

PINELLAS COUNTY GOVERNMENT IS COMMITTED TO PROGRESSIVE PUBLIC POLICY, SUPERIOR PUBLIC SERVICE, COURTEOUS PUBLIC CONTACT, JUDICIOUS EXERCISE OF AUTHORITY AND SOUND MANAGEMENT OF PUBLIC RESOURCES, TO MEET THE NEEDS AND CONCERNS OF OUR CITIZENS TODAY AND TOMORROW.



NON-CONTINUING PROFESSIONAL SERVICES AGREEMENT

RFP TITLE: Water System Master Plan Update – Professional Engineering Services

RFP CONTRACT NO. 178-0501-NC (SS)

COUNTY PID NO. 003742A

NON-CONTINUING FIRM: Black & Veatch

**PROFESSIONAL ENGINEERING SERVICES NON-CONTINUING SERVICES SAMPLE
AGREEMENT**

TABLE OF CONTENTS

SECTION 1 INTENT OF AGREEMENT 3

SECTION 2 SCOPE OF PROJECT 4

 2.1 PROJECT DESCRIPTION AND PROFESSIONAL REQUIREMENTS..... 4

 2.2 PROJECT DURATION..... 4

 2.3 CONSULTING RESPONSIBILITIES..... 4

 2.4 GENERAL DESIGN CONDITIONS – Not Applicable 4

 2.5 GOVERNING SPECIFICATIONS REGULATIONS AND PERTINENT DOCUMENTS..... 4

SECTION 3 SERVICES TO BE FURNISHED BY THE CONSULTANT..... 5

 3.1 SEE EXHIBIT A – SCOPE OF SERVICES..... 5

 3.2 BIDDING PHASE – Not Applicable 5

 3.3 CONSTRUCTION PHASE – Not Applicable..... 5

 3.4 PROVISIONS RELATED TO ALL PHASES 5

 3.5 PERMIT APPLICATIONS AND APPROVALS – Not Applicable 5

SECTION 4 SERVICES TO BE FURNISHED BY THE COUNTY 5

SECTION 5 PRESENTATIONS, PUBLIC MEETINGS AND TECHNICAL LIAISON..... 6

SECTION 6 PAYMENT GUIDELINES AND CATEGORY OF SERVICES..... 6

 6.1 BASIC SERVICES 6

 6.2 OPTIONAL SERVICES 6

 6.3 CONTINGENCY SERVICES 6

 6.4 ADDITIONAL SERVICES 6

 6.5 INVOICING..... 7

SECTION 7 COMPENSATION TO THE CONSULTANT 8

SECTION 8 PERFORMANCE SCHEDULE 8

SECTION 9 AUTHORIZATION FOR CONTINGENT OR ADDITIONAL SERVICES..... 9

SECTION 10 FIRMS AND INDIVIDUALS PROVIDING SUBCONSULTING SERVICES..... 9

SECTION 11 SATISFACTORY PERFORMANCE..... 9

SECTION 12 RESOLUTION OF DISAGREEMENTS..... 9

SECTION 13 CONSULTANT’S ACCOUNTING RECORDS 9

SECTION 14 OWNERSHIP OF PROJECT DOCUMENTS 10

SECTION 15 INSURANCE COVERAGE AND INDEMNIFICATION..... 10

**SECTION 16 EQUAL EMPLOYMENT OPPORTUNITY CLAUSE FOR CONTRACTS NOT SUBJECT TO
EXECUTIVE ORDER 11246..... 10**

**SECTION 17 INDEPENDENT CONTRACTOR STATUS AND COMPLIANCE WITH THE IMMIGRATION
REFORM AND CONTROL ACT OF 1986 10**

SECTION 18 PROHIBITION AGAINST CONTINGENT FEE 11

SECTION 19 TRUTH IN NEGOTIATIONS..... 11

SECTION 20 SUCCESSORS AND ASSIGNS..... 11

SECTION 21 INTEREST ON JUDGMENTS 11

SECTION 22 TERMINATION OF AGREEMENT 11

SECTION 23 AGREEMENT TERM..... 12

SECTION 24 CONFLICT OF INTEREST 12

SECTION 25 ENTIRE AGREEMENT..... 12

SECTION 26 PUBLIC ENTITY CRIMES..... 12

SECTION 27 PUBLIC RECORDS..... 12

SECTION 28 GOVERNING LAW AND AGREEMENT EXECUTION..... 14

**SECTION 1
INTENT OF AGREEMENT**

**AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES FOR
Water System Master Plan Update – Professional Engineering Services**

THIS AGREEMENT, entered into on the ____ day of _____, 2019, between PINELLAS COUNTY, a political subdivision of the State of Florida, hereinafter referred to as the COUNTY, represented by its Board of County Commissioners, and, (Black & Veatch) with offices in (Tampa), Florida hereinafter referred to as the CONSULTANT.

WITNESSETH, That:

WHEREAS, Pinellas County, herein referred to as the COUNTY, requires **PROFESSIONAL ENGINEERING SERVICES** associated with development of the Water System Master Plan Update and perform all other professional engineering services as may be required during the development and production of this report for Pinellas County, Florida.

WHEREAS, the COUNTY desires the CONSULTANT provide PROFESSIONAL ENGINEERING SERVICES requisite to the development of the PROJECT; and

WHEREAS, the CONSULTANT has expressed the willingness and ability to provide the aforementioned Services; and

NOW THEREFORE, the COUNTY and the CONSULTANT, in consideration of the mutual covenants hereinafter set forth, agree as follows:

SECTION 2 SCOPE OF PROJECT

2.1 PROJECT DESCRIPTION AND PROFESSIONAL REQUIREMENTS

For the purposes of this Agreement the term PROJECT shall include all areas required for the development of the Water System Master Plan Update, all areas that may reasonably be judged to have an impact on the PROJECT, and all PROJECT development phases and the services and activities attendant thereto. It is not the intent of this Agreement to identify the exact limits or details involved in providing satisfactorily completed PROJECT documents. The CONSULTANT shall provide professional services to prepare the Water System Master Plan Update.

Draft reports shall be prepared in Microsoft Word and in a format that the COUNTY can provide tracked review comments. Final reports shall be provided in pdf format.

2.2 PROJECT DURATION

The PROJECT shall be completed within three hundred sixty five (365) consecutive calendar days.

2.3 CONSULTING RESPONSIBILITIES

- A. It is the intention of the COUNTY that the CONSULTANT is held accountable for its work, including checking and review of all documents, and that submittals are complete.
- B. The CONSULTANT shall be responsible for the accuracy of the work and shall promptly correct its errors and omissions without additional compensation. Acceptance of the work by the COUNTY will not relieve the CONSULTANT of the responsibility for subsequent correction of any errors and the clarification of any ambiguities.
- C. The CONSULTANT represents that it has secured or will secure, at its own expense, all personnel necessary to complete this Agreement; none of whom shall be employees of or have any contractual relationship with the COUNTY. Primary liaison with the COUNTY will be through the CONSULTANT'S Project Manager. All of the services required hereunder will be performed by the CONSULTANT or under the CONSULTANT'S supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under law to perform such services.
- D. The CONSULTANT shall endorse all reports and calculations required for the PROJECT. Services shall be prepared under the direction of an engineer registered in the State of Florida and qualified in the required discipline. Products or services performed or checked shall be signed and sealed by the CONSULTANT'S Florida registered engineer.
- E. The CONSULTANT shall respond, in writing, to all review comments made by the COUNTY, and shall incorporate appropriate adjustments into the PROJECT, in a timely manner, resulting from the review exchange.

2.4 GENERAL DESIGN CONDITIONS – Not Applicable

2.5 GOVERNING SPECIFICATIONS REGULATIONS AND PERTINENT DOCUMENTS

The PROJECT shall be prepared by the CONSULTANT in accordance with applicable industry standards and latest technologies. The CONSULTANT shall be responsible for utilizing and maintaining current knowledge of any laws, ordinances, codes, rules, regulations, standards, guidelines, special conditions, specifications, or other mandates relevant to the PROJECT or the services to be performed.

**SECTION 3
SERVICES TO BE FURNISHED BY THE CONSULTANT**

3.1 SEE EXHIBIT A – SCOPE OF SERVICES.

3.2 BIDDING PHASE – Not Applicable

3.3 CONSTRUCTION PHASE – Not Applicable

3.4 PROVISIONS RELATED TO ALL PHASES

3.4.1 The CONSULTANT will investigate and confirm in writing to the COUNTY, to the best of the CONSULTANT'S knowledge, conformance with all applicable local public and utility regulations.

3.4.2 The CONSULTANT will coordinate all work necessary for the PROJECT.

3.4.3 The CONSULTANT shall submit to the COUNTY design notes and computations to document the conclusions reached during the development of the PROJECT.

3.4.4 The CONSULTANT shall make such reviews, visits, attend such meetings and conferences and make such contacts as are necessary for the proper preparation of the PROJECT.

3.4.5 The COUNTY in no way obligates itself to check the CONSULTANT'S work and further is not responsible for maintaining project schedules.

3.4.6 All work prepared and/or submitted shall be reviewed and checked by a CONSULTANT (Architect/Engineer) registered in Florida prior to submitting to the County. All reports shall be signed and sealed by the Professional CONSULTANT's Florida Licensed Professional Engineer in responsible charge or their designee.

3.5 PERMIT APPLICATIONS AND APPROVALS – Not Applicable

**SECTION 4
SERVICES TO BE FURNISHED BY THE COUNTY**

4.1 The COUNTY shall provide the following for the CONSULTANT'S use and guidance:

- A. Copies of existing reports, SCADA data, water quality data, maps, existing aerial photographs, as-built construction plans and data pertinent to the PROJECT which the COUNTY may have in its possession.
- B. Reproduces of the COUNTY Engineering Department Standard Drawings applicable to the PROJECT.

SECTION 5 PRESENTATIONS, PUBLIC MEETINGS AND TECHNICAL LIAISON

The following services shall be provided at no additional cost to the COUNTY:

5.1 Prior to the commencement of the Water System Master Plan Update activities and the COUNTY's Notice to Proceed, the COUNTY will conduct a kickoff meeting with the CONSULTANT for the purpose of discussing issues relative to the PROJECT, data gathering, report preparation and submittal procedures and to convey to the CONSULTANT such items provided for under Section 4 as may be required and available at that time. The CONSULTANT shall provide a proposed project schedule on or before the kickoff meeting with the project start date the same as the official Notice to Proceed.

5.2 The CONSULTANT shall make presentations to the COUNTY'S Director of Utilities or designee as often as reasonably requested and at any point in the PROJECT development should issues arise which make additional presentations other than those listed elsewhere in this Agreement, in the COUNTY'S best interest.

5.3 The CONSULTANT shall participate in meetings, workshops and presentations with COUNTY staff. Meetings will be scheduled by the COUNTY at a location provided by the COUNTY.

5.4 The CONSULTANT shall attend, as technical advisor to the COUNTY all meetings or hearings conducted by permitting agencies or public bodies in connection with any permit required related to the Master Plan Update efforts, and shall prepare all presentation aids, documents and data required in connection with such meetings and technical assistance to the COUNTY.

5.5 The CONSULTANT shall keep accurate minutes of all meetings and distribute copies to all attending. These meetings shall be scheduled through the COUNTY and appropriate COUNTY staff shall attend.

SECTION 6 PAYMENT GUIDELINES AND CATEGORY OF SERVICES

6.1 BASIC SERVICES

The services described and provided for under Sections 2, 3 and Exhibit A shall constitute the Basic Services to be performed by the CONSULTANT under this Agreement.

6.2 OPTIONAL SERVICES

Services noted in Exhibit A of this Agreement as "Optional" shall constitute the Optional Services to be performed by the CONSULTANT under this Agreement. Optional Services shall be rendered by the CONSULTANT only upon written authorization by the COUNTY's Utilities Engineering Division Director, or designee.

6.3 CONTINGENCY SERVICES

When authorized in writing by the COUNTY'S Utilities Engineering Division Director or designee, the CONSULTANT shall furnish services resulting from unforeseen circumstances not anticipated under Basic Services due to minor changes in the PROJECT scope.

Compensation for any Contingency Services assignments shall be negotiated between the COUNTY and the CONSULTANT at the time the need for services becomes known.

6.4 ADDITIONAL SERVICES

When executed by the County Administrator or Board of County Commissioners as an amendment to this Agreement, the CONSULTANT shall provide such additional services as may become necessary because of changes in the Scope of PROJECT. Additional Services shall be classified as any change beyond the Contingency Services upset limit for compensation.

6.5 INVOICING

Consultant must submit invoices on a monthly basis to the COUNTY project manager for approval before submitting to the Clerk of Finance for processing and payment. Invoices shall include a status report summarizing the work completed during the invoice period and PlanTrax® spreadsheet. The PlanTrax® submittal will include an updated schedule (in PlanTrax®) and projected spending for the duration of the project. The status report will include a summary of the work completed during the invoice period as well as information pertaining to any schedule changes in PlanTrax®. At the conclusion of the work, the final invoice will be marked ``FINAL'' on the invoice and be accompanied by a cover letter from the CONSULTANT stating that this is the Final Invoice and that compensation for tasks completed, as described in the Scope of Services Agreement, is now concluded. The COUNTY shall make payments to the CONSULTANT for work performed in accordance with the Local Government Prompt Payment Act, Section 218.70 et. seq., F.S.

The CONSULTANT shall provide copies of supporting receipts/invoices/billing documentation. Self-performed reimbursable work shall be reimbursed at the firm's standard hourly rates for all related services. A breakdown of man hours and billing rates shall be provided with each invoice. An hourly rate sheet is attached (Exhibit B).

Should an invoiced amount for fees earned appear to exceed the work effort believed to be completed, the COUNTY may, prior to processing of the invoice for payment, require the CONSULTANT to submit satisfactory evidence to support the invoice.

All progress reports shall be mailed to the attention of the designated Project Manager, Utilities, 14 S. Ft. Harrison Ave, Clearwater, FL 33756.

CONSULTANT shall submit invoices for payment due as provided herein with such documentation as required by Pinellas County and all payments shall be made in accordance with the requirements of Section 218.70 et. seq, Florida Statutes, "The Local Government Prompt Payment Act." Invoices shall be submitted to the address below unless instructed otherwise on the purchase order, or if no purchase order, by the ordering department:

Finance Division Accounts Payable
Pinellas County Board of County Commissioners
P. O. Box 2438
Clearwater, FL 33757

Each invoice shall include, at a minimum, the Consultant's name, contact information and the standard purchase order number. The County may dispute any payments invoiced by CONSULTANT in accordance with the County's Dispute Resolution Process for Invoiced Payments, established in accordance with Section 218.76, Florida Statutes, and any such disputes shall be resolved in accordance with the County's Dispute Resolution Process.

Fees for additional services authorized shall be invoiced separately, and shall be due and payable in full upon the presentation of satisfactory evidence that the corresponding services have been performed.

SECTION 7 COMPENSATION TO THE CONSULTANT

7.1 For the BASIC SERVICES provided for in this Agreement, as defined in Section 3.10, the COUNTY agrees to pay the CONSULTANT as follows:

- A Lump Sum Fee of: Thirty Nine Thousand, Five Hundred Forty Eight and 00/100 Dollars (\$39,548.00) for Task 100 – Project Kickoff, Management, and Administration.
- A Lump Sum Fee of: Forty Two Thousand, Two Hundred Sixteen and 00/100 Dollars (\$42,216.00) for Task 200 – Data Collection and Review.
- A Lump Sum Fee of: Two Hundred Forty Six Thousand, Seven Hundred Twenty Four and 00/100 Dollars (\$246,724.00) for Task 300 – Hydraulic and System Analysis
- A Lump Sum Fee of: Seventy Four Thousand, Two Hundred Seventy Six and 00/100 Dollars (\$74,276.00) for Task 400 – Water Quality Evaluations.
- A Lump Sum Fee of: Two Hundred Nine Thousand, Five Hundred Twenty and 00/100 Dollars (\$209,520.00) for Task 500 – Asset Management Support Services.
- A Lump Sum Fee of: Thirty Eight Thousand, Six Hundred Thirty Two and 00/100 Dollars (\$38,632.00) for Task 600 – Capital Improvement Planning.
- A Lump Sum Fee of: Fifty Four Thousand, Three Hundred Twenty and 00/100 Dollars (\$54,320.00) for Task 700 – Master Plan Report Development.

The above fees shall constitute the total not to exceed amount of Seven Hundred Five Thousand, Two Hundred Thirty Six and 00/100 Dollars (**\$705,236.00**) to the CONSULTANT for the performance of Basic Services. All man hours are billed per the established and agreed hourly rates. The hourly rates are fully loaded and include all labor, overhead, expenses and profit of any nature including travel within the Tampa Bay Metropolitan Statistical area. Travel outside of the Tampa Bay Metropolitan Statistical Area will be reimbursed in accordance with Section 112.061 F.S. and/or the County Travel Policy, as approved by the County.

7.2 Total agreement amount Seven Hundred Five Thousand, Two Hundred Thirty Six and 00/100 Dollars (**\$705,236.00**).

7.3 For any ADDITIONAL SERVICES, the COUNTY agrees to pay the CONSULTANT a negotiated total fee based on the work to be performed as detailed by a written amendment to this Agreement.

7.4 In the event that this Agreement is terminated under the provisions of this contract the total and complete compensation due the CONSULTANT shall be as established by the COUNTY based on the COUNTY'S determination of the percentage of work effort completed to date of termination.

SECTION 8 PERFORMANCE SCHEDULE

Time is of the essence in this Agreement. The CONSULTANT shall plan and execute the performance of all services provided for in this Agreement in such manner as to ensure their proper and timely completion in accordance with the following schedule:

8.1 The services to be rendered by the CONSULTANT shall be commenced upon receipt from the COUNTY of written "NOTICE TO PROCEED."

8.2 All project phases shall be completed on or before the milestone dates provided in the COUNTY approved PROJECT design schedule referenced in Exhibit A.

8.3 The CONSULTANT shall not be held responsible for delays in the completion of the PROJECT when the COUNTY causes such delays. The COUNTY reviews related to the above submittals shall not exceed twenty-one (21) days.

**SECTION 9
AUTHORIZATION FOR CONTINGENT OR ADDITIONAL SERVICES**

9.1 The CONTINGENCY services provided for under this Agreement shall be performed only upon prior written authorization from the Director of Utilities or designee.

9.2 The ADDITIONAL services provided for under this Agreement shall be performed only upon approval of the County Administrator or Board of County Commissioners.

9.3 The CONSULTANT shall perform no services contemplated to merit compensation beyond that provided for in this Agreement unless such services, and compensation therefore, shall be provided for by appropriate written authorization or amendment(s) to this Agreement.

**SECTION 10
FIRMS AND INDIVIDUALS PROVIDING SUBCONSULTING SERVICES**

The COUNTY reserves the right to review the qualifications of any and all subconsultants, and to reject any subconsultant in a proper and timely manner, deemed not qualified to perform the services for which it shall have been engaged. Any subconsultant not listed as part of the prime consultants team at time of award must be approved by the Director of Purchasing prior to performing any service.

**SECTION 11
SATISFACTORY PERFORMANCE**

All services to be provided by the CONSULTANT under the provisions of this Agreement, including services to be provided by subcontractors, shall be performed to the reasonable satisfaction of the COUNTY'S Director of Utilities or designee.

**SECTION 12
RESOLUTION OF DISAGREEMENTS**

12.1 The COUNTY shall reasonably decide all questions and disputes, of any nature whatsoever, that may arise in the execution and fulfillment of the services provided for under this Agreement.

12.2 The decision of the COUNTY upon all claims, questions, disputes and conflicts shall be final and conclusive, and shall be binding upon all parties to this Agreement, subject to judicial review.

**SECTION 13
CONSULTANT'S ACCOUNTING RECORDS**

13.1 Records of expenses pertaining to all services performed shall be kept in accordance with generally accepted accounting principles and procedures.

13.2 The CONSULTANT'S records shall be open to inspection and subject to examination, audit, and/or reproduction during normal working hours by the COUNTY'S agent or authorized representative to the extent necessary to adequately permit evaluation and verification of any invoices, payments or claims submitted by the CONSULTANT or any of his payees pursuant to the execution of the Agreement. These records shall include, but not be limited to, accounting records, written policies and procedures, subcontractor files (including proposals of successful and unsuccessful bidders), original estimates, estimating worksheets, correspondence, change order files (including documentation covering negotiated settlements), and any other supporting evidence necessary to substantiate charges related to this Agreement. They shall also include, but not be limited to, those records necessary to evaluate and verify direct and indirect costs (including overhead allocations) as they may apply to costs associated with this Agreement. The COUNTY shall not audit payroll and expense records on task assignments paid by lump sum fee.

13.3 For the purpose of such audits, inspections, examinations and evaluations, the COUNTY'S agent or authorized representative shall have access to said records from the effective date of the Agreement, for the duration of work, and until five (5) years after the date of final payment by the COUNTY to the CONSULTANT pursuant to this Agreement.

13.4 The COUNTY'S agent or authorized representative shall have access to the CONSULTANT'S facilities and all necessary records in order to conduct audits in compliance with this Section. The COUNTY'S agent or authorized representative shall give the CONSULTANT reasonable advance notice of intended inspections, examinations, and/or audits.

SECTION 14 OWNERSHIP OF PROJECT DOCUMENTS

Upon completion or termination of this Agreement, all records, documents, tracings, plans, specifications, maps, evaluations, reports and other technical data, other than working papers, prepared or developed by the CONSULTANT under this Agreement shall be delivered to and become the property of the COUNTY. The CONSULTANT, at its own expense, may retain copies for its files and internal use. The COUNTY shall not reuse any design plans or specifications to construct another project at the same or a different location without the CONSULTANT'S specific written verification, adaptation or approval.

SECTION 15 INSURANCE COVERAGE AND INDEMNIFICATION

15.1 The Contractor must maintain insurance in at least the amounts required in the Request for Proposal throughout the term of this contract. The contractor must provide a Certificate of Insurance in accordance with Insurance Requirements of the Request for Proposal, evidencing such coverage prior to issuance of a purchase order or commencement of any work under this Contract. See Section C Insurance Requirements – Attached

15.2 If the CONSULTANT is an individual or entity licensed by the state of Florida who holds a current certificate of registration under Chapter 481, Florida Statutes, to practice architecture or landscape architecture, under Chapter 472, Florida Statutes, to practice land surveying and mapping, or under Chapter 471, Florida Statutes, to practice engineering, and who enters into a written agreement with the COUNTY relating to the planning, design, construction, administration, study, evaluation, consulting, or other professional and technical support services furnished in connection with any actual or proposed construction, improvement, alteration, repair, maintenance, operation, management, relocation, demolition, excavation, or other facility, land, air, water, or utility development or improvement, the CONSULTANT will indemnify and hold harmless the COUNTY, and its officers and employees, from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the CONSULTANT and other persons employed or utilized by the CONSULTANT in the performance of the Agreement.

SECTION 16 EQUAL EMPLOYMENT OPPORTUNITY CLAUSE FOR CONTRACTS NOT SUBJECT TO EXECUTIVE ORDER 11246

In carrying out the contract, the CONSULTANT shall not discriminate against employee or applicant for employment because of race, color, religion, sex or national origin.

SECTION 17 INDEPENDENT CONTRACTOR STATUS AND COMPLIANCE WITH THE IMMIGRATION REFORM AND CONTROL ACT OF 1986

CONSULTANT acknowledges that it is functioning as an independent contractor in performing under the terms of this Agreement, and it is not acting as an employee of COUNTY. CONSULTANT acknowledges that it is responsible for complying with the provisions of the Immigration Reform and Control Act of 1986, located at 8 U.S.C. Section 1324, *et seq.*, and regulations relating thereto. Failure to comply with the above provisions of this contract shall be considered a material breach and shall be grounds for immediate termination of the contract.

**SECTION 18
PROHIBITION AGAINST CONTINGENT FEE**

The CONSULTANT warrants that he has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT to solicit or secure this Agreement, and that he has not paid or agreed to pay any person, company, corporation, individual, or firm other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, gift or any other consideration, contingent upon or resulting from the award or making of this Agreement.

**SECTION 19
TRUTH IN NEGOTIATIONS**

By execution of this Agreement, the CONSULTANT certifies to truth-in-negotiations and that wage rates and other factual unit costs supporting the compensation are accurate, complete and current at the time of contracting. Further, the original contract amount and any additions thereto shall be adjusted to exclude any significant sums where the COUNTY determines the contract price was increased due to inaccurate, incomplete or non-current wage rates and other factual unit costs. Such adjustments must be made within one (1) year following the end of the contract.

**SECTION 20
SUCCESSORS AND ASSIGNS**

The CONSULTANT shall not assign, sublet, or transfer his interest in this Agreement without the written consent of the COUNTY.

**SECTION 21
INTEREST ON JUDGMENTS**

In the event of any disputes between the parties to this Agreement, including without limitation thereto, their assignees and/or assigns, arising out of or relating in any way to this Agreement, which results in litigation and a subsequent judgment, award or decree against either party, it is agreed that any entitlement to post judgment interest, to either party and/or their attorneys, shall be fixed by the proper court at the rate of five percent (5%), per annum, simple interest. Under no circumstances shall either party be entitled to pre-judgment interest. The parties expressly acknowledge and, to the extent allowed by law, hereby opt out of any provision of federal or state statute not in agreement with this paragraph.

**SECTION 22
TERMINATION OF AGREEMENT**

22.1 The COUNTY reserves the right to cancel this Agreement, without cause, by giving thirty (30) days prior written notice to the CONSULTANT of the intention to cancel. Failure of the CONSULTANT to fulfill or abide by any of the terms or conditions specified shall be considered a material breach of contract and shall be cause for immediate termination of the contract at the discretion of COUNTY. Alternatively, at the COUNTY'S discretion, the COUNTY may provide to CONSULTANT thirty (30) days to cure the breach. Where notice of breach and opportunity to cure is given, and CONSULTANT fails to cure the breach within the time provided for cure, COUNTY reserves the right to treat the notice of breach as notice of intent to cancel the Agreement for convenience.

22.2 If COUNTY terminates the Agreement for convenience, other than where the CONSULTANT breaches the Agreement, the CONSULTANT'S recovery against the COUNTY shall be limited to that portion of the CONSULTANT'S compensation earned through date of termination, together with any costs reasonably incurred by the CONSULTANT that are directly attributable to the termination. The CONSULTANT shall not be entitled to any further recovery against the COUNTY, including but not limited to anticipated fees or profit on work not required to be performed.

22.3 Upon termination, the CONSULTANT shall deliver to the COUNTY all original papers, records, documents, drawings, models, and other material set forth and described in this Agreement.

22.4 In the event that conditions arise, such as lack of available funds, which in the COUNTY'S opinion make it advisable and in the public interest to terminate this Agreement, it may do so upon written notice.

**SECTION 23
AGREEMENT TERM**

This Agreement will become effective on the date of execution first written above and shall remain in effect for **eighteen (18)** consecutive calendar months from the commencement date on the Notice to Proceed) unless terminated at an earlier date under other provisions of this Agreement, or unless extended for a longer term by amendment.

**SECTION 24
CONFLICT OF INTEREST**

24.1 By accepting award of this Contract, the CONSULTANT, which shall include its directors, officers and employees, represents that it presently has no interest in and shall acquire no interest in any business or activity which would conflict in any manner with the performance of services required hereunder, including as described in the CONSULTANT'S own professional ethical requirements. An interest in a business or activity which shall be deemed a conflict includes but is not limited to direct financial interest in any of the material and equipment manufacturers suppliers, distributors, or contractors who will be eligible to supply material and equipment for the PROJECT for which the CONSULTANT is furnishing its services required hereunder.

24.2 If, in the sole discretion of the County Administrator or designee, a conflict of interest is deemed to exist or arise during the term of the contract, the County Administrator or designee may cancel this contract, effective upon the date so stated in the Written Notice of Cancellation, without penalty to the COUNTY.

**SECTION 25
ENTIRE AGREEMENT**

This Agreement represents, together with all Exhibits and Appendices, the entire written Agreement between the COUNTY and the CONSULTANT and may be amended only by written instrument signed by both the COUNTY and the CONSULTANT.

**SECTION 26
PUBLIC ENTITY CRIMES**

CONSULTANT is directed to the Florida Public Entity Crime Act, Fla. Stat. 287.133, and Fla. Stat. 287.135 regarding Scrutinized Companies, and CONSULTANT agrees that its bid and, if awarded, its performance of the agreement will comply with all applicable laws including those referenced herein. CONSULTANT represents and certifies that CONSULTANT is and will at all times remain eligible to bid for and perform the services subject to the requirements of these, and other applicable, laws. CONSULTANT agrees that any contract awarded to CONSULTANT will be subject to termination by the County if CONSULTANT fails to comply or to maintain such compliance.

**SECTION 27
PUBLIC RECORDS**

Contractor acknowledges that information and data it manages as part of the services may be public records in accordance with Chapter 119, Florida Statutes and Pinellas County public records policies. Contractor agrees that prior to providing services it will implement policies and procedures to maintain, produce, secure, and retain public records in accordance with applicable laws, regulations, and County policies, including but not limited to the Section 119.0701, Florida Statutes. Notwithstanding any other provision of this Agreement relating to compensation, the Contractor agrees to charge the County, and/or any third parties requesting public records only such fees allowed by Section 119.07, Florida Statutes, and County policy for locating and producing public records during the term of this Agreement.

CONTRACTOR'S DUTY

If the contractor has questions regarding the application of Chapter 119, Florida Statutes, to the Contractor's duty to provide public records relating to this contract, contact the Pinellas County Board of County Commissioners, Purchasing Department, Operations Manager custodian of public records at 727-464-3311, purchase@pinellascounty.org, Pinellas County Government, Purchasing Department, Operations Manager, 400 S. Ft. Harrison Ave, 6th Floor, Clearwater, FL 33756.

**SECTION 28
GOVERNING LAW AND AGREEMENT EXECUTION**

This Agreement shall be governed by the laws of the State of Florida.

IN WITNESS WHEREOF, the parties herein have executed this Agreement as of the day and year first written above.

Firm Name: Black & Veatch Corporation

PINELLAS COUNTY, by and through its
Board of County Commissioners

By: _____

Print Name: Rafael E. Frias III

Title: Associate Vice President Date: 5/11/19

By: _____

Name _____ Date: _____

Chairman

ATTEST:

Ken Burke, clerk of the Circuit Court

By: _____

Deputy Clerk _____ Date: _____

APPROVED AS TO FORM

By: Diriki T. Leukee

Office of the County Attorney

Professional Engineering Consulting Services for
Pinellas County Water System Master Plan Update
Black & Veatch (Contract No. 178-0501-NC)
Pinellas County PID No. 003742A
(Date 3-22-2019)

I. PROJECT DESCRIPTION

Pinellas County, (COUNTY), is located on the west coast of Florida and boasts the most densely populated county in Florida. The County purchases potable and raw water supply from the regional wholesale water supplier, Tampa Bay Water (TBW), and delivers an average of 50 million gallons of potable water daily to over 675,000 total water customers. Customers include residential, commercial, industrial, institutional and wholesale user customers. However, the County only has approximately 112,960 water service connections within its service area.

The County's potable water system includes the S. K. Keller Water Treatment Facility, S.K. Keller Regional Treatment Facility, North Booster Pump Station, Logan Booster Pump Station, Capri Isle Booster Pump Station, Gulf Beach Booster Pump Station, and over 1,700 miles of distribution system piping to deliver potable water to its customers. In addition, the COUNTY provides potable water to bulk demand customers, including Clearwater, Pinellas Park, Safety Harbor and the Town of Belleair. Additional interconnections to neighboring municipal water distribution systems are available for emergency supply purposes. There are currently emergency interconnections with the cities of Tarpon Springs, Oldsmar, Dunedin, and St. Petersburg.

The purpose of this Water System Master Plan Update is to update the 1997 Water Master Plan (by Hartman & Associates) and 2010 Upgrades and Improvements to the Water Distribution System Report (by Jones Edmunds & Associates). This Water System Master Plan Update will evaluate the existing water system, including the source waters, water treatment facilities, pump stations and the distribution system. The short and long-term recommendations from this Master Plan will be used as a guide for implementing improvements that will support the COUNTY in maintaining a safe, reliable, and sustainable drinking water supply that satisfies current and future regulatory requirements.

CONSULTANT shall provide the following Scope of Services to the COUNTY as part of this Water System Master Plan Update effort.

II. SCOPE OF SERVICES

The Scope of Services consists of the following seven tasks:

Task 100: Project Kickoff, Management, and Administration

Task 200: Data Collection and Review

Task 300: Hydraulic and System Analysis

Task 400: Water Quality Evaluations

Task 500: Asset Management Support Services

Task 600: Capital Improvement Planning

Task 700: Master Plan Report Development

Task 100 – Project Kickoff, Management, and Administration

A. Project Kickoff Meeting – CONSULTANT will coordinate and lead a project kick-off meeting with COUNTY Staff to review the project purpose and objectives, scope of work, schedule for project activities and deliverables, status of data request and data gathered to date, and initial discussions regarding the COUNTY's goals and long-term vision for the Water System.

- Criteria Development. During the Project Kick-off meeting the CONSULTANT and the COUNTY will develop the water system assessment and performance criteria as well as the desired level of service (LOS) to be provided by the system, which will set the system performance goals for the distribution system evaluation and improvement alternatives. The outcome of the meeting will be the development of evaluation criteria and ranking of importance of these criteria. CONSULTANT will prepare a) initial recommended performance criteria with background rationale before the workshop and b) meeting minutes with the selected performance criteria and distribute to meeting attendees after the workshop.

B. Project Management and Administration - CONSULTANT will perform general administrative duties associated with the work assignment, including project set-up, resource management, progress monitoring, scheduling, QA/QC plan development and tracking / updating, general correspondence / coordination, and office administration. CONSULTANT will maintain an accurate project documentation and project cost accounting system throughout the project, including the preparation of monthly status reports and invoices for professional services in format acceptable to the COUNTY. Status reports will include a summary of work completed each month.

Task 200 – Data Collection and Review

A. Data Request and Review

A copy of the preliminary Data Request will be submitted prior to the Project Initiation Meeting. This request will be refined and resubmitted based on Project Initiation Meeting discussion. The status of data transmittals will be tracked by CONSULTANT until all available items are received.

B. Real-time Distribution System Monitoring Technologies

CONSULTANT in collaboration with the COUNTY Staff will select critical water quality parameters to monitor in the distribution system (For example, some potential water quality parameters that may be considered include: Total Residual Chlorine, Total Ammonia, Free Ammonia, Monochloramine, Free Chlorine, PH, Turbidity, TOC, ORP, D.O., and Temperature). Additionally, the CONSULTANT will evaluate and provide recommendations for real-time water distribution system monitoring technology considering its accuracy of measurement, capital, and O&M costs. This will be completed prior to the water quality data collection. It is assumed that the COUNTY will purchase the water quality monitoring units based on recommendations provided by the CONSULTANT.

C. Field Data Collection

Field data collection will be focused on data required for the calibration of the hydraulic and water quality model. Ideally the data collection efforts for the two calibrations would be collected simultaneously to allow for the two calibration efforts to be conducted for the same time period.

- Calibration Plan and Goals Workshop: CONSULTANT will develop a hydraulic model calibration plan including identification of needed system operations data (i.e., SCADA, hydrant flow testing and hydrant pressure monitoring locations) and timing/duration of data collection. The model calibration plan will include identification of strategic pressure monitoring locations based on a) Available AWWA guidance, b) Existing pressure monitoring locations and c) Input from COUNTY Staff. The CONSULTANT will conduct a workshop with the COUNTY to review the calibration plan and identify calibration goals.
- Online Water Quality Monitoring. The CONSULTANT in collaboration with COUNTY Staff will select up to five (5) locations to install online monitoring devices selected in **TASK 200B** for real time monitoring of select water quality parameters within the distribution system. Monitoring location selection will be based on online monitoring goals and installation considerations, such as accessibility, security, and environmental conditions. One month of Total Residual Chlorine (TRC) recorded data will be used for water quality modeling calibration. This data will be used in combination with the existing continuous TRC monitoring at the Keller Regional Treatment Facility and the five booster pump stations. The water quality monitoring equipment supplier (supplier) will calibrate the water quality monitors, and a combination of the CONSULTANT and supplier will install the water quality monitors and train COUNTY staff in the equipment's operation. The COUNTY will operate the hydrant valves at an agreed schedule with CONSULTANT.
- Bottle Tests for Chlorine Bulk Decay Coefficients. The CONSULTANT in collaboration with COUNTY Staff will perform four jar-test per treatment plant during the data gathering period for the water quality calibration to develop first order bulk decay curves. Jar samples will be collected:
 - Immediately prior to the start of the water quality calibration period,
 - The beginning of the second week.
 - The beginning of the third week.
 - The beginning of the fourth week.

Task 300 – Hydraulic and System Analysis

A. Population / Demand Projections

The CONSULTANT will review and summarize the population and demand data provided by the COUNTY and other appropriate sources (TBW projections, County Planning Department, University of Florida’s BEBR data and Southwest Florida Water Management District (SWFWMD)) to estimate projected future demands and update the model’s nodal demand.

- Historic Population Estimates. The CONSULTANT will review data from the COUNTY’s planning documents and population estimates from Bureau of Economic and Business Research (BEBR) for the service area for the last 20 years.
- Historic Demand Use and Patterns.
 - Water Production Data: The CONSULTANT will review available water production records and system operating logs to determine historical average day demand (ADD), maximum month demand (MMD), maximum day demand (MDD), and peak hour demand (PHD) ratios for the entire system for the last 20 years depending on the availability of data.
 - Historic Customer Demand Data (Per Capita/Account Demands): The CONSULTANT will review 20 years of metered water sales records, as available, to determine historic ADD and MMD per capita. Customer demand patterns will be identified for periods before and after the implementation of the reclaimed water system and conservation programs. NOTE: Systems, Applications, and Products (SAP) data is available back to 2008, if prior data is unavailable, the analysis will be limited to the last 10 years.
 - Non-Revenue Water (NRW): The CONSULTANT will calculate historic NRW from the production and customer consumption data as well as any NRW reports prepared by the COUNTY including the Water Loss Audit currently underway. These estimates will be compared to the approach and historic results from the County.
 - Peaking Factors: The CONSULTANT will calculate the demand peaking factor ratios (MMD:ADD, MDD:MMD, MDD:ADD, PHD:MDD, and PHD:ADD). Those peaking factors will be used to peak system demands from ADD to MDD.
 - Diurnal Demand Patterns: CONSULTANT will use 5-minute archived SCADA data for flow and tank level data from SCADA and/or other system operational records collected by the COUNTY. The data will be analyzed to calculate diurnal demand patterns for the system under the calibration period, MDD and ADD system demand conditions to be used during system capacity analyses and water quality/age simulations, respectively.

- Population and Demand Projections. The CONSULTANT will use information available from the COUNTY's Planning Department, SWFWMD, Tampa Bay Water (TBW), and BEBR to estimate the population projection for the following planning years: 2020, 2025, 2035 and 2045. The CONSULTANT will work with the COUNTY to compare any differences between the three sources of data and select population estimates to be used for the demand projections. The CONSULTANT will then apply the per capita demands and NRW water allocation to calculate the projected water demands for the same planning years.
- Spatial Distribution of System Demands. The CONSULTANT will use the demand projections and the population/parcel shapefiles created by SWFWMD to create figures illustrating the spatial allocation of the future demands. CONSULTANT will prepare and submit to the COUNTY a system map for the base year of 2020 and each planning year (2025 through 2045) summarizing the spatial distribution of projected potable water demand. These figures, once approved by the COUNTY, will be the basis for allocating projected future demand to the hydraulic model and the distribution system capacity assessment.
- Demand Projection Workshop. A workshop will be conducted by CONSULTANT with the COUNTY to review the population projections and spatial allocation of demands.

B. Model Software Platform – The CONSULTANT will present the basic information on the various industry accepted software packages (WaterGEMS, InfoWater, MIKE URBAN, and PCSWMM) to the COUNTY and make a recommendation on which software to use for the model development and system analysis. The CONSULTANT will compare the software based on cost and their abilities to perform extended period simulations, fire flow analysis, water quality analysis, integrate with GIS, and Cityworks.

C. Update and Calibrate Hydraulic Model

- Update the Hydraulic Model. The CONSULTANT will update the existing hydraulic model using the COUNTY's distribution system maps (GIS) and inventory data to add water mains and facilities constructed since the most recent model update and to delete any mains or facilities which have been permanently removed from service.
- Demand Allocation. The CONSULTANT will update the model demands based on existing demand analysis and NRW percentages evenly distributed across the system. It is assumed approximately 100% of the billing meter accounts already have x-y coordinate locations and are included in a shapefile.
- Model Calibration. Following the calibration plan and agreed upon calibration goals (Task 200), the hydraulic model will be calibrated using a 24-hour extended period simulation (EPS) with 5-min increments. The model results will be compared to the field data and appropriate adjustments to model input parameters will be made to ensure the model simulates actual system conditions within reasonable accuracy tolerances for system planning purposes. The calibration period will be limited to the availability and time of the field data collection. If any model calibration points do not meet model calibration goals, appropriate explanations for these discrepancies will be documented and, if appropriate, recommendations for additional field testing/monitoring will be provided to the COUNTY.

- Calibration Results Workshop. A workshop will be conducted by CONSULTANT with the COUNTY to review the hydraulic calibration results, and to document the calibration process, collected field data, adjustments made to model input parameters to better correlate the model results with the field data, field data to final model output data comparisons, and any needed explanations for calibration discrepancies.

D. Update and Calibrate Water Quality Model

- Update the Hydraulic Model with Water Quality Parameters. The CONSULTANT will update the existing hydraulic model water quality input parameters for bulk decay obtained from bottle tests and pipe wall decay coefficients initially based individual pipe characteristics. Appropriate mixing models will be assigned to tanks and reservoirs based on the configuration of the storage facility.
- Pre-Data Collection Workshop. The CONSULTANT will conduct a workshop with the COUNTY's operations and water quality staff to select the most appropriate water quality monitoring locations. Both historic data provided by the staff and the water age estimates of the hydraulic model will be used during the workshop.
- Water Quality Calibration. Using the distribution system water quality data gathered during the water quality monitoring, the CONSULTANT will calibrate the water quality model using a 14-day EPS scenario. The model results will be compared to the field data and appropriate adjustments to pipe wall decay coefficients will be made to ensure the model simulates chlorine concentrations within reasonable accuracy tolerances determined in the calibration plan. The calibration period will be limited to the availability and time of the field data collection. If any calibration points do not meet model water quality calibration goals, appropriate explanations for these discrepancies will be documented and, if appropriate, recommendations for additional field testing/monitoring will be provided to the COUNTY.

E. Capacity Analysis and Operations Optimization – CONSULTANT will conduct assessments of the distribution system for the purposes of identifying capacity needs and operational improvements.

- Supply, Storage and Pumping Capacity. CONSULTANT will conduct spreadsheet capacity assessments of the supply, storage, and pumping facilities for each planning year (2020, 2025, 2035 and 2045) to evaluate the adequacy of existing facilities and to identify any deficiencies in capacity based on the performance criteria. Additional assessments will be completed in following tasks to identify any sub-regions of the system that may not have sufficient supply, storage or pumping capacity available due to hydraulic limitations in the distribution system.

- MDD 24-hour EPS Capacity Using the calibrated hydraulic model, CONSULTANT will perform a hydraulic system analyses to evaluate the distribution system performance and identify potential improvements under MDD system conditions using 24-hour EPS for each planning year (2020, 2025, 2035 and 2045). Demand allocation for each planning year (2020, 2025, 2035 and 2045) will be based on the spatial distribution determined in **Task 300A**. The EPS analyses will encompass and assess the peak hour and minimum hour (storage replenishment) within the MDD scenario. The system analyses will evaluate the effectiveness and adequacy of the distribution system to meet the level of service criteria established in conjunction with the COUNTY.
- MDD+FF Capacity Using the calibrated hydraulic model, CONSULTANT will perform hydraulic analyses to evaluate the distribution system performance and identify potential improvements under MDD plus fire flow (FF) conditions using a steady state (SS) simulation for the planning year 2020 and 2045. The system analyses will evaluate the effectiveness and adequacy of the distribution system to meet the fire flow level of service criteria established in conjunction with the COUNTY.
- Current CIP Assessment CONSULTANT will evaluate the COUNTY's current CIP plan recommendations including prior recommendations and actual improvements completed to date, and assessing whether planned CIP projects are still needed and recommended though planning year (2020, 2025, 2035 and 2045).
- Bulk Water Demand Customers & Emergency Interconnects Assessment. CONSULTANT will review the COUNTY's contractual agreements with bulk water demand customers to assess the distribution system's ability to meet the performance criteria for the bulk water demand customers through year 2045.
- Emergency Water Supply Assessment CONSULTANT will assess the distribution system's ability to meet customer demands during scenarios where critical facilities and pipelines are out of service. The assessments will include the use of emergency interconnects with neighboring utilities to meet "emergency scenario" conditions. CONSULTANT will work with the COUNTY to identify the emergency scenarios to evaluate. The emergency scenarios may include outages of the COUNTY's water supply interconnect from TBW, booster pumping facilities and major water main breaks. Improvements to maintain minimum level of service conditions during potential emergency outage scenarios will be developed and evaluated for planning years 2020 and 2045.
- Capacity and Operations Assessments Workshop. A workshop will be conducted with the COUNTY to review the results of the capacity and operations assessments and proposed improvements to obtain the COUNTY's approval.

F. Energy Efficiency Modeling Assessment

- Update Hydraulic Model with Energy Data. CONSULTANT will update the hydraulic model with energy use and cost data to enable the model to be used to estimate the energy use throughout the distribution system under various operating scenarios and configurations.

- Energy Efficiency Analysis. CONSULTANT will use the hydraulic model to analyze the energy use of the existing system and assess infrastructure of operational changes that may reduce energy use and improve efficiencies. The energy efficiency analysis will consider planning years 2020 and 2045.

G. Water Quality Modeling

CONSULTANT will conduct water quality modeling including Total Residual Chlorine (TRC) decay modeling and water age analysis to assess water quality conditions throughout the distribution system for the base year (2020) and to identify locations in the existing distribution system where water quality may be of concern.

- ADD EPS for Water Quality Modeling CONSULTANT will update the hydraulic model operational controls based on current control setting information provided by the COUNTY to reflect current typical system conditions. This information will be used to create new EPS scenarios for conducting water quality analyses. CONSULTANT will also develop a water age analysis scenario that is based on system conditions (or periods of the year) where the potential for forming disinfection by-products (DBPs) is the greatest.

CONSULTANT will conduct water quality and water age analyses of the distribution system for current ADD conditions and the scenario created to simulate conditions where the potential for forming DBPs is the greatest. The water age analyses will be validated by performing the following:

- Identify the storage facility with the highest water age and verify that the model simulation time is long enough to ensure that a consistent, repeating pattern of water age is reached.
 - Conduct sensitivity analysis on the water quality time step to ensure that reducing the hydraulic and water quality time step modeling parameters do not significantly change the modeled water age results.
 - Calculate 24-hour average chlorine residual and water age, and peak chlorine residual and water age throughout the distribution system for the last 24-hours of the simulation.
- Water Quality Analysis Pre- and Post-Changes CONSULTANT will use the water quality model to compare the water quality (chlorine residual and water age) in the distribution system for the three following scenarios:
 - Prior to the upgrades to COUNTY facilities and system that changed the flow pattern through the distribution system to be more linear from north to south (around 2015).
 - Current / Base Year (2018 / 2020) – representing the existing system.
 - Planning Year 2045 with proposed capacity improvements identified as part of **Task 300E.**

- Asset Failure Impacts on Water Quality CONSULTANT will use the water quality model to compare the water quality in the distribution system following a chemical addition/trim facility failure condition for up to four scenarios. (e.g. temporary failure/outage of chemical addition equipment at the booster pump stations).
- Flushing Optimization CONSULTANT will use the water quality model to identify potential system operational modifications to optimize use (placement and operation) of automatic flushers to improve water quality in the distribution system for planning years 2020 and 2045. It is anticipated that four to five iterations will be developed and evaluated to identify the final recommendation.
- Water Quality and Energy Efficiency Results Workshop. A workshop will be conducted with the COUNTY to review the results of the energy efficiency and water quality analyses and proposed improvement concepts.

H. Technical Memorandum – The CONSULTANT will prepare and submit a Draft Hydraulic and System Analysis Technical Memorandum to the COUNTY for review and comment. The CONSULTANT will address COUNTY comments and submit a Final Hydraulic and System Analysis Technical Memorandum signed and sealed by a Florida Licensed Professional Engineer.

Task 400 - Water Quality Evaluations

A. Existing & Future Regulations Assessment – CONSULTANT will provide an overview of current Federal / State drinking water regulations to identify upcoming potential new regulations within a ten-year planning horizon that may impact the COUNTY's water system operations. The overview will include:

- Disinfection by-products & residuals
- Perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA), and other polyfluoroalkyl substances (PFAS) compounds
- Hexavalent chromium
- Carcinogenic volatile organic compounds (VOC)
- Perchlorate
- Nitrosamines
- Contaminates of emerging concern, including personal care products (PCP) and endocrine disrupting compounds
- Hexafluoropropylene oxide dimer acid and its ammonium salt (GenX chemicals)
- Other EPA SDWA contaminant candidate list (CCL) substances
- Anticipated Lead and Copper Rule revisions.

B. Water Quality Evaluation – CONSULTANT will complete the following evaluations related to the COUNTY’s source water and delivered water quality:

- **Source Water Quality Assessment.** CONSULTANT will review water quality information from the source water supply sources delivered to the COUNTY from its regional wholesale water supplier (TBW), and document the average, minimum and maximum ranges for key water quality analytes based on the range of source water blends of groundwater sources, surface water and desalinated seawater that the COUNTY receives at its points of connection with Tampa Bay Water. Results of this analysis will also include the water quality analytes at the Keller hydrogen sulfide (H₂S) removal plant / Keller Water Treatment Plant (WTP). Information regarding the estimated frequency of the variations in the key water quality analytes will also be defined.
- **TOC Reduction Alternatives Evaluation.** CONSULTANT will review available information regarding historic and current TOC levels at both the Keller WTP and the COUNTY’s regional source water supply from Tampa Bay Water. The latest information available regarding assessments of potential TOC reduction concepts that Tampa Bay Water is investigating will also be evaluated as part of this task. CONSULTANT will develop conceptual planning information and costs for the COUNTY to implement its own treatment process improvements for TOC reduction. Up to three (3) treatment technology processes for TOC removal will be considered.
- **Optimizing Periodic Free Chlorine System Maintenance Program.** CONSULTANT will review the COUNTY’s current practices and protocols for its periodic free chlorine system maintenance program. Key water quality data gathered by the COUNTY at multiple system locations during and after previous free chlorine maintenance events will also be reviewed. A review of data for the following water quality parameters is proposed, if available:
 - Chlorine residuals (free, total, monochloramine, and any dichloramines/trichloramines)
 - Water temperature
 - pH units
 - Total alkalinity as CaCO₃
 - Free/Total ammonia as N
 - Nitrates as N
 - Nitrites as N
 - Estimated water age per location

The data will be analyzed to evaluate the historical results from the current practices, and recommendations will be provided to optimize the program methodologies and protocols to support improved distribution system water quality (including reducing nitrification and free ammonia levels in the system) in the most cost-effective manner, while minimizing temporary impacts to COUNTY customers.

- Feasibility Study for Conversion to a Free Chlorine Residual System. CONSULTANT will assess the anticipated requirements and feasibility for converting the distribution system disinfectant residual from chloramines to free chlorine. The evaluation will consider the regional and the Keller WTP supplies, along with the associated interconnects to other neighboring utilities. Conceptual plans for improvements to minimize disinfection by product (DBP) formation with a free chlorine residual system will be developed. CONSULTANT will also prepare conceptual level cost opinions for the improvements anticipated for a conversion to free chlorine residual system.

C. Investigation of Innovative Technologies to Optimize the Water System – The CONSULTANT will conduct a literature review and investigation of available innovative technologies to optimize water quality in the distribution systems. As an example, there are now hydrant flushers that operate based on local chlorine residual rather than time of day controls. This allows the utility to only flush when needed rather than preemptively flushing and potentially wasting more water than is required.

D. Disinfection Protocol and Standards for New Developments – CONSULTANT will review COUNTY current and new development standards elsewhere and disinfection protocol for utility construction, with a specific focus on practices and features to support water quality. The standards will be reviewed for compliance with the Florida Department of Environmental Protection (FDEP) Administrative Codes or references thereof, and other industry best practices and standards. CONSULTANT will provide the COUNTY with potential non-compliance understandings and potential recommendations to update COUNTY standards.

E. Lead & Copper Rule Material Assessments CONSULTANT will review the current status of the COUNTY's distribution system materials assessment/inventory and provide guidance based on experience and best practices for completing the inventory based on the anticipated Lead and Copper Rule (LCR) revisions. CONSULTANT will compare the LCR compliance sites with the materials assessment to verify that the Tier selection for sites matches the LCR requirements. If lead service lines, lead goosenecks (pigtails, or swings), or galvanized iron service lines located downstream of legacy lead are identified, then the CONSULTANT will provide guidance for verifying the location of the lead materials. If lead materials are located, the CONSULTANT will provide an approach for replacing the lead materials, procedures for flushing after replacing lead materials, procedures for follow-up lead sampling, and public education guidance on the impact of removing lead service lines.

F. Technical Memorandum - The CONSULTANT will prepare and submit a Draft Water Quality Evaluations Technical Memorandum to the COUNTY for review and comment. The CONSULTANT will address COUNTY comments and submit a Final Water Quality Evaluations Technical Memorandum signed and sealed by a Florida Licensed Professional Engineer.

Task 500 – Asset Management Support Services

A. R&R Risk-Based Prioritization – This task provides for risk-based assessment and R&R prioritization for distribution and transmission mains.

- Data Analysis.
 - Data Attribute Analysis. CONSULTANT will review the distribution system GIS network and pipe attribute data provided by the COUNTY for consistency and completeness appropriate to support the risk-based prioritization analysis. At a minimum, the following pipe attribute data will be required to support the risk prioritization: unique ID, installation date, material, and diameter. CONSULTANT will provide a summary of the findings and provide a list of the pipe records where the attribute data should be reviewed and/or updated. One (1) teleconference meeting will be conducted with the COUNTY to review the findings. Findings will be summarized in figures and tables depicting existing system information, as made available from the COUNTY. Additional data may be requested to support development of the likelihood and consequence of failure criteria.

The CONSULTANT, in conjunction with the COUNTY, will make a determination of whether there is sufficient available data to continue with the R&R Risk-Based Prioritization tasks. If there is insufficient data, then the remainder of Task 500A would be removed from the scope of services.

- GIS Attribute Data Gap Population. Based on the data gap results from the data attribute analysis performed in the above task, CONSULTANT will develop a methodology to populate pipe attribute data gaps for unique ID, installation date, material, and diameter, where this information is not complete in the GIS for pipe segments included in the analysis.
- Main Break Analysis. Main break data will be used to support likelihood of failure criteria (as a count per pipe or determination of a break rate) and the survival curve development as part of the service life estimation task. CONSULTANT will perform a cohort analysis (cohort defines groups of water mains sharing specific characteristics such as installation decades, material, etc.) to determine a break rate per defined cohort to review trends in material types. In coordination with the COUNTY, cohorts will be defined based on pipe material, diameter, and/or installation years. If a pipe ID is not associated with the main break data and an address is available, CONSULTANT will geocode each main break location and determine the best pipe match for the main break. A confidence match level will be assigned to each main break for selection of higher quality data for use in the risk criteria and survival curve development. One (1) teleconference meeting will be conducted with the COUNTY to review/finalize the cohorts and findings.

- Service Life Estimation for Material Types. CONSULTANT will estimate the average life expectancy per material type to determine the remaining useful life per pipe segment for use in supporting the risk prioritization and rehabilitation planning. CONSULTANT will evaluate the quality and quantity of available main break data per material type to determine the best approach, as described below, to estimate the average life expectancies (in years) for the distribution mains. Distribution mains with known material type and installation year data and main breaks with associated pipe ID will be used to support the development of the survival curves.

Where sufficient data is available for water mains per material type (including installation year and main break data), CONSULTANT will develop survival curves for each water main material type identified in the COUNTY'S GIS network. The survival curve analysis will be performed using a Black & Veatch developed spreadsheet tool and will follow the Kaplan-Meier methodology which incorporates the total observed population of water mains for each pipe material, the age of each water main as of the current year, and available break occurrences per pipe ID and date of occurrence within an agreed upon time frame to develop a hazard curve and survival curve. The Weibull function will be used to represent the survival probability for each pipe material. Survival curves will be developed using the first (earliest) pipe break record and a total count of breaks within a given year per material type. Survival curves will be developed using all pipe records and associated breaks. Pipe records including any associated break data with missing or possible incorrect data will be excluded from the analysis. Average life expectancies will be based on the 50th percentile (or agreed upon percentile with the COUNTY) of the Weibull estimated survival probability.

Alternatively, where data is not sufficient, CONSULTANT will use typical industry service life, knowledge from COUNTY staff, and/or professional judgement to estimate the average life expectancy for a material type.

Two (2) teleconference meetings will be conducted with the COUNTY to review the findings.

- R&R Rate Gap Analysis. CONSULTANT will conduct a baseline replacement/ rehabilitation (R&R) gap assessment using the Nessie Curve methodology based on the remaining useful life of the water mains in the COUNTY's distribution system. The resulting graphic will illustrate the amount of water mains past it's useful life and the estimated replacement cost demands per year on the system. Replacement costs will be calculated using unit costs developed in Task 600 and based on pipe shape length and diameter provided in the GIS. This effort will help determine the amount of R&R funding the COUNTY should be targeting.

- Risk Prioritization Evaluation and Rehabilitation Planning
 - Criteria Framework Development. In coordination with the COUNTY, the CONSULTANT will develop initial likelihood of failure (LOF) and consequence of failure (COF) criteria used to determine the risk and respective scoring methodology (e.g. pipe size, work history, water complaint history, break history, age, proximity to critical customer, max/min operating pressures, soil corrosion, etc.). This scoring criteria will follow the EAM team's scoring criteria as much as possible; e.g. scores from 1 to 5, etc. The CONSULTANT will conduct one (1) on-site workshop with the COUNTY to review initial results and finalize the LOF and COF criteria to be used in the risk prioritization. In coordination with the COUNTY, the CONSULTANT will define the foundation for how the risk model will be set-up and delivery of results including review of risk classifications/management strategy groups for planning level R&R needs, typically set-up as a 5x5 risk matrix with defined groupings.
 - Criticality Model Development and Execution. Based on the results of the above tasks, the CONSULTANT will develop the criticality model to determine LOF and COF scores for each individual pipe segment included in the analysis from information acquired from the COUNTY's GIS. Using the LOF and COF scores, CONSULTANT will calculate overall risk scores and assign the risk classification per water main pipe segment in the GIS. An estimated replacement cost (planning level of investment) will be determined for each defined grouping in the risk matrix. Using the unit costs developed in Task 600, CONSULTANT will estimate a replacement cost per pipe segment. Costs will be calculated based on pipe shape length and diameter provided in the GIS. CONSULTANT will prepare figures and tables to depict and summarize total miles of pipe within the various management strategy groups. CONSULTANT will either use its own software/tools or Innovyze's InfoMaster to develop the risk model. The risk model is not anticipated to be provided to the COUNTY.
 - Rehabilitation Planning Recommendations and Decision Tree Development. In coordination with the COUNTY, the CONSULTANT will develop a decision tree to support rehabilitation improvement planning for the distribution system. The decision process will identify priority groups of water mains (as represented in the GIS) based on the risk classification and additional selected criteria to determine appropriate management strategies including replacement, inspection, monitoring, or no action. Results from the risk prioritization model will be used to support the decision tree development. A planning schedule will be defined in alignment with the CIP planning periods for selected management strategies and/or priority groups. Where replacement strategies are recommended, planning level replacement costs will be provided based on unit costs developed in Task 600. Costs will be estimated based on pipe shape length provided in the GIS. CONSULTANT will facilitate two (2) teleconference meetings to support development of the decision tree and review results. This task will be performed in coordination with the CIP development included as Task 600.
- R&R Risk-Based Prioritization Results Workshop. A workshop will be conducted by CONSULTANT with the COUNTY to review R&R Risk-Based Prioritization results and obtain the COUNTY's approval.

B. Facility Assessment – The CONSULTANT will conduct a site visit to each of the major water system facilities (Keller WTP and four booster pumping stations) to complete a high-level review of the major assets at each facility. The review shall include a high-level building and equipment condition assessment to determine if the facility is anticipated to require upgrades within the CIP planning timeframe based on age and/or condition. If available, the CONSULTANT will use the eGIS/EAM developed Vertical Asset Data Schema to frame the review.

C. Physical Security – The CONSULTANT will review information from the COUNTY’s previous security focused assessments and complete site visits to the primary water system facilities (including the Keller WTP and booster pump stations) to evaluate the physical security of the facilities and provide updated recommendations for improving security based on industry best practices and national standards.

D. Level of Service Standards – In addition to selecting the performance criteria used for the hydraulic analysis of the system at the Kick-Off meeting, the CONSULTANT will work to develop level of service (LOS) standards as part of the asset management program. CONSULTANT will facilitate one half-day workshop with the COUNTY to develop levels of service and performance criteria.

Performance measures will be based on the COUNTY’s Strategic Plan, Comprehensive Plan Elements, AWWA benchmarking metrics and the WRF/WERF publication Key Asset Data for Drinking Water and Wastewater Utilities. The LOS standards will be confirmed with the COUNTY before adoption. Examples include:

- Customer service complaints
- Disruptions of water service
- Water quality violations
- Water main break rate
- Planned maintenance

E. Electronic Meter Evaluation– The CONSULTANT will evaluate the COUNTY’s current strategy for implementation of Electronic Meter Reading (AMR) and provide estimates for useful life and recommended budgeting for rehabilitation and replacement (R&R) costs through the planning horizon (up to year 2045).

F. Computerized Maintenance Management System (CMMS) and GIS Practices – CONSULTANT will review the current of proposed practices of the COUNTY’s CMMS (Cityworks) implementation specific to the water system infrastructure, and provide feedback with regards to consistency with best practices for water system infrastructure and making recommendations on how to maximize the value and coordination with the water system infrastructure. CONSULTANT will also use the review of the CMMS implementation to help ensure that data provided as part of the water system master plan update is submitted in a format compatible with the CMMS configuration. Note: CONSULTANT scope of services does not include completing CMMS implementation tasks.

- Assess Asset Management Practices. CONSULTANT will review Cityworks implementation, GIS geodatabase (asset register) and strategic asset management plans to understand and recommend how strategic asset management goals, objectives and tactics are reflected within the CMMS.
- Water Quality Issue Tracking CONSULTANT will review existing water quality monitoring processes and procedures including complaint registration, notification, testing and resolution practices. Recommendations to formalize water quality issue tracking will be developed based on the understanding obtained, observed industry practices, and integration of appropriate technology including GIS, Cityworks, Hach WIMS, and other software applications.
- Data Management and Reporting Technologies – Hach WIMS CONSULTANT will review existing data management and reporting use with respect to Hach WIMS and the CMMS environment. Recommendations for integrated data management, real-time dashboards, and system monitoring will be developed and summarized.

G. Water Conservation Measures Assessment– CONSULTANT will review the COUNTY’s 2019 Water Audit conducted by the SWFWMD and the COUNTY’s conservation measures. A workshop will be conducted with the COUNTY’s conservation staff. CONSULTANT will compare the COUNTY’s practices with industry best practices and will prepare a summary of recommendations to improve the COUNTY’s conservation measures.

H. Technical Memorandum– CONSULTANT will prepare and submit a Draft Asset Management Support Services Technical Memorandum to the COUNTY for review and comment. CONSULTANT will address COUNTY comments and submit a Final Asset Management Support Services Technical Memorandum signed and sealed by a Florida Licensed Professional Engineer.

Task 600 – Capital Improvement Planning

The improvement needs identified in the previous tasks will be presented in a capital projects list. Planning-level estimates of probable project cost will be prepared for each project. Projects will be prioritized by planning year (2020, 2025, 2035 and 2045).

A. Opinions of Probable Project Cost – CONSULTANT will prepare unit cost (in 2019 dollars) information and assumptions for the variety of types of improvements that will be identified as part of the potable water system master planning efforts. This unit cost information will be used to develop planning-level opinions of probable project costs. The unit cost information will be added to the CIP Spreadsheet Tool to support the calculation and organization of CIP project costs. Tables will be prepared to summarize cost information for the proposed improvement projects.

B. CIP Project Prioritization and Scheduling – The CONSULTANT will develop a CIP Spreadsheet Tool to help prioritize and manage the COUNTY’s CIP. The tool will document project ID, size, location, description, and other project information including project costs and schedules, and projects identified under other contract will be included in the spreadsheet. The Tool will be used during the Project Validation and Prioritization Workshop to refine the scheduling of projects with each planning year (2020, 2025, 2035 and 2045).

The Spreadsheet Tool with the final CIP recommendations will be delivered to the COUNTY at the end of the project for their use in updating and managing the water system CIP in subsequent years after the Water Supply Master Plan project is completed.

C. CIP Validation Workshop – A workshop will be conducted with the CITY’s staff to review the projects list. The justification for each project will be reviewed and discussed, as well as the priority ranking for each project as compared to previously identified evaluation criteria. Opinions of probable project cost and the proposed implementation schedule will also be reviewed.

Task 700 – Master Plan Report Development

A. Draft Report – CONSULTANT will document the Water Supply Master Plan Update project in a draft report. The report will incorporate the final versions of the various technical memoranda prepared and outcomes of the various workshops during previous phases of work. The report will describe the evaluations performed and the resulting recommendations. The report will provide year by year recommendations for system and facility improvements between 2020 and 2025; and also define longer term improvements recommended through 2045. System maps and figures to support the recommendations and summarize the proposed improvements will be provided. Two (2) hard copies and one electronic copy of the draft Water Master Plan Report will be provided. The updated hydraulic model and CIP planning tools will also be provided with the draft report.

B. Draft Report Workshop – CONSULTANT will facilitate a workshop and PowerPoint presentation with the COUNTY Staff to present the draft report and receive comments.

C. Final Report – CONSULTANT will incorporate comments from the review workshop and update the Water Supply Master Plan Report to address these comments. Two (2) hard copies, signed and sealed by a Florida Licensed Professional Engineer, and one electronic copy with electronic seal and signature of the final report will be provided.

D. Training – CONSULTANT will provide up to two full days of informal training sessions for COUNTY Staff on the use of the tools and hydraulic software that have been developed or updated as part of the Water Master Plan project. This includes the following:

- Hydraulic Model Upgrades
- Interactive CIP Spreadsheet

III. OBLIGATIONS OF THE COUNTY

The COUNTY will:

- Provide CONSULTANT with available relevant data within 2 weeks of a request.
- Provide CONSULTANT Staff with access to facilities for on-site assessments and data gathering.
- Review and comment on draft submittals within 2 weeks of submittal dates.
- Participate in meetings and workshops with CONSULTANT as identified in the Scope of Services.

IV. PROJECT SCHEDULE

The total duration of the scope of services described is estimated to be 18 months (78 weeks). A summary of the schedule for the primary tasks described in this scope of services is provided in the table below, which assumes a notice to proceed date of 5/1/19.

TASK #	TASK NAME	START DATE	END DATE
100	Project Kick-Off, Management & Administration	5/1/19	11/1/20
200	Data Collection and Review	5/1/19	9/1/19
300	Hydraulic and System Analysis	5/15/19	7/1/20
400	Water Quality Evaluations	6/1/19	12/1/19
500	Asset Management Support Services	8/1/19	5/1/20
600	Capital Improvement Planning	7/1/20	9/1/20
700	Master Plan Report Development	8/1/20	11/1/20

A detailed Gantt chart schedule file (developed in Microsoft Project software) identifying the schedule for project tasks, sub-task, meeting dates, and deliverables dates will be developed and provided to the COUNTY at the project kickoff meeting. The project schedule details will also be incorporated into the PlanTrax® spreadsheet file, which will be submitted monthly to the COUNTY project manager as part of monthly invoices.

V. COMPENSATION

For performance of the tasks described in the Scope of Services, the COUNTY will compensate CONSULTANT for the not-to-exceed total amount of **\$705,236**, as shown in the table below. CONSULTANT shall be compensated on a Lump Sum basis for Tasks 100, 200, 300, 400, 500, 600, and 700.

For the performance of services as provided in this scope of services, the COUNTY agrees to pay the CONSULTANT in accordance with the following:

TASK #	TASK DESCRIPTION	COST
100	Project Kick-Off, Management and Administration	\$39,548
200	Data Collection and Review	\$42,216
300	Hydraulic and System Analysis	\$246,724
400	Water Quality Evaluations	\$74,276
500	Asset Management Support Services	\$209,520
600	Capital Improvement Planning	\$38,632
700	Master Plan Report Development	\$54,320
TOTAL		\$705,236

**Professional Engineering Consulting Services for
Pinellas County Water System Master Plan Update
Black & Veatch (Contract No. 178-0501-NC)
Pinellas County PID No. 003742A
Fee Development Table
Date: March 22, 2019**

Scope Item	Project Manager	Sr. Planning Engineer	Technology Practice Leader	Sr. Project Engineer	Project Engineer II	Project Engineer I	Staff Engineer	Sr. Operations Specialist	Project Admin	Hours	labor	Subconsultant Expenses ¹	Travel Expenses ²	Total Fee
Billing Rate	\$216	\$194	\$248	\$194	\$164	\$147	\$116	\$209	\$98					\$705,236
Task 100 Project Kickoff, Management, and Administration	68	52	0	0	0	36	0	0	60	216	\$35,948.00	\$3,600.00	\$0.00	\$39,548.00
A Project Kickoff Meeting & Preparation	4	8				24				36	\$5,944.00			
B Criteria Development	4	4				12				20	\$3,404.00			
B Project Management & Administration	60	40							60	160	\$26,600.00	\$3,600.00		
Task 200 Data Collection and Review	6	56	0	4	0	96	80	0	16	258	\$37,896.00	\$4,320.00	\$0.00	\$42,216.00
A Data Request and Review	2	8				40			16	66	\$9,432.00			
B Real-time Distribution System Monitoring Technologies		24				24				48	\$8,184.00			
C Field Data Collection		16				8	80			104	\$13,560.00	\$4,320.00		
Calibration Plan and Goals Workshop	4	8		4		24				40	\$6,720.00			
Task 300 Hydraulic and System Analysis	33	187	26	200	0	982	40	0	32	1,500	\$240,784.00	\$5,940.00	\$0.00	\$246,724.00
A Population / Demand Projections														
Historic Population Estimates		2				16				18	\$2,740.00			
Historic Demand Use and Patterns		4				24				28	\$4,304.00			
Population and Demand Projections		8				60				68	\$10,372.00			
Spatial Distribution of System Demands		4				24				28	\$4,304.00			
Demand Projection Workshop	4	8		8		16			4	40	\$6,712.00			
B Model Software Platform	1	8				16				25	\$4,120.00			
C Update and Calibrate Hydraulic Model														
Update the Hydraulic Model				4		8				12	\$1,952.00			
Demand Allocation				4		16				20	\$3,128.00			
Model Calibration		8		24		80				112	\$17,968.00			
Calibration Workshop	4	8		8		16			4	40	\$6,712.00			
D Update and Calibrate WQ Model														
Update the Hydraulic Model with WQ Parameters		4	4	8		12				28	\$5,084.00	\$540.00		
Water Quality Calibration		16	4	80		96	40			236	\$38,368.00	\$3,240.00		
Calibration Workshop	4	8		8		24				44	\$7,496.00			
E Capacity Analysis														
Supply, Storage and Pumping Capacity		1				16				17	\$2,546.00			
MDD 24-hour EPS Capacity		8				80				88	\$13,312.00			
MDD+FF Capacity		8				60				68	\$10,372.00			
Current CIP Assessment		4				24				28	\$4,304.00			
Wholesale Customer & Emergency Connections Assessment		4				24				28	\$4,304.00			
Emergency Water Supply Sustainability		4				16				20	\$3,128.00			
Capacity and Operations Workshop	4	16				36			4	60	\$9,652.00			
F Energy Efficiency Model Assessment	4	24				60				88	\$14,340.00			
G Water Quality Modeling														
ADD EPS for WQ		4	2	8		50				64	\$10,174.00			
WQ Analysis Pre and Post Changes		4	2	8		36				50	\$8,116.00			
Asset Failure for WQ		4	2	8		48				62	\$9,880.00			
Flushing Optimization		4	2	8		52				66	\$10,468.00	\$1,080.00		
Energy Workshop	4	8	2	8		16			4	42	\$7,208.00			
H Technical Memorandum	8	16	8	16		56			16	120	\$19,720.00	\$1,080.00		
Task 400 Water Quality Evaluations	10	20	22	4	0	168	0	136	8	368	\$66,176.00	\$8,100.00	\$0.00	\$74,276.00
A Existing & Future Regulations			4			24		4		32	\$5,356.00	\$1,080.00		
B Water Quality Evaluation														
Source Water Quality Assessment	1	1				4		20		26	\$5,178.00	\$540.00		
Optimizing Free Chlorine Maintenance Protocols								32		32	\$6,688.00	\$1,080.00		
TOC Reduction Alternatives	2	1	2					20		25	\$5,302.00	\$1,080.00		
Free Chlorine Conversion Feasibility	1	1	2					16		20	\$4,250.00	\$1,080.00		
C Investigate Innovative Technologies		4	2	4		40		4		54	\$8,764.00			
D New Development Standards and Disinfection Protocol						8		12		20	\$3,684.00			
E Lead & Copper Rule Material Assessments		1	4			48		4		57	\$9,078.00	\$2,160.00		
F Technical Memorandum	6	12	8			44		24	8	102	\$17,876.00	\$1,080.00		
Task 500 Asset Management Support Services	20	40	64	410	596	0	0	0	8	1,138	\$206,020.00	\$0.00	\$3,500.00	\$209,520.00
A R&R Risk-Based Prioritization														
Data Analysis				32	100					132	\$22,608.00			
Service Life Estimation			2	24	32					58	\$10,400.00			
R&R Rate Gap Analysis				12	16					28	\$4,952.00			
Water Main R&R Evaluation														
Criteria Framework Development				16	36					52	\$9,008.00			
Risk Model Development and Execution				40	148					188	\$32,032.00			
R&R Planning Recommendations and Decision Tree		4	2	24	40					70	\$12,488.00			
R&R Risk-Based Prioritization Results Workshop	4	4		16	24					48	\$8,680.00		\$900.00	
B Facility Assessment	8	8			60					76	\$13,120.00			
C Security Assessment														
Physical Security		16	36		80					132	\$25,152.00		\$1,100.00	
D Level of Service Standards			16	40						56	\$11,728.00			
E EMI Evaluation				40						40	\$7,760.00			
F CMMS and GIS Practices													\$1,500.00	
Assess Asset Management Practices				40						40	\$7,760.00			
Water Quality Issue Tracking				16						16	\$3,104.00			
Data Management and Reporting Technologies – Hach WIMS				18						18	\$3,492.00			
G Water Conservation Measures Assessment				52						52	\$10,088.00			
H Technical Memorandum	8	8	8	40	60				8	132	\$23,648.00			
Task 600 Capital Improvement Planning	8	28	0	40	0	64	24	0	0	164	\$27,112.00	\$11,520.00	\$0.00	\$38,632.00
A Opinions of Probable Project Cost	2	4		16			24			46	\$7,096.00	\$7,200.00		
B CIP Project Prioritization and Scheduling	2	16		16		40				74	\$12,520.00	\$1,440.00		
C CIP Validation Workshop	4	8		8		24				44	\$7,496.00	\$2,880.00		
Task 700 Master Plan Report Development	16	68	0	48	0	156	0	0	26	314	\$51,440.00	\$2,880.00	\$0.00	\$54,320.00
A Draft Report	8	24		8		60			16	116	\$18,324.00	\$2,880.00		
B Draft Report Workshop	4	4				8				16	\$2,816.00			
C Final Report	4	8		8		24			8	52	\$8,280.00			
D Training		32		32		64			2	130	\$22,020.00			
Total for Tasks 100 to 700	161	451	112	706	596	1502	144	136	150	3,958	\$665,376.00	\$36,360.00	\$3,500.00	\$705,236.00

Task 800 - Owners Allowance = \$0
Total with Owners Allowance = \$705,236

Notes:

- Subconsultant Expenses indicated are based on the following:
 - Metzger & Willard, Inc = \$22,320 for support of Tasks 100B, 200C, 600A-C, and 700A.
 - Aquarius Engineering, LLC = \$14,040 for support of Tasks 300D, 300G, 300H, 400A, 400B, 400E, and 400F.
- Travel Expenses indicated are based on the following:
 - Task 500A expense = \$900 for out of state travel (round trip flights: Denver/Tampa) and 2 night stay (hotel and car rental) for 1 professional.
 - Task 500C expense = \$1,100 for out of state travel (round trip flights: Kansas City/Tampa) and 3 night stay (hotel and car rental) for 1 professional.
 - Task 500F expense = \$1,500 for out of state travel (round trip flights: Kansas City/Tampa) and 5 night stay (hotel and car rental) for 1 professional.
 - These travel expenses comply with 112.061.FS.

**Pinellas County - Water System Master Plan Update
Metzger & Willard, Inc
Budget Development Table**

Scope Item		Sr. Professional	Hours	labor	Total
		Engineer			Fee
Billing Rate		\$180			\$22,320
Task 100	Project Kickoff, Management, and Administration	20	20	\$3,600.00	\$3,600.00
B	Project Management & Administration	20	20	\$3,600.00	
Task 200	Data Collection and Review	24	24	\$4,320.00	\$4,320.00
C	Field Data Collection	24	24	\$4,320.00	
Task 600	Capital Improvement Planning	64	64	\$11,520.00	\$11,520.00
A	Opinions of Probable Project Cost	40	40	\$7,200.00	
B	CIP Project Prioritization and Scheduling	8	8	\$1,440.00	
C	CIP Validation Workshop	16	16	\$2,880.00	
Task 700	Master Plan Report Development	16	16	\$2,880.00	\$2,880.00
A	Draft Report	16	16	\$2,880.00	
Total		124	124	\$22,320.00	\$22,320.00

Pinellas County Water System Master Plan Update
Aquarius Engineering, LLC. - Budget Development Table

Task #	Task	Sr Engineer \$135/hour (# of hours)	Total
300D	Update and Calibrate Water Quality Model	28	\$3,780
300G	Update and Calibrate Water Quality Model	8	\$1,080
300H	Technical Memorandum (Hydraulic & System Analysis)	8	\$1,080
400A	Existing & Future Regulations	8	\$1,080
400B	Water Quality Evaluation	28	\$3,780
400E	Lead & Copper Rule Material Assessments	16	\$2,160
400F	Technical Memorandum (Water Quality Evaluations)	8	\$1,080
	TOTAL	104	\$14,040

Exhibit B - Schedule of Rate Values (Black & Veatch Corporation)
**Pinellas County Water System Master Plan Update – Professional Engineering Services
 Contract No. 178-0501-NC (SS)**

December 4, 2018

Project Classifications	Billing Rate
Staff Engineer	\$ 116.00
Planning/Project Engineer I	\$ 147.00
Planning/Project Engineer II	\$ 164.00
Senior Planning/Project Engineer	\$ 194.00
Engineering Manager	\$ 179.00
Senior Engineering Manager	\$ 199.00
Project Manager	\$ 216.00
Senior Project Manager	\$ 235.00
Project Principal	\$ 258.00
Technical Writer	\$ 103.00

Project Classifications	Billing Rate
Project Technician	\$ 113.00
Sr. Water System Operations Specialist	\$ 209.00
Project/Program Scheduler	\$ 151.00
Construction Manager	\$ 188.00
Cost Estimator	\$ 155.00
Water Treatment Technology Practice Leader	\$ 248.00
Water Treatment Process/Technical Specialist	\$ 229.00
Project Admin / Accounting	\$ 98.00

Hourly rates listed above are fully loaded (burdened), and include all labor; direct and indirect overhead; margins and profit; customary expenses; and travel within the Tampa Bay Metropolitan Area. Travel outside of the Tampa Bay Metropolitan Area will be charged in accordance with current Florida Statutes. Rates will be held firm for the initial contract term.

- **Sr. Water System Operations Specialist:** Professional with 25+ years of experience in operations, maintenance, and management of water treatment facilities and/or distribution systems; providing consulting services to troubleshoot water treatment and distribution system issues, and support the implementation of best practices for the operations and maintenance of municipal water facilities and systems.
- **Technology Practice Leader (Water Treatment):** National or Global practice leader in specific water treatment technologies, water quality issues, or other water engineering disciplines; with a Masters or PhD and 25+ years of focused experience in the technology.
- **Sr. Technical Specialist (Water Treatment):** Professional with a Masters or PhD and 20+ years of experience focused on specific water treatment technologies, water quality issues, or other water engineering disciplines.



November 30, 2018

Mr. Robert Y. Burchett, PE, ENV SP
Project Manager
Black & Veatch
3405 W. Dr. Martin Luther King, Jr., Boulevard
Suite 125
Tampa FL 33607

**RE: 178-0501-NC (SS)
Water System Master Plan Update – Professional Engineering Services
Exhibit B – Schedule of Rate Values**

Dear Mr. Burchett:

As you requested, we are providing our **Exhibit B – Schedule of Rate Values**, for use in the Water System Master Plan Update. Please note that these values, with the exception of the “Professional Engineer” Classification, are the same as those in our Agreement with Pinellas County Utilities (156-0127-CN), dated August 16, 2016. The “Professional Engineer” hourly rate was modified in response to a request from Pinellas County to lower the rate. All rates are fully loaded – burdened and include all labor; direct and indirect overhead; margins and profit; customary expenses; and travel within the Tampa Bay Metropolitan Area. Travel outside of the Tampa Bay Metropolitan Area will be charged in accordance with current Florida Statutes. Daily rates, if requested, will be based upon an eight-hour day. We have included personnel that will likely provide services as a part of the Master Plan Update only.

Engineering Classification	Hourly Rate
Principal Engineer	\$220.00
Senior Project Manager	200.00
Project Manager	180.00
Senior Professional Engineer	180.00
Professional Engineer	120.00
Senior Designer / CAD Technician	105.00
Designer / CAD Technician	90.00
Senior Administrative Assistant	65.00
Administrative Assistant	55.00
Survey Classification	
Senior Professional Surveyor and Mapper	\$145.00

We appreciate this opportunity to work with you on the update. If you have any questions, please do not hesitate to contact us.

Very truly yours,

METZGER & WILLARD, INC.

Nancy O. Metzger, PE
Principal

8600 Hidden River Parkway
Suite 550
Tampa FL 33637-1033

Telephone 813-977-6005
Fax 813-977-0593

Aquarius Engineering LLC, WBE
77 South High Street, Bridgton, ME 04009
Office 207-803-8514
Mobile 207-650-7294

November 5, 2018

Mr. Robert Y. Burchett, P.E.
Project Manager
Black & Veatch
3405 W. Dr. Martin Luther King Jr. Boulevard
Suite 125
Tampa, FL 33607

Re: 178-0501-NC (SS)
Water System Master Plan Update
Professional Engineering Services
Exhibit B - Schedule of Rate Values

Dear Mr. Burchett:

As you requested on November 2, I am providing my Exhibit B- Schedule of Rate Values for use in the Water System Master Plan Update. The labor rate covers all labor, direct/indirect overhead, margins/profit, customary expenses such as copies, postage, etc, and travel within the Tampa Bay Metropolitan Statistical Area. Travel outside the Tampa Bay Metropolitan Area will be charged in accordance with current Florida Statutes.

Classification	Hourly Rate
Senior Engineer	\$135

I appreciate the opportunity to work with you and Pinellas County Utilities on the Master Plan Update.

Sincerely,

Catherine S. DiPietro

Catherine S. DiPietro, P.E.
President and Engineer

SECTION C – LIMITATION ON LIABILITY, INDEMNIFICATION, AND INSURANCE REQUIREMENTS

1. INSURANCE:

- a) If Consultant does not currently meet insurance requirements, Consultant shall also include verification from their broker or agent that any required insurance not provided at that time of submittal will be in place prior to award.
- b) Consultant shall email certificate that is compliant with the insurance requirements to ssteele@pinellascounty.org. If certificate received with bid was a compliant certificate no further action may be necessary. The Certificate(s) of Insurance shall be signed by authorized representatives of the insurance companies shown on the Certificate(s). **A copy of the endorsement(s) referenced in paragraph d) for Additional Insured shall be attached to the certificate(s) referenced in this paragraph.**
- c) No work shall commence at any project site unless and until the required Certificate(s) of Insurance are received and approved by the County. Approval by the County of any Certificate(s) of Insurance does not constitute verification by the County that the insurance requirements have been satisfied or that the insurance policy shown on the Certificate(s) of Insurance is in compliance with the requirements of the Agreement. County reserves the right to require a certified copy of the entire insurance policy, including endorsement(s), at any time during the RFP and/or contract period.
- d) All policies providing liability coverage(s), other than professional liability and workers compensation policies, obtained by the Consultant and any subcontractors to meet the requirements of the Agreement shall be endorsed to include **Pinellas County a Political subdivision of the State of Florida** as an Additional Insured.
- e) If any insurance provided pursuant to the Agreement expires prior to the completion of the Work, renewal Certificate(s) of Insurance and endorsement(s) shall be furnished by the Consultant to the County at least thirty (30) days prior to the expiration date.
 - (1) Consultant shall also notify County within twenty-four (24) hours after receipt, of any notices of expiration, cancellation, nonrenewal or adverse material change in coverage received by said Consultant from its insurer. Notice shall be given by certified mail to: **Pinellas County Risk Management 400 South Fort Harrison Ave Clearwater FL 33756**; be sure to include your organization's unique identifier, which will be provided upon notice of award. Nothing contained herein shall absolve Consultant of this requirement to provide notice.
 - (2) Should the Consultant, at any time, not maintain the insurance coverages required herein, the County may terminate the Agreement, or at its sole discretion may purchase such coverages necessary for the protection of the County and charge the Consultant for such purchase or offset the cost against amounts due to Consultant for services completed. The County shall be under no obligation to purchase such insurance, nor shall it be responsible for the coverages purchased or the insurance company or companies used. The decision of the County to purchase such insurance shall in no way be construed to be a waiver of any of its rights under the Agreement.
- f) The County reserves the right, but not the duty, to review and request a copy of the Contractor's most recent annual report or audited financial statement when a self-insured retention (SIR) or deductible exceeds \$50,000.
- g) If subcontracting is allowed under this RFP, the Prime Consultant shall obtain and maintain, at all times during its performance of the Agreement, insurance of the types and in the amounts set forth; and require any subcontractors to obtain and maintain, at all times during its performance of the Agreement, insurance limits as it may apply to the portion of the Work performed by the subcontractor; *but in no event will the insurance limits be less than \$500,000 for Workers' Compensation/Employers' Liability, and \$1,000,000 for General Liability and Auto Liability if required below.*

SECTION C – LIMITATION ON LIABILITY, INDEMNIFICATION, AND INSURANCE REQUIREMENTS

- (1) All subcontracts between Consultant and its subcontractors shall be in writing and may be subject to the County's prior written approval. Further, all subcontracts shall (1) require each subcontractor to be bound to Consultant to the same extent Consultant is bound to the County by the terms of the Contract Documents, as those terms may apply to the portion of the Work to be performed by the subcontractor; (2) provide for the assignment of the subcontracts from Consultant to the County at the election of Owner upon termination of the Contract; (3) provide that County will be an additional indemnified party of the subcontract; (4) provide that the County will be an additional insured on all insurance policies required to be provided by the subcontractor except workers compensation and professional liability; (5) provide waiver of subrogation in favor of the County and other insurance terms and/or conditions as outlined below; (6) assign all warranties directly to the County; and (7) identify the County as an intended third-party beneficiary of the subcontract. Consultant shall make available to each proposed subcontractor, prior to the execution of the subcontract, copies of the Contract Documents to which the subcontractor will be bound by this Section C and identify to the subcontractor any terms and conditions of the proposed subcontract which may be at variance with the Contract Documents.
- h) Each insurance policy and/or certificate shall include the following terms and/or conditions:
- (1) The Named Insured on the Certificate of Insurance and insurance policy must match the entity's name that responded to the solicitation and/or is signing the agreement with the County. If Consultant is a Joint Venture per Section A. titled Joint Venture of this RFP, Certificate of Insurance and Named Insured must show Joint Venture Legal Entity name and the Joint Venture must comply with the requirements of Section C with regard to limits, terms and conditions, including completed operations coverage.
- (2) Companies issuing the insurance policy, or policies, shall have no recourse against County for payment of premiums or assessments for any deductibles which all are at the sole responsibility and risk of Contractor.
- (3) The term "County" or "Pinellas County" shall include all Authorities, Boards, Bureaus, Commissions, Divisions, Departments and Constitutional offices of County and individual members, employees thereof in their official capacities, and/or while acting on behalf of Pinellas County.
- (4) The policy clause "Other Insurance" shall not apply to any insurance coverage currently held by County or any such future coverage, or to County's Self-Insured Retentions of whatever nature.
- (5) All policies shall be written on a primary, non-contributory basis.
- (6) Any Certificate(s) of Insurance evidencing coverage provided by a leasing company for either workers compensation or commercial general liability shall have a list of covered employees certified by the leasing company attached to the Certificate(s) of Insurance. The County shall have the right, but not the obligation to determine that the Consultant is only using employees named on such list to perform work for the County. Should employees not named be utilized by Consultant, the County, at its option may stop work without penalty to the County until proof of coverage or removal of the employee by the contractor occurs, or alternatively find the Consultant to be in default and take such other protective measures as necessary.
- (7) Insurance policies, other than Professional Liability, shall include waivers of subrogation in favor of Pinellas County from both the Consultant and subcontractor(s).
- i) The minimum insurance requirements and limits for this Agreement, which shall remain in effect throughout its duration and for two (2) years beyond final acceptance for projects with a Completed Operations exposure, are as follows:

(1) Workers' Compensation Insurance

Limit	Florida Statutory
Employers' Liability Limits	
Per Employee	\$ 500,000
Per Employee Disease	\$ 500,000
Policy Limit Disease	\$ 500,000

SECTION C – LIMITATION ON LIABILITY, INDEMNIFICATION, AND INSURANCE REQUIREMENTS

- (2) Commercial General Liability Insurance including, but not limited to, Independent Contractor, Contractual Liability Premises/Operations, Products/Completed Operations, and Personal Injury.

Limits

Combined Single Limit Per Occurrence	\$ 1,000,000
Products/Completed Operations Aggregate	\$ 2,000,000
Personal Injury and Advertising Injury	\$ 1,000,000
General Aggregate	\$ 2,000,000

- (3) Business Automobile or Trucker's/Garage Liability Insurance covering owned, hired, and non-owned vehicles. If the Consultant does not own any vehicles, then evidence of Hired and Non-owned coverage is sufficient. Coverage shall be on an "occurrence" basis, such insurance to include coverage for loading and unloading hazards, unless Consultant can show that this coverage exists under the Commercial General Liability policy.

Limit

Combined Single Limit Per Accident	\$ 1,000,000
------------------------------------	--------------

- (4) Excess or Umbrella Liability Insurance excess of the primary coverage required, in paragraphs (1), (2), and (3) above:

Limits

Each Occurrence	\$ 1,000,000
General Aggregate	\$ 1,000,000

- (5) Professional Liability (Errors and Omissions) Insurance with at least minimum limits as follows. If "claims made" coverage is provided, "tail coverage" extending three (3) years beyond completion and acceptance of the project with proof of "tail coverage" to be submitted with the invoice for final payment. In lieu of "tail coverage", Consultant may submit annually to the County, for a three (3) year period, a current certificate of insurance providing "claims made" insurance with prior acts coverage in force with a retroactive date no later than commencement date of this contract. Professional liability must include coverage pollution professional services.

Limits

Each Occurrence or Claim	\$ 5,000,000
General Aggregate	\$ 5,000,000

For acceptance of Professional Liability coverage included within another policy required herein, a statement notifying the certificate holder must be included on the certificate of insurance and the total amount of said coverage per occurrence must be greater than or equal to the amount of Professional Liability and other coverage combined.

- (6) Property Insurance Consultant will be responsible for all damage to its own property, equipment and/or materials.