice President
Name & Authorized Signature Title

- Note:
- The amount listed on this form for a Subcontractor/sub consultant must be supported by price or percentage listed on the properly executed Schedule 2 or attached signed proposal.
 - Only those firms certified by Palm Beach County at the time of solicitation due date are eligible to meet the established OEBO Affirmative Procurement Initiative (API). Please check the applicable box and list the dollar amount or percentage under the appropriate demographic category.
 - Modification of this form is not permitted and will be rejected upon submittal.
 - If a Mandatory API goal applies, failure to submit a properly executed Schedule 2 will result in a determination of non-responsiveness to the solicitation.

ATTACHMENT C

**OFFICE OF EQUAL BUSINESS
OPPORTUNITY SCHEDULE 2**

Office of Equal Business Opportunity Compliance Programs

REVISED 07-08-25

OEBO LETTER OF INTENT – SCHEDULE 2 *

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. All Subcontractors/subconsultants, including any tiered Subcontractors/ subconsultants, must properly execute this document. If a Mandatory API goal applies, failure to submit a properly executed Schedule 2 will result in a determination of non-responsiveness to the solicitation. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER:24-032

SOLICITATION/PROJECT NAME: WTP NO. 9 WELLFIELD IMPROVEMENTS

Prime Contractor: Black & Veatch Corporation Subcontractor: Barnes, Ferland & Associates, Inc.

(Check box(s) that apply)

☒ SBE ☐ Non-SBE ☐ Supplier Date of Palm Beach County Certification (if applicable): 8/7/2023-8/6/2026

SBE PARTICIPATION – SBE Primes must document all work to be performed by their own work force on this form. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. When applicable, identify the line item(s) associated with the service/product being supplied. SBE credit will only be given for the areas in which the SBE is certified. A detailed quote/proposal may be attached to a properly executed Schedule 2 for additional information.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
Multiple	Survey and SUE Services - Wells and Raw Water Main Design				\$376,520.60

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: \$ 376,520.60

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

N/A

N/A

Name of 2nd/3rd tier Subcontractor/subconsultant

Price or Percentage:

Black & Veatch Corporation

Print Name of Prime

By:

Authorized Signature

Rafael E. Frias III, P.E.

Print Name

Vice President

Title

Date: 7/25/2025

Barnes, Ferland & Associates, Inc.

Print Name of Subcontractor/subconsultant

By:

Authorized Signature

Willie E. Thomas, PE

Print Name

President

Title

Date: 7/25/2025

OEBO LETTER OF INTENT – SCHEDULE 2*

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. If a Mandatory API goal applies, failure to submit a properly executed Schedule 2 will result in a determination of non-responsiveness to the solicitation. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: 24-032

SOLICITATION/PROJECT NAME: WTP NO. 9 WELLFIELD IMPROVEMENTS

Prime Contractor: Black & Veatch Corporation Subcontractor: Engineered Design Services LLC

(Check box(s) that apply)

☒ SBE ☐ Non-SBE ☐ Supplier Date of Palm Beach County Certification (if applicable): 11/1/24 to 10/31/27

SBE PARTICIPATION – SBE Primes must document all work to be performed by their own work force on this form. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. When applicable, identify the line item(s) associated with the service/product being supplied. SBE credit will only be given for the areas in which the SBE is certified. A detailed quote/proposal may be attached to a properly executed Schedule 2 for additional information.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
Multiple	Mechanical, Electrical and Structural Engineering Services				\$147,010.56

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: \$147,010.56

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

N/A

Name of 2nd/3rd tier Subcontractor/subconsultant

N/A

Price or Percentage:

Black & Veatch Corporation

Print Name of Prime

By:

Authorized Signature

Rafael E. Frias III, P.E.

Print Name

Vice President

Title

Date: 7/25/2025

Engineered Design Services LLC

Print Name of Subcontractor/subconsultant

By:

Authorized Signature

Craig McKenzie, P.E.

Print Name

Manager

Title

Date: 7/25/2025

OEBO LETTER OF INTENT – SCHEDULE 2*

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. All Subcontractors/subconsultants, including any tiered Subcontractors/ subconsultants, must properly execute this document. If a Mandatory API goal applies, failure to submit a properly executed Schedule 2 will result in a determination of non-responsiveness to the solicitation. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: 24-032
SOLICITATION/PROJECT NAME: WTP NO. 9 WELLFIELD IMPROVEMENTS

Prime Contractor: Black & Veatch Corporation Subcontractor: Pacifica Engineering Services, LLC
(Check box(s) that apply)

☒ SBE ☐ Non-SBE ☐ Supplier Date of Palm Beach County Certification (if applicable): 10/25/2024 - 10/24/2027

SBE PARTICIPATION – SBE Primes must document all work to be performed by their own work force on this form. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. When applicable, identify the line item(s) associated with the service/product being supplied. SBE credit will only be given for the areas in which the SBE is certified. A detailed quote/proposal may be attached to a properly executed Schedule 2 for additional information.

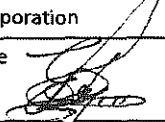
Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
2.5	Geological & Geophysical Studies				\$32,238.49

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: \$32,238.49

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

N/A
Name of 2nd/3rd tier Subcontractor/subconsultant

Price or Percentage: N/A

Black & Veatch Corporation
Print Name of Prime
By: 
Authorized Signature

Rafael E. Frias III, P.E.
Print Name
Vice President
Title
Date: 7/25/2025

PACIFICA Engineering Services, LLC
Print Name of Subcontractor/subconsultant
By: 
Authorized Signature

Wesley Foster
Print Name
President
Title
Date: 7/25/2025

*Revised 6.5.2025 pursuant to Emergency Ordinance 2025-014, approved on June 3, 2025

ATTACHMENT D

PROJECT SCHEDULE

The completion dates for this work will be as follows (starting from CONSULTANT'S receipt of NTP).

Task	Task Name	Calendar Days
1	<i>Project Meetings and Administration</i>	
1.1	<i>Project Meetings</i>	602
1.2	<i>Project Administration</i>	602
2	<i>Field Investigations, Engineering Analysis, and Basis of Design</i>	
2.1	<i>Initial Site Visit</i>	18
2.2	<i>Data Collection and Analysis</i>	32
2.3	<i>Well Investigation, Site Assessment, Well Siting and Coordination with Palm Beach County Parks and Recreation</i>	109
2.3.*	<i>TM for Bid Package No. 2</i>	94
2.4	<i>Surveying Services and Subsurface Utility Locating Services</i>	
2.4.1	<i>Topographic Survey</i>	101
2.4.2	<i>Subsurface Utility Locating Services</i>	101
2.5	<i>Geotechnical Investigation</i>	116
2.6	<i>Basis of Design Report (30% design)</i>	196
3	<i>Wellfield Conveyance System Model</i>	
3.1	<i>Build Conveyance Model and Validation</i>	71
3.2	<i>New Pump Selection Support</i>	101
3.3	<i>Technical Memorandum</i>	155
4	<i>Detail Design</i>	
4.1	<i>New Raw Water Main (Bid Package No. 1)</i>	
4.1.1	<i>Detail Design (60% Design)</i>	261
4.1.2	<i>Detail Design (90% Design)</i>	319
4.1.3	<i>Final Design (Issue for Permitting)</i>	365
4.1.4	<i>Bid Document Submittal (Issue for Bids)</i>	466
4.1.5	<i>Conformed Document Submittal (Issue for Construction)</i>	536
4.2	<i>Well Rehabilitation (Bid Package No. 2)</i>	
4.2.1	<i>Detail Design (90% Design)</i>	161
4.2.2	<i>Final Design</i>	204
4.2.3	<i>Bid Document Submittal (Issue for Bids)</i>	225
4.2.4	<i>Conformed Document Submittal (Issue for Construction)</i>	290
4.3	<i>New Raw Water Wells and Wellhead Reconfiguration and Well Rehabilitation (Bid Package No. 3)</i>	
4.3.1	<i>Detailed Design (90% Design)</i>	260
4.3.2	<i>Final Design (Issue for Permitting)</i>	269

REVISED 07-08-25

4.3.3	<i>Bid Document Submittal (Issue for Bids)</i>	471
4.3.4	<i>Conformed Document Submittal (Issue for Construction)</i>	534
5	<i>Permitting Support</i>	
5.1	Palm Beach County Department of Health	450
5.2	Palm Beach County Planning, Zoning and Building Department	444
5.3	South Florida Water Management District	444
5.4	Palm Beach County Engineering and Public Works	444
5.5	Palm Beach County Right of Way	444
6	<i>Bid Phase Services</i>	
6	<i>Bid Phase Services</i>	513
6.1	<i>Bid Package No. 1 - New Raw Water Main</i>	508
6.2	<i>Bid Package No. 2 - Well Rehabilitation</i>	268
6.3	<i>Bid Package No. 3 - New Raw Water Wells, Well Rehabilitation and Wellhead Reconfiguration</i>	513

REVISED 07-08-25

ID	Task Name	Duration	Start	Finish	Predecessors
40	Submit to client	0 days	Wed 6/10/26	Wed 6/10/26	39F5+1 day
41	Client review	10 days	Thu 6/11/26	Wed 6/24/26	40
42	Review workshop with Client	0 days	Mon 6/22/26	Mon 6/22/26	40F5+8 days
43	Subtask 4.1.2 - Detailed Design (90% Design)	41 days	Thu 6/25/26	Fri 8/21/26	
44	Develop design documents	20 days	Thu 7/23/26	Thu 8/13/26	41
45	Internal QC review	15 days	Fri 7/24/26	Thu 8/13/26	44
46	Develop OPCC	10 days	Fri 7/24/26	Thu 8/6/26	45S5
47	Submit to client	0 days	Fri 8/7/26	Fri 8/7/26	46F5+1 day
48	Client review	10 days	Mon 8/10/26	Fri 8/23/26	47
49	Review workshop with Client	0 days	Wed 8/19/26	Wed 8/19/26	47F5+8 days
50	Subtask 4.1.3 - Final Design (Issue for Permitting)	31 days	Mon 8/24/26	Tue 10/6/26	
51	Develop design documents	15 days	Mon 9/14/26	Mon 10/5/26	48
52	Internal QC Review	15 days	Tue 9/15/26	Mon 10/5/26	51
53	Submit to client/permitting agencies	0 days	Tue 10/6/26	Tue 10/6/26	52F5+1 day
54	Subtask 4.1.4 - Bid Document Submittal (Issue for Bids)	15 days	Mon 12/28/26	Mon 1/15/27	
55	Develop design documents	14 days	Mon 12/28/26	Thu 1/14/27	98,101,104,107,108
56	Submit to client	0 days	Fri 1/15/27	Fri 1/15/27	55F5+1 day
57	Subtask 4.1.5 - Conformed Document Submittal (Issue for Construction)	20 days	Mon 3/1/27	Fri 3/26/27	
58	Develop design documents	19 days	Mon 3/1/27	Thu 3/25/27	113
59	Submit to client	0 days	Fri 3/26/27	Fri 3/26/27	58F5+1 day
60	Subtask 4.2 - Well Rehabilitation (Bid Package No. 2)	127 days	Mon 1/26/26	Thu 7/23/26	
61	Subtask 4.2.1 - Detailed Design (90% Design)	36 days	Mon 1/26/26	Mon 3/16/26	
62	Develop design documents	20 days	Mon 1/26/26	Fri 2/20/26	12
63	Internal QC review	10 days	Mon 2/23/26	Fri 3/6/26	62
64	Develop OPCC	5 days	Mon 2/23/26	Fri 2/27/26	63S5
65	Submit to client	0 days	Mon 3/2/26	Mon 3/2/26	64F5+1 day
66	Client review	10 days	Tue 3/3/26	Mon 3/16/26	65
67	Review workshop with Client	0 days	Thu 3/12/26	Thu 3/12/26	65F5+8 days
68	Subtask 4.2.2 - Final Design	31 days	Tue 3/17/26	Tue 4/28/26	
69	Develop design documents	15 days	Tue 3/17/26	Mon 4/6/26	66
70	Internal QC Review	15 days	Tue 4/7/26	Mon 4/27/26	69
71	Submit to client	0 days	Tue 4/28/26	Tue 4/28/26	70F5+1 day
72	Subtask 4.2.3 - Bid Document Submittal (Issue for Bids)	15 days	Wed 4/29/26	Tue 5/19/26	
73	Develop design documents	14 days	Wed 4/29/26	Mon 5/18/26	71
74	Submit to client	0 days	Tue 5/19/26	Tue 5/19/26	73F5+1 day
75	Subtask 4.2.4 - Conformed Document Submittal (Issue for Construction)	15 days	Thu 7/23/26	Thu 7/23/26	
76	Develop design documents	14 days	Thu 7/23/26	Wed 7/22/26	114
77	Submit to client	0 days	Thu 7/23/26	Thu 7/23/26	76F5+1 day
78	Subtask 4.3 - New Raw Water Wells, Well Rehabilitation and Wellhead Reconfiguration (Bid Package No. 3)	236 days	Tue 4/21/26	Wed 3/24/27	

Date: Wed 7/30/25
Project C:\Users\Oell17005\OneDrive - Black &

Palm Beach County Water Utilities Department
Design/Engineering Services for Water Treatment Plant No. 9 Welfield Rehabilitation, New Well Construction, and Mechanical/Electrical Improvements

Task Name	Duration	Start	Finish	Predecessors	Palm Beach County Water Utilities Department Design/Engineering Services for Water Treatment Plant No. 9 Wellfield Rehabilitation, New Well Construction, and Mechanical/Electrical Improvements												Task	Split	Milestones	Task Summary	Project Summary	Inactive Task	Manual Task	Inactive Milestone	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary Rollup	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual Summary	Manual Task	Manual Summary	External Tasks	Start-only	End-only	Manual
-----------	----------	-------	--------	--------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--	--	--	--	--	--	--	--	------	-------	------------	--------------	-----------------	---------------	-------------	--------------------	----------------	-------------	----------------	----------------	------------	----------	-----------------------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	----------------	-------------	----------------	----------------	------------	----------	--------

	Labor Classification and Hourly Rate																
	Project Director II	Project Director I	Sr. Engineering Manager	Sr. Project Controls	Project Controls I	Project Manager II	Professional Hydrogeologist / Project Engineer	Engineering Manager	Hydrogeologist II / Sr. Technician I	Sr. Engineering Manager	Sr. Professional Hydrogeologist / Engineering Manager II	Technical Specialist I	Total Labor	Black & Veatch Total Fee	Expenses	Subconsultant Services - EDS	Sub Ser
		34	51				13	51	21	12	16	51	249	\$60,244.47			
	55	128	299	58	116	33			15	4			708	\$167,710.68			
Subconsultant - EDS													0			\$8,160.00	
Subconsultant - BFA													0				\$
													957	\$227,955.15	\$0.00	\$8,160.00	\$
		8	12				12	6	16	4	4		62	\$12,609.78			
		9	10				22	10	33				84	\$14,907.78			
ion with Palm Beach County Parks &		64	66			56	78	111	240		73		688	\$131,750.52			
		16	22				18	26	26				108	\$21,711.60			
		4	16				8	8	8				44	\$9,211.80			
		16	21				8	26	30				101	\$20,377.47			
Subconsultant - EDS		40	66			100	128	228	140	128	128	80	1038	\$223,691.58			
Subconsultant - BFA													0	\$0.00		\$30,779.52	
Subconsultant - Pacifica													0	\$0.00			\$2
													0	\$0.00			
													2125	\$494,260.53	\$0.00	\$30,779.52	\$2
		12	10			76		180	30				308	\$63,679.92			
		8	24			48		92	10				182	\$39,656.82			
Subconsultant - EDS		16	19			33		113	28				209	\$43,342.56			
													0			\$9,694.08	
													699	\$146,679.30	\$0.00	\$9,694.08	
		12	24			24			24	24		16	124	\$29,971.56			
		8	12			18			18	18		8	82	\$19,411.68			
		8	12			8			8	8		8	52	\$13,091.88			
		12	16			4			4	4		12	52	\$13,920.00			
Subconsultant - BFA		8	12			4			4	4		8	40	\$10,479.96			
													0	\$0.00			\$
													350	\$86,815.08	\$0.00	\$0.00	\$
		8	12				64		36		36	24	0	\$0.00			
		8	8				36		12		12	16	180	\$35,856.12			
		8	24				24		16		16	32	92	\$19,304.28			
Subconsultant - EDS		8	12				12		12		12	12	120	\$27,832.08			
													68	\$15,363.96			
													0	\$0.00			
Rehabilitation (Bid Package No. 3)													460	\$98,356.44	\$0.00	\$0.00	
		8	48			86	86	86	86	72	36	36	0	\$0.00			
		8	32			36	36	36	36	36	12	12	544	\$115,576.02			
		12	36			16	16	16	16	16	16	16	244	\$52,787.04			
Subconsultant - EDS		8	12			8	8	8	8	8	8	12	160	\$37,387.44			
													80	\$18,915.84			
													0	\$0.00		\$73,937.76	
													1028	\$224,666.34	\$0.00	\$73,937.76	
		10	20			20		20	24	6	24	12	136	\$30,917.28			
		4	20			6					16	8	54	\$14,081.76			
		4	20			8			14		8	8	82	\$18,751.50			
		4	12			8		12		6	4	6	46	\$11,381.82			
Subconsultant - EDS		4	8			4		8			4	2	30	\$7,369.86			
Subconsultant - BFA													0	\$0.00		\$18,082.56	
													0	\$0.00			\$1
													348	\$82,502.22	\$0.00	\$18,082.56	\$1
		8	18			8	36	16		6	8	8	108	\$23,720.04			
and Wellhead Reconfiguration		8	18			8	36	16		6	8	8	108	\$23,720.04			
Subconsultant - EDS		8	18			8	36	16		4	8	8	106	\$23,196.06			
Subconsultant - BFA													0	\$0.00		\$6,356.64	
													0	\$0.00			\$1
													\$22	\$70,636.14	\$0.00	\$6,356.64	\$1
	55.0	521.0	1010.0	58.0	116.0	620.0	677.0	1099.0	915.0	366.0	449.0	403.0	6289	\$1,371,371.20	\$0.00	\$147,010.56	\$3
	\$99.67	\$99.67	\$97.33	\$66.67	\$34.00	\$83.00	\$52.67	\$64.33	\$42.33	\$87.33	\$78.33	\$99.67					
	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00					
	\$300	\$299	\$262	\$200	\$102	\$249	\$158	\$193	\$127	\$262	\$235	\$299					
	\$16,445.55	\$155,784.21	\$264,609.90	\$11,600.58	\$11,832.00	\$154,380.00	\$106,972.77	\$212,096.01	\$116,195.85	\$95,888.34	\$105,510.51	\$120,501.03					
	\$16,445.55	\$155,784.21	\$264,609.90	\$11,600.58	\$11,832.00	\$154,380.00	\$106,972.77	\$212,096.01	\$116,195.85	\$95,888.34	\$105,510.51	\$120,501.03		\$1,371,871.20	\$0.00		
	\$55,760.66																

County Water Utilities Department
Consulting/Professional Services: Utility Hydrogeologic Engineering Services
R2024-0068 Contract Dated 1/23/2024
Services Authorization No.: CSA-2
Engineered Design Services LLC
VTP No. 9 Wellfield Improvements
Project No.: 24-032

Labor Classification and Hourly Rate										
Description	Principal Engineer	Sr. Project Manager	Project Engineer	Engineer I	Lead Designer	Technician / Drafter	Total Labor	Mileage (\$0.58/mi)	ODC	Task Total
PROJECT ADMINISTRATION										
Task 1.2 – Project Administration	40							\$ -	\$ -	\$ 8,160.00
Task 1 - Subtotal	40		0					\$ -	\$ -	\$ 8,160.00
INVESTIGATIONS, ENG. ANALYSIS, AND BASIS OF DESIGN										
Task 2.2 – Data Collection and Analysis	10		10					\$ -	\$ -	\$ 3,345.60
Task 2.6 - Basis of Design Report (30% Design)	82		82					\$ -	\$ -	\$ 27,433.92
Task 1 - Subtotal	92		92					\$ -	\$ -	\$ 30,779.52
WELLFIELD CONVEYANCE SYSTEM MODEL										
Task 3.3 - New Pump Selection Support - Electrical Assessment	16		8					\$ -	\$ -	\$ 4,308.48
Task 3.4 – Technical Memorandum - Electrical Assessment	20		10					\$ -	\$ -	\$ 5,385.60
Task 3 - Subtotal	36		18							\$ 9,694.08
DETAILED DESIGN										
Task 4.3.1 – Detailed Design (90% design)										
Package 3 - Mechanical, Electrical, Structural	164		164							\$ 54,867.84
Task 4.3.2 – 100% Detailed Design (Issue for Bidding)										
Package 3 - Mechanical, Electrical, Structural	30		30							\$ 10,036.80
Task 4.3.3 – Bid Document Submittal (Issue for Construction)										
Package 3 - Mechanical, Electrical, Structural	18		18							\$ 6,022.08
Task 4.3.4 Conformed Documents Submittal (IFC)										
Package 3 - Mechanical, Electrical, Structural	9		9							\$ 3,011.04
Task 4 - Subtotal	221		221							\$ 73,937.76
PERMITTING SUPPORT										
Task 5.1 – Palm Beach County Department of Health	20		15							\$ 6,038.40
Task 5.2 – Palm Beach County Planning, Zoning and Building Dept	9		9							\$ 3,011.04
Task 5.3 – South Florida Water Management District	9		9							\$ 3,011.04
Task 5.4 – Palm Beach County Engineering and Public Works	9		9							\$ 3,011.04
Task 5.5 – City of Boca Raton	9		9							\$ 3,011.04
Task 5 - Subtotal	56		51							\$ 18,082.56
PHASE SERVICES										
Task 6.2 Bid Package 3 - Mechanical, Electrical, Structural	19		19							\$ 6,356.64
Task 6 - Subtotal	19		19							\$ 6,356.64
Subtotal Hours	464		401							
Raw Costs	\$ 75.00	\$ 72.00	\$ 48.00	\$ 40.00	\$ 36.00	\$ 30.00				
Multiplier	2.72	2.72	2.72	2.72	2.72	2.72				
Applied Rate	\$ 204.00	\$ 195.84	\$ 130.56	\$ 108.80	\$ 97.92	\$ 81.60				
Consultant Labor Subtotal	\$ 94,656.00	\$ -	\$ 52,354.56	\$ -	\$ -	\$ -				

Consultant Services Authorization No.: CSA-2
Consultant: Barnes, Ferland and Associates, Inc.
Project Title: WTP No. 9 Wellfield Improvements
PBCWUD Project No.: 24-032

BUDGET SUMMARY FOR BARNES, FERLAND AND ASSOCIATES, INC.

Task Number	Task Description													PRIME TOTALS			
		Principal Engineer	Sr. Engineer	Sr. Surveyor & Mapper	Project Engineer IV	Suvey Technician	CAD IV	utility Coordinator	2 Person Survey Crew	3 Person SUE Crew	Admin Support III	Total Hours	Total Labor	Total Expenses	Total Labor and Expenses		
	Raw Rate >	\$75.00	\$65.00	\$62.00	\$52.00	\$40.00	\$36.60	\$38.00	\$55.00	\$77.00	\$37.00						
	Multiplier >	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82						
	Bill Rate >	\$211.50	\$183.30	\$174.84	\$146.64	\$112.80	\$103.21	\$107.16	\$155.10	\$217.14	\$104.34						
TASK 1	Project Meetings and Administration																
	Subtask 1.1 - Project Meetings	18	18									36	\$ 7,106.40	\$ -	\$ 7,106.40		
	Task 1 - Subtotal	18	18	0	0	0	0	0	0	0	0	36	\$ 7,106.40	\$ -	\$ 7,106.40		
TASK 2	Field Investigations, Engineering Analysis, and Basis of Design																
	Subtask 2.4A Wells																
	Subtask 2.4A.1 – Topographic Survey																
	H&V Survey Control			2		8			24			34	\$ 4,974.48		\$ 4,974.48		
	Topographic Information			10		40			60			110	\$ 15,566.40		\$ 15,566.40		
	Easement & Property Owner			18		84						102	\$ 12,622.32		\$ 12,622.32		
	Two (2) Title Reports (To be Provided by PBCWUD)											0	\$ -		\$ -		
	Boundary Survey			8		40			64			112	\$ 15,837.12		\$ 15,837.12		
	Subtask 2.4A.2 – Subsurface Utility Locating Services																
	Quality Level B			4		24		6	30	60		124	\$ 21,730.92		\$ 21,730.92		
	Quality Level A			1		9		9	5	9		33	\$ 4,884.24		\$ 4,884.24		
	Subtask 2.4B Raw Water Main																
	Subtask 2.4B.1 – Topographic Survey																
	H&V Survey Control			4		16			40		5	65	\$ 9,229.86		\$ 9,229.86		
	Topographic Information			12		80			120		12	224	\$ 30,986.16		\$ 30,986.16		
	Subtask 2.4B.2 – Subsurface Utility Locating Services																
	Quality Level B			6		32		35	40	120	12	245	\$ 41,922.12		\$ 41,922.12		
	Quality Level A			4		8			8	18	3	41	\$ 7,064.10		\$ 7,064.10		
	MOT (Ten (10) Days @ \$1,600)			1				32	80			113	\$ 16,011.96		\$ 16,011.96		
	Subtask 2.6 Basis Of Design Report (30% Design)																
	Subtask 2.6.1 – Draft and Final BODR	30	40		60		36					166	\$ 26,191.03		\$ 26,191.03		
	Subtask 2.6.2 - 30% Design Documents	16	32		40		56					144	\$ 20,895.07		\$ 20,895.07		
	Task 2 - Subtotal	46	72	70	100	341	92	82	471	207	32	1513	\$ 227,915.78	\$ -	\$ 227,915.78		
TASK 4	Detailed Design																
	Subtask 4.1 – New Raw Water Main (Bid Package No. 1)																
	Subtask 4.1.1 – Detailed Design (60% Design)	20	50		60		80					210	\$ 30,450.36		\$ 30,450.36		
	Subtask 4.1.2 – Detailed Design (90% Design)	20	40		50		60					170	\$ 25,086.72		\$ 25,086.72		
	Subtask 4.1.3 – Final Design (Issue for Permitting)	10	20		25		30					85	\$ 12,543.36		\$ 12,543.36		
	Subtask 4.1.4 – Bid Document Submittal (Issue for Bids)	6	10		12		15					43	\$ 6,409.86		\$ 6,409.86		
	Subtask 4.1.5 – Conformed Document Submittal (Issue for Construction)	3	5		6		8					22	\$ 3,256.54		\$ 3,256.54		
	Task 4 - Subtotal	59	125	0	153	0	193	0	0	0	0	530	\$ 77,746.84	\$ -	\$ 77,746.84		
TASK 5	Permitting Support																
	Task 5 - Permitting Support	16	30		40		24					110	\$ 17,225.69		\$ 17,225.69		
	Task 5 - Subtotal	16	30	0	40	0	24	0	0	0	0	110	\$ 17,225.69	\$ -	\$ 17,225.69		
TASK 6	Bid Phase Services																
	Subtask 6.1 - Bid Package 1 – New Raw Water Main	16	24		40		24					104	\$ 16,125.89		\$ 16,125.89		
	Task 6 - Subtotal	16	24	0	40	0	24	0	0	0	0	104	\$ 16,125.89	\$ -	\$ 16,125.89		
	Utility Test Holes - Task 2 Survey Services																
	Wells																
	Pervious Digs (Grass and Dirt Areas, etc.) Nine (9) @ \$650 each											0	\$ -	\$ 5,850.00	\$ 5,850.00		
	Raw Water Main																
	Pervious Digs (Grass and Dirt Areas, etc.) Seventeen (17) @ \$650 each											0	\$ -	\$ 11,050.00	\$ 11,050.00		
	Impervious Digs (Pavement, Concrete, etc.) Eighteen (18) @ \$750 each											0	\$ -	\$ 13,500.00	\$ 13,500.00		
	Utility Test Holes - Task 2 Survey Services - Subtotal	0	0	0	0	0	0	0	0	0	0	0	\$ -	\$ 30,400.00	\$ 30,400.00		
	Labor Subtotal Hours	155	269	70	333	341	333	82	471	207	32	2293					
	Labor Raw Costs	\$ 11,625.00	\$ 17,485.00	\$ 4,340.00	\$ 17,316.00	\$ 13,640.00	\$ 12,187.80	\$ 3,116.00	\$ 25,905.00	\$ 15,939.00	\$ 1,184.00		\$ 122,737.80				
	Labor Subtotal (Bill Rate * Labor Subtotal Hours)	\$ 32,782.50	\$ 49,307.70	\$ 12,238.80	\$ 48,831.12	\$ 38,464.80	\$ 34,369.60	\$ 8,787.12	\$ 73,052.10	\$ 44,947.98	\$ 3,338.88		\$ 346,120.60				
	PROJECT TOTAL											2293	\$ 346,120.60	\$ 30,400.00	\$ 376,520.60		

ATTACHMENT - E
BUDGET SUMMARY

Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services: Utility Hydrogeologic Engineering Services
Resolution No. R2024-0068 Contract Dated: 1/23/2024
Consultant Services Authorization No.: CSA-2
Sub-Consultant: Pacifica Engineering Services, LLC
Project Title: WTP No. 9 Wellfield Improvements
PBCWUD Project No.: 24-032

Task Number	Task Description	Labor Classification and Hourly Rate						Total Labor	Total Cost	Expenses	Subconsultant Services
		Principal Engineer	Senior Engineer	Engineer, P.E.	Engineering Technician	Drafter / CADD					
2	Field Investigations, Engineering Analysis, and Basis of Design										
	Field Investigation										
	Geotechnical Investigation	1	3	12	5	7	28		\$3,486.99		28
									\$3,486.99	\$0.00	28
	I. Field Explorations										
	Mobilization of Drill Equipment (50-mile travel)									\$400.00	
	Standard Penetration Tests - Truck Rig (0' - 50')									\$2,400.00	
	Standard Penetration Tests - Truck Rig (51' - 100')									\$7,125.00	
	Grout Bore Hole (0 to 50 Feet)									\$900.00	
	Grout Bore Hole (51 to 100 Feet)									\$2,812.50	
	Casing (0 to 50 Feet)									\$1,470.00	
	Casing (51 to 100 Feet)									\$3,750.00	
									\$0.00	\$16,857.50	0
	II. Soil & Aggregate Testing										
	Organic Content Test									\$165.00	
	Natural Sample Moisture Content									\$60.00	
	Grain size determination: Full grain size (8 sieves)									\$234.00	
	Grain size determination: Wash through (#200)									\$180.00	
	DOT Corrosivity - (pH, sulfate, chlorides & conductivity)									\$615.00	
									\$0.00	\$1,294.00	0
	IV. Ground Penetrating Radar (GPR)										
	Ground Penetrating Radar Scanning Services									\$900.00	
									\$0.00	\$900.00	0
	V. Services for Raw Water Main										
	Standard Penetration Tests - Truck Rig (0' - 50')									\$3,120.00	
	Grout Bore Hole (0 to 50 Feet)									\$1,170.00	
	Casing (0 to 50 Feet)									\$1,911.00	
	Organic Content Test									\$165.00	
	Natural Sample Moisture Content									\$60.00	
	Grain size determination: Full grain size (8 sieves)									\$234.00	
	Grain size determination: Wash through (#200)									\$180.00	
	Ground Penetrating Radar Scanning Services									\$900.00	
									\$0.00	\$7,740.00	0
	Labor Subtotal Hours	1	3	12	5	7	28				
	Labor Raw Costs	\$66.67	\$60.00	\$49.00	\$21.67	\$31.33					
	Labor Multiplier	3.00	3.00	3.00	3.00	3.00					
	Labor Sub Total	\$200.01	\$180.00	\$147.00	\$65.01	\$93.99					
	Labor Total	\$200.01	\$540.00	\$1,764.00	\$325.05	\$657.93			\$3,486.99	\$28,751.50	28
	Sub Consultant Labor Total	\$200.01	\$540.00	\$1,764.00	\$325.05	\$657.93			\$3,486.99	\$28,751.50	28
	Sub Consultant Multiplier	3	3	3	3	3					
	Subcontract Total, 25% SBE	1.70%									
	Project Total	\$32,238.49						\$32,238.49			28



August 1, 2025

BFA Project No. 2023-34.1

Mr. Chris Barlow, PE, CDT
Black & Veatch Corporation
1641 Worthington Rd, Suite 420
West Palm Beach, FL 33409
BarlowC@BV.com

**Subject: Palm Beach County Water Utilities Department – CSA No. 2
WTP No. 9 Wellfield Rehabilitation
REVISED Proposal for Wellfield and Raw Water Main Surveying and Raw
Water Main Civil Design Services**

Dear Chris:

Barnes, Ferland and Associates, Inc. (**BFA**) submits for your consideration our scope and fee proposal to provide professional surveying and engineering services for the following project components:

1. Topographic Survey Quality Level A & B for the proposed New Well 1, New Well 2 and the 9W6.
2. Topographic Survey Quality Level A & B for the proposed Raw Water Main corridor.
3. Civil design services for the proposed Raw Water Main.

Scope of Work

As a subconsultant to Black & Veatch (BV), BFA's scope of work includes the following services as part of the overall project scope summarized in the following task structure:

Task 1 – Project Meetings and Administration

Subtask 1.1 Project Meetings

BFA will prepare for and attend up to nine (9) project meetings with PBCWUD, including:

- One (1) project kickoff meeting
- Five (5) design review meetings
- Two (2) permitting meetings
- One (1) pre-bid meeting

1230 Hillcrest Street, Suite 100 • Orlando, Florida 32803
Office (407) 896-8608 • Fax (407) 896-1822

Subtask 1.1 Deliverables:

- BFA will assist with providing Meeting Minutes related to the raw water main system project components.

Task 2 – Field Investigations, Engineering Analysis, and Basis of Design

Subtask 2.4 - Surveying Services and Subsurface Utility Locating Services

Subtask 2.4A Wells:

Prepare a Topographic Survey of the proposed New Well 1, New Well 2 and the 9W6, as shown in red in the attached figure, per email sent by Christopher Barlow, PE with Black & Veatch on April 29, 2025. Utility Designation, Quality Level B and Quality Level A – up to nine (9) utility test holes are included as part of this survey.

Subtask 2.4A.1 – Topographic Survey

The topographic survey shall extend to a hundred and fifty (150) foot radius from the center of each location and will mark the limits of survey services. All above ground features will be surveyed along with any tree or vegetation within the limits of survey services.

Horizontal and Vertical Control:

- 1) Vertical control data shall be based on the North American Vertical Datum 1988.
- 2) The horizontal control data shall be relative to the Florida State Plane Coordinate system, East Zone, North American Datum of 1983/2011 adjustment.
- 3) Horizontal and Vertical Control Points will be shown as part of the Topographic Survey and will not result in a separate Control Survey.

All survey work shall meet the requirements of Chapter 472, Florida Statutes, and Chapter 5J-17, Florida Administrative Code, and shall provide sufficiently detailed information to meet the design requirements of the project. Survey data shall include all areas as necessary to address project design considerations.

BFA will prepare an exhibit containing the owner’s information per site to include parcel ID per Palm Beach County Property Appraiser’s Website. Up to six (6) legal descriptions and sketches will be provided as part of these services. **Title reports to be provided by PBCWUD.**

Boundary Survey

A boundary survey will be performed on the parcel identified as 00-42-43-27-05-081-0051, where Well 1 and Well 2 are proposed. The property is located at 9400 Palmetto

Park Road, Palm Beach, FL 33411, within Section 30, Township 47 South, Range 42 East, in Palm Beach County, Florida

Subtask 2.4A.2 – Subsurface Utility Locating Services

Throughout the described limits, underground utilities will be designated and marked. Electronic sensing equipment and ground penetrating radar (GPR) will be used to detect and mark those underground utilities that will transmit a signal. Paint marks and/ or wire flags will be placed on the ground surface that will indicate the approximate location of the underground utility. Each utility will be color coded according to the ASCE standard industry color. Utilities designated will include electric, water, force main, gas, numerous communication lines or other utilities that may be discovered. Small service lines and irrigation lines will not be designated.

Utility Test Holes

Excavations are included in this proposal up to nine (9) impervious digs. All test holes will be staked and graded by Barnes, Ferland and Associates, Inc. Excavations will provide the horizontal and vertical location of the utility as well as the size, type, material and general condition of the utility. A detailed Test Hole Report will be made for the excavation that will show a semi-permanent mark set directly above the utility for survey location. The sketch will show the measurement from the mark to the top of the utility with reference ties to nearby features to aid in the recovery of the mark. All other information obtained will also be in the sketch.

Sunshine 811 will be contacted for a location ticket prior to excavation as required by Florida Statute 556.106. This should result in utilities being designated (marked) by the appropriate utility company. BFA will perform additional designation to verify utility markings by others and identify any that are not marked.

Please see attached Exhibit “A” Limitations regarding underground utilities.

Utility designation will indicate the presence and approximate horizontal location of most underground utilities through the use and application of electronic sensing equipment and ground penetrating radar. BFA will notify Sunshine One Call (SSOC) for a Design Ticket to acquire utility provider information for the specified work areas. Those utilities that can be marked using the techniques described will be designated and marked with paint and/or flags.

Deliverables:

The field survey shall result in a Civil 3D drawing and digitally signed copy in PDF. All located features will be shown and labelled with elevations as appropriate. Utility Test Hole Reports and Title Reports (provided by PBCWUD) will be submitted as part of the delivery package.

Subtask 2.4B Raw Water Main:

The project corridor is located in Palm Beach County along W Palmetto Park Road and Lyons Road, Florida.

Subtask 2.4B.1 – Topographic Survey

Prepare a Topographic Survey of the proposed location as shown in red, in attached figure, per email sent by Ana Fiotte, Project Coordinator with Black & Veatch on March 24, 2025. Utility Designation, Quality Level B and Quality Level A – up to thirty-five (35) utility test holes are included as part of this survey.

Horizontal and Vertical Survey Control

- 1) Vertical control data shall be based on the North American Vertical Datum 1988.
- 2) The horizontal control data shall be relative to the Florida State Plane Coordinate system, East Zone, North American Datum of 1983/2011 adjustment.
- 3) Horizontal and Vertical Control Points will be shown as part of the Topographic Survey and will not result in a separate Control Survey.

The Topographic Survey will extend to the project limits shown below. All above ground features will be surveyed along with any tree or vegetation within the limits of survey services. The survey will also encompass all features that may affect machinery location such as above ground utilities, landscaping areas and trees. Elevations will be taken at a maximum of 50' intervals where needed.

All survey work shall meet the requirements of Chapter 472, Florida Statutes, and Chapter 5J-17, Florida Administrative Code, and shall provide sufficiently detailed information to meet the design requirements of the project. Survey data shall include all areas as necessary to address project design considerations.

Subtask 2.4B.2 – Subsurface Utility Locating Services

Throughout the described limits, underground utilities will be designated and marked using electronic sensing equipment and ground penetrating radar (GPR) to detect and mark utilities that transmit a signal. Paint marks and/or wire flags will indicate the approximate location of the underground utilities, color-coded according to the ASCE standard industry color. The designated utilities will include electric, water, force main, gas, and numerous communication lines, along with any other utilities that may be discovered, but small service lines and irrigation lines will not be designated. BFA will notify Sunshine One Call (SSOC) for a Design Ticket to acquire utility provider information for the specified work areas.

The task requires to complete all necessary procedures before, during, and after the excavation to identify the utility. This includes using ground penetrating radar and electromagnetic locators to clear the excavation area, performing the soft dig to locate the utility and determine its size, type, material, and condition, and marking the location with a semi-permanent marker. Also document the findings in a report that includes measurements and other relevant survey data.

Utility Test Holes

Excavations are included in this proposal up to thirty-five (35) soft digs, consisting of seventeen (17) pervious digs and eighteen (18) impervious digs. All test holes will be staked and graded by Barnes, Ferland and Associates, Inc. Excavations will provide the horizontal and vertical location of the utility as well as the size, type, material and general condition of the utility. A detailed Test Hole Report will be made for the excavation that will show a semi-permanent mark set directly above the utility for survey location. The sketch will show the measurement from the mark to the top of the utility with reference ties to nearby features to aid in the recovery of the mark. All other information obtained will also be in the sketch.

Sunshine 811 will be contacted for a location ticket prior to excavation as required by Florida Statute 556.106. This should result in utilities being designated (marked) by the appropriate utility company. BFA will perform additional designation to verify utility markings by others and identify any that are not marked.

Please see attached Exhibit “A” Limitations regarding underground utilities.

Utility designation will indicate the presence and approximate horizontal location of most underground utilities through the use and application of electronic sensing equipment and ground penetrating radar. BFA will notify Sunshine One Call (SSOC) for a Design Ticket to acquire utility provider information for the specified work areas. Those utilities that can be marked using the techniques described will be designated and marked with paint and/or flags.

Maintenance of Traffic (MOT)

Right of Way Permitting and Maintenance of Traffic for Utility Exploration (SUE). Since some of these test holes may be located in the roadway corridor of Palmetto Park Road and Lyons Road, right of way utilization applications must be submitted to the relevant agencies for approval. Additionally, applications for the necessary MOT Permits must be made to the agencies that have jurisdiction over the area. An MOT Plan outlining the traffic management strategy must also be prepared before starting the excavations.

Subtask 2.6 Basis Of Design Report (30% Design)

The Basis of Design Report (BODR) (30% Design) shall address the horizontal alignment of the project and shall include the base survey in the background. The intent of the BODR (30% Design) is for BFA to acquire PBCWUD acceptance of the final raw water main

alignment along the corridor that will be defined on the base sheets (without any profiles), connections, air release valve locations, and isolation valve locations. Existing utilities will be identified along with possible conflicts. The intended locations of geotechnical bores and soft dig locations will be noted. Areas requiring additional easement or right-of-way acquisition, if any, will be noted. This design phase will lock the design basis prior to the development of further construction documents. Installation methods are anticipated to be predominantly open-cut with trenchless methods specified in areas where open-cut is not feasible or permissible.

BFA will evaluate up to two (2) alternative alignments for the proposed 12-inch raw water main connection to the proposed wells at Palm Beach County's Veteran's Memorial Park along W Palmetto Park Rd and to the existing raw water main near the intersection of Lyons Rd and SW 53rd St.

The BODR will describe the design criteria and include the following information:

- General project scope and background references
- Design Objectives
- Basis of Design Criteria including
 - PBCWUD design standards
 - Confirm raw water main sizing
 - Conflict resolution matrix
 - Trenchless crossings evaluation, as applicable
- Drawings
 - Horizontal alignment of the proposed raw water main at 1"=20' scale. The sheets will have a topographic background with a stationed baseline and will display existing utilities.
- Prepare a Class 4 Opinion of Probable Construction Cost (OPCC) as per the Association for the Advancement of Cost Consulting International (AACE) Recommended Practice No. 18R-97 with an expected accuracy range between -30% to +50%.
- Coordination with B&V for the siting of the two (2) new water supply wells.
- Identify impacts to stakeholders associated with each alignment.
- Review the easements documents for the raw water main and well locations.
- Summary of Required Permits.

BFA will develop a draft BODR, conduct an internal quality control review, address quality control comments, and then submit the draft BODR to PBCWUD for review. Drawings will be prepared by BFA using Autodesk Civil3D software for the raw water main. PBCWUD standard details, available and current at the time of the work, will be utilized as applicable. Where applicable PBCWUD standard details are not available, BFA's standard details will be utilized.

BFA will coordinate Roadway and Drainage restoration. No roadway or drainage design is included in this scope of work but will be repaired in accordance with FDOT and PBCWUD standards.

After a two-week review period, BFA will conduct one (1) hybrid BODR review meeting with PBCWUD staff to present the draft BODR report. BFA will ensure that local staff is present in person, while non-local staff will be present virtually. This will allow for effective communication between all parties involved in the review process and ensure that the review is conducted efficiently. The purpose of the meeting is to highlight the design basis, assumptions and obtain initial comments from PBCWUD. All review comments received during the workshop will be compiled in the meeting minutes for incorporation into the Final BODR. BFA will respond to each comment and provide a comment resolution document within two weeks of the review meeting. Comments from the review meeting will be incorporated into the final BODR and submitted to PBCWUD as a final version as part of the 60% design submittal.

Subtask 2.6.2 Deliverables:

- Draft Basis of Design Review Workshop with agenda and meeting minutes
- Draft Basis of Design Report and 30% Design Drawings
- Comment resolution log
- Association for the Advancement of Cost Engineering (AACE) Class 4 - Opinion of Probable Construction Cost
- Final Basis of Design Report

Task 4 – Detailed Design

Subtask 4.1 – New Raw Water Main (Bid Package No. 1)

The proposed WTP No. 9 Wellfield Improvements includes design and construction of a new 12-inch raw water main to connect the two (2) proposed wells located at Palm Beach County's Veteran's Memorial Park located along W Palmetto Park Rd to the existing 12-inch raw water main near the intersection of Lyons Rd and SW 53rd St. The corridors for the proposed 12-inch raw water main includes W Palmetto Park Rd heading east from Veteran's Memorial Park to the intersection of Lyons Rd, then south along Lyons Rd to the intersection of SW 53rd St, and then west along SW 53rd St to the point of connection at the existing 12-inch raw water main for a total distance of approximately 4,500 linear feet.

This Consultant Services Authorization (CSA) encompasses providing the following general design and construction services:

- Raw Water Main Design
 - Design Package for raw watermain from the two (2) proposed WTP No. 9 wells to the existing raw water main point of connection.
 - Permitting
 - Bid phase services

Construction Document Preparation

BFA will create a base map of the project area that combines the survey information, soft digs, and record drawing information that was obtained as a part of this project. The

design will comply with the Palm Beach County Water Utilities Minimum Engineering Standards (latest edition) and applicable provisions of the Florida Administrative Code. The plans and specifications prepared will be suitable for permitting, public bidding, and construction. Design submittal requirements will be in accordance with the Palm Beach County Water Utilities Design Manual.

BFA will prepare design drawings and specifications for the raw water main alignment selected in the BODR. Design documents will consist of construction plans, technical specifications, and opinion of probable construction costs (OPCC). The OPCC shall be a budgetary estimate (Class 3) in accordance with AACE.

Deliverables will be prepared and submitted at the 60%, 90%, and final 100% (bidding) design intervals. BFA has estimated up to 8 single plan and profile drawings (22"x34" size) at a scale of 1"=20' horizontal and 1"= 4' vertical, and up to 7 general information and detail drawings.

Review comments from PBCWUD at each design phase will be collected, discussed at design deliverable review meetings and considered for implementation in design documents.

Subtask 4.1.1 - Detail Design (60% Design)

Shall be defined as a complete set (all sheets that will be in the bid package) of plan and profile drawings indicating all survey and topographic information, depiction of all subsurface utility data, all utility connections, standard and proposed drawing details, technical specification sections, proposed pay items, and Engineer's Opinion of Probable Construction Cost (OPCC). A physical walk-through of the proposed raw water main route shall be made by the PBCWUD PM and the Engineer prior to the 60% review meeting.

Attend a meeting to discuss the 60% submittal and receive PBCWUD comments. Prepare a written list of PBCWUD comments and submit to PBCWUD for verification and subsequently revise the construction documents per PBCWUD comments.

Subtask 4.1.2 Detail Design (90% Design)

Shall be defined as a complete set of construction drawings and specifications containing all of the general and preceding requirements that would allow the Project to be bid, 60% review comment tabulation, and 60% review comments were addressed, and Engineer's OPCC.

Meet with PBCWUD to discuss the 90% design drawings submittal and prepare an updated written list of 90% PBCWUD review comments.

Subtask 4.1.3 Final Design (Issue for Permitting)

Shall be defined as a complete set of construction drawings and technical specifications including the Bid Schedule that will allow the Project to be bid and all of PBCWUD's 90%

review comments were addressed. Incorporate all permit required changes from Task 4 - Permitting into the drawings and specifications.

Subtask 4.1.4 Bid Document Submittal (Issue for Bids)

Provide a Bid Document Submittal (Issue for Bidding) based on revising the Final Design (Issue for Permitting) documents to address and incorporate the comments received from PBCWUD and the permitting agencies on the Final Design (Issue for Permitting) documents. There will be no design changes to the final documents except as reviewed and approved by PBCWUD.

BFA will provide a Class 2 OPCC as per the AACE with an expected accuracy range between -15% and +20%.

Subtask 4.1.5 Conformed Document Submittal (Issue for Construction)

Provide Conformed Construction Documents consisting of the Bid Document Submittal revised to incorporate all addenda issued during the procurement process.

Task 4.1 Deliverables:

- 60% Design Documents including Plans, Technical Specifications and OPCC
- 60% Review comments tabulation with Engineer's resolutions.
- 90% Design Documents including Plans, Technical Specifications and OPCC
- 90% Review comments tabulation with Engineer's resolutions.
- 100% Design Documents including Plans, Technical Specifications and OPCC
- Final signed/sealed drawings and specifications in electronic PDF files for each bid package and OPCC.
- Conformed Construction Documents.

Task 5 – Permitting Support

BFA will prepare documents and permit application (FAC 62-555.900(1)) for the raw water main and submit to PBCHD. BFA will respond to up to three (3) requests for additional information. PBCWUD will pay permit application fees directly.

BFA will attend a pre-application meeting with Palm Beach County Engineering and Public Works prior to submitting for a right-of-way permit. BFA will prepare permit support documents and submit accordingly. BFA will respond to up to three (3) requests for additional information. PBCWUD will pay permit application fees directly.

BFA will provide one (1) coordination meetings with Palm Beach County Parks and Recreation for the proposed raw water main traversing through Veteran's Memorial Park. BFA will incorporate Parks and Recreation input into design plans, where feasible.

Task 5 Deliverables:

- Palm Beach County ROW Permit Application and Pre-application Meeting
- Lake Worth Drainage District Permitting

- FDEP Application to Construct (to PBCHD)
- PBC Parks and Recreation Plans Submittal & Coordination Meetings (2)

Task 6 - Bid Phase Services

Subtask 6.1 - Bid Package 1 – New Raw Water Main

BFA will assemble the bid documents, consisting of drawings, bid form, and technical specifications needed to advertise the construction bid package. BFA will review front end documentation prepared by PBCWUD. PBCWUD will advertise all bidding documents and addendums and pay all associated costs.

BFA will attend one (1) pre-bid meeting with PBCWUD and potential Bidders/Contractors to discuss the project.

BFA will respond to a reasonable number of questions from Contractor's during the bid process. This scope of services assumes that up to three (3) addenda will be issued during the bid phase.

BFA will review bids for accuracy and completeness. BFA will prepare a bid review summary that tallies the bids and identifies the lowest price and most responsive bidder.

Subtask 6.1 Deliverables:

- Final Design Bid Documents including Plans, Technical Specifications and OPCC
- Pre-bid Meeting
- Up to three (3) addenda responses
- Bid Review Summary

Schedule

BFA will be prepared to commence work within two (2) weeks of written notice to proceed.

1. Subtask 2.4A Wells Land Surveying Services Topographic Survey – Quality Level A & B: This task is expected to have a duration of four (4) weeks.
2. Subtask 2.4B Raw Water Main Surveying Services Topographic Survey – Quality Level A & B: This task is expected to have a duration of six (6) weeks.
3. Task 4.1 – Detailed Design (Desing Package 1 – New Raw Water Main): This task is expected to have a duration of sixteen (16) weeks.

Fee Estimate

BFA’s total fee to provide the services described herein for the project is **\$376,520.60**. A cost breakdown is provided in the attached Budget Summary. We appreciate the opportunity to assist Black & Veatch on this PBCWUD project.

Sincerely,

Willie E. Thomas, PE
President

Attachments



**PBCWUD Water Treatment Plant No. 9 Wellfield Rehabilitation Land
Surveying Services Proposal – Well Map**



1230 Hillcrest Street • Orlando, Florida 32803
Office (407) 896-8608 • Fax (407) 896-1822



Exhibit "A" Limitations

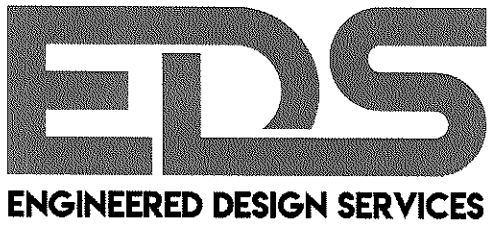
Subsurface Utility Engineering (SUE) services are utilized to identify and document the underground utility installations as stipulated in the scope of services and by contractual agreement. As in all disciplines, there are limitations of equipment, technology and personnel. The following describes, but is not limited to, the limitations usually encountered.

- Impervious subsurface material: Rock, below a depth of 3 feet. BFA will use pneumatic techniques to remove rock and pavement up to a depth of 3 feet. Below that depth we will rely solely on remote sensing and disclaim definitive results.
- Groundwater: BFA will make every reasonable attempt to definitively identify depth, size and type of underground utilities where groundwater is present. There are situations where groundwater will make visual inspection impracticable. We will use manual sensing to make the most reasonable measurements under these conditions, but it is understood that without direct visual confirmation the measurements and characteristics are limited to 'closely approximate'.
- Depth: Direct visual observation is limited to 7 feet under ideal conditions and diminishes as conditions deteriorate. Below 7 feet manual sensing is used to determine physical characteristics. Size by manual sensing is generally reliable, but the physical characteristics (type) of utility is dependent on too many variables to be considered definitive.
- There may be utilities that do not transmit electronic signals, that have not been made known to BFA, or that have no evidence at or above ground level. These utilities may not be detected or located.
- Ownership of underground utilities is not evident by observation of the buried utility. Every reasonable attempt will be made to determine ownership. Subsurface Utility Engineering (SUE) services do not include sanitary sewer installations/structures (gravity), or storm water lines/structures (gravity). However, the location of these utilities may be negotiated as a specific additional service.
- Consultant or Client Instructions: The Consultant or the Client may, from time to time, issue instructions or modify the scope of work. Any such instructions or modifications will be written and accepted by both parties prior to implementation.

If the Consultant or Client has plans, surveys, or other documentation that might assist in determining what utilities are present, they will be provided. As part of the Quality Assurance process, completed plans showing data derived from BFA's services will be submitted for review and confirmation if requested.

BFA's services are intended as an aid to the designers of this project, and it may affect actual construction operations. The information provided by BFA is based, in part, upon data furnished by utility owners and their representatives, or by the Consultant or Client.





Proposal to: Black & Veatch

WUD 24-032

WTP No. 9 Wellfield Improvements

Rev 8/1/2025

Engineered Design Services LLC

Contact: Craig McKenzie, P.E.

CraigMcKenzie@EDSEngineers.com

(561) 600-1776

edsengineers.com



August 1, 2025

Beatriz Caceres, P.E.
Engineering Manager
Black & Veatch Corporation
2121 Ponce de Leon, Suite 305,
Coral Gables, FL 33134

RE: Proposal for WUD 24-032 WTP No. 9 Wellfield Improvements

Dear Ms. Caceres:

Engineered Design Services (EDS) is pleased to support Black & Veatch Corporation (BV) in the design and engineering services for Wellfield Improvements at WTP #9. We understand that a total of 10 production wells will be Rehabilitated, Constructed, or receiving Mechanical/Electrical improvements under this scope, and the anticipated scope may be revised depending on results of preliminary investigations. As a SUB-CONSULTANT to BV, EDS proposes the following engineering services.

SCOPE OF SERVICES:

Our proposed scope of services will include the following 10 well locations:

WTP 9 Wells: 9W-6, 9W-18, 9W-20, 9W-21, 9W-22, 9W-23, 9W-24, 9W-25, 9W-XX (New Well #1), 9W-XX (New Well #2)

Task 1: Project Meetings and Administration

Subtask 1.2 – Project Administration

Project coordination and administration provided by EDS will encompass the efforts necessary for project execution.

Task 2: Field Investigations, Engineering Analysis, and Basis of Design

Subtask 2.2 – Data Collection and Analysis

EDS will review and analyze the data provided within this task. If the existing record drawings are not available, CONSULTANT will develop the demolition drawings based on photos and other available information obtained during the site visit.

Subtask 2.6 – Basis of Design Report (30% design)

Based on review of existing information and site investigations, SUB-CONSULTANT will develop construction contract documents for selection of construction contractors on a competitive bid basis. SUB-CONSULTANT will prepare a Basis of Design Report (BODR) addressing the design described in the Introduction section. The BODR will be developed through the steps described in the task below and will establish the basis of design for the Project. The BODR will constitute the 30% level design effort and will be enough detail to serve as a reference to guide detailed design of the project. The BODR will include drawings and figures, as needed, to illustrate the preliminary design layout.

The BODR will describe the design criteria. The type, number, capacity and size of all major facility components will be identified. Design objectives and criteria for the CIP will be developed.

In general, the BODR will include the following information:

General project scope and background references.

Design Objectives

- Basis of Design Criteria including

SCOPE OF SERVICES (CONTINUED):

- Equipment selections
- Structural
- Electrical

Drawings

- Conceptual design drawings.
- Single line-diagram.
- Control block diagram.

Prepare a Class 4 Opinion of Probable Construction Cost (OPCC) as per the Association for the Advancement of Cost Consulting International (AACE) Recommended Practice No. 18R-97 with an expected accuracy range between -30% to +50%.

Task 3: Wellfield Conveyance System Model**Subtask 3.2 - New Pump Selection Support**

Electrical Assessment –EDS will evaluate the electrical requirements for the proposed pumps, in coordination with existing electrical conditions, to determine the required scope of rehabilitation or additions needed to facilitate the proposed upgrades and installations. This will include identifying the installation of VFD's and updated controls.

Subtask 3.3 – Technical Memorandum

Draft Technical Memorandum – The EDS will prepare and submit electrical commentary for the Draft Wellfield Capacity and Optimization Technical Memorandum for review and comment.

Final Technical Memorandum – The EDS will address OWNER electrical comments on the draft technical memorandum and submit a Final Wellfield Capacity and Optimization Technical Memorandum.

Task 3 Deliverables:

Wellfield Capacity and Optimization Technical Memorandum (Draft and Final)

Task 4: Detailed Design

For the work described herein SUB-CONSULTANT will provide one bid package as described below.

Subtask 4.3 – New Raw Water Wells and Wellhead Reconfiguration and Well Rehabilitation (Bid Package No. 3) - Mechanical, Electrical, Structural**Subtask 4.3.1 – Detailed Design (90% Design) - Mechanical, Electrical, Structural**

SUB-CONSULTANT will provide a 90% Design Submittal based on comments received from PBCWUD staff on the 60% Design Submittal for the scope of work described herein. SUB-CONSULTANT will prepare a Class 2 Opinion of Probable Construction Cost (OPCC) as per the Association for the Advancement of Cost Consulting International (AACE) with an expected accuracy range between -10% to +15%.

After a two-week review period, SUB-CONSULTANT will attend one (1) virtual 90% design review meeting with PBCWUD staff to present the 90% design. The purpose of the meeting is to review the design deliverable and describe the design in sufficient detail as to allow PBCWUD staff to provide comments.

Subtask 4.3 Deliverables:

- 90% Detailed Design Documents – Draft Project Manual (Plans and Specification)
- AACE Class 2 - Opinion of Probable Construction Cost

SCOPE OF SERVICES (CONTINUED):**Subtask 4.3.2 – 100% Draft Design Submittal (Issue for Permitting) - Mechanical, Electrical, Structural**

On approval by PBCWUD and incorporation of the comments provided from Subtask 4.3.1, final bid documents will be compiled for the purposes of bidding in the form of a Project Manual. The Project Manual shall consist of the final edition of the Construction Contract, Specifications, and reference Plans for the Project. All design documents will be signed and sealed in compliance with Florida Board of Professional Engineers requirements. SUB-CONSULTANT will update the 90% Class 2 Opinion of Probable Construction Cost (OPCC) as per the Association for the Advancement of Cost Consulting International (AACE) with an expected accuracy range between -10% to +15%.

Subtask 4.3.2 Deliverables:

- Final Signed/Sealed Electronic Project Manual in pdf format.
- AACE Class 2 - Opinion of Probable Construction Cost

Subtask 4.3.3 Bid Document Submittal (Issue for Bids) - Mechanical, Electrical, Structural

SUBCONSULTANT will provide a Bid Document Submittal (Issue for Bidding) based on the comments received from PBCWUD and the permitting agencies on the 100% Draft Design Submittal (Issue for Permit) documents. There will be no design changes to the final documents except as reviewed and approved by PBCWUD. SUBCONSULTANT will update the 90% Class 2 Opinion of Probable Construction Cost (OPCC) as per the Association for the Advancement of Cost Consulting International (AACE) with an expected accuracy range between -10% to +15%.

Subtask 4.3.4 Conformed Documents Submittal (Issue for Construction) - Mechanical, Electrical, Structural

SUBCONSULTANT will provide Construction Documents consisting of the Bid Document Submittal revised to incorporate all addenda issued during the procurement process.

Task 5 - Permitting Support for New Raw Water Wells and Wellhead Reconfiguration and Well Rehabilitation (Bid Package No. 3) - Mechanical, Electrical, Structural

SUBCONSULTANT will support the efforts by PBCWUD to obtain the necessary permits from the South Florida Water Management District (SFWMD), Palm Beach County Health Department, and Building Departments for Palm Beach County and City of Boca Raton for the two new wells and the modifications to the existing wells. SUBCONSULTANT will participate in a pre-application meeting with PBCWUD and SFWMD to discuss the permit requirements. SUBCONSULTANT will also work closely with all permitting agencies to obtain applicable permits for the project, including responding to requests for information (RFIs) from the permitting agencies. Groundwater modeling has not been included in this task. SUBCONSULTANT will update design documents as necessary to address comments received from the permitting agencies. These changes will be included in the Bid Documents. Fees and costs associated with permits will be reimbursed to the SUBCONSULTANT by PBCWUD.

Task 6 - Bid Phase Services for New Raw Water Wells and Wellhead Reconfiguration and Well Rehabilitation (Bid Package No. 3) - Mechanical, Electrical, Structural**Subtask 6.3 Bid Package 3 - New Raw Water Wells and Wellhead Reconfiguration and Well Rehabilitation**

SUBCONSULTANT will support the efforts by PBCWUD to advertise the Project for construction by a qualified general contractor.

Project Pricing

We have developed a time and materials budget for the WUD 24-032 WTP No. 9 Wellfield Improvements project, based on our understanding of the scope provided.

The T&M not-to exceed fee for EDS to provide the scope of work tasks and services shall be \$147,010.56, based on Attachment E.

We appreciate the opportunity to provide this proposal and look forward to working with you. Should you have any questions, please do not hesitate to contact us.

Respectfully Submitted,

Craig McKenzie, P.E.
President/Principal Engineer
Engineered Design Services LLC

Offer Accepted by:

Signature: _____ Date: _____



REVISED March 25, 2025
REVISED August 27, 2024
REVISED August 14, 2024

Black & Veatch
3111 N University Drive
Suite 700
Coral Springs, Florida 33065

Attention: Mr. Diego Barrios, P.E.
Email: barriosda@bv.com

Re: Scope of Services for Geotechnical Engineering Services
WTP 9 Wellfield Rehabilitation
Palm Beach County, Florida
PACIFICA Proposal No. 610-12018938

Dear Mr. Barrios:

In accordance with email provided by **Black & Veatch, Pacifica Engineering Services, LLC (PACIFICA)**, is pleased to submit this scope of services to perform a subsurface exploration program for the above-referenced project. Included herein is our understanding of the proposed development along with a scope of services, cost estimates, and anticipated schedules.

We understand that plans for this project include the design and construction of new aboveground water supply wells and a raw water main for the PBCWUD Water Treatment Plant No. 9 located at 22438 SW 65th Avenue in Boca Raton, FL. Structural loading was not available at the time of this proposal therefore we have assumed loads of 60 kips.

Task 2 - Field Investigations, Engineering Analysis, and Basis of Design

GEOTECHNICAL SCOPE OF SERVICES

Based on the requested scope and locations, PACIFICA proposes to perform the following geotechnical field services:

Basic Services

- three (3) Standard Penetration Test (SPT) borings to a depth of 175 feet below existing grades at the proposed water supply well locations.

Services for Raw Water Main

- four (4) Standard Penetration Test (SPT) borings to a depth of 30 feet below existing grades at the requested locations; and
- and five (5) Standard Penetration Test (SPT) borings to a depth of 15 feet below existing grades at the requested locations.

The SPT borings will be performed with truck-mounted machinery using rotary drilling procedures. Samples of the in-place materials will be recovered with a standard split barrel driven with a 140-pound hammer falling 30 inches (the Standard Penetration Test in accordance with ASTM D1586). After completion of drilling, all boreholes will be grouted, asphalt hot-mix patch applied not in the wheel path, where needed, and the site generally cleaned, as required.

Underground utility clearance will be required prior to the commencement of the geotechnical field exploration. Therefore, PACIFICA will contact "Sunshine One-Call" Service to obtain underground public utility clearance. PACIFICA understands that private utilities will be marked by others prior to each mobilization.

Task 2 - GEOTECHNICAL REPORT DELIVERABLES

After the geotechnical field exploration is completed, a geotechnical engineer will review the soil samples and select samples will be tested for physical properties such as gradation, moisture content and organic content, if deemed necessary. The results of the geotechnical exploration will be transmitted in a report which will specifically contain the information listed below:

1. a plan of the site showing the location of the soil borings;
2. soil boring logs will be provided, which furnish the results of the SPT sampling;
3. requirements for site preparation;
4. foundation recommendations with allowable bearing capacity;
5. pipe bedding and backfill; and
6. some construction considerations.

Task 2 - GEOTECHNICAL SCHEDULE

Our study can begin one day after we receive authorization to proceed. We will start drilling after public underground utilities have been located and identified, which may take 2-4 business days. The geotechnical field exploration should be completed in 6 business days, if the optional services are requested, then the geotechnical field exploration should be completed in 8 business days. Laboratory testing should be completed within one week following final field demobilization. The written report of the subsurface exploration will be available within two weeks following the completion of final laboratory testing. We estimate that our study will be completed within 4 weeks from your notice to proceed.



COST BREAKDOWN

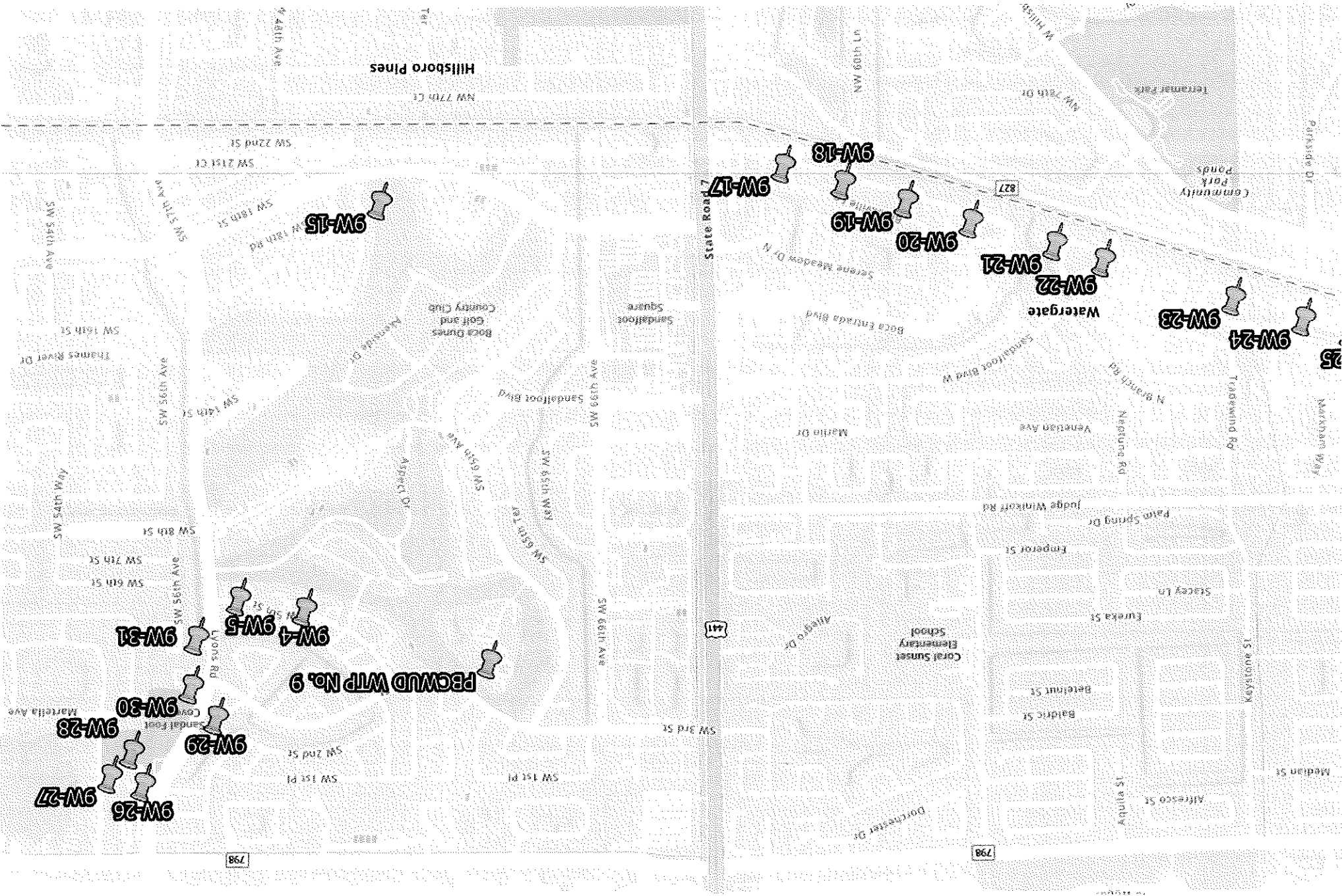
DESCRIPTION	UNIT	# OF UNITS	UNIT RATE	TOTAL
I. FIELD EXPLORATIONS				
Mobilization of Drill Equipment (50-mile travel)	each	1.0	\$400.00	\$400.00
Engineering Technician (Site Reconnaissance, Boring Layout and Underground Utility Clearance) (Raw Rate: \$21.67*3)	hour	5.0	\$65.01	\$325.05
Standard Penetration Tests - Truck Rig (0' - 50')	feet	150.0	\$16.00	\$2,400.00
Standard Penetration Tests - Truck Rig (51' - 100')	feet	375.0	\$19.00	\$7,125.00
Grout Bore Hole (0 to 50 Feet)	feet	150.0	\$6.00	\$900.00
Grout Bore Hole (51 to 100 Feet)	feet	375.0	\$7.50	\$2,812.50
Casing (0 to 50 Feet)	feet	150.0	\$9.80	\$1,470.00
Casing (51 to 100 Feet)	feet	375.0	\$10.00	\$3,750.00
II. SOIL & AGGREGATE TESTING				
Organic Content Test	each	3.0	\$55.00	\$165.00
Natural Sample Moisture Content	each	3.0	\$20.00	\$60.00
Grain size determination: Full grain size (8 sieves)	each	3.0	\$78.00	\$234.00
Grain size determination: Wash through (#200)	each	3.0	\$60.00	\$180.00
DOT Corrosivity - (pH, sulfate, chlorides & conductivity)	each	3.0	\$205.00	\$615.00
III. ENGINEERING SERVICES (MULTIPLIER: 3)				
Principal Engineer, P.E. (Raw Rate: \$66.67*3)	hour	1.0	\$200.01	\$200.01
Senior Engineer (Raw Rate: \$60.00*3)	hour	2.0	\$180.00	\$360.00
Engineer, P.E. (Raw Rate: \$49.00*3)	hour	9.0	\$147.00	\$1,323.00
Drafter / CADD (Raw Rate: \$31.33*3)	hour	5.0	\$93.99	\$469.95
IV. Ground Penetrating Radar (GPR)				
Ground Penetrating Radar Scanning Services	day	0.5	\$1,800.00	\$900.00
ESTIMATED GEOTECHNICAL BASIC FEE FOR WTP REHABILITATION				\$23,689.51
V. Optional Services for Raw Water Main				
Standard Penetration Tests - Truck Rig (0' - 50')	feet	195.0	\$16.00	\$3,120.00
Grout Bore Hole (0 to 50 Feet)	feet	195.0	\$6.00	\$1,170.00
Casing (0 to 50 Feet)	feet	195.0	\$9.80	\$1,911.00
Organic Content Test	each	3.0	\$55.00	\$165.00
Natural Sample Moisture Content	each	3.0	\$20.00	\$60.00
Grain size determination: Full grain size (8 sieves)	each	3.0	\$78.00	\$234.00
Grain size determination: Wash through (#200)	each	3.0	\$60.00	\$180.00
Drafter / CADD (Raw Rate: \$31.33*3)	hour	2.0	\$93.99	\$187.98
Senior Engineer (Raw Rate: \$60.00*3)	hour	1.0	\$180.00	\$180.00
Engineer, P.E. (Raw Rate: \$49.00*3)	hour	3.0	\$147.00	\$441.00
Ground Penetrating Radar Scanning Services	day	0.5	\$1,800.00	\$900.00
ESTIMATED GEOTECHNICAL BASIC FEE FOR WTP REHABILITATION WITH OPTIONAL SERVICES				\$32,238.49

ATTACHMENT F
Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services
Utility Hydrogeologic Engineering Services
Resolution No. R2024-0068, Contract Dated January 23, 2024

**SUMMARY OF
SBE BUSINESS TRACKING**

Master Contract Participation	SBE 25%
Current Proposal	
Value of Authorization No. <u>2</u>	\$1,927,640.85
Value of SBE Letters of Intent	\$555,769.65
Actual Percentage	28.83%
Signed/Approved Authorizations	
Total Value of Authorizations	\$94,799.47
Total Value of SBE Signed Subcontractors	\$35,279.59
Actual Percentage	37.21%
Signed/Approved Authorizations Plus Current Proposal	
Total Value of Authorization	\$2,022,440.32
Total Value of Subcontractors & Letters of Intent	\$591,049.24
Actual Percentage	29.22%

REVISED 07-08-25





Water Utilities Department
Engineering Division

8100 Forest Hill Blvd
West Palm Beach, FL 33413
(561) 493-6000
Fax: (561) 493-6085
www.pbcwater.com

Palm Beach County
Board of County
Commissioners

Maria G. Marino, Mayor
Sara Baxter, Vice Mayor
Gregg K. Weiss
Joel G. Flores
Marci Woodward
Maria Sachs
Bobby Powell Jr.

Interim County Administrator

Todd J. Bonlarron

"An Equal Opportunity Employer"

Official Electronic Letterhead

June 11, 2025

Mr. Rafael E. Frias III, P.E., Vice-President
Black & Veatch
8461 Lake Worth Road, Suite 166
Lake Worth, Florida 33467

Re: Project Number: 23-026
Utility Hydrogeologic Engineering Services
Notification of Contract Clauses No Longer Being
Enforced Pursuant to Emergency Ordinance 2025-014

Dear Mr. Frias,

On June 3, 2025, the Board of County Commissioners (BCC) approved an emergency ordinance to suspend the race and gender conscious provisions of the County's EBO ordinance. The suspension will remain in effect for two years or until further direction by the BCC, whichever comes first. As a result, the provisions relating to minority/women-owned business enterprise (M/WBEs) participation contained in the contract document (R2024-0068) under Article 7- Subcontracting **will not be enforced** as of June 3, 2025, only the small business enterprise (SBE) provisions will apply.

Please sign below to acknowledge receipt of this notification. This acknowledgement will be included in, and made part of, the contract file.

Should you require any additional information please contact Ms. Christina Bervin at cbervin@pbcwater.com or at (561) 493 5203.

Cordially,

Jane House, P.E., LEED AP
Director of Engineering Division

Receipt Acknowledged and In Agreement:

Black & Veatch Corporation
(Consultant)

Rafael E. Frias, PE
(Print Name)

(Signature)

July 14, 2025
(Date)