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: Wastewater Collection System Management – Professional Engineering Services

RFP CONTRACT NO. 190-0063-NC (SS)

COUNTY PID NO. 004143A

NON-CONTINUING FIRM: Wade Trim, Inc.

PROFESSIONAL ENGINEERING SERVICES NON-CONTINUING SERVICES AGREEMENT

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SECTION 1
INTENT OF AGREEMENT

AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES FOR
Wastewater Collection System Management – Professional Engineering Services

THIS AGREEMENT, entered into on the _____ day of _____, 20_____, 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, Wade Trim, Inc. 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 preparing an update to the current Wastewater Collection System Management Plan (PROJECT) 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, required for the development of the Wastewater Collection System Management Plan 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 the Wastewater Collection System Management Plan.

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 searchable pdf format compliant with COUNTY Americans with Disabilities Act (ADA) requirements. Exhibit A, Scope of Services is attached.

2.2 PROJECT PHASES

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

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 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. 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. 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 work designed by various disciplines.

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

a. Five (5) copies of the design notes and computations shall be submitted to the COUNTY with the design development review plans. When the plans are submitted for final review, the design notes and computations corrected for any COUNTY comments shall be resubmitted. At the PROJECT completion, a final set of the design notes and computations, properly endorsed by the CONSULTANT, shall be submitted with the record set of plans and tracings.

b. The design notes and calculations shall include, but not be limited to, the following data:

1) Design criteria used for the PROJECT.
2) Roadway geometric calculations
3) Structural calculations.
4) Drainage calculations.
5) Traffic design calculations
6) Traffic control calculations
7) Calculations as required by provisions of the Florida Energy Conservation Manual (Department of General Services), latest revision.
8) Calculations showing probable cost comparisons of various alternatives considered.
9) Documentation of decisions reached resulting from meetings, telephone conversations or site visits.
10) Other PROJECT-related correspondences as appropriate.

3.4.4 Each set of plans for the PROJECT shall be accurate, legible, complete in design, suitable for bidding purposes and drawn to scales acceptable to the COUNTY. The completed plans shall be furnished on reproducible material and in a format, which is acceptable to the COUNTY.

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

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

3.4.7 Other CONSULTANT responsibilities shall be as listed below:

a. Provide necessary sealed drawings to obtain building permits or any utility permit.
b. Assist the COUNTY in Contractor claims and/or litigation.
c. Review the Adequacy and completeness of documents submitted by the Contractor to protect the COUNTY against claims by suppliers or third parties.

3.4.8 The CONSULTANT must be familiar with the intent, thoroughness, safety factors and design assumptions of all structural calculations.

3.4.9 All work prepared and/or submitted shall be reviewed and checked by a CONSULTANT (Architect/Engineer) registered in Florida. All plans shall be signed and sealed by the Professional CONSULTANT in responsible charge.

3.5 PERMIT APPLICATIONS AND APPROVALS – Not Applicable

3.6 COORDINATION WITH UTILITY SERVICES AND AFFECTED PUBLIC AGENCIES – 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 maps, existing aerial photographs, as-built construction plans and data pertinent to the PROJECT, which the COUNTY may have in its possession.

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 activities, the COUNTY will conduct with the CONSULTANT a pre-design conference for the purpose of discussing issues relative to the PROJECT, plans 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.

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 Monthly PROJECT Conferences with COUNTY staff personnel. The 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 for the construction of the PROJECT, and shall prepare all presentation aids, documents and data required in connection with such meetings or hearings, and at the discretion of the COUNTY, shall either plead the COUNTY'S case or provide engineering and technical assistance to the COUNTY in its pleading of the case.

5.5 The CONSULTANT shall keep accurate minutes of all meetings and distribute copies to all attending. These meetings shall be set up 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 Director of the Utilities, or designee.

6.3 CONTINGENCY SERVICES

When authorized in writing by the COUNTY'S Director of Utilities 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

The CONSULTANT may submit invoices for fees earned on a monthly basis. Such invoicing shall be supported by a Progress Report showing the actual tasks performed and their relationship to the percentage of fee claimed for each phase. Billings within each phase of work shall be for the percentage of work effort completed to date for that phase. 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 following services shall be considered reimbursable services and may be filled in full upon their completion and acceptance. 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).

A. Soil Analysis/Geotechnical Investigations.

B. Contamination Assessments/Hazardous Material Analysis (if required).

C. Aerial Photography (if required).

D. Payment of Permit Fees (if required).

E. Payment of the Public Information Meeting Advertisements, if required.

F. Payment of the Court Reporter for public meetings, if required.

G. Printing and Binding Services.

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, Daniel Glaser, P.E. 14 South Fort Harrison, 6th Floor, Clearwater, FL 33756.

SUPPLIER 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 Supplier's name, contact information and the standard purchase order number. The County may dispute any payments invoiced by SUPPLIER 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 contingent or 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 3.1, the COUNTY agrees to pay the CONSULTANT as follows:

A Lump Sum Fee of: One Million One Hundred Fifteen Thousand Forty-Five Dollars and 00/100 ($1,115,045.00) for Task 1 – Program Management Task Phase of the PROJECT.

A Lump Sum Fee of: Thirty-Two Thousand and Thirty-Six Dollars and 00/100 ($32,036.00) for Task 2 – Data Collection and Coordination Phase of the PROJECT.

A Lump Sum Fee of: Two Hundred Ninety-Two Thousand Nine Hundred Fifty-Four Dollars and 00/100 ($292,954.00) for Task 3 – Capital Improvement Program Support Phase of the PROJECT.

A Lump Sum Fee of: Four Hundred Seventy-Two Thousand Three Hundred Ninety-Six Dollars and 00/100 ($472,396.00) for Task 4 –Private Sector Systems and Laterals Policies and Programs Phase of the PROJECT.

A Lump Sum Fee of: One Million Four Hundred Three Thousand Eight Dollars and 00/100 ($1,403,008.00) for Task 5 – Asset Management Phase of the PROJECT

A Lump Sum Fee of: Three Hundred Ninety-Eight Thousand Seven Hundred Eighty-Two Dollars and 00/100 ($398,782.00) for Task 6 – Inflow/Infiltration (I&I) Characterization Phase of the PROJECT

A Lump Sum Fee of: One Million Four Hundred Sixty-Five Thousand One Hundred Twenty-Nine Dollars and 00/100 ($1,465,129.00) for Task 7 – Hydraulic Modeling Phase of the PROJECT.

A Lump Sum Fee of: Seven Hundred Seventy-Five Thousand Six Hundred Fifty-Three Dollars and 00/100 ($775,653.00) for Task 8 – Septic-To-Sewer Program Phase of the PROJECT

A Lump Sum Fee of: One Million Six Hundred Twenty-Seven Thousand Eight Hundred Ninety Dollars and 00/100 ($1,627,890.00) for Task 9 – Master Planning Phase of the PROJECT

A Lump Sum Fee of: Two Hundred Eighty-Nine Thousand Nine Hundred Eighteen Dollars and 00/100 ($289,918.00) for Task 10 – Innovation and Technology Phase of the PROJECT

A Lump Sum Fee of: Four Hundred Eighteen Thousand Fifty-Two Dollars and 00/100 ($418,052.00) for Task 11 – Public Outreach Phase of the PROJECT

A Lump Sum Fee of: Two Hundred Ninety-Six Thousand One Hundred Ninety-Four Dollars and 00/100 ($296,194.00) for Task 12 – Financial/Funding Analyses Phase of the PROJECT

The above fees shall constitute the total not to exceed amount of Eight Million Four Hundred Ninety-Seven Thousand Fifty-Seven Dollars 00/00 **($8,497,057.00)** 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 For the OPTIONAL SERVICES provided for in the Agreement, as defined in Exhibit A, the COUNTY agrees to pay the CONSULTANT as follows:

A Lump Sum Fee of: Four Hundred Sixty-Five Thousand Dollars and 00/100 **($465,000.00)** for the Fee of the PROJECT for ADS and Electroscan that is a sub-task to Task 7 - Hydraulic Modeling Phase.

7.3 For any CONTINGENCY SERVICES performed, the COUNTY agrees to pay the CONSULTANT, a negotiated fee based on the assignment, up to a maximum amount not to exceed Four Hundred Forty-Eight Thousand One Hundred Three Dollars and 00/100 **($448,103.00)** for all assignments performed.

7.4 Total agreement amount Nine Million Four Hundred Ten Thousand One Hundred Sixty Dollars and 00/100 **($9,410,160.00)**.

7.5 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.

7.6 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 2.3 E.

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 Division 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 subconsultants, 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, subconsultant 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.

SECTION 15
INSURANCE COVERAGE AND INDEMNIFICATION

15.1 The CONSULTANT 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 Consultant 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 one thousand eight hundred and twenty-six (1,826) consecutive calendar days 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

Consultant 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 Consultant 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: Wade Trim, Inc.

By: Christopher M. Haney

Print Name: Christopher M. Haney, PE

Title: Senior Vice President Date: 2/3/2021

PINELLAS COUNTY, by and through its Board of County Commissioners

By: _____

Name Date: _____

Chairman

ATTEST:

Ken Burke, Clerk of the Circuit Court

By: _____

Deputy Clerk Date: _____

APPROVED AS TO FORM

By: *Diriki T. Geuka*

Office of the County Attorney

Exhibit A

PID 004167A - Wastewater Collection System Program

Pinellas County Utilities

Scope of Services

December 21, 2020

WADE TRIM

Scope of Services

Table of Contents

PROJECT DESCRIPTION

Pinellas County (County), located on the west coast of Florida, is the most densely populated county in Florida by geographic size. The majority of this mostly built-out urban County's wastewater is collected and treated by several wastewater systems managed by several municipalities including Pinellas County. Many septic (or onsite disposal treatment) systems also exist within the County. Pinellas County Utilities (PCU) operates two wastewater collection and treatment systems, one in the north and one in the south area of the County. With over 83,000 wastewater accounts, the County collects and treats a combined average of 30 million gallons of wastewater daily. The system comprises 299 wastewater pump stations and approximately 1,151 miles of sanitary sewers and sewage force mains.

The primary goal of this project is to develop and implement improvements to mitigate recurring sanitary sewer overflows (SSOs) and to cost-effectively reduce inflow and infiltration (I&I), which causes capacity issues in the collection system and at the water reclamation facilities (WRFs) and can accelerate pipe deterioration. Other goals include development of an Asset Management program for the collection system, a Septic-to-Sewer Program, and to assist the County in developing policies and ordinances to manage I&I from private sewer laterals and private collection systems.

The primary deliverable for this project will be the Wastewater Collection System Master Plan (WWCSMP) that will incorporate the Asset Management, Septic-to-Sewer, and I&I/SSO Management Plans. These plans aim to mitigate SSOs, reduce I&I, and provide for long-term investment planning in PCU's wastewater collection system through implementation of short-term and long-term projects in a multi-year CIP. The WWCSMP will include both the North and South County Wastewater Collection Systems (WWCS). The North County WWCS conveys wastewater to the W.E. Dunn Water Reclamation Facility (WEDWRF) located at 4111 Dunn Drive in Palm Harbor. The South County WWCS conveys wastewater to the South Cross Bayou Advanced Water Reclamation Facility (SCBAWRF) located at 7401-54th Avenue North in St. Petersburg. The WWCSMP will guide implementation of operation, maintenance, and capital improvements to maintain and operate safe, resilient, and sustainable wastewater collection systems that satisfy current and future regulatory requirements at the level of service PCU establishes for its customers.

While the WWCSMP will include specific projects and programs, the project team will identify opportunities for "quick wins" and other strategic early-action projects that can be implemented in the short-term in parallel with the master plan development. These projects will focus on SSO mitigation and help inform I&I strategies. The specific near-term PCU CIP projects will be evaluated and confirmed through the master planning process.

The CIP support services will assist PCU in improving the program implementation, providing an integrated prioritization of their CIP projects, and support in preparing Requests for Proposals (RFPs).

Major Project Tasks

Following are the major tasks of the project:

- Task 1.0 Program Management
- Task 2.0 Data Collection and Coordination
- Task 3.0 Capital Improvement Program Support
- Task 4.0 Private Sector Systems and Laterals Policies and Programs
- Task 5.0 Asset Management
- Task 6.0 Inflow/Infiltration (I&I) Characterization
- Task 7.0 Hydraulic Modeling
- Task 8.0 Septic-To-Sewer Program
- Task 9.0 Master Planning
- Task 10.0 Innovation and Technology
- Task 11.0 Public Outreach
- Task 12.0 Financial Impact & Funding Evaluations
- Owner's Contingency

All deliverables will be in electronic format unless noted otherwise. Draft versions will be provided followed by a final version that addresses comments from reviewers unless noted otherwise. A standard of 2 weeks of review of draft versions by the County is allotted, unless otherwise stated. All final documents will be signed and sealed by a Florida Licensed Professional Engineer for both electronic and paper copies and be Americans with Disabilities Act (ADA) accessible for reading.

This scope of services describes the services to be provided by Wade Trim (PROFESSIONAL) for the Wastewater Collection System Program.

1.0 PROGRAM MANAGEMENT

The Program Management Task will provide services for managing the overall program as defined in the 12 tasks. PROFESSIONAL will perform the following Program Management Services for the 5-year duration of the program as part of Task 1.0.

1.1 MANAGEMENT SERVICES

PROFESSIONAL will provide management services which are budgeted based on the tasks in this Scope of Services for PROFESSIONAL. Management activities for the program include staffing and resource allocation, schedule management, budget management, subconsultant management, and coordination with PCU for the 5-year program. The Program Manager is responsible for providing the services with support from the Principal-in-Charge, a junior staff member, and clerical staff. The total effort for providing management services for the 5-years of the Wastewater Collection System Program is estimated at an average of 10 hours a week. The weekly effort will vary from week-to-week and is anticipated to be heavier during the early phases of the program and lighter in the latter phases. Following is a brief description of the effort associated with each of these management activities and their estimated level-of-effort.

1.1.1 Staffing and Resource Allocation

PROFESSIONAL will assess and properly adjust the specific staff members working on various tasks and coordinate when they need to be available to address their assigned scope. This helps to effectively manage the budget and meet the schedule requirements of the project. Internal reports are generated to aid planning of resources each week. Needs are identified, internal management meetings scheduled (sometimes with multiple staff across the team), challenges discussed, solutions identified, assignments issued, and follow-up provided to resolve staffing challenges to ensure that properly skilled staff are available when needed and are provided the specific guidance and resources needed to perform their program scope. It is assumed that an average of 1.5 hours/week are needed. Actual efforts may vary from week-to-week.

1.1.2 Schedule Management

PROFESSIONAL will review progress on a weekly basis and compare it to the planned schedule. This will help prepare for the monthly schedule updates. On a weekly basis, progress is assessed on each of the 12 major tasks and compared against the program schedule to assure that sufficient progress is being made and to identify challenges that need to be addressed to maintain on-schedule status. Coordination occurs with multiple internal management and staff to determine any needed changes. This helps to keep the PCU project manager apprised early of needed changes and issues to address. Some challenges may need to be addressed before the status meetings while others may be addressed at the subsequent monthly status meeting. It is assumed that an average of 1.5 hours/week are needed. Actual efforts may vary from week-to-week.

1.1.3 Budget Management

PROFESSIONAL will review weekly costs and manpower reports generated from our internal BST 10 PM platform and across our team and compare the accrued costs to the planned costs. This is fundamental to the program management and allows us to manage the budget and bill for our services properly based on accurate earned value assessments as well as identify early variances that will be used to prepare the monthly status reports and share with the PCU project manager. It is assumed that an average of 1 hour/week is needed. Actual efforts may vary from week-to-week.

1.1.4 Subconsultant Management

PROFESSIONAL will provide ongoing oversight, management, and coordination (via phone, email, virtual meeting using Microsoft Teams, texts) to the multiple subconsultants on the program to assure they are meeting their requirements, to track their progress, and to address any issues that may arise. If needed, a meeting with a subconsultant will be conducted to address challenges and develop strategies to improve performance. It is assumed that an average of 1 hour/week is needed. Actual efforts may vary from week-to-week.

1.1.5 Coordination with PCU

PROFESSIONAL plans to communicate almost daily (via phone, email, virtual meeting using Microsoft Teams, text) with the PCU project manager and staff to coordinate needs on the program to proactively plan ahead to make sure our efforts are properly coordinated, tracked, and addressed. Additional staff may be included in correspondence occasionally to address the topics at-hand. The coordination may require tracking down, assembling, scanning, and sending requested information along with follow-up communication. It is assumed that an average of 5 hours/week are needed. Actual efforts may vary from week-to-week.

1.2 PROGRAM MANAGEMENT PLAN

PROFESSIONAL will develop a Program Management Plan (PMP) to establish team member communication protocols, labor and expense allocation, resource loading/staffing assignments, Critical Path Method (CPM) schedule development and updates, and an overall plan to execute each task. The PMP will be distributed to the PCU Program Team. and updated annually to reflect program direction and budget. The PMP process and documents will be shared with PCU. Sections of the PMP include organizational team members roles and responsibilities, a Communications Plan, deliverables schedule, Cost Control and Monitoring, QA/QC procedures, Baseline Schedule, Document Management System, and a Personnel Management Plan. The draft PMP will be provided 30 calendar days following NTP.

PROFESSIONAL will distribute the PMP updates annually to reflect program direction and budget to the PCU Program Team.

1.3 PROGRAM KICK-OFF MEETING

PROFESSIONAL will schedule and conduct the overall Program Kick-Off Meeting to identify critical issues, establish performance objectives, set priorities, and establish critical success factors. In addition, PCU staff will provide input relative to external stakeholders and define an authority matrix and the perceived issues that stakeholders may have related to the program. Additional kick-off meetings will be conducted under subsequent specific tasks.

1.4 MONTHLY INVOICE, SCHEDULE, AND STATUS REPORT

PROFESSIONAL will submit a monthly invoice package at the end of the third week of each month in electronic format. The monthly invoice package will contain the following: invoice, a corresponding status report with percent complete by major task, and an updated schedule. The program schedule will be prepared and updated monthly using the Primavera P6 software. A monthly status report that summarizes the status of the program by task will be prepared for review with PCU. The monthly status report will include a narrative report describing the progress made on each task, any variance in agreed timing, work anticipated in the coming period, any issues needing attention, a listing of planned meetings and attendees, and a summary of costs including percent complete and/or earned value for each task. All invoice packages will be submitted to the County Project Manager for review and approval prior to submitting for payment to County Finance.

1.5 STATUS MEETINGS

PROFESSIONAL will schedule and conduct status meetings with PCU as requested by PCU to provide information regarding the status of the program. The meetings will be scheduled to coincide with the PCU Project Manager's needs for status information. The activities include meeting preparation, agenda development, attendance, and preparation of minutes and action items. It is assumed that each meeting will be 1.5 hours and include team representatives as needed for specific issues. PROFESSIONAL will coordinate with the PCU Project Manager to determine whether the meetings will be in-person, virtual, or both.

1.6 QUALITY ASSURANCE/QUALITY CONTROL MANAGEMENT

PROFESSIONAL will conduct quality assurance and quality control (QA/QC) reviews throughout the life of the program. A QA/QC Plan will be developed that describes the activities and procedures to assure the appropriate quality of the program deliverables. This task develops a quality plan for the program and provides oversight of the overall QA/QC efforts while specific QA/QC measures will be performed on the deliverables for the respective tasks. This task includes senior program staff administering the QA/QC plan is being followed and tracking its overall compliance. The QA/QC professionals will comprise staff not routinely engaged in program activities. QA/QC will be reviewed internally by PROFESSIONAL for conformance with PROFESSIONAL's QA/QC Plan. The QA/QC Plan will be provided to PCU within 30 days of Notice-To-Proceed and will be included with the PMP developed in Task 1.2. Documentation of QA/QC efforts for the respective tasks will be provided.

TASK 1.0 DELIVERABLES

PROFESSIONAL will provide PCU with the following deliverables under Task 1.0:

1. Program Management Plan (PMP) that includes the QA/QC Plan, draft and final versions
2. Program Kick-Off Meeting agenda and meeting summary
3. Monthly invoice package with invoice, updated schedule, and status report
4. Monthly status meeting agenda and meeting summary
5. Minutes for meetings associated with Tasks 1.7

2.0 DATA COLLECTION AND COORDINATION

The Data Collection and Management Task will gather and review the relevant existing data needed to support the program. Simple procedures for managing data will be provided in the Program Management Plan in Task 1.2. PROFESSIONAL will perform the following Data Collection Services as part of Task 2.0. PROFESSIONAL will provide one formal data request within 14 calendar days from the Program Kickoff Meeting. Other data requested throughout the program duration will be coordinated through this task.

2.1 DATA REQUEST AND COORDINATION

PROFESSIONAL will submit a written request to PCU for information and data relevant to this program to support the program scope in electronic format, if available, or otherwise as a hard copy. Requested information and data will include the following:

- Flow monitoring studies and flow data
- GIS data of PCU assets and other topographical features such as roads, buildings, parcels, pavement, and other pertinent layers
- Local and countywide septic to sewer conversion information and reports
- Stormwater studies
- Stormwater/Wastewater Partnership presentations, meeting minutes, etc.
- Asset Management Reports
- Calibrated WRF process models and hydraulic models
- PCU South County SS Modeling-Methodology-Protocol (provided in RFP)
- PCU Rate Study 2019 (provided in RFP)
- Other financial studies
- North-South County WW Flows Evaluation 2017 (provided in RFP)
- Asset Management Planning-Implementation Project Summary 2009 (provided in RFP)
- Stormwater/Wastewater Potential Project Area Maps (provided in RFP)
- Capacity, Management, Operations, & Maintenance (CMOM)
- Wet weather SSO characterization map (provided in RFP)
- Other relevant reports, studies, memorandums, etc.
- Utilities Department 2020-2025 Strategic Plan
- USF Study Report

PROFESSIONAL will review the received material from PCU for completeness and general content and provide them to the task leads for use in their respective task scope. PROFESSIONAL will compile, track, and document the received items and report each month on the status of the data requested from PCU. The criticality and relative priority of these items to the progress of the program will be defined and communicated as part of this effort.

2.2 SITE VISITS

PROFESSIONAL will perform up to eight (8) site visits up to three (3) hours for up to three (3) staff to gain an up-to-date understanding of the PCU system. Data will be collected for each site visit that may include site photos, verification of key as-built data, locations of assets, and visual observations of general asset conditions at key identified locations that may include pump stations, known SSO locations, flooded locations, and others as coordinated with PCU. Site visits will be coordinated with relevant PCU staff for access and support if required. Site visits for other team firms will be performed as part of their respective tasks.

TASK 2.0 DELIVERABLES

PROFESSIONAL will provide PCU with the following deliverables under Task 2.0:

1. Request for initial data in memorandum format
2. Excel spreadsheet that tracks documents/data received and reviewed
3. Notes from initial site visits in email or meeting minute format

3.0 CAPITAL IMPROVEMENT PROGRAM SUPPORT

The Capital Improvement Program (CIP) Support task will support the facilitation of the execution of PCU's CIP. The scope is organized into four subtasks: a CIP management assessment, an initial CIP validation and prioritization across PCU, an update to the CIP prioritization to include input from the master plan when completed, and project planning support.

Task roles
PROFESSIONAL: Task Lead, QA/QC

3.1 CIP MANAGEMENT ASSESSMENT

PROFESSIONAL will assess the needs of the PCU program by performing the activities as follows.

3.1.1 Capital Improvement Program (CIP) Scoring Process

Develop an Enterprise Project Prioritization Scoring Process to be used to prioritize all PCU projects within the County. The scoring process will be coordinated with project criticality measures established in the master planning task in coordination with the asset management portion of this program. The scoring process will consider and align with the 10 goals identified in the County's 5-year Strategic Plan and integrated with the County's Socrata database. Other items to be considered in the scoring include:

- Reducing the number and volume of SSOs
- Providing more consistent flows to the treatment plants
- Number of septic tanks taken offline
- Number of laterals replaced

Once a draft of the scoring process is complete, PROFESSIONAL will hold a meeting with PCU and present the scoring process for input from PCU staff. Comments will be incorporated into a final Enterprise Project Prioritization Scoring Process.

3.1.2 Program Management Evaluation

PCU is implementing project management information systems (PMIS) to standardize their CIP controls and reporting standards. These standards include Microsoft Project Online, SharePoint Online, and Microsoft Power BI. Project Managers will be responsible for their respective project level controls and inputting information into the PMIS.

PROFESSIONAL will provide consultation to PCU on the management of the CIP tracking and analysis. The topics below can be discussed periodically at a monthly progress meeting.

- Appropriate staffing levels to support the CIP
- Percentage of annual CIP delivered versus plan
- Cost of CIP projects versus CIP budget

- Accuracy of Engineer's Estimates relative to Bids Received
- Disputes and claims management (as needed for project management)
- Change order percentage, including allowance usage (as needed for project management)
- Achievement of sustainable program goals (fuel, energy, and emissions savings, use of recycled materials, carbon footprint analysis)

3.2 INITIAL INTEGRATED CIP PRIORITIZATION ACROSS PCU

The PROFESSIONAL will work with the CIP management staff for the Fiscal Year 2022 CIP planning cycle to validate the CIP and prepare for future CIP cycle years using the scoring process developed in 3.1.

3.2.1 Validation of Current CIP

Using the scoring process developed in 3.1, the PROFESSIONAL will review PCU's CIP including water, wastewater, or reclaimed water projects currently in or planned for the CIP, and validate the wastewater collection portion of the CIP using a planning level assessment and add, delete, defer, or combine projects as needed and as identified in the Master Plan to meet cash flow to revenue constraints provided by PCU. PROFESSIONAL will confirm the timing and cost estimates of the wastewater collection portion of the CIP. Once all projects are identified in the CIP, PROFESSIONAL will prioritize all PCU projects in the CIP using the Enterprise Project Prioritization Scoring Process and provide a revised CIP at the end of this task. This process will provide the format for CIP updates discussed in subtask 3.2.

- Analyze the CIP and determine if efficiencies can be gained by organizing and/or packaging projects in a more cost-effective timeframe
- Raise issues further consideration by PCU to projects selected for current CIP
- Validate and prioritize the CIP
- Review CIP annually
- Develop and maintain a master schedule and budget for the CIP
- Advise PCU on the status and available funding for CIP projects

3.3 UPDATED INTEGRATED CIP PRIORITIZATION ACROSS PCU

Once the Master Plan from Task 9.0 is completed and project description and planning information is provided, PROFESSIONAL will work with the CIP management staff to incorporate the new projects into the current CIP using the scoring process developed in 3.1.

3.4 PROJECT PLANNING SUPPORT

PROFESSIONAL will support CIP planning efforts as requested by PCU. Planning efforts included in this level-of-effort include support for the writing scopes for six (6) project requests for proposal (RFP) using the County's standard RFP Template during the last two (2) years of the program for a total of twelve (12) RFPs. The level-of-effort requested will not exceed twenty 20 hours per RFP.

3.5 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

PROFESSIONAL will review all deliverables identified for Task 3.0 including the prioritization scoring process, the revised CIP for Fiscal Year 2022, the CIP update after master planning projects are approved for integration and the RFPs associated with the collection system master plan projects. Review activities will be tracked and documented and submitted to PCU upon request.

TASK 3.0 DELIVERABLES

PROFESSIONAL will provide County with the following deliverables under Task 3.1:

1. Enterprise Project Prioritization Scoring Process
2. Meeting minutes of discussed findings and recommendations of current CIP processes and procedures, draft and final versions
3. Revised PCU CIP for year 1 and update after master planning projects are approved for CIP integration
4. RFPs developed to support the collection system program

4.0 PRIVATE SECTOR SYSTEMS AND LATERALS POLICIES AND PROGRAMS

The Private Sector Systems and Laterals Policies and Programs Task will develop policies and programs to address private lift stations, private collection systems, illicit sanitary sewer system connections, and private sanitary sewer laterals connected to PCU's wastewater collection system.

PROFESSIONAL will coordinate with PCU to develop the private laterals policy that will be presented to the Board of County Commissioners (BOCC) for approval. The private laterals program and associated policies will address maintenance, inspection, defect mitigation (lateral repair or replacement and/or I&I source disconnection/redirection), funding, management, and enforcement to support SSO reduction through a long-term I&I reduction program from the private lateral sources. The resulting program will be incorporated into the master planning schedule and financial analyses. The standards of performance for addressing I&I sources from the private laterals will be coordinated with the overall program level-of-service (LOS) standards.

The privately-owned lift station and collection system-related policy will be aligned with PCU's private laterals program and other efforts undertaken to support SSO reduction. The illicit sewer system connection policy will be aligned with PCU's Municipal Separate Storm Sewer System (MS4) Stormwater Management Program initiatives.

PROFESSIONAL will assist with preparing information for public outreach efforts and presenting the program and policies to the BOCC for approval.

Task roles
PROFESSIONAL: Task Lead, QA/QC
Hazen (Subconsultant): Major Task Support
Blue Heron (Subconsultant): Major Task Support

4.1 DEFINE GOALS

PROFESSIONAL will coordinate with PCU to define the goals of the Private Sector Systems and Laterals Policies and Programs Task, which will include the following elements: SSO reduction/elimination, new rules and legislation changes, schedule, implementation and enforcement strategies, inspection protocols, corrective actions, and coordination with external stakeholders including the BOCC and the Wastewater/Stormwater Partnership.

4.2 PRIVATE SECTOR SYSTEM CHARACTERIZATION

PROFESSIONAL will identify and characterize the private pump stations, private collection systems, illicit connections to the sanitary sewer system, and private sanitary sewer laterals across the PCU North and South wastewater collection systems to the extent possible given current data. PROFESSIONAL will work

with existing electronic and hard copy resources to obtain the characterization data. The resources for the characterization, which include GIS data, publicly-available internet mapping (such as Google Maps), existing I&I studies, and relevant reports will be used to determine the quantity, location, size, discharge location to the PCU system, I&I contribution estimates from the various private sector systems based on available data, and other relevant private system attribute data. Based on available data, a gap analysis will be performed that identifies the missing data needed to characterize the private sector system.

PROFESSIONAL will draft a plan to collect the missing data which will include contacting private system owners either by phone or letters, if required, and the implementation of field investigation activities which may include temporary targeted flow monitoring, sewer connectivity inspections using CCTV, and manhole observations for evidence of private system connections. PROFESSIONAL will meet with PCU to present the proposed approach to collect the private systems data.

An allowance will be provided to collect additional field data as needed to adequately understand the private systems in PCU's service area to support development of the policies and programs. Up to twenty-five (25) field visits may be required to investigate relevant features by visual observation and targeted temporary flow monitoring for 12 meter-months. Field investigations requiring CCTV services will be provided by PCU and are not included in the allowance. Locations of the various private sector system components and their associated characterization attributes will be incorporated into the PCU GIS.

4.3 POLICY RESEARCH AND ANALYSIS

PROFESSIONAL will research and analyze existing policies across the nation that address private sanitary sewer laterals as well as private pump stations, private collection systems, and illicit connections to a sanitary sewer system. PROFESSIONAL will identify the policies and programs for up to fifteen (15) utilities or communities through internet research, the Water Environment Federation (WEF) Virtual Library, and personal contact. A memorandum will be prepared that summarizes the key technical, funding, legal, and implementation features reviewed.

4.4 DEVELOP POLICIES AND PROGRAMS

PROFESSIONAL will develop the relevant criteria for developing the policies and programs to address I&I from private sanitary sewer laterals, private collection systems, private pump stations, and illicit connections to the sanitary sewer system. The policies will address inspection, ownership, funding, implementation, permitting, monitoring, management, and enforcement. The analysis will consider the use of metering of private systems and billing to incentivize owners to reduce I&I contribution to the PCU system.

For the private sanitary sewer laterals policy, PROFESSIONAL will define five (5) alternatives along with a timeline for drafting the alternatives and presenting them to PCU and the BOCC. The number of alternatives to present to the BOCC will be determined in coordination with PCU. The County legal

department will write the ordinance language. PROFESSIONAL will provide input to the ordinance language.

PROFESSIONAL will develop the criteria for separate policies for the private collection systems, private lift stations, and illicit connections to the sanitary sewer system along with a timeline for drafting the policy and presenting it to PCU and the BOCC. The County legal department will write the ordinance language. PROFESSIONAL will provide input to the ordinance language.

PROFESSIONAL will develop a program to manage the private sanitary laterals and a program to manage the private collection systems, private lift stations, and illicit connections to the sanitary sewer system. The staffing and execution of the programs are included in Task 3.2.2.

The implementation of the policies developed in this task will require careful consideration and effective planning of resources. PROFESSIONAL will work with PCU to plan for the implementation of these policies and will review these annually. PROFESSIONAL will work directly with PCU staff on establishing the early stages of policy implementation and other initial steps including recommendations regarding enforcement.

4.5 COMMUNICATIONS

4.5.1 Internal Communications

PROFESSIONAL will organize and conduct up to seven (7) meetings with PCU internal stakeholders, including the County legal department, PCU's Customer Service Division staff, and others to share findings and discuss the private sanitary sewer laterals policy and program alternatives and recommendations.

PROFESSIONAL will organize and conduct up to seven (7) meetings with PCU internal stakeholders, including the County legal department, PCU's Customer Service Division staff, and others to share findings and discuss the policy and program alternatives and recommendations for the private collections systems, private lift stations, and illicit connections to the collection system.

4.5.2 External Communications

PROFESSIONAL will schedule and present at up to three (3) meetings with the BOCC to present and discuss the private sanitary sewer laterals policy alternatives and recommendations.

PROFESSIONAL will schedule and present at up to three (3) meetings with the BOCC to present and discuss the policies and program alternatives and recommendations for the private collection systems, private lift stations, and illicit connections to the sanitary sewer system.

PROFESSIONAL will help prepare and present material regarding the private sector systems and laterals policy and programs at up to four (4) meetings with the Wastewater/Stormwater Partnership in coordination with PCU.

See Task 11.2 for the public education and outreach scope for the development of the Private Sector Systems and Laterals policy.

4.6 PRIVATE SECTOR SYSTEMS AND LATERALS POLICIES AND PROGRAMS OPTIONS AND FINANCIAL IMPACTS

PROFESSIONAL will coordinate with the financial analysis staff conducting the financial impacts analyses (Task 12.1.1 Private Sector Systems and Laterals Policies and Programs) to provide the needed input of the various private sector system policies being considered, review the results, determine which policies to screen from further analysis, and incorporate results into the Task 4 presentations.

4.7 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

PROFESSIONAL will review all deliverables identified below for Task 4.0 by staff with the knowledge to address the contents of the respective deliverable. Review activities will be tracked and documented and submitted to PCU upon request.

TASK 4.0 DELIVERABLES

PROFESSIONAL will provide PCU with the following deliverables under Task 4.0:

1. Technical memorandum for the private sector systems with the plan that includes the clearly-defined goals with timeline for the development of the associated policies and programs, results summary of the research and analysis, description of five (5) alternatives for the private sanitary sewer laterals policy and program, description of viable policy options for the private collection systems, private lift stations, and illicit connections to the sanitary sewer system, draft and final versions. The technical memorandum will be developed to first address the private laterals and will be expanded to include the private collection systems, lift stations and illicit connections as those policies are later developed.
2. GIS geodatabase of the characterization data of the private sector system including private sanitary sewer laterals, private collection systems, private lift stations, and illicit sanitary sewer connections.
3. Presentation of three (3) to five (5) private sanitary sewer laterals policy alternatives to the BOCC
4. Presentation of private sector system policy alternatives covering private lift stations, private collection systems, and illicit sanitary sewer connections to the BOCC
5. Meeting agendas, presentations, and minutes that will be distributed to meeting attendees
6. See Task 12.1.1 for a description of the deliverable with the financial impact and funding analysis results

5.0 ASSET MANAGEMENT

The Asset Management (AM) task will provide services focused on the coordinated activities that will help PCU realize value from its wastewater assets and to better manage, operate and maintain these assets. PROFESSIONAL will build upon the activities, procedures, and results that have proven successful for PCU and improve on the existing AM strategies and practices currently in place at PCU. PROFESSIONAL will work closely with PCU to identify, develop, implement, and document the various AM activities. PROFESSIONAL will perform the following Asset Management Services as part of Task 5.0:

Task roles
Stantec (Subconsultant): Task Lead, lead production of work
PROFESSIONAL: support production of work on all subtasks, QA/QC on all tasks
Hazen (Subconsultant): support and coordination with Master Planning subtasks

5.1 AM PLAN UPDATE, IMPROVEMENTS INTEGRATION, AND IMPLEMENTATION

PROFESSIONAL will develop a PCU Collection System Asset Management Plan (AMP) as directed in the 2017 Pinellas County Enterprise Asset Management Framework. PROFESSIONAL will utilize methodologies developed in the 2009 AM Report that are appropriate and are working, the last 10 years of implementation activities, current AM efforts in other County departments, existing staff feedback, and process improvements. The execution plan will include the strategies, objectives, prioritization, timeline, and resources needed to complete the services defined within Task 5.0. The subtask will entail the following workshops and meetings:

- Kickoff Meeting and Opening Workshop, one meeting, 2 hours, 2 staff
- Three (3) functional group meetings, three meetings, 2 hours, 2 staff
- Pinellas County AM alignment meeting, one meeting, 4 hours, 2 staff
- Findings and Recommendations Workshop, one meeting, 4 hours, 2 staff
- Discovery Workshop, one meeting, 4 hours, 2 staff
    - Lessons learned from 2009
        - What was completed?
        - What was missing?
        - What was modified?
        - What was not applicable?
        - What will you do differently moving forward?
        - Changes as part of implementation process
    - Updated strategies and policies driven by PCU AM
    - Build on PCU AM team successes

PROFESSIONAL will work with PCU to identify and develop an asset management cross divisional charter team comprised of senior level owners and sponsors, coordinate and communicate with divisions, identify resources, identify opportunities, identify short/long term objectives and performance

measures. Benefits will be tracked, and each improvement will seek to demonstrate both cost savings and efficiency improvements.

Deliverables:

1. Workshop #1: AM Plan Review and Strategy, draft and final versions
2. Minutes from each workshop and meeting, draft and final versions
3. Prioritized action plan technical memorandum, draft and final versions
4. PCU Collection System AMP, draft and final versions

5.2 LEVEL-OF-SERVICE FOR ASSETS

The cost of providing services depends on the level of service (LOS) required by PCU and stakeholders (internal and external). The LOS for the different assets will be coordinated with the hydraulic capacity and SSO LOS defined in Task 9.0 (Master Planning). The full cost of providing that LOS must be shown so that a realistic LOS is set and ties into the expectation of stakeholders and appropriate fees. The goal is to provide the required LOS at the lowest appropriate costs and risks. Metrics and performance measures need to be carefully defined to reflect critical business needs with a mix of leading and lagging indicators. PROFESSIONAL will:

- Define a LOS for each asset (review 2009 LOS)
- Establish KPIs and metrics to meet LOS
- Review and align with County (Department of Asset Management) asset management standards and protocols – determine gaps
- Determine LOS funding levels

The LOS will be developed through a workshop setting, one meeting, 4 hours, 2 staff. PROFESSIONAL will coordinate with the charter team and communicate with the various divisions across PCU.

Deliverables:

1. Workshop #2: LOS Discussion
2. Technical memorandum defining the LOS and requirements to meet those levels for each asset class

5.3 ASSET INVENTORY

The asset inventory resides in GIS and the geodatabase serves as the authoritative system of record for asset management. As the source of truth, the GIS information should be verified and continually validated by those who know the assets best. This system of record must include the appropriate information about all assets to enable PCU to accurately assess the levels of risk the assets pose to the desired LOS. To understand risk, the GIS must contain information about:

- Asset age
- Asset material
- Relationship to other assets in meeting service levels
- History of performance

- Work that has been done on the asset

Initial efforts, as further described, will populate missing information, and systems and processes will be designed to help PCU maintain a high level of data completeness going forward.

- Data gap analysis – Assets are widely missing install dates (some were estimated for a high-level analysis that may not have the required level of detail for asset management), condition, performance, and risk information. This analysis will define the information necessary for assets to be managed for risk and result in a plan to fill in these gaps while designing processes to keep this important information populated.
- Determine and document asset definitions and the asset hierarchy throughout the collection system to include pump station components (likely utilize the definitions Woolpert documented). These definitions will be reflected in the GIS schema and schematic diagrams.
- Horizontal edits will include execution of the data gap analysis for the horizontal assets including gravity mains, force mains, sewer laterals, cleanouts, air release valves, manholes, and other system valves. The detailed magnitude of this effort is difficult to estimate until the data gap analysis is complete. Based on preliminary reviews of the GIS, discussions with PCU staff, and efforts to focus on just those areas deemed high risk service areas, PROFESSIONAL will not exceed 400 hours of GIS editing time along with 60 hours of QC under this scope. Estimated asset attribute data results from the 2019 Total Cost of Ownership project will be utilized where more accurate data are not found or included in this GIS update editing effort. It is expected that this GIS editing will include:
    - Missing attributes:
        - Gravity mains have an estimated install year based on parcel build out information, and these dates will be referenced with available record drawings and adjusted where necessary;
        - 40% of gravity mains have unknown material
        - Force mains have an estimated install year based on property information, and these dates will be referenced with available record drawings and adjusted where necessary
        - 8% of force mains have unknown material
    - Asset hierarchy - Populating the horizontal parent/child relationships in GIS to enable the reporting of the respective groups of assets such as lift station service area and other groupings as identified in the 5th Level of Asset Hierarchy from the 2009 AM Report

  PROFESSIONAL will extract, transfer, and load data where appropriate. Efforts will be made to utilize python scripting to increase efficiencies and is expected to incorporate:
    - Record drawing review
    - Maximo database review (will utilize the data extraction from Woolpert that mapped all lift station Maximo data to the lift station point location but has not been loaded into the asset hierarchy developed for lift stations)

  - Data edit workshops (two meetings, 4 hours, 2 staff) to incorporate institutional knowledge (where data is missing or lacks trust, PROFESSIONAL will host editing sessions with seasoned employees that can direct where edits should be made, this process will capture the institutional knowledge that is at risk of being lost)
  - Historic work information such as placing cleanouts in a work order that provides locational references but was never mapped in GIS
- Review Nonspatial Assets (vertical, lift station components) - Cityworks requires that all assets reside as records within the GIS. Often, these assets are unmapped and modelled as tabular information that is associated to a mapped asset such as lift station points in GIS. It is expected that this information resides in tabular format with either the Lift Station foreign key associated or the Lift Station address. Lift Station information that is either missing from the extracted Maximo tables or will be identified where possible but efforts to research and/or collect this information will not be included under this scope.
- Make recommendations to eliminate data silos through data standardization and integration methods and process design. These data silos and fragmented data sources include CCTV, hydraulic model results, condition inspections, rehabilitation projects, and SCADA historian data.
- Workshop(s) (two meetings, 4 hours, 2 staff) with IT to discuss and document data exchange protocols and database replication to allow for PROFESSIONAL to make updates in a development environment for testing.
- Review and modify geodatabase schema, if necessary, to standardize data, improve reporting, and promote data sharing among various applications specific to PCU's wastewater collection goals. Schema recommendations will likely be the inclusion of fields for asset management support, such as PoF, LoF, CoF and well as related tables to support inspection and maintenance activities.
- Map the project extents of historic record drawings so they can be quickly accessed through GIS and used as a reference for the underlying GIS. It is expected that PCU will scan all remaining hard copy drawings and provide to PROFESSIONAL as pdf documents. It is understood that PCU has already digitized drawings from 2015 to current. It is assumed that this task will cover no more than 600 sets of drawings and that each drawing will take an estimated 45 minutes to digitize, attribute, and link. PROFESSIONAL will digitize the project extents and extract the relevant information such as:
  - Date
  - Asset systems (water, wastewater, reclaim, storm)
  - Consultant
  - Name of drawing
  - Name of pdf (to enable linkage)

<u>Deliverables:</u>

1. Ongoing database synchronization files providing updates to the geodatabase with edits and schema changes

2. Asset definition and listing of types along with positions in hierarchy
3. Results of data gap analysis along with actions taken and needed
4. Database schema diagram illustrating asset hierarchy
5. Report of GIS Standard Operating Procedures, draft and final versions
6. Record drawings index feature class with associated links to PDF record drawings
7. Three (3) Data Edit Institutional Knowledge Workshops (#3, #4, #5) with minutes for each

5.4 PROGRESS AND DATA REVIEWER

This task will provide visibility and insight to the project team and management on progress and performance, while also providing a platform to foster decision making based on data to help promote action based on analysis. GIS is the system of record for utilities, meaning that if the asset exists, it has a record in GIS and is visible to the organization. PROFESSIONAL proposes to create a series of targeted web applications that will serve to display ongoing master planning activities such as CIP, work maintenance activities, SSO hot spots, reactive maintenance hot spots, record drawing index, and other information that PROFESSIONAL requests. ArcGIS Operations Dashboards and/or Cityworks Analytic packages provide management insight into the GIS, ongoing projects, asset criticality, inspections, work orders, and other data points that are determined during Task 5.1. This application will reside on the County's existing ArcGIS platform and be capable of providing real-time data updates as the project progresses. The following tasks will begin soon after initial kickoff and strategy sessions noted in Task 5.1:

- Business Needs Assessment that will determine what information management needs to see, the frequency, platforms available, and data available
- Web application displaying the record drawing index created in 5.3
- Create an ArcGIS Operations Dashboard that displays:
    - Current GIS data improvements
    - Critical assets and risks as defined and mapped in Tasks 5.3 and 5.7
    - Work orders, service requests, and inspections created in Cityworks
- Configuration of Cityworks Analytics to help identify and assess high-risk assets. This will assist in planning and scheduling work activities with budget support. Data sources will likely include Cityworks inspections, service requests, work orders along with SSO locations, hotspots, fats/oils/grease (FOG) data, and data from sensors that will be strategically deployed in Task 10.0.
- Microsoft Power BI configuration to support data analysis as identified in the business needs assessment. This will likely pull in a combination of GIS information, Cityworks information, and/or asset performance data from SCADA historians or flow meters.

Interactive web maps and dashboards utilizing ESRI technology will provide management with a means to review, analyze, and coordinate the CIP.

Deliverables:

1. Business Needs technical memo, draft and final versions
2. Three (3) Esri Operations Dashboards
3. Two (2) ArcGIS web maps
4. Cityworks Analytics to include Operational Insights, Workload and/or Performance Budgeting
5. Power BI and/or other platforms preferred by PCU

5.5 ASSET CONDITION ASSESSMENT

PROFESSIONAL will create the plan and methods necessary to populate the assets with the appropriate Likelihood of Failure (LoF). Condition Assessment is a key tool for helping discover important information to optimize operation and maintenance of assets. Through its use, organizations can greatly improve their ability to make knowledgeable, fact-based decisions for preserving assets (maintenance); renewing assets (replacement); or upgrading those assets for longer life (refurbishment). The condition assessment can determine if it will be possible to "fix the problem". If it does not, the remedy might require asset replacement or refurbishment.

Outcomes from the Condition Assessment place organizations in a position to improve long term planning (Capital Investment Planning), determine remaining asset life and useful asset life, make better fact-based asset strategy decisions, and avoid costly breakdowns associated with asset degradation and obsolescence. PROFESSIONAL will:

- Prepare Document Condition Scoring Methods – Review 2009 report with current County methods
- Perform a Condition Gap Analysis – Determine what is in the data and what needs to be populated from desktop and field. Results from the 2019 Total Cost of Ownership study will be included in this analysis.
- Identify specific assets that will be assessed
- Identify existing inspection data collection tools and documentation
- Determine expected outcomes– Probability of failure, failure mode and effects, asset deterioration/remaining life estimations, and condition and/or performance grades

Deliverables:

1. Workshop #6: Investigate, Discuss, Plan with minutes
2. Technical memorandum on Recommendations and Project Plan, draft and final versions
3. Data mapping to illustrate processes and programs at PCU that create and provide asset condition data. This will serve as an illustration and guide for PCU to help eliminate data silos.
4. Workshop #7: Present Plan with minutes

5.6 DESKTOP DATA ACQUISITION/VERIFICATION

Many of the details for this task will be defined in the plan created in subtask 5.5. Since some asset condition information is expected to be missing, this subtask provides a desktop data collection and integration services that may range from requested PCU inspections to data mining services. Any field investigation services needed will be provided by PCU staff. The magnitude and needs of this task can be estimated based on preliminary data reviews and discussions with staff. It is assumed that data scientists and/or GIS professionals will collect, extract, and load this data from existing reports, plans, other documents, and databases. This effort to extract condition assessment information from available resources will be capped at 200 hours for a combination of various professionals. All efforts will be made to limit these activities where data already exist and to utilize PCU staff that may be able to collect this information in their daily routines with the right technology. This subtask will provide for both the hands-on training and implementation of the necessary ArcGIS mobile applications to be utilized by PCU staff for data collection. Efforts are expected to include:

- Data collection implementation plan
- Mobile data collection tool development and data integration (Collector for ArcGIS configuration and data loading efforts)
- Historic PACP data mining and loading
- Engineering Department lift station data integration from rehabilitation invoices
- 2012 I&I study information
- Configuration and training for Collector for ArcGIS, Survey 123, Esri Workforce and/or other applications included in the Esri Field Apps Bundle

Deliverables:

1. Data collection plan as technical memorandum, draft and final versions
2. Asset condition data delivered in tabular format either directly in the attribute table in GIS or as separate table with GIS relationships in place
3. User manuals provided as training aides for PCU field staff, draft and final versions

5.7 ASSET CRITICALITY ANALYSIS

The 2009 AM Implementation Plan prescribed a methodology for analyzing asset criticality. Using this as a starting point, PROFESSIONAL will engage PCU staff in determining what to use and what to revise or modernize. A functional system approach to criticality analysis assists in identifying and zeroing in on critical assets in a quicker, more efficient way. This is based on asset hierarchy. The first level of analysis starts by comparing functional systems to determine which ones have the biggest impact on the organization's mission and goals. As these critical systems are identified, the focus goes towards the assets in these systems. The non-critical systems are either excluded or deferred to a later stage.

Systems are compared at the functional level by evaluating the failure scenarios instead of failure modes (failure modes are usually done at an asset level).

- Failure Type: Describes a generic loss of function (an input feed suffers a loss of pumping)

- Failure Scenario: Describes the circumstances or event around the loss of function (loss of pumps results in high turbidity and blinded filters)
- Failure Mode: Describes the specific ways an asset can fail (a pump might fail due to misalignment or bearing failure due to corrosion or wear)

A failure scenario at the system level takes a much wider and outward view of the net effect and the impact on overall objectives. A failure scenario is comprised of two parts:

1. A failure type that describes a generic yet fundamental loss of system functionality, like a loss of pumping
2. A description of specific and legitimate events or circumstances surrounding the generic loss of functionality

Once the failure scenarios are determined for the types of systems, each functional system is evaluated using relevant and specific failure scenarios against the categories previously determined as relevant to the overall goals. For example, what is the impact of a particular loss of pumping on safety, capacity, etc.? The severity and likelihood of the consequences to the criteria is evaluated based on available data and knowledge about the system.

Assets in the functional system will be assigned the same or lower criticality as the system they belong to. Not assigning a higher criticality to these assets helps determine highly ranked critical assets. After the analysis, a relative ranking of all systems will be provided. The breakout of all systems compared is 20% critical, 40% medium importance, and the last 40% is not important. This way the final list of critical assets will be smaller, because not all assets in a critical system are equally important.

Finally, results of the analysis will be calculated within the GIS at the asset level. GIS attribute tables will contain the appropriate metrics used to calculate, utilizing Cityworks Operational Insights, both the likelihood and consequence of failures enabling the risk to be determined and action to be taken.

Deliverables:

1. Workshop #8: Asset Criticality Development
2. Workshop #9: Asset Criticality Results
3. Criticality analysis technical memorandum, draft and final versions
4. Geodatabase updates

5.8 MAINTENANCE (REPAIR AND REPLACE) STRATEGIES

PROFESSIONAL will develop the action plan to address the risks and strategies defined in the previous tasks. Maintenance priorities will be developed in Cityworks, the system of action, will be configured to help direct and document these activities:

- Based on the results of the criticality and risk analysis, maintenance strategies will be identified and documented for the various processes and asset classes

- Estimate budget/costs for maintenance required to maintain a LOS
- Configure Cityworks to execute strategies

PROFESSIONAL will utilize the Dude Solutions, Inc. (DSI) Capital Predictor software to provide asset lifecycle cost models, reports, and associated data suitable for the PCU to utilize within its infrastructure investment planning processes for its sanitary sewer collection systems tributary to the SCBAWRF and WEDWRF. Costs for the Dude Solutions, Inc. (DSI) Capital Predictor software are not included and will need to be provided by PCU to perform this scope. To facilitate this outcome, PROFESSIONAL will configure first- and second-generation Capital Predictor Enterprise Asset Lifecycle cost models that predict costs for various asset system treatment, maintenance, and operations strategies for the PCU sanitary sewer collection system. Results will be cost-effective maintenance strategy options.

O/M prioritization plan with schedule of costs:

- Develop, document, configure, and implement maintenance plan
  - Cityworks preventive maintenance work order configuration
- Modify Cityworks Service Request, Work Order, and Inspection Templates to capture missing data
- Develop standard operating procedures (SOPs)

Deliverables:

1. Workshop #12: Align Criticality and Maintenance Strategies and minutes
2. Maintenance plan technical memorandum, draft and final versions
3. Cityworks configuration support and documentation to create reoccurring tasks, new/modified work templates
4. A technical memorandum that documents the parameters and information used to develop the lifecycle models and the cost-effective maintenance strategies for PCU's collection system assets
5. Digital copies of all data used to develop the models (Typically delivered in Excel and/or Esri file geodatabase formats)

5.9 UTILITY NETWORK IMPLEMENTATION PILOT

ArcGIS Utility Network (UN) Management is an ArcGIS Enterprise extension that helps model and manage a water and wastewater network in ArcGIS. The extension provides a framework for utility asset management, as well as tools for network modeling, editing, and analysis. These capabilities help provide a comprehensive view into the current state of the network. This level of visibility enables a better understanding of the network, more informed decisions, and the delivery of the right LOS. The ArcGIS UN is replacing the Geometric Network as the foundation for modelling assets in GIS. The UN's advanced capabilities provide utilities with a modern platform that will enable:

- Faster data querying and feature drawing
- Enhanced mobile access to network tracing capabilities
- Time enabled data for archiving
- Advanced integration capabilities with other platforms
- Subnetwork tracing functionality (5th Level Asset reporting)
- Schematic views of facilities (lift stations and plant assets)

- Nonspatial object tracing (lift station components)
- Use of the latest ArcGIS platform components including ArcGIS Enterprise, Portal and ArcGIS Pro

Migrating to the UN is a significant undertaking. This task is designed to perform a pilot project of the UN utilizing the Belleair Collection System Service Area. The pilot will demonstrate the UN's functionality such as tracing subnetworks, potential viewing of SCADA alarms and/or sensor data if this information is readily exposed, performing mobile subnetwork traces in the field, pushing edits to the office from the field, and other common features if and when the data sources are available. PROFESSIONAL will execute the steps for migrating to the UN for the Belleair Collection System Service Area. The tasks will comprise:

1. Set up a hosting environment with ArcGIS Enterprise and UN Extension
2. Clean and load data
3. Configure subnetworks and nonspatial objects (lift stations)
4. Deploy solution and field test with PCU staff
5. Document process and present results
6. Provide recommendations and roadmap for implementation for plants, water network, and remaining sewer network
7. Integrate proof of concept testing with Cityworks

PROFESSIONAL will provide the services to implement the above tasks. The County is responsible for providing the hosting environment for the UN and its underlying stack (ArcGIS Enterprise including Portal, Server, Datastore, SQL Server or other supported DBMS) on-premise or in the cloud at their preference. The County is also responsible for providing all software licensing including Esri software/named user licenses, Cityworks, and DBMS licensing

Deliverables:

1. Functioning Configuration of UN for the sewer domain containing the data for the Belleair Sewer Collection System or reasonable equivalent in size.
2. End User Manual, draft and final versions
3. Business Case Memorandum, draft and final versions
4. Migration Roadmap for PCU for all remaining assets including the South Sewer Collection System, plants, water and reclaimed networks, draft and final versions
5. Presentation to PCU

5.10 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

PROFESSIONAL will provide technical and independent review of all deliverables identified in Task 5.0. The geodatabases will be reviewed for accuracy and completeness and alignment with the scope early in their development to identify needed adjustments, if warranted, as well as the submitted versions. The reports, technical memoranda, plans, and meeting and workshop minutes will be reviewed for appropriate content and accuracy. The developed tools will be reviewed for proper functionality. Review activities will be tracked and documented and submitted to PCU upon request.

6.0 INFLOW/INFILTRATION (I&I) CHARACTERIZATION

The characterization of the inflow and infiltration entering the PCU North and South Wastewater Collection Systems is fundamental to understanding its correlation to the system SSOs and the subsequent development and evaluation of alternatives to mitigate the SSOs. PROFESSIONAL will build upon the available flow monitoring data, SSO data, pump station data, and other relevant reports provided by PCU to perform the characterization.

Task roles

PROFESSIONAL: Task Lead, provide guidance and input on all subtasks, overall QA/QC on all tasks
JEA: lead analyst for North System
Hazen: lead analyst for South System

6.1 EXISTING SYSTEM I&I ANALYSIS

PROFESSIONAL will summarize the I&I characterization across the system using the existing I&I characterization data from the I&I Studies across the South and North Systems and results from an analysis of existing SCADA data for the PCU pump stations. Results will be available in a geodatabase that will be incorporated into PCU's GIS environment available for use by PCU staff and be summarized in maps and tables in a technical memorandum. The results will be used to identify and prioritize areas with high I&I.

6.1.1 Pump Stations

PROFESSIONAL will estimate I&I levels at the 299 PCU pump stations and 51 lift stations owned by the Pinellas County Parks Department based on the I&I studies, existing and available SCADA data, and the recent lift station study reports. PROFESSIONAL will review recent SCADA data for up to four (4) wet-weather events provided by PCU to characterize I&I occurring upstream of each pump station to help determine which areas are experiencing relatively high levels of I&I based on run-time data. Characterization of the I&I from the Parks Department pump stations will be based on pump run-time data as provided by PCU. Data from a recent PCU pump station study will be used to supplement the I&I characterization.

North System

PROFESSIONAL will perform the SCADA system analysis on 100 prioritized PCU pump stations and up to 20 PCU Park Department lift stations in the North System based on the data provided by PCU. PROFESSIONAL will prioritize the pump stations to be analyzed based on pump stations that can be isolated hydraulically (not on manifolded system) and the larger Park Department lift stations. Results from the PCU pump stations analysis will be used to qualitatively identify the levels of I&I upstream of each pump station and inform the site selection of flow meters to be identified in the North System flow monitoring program under development outside of this project. PROFESSIONAL will perform a run-time analysis for select recent wet-weather events to identify pump stations with extended run times.

South System

PROFESSIONAL will perform the SCADA system analysis on 50 prioritized PCU pump stations in the South System that were not monitored during the previous I&I flow monitoring studies and up to 20 lift stations for the PCU Park Department lift stations. PROFESSIONAL will prioritize the pump stations to be analyzed based on pump stations that can be isolated hydraulically (not on manifolded system) and the larger Park Department lift stations. Results from the PCU pump stations will be used to qualitatively identify the levels of I&I upstream of each pump station. PROFESSIONAL will perform a run-time analysis for select recent wet-weather events to identify pump stations with extended run times.

6.1.2 I&I Flow Monitoring Studies Review and Summary

PROFESSIONAL will review and summarize the findings of the I&I Studies (17 study reports) conducted by PCU in the South and North Systems using the parameters in the reports. The summary will be based on the I&I parameters used in the reports.

6.1.3 I&I Prioritization Areas

PROFESSIONAL will prioritize areas across the PCU service area based on the results from Tasks 6.1.1, 6.1.2, and 6.2 organized by geographic areas defined by flow meter locations (area upstream of previously monitored areas), pump stations (tributary area), SSOs (tributary area), community boundaries, and sensitive areas (e.g. beaches). Results of the prioritization will be available in GIS.

Deliverables:

1. A technical memorandum that summarizes the I&I characterization and prioritization results in table and map format based on the parameters used in the existing reports, draft and final versions
2. GIS layer(s) with prioritization results corresponding to the geographic areas described in 6.1.3.

6.2 FLOW AND RAINFALL MONITORING SITE SELECTION ASSISTANCE

For the North System, PROFESSIONAL will review the proposed flow monitoring locations from the selected provider for the North System flow monitoring program and provide recommendations for modifications to support the goals of this project, especially for model calibration. As part of Task 7.4, data collected from the temporary North System flow monitoring program will be analyzed for I&I characterization in addition to supporting model calibration and will supplement the I&I prioritization areas in Task 6.1.3.

For the South System, PROFESSIONAL will identify locations for flow monitoring to support model calibration of the South System. Flow monitoring services will be contracted through an outside firm. As part of Task 7.5, data collected from the temporary South System flow monitoring program will be analyzed for I&I characterization in addition to supporting model calibration and will supplement the I&I prioritization areas in Task 6.1.3. PROFESSIONAL will manage the temporary flow monitoring program for the South System under Task 7.7.2.

6.3 EARLY-ACTION I&I REHABILITATION RECOMMENDATIONS

PROFESSIONAL will identify up to four (4) candidate areas at a scale of approximately 10,000 feet of gravity main as early-action areas for rehabilitation projects. PROFESSIONAL will select the areas based on the findings from Task 6.1.3 based on available data and other considerations such as historical sewer overflow activity, lift station hauling, and sensitive areas. A plan will be developed to identify needed field investigation activities to target priority areas to perform rehabilitation.

PROFESSIONAL will recommend early-action I&I mitigation activities that will be part of a bid package to a rehabilitation contractor as well as areas to focus on for long-term mitigation. Guidance for conducting the early-action I&I rehabilitation projects, including the collection of pre- and post-rehabilitation flow monitoring data to assess post-rehabilitation effectiveness, will be provided. The early-action I&I rehabilitation areas will be provided to PCU in a meeting.

Deliverables:

1. Meeting and minutes for presentation of the early-action I&I rehabilitation areas
2. Technical memorandum identifying the four (4) early-action I&I rehabilitation areas with a plan to perform the rehabilitation work. I&I mitigation areas for long-term mitigation analyses will be provided that will inform the hydraulic modeling and master planning tasks, draft and final versions

6.4 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

PROFESSIONAL will review the pump station analysis results, the I&I studies summary, the prioritized I&I areas, the I&I rehabilitation early-action prioritized target areas, the early-action project recommendations, and the guidance for performing additional field investigations. The I&I results organized on the different geographic levels will be checked to assure that the corresponding values are properly calculated. Review activities will be tracked and documented and submitted to PCU upon request.

7.0 HYDRAULIC MODELING

PROFESSIONAL will provide hydraulic modeling services to support the objectives of the Wastewater Collection System Management Program. The hydraulic modeling will be performed for both the North (WEDWRF service area) and South Systems (SCBAWRF service area) following the standards identified in the most recent version of the PCU South County SS Modeling-Methodology-Protocol. Necessary deviations will be noted and submitted to PCU for approval. Modeling services include hydrologic and hydraulic model development/refinement, hydraulic calibration and validation, and system hydraulic capacity evaluation. Alternatives development and evaluation will be conducted under the optimization scope of Task 9.0 (Master Planning). The results of this task are properly calibrated hydraulic models for the North and South Systems that will support the project and a hydraulic capacity characterization of the North and South Systems.

Task roles
PROFESSIONAL: Task Lead, Modeling Support for North and South Systems (model a portion of each), overall QA/QC
Hazen: Lead Modeler for South System
JEA: Lead Modeler for North System
Confluency: Key Alternatives/Optimization Strategy Support

7.1 REVIEW MODELING METHODOLOGY/PROTOCOL

PROFESSIONAL will review the existing PCU South County SS PCS-SWMM Hydraulic Model and Modeling-Methodology-Protocol and determine the specific parameters and procedures needed for model calibration such as the specific time period for calibration, calibration events, the use of radar-rainfall data, and other needs.

Deliverable: Specific model development and calibration parameters needed for the calibration of the North and South Systems will be documented in the Model Development and Calibration Report. The PCU Modeling-Methodology Protocol document will be updated.

7.2 DEVELOP ALTERNATIVES AND OPTIMIZATION STRATEGY

PROFESSIONAL will develop the strategy that utilizes the hydraulic model for the development and evaluation of alternatives to address the hydraulic deficiencies. The strategy will include the relation to the optimization of the alternatives defined in Task 9.0 (Master Planning). The following will be defined in the strategy:

- Criteria for performing the alternatives analyses, including the hydraulic and process capacity of the South Cross Bayou Advanced Water Reclamation Facility (South System) and W.E. Dunn Water Reclamation Facility (North System) in conjunction with Task 10.4.
- Corrective action options available for evaluation such I&I reduction, capacity increases, storage, pumping changes, and green infrastructure

- Prioritization of the corrective action options
- Definition of outfall conditions, including sea-level rise conditions
- Define I&I removal assumptions and approach
- Define system performance criteria that will be used to measure the success of alternatives evaluated as a part of optimization evaluations. System performance criteria will be set to measure, at a minimum, system surcharging and SSOs. Other criteria may also be established to reflect owner priorities for system management through CIP improvements.

Deliverable: Technical memorandum with the hydraulic modeling alternatives and optimization strategy, draft and final versions

7.3 FUTURE DEVELOPMENT MODEL STRATEGY

PROFESSIONAL will develop the strategy to define the future development conditions that will be incorporated into the hydraulic modeling for both the North and South Systems which will support the alternatives development and evaluation. The following components will be defined:

- New development – how to account for flows from area that is currently undeveloped but will be developed in the future
- Infill development – how to account for flows from area that is currently developed, but will have a change in the land development that warrants a change in flows to the sanitary sewer system
- Transferred flows from other communities – the South System will include the transfer of sanitary sewer flows from the communities of St. Pete Beach, Treasure Island, and Pasadena (from City of St. Petersburg) and others, if warranted
- Septic system user connections – how to account for flows from existing area with current septic system users connecting to the PCU sanitary sewer system
- Dry-weather flow (DWF) projection approach – how to account for flows due to population changes (horizontal and vertical) as the result of different land use as well as seasonal changes
- Wet-weather flow (WWF) projection approach – how to estimate inflow and infiltration rates for future conditions considering aging of infrastructure and ongoing system rehabilitation
- Planning horizons – determine the planning horizon and intervals to evaluate future conditions
- Levels of Service - determine the levels of service to be evaluated for future conditions as defined in Task 9.0 (Master Planning).

Deliverable: Technical memorandum with the results of the future development modeling strategy, draft and final versions

7.4 NORTH SYSTEM (WEDWRF)

PROFESSIONAL will develop the hydraulic model for the North System and provide hydraulic modeling services to support the Wastewater Collection System Management Program objectives as identified in the following subtasks.

7.4.1 Data Collection and Review

PROFESSIONAL will review the status of the available model and determine additional data needs to support the project objectives. A gap analysis will be performed that identifies the additional data needed to expand the existing model to meet the model extent requirements as well as the data missing from existing data sources, such as GIS and pump station records, that will be needed to meet the model development requirements. Data to be reviewed include pipe attribute data, system outfall conditions, pump station capacity and operation data, force main data, manifold performance data, and other appurtenance data (e.g., weirs, gates, and valves). The initial data request will occur in Task 2.0. Subsequent data collection efforts will be made by the modeling team and coordinated with Task 2.0 for tracking purposes.

Deliverable: A technical memorandum with the data gap analysis results for modeling the North System and a plan for collecting the additional data to address the gap, draft and final versions

7.4.2 Model Development

PROFESSIONAL will convert the existing SewerGEMS model to the PCSWMM modeling platform and input additional model components, such as pipes, manholes, pump stations, and force mains and their associated attribute data into the model to meet the modeling protocol requirements, including model extent and boundary conditions. The hydrologic model will be refined by delineating catchment areas tributary to the system at the level of detail defined by the modeling protocol. Initial hydrologic parameters will be estimated and assigned.

Deliverable: A PCSWMM input file representing the North County Wastewater Collection System at the appropriate level of detail.

7.4.3 Model Calibration and Validation

PROFESSIONAL will calibrate and validate the hydrologic and hydraulic computer model of the North System following PCU's modeling protocol for both dry-weather and wet-weather conditions. The calibration/validation results will be documented in the North System portion of the Model Development and Calibration Report in Task 7.6.

PROFESSIONAL will calibrate the North System model for dry-weather conditions assuming 70 flow meter calibration sites. Calibration standards of matching model results to observed results will be based on criteria established in the PCU modeling protocol.

PROFESSIONAL will calibrate the North System model for wet-weather conditions based on three (3) months of data from 70 flow meter calibration sites (210 meter-months). Radar-rainfall data obtained from an outside vendor and calibrated to available rainfall data from PCU will be used for the wet-weather simulations. The RTK method will be used for simulating wet-weather flows. PROFESSIONAL will develop the R, T, and K parameters from the flow monitoring program to implement for the North

System estimated to include 70 flow metering sites. The time period of flow data to be used for calibration will be determined in Task 7.1. The number of wet-weather events to be analyzed for R, T, and K parameters is assumed to be five (5).

PROFESSIONAL will schedule and conduct a workshop (two meetings, 4 hours, 2 staff), either in-person or virtually, to share calibration results and findings.

Deliverables:

1. PCSWMM calibration model input file of the North System
2. Calibration Workshop and associated minutes

7.4.4 Future Model Development

PROFESSIONAL will update the calibrated hydraulic model to represent the future conditions following the guidance from Task 7.3. This includes adding future planned projects, dry-weather flow projections, and wet-weather flow projections for each of the future scenarios defined in Task 7.3. These models will be used to determine how the future planned projects affect the hydraulic capacity deficiencies identified from the existing system hydraulic capacity evaluation.

Deliverable: PCSWMM calibration model input file representing the future development conditions of the North System

7.4.5 Hydraulic Capacity Evaluation

PROFESSIONAL will use the calibrated hydraulic model to evaluate the existing hydraulic capacity conditions and future scenarios model to evaluate the future hydraulic capacity conditions. Identify and evaluate collection system hydraulic capacity deficiencies for the existing conditions first, then the future model. PROFESSIONAL will use model results in combination with local community inputs, flow meter data, and existing information to identify areas with excessive I&I causing SSOs in the local or downstream systems. This includes the following tasks:

- Simulate up to three (3) synthetic design storms to identify the existing LOS and locations of collection system hydraulic capacity deficiencies. Synthetic design storms will utilize Atlas 14 rainfall totals and rainfall distributions.
- Evaluate the impact of collection system flows at the WEDWRF.
- Evaluate wet weather sanitary volume transported to the WEDWRF to support a water quality impact analysis.
- Evaluate SSO volume and activation frequency to support a water quality impact analysis.
- Identify additional areas for field inspection to clarify findings and reduce model uncertainties.
- Compare model capacity results to historical SSO records.

PROFESSIONAL will use the future scenarios model to evaluate the ability of the existing collection system to convey flows from areas currently served by septic systems. PROFESSIONAL will coordinate

with Task 8.0 (Septic-To-Sewer Program) efforts to properly represent flows from projected connecting septic system users.

PROFESSIONAL will perform an initial hydraulic capacity analysis using the available hydraulic model before full calibration to identify potential hydraulic bottlenecks and identify potential storage locations that will inform the Early-Action SSO Reduction Planning analysis in Task 3.1.3. The model will be run using synthetic hydrographs. Hydraulic bottlenecks identified by the model simulations will be correlated to historic SSOs and locations for early-action improvement projects.

PROFESSIONAL will document the hydraulic capacity, water quality impacts based on SSO volumes, and I&I problem identification in a technical memorandum.

- Determine the existing LOS based on model simulations of three (3) design storms
- Identify pipe hydraulic capacity deficiencies
- Characterize model-predicted SSO performance/activity
- Characterize force main performance, including manifolded pump stations and systems
- Characterize performance of the PCU pump stations

Deliverable: Technical memorandum of the existing North System performance including hydraulic deficiencies, SSOs, I&I levels, and lift station performance based on three (3) design storms, draft and final versions

7.5 SOUTH SYSTEM (SCBAWRF)

PROFESSIONAL will further develop the existing hydraulic model for the South System Area and provide hydraulic modeling services to support the Wastewater Collection System Management Program objectives as identified in the following subtasks.

7.5.1 Data Collection and Review

PROFESSIONAL will coordinate with the County to obtain the missing data as identified in the South County Modeling Services PCSWMM Model Development Report (August 31, 2020).

Deliverable: Technical memorandum with plan to obtain missing data identified in the gap analysis of the report referenced above, draft and final versions

7.5.2 Model Refinement

PROFESSIONAL will refine the existing PCSWMM model by inputting additional system attribute data into the model as identified in the South County Modeling Services PCSWMM Model Development Report (August 31, 2020). Initial hydrologic parameters will be estimated and assigned based on flow data results from the I&I studies performed across the South System area.

Deliverable: Updated PCSWMM input file representing the South County Wastewater Collection System at the appropriate level of detail

7.5.3 Model Calibration and Validation

PROFESSIONAL will calibrate and validate the hydrologic and hydraulic computer model of the South System following PCU's modeling protocol for both dry-weather and wet-weather conditions. The calibration/validation results will be documented in the South System portion of the Model Development and Calibration Report in Task 7.6.

PROFESSIONAL will calibrate the South System model for dry-weather conditions assuming three (3) months of data from 145 flow meter calibration sites (435 meter-months). Calibration standards of matching model results to observed results will be based on criteria established in the PCU modeling protocol.

PROFESSIONAL will calibrate the South System model for wet-weather conditions based on 145 flow meter calibration sites. Radar-rainfall data obtained from an outside vendor and calibrated to available rainfall data from PCU will be used for the wet-weather simulations. The RTK method will be used for simulating wet-weather flows. PROFESSIONAL will develop the R, T, and K parameters from the flow monitoring program to implement for the South System estimated to include 145 flow metering sites. The time period of flow data to be used for calibration will be determined in Task 7.1. The number of wet-weather events to be analyzed for R, T, and K parameters is estimated to be five (5).

PROFESSIONAL will schedule and conduct a workshop (one meeting, 2 hours, 2 staff), either in-person or virtually, to share calibration results and findings.

Deliverables:

1. PCSWMM calibration model input file of the South System
2. Calibration Workshop with associated minutes

7.5.4 Future Model Development

PROFESSIONAL will update the calibrated hydraulic model to represent the future conditions following the guidance from Task 7.3. This includes adding future planned projects, dry-weather flow projections, and wet-weather flow projections for each of the future scenarios defined in Task 7.3. These models will be used to determine how the future planned projects affect the hydraulic capacity deficiencies identified from the existing system hydraulic capacity evaluation.

Deliverable: PCSWMM calibration model input file representing the future development conditions for the South System

7.5.5 Hydraulic Capacity Evaluation

PROFESSIONAL will use the calibrated hydraulic model to evaluate the existing hydraulic capacity conditions and the future scenarios model to evaluate the future hydraulic capacity conditions. Identify and evaluate collection system hydraulic capacity deficiencies for the existing conditions first, then the future model. PROFESSIONAL will use model results in combination with local community inputs, flow meter data, and existing information to identify areas with excessive I&I causing SSOs in the local or downstream systems. This includes the following tasks:

- Simulate up to three (3) synthetic design storms to identify the existing LOS and locations of collection system hydraulic capacity deficiencies. Synthetic design storms will utilize Atlas 14 rainfall totals and rainfall distributions.
- Evaluate the impact of collection system flows at the SCBAWRF.
- Evaluate wet weather sanitary volume transported to the SCBAWRF to support a water quality impact analysis.
- Evaluate SSO volume and activation frequency to support a water quality impact analysis.
- Identify additional areas for field inspection to clarify findings and reduce model uncertainties.
- Compare model capacity results to historical SSO records.

PROFESSIONAL will use the future scenarios model to evaluate the ability of the existing collection system to convey flows from areas currently served by septic systems. PROFESSIONAL will coordinate with Task 8.0 (Septic-To-Sewer Program) efforts to properly represent flows from projected connecting septic system users.

PROFESSIONAL will perform an initial hydraulic capacity analysis using the available hydraulic model before full calibration to identify potential hydraulic bottlenecks. The model will be run using synthetic hydrographs. Hydraulic bottlenecks identified by the model simulations will be correlated to historic SSOs and locations for early-action improvement projects that will be provided to PCU for consideration to advance.

PROFESSIONAL will document the hydraulic capacity, water quality impacts based on SSO volumes, and I&I problem identification.

- Determine the existing LOS based on model simulations of three (3) design storms
- Identify pipe hydraulic capacity deficiencies
- Characterize model-predicted SSO performance/activity
- Characterize force main performance, including manifolded pump stations and systems
- Characterize performance of the PCU pump stations

Deliverable: A technical memorandum of the existing South System performance including hydraulic deficiencies, SSOs, I&I levels, and lift station performance based on three (3) design storms, draft and final versions

7.6 MODEL DEVELOPMENT AND CALIBRATION REPORT

PROFESSIONAL will prepare the Model Development and Calibration Report that includes the results for both the North and South Systems in one report. The method of model development and calibration will be presented with the results.

Deliverable: Model Development and Calibration Report, electronic draft and final versions

7.7 FIELD DATA TO SUPPORT MODEL DEVELOPMENT/CALIBRATION

An allowance is provided for PROFESSIONAL to obtain needed information to support the development and calibration of both the North and South System hydraulic models. Sites to investigate will be prioritized based on their influence to the modeling results.

7.7.1 Field Investigation Activities

Following are the assumptions used to estimate the allowance for field investigation activities to support model development and calibration in both the North and South Systems. The appropriate field investigation activities to perform will be prioritized based on the impact to the modeling results.

- Pump drawdown tests: 10 pump stations
- Manhole measure-downs to collect pipe invert elevations and diameters: 30 manholes
- Wet-weather field visits to observe pipe and street water depth conditions: 2 days of 2-man crew
- Flow monitoring of locations to clarify or validate model results: 8 meter-months
- Application of FELL technology from Electro Scan: 8,000 LF

7.7.2 Temporary Flow and Rainfall Monitoring for South System

PROFESSIONAL will prepare and manage the temporary flow monitoring program in the South System area to collect data needed to calibrate the system hydraulics. Flow and rain monitoring equipment will be procured from an outside vendor. PROFESSIONAL will coordinate with the County on the flow and rainfall monitoring standards to follow for implementation of the program. The program is assumed to install 50 area/velocity flow meters, six (6) force main strap-on meters that can be moved to multiple sites over the duration of the temporary program, and 5 force main pressure sensors at locations identified in Task 6.2. It is assumed that 8 rain gages will be installed for the duration of the flow monitoring program. The duration of the temporary flow and rainfall program is assumed to be three (3) months.

7.8 COMPARISON OF STORMWATER FLOODING/PONDING RESULTS TO SANITARY SYSTEM

PROFESSIONAL will compare the existing stormwater inundation results documented in the Stormwater/Wastewater Potential Project Area Maps (2019) and street and yard ponding information to be collected from PCU along with a GIS-based sink analysis based on existing LIDAR data with the

wastewater collection system I&I characterization and model hydraulic analysis results (sewer surcharging and manhole flooding locations). Hazen will perform the GIS-based sink analysis for both the North and South Systems. JEA and Hazen will prepare the deliverables for the North and South Systems, respectively. PROFESSIONAL will identify potential locations where stormwater system improvements may reduce I&I in the sanitary sewer system.

PROFESSIONAL will review available County stormwater inundation reports, meet with County stormwater staff to identify chronic flooding and ponding areas, and review available County stormwater service requests for the previous four (4) years that are available electronically.

Deliverable: Maps with locations of stormwater inundation areas, known observed street and yard ponding, customer flooding service requests, and wastewater collection system I&I and model hydraulic capacity results superimposed on each for the North and South Systems, separately.

7.9 MODEL APPLICATIONS/PROJECT SUPPORT

An allowance is provided for PROFESSIONAL to use the developed hydraulic models of the North and South Systems to support PCU initiatives and ad-hoc inquiries. These may include supporting project design, what-if scenarios, and other potential ad-hoc challenges that could benefit from use of the models. This task is different than the alternatives and optimization modeling to be performed in Task 9.0.

7.10 MODEL MAINTENANCE AND UPDATE PROTOCOL DEVELOPMENT

Maintaining the hydraulic computer models of the North and South Systems as an accurate representation of the real-world system is important so that they can continue to be utilized with confidence well into the future. PROFESSIONAL will develop a Model Maintenance and Update Protocol that will provide the procedures and guidance to regularly update and maintain the hydraulic computer models. This will include:

- Recommendations for ongoing flow monitoring/level sensor efforts to reduce model uncertainties and inform detailed design needs. A recommended annual budget for flow monitoring will also be included.
- Model maintenance protocols (updating system changes, re-calibration, software version compatibility measures)
- Software licensing needs
- Maintenance interval requirements
- Incorporation of additional system modeling data into the South System Master Model and North System Master Model

Deliverables:

1. The PCU Model Maintenance and Update Protocol in PDF format, draft and final versions

7.11 MODEL TRAINING

PROFESSIONAL will identify training needs for PCU including for Concurrency Management, train the identified staff to use the North and South models and model results in 2 training sessions, and develop a basic model use document focused on using the models for Concurrency Management, viewing sewer profiles, viewing hydrographs, identifying most commonly used model results (e.g., peak flows rates in sewers and peak water depths at manholes), and making basic changes to model attributes and flows. Detailed training on the wider functionality of the PCSWMM software will not be provided.

Deliverables:

1. Two training sessions of 2 to 4 hours each for PCU staff on using the model
2. Model use reference document

7.12 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

The QA/QC measures for the hydraulic modeling task is more intensive than most other tasks as the deliverables to review include the PCSWMM hydraulic computer models in additional to the other written deliverables (e.g., technical memorandums and reports). PROFESSIONAL will review the PCSWMM hydrologic and hydraulic models for both the North and South Systems to determine their adherence to the modeling protocol and ability to support the program objectives. PROFESSIONAL will review the developed hydraulic models before calibration to check for sewer profile discontinuities, proper representation of force mains and pump stations, and general model setup including model system metatags. Multiple review gates will occur as the model is being calibrated for both dry-weather and wet-weather conditions to assure consistency between both the North and South System models. Model calibration will be reviewed at approximately the 10% and 50% marks as well as a final calibration review for both the North and South Systems. The review will check that hydrologic and hydraulic parameters are within acceptable ranges, the adequacy of the calibration fit, and variances and their potential causes. Feedback will be provided to the respective North and South System lead modelers and review performed to assure that feedback has been adequately addressed. Documentation of the QA/QC process and results will be provided to PCU.

8.0 SEPTIC-TO-SEWER PROGRAM

The Septic-to-Sewer Program task will inventory and evaluate wastewater management solutions for unsewered areas within the County that currently use septic systems to treat domestic wastewater and prioritize unsewered areas to be connected to PCU's wastewater collection system. In addition, unsewered areas to be connected to other municipalities within the County will be evaluated, costs will be identified, and a policy and plan for implementation developed. An implementation strategy will be developed for PCU to manage the Septic-to-Sewer Program. PROFESSIONAL will not provide staff to manage the program. Results from the Septic-to-Sewer Program task will inform the future development conditions of Task 7.0 (Hydraulic Modeling) and will be incorporated into the overall master planning schedule and financial analysis. The Septic-To-Sewer Program subtasks will be conducted in three phases defined as:

- Phase 1: Identify unsewered areas within 100 feet of PCU's existing wastewater infrastructure for PCU action
- Phase 2: Identify other unsewered areas within the unincorporated County area near PCU's sewer service area and develop options for connection to PCU sewer
- Phase 3: Identify other unsewered areas Countywide outside the PCU's service area for the development of policy and coordination for connecting these areas to other municipalities' existing wastewater infrastructure

Task roles

Hazen: Task Lead, lead for production work

PROFESSIONAL: major support production for delineations and conversion alternatives, input on all subtasks, overall QA/QC

JEA: public outreach support in the North System

8.1 DEFINE VISION AND GOALS

PROFESSIONAL will prepare for and conduct a workshop (one meeting, 2 hours, 2 staff), with stakeholders to define the goals and establish the timeline for all three phases. The following items will be discussed in the workshop:

- Environmental protection
- Cost-effective solutions
- Public health
- Operational sustainability
- Funding opportunities
- Enforceability
    - Ordinance and policy
    - Stakeholder support from other municipalities within the County
- Framework for identification of areas and implementation plan (maps)
- Public messaging

Deliverable: Meeting minutes and statement(s) of clearly-defined goals with timeline

8.2 DELINEATE AND GROUP UNSEWERED AREAS

8.2.1 Data Collection and Review for all Three Phases (see Task 2.0)

PROFESSIONAL will provide a list of the initial data to be requested from the PCU as part of Task 2.0 to support the Septic-to-Sewer Program task.

8.2.2 Unsewered Residential Areas Delineation

PROFESSIONAL will compare wastewater and water data and the FDOH septic system data provided and develop a preliminary delineation of unsewered residential areas. The FDOH Florida Water Management Inventory septic parcels data from 2017 will be compared to the existing county-wide wastewater infrastructure GIS data and customer data provided by PCU and other municipalities. Unsewered residential area sites will be visited to aid in delineation. The identified septic systems will be classified by land use type (residential, commercial, institutional, or industrial).

- Phase 1: Preliminary delineation of unsewered residential areas within 100 feet of the County's existing wastewater infrastructure. Up to four (4) site visits.
- Phase 2: Preliminary delineation of remaining unsewered residential areas within PCU service area. Up to two (2) site visits.
- Phase 3: Preliminary delineation of remaining unsewered residential areas Countywide outside the PCU service area. Up to two (2) site visits.

Deliverables:

1. Maps identifying septic systems
2. Memorandum with site visit summaries, final version

8.2.3 Unsewered Residential Areas Grouping

Unsewered residential areas within 100 feet of the PCU's existing wastewater infrastructure will be classified and grouped to summarize the collected data and facilitate comparisons between areas. Preliminary characterization of the Groups will include analysis of septic system density, vacant land availability, applicable TMDL limits, wastewater flow projections, susceptibility to flooding, etc. The groups will be characterized as a generalized connection type (for example single user, private lift station, small group, large group, etc.).

- Phase 1: Classify and group identified unsewered residential areas within 100 feet of the PCU's existing wastewater infrastructure.
- Phase 2: Classify and group remaining unsewered residential areas within PCU service area.
- Phase 3: Classify and group remaining unsewered residential areas County-wide outside the PCU service area.

Deliverable: Maps in GIS identifying areas and Groups

8.2.4 Progress Meeting

A progress meeting with County staff to review the preliminary delineation of unsewered residential areas will be held for each of the three phases (three meetings, 2 hours, 2 staff).

Deliverables:

1. Excel spreadsheet of Data Request Database
2. Meeting minutes

8.2.5 Countywide Municipalities Coordination Workshop #1

A workshop (one meeting, 2 hours, 2 staff), will be held with municipalities (Other Agencies) with Phase 3 groups of septic systems in close proximity to existing service areas to review the preliminary delineation of Phase 3 unsewered residential areas.

Deliverable: Workshop meeting minutes

8.3 DEVELOP PRIORITIZATION PLAN

PROFESSIONAL will develop a prioritization plan for converting septic system users to a public wastewater collection system.

8.3.1 Evaluation Criteria Development

PROFESSIONAL will develop evaluation criteria to rank the delineated unsewered residential areas to determine which areas best meet the goals of the project and should be prioritized for conversion to sewer.

- Criteria will build on and may include proximity to existing wastewater infrastructure and available capacity, easements/ROW issues, number of septic systems, typical lot size, potable water service, proximity to surface waterbodies, soil characteristics, number of septic system repairs/failures, flood zones, age of septic systems, and others.
- Ranking and Prioritization - A draft set of weights to characterize the relative importance of each criterion will be developed within a matrix, which will be used to rank the various Groups using the agreed-upon criteria and relative weights of each criterion. A progress meeting with PCU staff to review the criteria and relative weights will be conducted.

Deliverable: Meeting minutes with the evaluation criteria, relative weights, and ranking/prioritization criteria

8.3.2 Workshop with County Stakeholders

PROFESSIONAL will present the preliminary unsewered Group rankings and priority lists developed at a half-day roundtable workshop with County stakeholders for each of the three phases. The workshops

will serve as forums for full vetting and discussion of evaluation criteria and their assigned weights and the preliminary ranking. Results and recommendations contained in the draft delineation of unsewered residential areas, preliminary ranking, and prioritization will be presented. During the workshops, PCU will identify the preferred, top-ranked Groups of connection types to be further evaluated.

- Phase 1 Workshop with County Stakeholders workshop (one meeting, 4 hours, 2 staff),
- Phase 2 Workshop with County Stakeholders workshop (one meeting, 4 hours, 2 staff),
- Phase 3 Workshop with Other Agencies workshop (one meeting, 4 hours, 2 staff),

Deliverable: Meeting minutes

8.3.3 Develop Technical Memorandum Summarizing Findings

PROFESSIONAL will prepare a draft technical memorandum explaining the available data gathered and evaluated, prioritization criteria, and prioritized list developed. The report will include maps of identified Phase 1, Phase 2, and Phase 3 unsewered areas and GIS data files of mapped areas. The draft document will be submitted to PCU for review and comment. Relevant comments will be incorporated into the documents and submitted to PCU as final.

Deliverable: Technical memorandum documenting the Prioritization Plan, draft and final versions

8.4 EVALUATE CONVERSION ALTERNATIVES

PROFESSIONAL will evaluate conversion alternatives for all septic users.

8.4.1 Data Collection and Site Visit

PROFESSIONAL will conduct one (1) site visit to each top-ranked representative connection type Groups to assess aerial/GIS/as-built data for existing utilities, note above-ground features that may be impacted by the design, walk the major pipeline routes to identify any major conflicts, assess preliminary constraints, and evaluate existing wetlands, surface waters, and state- and federally-listed species and/or habitats.

8.4.2 Wastewater Flow and Connection Point Sizing

PROFESSIONAL will estimate wastewater generation for the ranked representative connection type Groups. Preliminary sizing of the wastewater infrastructure to the appropriate connection point will be determined for each of the three phases using the model developed in other tasks.

8.4.3 Representative Groups Sewer Collection Systems Conceptual Designs

PROFESSIONAL will develop a conceptual design for each top-ranked representative connection type Group. Alternatives for each connection type will be evaluated for conventional gravity sewer and low-pressure systems including grinder pumps, vacuum, advanced onsite systems, hybrid systems, and/or other non-traditional approaches. This task will include initially sizing and locating associated

infrastructure and piping on basic schematics. The wastewater collection and transmission system will be sized for peak flow. The conceptual designs for each representative connection type will be based on typical layouts utilizing aerials and GIS data. Conceptual designs for the representative connection type Groups will be presented and discussed with PCU at a progress meeting.

Following the progress meeting, PROFESSIONAL will develop planning level construction capital costs for the conceptual designs. The estimates of probable costs will be planning level (AACE Class 5) estimates as defined by the Association for the Advancement of Cost Engineering.

- Phase 1 Representative Groups Sewer Collection Systems Conceptual Designs
- Phase 2 Representative Groups Sewer Collection Systems Conceptual Designs
- Phase 3 Representative Groups Sewer Collection Systems Conceptual Designs

Deliverables:

1. Conceptual Plans with planning level cost estimates, draft and final versions
2. Meeting minutes

8.4.4 Criteria Development for Group Assessments

PROFESSIONAL will develop evaluation criteria to determine which wastewater collection strategy best meets the program goals for each Group. Criteria may include cost (capital and O&M), ease of management, funding options, public impacts (odor, aesthetics, construction impacts), and reliability (ability to withstand storms and power outages). The criteria will be used to facilitate the evaluation and comparisons of alternatives. PROFESSIONAL will propose draft sets of weights to characterize the relative importance of each criterion. This task will include a half-day workshop (one meeting, 4 hours, 2 staff), with PCU to establish the criteria and detailed evaluation to use for assessment of Groups. The intent of the workshop will be to obtain input on the overall evaluation process and consensus on the weighting factors.

Deliverable: Meeting minutes with evaluation criteria

8.4.5 Evaluation and Assessment of Sewer Collection Approaches

PROFESSIONAL will evaluate the alternatives identified for the connection types for each Group and consider the criteria established in Task 8.4.4. Recommendations will be presented and discussed with PCU at a progress meeting. PROFESSIONAL will then finalize the sewer collection approach concepts and develop geographic maps using GIS indicating the recommended approach (strategy and technology) for each Group.

- Phase 1 Groups Evaluation and Assessment of Sewer Collection Approaches
- Phase 2 Groups Evaluation and Assessment of Sewer Collection Approaches
- Phase 3 Groups Evaluation and Assessment of Sewer Collection Approaches

Deliverables:

1. Technical memorandum with summary of findings and maps, draft and final versions
2. Meeting minutes

8.4.6 Master Plan Chapter [see Task 9.0]

PROFESSIONAL will summarize the results of the septic-to-sewer task results in the WWCSMP that can be used to support communications with project stakeholders. The document will include an implementation schedule and will:

- Identify Septic-to-Sewer Capital Improvement Plan
- Identify near-term strategies and measurable outcomes
- Identify long-term strategies and measurable outcomes
- Identify areas/items requiring additional investigation
- Develop recommendations to inform decision makers

8.5 PUBLIC OUTREACH SUPPORT

PROFESSIONAL will provide the needed information and details of the Septic-to-Sewer policies and programs to the staff conducting the public outreach scope described in Task 11.3. This information includes the locations of the septic-to-sewer candidates associated with the 3 identified phases, the prioritized connections of septic-to-sewer candidates, the anticipated costs, and other needed data to support the development of the public outreach material and attend one public meeting.

8.6 FUNDING OPTIONS AND RATE IMPACTS SUPPORT

PROFESSIONAL will provide the needed information and details of the Septic-to-Sewer policy and program to the staff conducting the funding options and rate impact analysis as described in Task 12.1.4. This information includes the cost estimates for the septic-to-sewer program.

8.7 FUNDING AND GRANT APPLICATION ASSISTANCE

PROFESSIONAL will develop a funding plan for the program that identifies funding sources, including grant funding, following the recommended Septic-to-Sewer CIP.

8.7.1 Funding Alternatives

PROFESSIONAL will prepare a summary an evaluation and assessment of funding alternatives applicable to the septic-to-sewer strategies identified for Phase 1, Phase 2, and Phase 3. PROESSIONAL will prepare a summary of funding alternatives.

Deliverable: Technical memorandum identifying funding alternatives, draft and final versions

8.7.2 Grant Funding Application Assistance

An allowance is provided for assistance to PCU, as needed, for seeking grant funding for the program. PROFESSIONAL will assist PCU grant writers, as needed, in developing narrative and infographics, as well

as identifying and describing statewide environmental benefits, etc. In addition, this task includes assisting PCU, as needed, with alternative methods and strategies to finance the CIP.

8.8 POLICY/LEGISLATION

PROFESSIONAL will develop the plan which will consider recommended ordinances related to sewer connection used to support program implementation. The following elements will be included:

- Connecting
- Long-term maintenance/ownership
- Interlocal agreements

8.8.1 Review of Existing Septic-To-Sewer Programs

PROFESSIONAL will research and compile information on existing/on-going septic-to-sewer conversion programs across the nation, including location, governing authority, population size, quantity of septic systems, ordinances utilized to support program implementation, funding, legal, implementation features, and documented successes/challenges. A summary of this research effort will be complied into a white paper. It is anticipated that the successful aspects of other septic-to-sewer conversion programs will be utilized in PCU's public engagement and will serve as a baseline for developing a local septic-to-sewer program.

Deliverable: White paper documenting review results of existing septic-to-sewer programs

8.8.2 Workshop to Establish Program Policy Goals

PROFESSIONAL will coordinate with PCU to define the goals of the Septic-to-Sewer Program policy, which will include new rules and legislation changes, schedule, implementation and enforcement strategy, inspection protocols, and corrective actions. Policy review results and recommendations will be presented at a half-day roundtable workshop (one meeting, 4 hours, 2 staff), with the County stakeholders.

Deliverable: Meeting minutes that include the goals of the policy

8.8.3 Develop Policy Changes

PROFESSIONAL will develop options for creating a Septic-to-Sewer Program policy which will address inspection, ownership, funding, implementation, and enforcement. PROFESSIONAL will define up to three (3) alternatives for a Septic-to-Sewer Program policy along with a timeline for drafting the alternatives and present them to PCU (one meeting, 2 hours, 2 staff). The number of alternatives to present to the BOCC will be determined in coordination with PCU.

PROFESSIONAL will schedule and conduct up to three (3) meetings with the BOCC to present and discuss Septic-to-Sewer Program policy alternatives and recommendations.

Deliverables:

1. Technical memorandum with up to 3 alternatives defined, draft and final versions
2. Meeting minutes

8.8.4 Respond to Legislative Requirements

An allowance is provided for PROFESSIONAL to assist PCU, as needed, with drafting annual report requirements to the FDEP, FDOH, and/or SWFWMD, as applicable, related to projects to connect onsite sewage treatment and disposal systems to central sewerage systems or recovery or prevention strategies. Summaries will include the specified requirements and may include estimated cost, estimated completion date, source and amount of financial assistance, and quantitative estimate of each listed project's benefit to the watershed, water body, or water segment in which it is located.

Deliverable: Technical memorandum with a summary addressing legislative requirements, draft and final versions

8.9 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

PROFESSIONAL will review the deliverables for pump station analysis results, the I&I studies summary, the prioritized I&I areas, the I&I rehabilitation early-action prioritized target areas, the early-action project recommendations, and the guidance for performing additional field investigations. Review activities will be tracked and documented and submitted to PCU upon request.

9.0 MASTER PLANNING

This Master Planning task will consolidate results from other tasks to develop a prioritized, integrated, and adaptive Wastewater Collection System Master Plan (WWCSMP) that lays out a roadmap, projects, and budget for CIP and programmatic strategies for PCU to follow to achieve its LOS objectives with a primary focus on cost-effective SSO reduction. The Master Plan will include components for:

- Asset renewal and management
- SSO and I&I reduction program (public and private sources; Task 4.0 results will inform the private sources)
- Septic-to-Sewer program
- O&M strategies in the gravity and pumping systems

The WWCSMP will be coordinated with and incorporate other County/PCU initiatives including Asset Management, CMOM, private source control, and the ongoing Strategic Action Plan developed by the Pinellas County Wastewater/Stormwater Partnership. The following subtasks are associated with development of the WWCSMP.

Task roles

Hazen: Task Lead, Optimization Lead for South System

PROFESSIONAL: Master Planning Guidance, Optimization Development and Support for North and South Systems, overall QA/QC

JEA: Optimization Lead for North System

Confluency: Overall Optimization Lead, Master Planning Support

9.1 DEVELOP MASTER PLANNING APPROACH

PROFESSIONAL will perform the following tasks to develop the master planning approach. Hazen will lead the preparations for the workshop and the visioning documentation with input from PROFESSIONAL, JEA, and Confluency.

9.1.1 Master Plan Approach and Visioning Workshop

PROFESSIONAL will prepare for and conduct a full-day workshop (one meeting, 8 hours, 2 staff), with PCU to discuss and develop consensus for the vision and objectives for the Master Plan deliverable. This task will be performed early in the project to help inform other task activities. The workshop will cover the following topics:

- Planning Horizons – Planning horizons to be evaluated will be discussed and finalized.
- Data Integration – How data from multiple tasks, such as capacity improvements and asset renewal for condition, will come together.
- Coordination with Other Programs – How the Master Plan will integrate and/or coordinate with other related initiatives and programs.

- Software Platform(s) – The use of various software tools to inform the Master Plan will be presented and discussed. The Dude Solutions Capital Predictor (formerly Assetic Predictor) will be included.
- Levels-Of-Service (LOS) – The LOS is discussed in the Asset Management and Hydraulic Modeling Tasks. Various potential LOS targets will be discussed at this workshop but not finalized. The LOS, as it relates to asset condition and capacity, will be selected as part of the individual tasks.
- I&I Removal Assumptions – Assumptions to be used in the Master Plan for I&I reduction activities, effectiveness, and costs will be discussed and will heavily influence the optimization and I&I reduction program. Considerations for private and public source removal will also be discussed.
- Optimization Strategy – Optimization will be performed to select the most cost-effective plan that meets LOS goals and to prioritize the projects to achieve the greatest benefits earlier in implementation. This optimization discussion will include the objectives to be optimized and prioritized such as SSO reduction.
- WWCSMP Deliverable Format – The proposed format of the WWCSMP deliverable will be discussed with PCU (subtask 9.5 discusses in more detail). The current vision is a combination of traditional static format (i.e. printable pdf file) as well as more dynamic and electronic visualizations such as thematic (GIS) maps and Power BI dashboards delivered within ArcGIS Story Maps.

Deliverable: Workshop summary in meeting minute format, draft and final versions

9.1.2 Master Plan Approach and Visioning Document

PROFESSIONAL will develop a draft WWCSMP Approach document based on the results of the Workshop and submitted to PCU for review. Review comments will be incorporated into a final WWCSMP Approach Report that will include an outline of the WWCSMP.

Deliverable: Master Planning Approach Report, draft and final versions

9.2 SSO ABATEMENT ALTERNATIVES OPTIMIZATION

PROFESSIONAL will identify a suite of alternative strategies that provides the necessary information to optimize the numerous possible combinations of projects that can provide a desired LOS (capacity). Optimatics Optimizer software will be used to run thousands of scenarios in a single day using the hydraulic models developed in Task 7.0 allowing the team to evaluate scenarios and options that were not traditionally possible due to time and budget constraints. The alternatives and optimization strategy developed under subtask 7.2 will yield a robust optimization that will result in projects that will most cost-effectively meet the key performance objectives. The alternatives will include projects (capacity

and I&I reduction) currently included in the latest 6-Year CIP. These improvements may include enhanced capacity, I&I removal, and equalization storage. It is assumed that the future conditions hydraulic models for the North and South Systems developed in Tasks 7.4 and 7.5 will be used for this task.

Close coordination is required amongst the four team firms engaged in the SSO abatement optimization of the North and South Systems to ensure consistency, identify trends and approaches from the optimized results that may benefit the other system, and enable an efficient means to develop the subsequent master plan projects. PROFESSIONAL and Confluency will take the lead in running the Optimizer software while Hazen and JEA will identify the initial candidate improvements in their respective systems with assistance from PROFESSIONAL, interpret the optimization results, perform basic feasibility and constructability analyses on interim optimization results, and prepare and present results in the identified workshops to share findings and determine solutions to move forward in the master planning process.

9.2.1 Determine Target LOS and Candidate Improvements and Locations

Based on the system hydraulic evaluation results from subtasks 7.4.5 (North System) and 7.5.5 (South System), PROFESSIONAL will use the hydraulic models for the North and South Systems to identify candidate SSO reduction improvements, locations, and sizes to meet the levels of service simulated in subtasks 7.4 and 7.5. The strategy defined in Task 7.2 will be followed. Improvements will include:

- I&I removal (source reduction) through rehabilitation or other source reduction options
- Pump station and force main upsizing
- Flow equalization
- Gravity sewer upsizing, including where parallel and sewer replacements to be considered
- Storage capacity

Results will be North and South System PCSWMM models that include a set of system improvements that meet the targeted levels of service that will be the basis for developing the baseline models to be optimized. The Optimatics Optimizer software will be used to explore optimal solutions for multiple levels-of-service.

9.2.2 Develop Planning-Level Unit Costs

PROFESSIONAL will develop planning-level unit costs for each improvement type which will be the primary source of optimization ranking and scoring. Information from Task 5.0 (Asset Management) will be incorporated into this analysis. Cost can include full lifecycle and asset management “benefits” from addressing assets at or near the end of their useful life or simply extending the useful life of an asset.

9.2.3 Conduct Optimization Runs and Develop Optimized Solutions

PROFESSIONAL will utilize the Optimizer tool to perform simulations to identify optimal solutions for the North and South Systems. This task requires PCU to incur a one-time leasing fee for the duration of the project. No long-term licensing agreement will be required.

Optimizer model output will be reviewed and summarized resulting in a preliminary recommended full solution. The ability of the recommended solution to meet the three levels of service will be confirmed using the hydraulic models. Individual improvements will be bundled into projects to present and discuss. Project extents will likely be modified and adjusted based on subsequent tasks. Key subtasks that PROFESSIONAL will perform to support the optimization runs follow.

- Establish Baseline Conditions Optimization Model(s): PROFESSIONAL will build the optimization baseline model which will be a specific version of the hydraulic model developed in Task 9.2.1 fit specifically for the optimization runs. The baseline optimization models may have regions of the system that are not required for optimization pruned (with inflow loading) or simplified to reduce runtimes. Other steps may include simplification of control logic or additional network simplification that aids model runtime without sacrificing model accuracy. Model runs will be performed to verify that there is no appreciable difference in hydraulic model output for the optimization baseline model.
- Add alternative components to model: PROFESSIONAL will add needed items to the hydraulic model which may be storage tanks, interconnections, and any other features that are not already included, in a manner that does not affect baseline hydraulics and can interact with the Optimizer software.
- Formulate optimization: PROFESSIONAL will formulate the optimization runs by importing the needed information to the optimization model into the Optimizer software. This includes the baseline model, definition of specific decision variables (and their reference to modeled elements), sizing options, cost data, performance criteria, and objectives defined in the alternatives/optimization strategy defined in Task 7.2.
- Run optimization: PROFESSIONAL will run the optimization software numerous times to develop optimization output for a range of planning scenarios. The optimization runs will be organized into two general stages: “Preliminary Optimization” and “Final Optimization”. While these stages are helpful for distinguishing between initial exploration and final production runs that feed into the master plan, there is no hard line between these stages, and the optimization process will evolve as the team learns from successive optimization runs. The specific scenarios for optimizing may evolve based upon the optimization strategy, but are expected to include:
    - Preliminary Optimization: These model runs represent more rapid testing and exploration of the optimization formulation and validate the optimization setup, gain feedback from PCU that results are consistent with optimization goals, and identify preliminary, high-performing solutions.

- Performance Criteria Sensitivity: Test two or three ways of characterizing acceptable system surcharging
- Level of Service Sensitivity: Perform optimization for three different design storm events
- Boundary Condition Sensitivity: Perform optimization runs under current boundary conditions, and under projected sea-level rise conditions

Specific scenarios that focus on "I&I Abatement only" alternatives, "Storage only" alternatives, or "Conveyance only" alternatives can provide useful information for understanding how costs differ between technologies and will be run. At least three I/I effectiveness optimization runs will be performed to address the uncertainty associated with different I/I reduction strategies.

- Final Optimization: These model runs represent improvements based on the preliminary optimization runs. Changes may be made to the improvement options, modeling representation, costs, and performance criteria. The final optimization runs will include the following:
  - Two Levels of Service: Producing optimization results for two levels of service
  - Boundary Conditions: two sets of boundary conditions
  - Performance Criteria: Focus on one performance criterion, although using multiple objectives or design criteria, different types of performance criteria can be produced in a single optimization run

- Results Review and Summary: PROFESSIONAL will process the output of Optimizer so that the tradeoffs between different technologies is clearly communicated and easily understood, both when considering the results of a single optimization scenario or considering trends in high-performing alternatives across multiple scenarios. Optimization does not produce a single "optimal solution", but rather produces a wealth of detailed, specific data that can be used to compare the costs and benefits of different alternatives.

Deliverable: Compiled data from Optimizer output. Visualization dashboards in preferred format (Excel, Power BI, Aperture, or access to custom web-based interactive dashboards)

9.2.4 Optimization Workshops

Alternatives optimization results will be prepared and presented to PCU to develop consensus on the selected plan, including the LOS, in three (3) workshops (three meetings, 4 hours, 3 staff) covering both the North and South Systems. The goal of the workshops is to share findings and select the improvement sizing, location, and costs and not to schedule and/or prioritize projects. The presentations will summarize the optimization analyses along with the estimated cost for each alternative. Results of the workshops will be summarized and serve as the basis for next steps in development of the Master Plan.

Deliverable: Summaries of workshops presentation slides and decisions made during the workshop in the selection of solutions to advance in the master planning subsequent subtasks, draft and final versions

9.3 DEVELOP PRIORITIZED SSO MANAGEMENT PLAN

The SSO Management Plan will be the heart of the Wastewater Collection System Program that mitigates SSOs in PCU's sanitary service area. PROFESSIONAL will bundle the improvements from subtask 9.2 into discrete projects and develop a prioritized and optimized sequenced SSO abatement plan that will be incorporated into subtask 9.4. Some I&I removal projects may not be directly related to an SSO but may still cost-effectively reduce flows to the WRFs by providing for future development without the need for WRF expansion. I&I reduction is likely to be a key strategy. As such, some I&I removal projects may be implemented very early in the program to better inform the effectiveness of the rehabilitation to reduce I&I.

9.3.1 Aggregate Improvements into Projects with Costs

Building on the work from subtask 9.2, PROFESSIONAL will bundle system improvements into individual projects for implementation. Each project will include a project definition summary with a project name, type of problem it addresses, and thematic and tabular representation of the size, extent, and costs of improvements. The capital and project costs will be estimated for the improvement projects. Estimates to perform the costing is based on 50 projects in the North System and 70 projects in the South System. Any necessary predecessor projects will also be identified.

Deliverable: Technical memorandum with list of SSO abatement projects with their project definition summaries, draft and final versions

9.3.2 Develop Prioritization Criteria and Scoring Rubric

PROFESSIONAL will develop project prioritization criteria which will be used to score individual projects and inform priority for improvements. These criteria may include:

- SSO frequency reduction
- SSO reduction volume
- Alignment with PCU and the Pinellas County Partnership Strategic Goals
- Remaining Useful Life (RUL) trigger (capacity and/or condition) timing
- Public health risk reduction
- Odor reduction
- Water quality benefit
- Cost/benefit ratio
- Support expected future growth
- Co-benefit such as flood reduction or WRF impact reduction
- Predecessor project

The project prioritization criteria will be presented to PCU in a workshop (one meeting, 2 hours, 2 staff), where a consensus criteria selection, scoring, and weighting process will be developed.

Deliverable: Workshop summary with scoring rubric, draft and final versions

9.3.3 Capacity SSO Abatement Recommendations Scoring and Preliminary Sequencing

PROFESSIONAL will score each project in accordance with the process developed under subtask 9.3.2. The Optimizer tool will be used to support the sequencing optimization. These scores will be summarized, and a preliminary implementation sequencing plan will be developed and presented to PCU.

Deliverable: SSO abatement project sequencing plan, draft and final versions

9.4 DEVELOP PRIORITIZED INTEGRATED WWCSMP

PROFESSIONAL will combine asset renewal, septic elimination, private sector system and laterals, and SSO reduction projects into a prioritized integrated WWCSMP. SSO reduction projects will include both capacity enhancement and I&I removal projects. Asset renewal projects will include a preliminary phasing and funding needs of asset renewals based on the most current condition data and deterioration forecasting. Recommendations for ongoing assessments and monitoring will also be included.

The implementation planning models developed and implemented as part of this task will be updated as new and more accurate condition data are obtained as part of ongoing asset management. The models developed for this task will depend on the software tools selected for use as part of subtask 9.1. For this scope, it is assumed that Dude Solutions Capital Predictor™ software will be utilized to develop the implementation plan and annual costs. Capital Predictor will enable the evaluation of scenario comparisons that can help visualize various project timing scenarios to see the impacts on risk and budget. Results will inform the financial analysis identified in Task 12.0.

The Dude Solutions Capital Predictor™ software will be used to support asset renewal funding as part of Task 5.0 (Asset Management) and will be incorporated into the overall plan. This includes asset deterioration modeling to inform timing of asset renewals.

9.4.1 Conduct Model Simulations for Various Investment Scenarios

PROFESSIONAL will run investment model simulations using various funding scenarios to optimize the cost/benefit of the integrated plan and to assess various funding limitations. Of critical importance is to balance the needs for capacity and asset management improvements and to identify the opportunities to achieve multiple benefits with the same project. Model output can be visualized using both ArcGIS and Power BI and will be presented to PCU to demonstrate the implications of strategies on risk and

budget. Numerous "what-if" scenarios may be simulated including balancing budget and risk to develop a preferred scheduling and funding strategy. The model simulation results will be presented to PCU in a workshop (one meeting, 3 hours, 2 staff), with a consensus on a strategy to move forward for implementation.

Deliverable: Integrated WWCSMP Model Results Workshop Summary, draft and final versions

9.4.2 Develop Phased Program

Using the modeling results and workshop from subtask 9.4.1, PROFESSIONAL will develop a phased collection system CIP for projects and programs included in the WWCSMP which will include:

- 0-5 Year Program - Comprising highly active SSOs capacity improvements, high PoF and CoF asset renewal, I&I reduction implementation, high-priority septic eliminations, and high priority O&M
- 5-10 Year Program – Comprising moderate to high PoF and CoF asset renewal, less-active SSO capacity improvements, ongoing I&I reduction, ongoing septic eliminations, ongoing O&M
- 10-30 Year Program- Comprising growth-triggered capacity projects, ongoing asset renewal based on forecast RUL, ongoing I&I reduction, ongoing septic eliminations, ongoing O&M

9.5 DEVELOP WWCSMP REPORT

PROFESSIONAL will develop a draft and final report that will include both project-specific and programmatic actions and schedules as well as costs for the next 30 years for SSO reduction, asset renewal, and septic-to-sewer projects for both the North and South Systems in one report. The format of the report will be a combination of static and interactive components that will enable PCU to easily view the Plan from any level to support efficient communication of the plan to all stakeholders. The deliverable will include GIS files, interactive maps, and dashboards to allow easy review and to allow for updating as new information is obtained.

PROFESSIONAL will discuss with PCU the feasibility of delivering an ArcGIS Story Map representation of the WWCSMP as well as the use of Power BI. The proposed deliverables for the WWCSMP report are:

1. Traditional written report with figures and text in pdf and five (5) hard copies
2. Power BI Report
3. ArcGIS Story Map
4. ArcGIS files of proposed projects

Following is a more detailed description of each deliverable.

9.5.1 Written WWCSMP Report

PROFESSIONAL will prepare a written report that will include components for the Asset Management, SSO Reduction, and Septic-to-Sewer Plans along with the integrated prioritized implementation plan. The preliminary Table of Contents for the report includes:

1. Executive Summary
2. Introduction and Background
3. Collection System Asset Management Plan
    a. Risk Analysis for Gravity, Transmission, and Pump Stations
    b. Condition-Based Asset Renewal Needs
4. SSO Reduction Plan
    a. I&I Evaluation
    b. Capacity Assessment based on hydraulic model results (Task 7.0)
    c. SSO Reduction Alternatives Development
    d. SSO Reduction Alternatives Optimization
    e. SSO Reduction Projects and Prioritization
5. Septic-to-Sewer Plan and Projects
6. Integrated Project Prioritization
7. Integrated Plan
    a. 0-5-Year Plan
    b. 5-10 Year Plan
    c. 10-30 Year Plan

Deliverable: WWCSMP Report in pdf format, draft and final versions

9.5.2 Develop Interactive WWCSMP Dashboards

Model simulations from subtask 8.4.1 will be used to develop interactive Power BI dashboards that will enable PCU to adjust some parameters on the fly such as annual asset renewal funding and allowable CIP funding to see impacts on risk and annual expenditures. This dashboard will not have the ability to perform new simulations but will pull from results of model simulations conducted in subtask 4.1. A workshop (one meeting, 3 hours, 2 staff), will be held with PCU to discuss the desired dashboard functionality and a draft dashboard will be presented to PCU.

Deliverable: Interactive WWCSMP Power BI dashboard, draft and final versions

9.5.3 Develop WWCSMP Story Maps

ESRI Story Maps will be developed as a key WWCS deliverable format. The benefit of this approach is that contents of the Master Plan can be presented visually, and users can interact with the contents to better understand and visualize the Plan. The story maps will include thematic visualizations of the various tasks as well as details showing the locations, descriptions, and asset-specific details of proposed projects and project schedules. These include:

- SSO capacity improvement projects
- I&I reduction projects
- Septic elimination projects
- Proposed ongoing collection system monitoring locations

The draft story maps will be presented to PCU in a workshop (one meeting, 4 hours, 2 staff), and comments will be incorporated into a final deliverable.

Deliverable: WWCSMP Story Maps that will be available in PCU's ArcGIS online environment, draft and final

9.6 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

PROFESSIONAL will review the deliverables defined in Task 9.0 for content, accuracy, and alignment with the scope. The candidate system improvements identified for the North and South Systems from the hydraulic models will be reviewed to assure that the hydraulic deficiencies identified in Task 7 are addressed and that the proposed improvements (e.g., pipe changes, I&I reduction, pump changes, etc.) are appropriately and consistently represented in the hydraulic models. PROFESSIONAL will review the results from the optimization model runs to help identify improvements that can be screened and to determine the appropriate next steps which will facilitate an efficient process. Feasibility and constructability analyses of the interim optimized suite of improvements will be conducted to help in the screening process. PROFESSIONAL will review the unit cost data, methods for costing, and cost estimates of the projects to assure that they are accurate and appropriate for master planning objectives. PROFESSIONAL will review the WWCSMP to assure that the appropriate information is included, presented appropriately, and addresses the program objectives. The corresponding dashboards and story maps will be reviewed for consistency with the WWCSMP. Review activities will be tracked and documented and submitted to PCU upon request.

10.0 INNOVATION AND TECHNOLOGY

This task will identify, plan, and implement innovations and technologies targeted at immediate as well as long-term opportunities for I&I and SSO reduction strategies through SSO Predictive Management. PROFESSIONAL will coordinate and integrate these activities with other tasks (i.e. asset management, modeling, and master planning) to provide PCU with a fully integrated approach for innovation and technology.

Activities under this task are broken down to address the following goals:

- SSO reduction and elimination through development of Predictive SSO Management platform pilot
- Policies and strategies for effective delivery of innovative solutions
- Executive communication and awareness
- Sustainable implementation of technology solutions

Task roles

- PROFESSIONAL: Overall Task Lead and technical lead for pump stations, WRF, Business Case Evaluation (BCE) and pilot demonstration subtasks and QA/QC. Supporting all other subtasks.
- Stantec: Technical lead for pilot plans for sensor deployment and executive dashboard. Supporting pump station subtask.
- Isle Utilities: Supporting sensor and pump optimization technology evaluations and selection and process for BCE and pilot demonstration subtasks and general consultation on technology considerations
- ElectroScan: Supporting condition assessment technology subtask.

PROFESSIONAL will lead PCU through the tasks and subtasks as follows.

SSO Reduction and Elimination

The tasks described below will target SSO reduction and elimination through the implementation of technology and innovations. PROFESSIONAL will initiate a task kickoff meeting to identify initial key focus areas or “hot spots” confirmed or considered to contribute to I&I within the collection system. The following subtasks will be used to target I&I and SSO reduction and elimination.

10.1 PILOT PLANNING – PREDICTIVE SSO MANAGEMENT

The first step in the development of a Predictive SSO Management platform is the planning of an initial Pilot Plan for the installation of Industrial Internet of Things (IIoT) sensors to enable real-time monitoring and control within the system. Activities associated with this plan are as follows:

1. PROFESSIONAL will review data including, but not limited to, hydraulic data, flow monitoring information, SCADA data, SSO data, weather data, rainfall data, and groundwater data for “hot zones” previously identified by PCU.

2. PROFESSIONAL will perform data analysis to inform both siting of sensor instrumentation for the pilot demonstration and analytics to be used on the data. Existing data review may be informed by Task 6.0 (Inflow/Infiltration Characterization). Analytics on historical and real-time monitoring data, once sensors are deployed, will be performed using the Stantec Insight Analytics (SiA) platform. This proven method transforms data streams to actionable information to determine causes for system capacity reduction and predicts events within an established level of confidence.
3. In conjunction with PCU staff, PROFESSIONAL will select recommend areas that are of high concern and hot zones to determine subbasins which are prime candidates for a single basin pilot project. We will identify and select, with PCU input, the recommended pilot area. Additional pilot areas may be added but are excluded at this time.
4. PROFESSIONAL will identify IIoT sensors and communication technologies to support robust and seamless collection of sewer hydraulic data and transmission of timely data to the analytics platform for subsequent processing, analytics, and real-time monitoring of pilot data. Several flow monitoring, data transmission, and communication solutions are available in the market. PROFESSIONAL will review a maximum of five (5) sensor and transmission devices for the applicability of these solutions based on their technical, financial, and other necessary factors. The list of factors will be discussed and confirmed with PCU. The sensors will also include the current technologies being employed by PCU.
5. PROFESSIONAL will compile the information assessed to develop a pilot plan that includes assessment findings and a plan for pilot instrumentation siting and analytics. The pilot plan will also include the selection of appropriate information technology (IT) infrastructure to host the SiA solution. The plan will compare the options of utilizing either PCU's cloud infrastructure or PROFESSIONAL's IT infrastructure and determine a feasible option in collaboration with PCU staff. The Pilot Plan will include schedule and budget considerations to implement a 6-month pilot to begin prior to the 2021 Hurricane Season.
6. This task does not include the pilot activities but rather the Pilot Plan. Pilot implementation may be funded an additional service.

Deliverables:

1. Task kickoff meeting and meeting summary
2. Pilot Plan that includes sensor technology evaluation and selection, subbasin evaluation and selection for pilot area, recommended number of sensors and locations, and associated costs and schedule for procuring and deploying sensors. The Pilot Plan is limited to 15 pages plus appendices.

10.2 PUMP STATION BACK-UP POWER AND FUEL SYSTEM RESILIENCY ASSESSMENT

Addressing the risk of power system failures at 299 lift stations is a critical effort for PCU. This task will assess and develop a plan to address these risks prior to the 2021 Hurricane Season.

10.2.1 Data Collection and Review of Existing Data

PROFESSIONAL will review pump station as-builts, CMMS data from Maximo, past condition and performance studies, operations data, engineering reports, SCADA, and other readily-available data focused on the current state of the existing pump station back-up power and fuel systems.

10.2.2 Recommend Solutions

The reliability, readiness, current plans, logistics, and overall resiliency of the existing back-up power generator and fuel systems deployed within the 299-pump station system will be assessed. This assessment will provide recommendations to improve the resiliency for future high-intensity storm events that have caused power failures in the past and attributed to SSOs in the collection system. PROFESSIONAL will prepare a technical memorandum that summarizes current back-up power and fuel system capabilities, and prioritize and recommend back-up power solutions, including costs and a prioritized implementation schedule to improve the resiliency of these systems. PROFESSIONAL assumes that approximately 40 to 50% of the 299 pump stations may require stand-by back-up power. Should PCU decide that a higher percentage of pump stations will be equipped with stand-by power, further assessment may be required as an additional service. This assessment will confirm connected power loads at stations deemed critical and in need of back-up power. PROFESSIONAL assumes as-builts and/or O&M manuals are readily available for these pump stations. PCU will provide information and inventory on the available fleet of portable generators.

Deliverable: Technical memorandum for Pump Station Back-Up Power and Fuel System Resiliency Assessment, draft and final versions. This TM is limited to 10 pages plus appendices.

10.3 PUMP STATION PERFORMANCE MONITORING AND OPTIMIZATION SOLUTIONS

10.3.1 Data Collection and Review of Existing Data

As a follow on to Task 10.2, PROFESSIONAL will review pump station as-builts, CMMS data from Maximo, past condition and performance studies, operations data, engineering reports, SCADA, and other readily-available data focused on the current state of the existing pump station performance and optimization.

10.3.2 Recommend Solutions

Utilizing pump station optimization technology installed within a control panel to monitor pump performance data, PROFESSIONAL will develop an initial pilot demonstration program for “critical” pump stations deemed to potentially contribute to SSOs during wet weather events. PROFESSIONAL will perform initial screening of related technologies and select the top three (3) technologies for a 3-month pilot demonstration to determine feasibility, suitability, and scalability of implementing this technology system-wide. PROFESSIONAL will develop a business case evaluation and justification document to aid PCU in technology implementation.

PROFESSIONAL anticipates up to 3 critical pump stations to be included in this subtask and will work with PCU to screen and select initial pump stations. The technology to be utilized, including SiA, will be procured and furnished by PCU under separate contracting measures from this contract.

Upon completion of a critical pump stations followed by an update to the BCE to implement the technology systemwide. This task will be coordinated with the ongoing SCADA master planning effort by PCU.

Deliverables:

1. Business Case Evaluation for Implementing Pump Station Performance Monitoring and Optimization Solutions, draft and final versions. This BCE is limited to 10 pages plus appendices.

10.4 WRF CONDITION AND CAPACITY ASSESSMENT

PROFESSIONAL will perform high-level condition and capacity assessments at both water reclamation facilities to confirm hydraulic "bottlenecks" and capacity limitations. Assessment will consist of a team of treatment subject matter experts with experience working at the facilities. A 3-day site visit will be performed at each of the WRFs and the assessment will conclude within two weeks after the site visits culminating with a MS Powerpoint overview of key findings and recommendations for each site This team will go through the facilities, review liquid and solids unit processes and operations, confirm conditions, and identify process capacity limitations from recent studies and modeling including process models and hydraulic models. PROFESSIONAL will review the current process models as well as hydraulic models for this assessment. It is assumed that the models are fully calibrated. Wastewater characterization, sampling efforts, and model updates are excluded from this task. The goal of this task is to confirm process and hydraulic limitations, meet with plant operations and maintenance staff for input and confirmation of key findings, and develop a set of recommendations to address capacity limitations at the WRFs. Recommendations and projects identified to improve conditions and capacity at the WRFs will become part of the CIP in Task 3.0.

Deliverable: MS Powerpoint summary presentation of key findings and recommendations for WRF Condition and Capacity Assessment

10.5 CONDITION ASSESSMENT TECHNOLOGIES

Pipeline condition inspection and data acquisition with AI and machine learning technologies (i.e. Electro Scan Focused Electrode Leak Location "FELL" Technology, various CCTV technologies, etc.) is currently being used by PCU through other consultants. PROFESSIONAL will review recent studies and reports and determine the best use of these technologies to support this project. These efforts may include pre- and post-inspection of pipeline rehabilitation projects, condition assessment of different pipe materials and installation dates, etc. An allowance is provided in this task for use of these technologies. Recommendations for future condition assessment inspections using these technologies will be

coordinated and reported to PCU in monthly PM updates and quarterly updates to the PCU Executive Team as part of Task 1.0. Funding for condition assessment technologies, if utilized, will be funded through PCU contingency or other 3rd parties outside of this contract.

Deliverables:

1. Periodic updates to PCU PM and Executive for opportunities to utilize condition assessment technologies

Policies and Strategies for Effective Delivery of Innovative Solutions

The tasks described below will target development of strategies for effective delivery and implementation of innovation solutions and projects developed and considered for the Task 3.0 Early-Action Plan and Task 9.0 Master Planning Tasks.

10.6 PROCESS TO DEVELOP INNOVATION AND TECHNOLOGY BUSINESS CASE EVALUATION & PILOT DEMONSTRATION

Pilot demonstrations of new innovations and technologies require additional attention beyond projects in the CIP. Fundamentally, the use of a new technology should be initiated with a series of activities including technology vendor meetings culminating in a formal (BCE). A BCE will summarize the analysis, issues, potential technologies and innovation solutions, and alternatives with total life cycle costs including economic and non-economic criteria with a projected payback time and overall savings to PCU. This task will support the development of a new policy for PCU that standardizes the requirements for BCE, pilot demonstrations at one or more locations in the PCU system, and identify the roles and responsibilities from the technology provider and PCU.

This task will create an effective process that is simple to follow so PCU can benefit from new technologies with the understanding that procurement, legal, operations, maintenance, and other County departments may be involved in the approval of a pilot demonstration.

Deliverables:

1. Meeting Notes from structured conversations and feedback with PCU
2. New Process – "A Process for Implementing New Innovation and Technologies for PCU." This process will be prepared in a five-page MS Word based PDF.

Executive Communication and Awareness

The tasks described below will target development of dashboards that meet the requirements of executive staff to quickly understand the status of projects, impacts of projects in relation to problem areas and events, and communicate with other stakeholders effectively.

10.7 SSO MANAGEMENT EXECUTIVE DASHBOARD PLAN

In order for identified I&I and SSO Reduction and Elimination projects to be displayed in a map centric web-based spatial graphical interface dashboard for PCU Executive Team access, an initial planning effort is required. An executive dashboard opens access to system performance data in tandem with asset inventory and incident history for a comprehensive operational view. In this case, data is presented is flexible to meet the needs of a specific audience rather than using a one-size-fits-all approach.

Planning of this dashboard application will, at a minimum, correlate capacity restricted infrastructure with capital improvement projects that will reduce SSOs. The net result will be improved transparency to the PCU Executive Team to be aware of the specific actions to improve public health and environmental stewardship. This application will be kept simple but will draw information from multiple sources (originating systems) and will link to more detailed web applications (destination systems). The intention is that these links can provide a deeper dive into data for historical service requests and work orders. This is a typical pattern that provides just enough useful information for an executive audience.

The Plan will recommend future work to follow a typical application development process as shown in the table below. This development will draw upon data from multiple sources; therefore, many assumptions will have to be made with respect to the data sources that will define key performance indicators and metrics. As this will be a data driven dashboard, it is important that usable digital sources feed into it. In our experience, it is likely that some work may need to be done to deliver that data to the dashboard. There are many assumptions that need to be made on what constitutes a valuable executive dashboard. In addition, the dashboard may be a custom application or leverage one of the business intelligence platforms (e.g. Power BI, Tableau) or ArcGIS Online/Enterprise. The effort for these can vary substantially.

Discovery	Design	Planning	Create	Deploy	Transfer
Discover scope, staff, organizational policies, procedures, available external resources	Define functional requirements, non-functional requirements, define user and non-user requirements, system architecture, technical risks	Define implementation plan, iteration schedule, feedback review process	Build architecture, code development and verification, testing, review meetings, adapt and iterate	Deploy Version 1.0 in the production environment	Develop user guides, wikis, technical reference manuals and wikis, system ownership, training

The Plan will present the recommended path for the development process, schedule, budget, and resources required to implement an Executive Dashboard as a stand-alone project in the future.

Assumptions:

1. Meetings will be held virtually.

2. To the extent possible, recommendations developed in this task will be coordinated and collaborated with the PCU SCADA master plan team.

Deliverables:

1. Meeting notes from structured meetings to discuss and define the dashboard elements
2. Draft and Final SSO Management Executive Dashboard Plan. This plan is limited to 15 pages.

Sustainable Implementation of Technology Solutions

The tasks described below will target the sustainable implementation of technology solutions that support both the short-term and long-term vision and goal of PCU to become the Utility of the Future.

10.8 ALIGNING STRATEGIC GOALS WITH INNOVATION AND TECHNOLOGY

We recognize the following goals established under your Strategic Plan. PROFESSIONAL'S focus is to assist PCU with preparing to effectively meet these goals through a programmatic implementation of technology solutions. Our approach applies "Systems Thinking" to ensure PCU projects consider a comprehensive list of solutions with the right combination of capital and operational expenditures for the collection and treatment systems.

Notable goals from PCU's Strategic Plan:

1. Conducts ongoing performance improvements informed by performance monitoring (OO)
2. Minimizes resource use and loss from day-to-day operations (OO)
3. Is aware of and adopts, in a timely manner, operational and technology improvements including operational technology and informational technology (OO)
4. Manages and utilizes data from automated and smart systems (OO)
5. Reduce, mitigate, or eliminate Sanitary Sewer Overflows (ISP)
6. Understands the condition of and costs associated with critical infrastructure assets (ISP)
7. Maintains and enhances assets over the long-term at the lowest possible lifecycle cost and acceptable risk (ISP)
8. Coordinates repair efforts within the community to minimize disruptions (ISP)
9. Plans infrastructure investments consistent with community needs, anticipated growth, system reliability goals, and with a robust set of adaptation strategies (ISP)
10. Receives timely customer feedback (CS)
11. Is responsive to customer needs and emergencies (CS)
12. Works together with staff internally and coordinates with external partners to anticipate challenges and avoid problems (ER)

This task includes quarterly discussions with PCU staff to confirm recent, current, and planned near-term and long-term activities related to innovation and technology. We will work with PCU to establish a baseline assessment of current technology implementation across the utility system. In these

discussions, PROFESSIONAL will document identified gaps, specific needs, and make suggestions and recommendations that PCU may consider enhancing the implementation of innovation and technology.

Deliverable: Meeting notes from structured meetings and conversations on this task on a quarterly basis.

10.9 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

PROFESSIONAL will perform QA/QC activities on draft and final deliverables, preparation and delivery of meeting agendas, meeting notes, presentation slides, and other materials identified as a deliverable in Task 10.0. Review activities will be tracked and documented and submitted to PCU upon request.

11.0 PUBLIC OUTREACH

PROFESSIONAL will develop and implement public outreach/engagement strategies and activities to inform, educate, and involve residents, customers, and stakeholders. Outreach strategies and activities will be outlined in the Public Involvement Plan (PIP). The public outreach scope is described as follows.

Task roles

Valerin: Task Lead providing public outreach activities

PROFESSIONAL: provide guidance and direction to keep aligned with project objectives, provide QA/QC on all materials, attend external stakeholder meetings and build relationships

Hazen: attend select external stakeholder meetings in coordination with PROFESSIONAL

JEA: attend select external stakeholder meetings in coordination with PROFESSIONAL

11.1 PUBLIC OUTREACH COORDINATION AND REPORTING

PROFESSIONAL will attend and participate in various project meetings and other stakeholders necessary to strategize and execute program-related public outreach and education initiatives. This will generally include participation in various project meetings to coordinate, plan, update, and/or report on various communication activities or developments over the course of the project. Meeting planning and participation will comply with the County's current policies and procedures related to the COVID-19 pandemic. PROFESSIONAL will provide regular update reports on public outreach and education efforts as required by the County.

11.1.1 Integrated Public Communications Strategy Development

PROFESSIONAL will develop a Public Involvement Plan (PIP) that will serve as a communications blueprint for public outreach and education activities related to the Wastewater Collection System Program. The PIP will incorporate specific initiatives and campaigns based on the overall program messaging and objectives. The PIP is a dynamic document and will typically include:

- Public outreach goals/objectives
- Public outreach and education strategies, activities, and tools
- Key stakeholders
- Timelines
- Evaluation and analysis

11.1.2 Program Messaging

To inform and educate the public about the program, specific messages will be developed that clearly articulate program goals and objectives and present information in a way that all audiences can understand. Primary messaging will be created for the overall program and more specific secondary messages will be created during each program phase. This could include branding for specific elements of the program, or the program as a whole, to allow the public to easily identify and relate to PCU initiatives.

11.1.3 Strategic Partnership Support

PROFESSIONAL will work with PCU to support the communication objectives and needs associated with advancing the Pinellas County Wastewater/Stormwater Partnership goals and objectives related to the Countywide/Customer-wide water infrastructure initiatives and activities.

11.1.4 Program Communication Coordination

PROFESSIONAL will work with PCU to identify and collaborate with other infrastructure projects or programs where public outreach initiatives may be leveraged and/or coordinated to amplify reach and align messaging for consistency.

11.1.5 Media Outreach

Proactive media engagement will be an integral component of PCU public communications and outreach. A media list will be developed and approved by PCU. All news releases and alerts will contain language that is consistent with the PCU brand and provide the media with accurate and timely information.

Media activities to support the program and various public education objectives could include the development of media kits, brand ambassadors to write “editorials” and/or “letters to the editor” in support of PCU initiatives, meetings with editorial board staff at key media outlets, and/or a speakers bureau composed of subject matter experts able to provide credible and objective perspectives to the public.

PROFESSIONAL will also monitor media outlets that cover the County and create a monthly media monitoring report that includes mentions of PCU, as well as sentiment analysis. Articles, broadcasts, or editorials about the project will be reviewed and may be considered for inclusion on a project-specific website. Where desired due to audience demographics, outreach materials, including media releases, may be translated into Spanish for local community media outlets.

11.1.6 Social Media Outreach

PROFESSIONAL will work with PCU to create and provide approved information for posting on Pinellas County and key stakeholder social media channels identified in the PIP. We will provide the information in a format consistent with each social media platform’s content guidelines. Content may include:

- Project information/updates
- Notices of public meetings
- FAQs
- Surveys
- E-newsletters

11.1.7 Website

PROFESSIONAL will work with PCU to update and support the current Pinellas County website content. Wastewater Collection System Program materials, infographics, and documents provided for the website will be verified for ADA compliance per Pinellas County accessibility guidelines and requirements. Alternatively, if approved by PCU, PROFESSIONAL will host and design an ADA-compliant website specific to the Wastewater Collection System Program.

11.1.8 Online Document ADA Compliance

PROFESSIONAL will assist with verification and remediation for digital publication of online documents to maintain Section 508 and WCAG 2 Level AA accessibility compliance for published websites.

11.2 PRIVATE SECTOR SYSTEMS AND LATERALS AND SEPTIC-TO-SEWER POLICIES

PROFESSIONAL will provide the following under these subtasks:

11.2.1 Public Involvement Plan

The Public Involvement Plan (PIP) will be developed for Private Sector Systems, Laterals and Septic-to-Sewer support. It will be reviewed and analyzed throughout the course of the project and strategies, tactics, and messages will be updated to provide project stakeholders with a clear understanding of the program.

11.2.2 Stakeholder Database

PROFESSIONAL will develop and maintain a stakeholder database that includes elected and appointed officials, County staff, special interest groups, citizens/residents, members of the business community, and other interested parties that will be identified in the PIP. The database will include a tab for those interested and/or impacted by the policies. It will be maintained and updated throughout the course of the project and used to track the delivery of information, as well as community input.

11.2.3 Survey Development and Analysis

PROFESSIONAL will recommend a survey platform, develop content related to the policies for use in public opinion and acceptability surveys during the public outreach and education process, and analyze survey results in relation to overall public engagement initiatives. Distribution of the survey may be through website, email, social media, and/or SMS texting.

11.2.4 Public Education Campaign

PROFESSIONAL will develop a branded public education campaign specific to implementation and/or adoption of an effective Private Sector Systems and Laterals Policy and Program. Methodology and goals could include digital surveys, media engagement, and/or development of collateral and digital media materials to facilitate public understanding of the problem(s), solution(s), and benefits.

11.2.5 Educational Materials and Collateral Development

PROFESSIONAL will work closely with PCU to develop educational and collateral materials that will include "plain language" so the information is easily understood by the public. Materials to be developed may include the following:

- Infographic flyers
- Informational materials/bill inserts
- Fact sheet
- Frequently Asked Questions (FAQs)
- Stakeholder Notifications of Public Meetings
- Press releases
- PowerPoint presentations
- Utility bill inserts

Based on the County's audience demographics, materials will be translated into Spanish, if needed.

11.2.6 Project Information Line and Email Address

PROFESSIONAL will set up and maintain a project information telephone line and respond to inquiries in a timely manner. In addition, a project-specific email address will be created and monitored. All calls and emails received will be logged in the project-specific stakeholder database.

11.2.7 Public Meetings

PROFESSIONAL will work with PCU to identify and coordinate opportunities to conduct public meetings to educate and receive input from the community on the Private Laterals Policy. PROFESSIONAL will assist the project team with organization, coordination, and preparation of the following:

- **Regional Public Meetings/Open Houses** will be conducted to inform and educate stakeholders on the policy. Due to County policies related to COVID-19, the public meetings/open houses could be hosted in any of the following formats:
  - In-person Public Meetings/Open House
  - Virtual Public Meetings/Webinars
    - As an alternative to in-person engagement, PROFESSIONAL may conduct virtual meetings with stakeholders to educate them on project activities and encourage use of the project website as an educational and informational resource. Virtual meetings require a web-based application and include platforms such as Facebook Live, YouTube Live, GoToWebinar, BigMarker, and others. Web-based applications allow participants to interact during the virtual meeting and are selected based on the desired meeting format or client platform preference.
  - Telephone Town Hall Meetings
    - For members of the community who do not have access to a computer, smart device, or internet, a telephone town hall meeting is another alternative to in-person engagement. Telephone town hall meetings are staffed by a professional moderator, question

screeners, as well as County and project staff, who present project information and answer questions. Translators may also be provided for simulcast meetings.
Public notices will be distributed to local stakeholders, homeowners, neighborhood associations, and community groups, and will be advertised as detailed in the PIP.
PROFESSIONAL will assist with the following activities:

- Meeting logistics and set up including geoframing and geofencing for areas and/or communities of specific focus
- Preparation of meeting materials and presentations
- Advance notification through newspaper advertisement, news release, and social media channels

Public meeting preparation deliverables may include the following:

- Project presentation
- Fact sheet (with QR Code)
- Frequently Asked Questions (FAQs)
- Surveys
- Public information meeting notification
- Sign-in sheets (if needed)
- Content for meeting notification on project website
- Comment cards (digital and print)

11.2.8 Project Website

PROFESSIONAL will work with PCU to create a project-specific website and/or prepare content for online website access as approved by PCU. Website hosting and design would align with program branding guides and comply with Section 508 and Title III ADA accessibility compliance requirements per Pinellas County accessibility policies. The website will typically include the following features as approved by the project team:

- Project overview including information related to the Private Laterals Policy
- Frequently Asked Questions (FAQs)
- Links to survey and other related information
- Public information/education updates (meetings, documents)
- Project maps
- Contact information

PROFESSIONAL will maintain the website and update content with new information and engagement tools, if needed, throughout the duration of the project.

11.2.9 Media Outreach

Proactive media engagement will continue throughout the duration of the project.

11.2.10 Social Media Outreach

Social media outreach will continue throughout the duration of the project.

11.2.11 Special Interest Group Presentations/Meetings

PROFESSIONAL will develop a presentation on the overall program that includes details related to the Private Laterals and Septic-to-Sewer Policies and Programs. The presentation will be used to educate elected and appointed officials, community organizations, residents, and business owners who may be impacted by the policy. Activities may include:

- Identify homeowner, neighborhood, business, and other special interest groups or associations that may have interest or be impacted by the policy
- Prepare and deliver a project introduction and "request for presentation" email to stakeholder contacts
- Prepare meeting materials and presentations
- Prepare email invitation for associations and stakeholder groups to deliver to their members with details about the project

11.2.12 Policy Educational Videos

PROFESSIONAL will develop an educational/learner video on the Private Laterals and Septic-to-Sewer Policies and Programs. The video will facilitate audience understanding of the problem, proposed solution(s), and benefits using animation or other visualization techniques.

11.2.13 Pinellas County Communications Resources

PROFESSIONAL will work with the County and PCU public affairs/public relations department staff to include communications about the Wastewater Collection System Program in forms of communication that reach the public. This includes:

- Pinellas County website
- Newsletters/E-newsletter
- Social media

11.3 COORDINATION WITH EXTERNAL STAKEHOLDERS

An allowance is provided for coordination with external stakeholders. With PCU's approval and at their direction, we will meet and establish relationships with relevant external stakeholders that may include the Wastewater/Stormwater Partnership, Southwest Florida Water Management District (SWFWMD), the Florida Department of Environmental Regulation (FDEP), the Florida Department of Health (FDOH), and Pinellas County municipalities to share information about this project. PROFESSIONAL will attend up to four (4) Wastewater/Stormwater Partnership meetings per year for the 5 years for a total of twenty (20) meetings that include meeting preparation and agenda development, attendance, and preparation of minutes. We've assumed thirty (30) meetings that cover external stakeholders other than the Wastewater/Stormwater Partnership over the 5-year duration of the project that would average 2 hours with three (3) project attendees as well as preparation time for each meeting.

11.4 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

PROFESSIONAL will perform QA/QC activities on all draft and final materials provided for public outreach scope including the preparation and delivery of meeting agendas, meeting notes, presentation slides, and other materials that may be distributed as part of this task. Review activities will be tracked and documented and submitted to PCU upon request.

12.0 FINANCIAL IMPACT & FUNDING EVALUATIONS

For each major program element in this task, PROFESSIONAL will leverage the existing Financial Analysis and Management System (FAMS) models for the County utilities and recently-completed rate study to evaluate the short- and long-term funding requirements and financial/rate impacts of alternative scenarios, funding strategies/options, and policies.

12.1 FINANCIAL IMPACT ANALYSIS OF TASK ALTERNATIVES

12.1.1 Private Sector Systems and Laterals Policies and Programs (Task 4.0 Private Sector Systems and Laterals Policies and Programs)

PROFESSIONAL will leverage our database and knowledge of local systems for private laterals policies and funding programs/strategies as appropriate. We will utilize the Financial Analysis and Management System (FAMS) model and recently-completed rate study (2019) to evaluate the short- and long-term funding requirements and financial/rate impacts of alternative private laterals programs and policy options identified in this task. Funding sources, growth/revenue impacts to utility revenues, operational cost impacts, potential carrying costs, and administrative costs for each option will be integrated to evaluate the impact to the utility's financial plan. The number of scenarios and frequency of data updates will need to be determined. For each scenario and update, we will provide detailed financial schedules of the outputs from the model consistent with the schedules provided as part of the County's utility rate study process, as well as summary graphics and materials on the impacts for higher-level discussions and presentations. This will provide a clear understanding of the impacts to the utility as compared to the status quo.

12.1.2 Alternative LOS Funding Requirements and Rate Impacts (Task 5.0 Asset Management)

PROFESSIONAL will utilize the Financial Analysis and Management System (FAMS) model and recently-completed rate study (2019) to evaluate the impacts of alternative level of service (LOS) options developed in Task 5.0. Alternative maintenance, rehabilitation, and replacement cost schedules, as developed by the project team for each level of service alternative, will be integrated. Impacts to program resources (staff, funds) or other future expenses, as identified by PROFESSIONAL, will be integrated into the analysis of each alternative. The number of scenarios and frequency of data updates will need to be determined. For each scenario and update, we will provide detailed financial schedules of the outputs from the model consistent with the schedules provided as part of the County's utility rate study process, as well as summary graphics and materials on the impacts for higher-level discussions and presentations. This will provide a clear understanding of the impacts to the utility as compared to the status quo.

12.1.3 SSO Abatement Prioritization and Alternative I&I Mitigation Program Funding and Rate Impacts (Task 9.0 Master Planning)

PROFESSIONAL will utilize the Financial Analysis and Management System (FAMS) model and recently-completed rate study (2019) to help prioritize SSO Abatement initiatives and evaluate the financial impacts of alternative I&I mitigation programs as developed in Task 9.0. The capital and operational elements for each alternative identified by PROFESSIONAL will be integrated to evaluate their funding and rate impacts. Feedback about the financial return on investment and funding requirements/rate impacts will be used to prioritize and communicate the benefit of SSO Abatement and I&I mitigation programs. The number of scenarios and frequency of data updates will need to be determined. For each scenario and update, we will provided detailed financial schedules of the outputs from the model consistent with the schedules provided as part of the County's utility rate study process, as well as summary graphics and materials on the impacts for higher-level discussions and presentations. This will provide a clear understanding of the impacts and benefits to the utility as compared to the status quo.

12.1.4 Septic-To-Sewer Funding Options and Rate Impacts (Task 8.0 Septic-to-Sewer Program)

PROFESSIONAL will leverage our client database and knowledge of local systems for septic-to-sewer policies and funding programs/strategies as appropriate. PROFESSIONAL will utilize our Financial Analysis and Management System (FAMS) model updated in Task 9.0 to evaluate the short- and long-term funding requirements and financial/rate impacts of alternative septic-to-sewer phasing plans and funding strategies identified in this task. Funding sources, growth/revenue impacts to utility revenues, operational cost impacts, potential carrying costs, and administrative costs for each option will be integrated to evaluate the impact to the financial plan of the utility. The number of scenarios and frequency of data updates will need to be determined. For each scenario and update, PROFESSIONAL will provide detailed financial schedules of the outputs from the model consistent with the schedules provided as part of the County's utility rate study process, as well as summary graphics and materials on the impacts for higher-level discussions and presentations. This will provide a clear understanding of the impacts to the utility and the ability to understand the return on investment and impact to existing ratepayers of its potential options.

Deliverables:

1. Summary schedules of FAMS model runs for all alternative scenarios
2. Written narrative for each subtask, including findings, conclusions, and recommendations of financial analysis, draft and final versions

12.2 INTEGRATED UTILITY RATE STUDY

Since the County's last approved rate increase will be effective on October 1, 2022, PROFESSIONAL will perform an integrated rate evaluation for the wastewater and water systems to build on the capital prioritization and funding strategies of the Master Plan in Task 9.0 to develop new rate plans that can support funding of the identified infrastructure needs. Given the interplay between the water and

wastewater systems from a cost allocation and capital funding standpoint, it will be important to perform a comprehensive evaluation for the County's utility systems. This scope will be the same as the last study conducted by Stantec for the County in 2019, and includes the following high-level tasks:

12.2.1 Update FAMS to Reflect Most Current Data (Aug. – Sep. 2022)

The FAMS models will be updated to reflect current financial, customer, operation, and capital data and forecast assumptions in August and September of 2022, as well as various cost of service allocations consistent with those included in the 2019 rate study.

12.2.2 Perform CIP Prioritization and Funding Analysis for Task 9.0 (Oct. 2022)

Against the updated "baseline" model, PROFESSIONAL will re-run the CIP prioritization and funding analysis for all identified program elements in October of 2022. This will allow us to work with County staff and management following our normal practice and workflows from past studies to develop an updated financial management plan and recommended 4-year schedule of rate adjustments.

12.2.3 Develop Rate Recommendations and Prepare Report (Nov. – Dec. 2022)

Draft and final reports and presentations will be developed for review and discussion with Administration in November and December of 2022.

12.2.4 Present 4-Year Rate Plan to Administration and BOCC (Jan. – Jun. 2023)

Draft and final presentations will be developed for review and discussion with the BOCC in a workshop (one, 2 hours, 2 staff), as well as public hearings (two meetings, 2 hours, 2 staff), in support of adopting new 4-year rate plans for the utility.

Deliverables:

1. Schedules of FAMS model inputs and outputs, draft and interim
2. Reports and presentations of the rate study consistent with content and structure of the 2019 evaluation, draft and final versions

12.3 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

PROFESSIONAL will review all deliverables identified in Task 12.0. The financial model results and recommendations will be reviewed, and documentation provided to PCU. Review activities will be tracked and documented and submitted to PCU upon request.

OWNER'S CONTINGENCY

The owner's contingency is available to fund supplement unanticipated needs associated with the tasks defined in this scope of services with written authorization from PCU. As work progresses on each scope item and if unforeseen needs arise, PROFESSIONAL will coordinate with PCU to define the additional scope needs and associated costs to perform the work and identify the schedule and associated deliverables in writing and will only proceed with the work after written authorization from PCU.

Pinellas County Utilities
PID 004167A- Wastewater Collection System Program
Pricing Proposal - Five Year Contract Duration

TASK	LABOR											Other Direct Costs (ODCs)				
	Wade Trim	Hazen	JEA	Stantec	Isle Utilities	Confluency	Valerin	Strategist	Dude Solutions	Blue Heron	Labor Dollars	Out of Town Travel	Sub- Contracted Services Field Investigations	Sub- Contracted Services Software/Legal	Total ODCs	Total Dollars
Task 1 - Program Management																
1.1 Management Services	$ 626,260	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 626,260	$ -	$ -	$ -	$ -	$ 626,260
1.2 Project Management Plan (PMP)	$ 23,292	$ 6,694	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 29,986	$ -	$ -	$ -	$ -	$ 29,986
1.3 Program Kickoff Meeting	$ 8,104	$ 3,676	$ 1,560	$ 2,152	$ -	$ -	$ -	$ -	$ -	$ 380	$ 15,872	$ -	$ -	$ -	$ -	$ 15,872
1.4 Monthly Invoice, Schedule, and Status Report	$ 159,620	$ 29,797	$ 14,400	$ 21,890	$ -	$ -	$ -	$ -	$ -	$ 1,520	$ 227,227	$ -	$ -	$ -	$ -	$ 227,227
1.5 Status Meetings	$ 54,850	$ 30,150	$ 19,800	$ 23,880	$ -	$ -	$ -	$ -	$ -	$ 2,280	$ 130,960	$ -	$ -	$ -	$ -	$ 130,960
1.6 Quality Assurance / Quality Control Management	$ 84,740	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 84,740	$ -	$ -	$ -	$ -	$ 84,740
TASK 1 TOTAL	$ 956,866	$ 70,317	$ 35,760	$ 47,922	$ -	$ -	$ -	$ -	$ -	$ 4,180	$ 1,115,045	$ -	$ -	$ -	$ -	$ 1,115,045
Task 2 - Data Collection and Coordination																
2.1 Data Request/Coordination	$ 18,536	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,536	$ -	$ -	$ -	$ -	$ 18,536
2.2 Site Visits	$ 7,866	$ 3,024	$ 2,610	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,500	$ -	$ -	$ -	$ -	$ 13,500
TASK 2 TOTAL	$ 26,402	$ 3,024	$ 2,610	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,036	$ -	$ -	$ -	$ -	$ 32,036
Task 3 - Capital Improvement Program Support																
3.1 CIP Management Assessment	$ 60,570	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 60,570	$ -	$ -	$ -	$ -	$ 60,570
3.2 Initial Integrated CIP Prioritization Across PCU	$ 113,932	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 113,932	$ -	$ -	$ -	$ -	$ 113,932
3.3 Updated Integrated CIP Prioritization Across PCU	$ 68,032	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 68,032	$ -	$ -	$ -	$ -	$ 68,032
3.4 Project Planning Support	$ 40,260	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,260	$ -	$ -	$ -	$ -	$ 40,260
3.5 Quality Assurance and Quality Control (QA/QC)	$ 10,160	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,160	$ -	$ -	$ -	$ -	$ 10,160
TASK 3 TOTAL	$ 292,954	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 292,954	$ -	$ -	$ -	$ -	$ 292,954
Task 4 - Private Sector Systems and Laterals Policies and Programs																
4.1 Define Goals	$ 4,154	$ 1,928	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,040	$ 8,122				$ -	$ 8,122
4.2 Private Sector System Characterization	$ 52,134	$ 32,940	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,760	$ 97,834		$ 30,000		$ 30,000	$ 127,834
4.3 Policy Research/Analysis	$ 4,292	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,020	$ 12,312				$ -	$ 12,312
4.4 Develop Policies & Programs	$ 30,660	$ 41,744	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 31,760	$ 104,164				$ -	$ 104,164
4.5 Communications	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
4.5.1 Internal Communications	$ 46,000	$ 38,292	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,400	$ 93,692				$ -	$ 93,692
4.5.2 External Communications	$ 56,760	$ 20,320	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,820	$ 88,900				$ -	$ 88,900
4.6 Private Sector Systems and Laterals Program/Policy Options and Impacts (Support)	$ 7,352	$ 8,340	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,040	$ 18,732				$ -	$ 18,732
4.7 Quality Assurance and Quality Control (QA/QC)	$ 18,640	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,640				$ -	$ 18,732
TASK 4 TOTAL	$ 219,992	$ 143,564	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 78,840	$ 442,396	$ -	$ 30,000	$ -	$ 30,000	$ 472,396
Task 5 - Asset Management																
5.1 A.M. Plan Update, Improvements Integration, and Implementation	$ 12,294	$ 4,872	$ -	$ 82,018	$ -	$ -	$ -	$ -	$ -	$ -	$ 99,184				$ -	$ 99,184
5.2 Level-of-Service (LOS) for Assets	$ 10,294	$ 4,192	$ -	$ 53,788	$ -	$ -	$ -	$ -	$ -	$ -	$ 68,274				$ -	$ 68,274
5.3 Asset Inventory	$ 45,892	$ 3,796	$ -	$ 314,240	$ -	$ -	$ -	$ -	$ -	$ -	$ 363,928				$ -	$ 363,928
5.4 Progress and Data Reviewer	$ 5,692	$ -	$ -	$ 136,556	$ -	$ -	$ -	$ -	$ -	$ -	$ 142,248				$ -	$ 142,248
5.5 Asset Condition Assessment	$ 14,144	$ 5,948	$ -	$ 122,259	$ -	$ -	$ -	$ -	$ -	$ -	$ 142,351				$ -	$ 142,351
5.6 Desktop Data Acquisition/Verification	$ 15,044	$ -	$ -	$ 58,985	$ -	$ -	$ -	$ -	$ -	$ -	$ 74,029				$ -	$ 74,029
5.7 Asset Criticality Analysis	$ 17,520	$ 10,932	$ -	$ 149,661	$ -	$ -	$ -	$ -	$ -	$ -	$ 178,113				$ -	$ 178,113
5.8 Maintenance (Repair and Replace) Strategies	$ 10,560	$ 14,332	$ -	$ 125,935	$ -	$ -	$ -	$ -	$ 20,700	$ -	$ 171,527				$ -	$ 171,527
5.9 Utility Network Implementation Pilot	$ -	$ -	$ -	$ 93,166	$ -	$ -	$ -	$ -	$ -	$ -	$ 93,166				$ -	$ 93,166
5.10 Quality Assurance and Quality Control (QA/QC)	$ 70,188	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 70,188				$ -	$ 70,188
TASK 5 TOTAL	$ 201,628	$ 44,072	$ -	$ 1,136,608	$ -	$ -	$ -	$ -	$ 20,700	$ -	$ 1,403,008	$ -	$ -	$ -	$ -	$ 1,403,008
Task 6 - Inflow/Infiltration (I&I) Characterization																
6.1 Existing System I&I Analysis		$ -									$ -				$ -	$ -
6.1.1 Pump Stations	$ 3,048	$ 69,549	$ 124,965	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 197,562				$ -	$ 197,562
6.1.2 I&I Flow Monitoring Studies Review and Summary	$ 3,048	$ 54,996	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 58,044				$ -	$ 58,044
6.1.3 I&I Prioritization Areas	$ 3,048	$ 19,104	$ 19,880	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 42,032				$ -	$ 42,032
6.2 Flow and Rainfall Monitoring Site Selection Assistance	$ 6,096	$ 12,336	$ 16,616	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,048				$ -	$ 35,048
6.3 Early Action I&I Rehabilitation Recommendations	$ 10,160	$ 20,268	$ 20,668	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 51,096				$ -	$ 51,096
6.4 Quality Assurance and Quality Control (QA/QC)	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000				$ -	$ 15,000
TASK 6 TOTAL	$ 40,400	$ 176,253	$ 182,129	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 398,782	$ -	$ -	$ -	$ -	$ 398,782
Task 7 - Hydraulic Modeling																
7.1 Review Modeling Methodology/Protocol	$ 2,728	$ 852	$ 4,160	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,740				$ -	$ 7,740
7.2 Develop Alternatives & Optimization Strategy	$ 4,760	$ 3,856	$ 3,350	$ -	$ -	$ 5,052	$ -	$ -	$ -	$ -	$ 17,018				$ -	$ 17,018
7.3 Future Development Model Strategy	$ 4,760	$ 2,668	$ 3,350	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,778				$ -	$ 10,778
7.4 North Service Area (Dunn WRF)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
7.4.1 Data Collection and Review	$ 2,540	$ -	$ 66,020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 68,560				$ -	$ 68,560
7.4.2 Model Development	$ 14,616	$ -	$ 97,268	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 111,884				$ -	$ 111,884
7.4.3 Model Calibration and Validation	$ 30,620	$ -	$ 136,200	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 166,820				$ -	$ 166,820
7.4.4 Future Model Development	$ 11,840	$ -	$ 58,398	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 70,238				$ -	$ 70,238
7.4.5 Hydraulic Capacity Evaluation	$ 16,640	$ -	$ 60,570	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 77,210				$ -	$ 77,210
7.5 South Service Area (SCBAWRF)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
7.5.1 Data Collection and Review	$ 2,032	$ 31,678	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 33,710				$ -	$ 33,710
7.5.2 Model Refinement	$ 4,992	$ 27,844	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,836				$ -	$ 32,836
7.5.3 Model Calibration and Validation	$ 31,396	$ 313,803	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 345,199				$ -	$ 345,199
7.5.4 Future Model Development	$ 5,482	$ 38,296	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 43,778				$ -	$ 43,778
7.5.5 Hydraulic Capacity Evaluation	$ 10,996	$ 49,152	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 60,148				$ -	$ 60,148
7.6 Model Development and Calibration Report	$ 19,446	$ 45,384	$ 38,578	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 103,408				$ -	$ 103,408
7.7 Field Data to Support Model Development/Calibration	$ -	$ -	$ 13,394	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,394				$ -	$ 13,394
7.7.1 Field Investigation Activities	$ 5,080	$ 12,600	$ 23,260	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,940		$ 55,000		$ 55,000	$ 95,940
7.7.2 Temporary Flow and Rainfall Monitoring for South System	$ 5,080	$ 39,836	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 44,916		$ 320,000		$ 320,000	$ 364,916
7.8 Comparison of Stormwater Flooding/Ponding to Sanitary System	$ -	$ 16,968	$ 11,218	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 28,186				$ -	$ 28,186
7.9 Model Applications/Project Support	$ 35,320	$ 7,620	$ 4,800	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 47,740				$ -	$ 47,740
7.10 Model Maintenance & Update Protocol Development	$ 6,640	$ 5,560	$ 2,110	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,310				$ -	$ 14,310
7.11 Model Training	$ 5,584	$ 6,096	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,680				$ -	$ 11,680
7.12 Quality Assurance and Quality Control (QA/QC)	$ 114,636	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 114,636				$ -	$ 114,636
TASK 7 TOTAL	$ 335,188	$ 602,213	$ 522,676	$ -	$ -	$ 5,052	$ -	$ -	$ -	$ -	$ 1,465,129	$ -	$ 375,000	$ -	$ 375,000	$ 1,840,129
Task 8 - Septic-To-Sewer Program																
8.1 Define Vision and Goals	$ 3,048	$ 3,016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,064				$ -	$ 6,064
8.2 Delineate and Group Unsewered Areas	$ 9,232	$ 90,708	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 99,940				$ -	$ 99,940
8.3 Develop Prioritization Plan	$ 4,064	$ 67,906	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 71,970				$ -	$ 71,970
8.4 Evaluate Conversion Alternatives	$ 24,364	$ 359,670	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 384,034				$ -	$ 384,034
8.5 Public Outreach	$ 6,096	$ 14,420	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,516				$ -	$ 30,516
8.6 Financial Plan	$ 3,632	$ 10,272	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,904				$ -	$ 13,904
8.7 Funding and Grant Application Assistance	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
8.7.1 Funding Alternatives	$ 4,960	$ 17,537	$ 4,800	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,297				$ -	$ 27,297
8.7.2 Grant Funding Application Assistance	$ 16,052	$ 34,884	$ 4,800	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 55,736				$ -	$ 55,736
8.8 Policy/Legislation	$ 5,080	$ 57,612	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 62,692				$ -	$ 62,692
8.9 Quality Assurance and Quality Control (QA/QC)	$ 23,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,500				$ -	$ 23,500
TASK 8 TOTAL	$ 100,028	$ 656,025	$ 19,600	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 775,653	$ -	$ -	$ -	$ -	$ 775,653
Task 9 - Master Planning																
9.1 Develop Master Plan Approach	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
9.1.1 Master Plan Approach and Visioning Workshop	$ 5,797	$ 15,612	$ 2,080	$ -	$ -	$ 6,736	$ -	$ -	$ -	$ -	$ 30,225				$ -	$ 30,225
9.1.2 Master Plan Approach and Visioning Document	$ 6,813	$ 17,856	$ 2,080	$ -	$ -	$ 8,420	$ -	$ -	$ -	$ -	$ 35,169				$ -	$ 35,169
9.2 SSO Abatement Alternatives Optimization		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
9.2.1 Determine Candidate Improvements and Locations	$ 19,948	$ 25,088	$ 24,468	$ -	$ -	$ 22,200	$ -	$ -	$ -	$ -	$ 91,704				$ -	$ 91,704

Pinellas County Utilities
PID 004167A- Wastewater Collection System Program
Pricing Proposal - Five Year Contract Duration

	TASK	LABOR											Other Direct Costs (ODCs)				Total Dollars
		Wade Trim	Hazen	JEA	Stantec	Isle Utilities	Confluency	Valerin	Strategist	Dude Solutions	Blue Heron	Labor Dollars	Out of Town Travel	Sub- Contracted Services Field Investigations	Sub- Contracted Services Software/Legal	Total ODCs	
9.2.2	Develop Planning-Level Unit Costs	$ 11,624	$ 20,616	$ -	$ -	$ -	$ 4,736	$ -	$ -	$ -	$ -	$ 36,976				$ -	$ 36,976
9.2.3	Conduct Optimization Runs and Develop Optimized Solutions	$ 67,678	$ 92,122	$ 86,580	$ -	$ -	$ 120,620	$ -	$ -	$ -	$ -	$ 367,000			$ 60,000	$ 60,000	$ 427,000
9.2.4	Optimization Workshops	$ 13,110	$ 27,620	$ 14,420	$ -	$ -	$ 21,404	$ -	$ -	$ -	$ -	$ 76,554				$ -	$ 76,554
9.3	Develop Prioritized SSO Management plan	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
9.3.1	Aggregate Improvements into Projects	$ 18,288	$ 68,992	$ -	$ -	$ -	$ -	$ -	$ 75,120	$ -	$ -	$ 162,400				$ -	$ 162,400
9.3.2	Develop Prioritization Criteria and Scoring Rubric	$ 5,080	$ 17,632	$ -	$ -	$ -	$ 10,736	$ -	$ -	$ -	$ -	$ 33,448				$ -	$ 33,448
9.3.3	Capacity SSO Abatement Recommendations Scoring and Preliminary Sequencing	$ 15,240	$ 42,208	$ -	$ -	$ -	$ 15,072	$ -	$ -	$ -	$ -	$ 72,520				$ -	$ 72,520
9.4	Develop Prioritized Integrated WWCSMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
9.4.1	Conduct Model Simulations for Various Investment Scenarios	$ 20,320	$ 47,344	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 67,664				$ -	$ 67,664
9.4.2	Develop Phased Program	$ 42,792	$ 51,916	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 94,708				$ -	$ 94,708
9.5	Develop WWCSMP Report	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
9.5.1	Written WWCSMP Report	$ 84,582	$ 154,736	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 239,318				$ -	$ 239,318
9.5.2	Develop Interactive WWCSMP Dashboards	$ 5,080	$ 74,492	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 79,572				$ -	$ 79,572
9.5.3	Develop WWCSMP Story Maps	$ 12,016	$ 80,076	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 92,092				$ -	$ 92,092
9.6	Quality Assurance and Quality Control (QA/QC)	$ 88,540									$ -	$ 88,540					$ 88,540
	TASK 9 TOTAL	**$ 416,908**	**$ 736,310**	**$ 129,628**	**$ -**	**$ -**	**$ 209,924**	**$ -**	**$ 75,120**	**$ -**	**$ -**	**$ 1,567,890**	**$ -**	**$ -**	**$ 60,000**	**$ 60,000**	**$ 1,627,890**
Task 10 - Innovation and Technology																	$ -
10.1	Pilot Planning - Predictive SSO Management	$ 5,380	$ -	$ -	$ 14,760	$ 8,008	$ -	$ -	$ -	$ -	$ -	$ 28,148				$ -	$ 28,148
10.2	Pump Station Back-Up Power and Fuel System Resiliency Assessment	$ 50,864	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,864				$ -	$ 50,864
10.3	Pumps Station Performance Monitoring and Optimization Solutions	$ 41,396	$ -	$ -	$ 9,920	$ 9,648	$ -	$ -	$ -	$ -	$ -	$ 60,964				$ -	$ 60,964
10.4	WRF Condition and Capacity Assessment	$ 39,076	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 39,076				$ -	$ 39,076
10.5	Condition Assessment Technologies	$ 10,160	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,160				$ -	$ 10,160
10.6	Process for Innovation and Technology Business Case Evaluation and Pilot Demonstration	$ 8,904	$ -	$ -	$ -	$ 4,720	$ -	$ -	$ -	$ -	$ -	$ 13,624				$ -	$ 13,624
10.7	SSO Management Executive Dashboard Plan	$ 10,520	$ 10,650	$ -	$ 24,894	$ -	$ -	$ -	$ -	$ -	$ -	$ 46,064				$ -	$ 46,064
10.8	Aligning Strategic Goals with Innovation and Technology	$ 11,178	$ -	$ -	$ 9,920	$ 5,664	$ -	$ -	$ -	$ -	$ -	$ 26,762				$ -	$ 26,762
10.9	Quality Assurance and Quality Control (QA/QC)	$ 9,616	$ -	$ -	$ -	$ 4,640	$ -	$ -	$ -	$ -	$ -	$ 14,256				$ -	$ 14,256
	TASK 10 TOTAL	**$ 187,094**	**$ 10,650**	**$ -**	**$ 59,494**	**$ 32,680**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 289,918**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 289,918**
Task 11 - Public Outreach																	
11.1	Public Outreach Coordination and Reporting	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -					$ -	$ -
11.1.1	Integrated Public Communications Strategy Development	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 11,332	$ -	$ -	$ -	$ 13,364				$ -	$ 13,364
11.1.2	Program Messaging	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 10,664	$ -	$ -	$ -	$ 12,696				$ -	$ 12,696
11.1.3	Strategic Partnership Support	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 7,000	$ -	$ -	$ -	$ 9,032				$ -	$ 9,032
11.1.4	Program Communication Coordination	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
11.1.5	Media Outreach	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
11.1.6	Social Media Outreach	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
11.1.7	Website	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
11.1.8	Online Document ADA Compliance	$ 2,400	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,400				$ -	$ 2,400
11.2	Private Laterals and Septic-To-Sewer Policies	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
11.2.1	Public Involvement Plan	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 14,000	$ -	$ -	$ -	$ 16,032				$ -	$ 16,032
11.2.2	Stakeholder Database	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 9,500	$ -	$ -	$ -	$ 11,532				$ -	$ 11,532
11.2.3	Survey Development and Analysis	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 12,164	$ -	$ -	$ -	$ 14,196				$ -	$ 14,196
11.2.4	Public Education Campaign	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 23,246	$ -	$ -	$ -	$ 25,278				$ -	$ 25,278
11.2.5	Educational Materials and Collateral Development	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 31,816	$ -	$ -	$ -	$ 33,848				$ -	$ 33,848
11.2.6	Project Information Line and Email Address	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 7,500	$ -	$ -	$ -	$ 9,532				$ -	$ 9,532
11.2.7	Public Meetings	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 54,452	$ -	$ -	$ -	$ 56,484				$ -	$ 56,484
11.2.8	Project Website	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 16,016	$ -	$ -	$ -	$ 18,048				$ -	$ 18,048
11.2.9	Media Outreach	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 9,500	$ -	$ -	$ -	$ 11,532				$ -	$ 11,532
11.2.10	Social Media Outreach	$ 2,032	$ -	$ -	$ -	$ -	$ -	$ 16,160	$ -	$ -	$ -	$ 18,192				$ -	$ 18,192
11.2.11	Special Interest Group Presentations/Meetings	$ 3,632	$ -	$ -	$ -	$ -	$ -	$ 22,662	$ -	$ -	$ -	$ 26,294				$ -	$ 26,294
11.2.12	Policy Educational Videos	$ 3,632	$ -	$ -	$ -	$ -	$ -	$ 26,008	$ -	$ -	$ -	$ 29,640				$ -	$ 29,640
11.2.13	Pinellas County Communications Resources	$ 3,632	$ -	$ -	$ -	$ -	$ -	$ 7,830	$ -	$ -	$ -	$ 11,462				$ -	$ 11,462
11.3	Coordination with External Stakeholders	$ 56,120	$ 20,320	$ 10,400	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 86,840				$ -	$ 86,840
11.4	Quality Assurance and Quality Control (QA/QC)	$ 11,650	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,650				$ -	$ 11,650
	TASK 11 TOTAL	**$ 107,482**	**$ 20,320**	**$ 10,400**	**$ -**	**$ -**	**$ -**	**$ 279,850**	**$ -**	**$ -**	**$ -**	**$ 418,052**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 418,052**
Task 12 - Financial/Funding Analyses																	
12.1	Financial Impact Analysis of Task Alternatives	$ -	$ -	$ -	$ 129,600	$ -	$ -	$ -	$ -	$ -	$ -	$ 129,600				$ -	$ 129,600
12.1.1	Private Sector Systems and Laterals Program/Policy (Task 4.0)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
12.1.2	Alternative LOS Funding Requirements & Rate Impacts (Task 5.0)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
12.1.3	SSO Abatement Prioritization & Alternative I&I Mitigation Program Funding and Rate Impacts (Task 9.0)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
12.1.4	Septic-To-Sewer Funding Options & Rate Impacts (Task 8.0)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
12.2	Integrated Utility Rate Study	$ -	$ -	$ -	$ 152,550	$ -	$ -	$ -	$ -	$ -	$ -	$ 152,550				$ -	$ 152,550
12.2.1	Update FAMS to Reflect Most Current Data (Aug-Sep 2020)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
12.2.2	Perform CIP Prioritization & Funding Analysis for Task. 8.0 (Oct 20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
12.2.3	Develop Rate Recommendations & Prepare Report (Nov-Dec 2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
12.2.4	Present 4-Year Rate Plan to Administration and BOCC (Jan-Jun 2(	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -				$ -	$ -
12.3	Quality Assurance and Quality Control (QA/QC)	$ 14,044	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,044				$ -	$ 14,044
	TASK 12 TOTAL	**$ 14,044**	**$ -**	**$ -**	**$ 282,150**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 296,194**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 296,194**
	Project Total	**$ 2,898,986**	**$ 2,462,748**	**$ 902,803**	**$ 1,526,174**	**$ 32,680**	**$ 214,976**	**$ 279,850**	**$ 75,120**	**$ 20,700**	**$ 83,020**	**$ 8,497,057**	**$ -**	**$ 405,000**	**$ 60,000**	**$ 465,000**	**$ 8,962,057**
																Owner's Contingency (5% of total labor fees)	$ 448,103
																TOTAL PROJECT COST	$ 9,410,160

Pinellas County Utilities

PID 004167A- Wastewater Collection System Program

WADE TRIM

TASK	Labor Hours / Hourly Rates													Total Direct Labor		Subconsultant Cost	Other Direct Costs (ODCs)		TOTAL Dollars
	Principal	Sr. Technical Advisor	Technical Advisor	Chief Engineer	Sr. PM	Sr. Asset Management Specialist	Project Engineer	Staff Engineer	EIT	Sr. GIS Analyst	GIS Analyst	Tech Editor	Sr Clerical	Clerical	WT Labor Hours	WT Labor Dollars		Subcontracted Field Investigations	Travel Repro Legal Software	
	$ 269	$ 250	$ 233	$ 240	$ 254	$ 233	$ 183	$ 148	$ 115	$ 126	$ 90	$ 100	$ 106	$ 83						
Task 1 - Program Management																				
1.1 Management Services	200				2,080				88				180	180	2,728	$ 626,260	$ -	$ -	$ -	$ 626,260
1.2 Project Management Plan (PMP)	12		40		36							16			104	$ 23,292	$ 6,694	$ -	$ -	$ 29,986
1.3 Program Kickoff Meeting	8				18				12						38	$ 8,104	$ 7,768	$ -	$ -	$ 15,872
1.4 Monthly Invoice, Schedule, and Status Report	100				240			240					60	360	1,000	$ 159,620	$ 67,607	$ -	$ -	$ 227,227
1.5 Status Meetings	40				160				30						230	$ 54,850	$ 76,110	$ -	$ -	$ 130,960
1.6 Quality Assurance / Quality Control Management	60			180	100										340	$ 84,740	$ -	$ -	$ -	$ 84,740
TASK 1 TOTAL	420	0	40	180	2,634	0	0	240	130	0	0	16	240	540	**4,440**	**$ 956,866**	**$ 158,179**	**$ -**	**$ -**	**$ 1,115,045**
Task 2 - Data Collection and Coordination																		$ -		
2.1 Data Request/Coordination					16	24		60							100	$ 18,536	$ -	$ -	$ -	$ 18,536
2.2 Site Visits					18		18								36	$ 7,866	$ 5,634	$ -	$ -	$ 13,500
TASK 2 TOTAL	0	0	0	0	34	24	18	60	0	0	0	0	0	0	**136**	**$ 26,402**	**$ 5,634**	**$ -**	**$ -**	**$ 32,036**
Task 3 - CIP Program Support																		$ -		
3.1 CIP Management Assessment	60		120				90								270	$ 60,570	$ -	$ -	$ -	$ 60,570
3.2 Initial Integrated CIP Prioritization Across PCU	150		150		8		200								508	$ 113,932	$ -	$ -	$ -	$ 113,932
3.3 Updated Integrated CIP Prioritization Across PCU	40		80		8		200								328	$ 68,032	$ -	$ -	$ -	$ 68,032
3.4 Project Planning Support							220								220	$ 40,260	$ -	$ -	$ -	$ 40,260
3.5 Quality Assurance and Quality Control (QA/QC)		22	20												42	$ 10,160				$ 10,160
TASK 3 TOTAL	250	22	370	0	16	0	710	0	0	0	0	0	0	0	**1,368**	**$ 292,954**	**$ -**	**$ -**	**$ -**	**$ 292,954**
Task 4 - Private Sector Systems and Laterals Polices and Programs																		$ -		
4.1 Define Goals	6				10										16	$ 4,154	$ 3,968	$ -	$ -	$ 8,122
4.2 Private Sector System Characterization	6				10			60	340						416	$ 52,134	$ 45,700	$ 30,000	$ -	$ 127,834
4.3 Policy Research/Analysis	4				8			8							20	$ 4,292	$ 8,020	$ -	$ -	$ 12,312
4.4 Develop Policies & Programs	44				16		40	30				30			160	$ 30,660	$ 73,504	$ -	$ -	$ 104,164
4.5 Communications															0	$ -	$ -	$ -	$ -	$ -
4.5.1 Internal Communications	80				60		16	24	24						204	$ 46,000	$ 47,692	$ -	$ -	$ 93,692
4.5.2 External Communications	120				60		16	24	24						244	$ 56,760	$ 32,140	$ -	$ -	$ 88,900
4.6 Private Sector Systems and Laterals Program/Policy Options and Impacts (Support)	16				12										28	$ 7,352	$ 11,380	$ -	$ -	$ 18,732
4.7 Quality Assurance and Quality Control (QA/QC)			80												80	$ 18,640	$ -	$ -	$ -	$ 18,640
TASK 4 TOTAL	276	0	80	0	176	0	72	146	388	0	0	30	0	0	**1,168**	**$ 219,992**	**$ 222,404**	**$ 30,000**	**$ -**	**$ 472,396**
Task 5 - Asset Management																		$ -		
5.1 A.M. Plan Update, Improvements Integration, and Implementation	2				24		20					20			66	$ 12,294	$ 86,890	$ -	$ -	$ 99,184
5.2 Level-of-Service (LOS) for Assets	2				24		20								46	$ 10,294	$ 57,980	$ -	$ -	$ 68,274
5.3 Asset Inventory					20		44			260					324	$ 45,892	$ 318,036	$ -	$ -	$ 363,928
5.4 Progress and Data Reviewer					8		20								28	$ 5,692	$ 136,556	$ -	$ -	$ 142,248
5.5 Asset Condition Assessment					16					80					96	$ 14,144	$ 128,207	$ -	$ -	$ 142,351
5.6 Desktop Data Acquisition/Verification					16		60								76	$ 15,044	$ 58,985	$ -	$ -	$ 74,029
5.7 Asset Criticality Analysis					36		32			20					88	$ 17,520	$ 160,593	$ -	$ -	$ 178,113
5.8 Maintenance (Repair and Replace) Strategies					24		8					30			62	$ 10,560	$ 160,967	$ -	$ -	$ 171,527
5.9 Utility Network Implementation Pilot															0	$ -	$ 93,166	$ -	$ -	$ 93,166
5.10 Quality Assurance and Quality Control (QA/QC)	8		72			220									300	$ -	$ 70,188	$ -	$ -	$ 70,188
TASK 5 TOTAL	12	0	72	0	168	220	204	0	0	360	0	50	0	0	**1,086**	**$ 201,628**	**$ 1,201,380**	**$ -**	**$ -**	**$ 1,403,008**
Task 6 - Inflow/Infiltration (I&) Characterization																		$ -		
6.1 Existing System I&I Analysis															0	$ -	$ -	$ -	$ -	$ -
6.1.1 Pump Stations					12										12	$ 3,048	$ 194,514	$ -	$ -	$ 197,562
6.1.2 I&I Flow Monitoring Studies Review and Summary					12										12	$ 3,048	$ 54,996	$ -	$ -	$ 58,044
6.1.3 I&I Prioritization Areas					12										12	$ 3,048	$ 38,984	$ -	$ -	$ 42,032
6.2 Flow and Rainfall Monitoring Site Selection Assistance					24										24	$ 6,096	$ 28,952	$ -	$ -	$ 35,048
6.3 Early Action I&I Rehabilitation Recommendations					40										40	$ 10,160	$ 40,936	$ -	$ -	$ 51,096
6.4 Quality Assurance and Quality Control (QA/QC)		60													60	$ 15,000	$ -	$ -	$ -	$ 15,000
TASK 6 TOTAL	0	60	0	0	100	0	0	0	0	0	0	0	0	0	**160**	**$ 40,400**	**$ 358,382**	**$ -**	**$ -**	**$ 398,782**
Task 7 - Hydraulic Modeling																		$ -		
7.1 Review Modeling Methodology/Protocol					8			2				4			14	$ 2,728	$ 5,012	$ -	$ -	$ 7,740
7.2 Develop Alternatives & Optimization Strategy					16			2				4			22	$ 4,760	$ 12,258	$ -	$ -	$ 17,018
7.3 Future Development Model Strategy					16			2				4			22	$ 4,760	$ 6,018	$ -	$ -	$ 10,778
7.4 North Service Area (Dunn WRF)															0	$ -	$ -	$ -	$ -	$ -
7.4.1 Data Collection and Review					10										10	$ 2,540	$ 66,020	$ -	$ -	$ 68,560
7.4.2 Model Development					12			16	80						108	$ 14,616	$ 97,268	$ -	$ -	$ 111,884
7.4.3 Model Calibration and Validation					30				200						230	$ 30,620	$ 136,200	$ -	$ -	$ 166,820
7.4.4 Future Model Development								80							80	$ 11,840	$ 58,398	$ -	$ -	$ 70,238
7.4.5 Hydraulic Capacity Evaluation	4				24			36	36						100	$ 16,640	$ 60,570	$ -	$ -	$ 77,210
7.5 South Service Area (SCBAWRF)															0	$ -	$ -	$ -	$ -	$ -
7.5.1 Data Collection and Review					8										8	$ 2,032	$ 31,678	$ -	$ -	$ 33,710
7.5.2 Model Refinement					8			20							28	$ 4,992	$ 27,844	$ -	$ -	$ 32,836
7.5.3 Model Calibration and Validation					24				220						244	$ 31,396	$ 313,803	$ -	$ -	$ 345,199
7.5.4 Future Model Development					8				30						38	$ 5,482	$ 38,296	$ -	$ -	$ 43,778
7.5.5 Hydraulic Capacity Evaluation	4				30				20						54	$ 10,996	$ 49,152	$ -	$ -	$ 60,148
7.6 Model Development and Calibration Report					24				90			30			144	$ 19,446	$ 83,962	$ -	$ -	$ 103,408
7.7 Field Data to Support Model Development/Calibration															0	$ -	$ 13,394	$ -	$ -	$ 13,394
7.7.1 Field Investigation Activities					20										20	$ 5,080	$ 35,860	$ 55,000	$ -	$ 95,940
7.7.2 Temporary Flow and Rainfall Monitoring for South System					20										20	$ 5,080	$ 39,836	$ 320,000	$ -	$ 364,916
7.8 Comparison of Stormwater Flooding/Ponding to Sanitary System															0	$ -	$ 28,186	$ -	$ -	$ 28,186
7.9 Model Applications/Project Support					20			80	160						260	$ 35,320	$ 12,420	$ -	$ -	$ 47,740
7.10 Model Maintenance & Update Protocol Development					16			12				8			36	$ 6,640	$ 7,670	$ -	$ -	$ 14,310
7.11 Model Training					8			24							32	$ 5,584	$ 6,096	$ -	$ -	$ 11,680
7.12 Quality Assurance and Quality Control (QA/QC)			492												492	$ 114,636	$ -	$ -	$ -	$ 114,636
TASK 7 TOTAL	8	0	492	0	302	0	0	274	836	0	0	50	0	0	**1,962**	**$ 335,188**	**$ 1,129,941**	**$ 375,000**	**$ -**	**$ 1,840,129**
Task 8 - Septic-To-Sewer Program																		$ -		
8.1 Define Vision and Goals					12										12	$ 3,048	$ 3,016	$ -	$ -	$ 6,064
8.2 Delineate and Group Unsewered Areas					8						80				88	$ 9,232	$ 90,708	$ -	$ -	$ 99,940
8.3 Develop Prioritization Plan					16										16	$ 4,064	$ 67,906	$ -	$ -	$ 71,970
8.4 Evaluate Conversion Alternatives					16			75	80						171	$ 24,364	$ 359,670	$ -	$ -	$ 384,034
8.5 Public Outreach					24										24	$ 6,096	$ 24,420	$ -	$ -	$ 30,516
8.6 Financial Plan					8							16			24	$ 3,632	$ 10,272	$ -	$ -	$ 13,904
8.7 Funding and Grant Application Assistance															0	$ -	$ -	$ -	$ -	$ -
8.7.1 Funding Alternatives					8		16								24	$ 4,960	$ 22,337	$ -	$ -	$ 27,297
8.7.2 Grant Funding Application Assistance					8		20	70							98	$ 16,052	$ 39,684	$ -	$ -	$ 55,736
8.8 Policy/Legislation					20										20	$ 5,080	$ 57,612	$ -	$ -	$ 62,692
8.9 Quality Assurance and Quality Control (QA/QC)		94													94	$ 23,500	$ -	$ -	$ -	$ 23,500
TASK 8 TOTAL	0	94	0	0	120	0	36	145	80	0	80	16	0	0	**571**	**$ 100,028**	**$ 675,625**	**$ -**	**$ -**	**$ 775,653**
Task 9 - Master Planning																		$ -		
9.1 Develop Master Plan Approach															0	$ -	$ -	$ -	$ -	$ -
9.1.1 Master Plan Approach and Visioning Workshop	1				16		8								25	$ 5,797	$ 24,428	$ -	$ -	$ 30,225
9.1.2 Master Plan Approach and Visioning Document	1				20		8								29	$ 6,813	$ 28,356	$ -	$ -	$ 35,169
9.2 SSO Abatement Alternatives Optimization																	$ -	$ -	$ -	$ -
9.2.1 Determine Candidate Improvements and Locations					38		32	30							100	$ 19,948	$ 71,756	$ -	$ -	$ 91,704
9.2.2 Develop Planning-Level Unit Costs					40		8								48	$ 11,624	$ 25,352	$ -	$ -	$ 36,976

Pinellas County Utilities

PID 004167A- Wastewater Collection System Program

WADE TRIM

	TASK	Labor Hours / Hourly Rates														Total Direct Labor		Subconsultant Cost	Other Direct Costs (ODCs)		TOTAL Dollars
		Principal	Sr. Technical Advisor	Technical Advisor	Chief Engineer	Sr. PM	Sr. Asset Management Specialist	Project Engineer	Staff Engineer	EIT	Sr. GIS Analyst	GIS Analyst	Tech Editor	Sr Clerical	Clerical	WT Labor Hours	WT Labor Dollars		Subcontracted Field Investigations	Travel Repro Legal Software	
		$ 269	$ 250	$ 233	$ 240	$ 254	$ 233	$ 183	$ 148	$ 115	$ 126	$ 90	$ 100	$ 106	$ 83						
9.2.3	Conduct Optimization Runs and Develop Optimized Solutions	2				80		60	180	80						402	$ 67,678	$ 299,322	$ -	$ 60,000	$ 427,000
9.2.4	Optimization Workshops					30		30								60	$ 13,110	$ 63,444	$ -	$ -	$ 76,554
9.3	Develop Prioritized SSO Management plan																	$ -	$ -	$ -	$ -
9.3.1	Aggregate Improvements into Projects					72										72	$ 18,288	$ 144,112	$ -	$ -	$ 162,400
9.3.2	Develop Prioritization Criteria and Scoring Rubric					20										20	$ 5,080	$ 28,368	$ -	$ -	$ 33,448
9.3.3	Capacity SSO Abatement Recommendations Scoring and Preliminary Sequencing					60										60	$ 15,240	$ 57,280	$ -	$ -	$ 72,520
9.4	Develop Prioritized Integrated WWCSMP															0	$ -	$ -	$ -	$ -	$ -
9.4.1	Conduct Model Simulations for Various Investment Scenarios					80											$ 20,320	$ 47,344	$ -	$ -	$ 67,664
9.4.2	Develop Phased Program	8				160										168	$ 42,792	$ 51,916	$ -	$ -	$ 94,708
9.5	Develop WWCSMP Report															0	$ -	$ -	$ -	$ -	$ -
9.5.1	Written WWCSMP Report	8				240		90					50			388	$ 84,582	$ 154,736	$ -	$ -	$ 239,318
9.5.2	Develop Interactive WWCSMP Dashboards					20										20	$ 5,080	$ 74,492	$ -	$ -	$ 79,572
9.5.3	Develop WWCSMP Story Maps					24			40							64	$ 12,016	$ 80,076	$ -	$ -	$ 92,092
9.6	Quality Assurance and Quality Control (QA/QC)			380												380	$ 88,540	$ -	$ -	$ -	$ 88,540
	TASK 9 TOTAL	20	0	380	0	900	0	236	250	80	0	0	50	0	0	**1,916**	**$ 416,908**	**$ 1,150,982**	**$ -**	**$ 60,000**	**$ 1,627,890**
Task 10 - Innovation and Technology																			$ -		
10.1	Pilot Planning - Predictive SSO Management	20														20	$ 5,380	$ 22,768	$ -	$ -	$ 28,148
10.2	Pump Station Back-Up Power and Fuel System Resiliency Assessment	28			80	8			80	60		24	12			292	$ 50,864	$ -	$ -	$ -	$ 50,864
10.3	Pumps Station Performance Monitoring and Optimization Solutions	16			40	8		60	60	40			10			234	$ 41,396	$ 19,568	$ -	$ -	$ 60,964
10.4	WRF Condition and Capacity Assessment	28			40	16		60		60						204	$ 39,076	$ -	$ -	$ -	$ 39,076
10.5	Condition Assessment Technologies					40										40	$ 10,160	$ -	$ -	$ -	$ 10,160
10.6	Process for Innovation and Technology Business Case Evaluation and Pilot Demonstration	16								40						56	$ 8,904	$ 4,720	$ -	$ -	$ 13,624
10.7	SSO Management Executive Dashboard Plan	24				16										40	$ 10,520	$ 35,544	$ -	$ -	$ 46,064
10.8	Aligning Strategic Goals with Innovation and Technology	34				8										42	$ 11,178	$ 15,584	$ -	$ -	$ 26,762
10.9	Quality Assurance and Quality Control (QA/QC)		16			4				40						60	$ 9,616	$ 4,640	$ -	$ -	$ 14,256
	TASK 10 TOTAL	166	16	0	160	100	0	120	140	240	0	24	22	0	0	**988**	**$ 187,094**	**$ 102,824**	**$ -**	**$ -**	**$ 289,918**
Task 11 - Public Outreach																			$ -		
11.1	Public Outreach Coordination and Reporting																	$ -	$ -	$ -	$ -
11.1.1	Integrated Public Communications Strategy Development					8										8	$ 2,032	$ 11,332	$ -	$ -	$ 13,364
11.1.2	Program Messaging					8										8	$ 2,032	$ 10,664	$ -	$ -	$ 12,696
11.1.3	Strategic Partnership Support					8										8	$ 2,032	$ 7,000	$ -	$ -	$ 9,032
11.1.4	Program Communication Coordination															0	$ -	$ -	$ -	$ -	$ -
11.1.5	Media Outreach															0	$ -	$ -	$ -	$ -	$ -
11.1.6	Social Media Outreach															0	$ -	$ -	$ -	$ -	$ -
11.1.7	Website															0	$ -	$ -	$ -	$ -	$ -
11.1.8	Online Document ADA Compliance												24			24	$ 2,400	$ -	$ -	$ -	$ 2,400
11.2	Private Laterals and Septic-To-Sewer Policies																	$ -	$ -	$ -	$ -
11.2.1	Public Involvement Plan					8										8	$ 2,032	$ 14,000	$ -	$ -	$ 16,032
11.2.2	Stakeholder Database					8										8	$ 2,032	$ 9,500	$ -	$ -	$ 11,532
11.2.3	Survey Development and Analysis					8										8	$ 2,032	$ 12,164	$ -	$ -	$ 14,196
11.2.4	Public Education Campaign					8										8	$ 2,032	$ 23,246	$ -	$ -	$ 25,278
11.2.5	Educational Materials and Collateral Development					8										8	$ 2,032	$ 31,816	$ -	$ -	$ 33,848
11.2.6	Project Information Line and Email Address					8										8	$ 2,032	$ 7,500	$ -	$ -	$ 9,532
11.2.7	Public Meetings					8										8	$ 2,032	$ 54,452	$ -	$ -	$ 56,484
11.2.8	Project Website					8										8	$ 2,032	$ 16,016	$ -	$ -	$ 18,048
11.2.9	Media Outreach					8										8	$ 2,032	$ 9,500	$ -	$ -	$ 11,532
11.2.10	Social Media Outreach					8										8	$ 2,032	$ 16,160	$ -	$ -	$ 18,192
11.2.11	Special Interest Group Presentations/Meetings					8							16			24	$ 3,632	$ 22,662	$ -	$ -	$ 26,294
11.2.12	Policy Educational Videos					8							16			24	$ 3,632	$ 26,008	$ -	$ -	$ 29,640
11.2.13	Pinellas County Communications Resources					8							16			24	$ 3,632	$ 7,830	$ -	$ -	$ 11,462
11.3	Coordination with External Stakeholders	80				100				80						260	$ 56,120	$ 30,720	$ -	$ -	$ 86,840
11.4	Quality Assurance and Quality Control (QA/QC)			50												50	$ 11,650	$ -	$ -	$ -	$ 11,650
	TASK 11 TOTAL	80	0	50	0	228	0	0	0	80	0	0	72	0	0	**510**	**$ 107,482**	**$ 310,570**	**$ -**	**$ -**	**$ 418,052**
Task 12 - Financial/Funding Analyses																			$ -		
12.1	Financial Impact Analysis of Task Alternatives															0	$ -	$ 129,600	$ -	$ -	$ 129,600
12.1.1	Private Sector Systems and Laterals Program/Policy (Task 4.0)															0	$ -	$ -	$ -	$ -	$ -
12.1.2	5.0)															0	$ -	$ -	$ -	$ -	$ -
12.1.3	SSO Abatement Prioritization & Alternative I&I Mitigation Program Funding and Rate Impacts (Task 9.0)															0	$ -	$ -	$ -	$ -	$ -
12.1.4	Septic-To-Sewer Funding Options & Rate Impacts (Task 8.0)															0	$ -	$ -	$ -	$ -	$ -
12.2	Integrated Utility Rate Study																$ -	$ 152,550	$ -	$ -	$ 152,550
12.2.1	Update FAMS to Reflect Most Current Data (Aug-Sep 2020)															0	$ -	$ -	$ -	$ -	$ -
12.2.2	Perform CIP Prioritization & Funding Analysis for Task 8.0 (Oct 2022)															0	$ -	$ -	$ -	$ -	$ -
12.2.3	2022)															0	$ -	$ -	$ -	$ -	$ -
12.2.4	Present 4-Year Rate Plan to Administration and BOCC (Jan-Jun 2023)															0	$ -	$ -	$ -	$ -	$ -
12.3	Quality Assurance and Quality Control (QA/QC)	16		20		20										56	$ 14,044	$ -	$ -	$ -	$ 14,044
	TASK 12 TOTAL	16	0	20	0	20	0	0	0	0	0	0	0	0	0	**56**	**$ 14,044**	**$ 282,150**	**$ -**	**$ -**	**$ 296,194**
																			$ -		
	TOTALS	1,248	192	1,504	340	4,798	244	1,396	1,255	1,834	360	104	306	240	540	**14,361**	**$ 2,898,986**	**$ 5,598,071**	**$ 405,000**	**$ 60,000**	**$ 8,962,057**
	PID 004167A-CN rates	269	250	233	240	254	233	183	148	115	126	90	100	106	83					**Owner's Contingency (5% of total labor fees)**	**$ 448,103**
	Labor Cost per Category	$ 335,712	$ 48,000	$ 350,432	$ 81,600	$ 1,218,692	$ 56,852	$ 255,468	$ 185,740	$ 210,910	$ 45,360	$ 9,360	$ 30,600	$ 25,440	$ 44,820					**TOTAL PROJECT COST**	**$ 9,410,160**

Pinellas County Utilities
PID 004167A- Wastewater Collection System Program

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TASK		Labor Hours / Hourly Rates													Total Direct Labor	
		Principal	Chief Engineer	Sr. PM	DPM	Asset Management Director	Sr. Asset Management Specialist	Asset Management Specialist	Sr. PE	Project Engineer	Staff Engineer	EIT	Sr. Designer	Sr Clerical	Labor Hours	Labor Dollars
		$ 254	$ 237	$ 234	$ 206	$ 269	$ 215	$ 170	$ 213	$ 168	$ 147	$ 78	$ 126	$ 90		
Task 1 - Project Management																
1.1	Management Services														0	$ -
1.2	Project Management Plan (PMP)	20				6									26	$ 6,694
1.3	Program Kickoff Meeting	6				8									14	$ 3,676
1.4	Monthly Invoice, Schedule, and Status Report	40				73									113	$ 29,797
1.5	Monthly Status Meetings	45		80											125	$ 30,150
1.6	Quality Assurance / Quality Control Management														0	$ -
	TASK 1 TOTAL	111	0	80	0	87	0	0	0	0	0	0	0	0	278	$ 70,317
Task 2 - Data Collection and Coordination																
2.1	Data Request/Coordination														0	$ -
2.2	Site Visits									18					18	$ 3,024
	TASK 2 TOTAL	0	0	0	0	0	0	0	0	18	0	0	0	0	18	$ 3,024
Task 4 - Private Sector Systems and Laterals																
4.1	Define Goals					4			4						8	$ 1,928
4.2	Private Sector System Characterization					24			8	60	100				192	$ 32,940
4.3	Policy Research/Analysis														0	$ -
4.4	Develop Policies & Programs					76			100						176	$ 41,744
4.5	Communications														0	$ -
4.5.1	Internal Communications					60			104						164	$ 38,292
4.5.2	External Communications	80													80	$ 20,320
4.6	Private Sector Systems and Laterals Program/Policy Options and Impacts (Support)					12			24						36	$ 8,340
4.7	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 4 TOTAL	80	0	0	0	176	0	0	240	60	100	0	0	0	656	$ 143,564
Task 5 - Asset Management																
5.1	A.M. Plan Update, Improvements Integration, and Implementation					8		16							24	$ 4,872
5.2	Level-of-Service (LOS) for Assets					8		12							20	$ 4,192
5.3	Asset Inventory					4		16							20	$ 3,796
5.4	Progress and Data Reviewer														0	$ -
5.5	Asset Condition Assessment					12		16							28	$ 5,948
5.6	Field Data Acquisition/Verification														0	$ -
5.7	Asset Criticality Analysis					28		20							48	$ 10,932
5.8	Maintenance (Repair and Replace) Strategies					28		40							68	$ 14,332
5.9	Utility Network Implementation Pilot														0	$ -
5.10	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 5 TOTAL	0	0	0	0	88	0	120	0	0	0	0	0	0	208	$ 44,072
Task 6 - Infiltration/Inflow Characterization																
6.1	Existing System I&I Analysis															
6.1.1	Pump Stations									58	115	550			723	$ 69,549
6.1.2	I&I Flow Monitoring Studies Review and Summary					12			36		300				348	$ 54,996
6.1.3	I&I Prioritization Areas					12					108				120	$ 19,104
6.2	Flow and Rainfall Monitoring Site Selection Assistance					24					40				64	$ 12,336
6.3	Early Action I&I Rehabilitation Recommendations					36					72				108	$ 20,268
6.4	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 6 TOTAL	0	0	0	0	84	0	0	36	58	635	550	0	0	1,363	$ 176,253
Task 7 - Hydraulic Modeling																
7.1	Review Modeling Methodology/Protocol								4						4	$ 852
7.2	Develop Alternatives & Optimization Strategy					8			8						16	$ 3,856
7.3	Future Development Model Strategy					2			10						12	$ 2,668
7.4	North Service Area (Dunn WRF)														0	$ -
7.4.1	Data Collection and Review														0	$ -
7.4.2	Model Development														0	$ -
7.4.3	Model Calibration and Validation														0	$ -
7.4.4	Future Model Development														0	$ -
7.4.5	Hydraulic Capacity Evaluation														0	$ -
7.5	South Service Area (SCBAWRF)														0	$ -
7.5.1	Data Collection and Review	2							58	112					172	$ 31,678
7.5.2	Model Refinement	2							40	112					154	$ 27,844

Pinellas County Utilities
PID 004167A- Wastewater Collection System Program

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	TASK	Labor Hours / Hourly Rates													Total Direct Labor	
		Principal	Chief Engineer	Sr. PM	DPM	Asset Management Director	Sr. Asset Management Specialist	Asset Management Specialist	Sr. PE	Project Engineer	Staff Engineer	EIT	Sr. Designer	Sr Clerical	Labor Hours	Labor Dollars
		$ 254	$ 237	$ 234	$ 206	$ 269	$ 215	$ 170	$ 213	$ 168	$ 147	$ 78	$ 126	$ 90		
7.5.3	Model Calibration and Validation	2				40			395	1,300					1,737	$ 313,803
7.5.4	Future Model Development	2				12			40	155					209	$ 38,296
7.5.5	Hydraulic Capacity Evaluation	2				16			80	110	60				268	$ 49,152
7.6	Model Development and Calibration Report					24			96	110					230	$ 45,384
7.7	Field Data to Support Model Development/Calibration														0	$ -
7.7.1	Field Investigation Activities									40	40				80	$ 12,600
7.7.2	Temporary Flow and Rainfall Monitoring for South System					4			40	40	160				244	$ 39,836
7.8	Comparison of Stormwater Flooding/Ponding to Sanitary System									80	24				104	$ 16,968
7.9	Model Applications/Project Support								20	20					40	$ 7,620
7.10	Model Maintenance & Update Protocol Development					8			16						24	$ 5,560
7.11	Model Training								16	16					32	$ 6,096
7.12	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 7 TOTAL	10	0	0	0	114	0	0	823	2,095	284	0	0	0	3,326	$ 602,213
Task 8 - Septic-To-Sewer Program																
8.1	Define Vision and Goals	4			4						8				16	$ 3,016
8.2	Delineate and Group Unsewered Areas	22	18	0	116	0	0	0	0	40	258	108	28	4	594	$ 90,708
8.3	Develop Prioritization Plan	26	10	0	132	0	0	0	0	0	180	40	0	24	412	$ 67,906
8.4	Evaluate Conversion Alternatives	32	58	0	310	0	0	0	0	760	776	132	168	8	2,244	$ 359,670
8.5	Public Outreach				70										70	$ 14,420
8.6	Financial Ratepayer Analysis Support	8	0	0	40	0	0	0	0	0		0	0	0	48	$ 10,272
8.7	Funding and Grant Application Assistance														0	$ -
8.7.1	Funding Alternatives	8	16		23						45			4	96	$ 17,537
8.7.2	Grant Funding Application Assistance	8			40					24	140				212	$ 34,884
8.8	Policy/Legislation	48	4	0	96	0	0	0	0	0	168	0	0	0	316	$ 57,612
8.9	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 8 TOTAL	156	106	0	831	0	0	0	0	824	1,575	280	196	40	4,008	$ 656,025
Task 9 - Master Planning																
9.1	Develop Master Plan Approach														0	$ -
9.1.1	Master Plan Approach and Visioning Workshop	6		24		24				12					66	$ 15,612
9.1.2	Master Plan Approach and Visioning Document	6		2		24				56					88	$ 17,856
9.2	SSO Abatement Alternatives Optimization														0	$ -
9.2.1	Determine Candidate Improvements and Locations	4				24			48	44					120	$ 25,088
9.2.2	Develop Planning-Level Unit Costs	4		24		8			24	40					100	$ 20,616
9.2.3	Conduct Optimization Runs and Develop Optimized Solutions	8				30			180	260					478	$ 92,122
9.2.4	Optimization Workshops	12				24	16		20	20	48				140	$ 27,620
9.3	Develop Prioritized SSO Management plan						0				0				0	$ -
9.3.1	Aggregate Improvements into Projects	8				24	48		40	80	192				392	$ 68,992
9.3.2	Develop Prioritization Criteria and Scoring Rubric	8				24	0		24	24	0				80	$ 17,632
9.3.3	Capacity SSO Abatement Recommendations Scoring and Preliminary Sequencing	8				24	0		40	80	80				232	$ 42,208
9.4	Develop Prioritized Integrated WWCSMP						0				0				0	$ -
9.4.1	Conduct Model Simulations for Various Investment Scenarios	4				40	0		40	56	120				260	$ 47,344
9.4.2	Develop Phased Program	22				40	0		40	56	120				278	$ 51,916
9.5	Develop WWCSMP Report						0				0				0	$ -
9.5.1	Written WWCSMP Report	30				80	32		100	180	408			80	910	$ 154,736
9.5.2	Develop Interactive WWCSMP Dashboards	10				24	48		24	60	272				438	$ 74,492
9.5.3	Develop WWCSMP Story Maps	10				24	80		40	60	240				454	$ 80,076
9.6	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 9 TOTAL	140	0	50	0	414	224	0	620	1,028	1,480	0	0	80	4,036	$ 736,310
Task 10 - Innovation and Technology																
10.1	Pilot Planning - Predictive SSO Management														0	$ -
10.2	Pump Station Back-Up Power and Fuel System Resiliency Assessment								50						50	$ 10,650
10.3	Pumps Station Performance Monitoring and Optimization Solutions														0	$ -
10.4	WRF Condition and Capacity Assessment														0	$ -
10.5	Condition Assessment Technologies														0	$ -
10.6	Process for Innovation and Technology Business Case Evaluation and Pilot Demonstration														0	$ -
10.7	SSO Management Executive Dashboard Plan														0	$ -
10.8	Aligning Strategic Goals with Innovation and Technology														0	$ -

Pinellas County Utilities
PID 004167A- Wastewater Collection System Program

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	TASK	Labor Hours / Hourly Rates													Total Direct Labor	
		Principal	Chief Engineer	Sr. PM	DPM	Asset Management Director	Sr. Asset Management Specialist	Asset Management Specialist	Sr. PE	Project Engineer	Staff Engineer	EIT	Sr. Designer	Sr Clerical	Labor Hours	Labor Dollars
		$ 254	$ 237	$ 234	$ 206	$ 269	$ 215	$ 170	$ 213	$ 168	$ 147	$ 78	$ 126	$ 90		
10.9	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 10 TOTAL	0	0	0	0	0	0	0	50	0	0	0	0	0	50	$ 10,650
Task 11 - Public Outreach																
11.1	Public Outreach Coordination and Reporting															
11.1.1	Integrated Public Communications Strategy Development														0	$ -
11.1.2	Program Messaging														0	$ -
11.1.3	Strategic Partnership Support														0	$ -
11.1.4	Program Communication Coordination														0	$ -
11.1.5	Media Outreach														0	$ -
11.1.6	Social Media Outreach														0	$ -
11.1.7	Website														0	$ -
11.1.8	Online Document ADA Compliance														0	$ -
11.2	Private Laterals and Septic-To-Sewer Policies														0	$ -
11.2.1	Public Involvement Plan														0	$ -
11.2.2	Stakeholder Database														0	$ -
11.2.3	Survey Development and Analysis														0	$ -
11.2.4	Public Education Campaign														0	$ -
11.2.5	Educational Materials and Collateral Development														0	$ -
11.2.6	Project Information Line and Email Address														0	$ -
11.2.7	Public Meetings														0	$ -
11.2.8	Project Website														0	$ -
11.2.9	Media Outreach														0	$ -
11.2.10	Social Media Outreach														0	$ -
11.2.11	Special Interest Group Presentations/Meetings														0	$ -
11.2.12	Policy Educational Videos														0	$ -
11.2.13	Pinellas County Communications Resources														0	$ -
11.3	Coordination with External Stakeholders	80													80	$ 20,320
11.4	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 11 TOTAL	80	0	0	0	0	0	0	0	0	0	0	0	0	80	$ 20,320
	TOTAL	577	106	130	831	963	224	120	1,769	4,083	4,074	830	196	120	14,023	$ 2,462,748

Pinellas County Utilities

PID 004167A- Wastewater Collection System Program **JEA**

TASK		Labor Hours / Hourly Rates													Total Direct Labor	
		Principal	Sr. Technical Advisor	Technical Advisor	Sr. PM	Sr. PE	Project Engineer	Staff Engineer	EIT	Gis Manager	Sr. GIS Analyst	Gis Analyst	Accountant/ Financial Analyst	Tech Editor	Labor Hours	Labor Dollars
		$ 260	$ 240	$ 200	$ 230	$ 240	$ 180	$ 145	$ 110	$ 160	$ 126	$ 90	$ 90	$ 100		
Task 1 - Project Management																
1.1	Management Services														0	$ -
1.2	Project Management Plan (PMP)														0	$ -
1.3	Program Kickoff Meeting	6													6	$ 1,560
1.4	Monthly Invoice, Schedule, and Status Report		60												60	$ 14,400
1.5	Monthly Status Meetings	30	50												80	$ 19,800
1.6	Quality Assurance / Quality Control Management														0	$ -
	TASK 1 TOTAL	36	110	0	0	0	0	0	0	0	0	0	0	0	146	$ 35,760
Task 2 - Data Collection and Coordination																
2.1	Data Request/Coordination														0	$ -
2.2	Site Visits							18							18	$ 2,610
	TASK 2 TOTAL	0	0	0	0	0	0	18	0	0	0	0	0	0	18	$ 2,610
Task 6 - Infiltration/Inflow Characterization																
6.1	Existing System I&I Analysis														0	$ -
6.1.1	Pump Stations	16	20	20	36	36	190	155	155	40	40	80	8	20	816	$ 124,965
6.1.2	I&I Flow Monitoring Studies Review and Summary														0	$ -
6.1.3	I&I Prioritization Areas	8	8		16	12	12		16	8		20	8	16	124	$ 19,880
6.2	Flow and Rainfall Monitoring Site Selection Assistance	8	16		16	16					16		4	8	84	$ 16,616
6.3	Early Action I&I Rehabilitation Recommendations	6	10		15	6	16	24	12		8	8	9	16	130	$ 20,668
6.4	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 6 TOTAL	38	54	20	83	70	218	179	183	48	64	108	29	60	1,154	$ 182,129
Task 7 - Hydraulic Modeling																
7.1	Review Modeling Methodology/Protocol	1	4		4		8						2	4	23	$ 4,160
7.2	Develop Alternatives & Optimization Strategy	1	4		8								1	2	16	$ 3,350
7.3	Future Development Model Strategy	1	4		8								1	2	16	$ 3,350
7.4	North Service Area (Dunn WRF)														0	$ -
7.4.1	Data Collection and Review	8	24			20	80	80	80	2	80	80	2	8	464	$ 66,020
7.4.2	Model Development	36	80	0	0	80	80	96	96	0	18	80	4	8	578	$ 97,268
7.4.3	Model Calibration and Validation	16	40			80	180	270	280				1	8	875	$ 136,200
7.4.4	Future Model Development	16	16			44	55	96	112		8	20	1	8	376	$ 58,398
7.4.5	Hydraulic Capacity Evaluation	16	24			50	60	96	112			8	1	8	375	$ 60,570
7.5	South Service Area (SCBAWRF)														0	$ -
7.5.1	Data Collection and Review														0	$ -
7.5.2	Model Refinement														0	$ -
7.5.3	Model Calibration and Validation														0	$ -
7.5.4	Future Model Development														0	
7.5.5	Hydraulic Capacity Evaluation														0	$ -
7.6	Model Development and Calibration Report	8	16			4	20	80	100		8	40	1	8	285	$ 38,578
7.7	Field Data to Support Model Development/Calibration	8	16			4	4	20	20		4		1	1	78	$ 13,394
7.7.1	Field Investigation Activities					12	16	60	80						168	$ 23,260
7.7.2	Temporary Flow and Rainfall Monitoring for South System														0	$ -
7.8	Comparison of Stormwater Flooding/Ponding to Sanitary System	4	8				8	16	16		8	16	1	2	79	$ 11,218
7.9	Model Applications/Project Support					20									20	$ 4,800
7.10	Model Maintenance & Update Protocol Development					8							1	1	10	$ 2,110
7.11	Model Training														0	$ -
7.12	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 7 TOTAL	115	236	0	20	322	511	814	896	2	126	244	17	60	3,363	$ 522,676
Task 8 - Septic-To-Sewer Program																
8.1	Define Vision and Goals														0	$ -
8.2	Delineate and Group Unsewered Areas														0	$ -
8.3	Develop Prioritization Plan														0	$ -
8.4	Evaluate Conversion Alternatives														0	$ -
8.5	Public Outreach	20	20												40	$ 10,000
8.6	Financial Plan														0	$ -
8.7	Funding and Grant Application Assistance														0	$ -
8.7.1	Funding Alternatives		20												20	$ 4,800
8.7.2	Grant Funding Application Assistance		20												20	$ 4,800
8.8	Policy/Legislation														0	$ -
8.9	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 8 TOTAL	20	60	0	0	0	0	0	0	0	0	0	0	0	80	$ 19,600
Task 9 - Master Planning																
9.1	Develop Master Plan Approach														0	$ -
9.1.1	Master Plan Approach and Visioning Workshop	8													8	$ 2,080
9.1.2	Master Plan Approach and Visioning Document	8													8	$ 2,080
9.2	SSO Abatement Alternatives Optimization														0	$ -
9.2.1	Determine Candidate Improvements and Locations	24	16			20		20	32		8	24			144	$ 24,468
9.2.2	Develop Planning-Level Unit Costs														0	$ -
9.2.3	Conduct Optimization Runs and Develop Optimized Solutions	40	40			92		220			100				492	$ 86,580
9.2.4	Optimization Workshops		8			40		20							68	$ 14,420
9.3	Develop Prioritized SSO Management plan														0	$ -
9.3.1	Aggregate Improvements into Projects														0	$ -
9.3.2	Develop Prioritization Criteria and Scoring Rubric														0	$ -
9.3.3	Capacity SSO Abatement Recommendations Scoring and Preliminary Sequencing														0	$ -
9.4	Develop Prioritized Integrated WWCSMP														0	$ -
9.4.1	Conduct Model Simulations for Various Investment Scenarios														0	$ -
9.4.2	Develop Phased Program														0	$ -
9.5	Develop WWCSMP Report														0	$ -
9.5.1	Written WWCSMP Report														0	$ -
9.5.2	Develop Interactive WWCSMP Dashboards														0	$ -
9.5.3	Develop WWCSMP Story Maps														0	$ -
9.6	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 9 TOTAL	80	64	0	0	152	0	260	32	0	108	24	0	0	720	$ 129,628

Pinellas County Utilities

PID 004167A- Wastewater Collection System Program **JEA**

TASK		Labor Hours / Hourly Rates													Total Direct Labor	
		Principal	Sr. Technical Advisor	Technical Advisor	Sr. PM	Sr. PE	Project Engineer	Staff Engineer	EIT	Gis Manager	Sr. GIS Analyst	Gis Analyst	Accountant/ Financial Analyst	Tech Editor	Labor Hours	Labor Dollars
		$ 260	$ 240	$ 200	$ 230	$ 240	$ 180	$ 145	$ 110	$ 160	$ 126	$ 90	$ 90	$ 100		
Task 11 - Public Outreach																
11.1	Public Outreach Coordination and Reporting															
11.1.1	Integrated Public Communications Strategy Development														0	$ -
11.1.2	Program Messaging														0	$ -
11.1.3	Strategic Partnership Support														0	$ -
11.1.4	Program Communication Coordination														0	$ -
11.1.5	Media Outreach														0	$ -
11.1.6	Social Media Outreach														0	$ -
11.1.7	Website														0	$ -
11.1.8	Online Document ADA Compliance														0	$ -
11.2	Private Laterals and Septic-To-Sewer Policies														0	$ -
11.2.1	Public Involvement Plan														0	$ -
11.2.2	Stakeholder Database														0	$ -
11.2.3	Survey Development and Analysis														0	$ -
11.2.4	Public Education Campaign														0	$ -
11.2.5	Educational Materials and Collateral Development														0	$ -
11.2.6	Project Information Line and Email Address														0	$ -
11.2.7	Public Meetings														0	$ -
11.2.8	Project Website														0	$ -
11.2.9	Media Outreach														0	$ -
11.2.10	Social Media Outreach														0	$ -
11.2.11	Special Interest Group Presentations/Meetings														0	$ -
11.2.12	Policy Educational Videos														0	$ -
11.2.13	Pinellas County Communications Resources														0	$ -
11.3	Coordination with External Stakeholders	40													40	$ 10,400
11.4	Quality Assurance and Quality Control (QA/QC)														0	$ -
	TASK 11 TOTAL	40	0	0	0	0	0	0	0	0	0	0	0	0	40	$ 10,400
	TOTAL	329	524	20	103	544	729	1,271	1,111	50	298	376	46	120	5,521	$ 902,803

Pinellas County Utilities

PID 004167A- Wastewater Collection System Program

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	TASK	Labor Hours / Hourly Rates													Total Direct Labor	
		Sr. Technical Advisor	Technical Advisor	Financial Director	Sr. PM	DPM	Asset Management Director	Sr. Asset Management Specialist	Asset Management Specialist	Asset Information Specialist	EIT	Sr. GIS Analyst	Gis Analyst	Accountant/ Financial Analyst LA	Labor Hours	Labor Dollars
		$ 248	$ 180	$ 295	$ -	$ 199	$ 269	$ 233	$ 187	$ 169	$ 121	$ 126	$ 90	$ 120		
Task 1 - Project Management																
1.1	Management Services														0	$ -
1.2	Project Management Plan (PMP)														0	$ -
1.3	Program Kickoff Meeting						8								8	$ 2,152
1.4	Monthly Invoice, Schedule, and Status Report					110									110	$ 21,890
1.5	Monthly Status Meetings					120									120	$ 23,880
1.6	Quality Assurance / Quality Control Management														0	$ -
	TASK 1 TOTAL	0	0	0	0	230	8	0	0	0	0	0	0	0	238	$ 47,922
Task 5 - Asset Management																
5.1	A.M. Plan Update, Improvements Integration, and Implementation					48		102	190	30			90		460	$ 82,018
5.2	Level-of-Service (LOS) for Assets					30		96	100				75		301	$ 53,788
5.3	Asset Inventory					188		46		640		1200	75		2,149	$ 314,240
5.4	Progress and Data Reviewer					90				554		145	75		864	$ 136,556
5.5	Asset Condition Assessment					52		205	260	40		16	75		648	$ 122,259
5.6	Desktop Data Acquisition/Verification					30				155		160	74		419	$ 58,985
5.7	Asset Criticality Analysis					84		148	175	144		275	75		901	$ 149,661
5.8	Maintenance (Repair and Replace) Strategies		60			30		160	55	250		100	75		730	$ 125,935
5.9	Utility Network Implementation Pilot					58			16	320		152	60		606	$ 93,166
5.10	Quality Contol and Assurance														0	$ -
	TASK 5 TOTAL	0	60	0	0	610	0	757	796	2,133	0	2,048	674	0	7,078	$ 1,136,608
Task 10 - Innovation and Technology																
10.1	Pilot Planning - Predictive SSO Management	40									40				80	$ 14,760
10.2	Pump Station Back-Up Power and Fuel System Resiliency Assessment														0	$ -
10.3	Pumps Station Performance Monitoring and Optimization Solutions	40													40	$ 9,920
10.4	WRF Condition and Capacity Assessment														0	$ -
10.5	Condition Assessment Technologies														0	$ -
10.6	Process for Innovation and Technology Business Case Evaluation and Pilot Demonstration														0	$ -
10.7	SSO Management Executive Dashboard Plan	16	24			44					50		20		154	$ 24,894
10.8	Aligning Strategic Goals with Innovation and Technology	40													40	$ 9,920
10.9	Quality Control and Assurance														0	$ -
	TASK 10 TOTAL	136	24	0	0	44	0	0	0	0	90	0	20	0	314	$ 59,494
Task 12 - Financial/Funding Analyses																
12.1	Financial Impact Analysis of Task Alternatives	150	150	120										250	670	$ 129,600
12.1.1	Private Sector Systems and Laterals Program/Policy (Task 4.0)														0	$ -
12.1.2	Alternative LOS Funding Requirements & Rate Impacts (Task 5.0)														0	$ -
12.1.3	SSO Abatement Prioritization & Alternative I&I Mitigation Program Funding and Rate Impacts (Task 9.0)														0	$ -
12.1.4	Septic-To-Sewer Funding Options & Rate Impacts (Task 8.0)														0	$ -
12.2	Integrated Utility Rate Study	225	175	150										175	725	$ 152,550
12.2.1	Update FAMS to Reflect Most Current Data (Aug-Sep 2020)														0	$ -
12.2.2	Perform CIP Prioritization & Funding Analysis for Task 8.0 (Oct 2022)														0	$ -
12.2.3	Develop Rate Recommendations & Prepare Report (Nov-Dec 2022)														0	$ -
12.2.4	Present 4-Year Rate Plan to Administration and BOCC (Jan-Jun 2023)														0	$ -
12.3	Quality Contol and Assurance														0	$ -
	TASK 12 TOTAL	375	325	270	0	0	0	0	0	0	0	0	0	425	1,395	$ 282,150
	Total	511	409	270	0	884	8	757	796	2,133	90	2,048	694	425	9,025	$ 1,526,174

Pinellas County Utilities

PID 004167A- Wastewater Collection System Program **Isle Utilities**

	TASK	Labor Hours / Hourly Rates								Total Direct Labor	
		Principal	Sr. Technical Advisor	Technical Advisor	Chief Engineer	VP	Financial Director	Sr. PM	DPM		
		$ 236	$ 232	$ 176	$ -	$ -	$ -	$ -	$ 205	Labor Hours	Labor Dollars
Task 1 - Project Management											
1.1	Management Services									0	$ -
1.2	Project Management Plan (PMP)									0	$ -
1.3	Program Kickoff Meeting									0	$ -
1.4	Monthly Invoice, Schedule, and Status Report									0	$ -
1.5	Monthly Status Meetings									0	$ -
1.6	Quality Assurance / Quality Control Management									0	$ -
	TASK 1 TOTAL	0	0	0	0	0	0	0	0	0	$ -
Task 10 - Innovation and Technology											
10.1	Pilot Planning - Predictive SSO Management	22		16						38	$ 8,008
10.2	Pump Station Back-Up Power and Fuel System Resiliency Assessment									0	$ -
10.3	Pumps Station Performance Monitoring and Optimization Solutions	20		28						48	$ 9,648
10.4	WRF Condition and Capacity Assessment									0	$ -
10.5	Condition Assessment Technologies									0	$ -
10.6	Process for Innovation and Technology Business Case Evaluation and Pilot Demonstration	20								20	$ 4,720
10.7	SSO Management Executive Dashboard Plan									0	$ -
10.8	Aligning Strategic Goals with Innovation and Technology	24								24	$ 5,664
10.9	Quality Control and Assurance		20							20	$ 4,640
	TASK 10 TOTAL	86	20	44	0	0	0	0	0	150	$ 32,680
	TOTAL	86	20	44	0	0	0	0	0	150	$ 32,680

Pinellas County Utilities

PID 004167A- Wastewater Collection System Program **Confluency**

	TASK	Labor Hours / Hourly Rates									Total Direct Labor	
		Principal	Sr. Technical Advisor	Technical Advisor	Chief Engineer	VP	Financial Director	Sr. PM	Project Engineer	Staff Engineer		
		$ -	$ 228	$ 193	$ 228	$ -	$ -	$ 228	$ 136	$ 107	Labor Hours	Labor Dollars
Task 1 - Project Management												
1.1	Management Services										0	$ -
1.2	Project Management Plan (PMP)										0	$ -
1.3	Program Kickoff Meeting										0	$ -
1.4	Monthly Invoice, Schedule, and Status Report										0	$ -
1.5	Monthly Status Meetings										0	$ -
1.6	Quality Assurance / Quality Control Management										0	$ -
	TASK 1 TOTAL	0	0	0	0	0	0	0	0	0	0	$ -
	TASK 6 TOTAL	0	0	0	0	0	0	0	0	0	0	$ -
Task 7 - Hydraulic Modeling												
7.1	Review Modeling Methodology/Protocol										0	$ -
7.2	Develop Alternatives & Optimization Strategy		12	12							24	$ 5,052
7.3	Future Development Model Strategy										0	$ -
7.4	North Service Area (Dunn WRF)										0	$ -
7.4.1	Data Collection and Review										0	$ -
7.4.2	Model Development										0	$ -
7.4.3	Model Calibration and Validation										0	$ -
7.4.4	Future Model Development										0	$ -
7.4.5	Hydraulic Capacity Evaluation										0	$ -
7.5	South Service Area (SCBAWRF)										0	$ -
7.5.1	Data Collection and Review										0	$ -
7.5.2	Model Refinement										0	$ -
7.5.3	Model Calibration and Validation										0	$ -
7.5.4	Future Model Development										0	$ -
7.5.5	Hydraulic Capacity Evaluation										0	$ -
7.6	Model Development and Calibration Report										0	$ -
7.7	Field Data to Support Model Development/Calibration										0	$ -
7.7.1	Field Investigation Activities										0	$ -
7.7.2	Temporary Flow and Rainfall Monitoring for South System										0	$ -
7.8	Comparison of Stormwater Flooding/Ponding to Sanitary System										0	$ -
7.9	Model Applications/Project Support										0	$ -
7.10	Model Maintenance & Update Protocol Development										0	$ -
7.11	Model Training										0	$ -
7.12	Quality Contol and Assurance										0	$ -
	TASK 7 TOTAL	0	12	12	0	0	0	0	0	0	24	$ 5,052
Task 9 - Master Planning												
9.1	Develop Master Plan Approach										0	$ -
9.1.1	Master Plan Approach and Visioning Workshop		16	16							32	$ 6,736
9.1.2	Master Plan Approach and Visioning Document		20	20							40	$ 8,420
9.2	SSO Abatement Alternatives Optimization										0	$ -
9.2.1	Determine Candidate Improvements and Locations		40	30					30	30	130	$ 22,200
9.2.2	Develop Planning-Level Unit Costs		16						8		24	$ 4,736
9.2.3	Conduct Optimization Runs and Develop Optimized Solution		140	140				100	160	160	700	$ 120,620
9.2.4	Optimization Workshops		32	32					30	36	130	$ 21,404
9.3	Develop Prioritized SSO Management plan										0	$ -
9.3.1	Aggregate Improvements into Projects										0	$ -
9.3.2	Develop Prioritization Criteria and Scoring Rubric		24	16					16		56	$ 10,736
9.3.3	Capacity SSO Abatement Recommendations Scoring and Preliminary Sequencing		32						32	32	96	$ 15,072
9.4	Develop Prioritized Integrated WWCSMP										0	$ -
9.4.1	Conduct Model Simulations for Various Investment Scenarios										0	$ -
9.4.2	Develop Phased Program										0	$ -
9.5	Develop WWCSMP Report										0	$ -
9.5.1	Written WWCSMP Report										0	$ -
9.5.2	Develop Interactive WWCSMP Dashboards										0	$ -
9.5.3	Develop WWCSMP Story Maps										0	$ -
9.6	Quality Contol and Assurance										0	$ -
	TASK 9 TOTAL	0	320	254	0	0	0	100	276	258	1,208	$ 209,924
	TOTAL	0	332	266	0	0	0	100	276	258	1,232	$ 214,976

Pinellas County Utilities

PID 004167A- Wastewater Collection System Program **Valerin**

	TASK	Labor Hours / Hourly Rates					Total Direct Labor	
		Community Outreach Specialist	Marketing Specialist	Graphic Designer/Multimedia Specialist	Website/Mobile App Designer	Videographer/Photographer	Labor Hours	Labor Dollars
		$ 125	$ 125	$ 111	$ 116	$ 131		
Task 1 - Project Management								
1.1	Management Services						0	$ -
1.2	Project Management Plan (PMP)						0	$ -
1.3	Program Kickoff Meeting						0	$ -
1.4	Monthly Invoice, Schedule, and Status Report						0	$ -
1.5	Monthly Status Meetings						0	$ -
1.6	Quality Assurance / Quality Control Management						0	$ -
	TASK 1 TOTAL	0	0	0	0	0	0	$ -
Task 11 - Public Outreach								
11.1	Public Outreach Coordination and Reporting							
11.1.1	Integrated Public Communications Strategy Development	56	24	12			92	$ 11,332
11.1.2	Program Messaging	24	40	24			88	$ 10,664
11.1.3	Strategic Partnership Support	56	0	0			56	$ 7,000
11.1.4	Program Communication Coordination	0					0	$ -
11.1.5	Media Outreach	0	0				0	$ -
11.1.6	Social Media Outreach	0		0			0	$ -
11.1.7	Website	0		0	0		0	$ -
11.1.8	Online Document ADA Compliance	0					0	$ -
11.2	Private Laterals and Septic-To-Sewer Policies	0					0	$ -
11.2.1	Public Involvement Plan	56	56				112	$ 14,000
11.2.2	Stakeholder Database	76					76	$ 9,500
11.2.3	Survey Development and Analysis		76	24			100	$ 12,164
11.2.4	Public Education Campaign	78	76	36			190	$ 23,246
11.2.5	Educational Materials and Collateral Development	78	38	156			272	$ 31,816
11.2.6	Project Information Line and Email Address	60					60	$ 7,500
11.2.7	Public Meetings	348		40	20	32	440	$ 54,452
11.2.8	Project Website	40		24	72		136	$ 16,016
11.2.9	Media Outreach	76					76	$ 9,500
11.2.10	Social Media Outreach	76		60			136	$ 16,160
11.2.11	Special Interest Group Presentations/Meetings	144		42			186	$ 22,662
11.2.12	Policy Educational Videos	36		156		32	224	$ 26,008
11.2.13	Pinellas County Communications Resources	36		30			66	$ 7,830
11.3	Coordination with External Stakeholders						0	$ -
11.4	Quality Assurance and Quality Control (QA/QC)						0	$ -
	TASK 11 TOTAL	1,240	310	604	92	64	2,310	$ 279,850
	TOTAL	1,240	310	604	92	64	2,310	$ 279,850

Pinellas County Utilities

PID 004167A- Wastewater Collection System Program **Strategist**

	TASK	Labor Hours / Hourly Rates							Total Direct Labor	
		Principal	EIT	Sr. Planner	Sr. CM	Sr. Inspector	Sr. GIS Tech.	Clerical		
		$ 233	$ 103	$ 153	$ 160	$ 98	$ 116	$ 79	Labor Hours	Labor Dollars
Task 1 - Project Management										
1.1	Management Services								0	$ -
1.2	Project Management Plan (PMP)								0	$ -
1.3	Program Kickoff Meeting								0	$ -
1.4	Monthly Invoice, Schedule, and Status Report								0	$ -
1.5	Monthly Status Meetings								0	$ -
1.7	Coordination with PCU Executive Staff								0	$ -
	TASK 1 TOTAL	0	0	0	0	0	0	0	0	$ -
Task 9 - Master Planning										
9.1	Develop Master Plan Approach								0	$ -
9.1.1	Master Plan Approach and Visioning Workshop								0	$ -
9.1.2	Master Plan Approach and Visioning Document								0	$ -
9.2	SSO Abatement Alternatives Optimization								0	$ -
9.2.1	Determine Candidate Improvements and Locations								0	$ -
9.2.2	Develop Planning-Level Unit Costs								0	$ -
9.2.3	Conduct Optimization Runs and Develop Preliminary Optimized Solution								0	$ -
9.2.4	Optimization Workshops								0	$ -
9.3	Develop Prioritized SSO Management plan								0	$ -
9.3.1	Aggregate Improvements into Projects	40		200	220				460	$ 75,120
9.3.2	Develop Prioritization Criteria and Scoring Rubric								0	$ -
9.3.3	Capacity SSO Abatement Recommendations Scoring and Preliminary Sequencing								0	$ -
9.4	Develop Prioritized Integrated WWCSMP								0	$ -
9.4.1	Conduct Model Simulations for Various Investment Scenarios								0	$ -
9.4.2	Develop Phased Program								0	$ -
9.5	Develop WWCSMP Report								0	$ -
9.5.1	Written WWCSMP Report								0	$ -
9.5.2	Develop Interactive WWCSMP Dashboards								0	$ -
9.5.3	Develop WWCSMP Story Maps								0	$ -
9.6	Quality Assurance and Quality Control (QA/QC)								0	$ -
	TASK 9 TOTAL	40	0	200	220	0	0	0	460	$ 75,120
	TOTAL	40	0	200	220	0	0	0	460	$ 75,120

Pinellas County Utilities

PID 004167A- Wastewater Collection System Program **Dude Solutions**

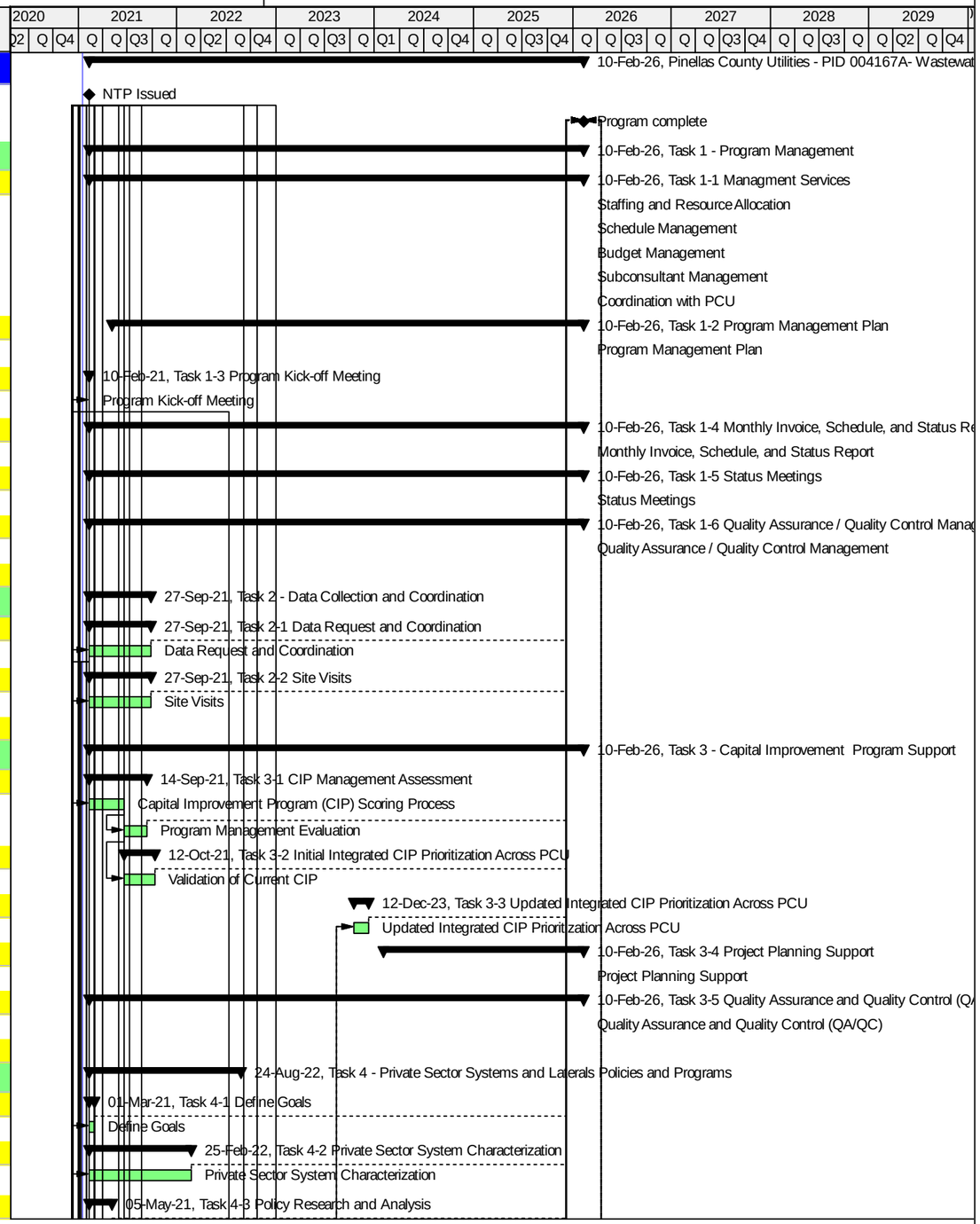
	TASK	Labor Hours / Hourly Rates						Total Direct Labor	
		Principal	Sr. Technical Advisor	Technical Advisor	Chief Engineer	VP	Clerical	Labor Hours	Labor Dollars
		$ -	$ 230	$ 200	$ -	$ -	$ -		
Task 1 - Project Management									
1.1	Management Services							0	$ -
1.2	Project Management Plan (PMP)							0	$ -
1.3	Project Kickoff Meeting							0	$ -
1.4	Monthly Invoice, Schedule, and Status Report							0	$ -
1.5	Monthly Status Meetings							0	$ -
1.6	Quality Assurance / Quality Control Management							0	$ -
	TASK 1 TOTAL	0	0	0	0	0	0	0	$ -
Task 5 - Asset Management									
5.1	A.M. Plan Update, Improvements Integration, and Implementation							0	$ -
5.2	Level-of-Service (LOS) for Assets							0	$ -
5.3	Asset Inventory							0	$ -
5.4	Progress and Data Reviewer							0	$ -
5.5	Asset Condition Assessment							0	$ -
5.6	Field Data Acquisition/Verification							0	$ -
5.7	Asset Criticality Analysis							0	$ -
5.8	Maintenance (Repair and Replace) Strategies		90					90	$ 20,700
5.9	Utility Network Implementation Pilot							0	$ -
5.10	Quality Contol and Assurance							0	$ -
	TASK 5 TOTAL	0	90	0	0	0	0	90	$ 20,700
	TASK 12 TOTAL	0	0	0	0	0	0	0	$ -
	TOTAL	0	90	0	0	0	0	90	$ 20,700

Pinellas County Utilities

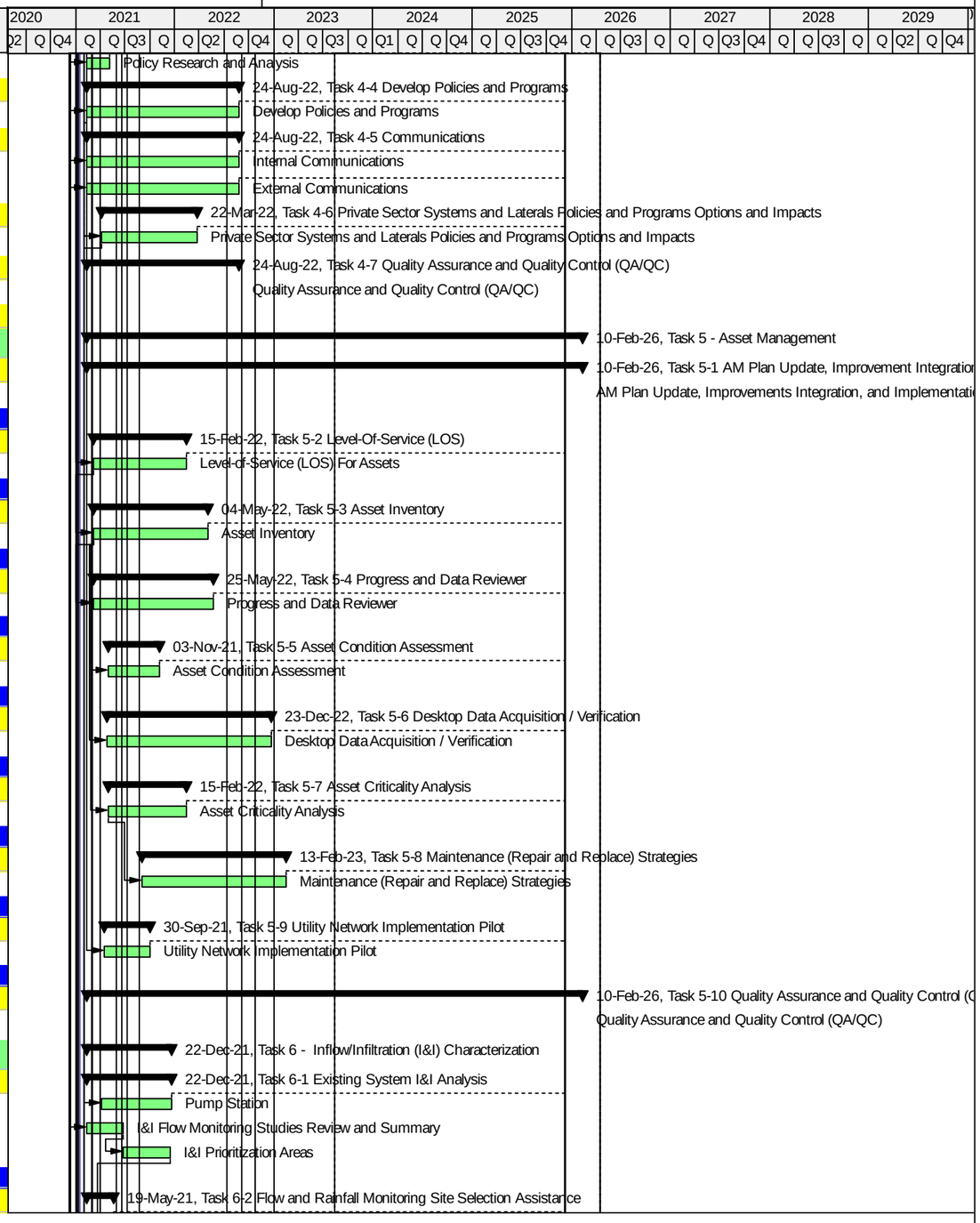
PID 004167A- Wastewater Collection System Program **Blue Heron**

	TASK	Labor Hours / Hourly Rates							Total Direct Labor	
		Sr. Technical Advisor	Technical Advisor	Chief Engineer	VP	DPM	Project Scientist	Clerical		
		$ 170	$ 150	$ 190	$ -	$ 190	$ 130	$ -	Labor Hours	Labor Dollars
Task 1 - Project Management										
1.1	Management Services								0	$ -
1.2	Project Management Plan (PMP)								0	$ -
1.3	Program Kickoff Meeting			1		1			2	$ 380
1.4	Monthly Invoice, Schedule, and Status Report					8			8	$ 1,520
1.5	Monthly Status Meetings			12					12	$ 2,280
1.6	Quality Assurance / Quality Control Management								0	$ -
	TASK 1 TOTAL	0	0	13	0	9	0	0	22	$ 4,180
Task 4 - Private Laterals Policy										
4.1	Define Goals			8			4		12	$ 2,040
4.2	Private Sector System Characterization	2		32		6	40		80	$ 12,760
4.3	Policy Research/Analysis	2		24			24		50	$ 8,020
4.4	Develop Policies & Programs	10		90		8	88		196	$ 31,760
4.5	Communications								0	$ -
4.5.1	Internal Communications			40		4	8		52	$ 9,400
4.5.2	External Communications			50		4	12		66	$ 11,820
4.6	Private Sector Systems and Laterals Program/Policy Options and Impacts (Support)			16					16	$ 3,040
4.7	Quality Contol and Assurance								0	$ -
	TASK 4 TOTAL	14	0	260	0	22	176	0	472	$ 78,840
	TASK 12 TOTAL	0	0	0	0	0	0	0	0	$ -
	Total	14	0	273	0	31	176	0	494	$ 83,020

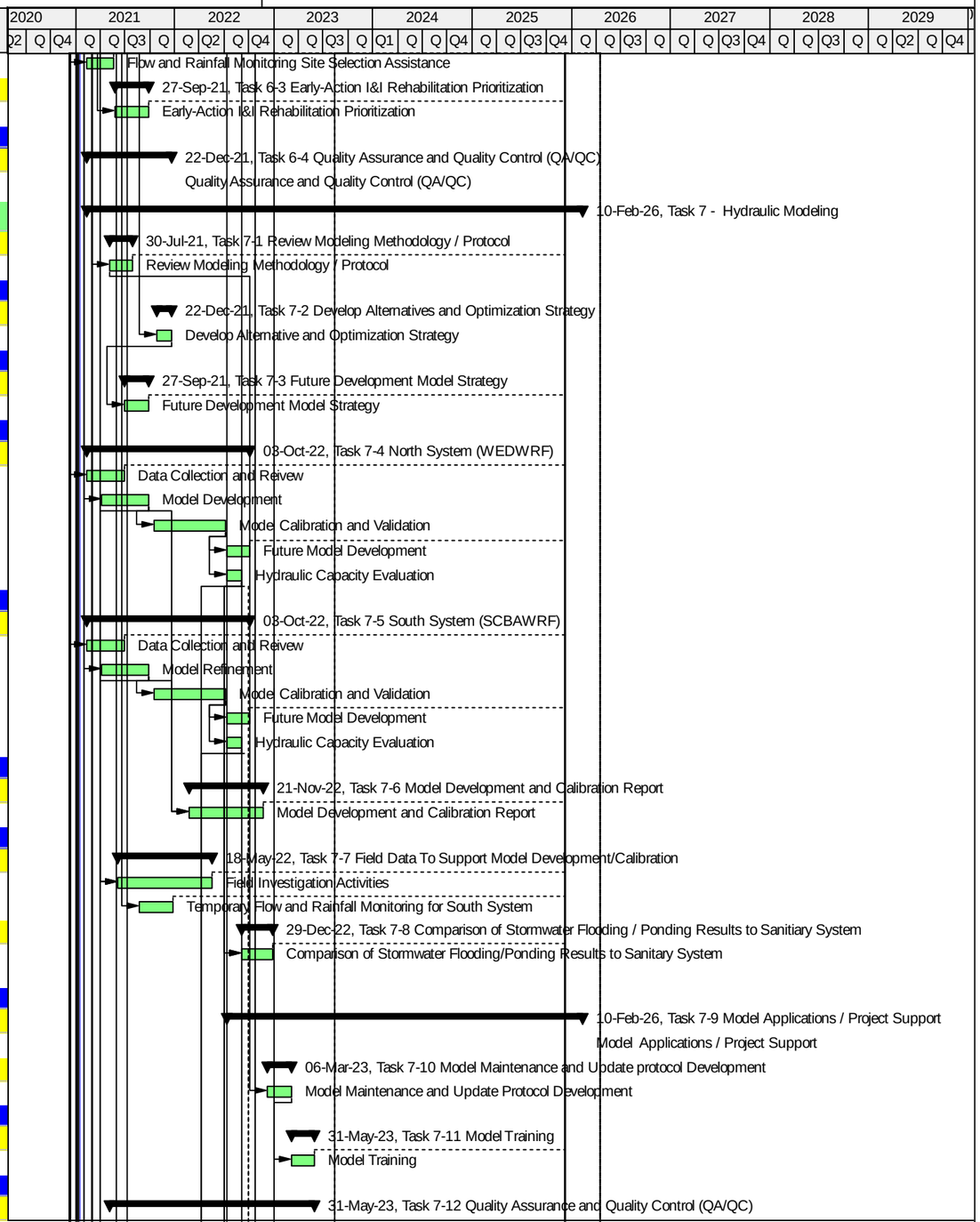
Activity ID	Activity Name	Original Duration	Start	Finish
Pinellas County Utilities - PID 004167A- Wastewater Collection System Program		1264	10-Feb-21	10-Feb-26
PCU-WCSP-1	NTP Issued	0	10-Feb-21*	
PCU-WCSP-2	Program complete	0		10-Feb-26*
Task 1 - Program Management		1264	10-Feb-21	10-Feb-26
Task 1-1 Managment Services		1264	10-Feb-21	10-Feb-26
Task 1-1-1	Staffing and Resource Allocation	1264	10-Feb-21	10-Feb-26
Task 1-1-2	Schedule Management	1264	10-Feb-21	10-Feb-26
Task 1-1-3	Budget Management	1264	10-Feb-21	10-Feb-26
Task 1-1-4	Subconsultant Management	1264	10-Feb-21	10-Feb-26
Task 1-1-5	Coordination with PCU	1264	10-Feb-21	10-Feb-26
Task 1-2 Program Management Plan		1204	06-May-21	10-Feb-26
Task 1-2	Program Management Plan	1204	06-May-21	10-Feb-26
Task 1-3 Program Kick-off Meeting		1	10-Feb-21	10-Feb-21
Task 1-3	Program Kick-off Meeting	1	10-Feb-21*	10-Feb-21
Task 1-4 Monthly Invoice, Schedule, and Status Report		1263	11-Feb-21	10-Feb-26
Task 1-4	Monthly Invoice, Schedule, and Status Report	1263	11-Feb-21	10-Feb-26
Task 1-5 Status Meetings		1263	11-Feb-21	10-Feb-26
Task 1-5	Status Meetings	1263	11-Feb-21	10-Feb-26
Task 1-6 Quality Assurance / Quality Control Management		1263	11-Feb-21	10-Feb-26
Task 1-6	Quality Assurance / Quality Control Management	1263	11-Feb-21	10-Feb-26
Task 1 - Deliverables		0		
Task 2 - Data Collection and Coordination		160	10-Feb-21	27-Sep-21
Task 2-1 Data Request and Coordination		160	10-Feb-21	27-Sep-21
Task 2-1	Data Request and Coordination	160	10-Feb-21	27-Sep-21
Task 2-2 Site Visits		160	10-Feb-21	27-Sep-21
Task 2-2	Site Visits	160	10-Feb-21	27-Sep-21
Task 2 Deliverables		0		
Task 3 - Capital Improvement Program Support		1263	11-Feb-21	10-Feb-26
Task 3-1 CIP Management Assessment		150	11-Feb-21	14-Sep-21
Task 3-1-1	Capital Improvement Program (CIP) Scoring Process	90	11-Feb-21	18-Jun-21
Task 3-1-2	Program Management Evaluation	60	21-Jun-21	14-Sep-21
Task 3-2 Initial Integrated CIP Prioritization Across PCU		80	21-Jun-21	12-Oct-21
Task 3-2-1	Validation of Current CIP	80	21-Jun-21	12-Oct-21
Task 3-3 Updated Integrated CIP Prioritization Across PCU		40	16-Oct-23	12-Dec-23
Task 3-3	Updated Integrated CIP Prioritization Across PCU	40	16-Oct-23	12-Dec-23
Task 3-4 Project Planning Support		514	05-Feb-24	10-Feb-26
Task 3-4	Project Planning Support	514	05-Feb-24	10-Feb-26
Task 3-5 Quality Assurance and Quality Control (QA/QC)		1263	11-Feb-21	10-Feb-26
Task 3-5	Quality Assurance and Quality Control (QA/QC)	1263	11-Feb-21	10-Feb-26
Task 3 Deliverables		0		
Task 4 - Private Sector Systems and Laterals Policies and Programs		388	10-Feb-21	24-Aug-22
Task 4-1 Define Goals		14	10-Feb-21	01-Mar-21
Task 4-1	Define Goals	14	10-Feb-21	01-Mar-21
Task 4-2 Private Sector System Characterization		263	10-Feb-21	25-Feb-22
Task 4-2	Private Sector System Characterization	263	10-Feb-21	25-Feb-22
Task 4-3 Policy Research and Analysis		60	10-Feb-21	05-May-21



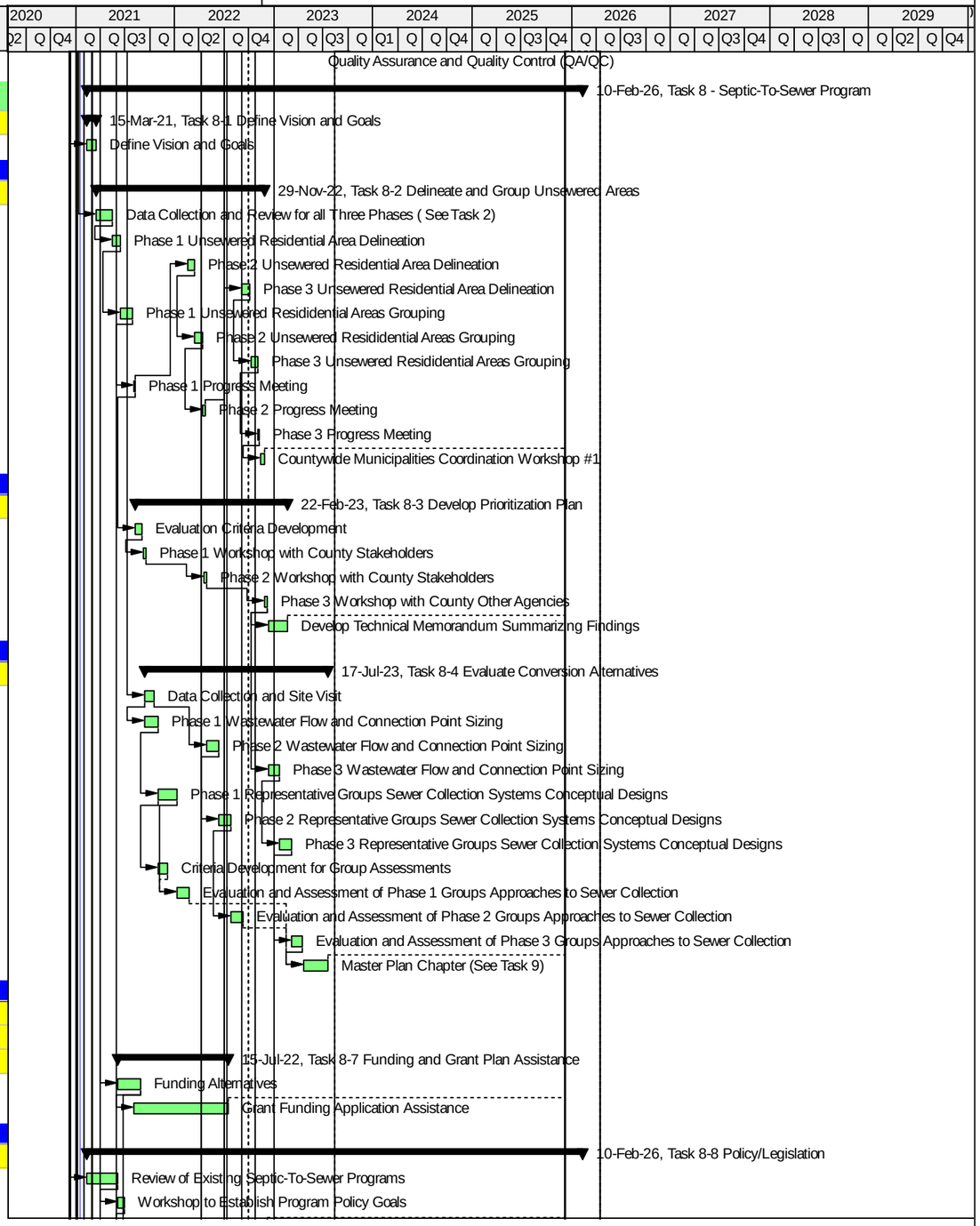
Activity ID	Activity Name	Original Duration	Start	Finish
Task 4-3	Policy Research and Analysis	60	10-Feb-21	05-May-21
Task 4-4 Develop Policies and Programs		388	10-Feb-21	24-Aug-22
Task 4-4	Develop Policies and Programs	388	10-Feb-21	24-Aug-22
Task 4-5 Communications		388	10-Feb-21	24-Aug-22
Task 4-5-1	Internal Communications	388	10-Feb-21	24-Aug-22
Task 4-5-2	External Communications	388	10-Feb-21	24-Aug-22
Task 4-6 Private Sector Systems and Laterals Policies and Programs Options and Impacts		240	08-Apr-21	22-Mar-22
Task 4-6	Private Sector Systems and Laterals Policies and Programs Options and Impacts	240	08-Apr-21	22-Mar-22
Task 4-7 Quality Assurance and Quality Control (QA/QC)		388	10-Feb-21	24-Aug-22
Task 4-7	Quality Assurance and Quality Control (QA/QC)	388	10-Feb-21	24-Aug-22
Task 4 - Deliverables		0		
Task 5 - Asset Management		1264	10-Feb-21	10-Feb-26
Task 5-1 AM Plan Update, Improvement Integration, and Implementation		1264	10-Feb-21	10-Feb-26
Task 5-1	AM Plan Update, Improvements Integration, and Implementation	1264	10-Feb-21	10-Feb-26
Task 5-1 Deliverables		0		
Task 5-2 Level-Of-Service (LOS)		238	05-Mar-21	15-Feb-22
Task 5-2	Level-of-Service (LOS) For Assets	238	05-Mar-21	15-Feb-22
Task 5-2 Deliverables		0		
Task 5-3 Asset Inventory		293	05-Mar-21	04-May-22
Task 5-3	Asset Inventory	293	05-Mar-21	04-May-22
Task 5-3 Deliverables		0		
Task 5-4 Progress and Data Reviewer		308	05-Mar-21	25-May-22
Task 5-4	Progress and Data Reviewer	308	05-Mar-21	25-May-22
Task 5-4 Deliverables		0		
Task 5-5 Asset Condition Assessment		131	30-Apr-21	03-Nov-21
Task 5-5	Asset Condition Assessment	131	30-Apr-21	03-Nov-21
Task 5-5 Deliverables		0		
Task 5-6 Desktop Data Acquisition / Verification		420	26-Apr-21	23-Dec-22
Task 5-6	Desktop Data Acquisition / Verification	420	26-Apr-21	23-Dec-22
Task 5-6 Deliverables		0		
Task 5-7 Asset Criticality Analysis		198	03-May-21	15-Feb-22
Task 5-7	Asset Criticality Analysis	198	03-May-21	15-Feb-22
Task 5-7 Deliverables		0		
Task 5-8 Maintenance (Repair and Replace) Strategies		362	02-Sep-21	13-Feb-23
Task 5-8	Maintenance (Repair and Replace) Strategies	362	02-Sep-21	13-Feb-23
Task 5-8 Deliverables		0		
Task 5-9 Utility Network Implementation Pilot		117	16-Apr-21	30-Sep-21
Task 5-9	Utility Network Implementation Pilot	117	16-Apr-21	30-Sep-21
Task 5-9 Deliverables		0		
Task 5-10 Quality Assurance and Quality Control (QA/QC)		1264	10-Feb-21	10-Feb-26
Task 5-10	Quality Assurance and Quality Control (QA/QC)	1264	10-Feb-21	10-Feb-26
Task 6 - Inflow/Infiltration (I&I) Characterization		220	10-Feb-21	22-Dec-21
Task 6-1 Existing System I&I Analysis		220	10-Feb-21	22-Dec-21
Task 6-1-1	Pump Station	180	08-Apr-21	22-Dec-21
Task 6-1-2	I&I Flow Monitoring Studies Review and Summary	95	10-Feb-21	24-Jun-21
Task 6-1-3	I&I Prioritization Areas	120	25-Jun-21	15-Dec-21
Task 6-1 Deliverables		0		
Task 6-2 Flow and Rainfall Monitoring Site Selection Assistance		70	10-Feb-21	19-May-21



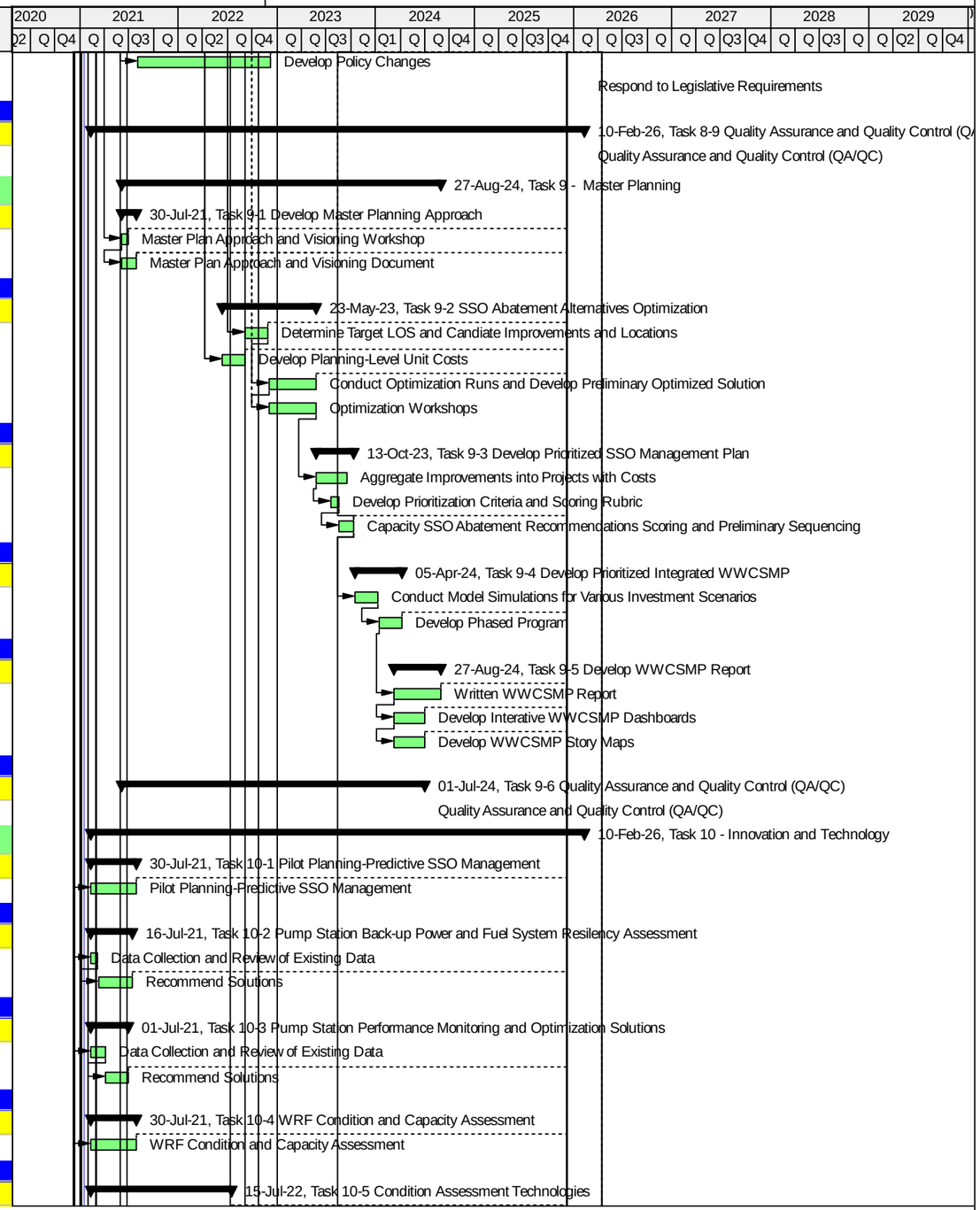
Activity ID	Activity Name	Original Duration	Start	Finish
Task 6-2	Flow and Rainfall Monitoring Site Selection Assistance	70	10-Feb-21	19-May-21
Task 6-3 Early-Action I&I Rehabilitation Prioritization		85	27-May-21	27-Sep-21
Task 6-3	Early-Action I&I Rehabilitation Prioritization	85	27-May-21	27-Sep-21
Task 6-3 Deliverables		0		
Task 6-4 Quality Assurance and Quality Control (QA/QC)		220	10-Feb-21	22-Dec-21
Task 6-4	Quality Assurance and Quality Control (QA/QC)	220	10-Feb-21	22-Dec-21
Task 7 - Hydraulic Modeling		1264	10-Feb-21	10-Feb-26
Task 7-1 Review Modeling Methodology / Protocol		60	06-May-21	30-Jul-21
Task 7-1	Review Modeling Methodology / Protocol	60	06-May-21	30-Jul-21
Task 7-1 Deliverables		0		
Task 7-2 Develop Alternatives and Optimization Strategy		40	26-Oct-21	22-Dec-21
Task 7-2	Develop Alternative and Optimization Strategy	40	26-Oct-21	22-Dec-21
Task 7-2 Deliverables		0		
Task 7-3 Future Development Model Strategy		60	02-Jul-21	27-Sep-21
Task 7-3	Future Development Model Strategy	60	02-Jul-21	27-Sep-21
Task 7-3 Deliverables		0		
Task 7-4 North System (WEDWRF)		415	10-Feb-21	03-Oct-22
Task 7-4-1	Data Collection and Reivew	100	10-Feb-21	01-Jul-21
Task 7-4-2	Model Development	120	08-Apr-21	27-Sep-21
Task 7-4-3	Model Calibration and Validation	180	19-Oct-21	08-Jul-22
Task 7-4-4	Future Model Development	60	11-Jul-22	03-Oct-22
Task 7-4-5	Hydraulic Capacity Evaluation	40	11-Jul-22	02-Sep-22
Task 7-4 Deliverables		0		
Task 7-5 South System (SCBAWRF)		415	10-Feb-21	03-Oct-22
Task 7-5-1	Data Collection and Reivew	100	10-Feb-21	01-Jul-21
Task 7-5-2	Model Refinement	120	08-Apr-21	27-Sep-21
Task 7-5-3	Model Calibration and Validation	180	19-Oct-21	08-Jul-22
Task 7-5-4	Future Model Development	60	11-Jul-22	03-Oct-22
Task 7-5-5	Hydraulic Capacity Evaluation	40	11-Jul-22	02-Sep-22
Task 7-5 Deliverables		0		
Task 7-6 Model Development and Calibration Report		190	23-Feb-22	21-Nov-22
Task 7-6	Model Development and Calibration Report	190	23-Feb-22	21-Nov-22
Task 7-6 Deliverables		0		
Task 7-7 Field Data To Support Model Development/Calibration		240	04-Jun-21	18-May-22
Task 7-7-1	Field Investigation Activities	240	04-Jun-21	18-May-22
Task 7-7-2	Temporary Flow and Rainfall Monitoring for South System	85	25-Aug-21	27-Dec-21
Task 7-8 Comparison of Stormwater Flooding / Ponding Results to Sanitiary System		80	06-Sep-22	29-Dec-22
Task 7-8	Comparison of Stormwater Flooding/Ponding Results to Sanitary System	80	06-Sep-22	29-Dec-22
Task 7-8 Deliverables		0		
Task 7-9 Model Applications / Project Support		909	11-Jul-22	10-Feb-26
Task 7-9	Model Applications / Project Support	909	11-Jul-22	10-Feb-26
Task 7-10 Model Maintenance and Update protocol Development		60	08-Dec-22	06-Mar-23
Task 7-10	Model Maintenance and Update Protocol Development	60	08-Dec-22	06-Mar-23
Task 7-10 Deliverables		0		
Task 7-11 Model Training		60	07-Mar-23	31-May-23
Task 7-11	Model Training	60	07-Mar-23	31-May-23
Task 7-11 Deliverables		0		
Task 7-12 Quality Assurance and Quality Control (QA/QC)		520	06-May-21	31-May-23



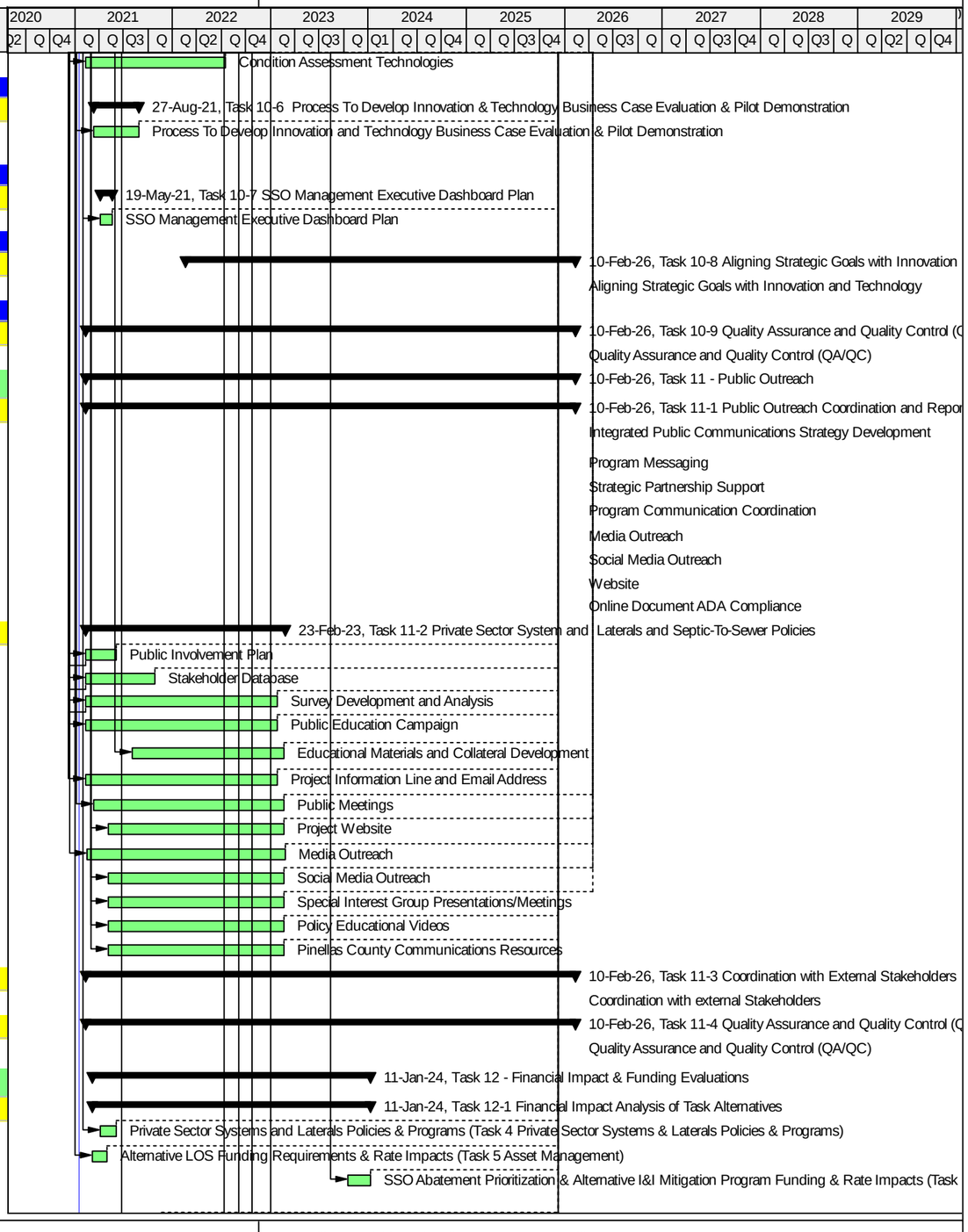
Activity ID	Activity Name	Original Duration	Start	Finish
Task 7-12	Quality Assurance and Quality Control (QA/QC)	520	06-May-21	31-May-23
Task 8 - Septic-To-Sewer Program		1264	10-Feb-21	10-Feb-26
Task 8-1 Define Vision and Goals		23	11-Feb-21	15-Mar-21
Task 8-1	Define Vision and Goals	23	11-Feb-21	15-Mar-21
Task 8-1 Deliverables		0		
Task 8-2 Delineate and Group Unsewered Areas		430	16-Mar-21	29-Nov-22
Task 8-2-1	Data Collection and Review for all Three Phases (See Task 2)	43	16-Mar-21	14-May-21
Task 8-2-2-PH1	Phase 1 Unsewered Residential Area Delineation	21	17-May-21	15-Jun-21
Task 8-2-2-PH2	Phase 2 Unsewered Residential Area Delineation	20	16-Feb-22	15-Mar-22
Task 8-2-2-PH3	Phase 3 Unsewered Residential Area Delineation	22	07-Sep-22	06-Oct-22
Task 8-2-3-PH1	Phase 1 Unsewered Resididential Areas Grouping	32	16-Jun-21	30-Jul-21
Task 8-2-3-PH2	Phase 2 Unsewered Resididential Areas Grouping	21	16-Mar-22	13-Apr-22
Task 8-2-3-PH3	Phase 3 Unsewered Resididential Areas Grouping	20	07-Oct-22	03-Nov-22
Task 8-2-4-PH1	Phase 1 Progress Meeting	5	02-Aug-21	06-Aug-21
Task 8-2-4-PH2	Phase 2 Progress Meeting	5	14-Apr-22	21-Apr-22
Task 8-2-4-PH3	Phase 3 Progress Meeting	5	04-Nov-22	10-Nov-22
Task 8-2-5	Countywide Municipalities Coordination Workshop #1	11	11-Nov-22	29-Nov-22
Task 8-2 Deliverables		0		
Task 8-3 Develop Prioritization Plan		387	09-Aug-21	22-Feb-23
Task 8-3-1	Evaluation Criteria Development	20	09-Aug-21	03-Sep-21
Task 8-3-2-PH1	Phase 1 Workshop with County Stakeholders	7	07-Sep-21	15-Sep-21
Task 8-3-2-PH2	Phase 2 Workshop with County Stakeholders	10	18-Apr-22	29-Apr-22
Task 8-3-2-PH3	Phase 3 Workshop with County Other Agencies	9	29-Nov-22	09-Dec-22
Task 8-3-3	Develop Technical Memorandum Summarizing Findings	50	12-Dec-22	22-Feb-23
Task 8-3 Deliverables		0		
Task 8-4 Evaluate Conversion Alternatives		462	14-Sep-21	17-Jul-23
Task 8-4-1	Data Collection and Site Visit	23	14-Sep-21	14-Oct-21
Task 8-4-2-PH1	Phase 1 Wastewater Flow and Connection Point Sizing	34	14-Sep-21	29-Oct-21
Task 8-4-2-PH2	Phase 2 Wastewater Flow and Connection Point Sizing	30	29-Apr-22	10-Jun-22
Task 8-4-2-PH3	Phase 3 Wastewater Flow and Connection Point Sizing	28	12-Dec-22	23-Jan-23
Task 8-4-3-PH1	Phase 1 Representative Groups Sewer Collection Systems Conceptual Designs	45	01-Nov-21	07-Jan-22
Task 8-4-3-PH2	Phase 2 Representative Groups Sewer Collection Systems Conceptual Designs	30	13-Jun-22	25-Jul-22
Task 8-4-3-PH3	Phase 3 Representative Groups Sewer Collection Systems Conceptual Designs	30	24-Jan-23	06-Mar-23
Task 8-4-4	Criteria Development for Group Assessments	23	01-Nov-21	03-Dec-21
Task 8-4-5-PH1	Evaluation and Assessment of Phase 1 Groups Approaches to Sewer Collection	30	10-Jan-22	21-Feb-22
Task 8-4-5-PH2	Evaluation and Assessment of Phase 2 Groups Approaches to Sewer Collection	32	26-Jul-22	08-Sep-22
Task 8-4-5-PH3	Evaluation and Assessment of Phase 3 Groups Approaches to Sewer Collection	30	07-Mar-23	18-Apr-23
Task 8-4-6	Master Plan Chapter (See Task 9)	62	19-Apr-23	17-Jul-23
Task 8-4 Deliverables		0		
Task 8-5 Public Outreach (see Task 11-3)		0		
Task 8-6 Financial Plan (See Task 12-1-4)		0		
Task 8-7 Funding and Grant Plan Assistance		280	04-Jun-21	15-Jul-22
Task 8-7-1	Funding Alternatives	60	04-Jun-21	27-Aug-21
Task 8-7-2	Grant Funding Application Assistance	240	02-Aug-21	15-Jul-22
Task 8-7 Deliverables		0		
Task 8-8 Policy/Legislation		1264	10-Feb-21	10-Feb-26
Task 8-8-1	Review of Existing Septic-To-Sewer Programs	80	10-Feb-21	03-Jun-21
Task 8-8-2	Workshop to Establish Program Policy Goals	20	04-Jun-21	01-Jul-21



Activity ID	Activity Name	Original Duration	Start	Finish
Task 8-8-3	Develop Policy Changes	340	02-Aug-21	07-Dec-22
Task 8-8-4	Respond to Legislative Requirements	804	08-Dec-22	10-Feb-26
Task 8-8 Deliverables		0		
Task 8-9 Quality Assurance and Quality Control (QA/QC)		1263	11-Feb-21	10-Feb-26
Task 8-9	Quality Assurance and Quality Control (QA/QC)	1263	11-Feb-21	10-Feb-26
Task 9 - Master Planning		815	04-Jun-21	27-Aug-24
Task 9-1 Develop Master Planning Approach		40	04-Jun-21	30-Jul-21
Task 9-1-1	Master Plan Approach and Visioning Workshop	20	04-Jun-21	01-Jul-21
Task 9-1-2	Master Plan Approach and Visioning Document	40	04-Jun-21	30-Jul-21
Task 9-1 Deliverables		0		
Task 9-2 SSO Abatement Alternatives Optimization		240	10-Jun-22	23-May-23
Task 9-2-1	Determine Target LOS and Candiate Improvements and Locations	60	06-Sep-22	30-Nov-22
Task 9-2-2	Develop Planning-Level Unit Costs	60	10-Jun-22	02-Sep-22
Task 9-2-3	Conduct Optimization Runs and Develop Preliminary Optimized Solution	120	01-Dec-22	23-May-23
Task 9-2-4	Optimization Workshops	120	01-Dec-22	23-May-23
Task 9-2 Deliverables		0		
Task 9-3 Develop Prioritized SSO Management Plan		100	24-May-23	13-Oct-23
Task 9-3-1	Aggregate Improvements into Projects with Costs	80	24-May-23	15-Sep-23
Task 9-3-2	Develop Prioritization Criteria and Scoring Rubric	20	21-Jul-23	17-Aug-23
Task 9-3-3	Capacity SSO Abatement Recommendations Scoring and Preliminary Sequencing	40	18-Aug-23	13-Oct-23
Task 9-3 Deliverables		0		
Task 9-4 Develop Prioritized Integrated WWCSMP		120	16-Oct-23	05-Apr-24
Task 9-4-1	Conduct Model Simulations for Various Investment Scenarios	60	16-Oct-23	11-Jan-24
Task 9-4-2	Develop Phased Program	60	12-Jan-24	05-Apr-24
Task 9-4 Deliverables		0		
Task 9-5 Develop WWCSMP Report		120	11-Mar-24	27-Aug-24
Task 9-5-1	Written WWCSMP Report	120	11-Mar-24	27-Aug-24
Task 9-5-2	Develop Interative WWCSMP Dashboards	80	11-Mar-24	01-Jul-24
Task 9-5-3	Develop WWCSMP Story Maps	80	11-Mar-24	01-Jul-24
Task 9-5 Deliverables		0		
Task 9-6 Quality Assurance and Quality Control (QA/QC)		775	04-Jun-21	01-Jul-24
Task 9-6	Quality Assurance and Quality Control (QA/QC)	775	04-Jun-21	01-Jul-24
Task 10 - Innovation and Technology		1264	10-Feb-21	10-Feb-26
Task 10-1 Pilot Planning-Predictive SSO Management		120	10-Feb-21	30-Jul-21
Task 10-1	Pilot Planning-Predictive SSO Management	120	10-Feb-21	30-Jul-21
Task 10-1 Deliverables		0		
Task 10-2 Pump Station Back-up Power and Fuel System Resiliency Assessment		110	10-Feb-21	16-Jul-21
Task 10-2-1	Data Collection and Review of Existing Data	20	10-Feb-21	09-Mar-21
Task 10-2-2	Recommend Solutions	90	10-Mar-21	16-Jul-21
Task 10-2 Deliverables		0		
Task 10-3 Pump Station Performance Monitoring and Optimization Solutions		100	10-Feb-21	01-Jul-21
Task 10-3-1	Data Collection and Review of Existing Data	40	10-Feb-21	07-Apr-21
Task 10-3-2	Recommend Solutions	60	08-Apr-21	01-Jul-21
Task 10-3 Deliverables		0		
Task 10-4 WRF Condition and Capacity Assessment		120	10-Feb-21	30-Jul-21
Task 10-4	WRF Condition and Capacity Assessment	120	10-Feb-21	30-Jul-21
Task 10-4 Deliverables		0		
Task 10-5 Condition Assessment Technologies		360	10-Feb-21	15-Jul-22



Activity ID	Activity Name	Original Duration	Start	Finish
Task 10-5	Condition Assessment Technologies	360	10-Feb-21	15-Jul-22
Task 10-5 Deliverables		0		
Task 10-6 Process To Develop Innovation & Technology Business Case Evaluation & Pilot Demonstration		120	10-Mar-21	27-Aug-21
Task 10-6	Process To Develop Innovation and Technology Business Case Evaluation & Pilot Demonstration	120	10-Mar-21	27-Aug-21
Task 10-6 Deliverables		0		
Task 10-7 SSO Management Executive Dashboard Plan		30	08-Apr-21	19-May-21
Task 10-7	SSO Management Executive Dashboard Plan	30	08-Apr-21	19-May-21
Task 10-7 Deliverables		0		
Task 10-8 Aligning Strategic Goals with Innovation and Technology		1009	16-Feb-22	10-Feb-26
Task 10-8	Aligning Strategic Goals with Innovation and Technology	1009	16-Feb-22	10-Feb-26
Task 10-8 Deliverables		0		
Task 10-9 Quality Assurance and Quality Control (QA/QC)		1264	10-Feb-21	10-Feb-26
Task 10-9	Quality Assurance and Quality Control (QA/QC)	1264	10-Feb-21	10-Feb-26
Task 11 - Public Outreach		1264	10-Feb-21	10-Feb-26
Task 11-1 Public Outreach Coordination and Reporting		1263	11-Feb-21	10-Feb-26
Task 11-1-1	Integrated Public Communications Strategy Development	1203	07-May-21	10-Feb-26
Task 11-1-2	Program Messaging	1263	11-Feb-21	10-Feb-26
Task 11-1-3	Strategic Partnership Support	1263	11-Feb-21	10-Feb-26
Task 11-1-4	Program Communication Coordination	1263	11-Feb-21	10-Feb-26
Task 11-1-5	Media Outreach	1263	11-Feb-21	10-Feb-26
Task 11-1-6	Social Media Outreach	1263	11-Feb-21	10-Feb-26
Task 11-1-7	Website	1263	11-Feb-21	10-Feb-26
Task 11-1-8	Online Document ADA Compliance	1263	11-Feb-21	10-Feb-26
Task 11-2 Private Sector System and Laterals and Septic-To-Sewer Policies		512	11-Feb-21	23-Feb-23
Task 11-2-01	Public Involvement Plan	80	11-Feb-21	04-Jun-21
Task 11-2-02	Stakeholder Database	180	11-Feb-21	26-Oct-21
Task 11-2-03	Survey Development and Analysis	490	11-Feb-21	24-Jan-23
Task 11-2-04	Public Education Campaign	490	11-Feb-21	24-Jan-23
Task 11-2-05	Educational Materials and Collateral Development	390	02-Aug-21	20-Feb-23
Task 11-2-06	Project Information Line and Email Address	490	11-Feb-21	24-Jan-23
Task 11-2-07	Public Meetings	490	10-Mar-21	20-Feb-23
Task 11-2-08	Project Website	450	06-May-21	20-Feb-23
Task 11-2-09	Media Outreach	510	15-Feb-21	23-Feb-23
Task 11-2-10	Social Media Outreach	450	06-May-21	20-Feb-23
Task 11-2-11	Special Interest Group Presentations/Meetings	450	06-May-21	20-Feb-23
Task 11-2-12	Policy Educational Videos	450	06-May-21	20-Feb-23
Task 11-2-13	Pinellas County Communications Resources	450	06-May-21	20-Feb-23
Task 11-3 Coordination with External Stakeholders		1264	10-Feb-21	10-Feb-26
Task 11-3	Coordination with external Stakeholders	1264	10-Feb-21	10-Feb-26
Task 11-4 Quality Assurance and Quality Control (QA/QC)		1264	10-Feb-21	10-Feb-26
Task 11-4	Quality Assurance and Quality Control (QA/QC)	1264	10-Feb-21	10-Feb-26
Task 12 - Financial Impact & Funding Evaluations		718	05-Mar-21	11-Jan-24
Task 12-1 Financial Impact Analysis of Task Alternatives		718	05-Mar-21	11-Jan-24
Task 12-1-1	Private Sector Systems and Laterals Policies & Programs (Task 4 Private Sector Systems & Laterals Policies &	40	08-Apr-21	03-Jun-21
Task 12-1-2	Alternative LOS Funding Requirements & Rate Impacts (Task 5 Asset Management)	40	05-Mar-21	30-Apr-21
Task 12-1-3	SSO Abatement Prioritization & Alternative I&I Mitigation Program Funding & Rate Impacts (Task 9 Master Planning)	60	16-Oct-23	11-Jan-24



Activity ID	Activity Name	Original Duration	Start	Finish
Task 12-1-4	Septic-To-Sewer Funding Options & Rate Impacts (Task 8 Septic-To-Sewer Program)	60	30-Aug-21	22-Nov-21
Task 12-1 Deliverables		0		
Task 12-2 Integrated Utility Rate Study		239	14-Sep-22	24-Aug-23
Task 12-2-1	Update FAMS to Reflect Most Current Data (Aug – Sep 2022)	25	14-Sep-22	18-Oct-22
Task 12-2-2	Perform CIP Prioritization & Funding Analysis for Task 9 (Oct 2022)	30	08-Nov-22	21-Dec-22
Task 12-2-3	Develop Rate Recommendations & Prepare Report (Nov – Dec 2022)	38	30-Dec-22	23-Feb-23
Task 12-2-4	Present 4-Year Rate Plan to Administration and BOCC (Jan – Jun 2023)	120	07-Mar-23	24-Aug-23
Task 12-2 Deliverables		0		
Task 12-3 Quality Assurance and Quality Control (QA/QC)		94	19-Oct-22	06-Mar-23
Task 12-3	Quality Assurance and Quality Control (QA/QC)	94	19-Oct-22	06-Mar-23

Exhibit B Schedule of Rate Values - 5-Year Duration of Contract (revised)

Labor Category	WT hrly rate	Hazen hrly rate	JEA hrly rate	Stantec hrly rate	Isle Utilities hrly rate	Con-fluency hrly rate	Valerin hrly rate	Strategist hrly rate	Dude Solutions hrly rate	Blue Heron hrly rate	Electro Scan *** hrly rate	ADS *** hrly rate
Principal in Charge / Sr Vice President	$269	$254	$260		$236			$233				
Technical Advisor / Sr Consultant	$250		$240	$248	$232	$228		$199	$230	$170		
Technical Advisor / Consultant	$233		$200	$180	$176	$193		$177	$200	$150		
Principal/Chief Engineer	$240	$237	$240			$228		$181		$190		
Vice President	$238		$240	-				$182				
Financial Director*****				$295								
Senior Project Manager	$254	$234	$230			$228		$166				
Project Manager	$207	$206	$200	$199	$205	$183		$157		$190		
Asset Management Director *		$269		$269								
Senior Asset Management Specialist *	$233	$215		$233								
Asset Management Specialist *	$185	$170		$187								
Asset Information Specialist *	$169			$169								
Senior Engineer	$248	$213	$240			$170		$161		$170		
Project Engineer (mid-level)	$183	$168	$180	$170		$136		$148				
Staff Engineer (jr-level)	$148	$147	$145	-		$107		$143				
Engineer-in-Training (EI/EIT)	$115	$78	$110	$121	$109	$92		$103				
Engineering intern	$79		$79							$65		
BIM Lead/Virtual Graphic Designer **	$160											
Senior Planner	$157							$153				
Senior Construction Manager	$193	$167	$195	-				$160				
Senior Inspector	$115		$105					$98				
Field Representative	$92		$90									
GIS Manager****			$160									
Senior GIS Analyst	$126		$126	$126								
GIS Analyst	$90		$90	$90								
Senior GIS Technician	$115		$115					$116				
GIS Technician	$110		$110					$114				
Senior Designer	$126	$126	$125					$118				
CADD Designer	$136		$125									
CADD Technician	$100	$115	$100									
Community Outreach Specialist			$130				$125					
Marketing Specialist	$130		$125				$125					
Graphic Designer/Multimedia Specialist	$112						$111					
Website/Mobile App Designer	$124						$116					
Videographer/Photographer	$136						$131					
Senior Scientist	$132	$132	-							$130		
Staff Scientist	$95											
Senior Accountant	$130	-	$130					$126				
Accountant/Financial Analyst	$95		$90	$120				$88				
Senior Clerical/Technical Editor	$100		$100					$98				
Senior Clerical	$106	$90	$105							$100		
Clerical	$83		$80					$79				

* Additional labor categories from original submittal to address Asset Management staff. Estimated from existing 2020 rates for contract 190-0107 for Stantec for Asset Management scope.

** Additional labor category from original submittal based on a refined understanding of scope from recent discussion.

*** Typical hourly rates are not used for this specialty service. **See attached page for unit costs**.

**** Additional labor category; rates derived from existing JEA contract rates (PCU 156-0127-CN)

***** Additional labor category; dervied from current Surface Water Contract with the County for Stantec

Electro Scan, Inc.

Small Diameter Line FELL Inspection Pricing

The following rates apply for each individual Task Order issued under the contract.

Item	0 to 25,000 LF	25,000 to 100,000 LF	>100,000 LF
Mobilization – Lump Sum	$2,500	$2,500	$2,500
Inspection Price – Linear Foot[1]	$4.25	$3.57	$3.16
Maintenance of Traffic – Daily	$1,500	$1,500	$1,500

1. MOT services provided by a third-party contractor, charges are per day for a standard 8-hour work day. MOT is only anticipated on larger, more heavily travelled roadways.

Large Diameter Line FELL Inspection Pricing

The following rates apply for each individual Task Order issued under the contract.

Item	15– to 32–inch Lines	32– to 54–inch Lines
Mobilization – Lump Sum	$2,500	$2,500
Price Per Day	$10,000	$12,500
Maintenance of Traffic – Daily[1]	$1,500	$1,500
Pipeline Plugging/Surcharging – Daily[2]	$3,000	NA

1. MOT services provided by a third-party contractor, charges are per day for a standard 8-hour work day. MOT is only anticipated on larger, more heavily travelled roadways.
2. Plugging and surcharging services provided by a third-party contractor and are only needed if full-pipe conditions are needed for FELL inspection. In some cases, depending on normal flow conditions, larger diameter lines can be inspected without the need for this service. This will be determined on a case-by-case basis. Plugging and surcharging lines greater than 32 inches will not be performed.

ADS Environmental Services

Flow and Rainfall Monitoring Services Pricing

The following rates apply for temporary flow and rainfall monitoring services under the contract.

	DESCRIPTION	Unit	Price
1.	Flow Monitoring – Includes full service and maintenance and weekly confirmations IAW the Pinellas County Flow Monitoring Requirements	Monitor-month	$1,875.75
2.	Rain Gauging– Includes full service and maintenance and weekly confirmations IAW the Pinellas County Flow Monitoring Requirements	Monitor-month	$937.25
3.	PRISM Software Access; Software access for all units for the duration of the project. Final data via PRISM is final product due by the 10th of each month	Monitor-month	$32.00

Pricing assumptions:

1. Standard ADS field and safety procedures, no police details.
2. No special fees/taxes
3. No MBE/WBE requirements
4. Special permits, if required, will be responsibility of client

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 within 10 days after award recommendation.

   b) 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, or cancels prior to the completion of the work you will be notified by CTrax, the authorized vendor of Pinellas County. Upon notification, renewal certificate(s) of Insurance and endorsement(s) should be furnished to Pinellas County Risk Management at InsuranceCerts@pinellascounty.org and to CTrax c/o JDi Data at PinellasSupport@jdidata.com by the Consultant or their agent 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 email to Pinellas County Risk Management at InsuranceCerts@pinellascounty.org 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.*

(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

(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) 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.

Limits	
Each Occurrence or Claim	$ 2,000,000
General Aggregate	$ 2,000,000

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.

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