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: Roosevelt Creek Watershed Management Plan

RFP CONTRACT NO. 190-0042-NC (SS)

COUNTY PID NO. 004238A

NON-CONTINUING FIRM: Singhofen & Associates, Inc.

PROFESSIONAL ENGINEERING SERVICES NON-CONTINUING SERVICES SAMPLE AGREEMENT

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SECTION 1
INTENT OF AGREEMENT

AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES FOR
Roosevelt Creek Watershed Management Plan

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, Singhofen & Associates, Inc. with offices in Tampa, Florida hereinafter referred to as the CONSULTANT.

WHEREAS, Pinellas County, herein referred to as the COUNTY and the Southwest Florida Water Management District, herein referred to as the District, requires PROFESSIONAL ENGINEERING, BIOLOGICAL, PLANNING AND ENVIRONMENTAL SERVICES associated with support to develop a Watershed Management Plan (WMP) and perform all other professional services as may be required for the Roosevelt Creek watershed in accordance with the County and The Southwest Florida Water Management District (SWFWMD) and Federal Emergency Management Agency (FEMA) requirements.

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

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

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

SECTION 2
SCOPE OF PROJECT

2.1 PROJECT DESCRIPTION AND PROFESSIONAL REQUIREMENTS

For the purposes of this Agreement the term PROJECT shall include all areas of proposed improvements, all areas that may reasonably be judged to have an impact on the PROJECT, and all PROJECT development phases and the services and activities attendant thereto. It is not the intent of this Agreement to identify the exact limits or details involved in providing satisfactorily completed PROJECT construction documents. The CONSULTANT shall provide the following professional services to prepare construction plans, specifications, and complete applications for and receive all federal, state, and local permits required for construction of the PROJECT. The PROJECT design shall be based on the following data:

The PROJECT will be used as a tool in the planning, regulation, and management of the watershed for future development and as a basis for determining and prioritizing capital improvements. These objectives will be met, in part, by conducting an analysis of the watershed in order to characterize the existing watershed conditions and recommend improvements for flood protection, natural systems, habitat, water quality, erosion control, public awareness and involvement, regulatory control, and capital improvements. The WMP must identify and address localized flooding situations, erosion, sedimentation and sea level rise (SLR). The WMP must also include the evaluation of existing 2.33-Year, 5-Year 10-year, 25-year, 50-year and 100-year flood elevations, and the development of an appropriate hydraulic and hydrologic model that can be approved by the National Flood Insurance Program, the County and SWFWMD. Level of Service evaluation and any other requirements established in SWFWMD guideline and Specifications. The County's preference is to model the watershed using the ICPR4 software package. Modeling efforts must include future scenarios considering SLR as well as changes in rainfall patterns.

a) Required Deliverables

- All deliverables listed in the Tasks in the Scope of Services in Exhibit A
- A complete watershed management plan including model input and output data and associated geodatabases.

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 2.3 E.

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 plans, 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, calculations, contract plans, and survey data. 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 be responsible for the preparation of a PROJECT design schedule, prepared in Microsoft Project 2013 or later, which shows a breakdown of all tasks to be performed, and their relationship in achieving the completion of each phase of work. A bar chart schedule showing overall PROJECT time frames should also be prepared. These schedules must be submitted for COUNTY approval within ten (10) days of the initial PROJECT Notice to Proceed. These schedules will be used to verify CONSULTANT performance in relationship to Fees claimed and to allow the COUNTY'S Project Manager to monitor the CONSULTANT'S efforts. The CONSULTANT shall be responsible for any updates to these schedules and for documenting in writing to the COUNTY any major deviations in the actual versus estimated PROJECT time frames.

F. The CONSULTANT shall respond, in writing, to all review comments made by the COUNTY, and shall incorporate appropriate design adjustments into the PROJECT, in a timely manner, resulting from the review exchange.

2.4 GENERAL DESIGN CONDITIONS

2.4.1 The CONSULTANT shall coordinate and solicit appropriate input, with the knowledge of the COUNTY.

2.4.2 All deliverables shall be delivered electronically and or on an external hard drive as well as providing reproducible hard copies of the reports. All reports and other documents shall be delivered electronically and in Microsoft Word & Excel format as required, as well as reproducible hard copies.

2.4.3 The CONSULTANT shall develop acceptable alternates to any and all design recommendations that may be declared unacceptable.

2.5 GOVERNING SPECIFICATIONS REGULATIONS AND PERTINENT DOCUMENTS

The PROJECT shall be designed 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.

- Flood Hazard Mapping Partners (available at https://www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping),
- Handbook for Developing watershed plans to Restore and Protect Our Waters listed on United States Environmental Protection Agency website (https://www.epa.gov/sites/production/files/2015-11/documents/2008_04_18_nps_watershed_handbook_ch12.pdf)
- Recommended Projection of Sea Level Rise in the Tampa Bay Region https://coast.noaa.gov/slr/
- Sea Level Rise reference documentation https://tidesandcurrents.noaa.gov/publications/techrpt83_Global_and_Regional_SLR_Scenarios_for_the_US_final.pdf
- SWFWMD Guide line and specifications
  ftp://ftp.swfwmd.state.fl.us/pub/GWIS/WMP_Guidance_Documents/
  File Name: Final_WMP_Guidelines_and_Specs_20200902.pdf
  (Copy and paste link into web browser)
  - Username: Anonymous
  - Password: (your email address)
- Pinellas County Standards (http://www.pinellascounty.org/plan/stormwater_manual.htm) as applicable

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 make such reviews, visits, attend such meetings and conferences and make such contacts as are necessary for the proper preparation of the watershed management plan for the PROJECT.

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

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

3.4.6 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

3.6.1 Drainage investigations and drainage design shall be coordinated with any city or drainage district that may be affected by or have an effect on the PROJECT.

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 design, 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 design 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 Public Works 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 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 Public Works, or designee.

6.3 CONTINGENCY SERVICES

When authorized in writing by the COUNTY'S Director of Public Works 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 upon completion, and acceptance by the County, of individual tasks. Such invoicing shall be supported by a Progress Report showing the actual tasks performed and their relationship to the fee claimed for each 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. Aerial Photography, if required.

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

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

E. 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, Nabil Bawany, P.E., Public Works Department, 22211 US Highway 19 North Bldg 1, Clearwater, FL 33765.

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 3.10, the COUNTY agrees to pay the CONSULTANT as follows:

A Lump Sum Fee of: Thirteen Thousand Four Hundred Ninety-Eight and 00/100 Dollars **($13,498.00)** for Task 1 – Project Development Phase of the PROJECT

A Lump Sum Fee of: Two Hundred Forty-Seven Thousand Three Hundred Eighty-Three 00/100 Dollars **($247,383.00)** for Task 2.0 Watershed Evaluation Phase of the PROJECT.

A Lump Sum Fee of: Two Hundred Forty-Eight Thousand Two Hundred Thirteen 00/100 Dollars **($248,213.00)** for Task 3.0 Floodplain Analysis Phase of the PROJECT.

A Lump Sum Fee of: One Hundred Thirty-Nine Thousand Five Hundred Eighty-Three 00/100 Dollars **($139,583.00)** for Task 4.0 for FPLOS Determination, SWRA, Drainage Improvement Alternatives Analysis and Recommendations Phase of the PROJECT.

The above fees shall constitute the total not to exceed amount of Six Hundred Forty-Eight Thousand Six Hundred Seventy-Seven and 00/100 Dollars **($648,677.00)** 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:

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 Sixty-Four Thousand, Eight Hundred Sixty-Eight dollars and 00/100 dollars (**$64,868.00**). for all assignments performed

7.4 Total agreement amount Seven Hundred Thirteen Thousand, Five Hundred Forty-Five and 00/100 Dollars **($713,545.00).**

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 design 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 Public Works or designee.

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

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

SECTION 10
FIRMS AND INDIVIDUALS PROVIDING SUBCONSULTING SERVICES

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

SECTION 11
SATISFACTORY PERFORMANCE

All services to be provided by the CONSULTANT under the provisions of this Agreement, including services to be provided by subconsultants, shall be performed to the reasonable satisfaction of the COUNTY'S Director of Public Works 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. The COUNTY shall not reuse any design plans or specifications to construct another project at the same or a different location without the CONSULTANT'S specific written verification, adaptation or approval.

SECTION 15
INSURANCE COVERAGE AND INDEMNIFICATION

15.1 The 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 four hundred and sixty 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: **Singhofen & Associates, Inc.**

By: _____

Print Name: Kent Boulicault

Title: Vice President Date: 12/07/2020

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: _____

APPROVAL AS TO FORM:

APPROVED AS TO FORM

By: *Diriki T. Geuka*

Office of the County Attorney

By: _____

Office of the County Attorney

AGREEMENT NO. 20CF0002703

COOPERATIVE FUNDING AGREEMENT (Type 3)
BETWEEN THE
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
AND
PINELLAS COUNTY
FOR
ROOSEVELT CREEK WATERSHED MANAGEMENT PLAN (Q116)

THIS COOPERATIVE FUNDING AGREEMENT (Agreement) is made and entered into by and between the SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, a public corporation of the State of Florida, whose address is 2379 Broad Street, Brooksville, Florida 34604-6899, hereinafter referred to as the "DISTRICT," and PINELLAS COUNTY, a political subdivision of the State of Florida, whose address is 315 Court Street, Clearwater, Florida 33756, hereinafter referred to as the "COOPERATOR."

WITNESSETH:

WHEREAS, the COOPERATOR proposed a project to the DISTRICT for funding consideration under the DISTRICT'S cooperative funding program; and

WHEREAS, the project consists of, a Watershed Management Plan (WMP) update for the Roosevelt watershed in Pinellas County, through and including Watershed Evaluation, Floodplain Analysis, Level of Service (LOS) Determination, Surface Water Resource Assessment (SWRA), and Best Management Practice (BMP) Alternative Analysis, hereinafter referred to as the "PROJECT"; and

WHEREAS, the DISTRICT considers the resource benefits to be achieved by the PROJECT worthwhile and desires to assist the COOPERATOR in funding the PROJECT.

NOW THEREFORE, the DISTRICT and the COOPERATOR, in consideration of the mutual terms, covenants and conditions set forth herein, agree as follows:

1. PROJECT CONTACTS AND NOTICES.
   Each party hereby designates the individual set forth below as its prime contact for matters relating to this Agreement. Notices shall be sent to the attention of each party's prime contact as set forth herein by U.S. mail, postage paid, by nationally recognized overnight courier, or personally to the parties' addresses as set forth below. Notice is effective upon receipt.

   Contract Manager for the DISTRICT:
   Robert McDonald
   Southwest Florida Water Management District
   2379 Broad Street
   Brooksville, Florida 34604

Project Manager for the COOPERATOR:
Paul Miselis
Pinellas County
14 S. Fort Harrison Ave, 3rd Floor
Clearwater, Florida 33756

Any changes to the above contact information must be provided to the other party in writing.

Unless otherwise indicated in this Agreement, reports required under this Agreement may be provided to the DISTRICT'S Contract Manager via email.

1.1 The DISTRICT'S Contract Manager is authorized to approve requests to extend a PROJECT task deadline set forth in the Project Plan. Such approval must be in writing, explain the reason for the extension and be signed by the DISTRICT'S Contract Manager and his or her Bureau Chief, or Director if the Bureau Chief is the DISTRICT'S Contract Manager, unless the DISTRICT'S Signature Authority provides otherwise. The DISTRICT'S Signature Authority supersedes the approval requirements provided in this Subparagraph. The DISTRICT'S Contract Manager is not authorized to approve any time extension which will result in an increased cost to the DISTRICT or which will exceed the expiration date set forth in this Agreement.

1.2 The DISTRICT'S Contract Manager is authorized to adjust a line item amount of the Project Budget set forth in the Project Plan, or, if applicable, the refined budget as set forth in Subparagraph 4 of the Funding Paragraph. The authorization must be in writing, explain the reason for the adjustment, and be signed by all appropriate DISTRICT staff in accordance with the DISTRICT'S Signature Authority. The DISTRICT'S Contract Manager is not authorized to make changes to the Scope of Work and is not authorized to approve any increase in the amounts set forth in the Funding Paragraph of this Agreement.

2. SCOPE OF WORK.

Upon receipt of written notice to proceed from the DISTRICT, the COOPERATOR shall perform the services necessary to complete the PROJECT in accordance with the Project Plan. Any changes to this Agreement, except as provided herein, must be mutually agreed to in a formal written amendment approved by the DISTRICT and the COOPERATOR prior to being performed by the COOPERATOR. The COOPERATOR shall be solely responsible for managing and controlling the PROJECT, including the hiring and supervising of any consultants or contractors it engages.

The parties agree that time is of the essence in the performance of each obligation under this Agreement.

3. FUNDING.

The parties anticipate that the total cost of the PROJECT will be Eight Hundred Thousand Dollars ($800,000). The DISTRICT agrees to fund PROJECT costs as appropriated by

the DISTRICT in accordance with Subparagraph 1 of this Funding Paragraph and anticipates funding PROJECT costs up to Four Hundred Thousand Dollars ($400,000), and shall have no obligation to pay any costs beyond this anticipated maximum amount. The COOPERATOR agrees to provide all remaining funds necessary for the satisfactory completion of the PROJECT.

3.1 The DISTRICT'S performance and payment pursuant to this Agreement are contingent upon the DISTRICT'S Governing Board appropriating funds in its approved budget for the PROJECT in each fiscal year of this Agreement. The COOPERATOR recognizes that the DISTRICT has approved $100,000 for the PROJECT through Fiscal Year 2020. The COOPERATOR'S payment of any financial obligation under this Agreement is subject to appropriation by the COOPERATOR'S Board of legally available funds.

3.2 The COOPERATOR shall pay PROJECT costs prior to requesting reimbursement from the DISTRICT. The DISTRICT shall reimburse the COOPERATOR for the DISTRICT'S share of allowable PROJECT costs in accordance with the Project Budget set forth in the Project Plan. Reimbursement for expenditures of contingency funds is contingent upon approval by the DISTRICT. If a reimbursement request includes expenditures of contingency funds, the COOPERATOR shall provide sufficient documentation to the DISTRICT to explain the basis of the expenditures. The DISTRICT shall not reimburse the COOPERATOR for any expenditures of contingency funds that the DISTRICT determines, in its sole discretion, to be in excess of what was reasonably necessary to complete the PROJECT. The DISTRICT shall reimburse the COOPERATOR for fifty percent (50%) of all allowable costs in each DISTRICT approved invoice received from the COOPERATOR, but at no point in time will the DISTRICT'S expenditure amounts under this Agreement exceed expenditures made by the COOPERATOR. The parties acknowledge that the DISTRICT'S reimbursement percentage stated above is subject to change if the percentage of the DISTRICT'S anticipated funding amount is changed due to subsequent Governing Board approvals, but amounts approved by the DISTRICT in its annual budget shall not be reduced after the COOPERATOR has paid PROJECT costs of incurred obligations approved by the DISTRICT pursuant to Subparagraph 4 of this Funding Paragraph and are otherwise reimbursable by the DISTRICT under this Agreement.

3.3 Unless otherwise provided in the Project Plan, any federal, state, local or grant monies received by the COOPERATOR for the PROJECT shall be applied to equally reduce each party's share of PROJECT costs. The COOPERATOR shall provide the DISTRICT with written documentation detailing its allocation of any such funds appropriated for the PROJECT. This Subparagraph shall survive the expiration or termination of this Agreement.

3.4 The COOPERATOR may contract with consultant(s), contractor(s) or both to accomplish the PROJECT. Prior to posting solicitations, the COOPERATOR must obtain the DISTRICT'S written input regarding whether costs to be paid are allowable under this Agreement. The COOPERATOR must also obtain the DISTRICT'S written approval prior to entering into agreements for PROJECT work

to ensure that costs to be reimbursed by the DISTRICT are reasonable. The DISTRICT shall provide a written response to the COOPERATOR within twenty-one (21) days of receipt of the solicitation or agreement. Upon written DISTRICT approval, the budget amounts for the work set forth in such agreement(s) shall refine the amounts set forth in the Project Budget and be incorporated herein by reference. The DISTRICT shall not reimburse the COOPERATOR for costs incurred under consultant and contractor agreements until the DISTRICT approvals required under this Subparagraph have been obtained.

3.5 Payment shall be made to the COOPERATOR within forty-five (45) days of receipt of an invoice with adequate supporting documentation to satisfy auditing purposes. Invoices shall be submitted to the DISTRICT every two (2) months electronically at invoices@WaterMatters.org, or at the following address:

Accounts Payable Section
Southwest Florida Water Management District
Post Office Box 15436
Brooksville, Florida 34604-5436

The above-referenced payment due date shall not apply to that portion of an invoice that includes expenditures of contingency funds. The DISTRICT agrees to reimburse the COOPERATOR for expenditures of contingency funds within a reasonable time to accommodate the process provided for in Subparagraph 2 of this Funding Paragraph.

In addition to sending an original invoice to the DISTRICT'S Accounts Payable Section as required above, copies of invoices may also be submitted to the DISTRICT'S Contract Manager in order to expedite the review process. Failure of the COOPERATOR to submit invoices to the DISTRICT in the manner provided herein shall relieve the DISTRICT of its obligation to pay within the aforementioned timeframe.

The DISTRICT makes payments electronically through the Automated Clearing House (ACH) process. The COOPERATOR agrees to complete the DISTRICT'S *Vendor Registration Form* and *Vendor Electronic Payment Authorization Form* to enable payments to be sent to the COOPERATOR electronically. The forms may be downloaded from the DISTRICT'S website at www.watermatters.org under Business & Finance – Contracts and Procurement. Any questions regarding electronic payments may be directed to the DISTRICT'S Accounts Payable Lead at 352-796-7211, extension 4108.

3.6 The parties acknowledge that the PROJECT was approved for funding by the DISTRICT based upon the resource benefits expected to be achieved by the PROJECT (the "Measurable Benefit"). The parties also acknowledge that the COOPERATOR is solely responsible for implementing the PROJECT in such a manner that the expected resource benefits are achieved. If at any point during the progression of the PROJECT, the DISTRICT determines that it is likely that the Measurable Benefit as set forth in the Project Plan will not be achieved, the DISTRICT shall provide the COOPERATOR with fifteen (15) days advance written

notice that the DISTRICT shall withhold payments to the COOPERATOR until such time as the COOPERATOR demonstrates that the PROJECT shall achieve the required resource benefits, to provide the COOPERATOR with an opportunity to cure the deficiencies.

3.7 Any travel expenses which may be authorized under this Agreement shall be paid in accordance with Section 112.061, Florida Statutes (F.S.), as may be amended from time to time. The DISTRICT shall not reimburse the COOPERATOR for any purpose not specifically identified in the Scope of Work Paragraph. Surcharges added to third party invoices are not considered an allowable cost under this Agreement. Costs associated with in-kind services provided by the COOPERATOR are not reimbursable by the DISTRICT and may not be included in the COOPERATOR'S share of funding contributions under this Agreement.

3.8 Each COOPERATOR invoice must include the following certification, and the COOPERATOR hereby delegates authority by virtue of this Agreement to its Project Manager to affirm said certification:

"I hereby certify that the costs requested for reimbursement and the COOPERATOR'S matching funds, as represented in this invoice, are directly related to the performance under the Roosevelt Creek Watershed Management Plan, (Q116) agreement between the Southwest Florida Water Management District and Pinellas County (Agreement No. 20CF0002703), are allowable, allocable, properly documented, and are in accordance with the approved Project Budget. This invoice includes $_____ of contingency funds expenditures. The COOPERATOR has been allocated a total of $_____ in federal, state, local or grant monies for the PROJECT (not including DISTRICT funds) and $_____ has been allocated to this invoice, reducing the DISTRICT'S and COOPERATOR'S share to $_____ / $_____ respectively."

3.9 In the event any dispute or disagreement arises during the course of the PROJECT, including whether expenses are reimbursable under this Agreement, the COOPERATOR will continue to perform the PROJECT work in accordance with the Project Plan. The COOPERATOR is under a duty to seek clarification and resolution of any issue, discrepancy, or dispute by providing the details and basis of the dispute to the DISTRICT'S Contract Manager no later than ten (10) days after the precipitating event. If not resolved by the DISTRICT'S Contract Manager, in consultation with his or her Bureau Chief, within ten (10) days of receipt of notice, the dispute will be forwarded to the DISTRICT'S Assistant Executive Director. The DISTRICT'S Assistant Executive Director in consultation with the DISTRICT'S Office of General Counsel will issue the DISTRICT'S final determination. The COOPERATOR'S continuation of the PROJECT work as required under this Subparagraph shall not constitute a waiver of any legal remedy available to the COOPERATOR concerning the dispute.

4. COMPLETION DATES.

The COOPERATOR shall commence and complete the PROJECT and meet the task deadlines in accordance with the Project Schedule set forth in the Project Plan, including

any extensions of time provided by the DISTRICT in accordance with Subparagraph 1 of the Project Contacts and Notices Paragraph. In the event of hurricanes, tornados, floods, acts of God, acts of war, or other such catastrophes, or other man-made emergencies such as labor strikes or riots, which are beyond the control of the COOPERATOR, the COOPERATOR'S obligations to meet the time frames provided in this Agreement shall be suspended for the period of time the condition continues to exist. During such suspension, this Agreement shall remain in effect. When the COOPERATOR is able to resume performance of its obligations under this Agreement, in whole or in part, it shall immediately give the DISTRICT written notice to that effect and shall resume performance no later than two (2) working days after the notice is delivered. The suspension of the COOPERATOR'S obligations provided for in this Paragraph shall be the COOPERATOR'S sole remedy for the delays set forth herein.

5. REPAYMENT.

5.1 The COOPERATOR shall repay the DISTRICT all funds the DISTRICT paid to the COOPERATOR under this Agreement, if: a) the COOPERATOR fails to complete the PROJECT in accordance with the terms and conditions of this Agreement, including failing to achieve the Measurable Benefit; b) the DISTRICT determines, in its sole discretion and judgment, that the COOPERATOR has failed to maintain scheduled progress of the PROJECT thereby endangering the timely performance of this Agreement; c) the COOPERATOR fails to appropriate sufficient funds to meet the task deadlines, unless extended in accordance with Subparagraph 1 of the Project Contacts and Notices Paragraph; or d) a Paragraph or Paragraphs of this Agreement setting forth the requirements or expectations of a Measurable Benefit resulting from the PROJECT is held to be invalid, illegal or unenforceable during the term of this Agreement. Should any of the above conditions exist that require the COOPERATOR to repay the DISTRICT, this Agreement shall terminate in accordance with the procedure set forth in the Default Paragraph.

5.2 Notwithstanding the above, the parties acknowledge that if the PROJECT fails to achieve the Measurable Benefit set forth in the Project Plan, the COOPERATOR may request the DISTRICT Governing Board to waive the repayment obligation, in whole or in part.

5.3 In the event the COOPERATOR is obligated to repay the DISTRICT under any Paragraph of this Agreement, the COOPERATOR shall repay the DISTRICT within a reasonable time, as determined by the DISTRICT in its sole discretion.

5.4 The COOPERATOR shall pay attorneys' fees and costs incurred by the DISTRICT, including appeals, as a result of the COOPERATOR'S failure to repay the DISTRICT as required by this Agreement.

5.5 This Repayment Paragraph, including all subparagraphs, shall survive the expiration or termination of this Agreement.

6. CONTRACT PERIOD.

This Agreement shall be effective October 1, 2019 and shall remain in effect through September 30, 2023 or upon satisfactory completion of the PROJECT and subsequent reimbursement to the COOPERATOR, whichever occurs first, unless amended in writing by the parties. The COOPERATOR shall not be eligible for reimbursement for any work that is commenced, or costs that are incurred, prior to the effective date of this Agreement.

7. PROJECT RECORDS AND DOCUMENTS.

Upon request by the DISTRICT, the COOPERATOR shall permit the DISTRICT to examine or audit all PROJECT related records and documents during or following completion of the PROJECT at no cost to the DISTRICT. Payments made to the COOPERATOR under this Agreement shall be reduced for amounts found to be not allowable under this Agreement by an audit. If an audit is undertaken by either party, all required records shall be maintained until the audit has been completed and all questions arising from it are resolved. Each party shall maintain all such records and documents for at least three (3) years following completion of the PROJECT. Each party shall comply with Chapter 119, F.S., the Public Records Act, including allowing public access to PROJECT documents and materials made or received by either party. Should either party assert any exemption to the requirements of Chapter 119, F.S., the burden of establishing such exemption, by way of injunctive or other relief as provided by law, shall be upon the asserting party. This Paragraph shall survive the expiration or termination of this Agreement.

8. OWNERSHIP OF DOCUMENTS AND OTHER MATERIALS.

All documents, including reports, drawings, estimates, programs, manuals, specifications, and all goods or products, including intellectual property and rights thereto, purchased under this Agreement with DISTRICT funds or developed in connection with this Agreement shall be and shall remain the property of the DISTRICT and the COOPERATOR, jointly. Notwithstanding the above, all infrastructure shall be and shall remain the sole property of the COOPERATOR. This Paragraph shall survive the expiration or termination of this Agreement.

9. REPORTS.

9.1 The COOPERATOR shall provide the DISTRICT with a quarterly report describing the progress of the PROJECT tasks, adherence to the Project Schedule and any developments affecting the PROJECT. The COOPERATOR shall promptly advise the DISTRICT of issues that arise that may impact the successful and timely completion of the PROJECT. Quarterly reports shall be submitted to the DISTRICT'S Contract Manager no later than forty-five (45) days following the completion of the quarterly reporting period. It is hereby understood and agreed by the parties that the term "quarterly" shall reflect the calendar quarters ending March 31, June 30, September 30 and December 31.

9.2 Upon request by the DISTRICT, the COOPERATOR shall provide the DISTRICT with copies of all data, reports, models, studies, maps or other documents resulting

from the PROJECT. Additionally, one (1) set, electronic and hardcopy, of any final reports must be submitted to the DISTRICT as Record and Library copies. This Subparagraph shall survive the expiration or termination of this Agreement.

9.3 The COOPERATOR shall provide the DISTRICT with each deliverable set forth in the Project Plan for review by the DISTRICT, including any supporting documentation. The DISTRICT shall provide a written response to the COOPERATOR and the COOPERATOR shall respond to the DISTRICT'S questions and concerns within the timeframes set forth in the Project Plan.

9.4 The COOPERATOR shall provide the data, reports and documents referenced in this Paragraph at no cost to the DISTRICT.

10. RISK, LIABILITY, AND INDEMNITY.

10.1 To the extent permitted by Florida law, the COOPERATOR assumes all risks relating to the PROJECT and agrees to be solely liable for, and to indemnify and hold the DISTRICT harmless from all claims, loss, damage and other expenses, including attorneys' fees and costs and attorneys' fees and costs on appeal, arising from the design, construction, operation, maintenance or implementation of the PROJECT; provided, however, that the COOPERATOR shall not indemnify for that portion of any loss or damages proximately caused by the negligent act or omission of the DISTRICT'S officers, employees, contractors and agents. The acceptance of the DISTRICT'S funding by the COOPERATOR does not in any way constitute an agency relationship between the DISTRICT and the COOPERATOR.

10.2 The COOPERATOR agrees to indemnify and hold the DISTRICT harmless, to the extent allowed under Section 768.28, F.S., from all claims, loss, damage and other expenses, including attorneys' fees and costs and attorneys' fees and costs on appeal, arising from the negligent acts or omissions of the COOPERATOR'S officers, employees, contractors and agents related to its performance under this Agreement.

10.3 This Risk, Liability, and Indemnity Paragraph, including all subparagraphs, shall not be construed as a waiver of the COOPERATOR'S sovereign immunity or an extension of the COOPERATOR'S liability beyond the limits established in Section 768.28, F.S. Additionally, this Risk, Liability, and Indemnity Paragraph, including all subparagraphs, will not be construed to impose contractual liability on the COOPERATOR for underlying tort claims as described above beyond the limits specified in Section 768.28, F.S., nor be construed as consent by the COOPERATOR to be sued by third parties in any manner arising out of this Agreement.

10.4 Nothing in this Agreement shall be interpreted as a waiver of the DISTRICT'S sovereign immunity or an extension of its liability beyond the limits established in Section 768.28, F.S., nor be construed as consent by the DISTRICT to be sued by third parties in any manner arising out of this Agreement.

10.5 This Risk, Liability, and Indemnity Paragraph, including all subparagraphs, shall survive the expiration or termination of this Agreement.

11. DEFAULT.

Either party may terminate this Agreement upon the other party's failure to comply with any term or condition of this Agreement, including the failure to meet task deadlines established in this Agreement, as long as the terminating party is not in default of any term or condition of this Agreement at the time of termination. To effect termination, the terminating party shall provide the defaulting party with a written "Notice of Termination" stating its intent to terminate and describing all terms and conditions with which the defaulting party has failed to comply. If the defaulting party has not remedied its default within thirty (30) days after receiving the Notice of Termination, this Agreement shall automatically terminate. If a default cannot reasonably be cured in thirty (30) days, then the thirty (30) days may be extended at the non-defaulting party's discretion, if the defaulting party is pursuing a cure of the default with reasonable diligence. The rights and remedies in this Paragraph are in addition to any other rights and remedies provided by law or this Agreement.

12. RELEASE OF INFORMATION.

The parties agree not to initiate any oral or written media interviews or issue press releases on or about the PROJECT without providing notices or copies to the other party no later than three (3) business days prior to the interview or press release. This Paragraph shall not be construed as preventing the parties from complying with the public records disclosure laws set forth in Chapter 119, F.S.

13. DISTRICT RECOGNITION.

The COOPERATOR shall recognize DISTRICT funding in any reports, models, studies, maps or other documents resulting from this Agreement, and the form of said recognition shall be subject to the DISTRICT'S approval. If construction is involved, the COOPERATOR shall provide signage at the PROJECT site that recognizes the DISTRICT'S funding for the PROJECT. All signage must receive the DISTRICT'S written approval as to form, content and location, and must be in accordance with local sign ordinances.

14. PERMITS AND REAL PROPERTY RIGHTS.

The COOPERATOR shall obtain all permits, local government approvals and all real property rights necessary to complete the PROJECT prior to commencing any construction involved in the PROJECT. The DISTRICT shall have no obligation to reimburse the COOPERATOR for any costs under this Agreement until the COOPERATOR has obtained all permits, approvals, and property rights necessary to accomplish the objectives of the PROJECT. In the event a permit, approval or property right is obtained but is subsequently subject to a legal challenge that results in an unreasonable delay or cancellation of the PROJECT as determined by the DISTRICT in its sole discretion, the COOPERATOR shall repay the DISTRICT all monies contributed

to the PROJECT. This Paragraph shall survive the expiration or termination of this Agreement.

15. LAW COMPLIANCE.

The COOPERATOR shall comply with all applicable federal, state and local laws, rules, regulations and guidelines, including those of the DISTRICT, related to performance under this Agreement.

16. DIVERSITY IN CONTRACTING AND SUBCONTRACTING.

The DISTRICT is committed to supplier diversity in the performance of all contracts associated with DISTRICT cooperative funding projects. The DISTRICT requires the COOPERATOR to make good faith efforts to encourage the participation of minority owned and woman owned and small business enterprises, both as prime contractors and subcontractors, in the performance of this Agreement, in accordance with applicable laws.

16.1 If requested, the DISTRICT shall assist the COOPERATOR by sharing information to help the COOPERATOR in ensuring that minority owned and woman owned and small businesses are afforded an opportunity to participate in the performance of this Agreement.

16.2 The COOPERATOR agrees to provide the DISTRICT with a report indicating all contractors and subcontractors who performed work in association with the PROJECT, the amount spent with each contractor or subcontractor, and to the extent such information is known, whether each contractor or subcontractor was a minority owned or woman owned or small business enterprise. If no minority owned or woman owned or small business enterprises were used in the performance of this Agreement, then the report shall so indicate. The Minority/Women Owned and Small Business Utilization Report form is attached as an exhibit. The report is required upon final completion of the PROJECT prior to final payment, or within thirty (30) days of the execution of any amendment that increases PROJECT funding, for information up to the date of the amendment and prior to the disbursement of any additional funds by the DISTRICT.

17. ASSIGNMENT.

Except as otherwise provided in this Agreement, no party may assign any of its rights or delegate any of its obligations under this Agreement, including any operation or maintenance duties related to the PROJECT, without the prior written consent of the other party. Any attempted assignment in violation of this Paragraph is void. This Paragraph shall survive the expiration or termination of this Agreement.

18. CONTRACTORS.

Nothing in this Agreement shall be construed to create, or be implied to create, any relationship between the DISTRICT and any consultant or contractor of the COOPERATOR.

19. THIRD PARTY BENEFICIARIES.

Nothing in this Agreement shall be construed to benefit any person or entity not a party to this Agreement.

20. LOBBYING PROHIBITION.

Pursuant to Section 216.347, F.S., the COOPERATOR is prohibited from using funds provided by this Agreement for the purpose of lobbying the Legislature, the judicial branch or a state agency.

21. PUBLIC ENTITY CRIMES.

Pursuant to Subsections 287.133(2) and (3), F.S., a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, F.S., for Category Two, for a period of 36 months following the date of being placed on the convicted vendor list. The COOPERATOR agrees to include this Paragraph in all contracts issued as a result of this Agreement.

22. SCRUTINIZED COMPANIES.

Pursuant to Section 287.135, F.S., a company that, at the time of submitting a bid or proposal for a new contract or renewal of an existing contract, is on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, is ineligible to, and may not bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services in any amount. If the goods or services are in the amount of $1 million dollars or more, the company must also not be on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or be engaged in business operations in Cuba or Syria. By signing this Agreement, the COOPERATOR certifies that it is not on any of the lists or engaged in any of the prohibited activities identified above, as applicable based upon the amount of this Agreement. The COOPERATOR agrees to notify the DISTRICT if it is placed on any of the applicable lists or engages in any of the prohibited activities during the term of this Agreement. The DISTRICT may immediately terminate this Agreement at its option if the COOPERATOR is found to have submitted a false certification, is placed on any of the applicable lists or engages in any prohibited activities.

23. GOVERNING LAW.

This Agreement is governed by Florida law and venue for resolving disputes under this Agreement shall be exclusively in Hillsborough County, Florida. This Paragraph shall survive the expiration or termination of this Agreement.

24. SEVERABILITY.

If any Paragraph or Paragraphs of this Agreement shall be held to be invalid, illegal, or unenforceable, the validity, legality and enforceability of the remaining Paragraphs shall not in any way be affected or impaired thereby. Notwithstanding the above, if a Paragraph or Paragraphs of this Agreement setting forth the requirements or expectations of a Measurable Benefit resulting from the PROJECT is held to be invalid, illegal or unenforceable during the term of this Agreement, this Agreement shall terminate in accordance with Subparagraph 1 of the Repayment Paragraph. This Paragraph shall survive the expiration or termination of this Agreement.

25. COUNTERPARTS.

The parties may execute this Agreement, and any amendments related to this Agreement, each of which constitutes an original, and all of which, collectively, constitute only one agreement. The signatures of all of the parties need not appear on the same counterpart. be executed in counterparts, each of which shall be an original and all of which shall constitute the same instrument.

26. ENTIRE AGREEMENT.

This Agreement and the attached exhibit(s) listed below constitute the entire agreement between the parties and, unless otherwise provided herein, may be amended only in writing, signed by all parties to this Agreement.

27. DOCUMENTS.

The following document(s) is/are attached and made a part of this Agreement. In the event of a conflict of contract terminology, priority shall first be given to the language in the body of this Agreement, then to Exhibit "A", and then to Exhibit "B".

Exhibit "A"	Project Plan
Exhibit "B"	Minority/Women Owned and Small Business Utilization Report Form

The remainder of this page intentionally left blank.

IN WITNESS WHEREOF, the parties hereto, or their lawful representatives, have executed this Agreement on the day and year set forth next to their signatures below.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

By: _____ 11/21/19
Amanda Rice, P.E. Date
Assistant Executive Director

PINELLAS COUNTY

By: Karen Seel 11/12/19
Date

Name: Karen Seel

Title: Chair
Authorized Signatory

ATTEST: Ken Burke, Clerk

By: _____
Deputy Clerk

Date: 11/12/19

APPROVED AS TO FORM
AND LEGALITY
By _____
COUNTY ATTORNEY

BOARD OF COUNTY COMMISSIONERS SEAL PINELLAS COUNTY, FLORIDA

COOPERATIVE FUNDING AGREEMENT (Type 3)
BETWEEN THE
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
AND
PINELLAS COUNTY
FOR
ROOSEVELT CREEK WATERSHED MANAGEMENT PLAN (Q116)

EXHIBIT "1"
PROJECT PLAN

PROJECT DESCRIPTION

This is a multi-year funded project to develop a Watershed Management Plan (WMP) update for the Roosevelt Creek Watershed. The watershed covers a total area of approximately 12.7 square miles within Pinellas County and discharges to Old Tampa Bay. The following elements of the DISTRICT'S Watershed Management Program are to be performed: Project Development, Watershed Evaluation, Floodplain Analysis, Level of Service (LOS) Determination, Surface Water Resource Assessment (SWRA), and Best Management Practice (BMP) Alternatives Analysis. These elements are defined as PROJECT TASKS listed below. PROJECT TASKS are to be accomplished according to the Project Schedule and Project Budget table listed below.

The WMP will analyze flooding problems that exist in the watershed. Currently, flood analysis models are over 10 years old, and the watershed includes regional or intermediate stormwater systems.

MEASURABLE BENEFIT

The completion of an updated WMP that identifies floodplains, establishes LOS, and evaluates BMPs to address flooding concerns in the watershed in accordance with the requirements of this Agreement.

PROJECT TASKS

The COOPERATOR shall:
Perform the work in accordance with the DISTRICT Scope of Work Task Descriptions in the "Watershed Management Program Guidance Documents", effective as of the date of the COOPERATOR'S issuance of a work order to its consultant. These guidance documents can be found at: *ftp://ftp.swfwmd.state.fl.us/pub/GWIS/WMP_Guidance_Documents.*

- 1.1 PROCUREMENT
  - 1.1.1 Consultant Contract Development
  - 1.1.2 District Consultant Contract Review and Approval
- 2.1 PROJECT DEVELOPMENT
  - 2.1.1 Data Collection and Initial Evaluation
  - 2.1.2 Draft Project Plan
  - 2.1.3 Kick-off Meeting
  - 2.1.4 Final Project Plan
- 2.2 WATERSHED EVALUATION
  - 2.2.1 Assembly and Evaluation of Watershed Data
  - 2.2.2 Hydrologic and Hydraulic Feature Database
  - 2.2.3 Preliminary Model Features
  - 2.2.4 Peer Review of Watershed Evaluation
  - 2.2.5 Final Approved Watershed Evaluation Deliverables
- 2.3 FLOODPLAIN ANALYSIS
  - 2.3.1 Watershed Model Parameterization
  - 2.3.2 Peer Review of Watershed Model Parameterization
  - 2.3.3 Final Approved Watershed Model Parameterization Deliverables

2.3.4 Watershed Model Development and Floodplain Delineation
2.3.5 Peer Review of Watershed Model Development and Floodplain Delineation
2.3.6 Approved Floodplain Analysis Deliverables for Preliminary Floodplain Open House
2.3.7 Preliminary Floodplain Open House and Response to Public Comments
2.3.8 Final Approved Floodplain Analysis Deliverables

2.4 Alternatives Analysis – FPLOS, Drainage Improvement Alternatives Analysis and Recommendations
2.4.1 FPLOS Determination
2.4.2 Drainage Improvement Alternatives Analysis and Recommendations

2.5 Alternatives Analysis – SWRA and BMPs of Water Quality
2.5.1 SWRA of Water Quality
2.5.2 Water Quality BMPs

DELIVERABLES

The following deliverables are related to the specific PROJECT TASKS from above:

- Quarterly Reports

Procurement

- Executed Consultant Agreement

Project Development

- Final Project Plan

Watershed Evaluation

Assembly and Evaluation of Watershed Data

- Task Memorandum
- Project Specific QA/QC Document
- Responses to Comments Geodatabase
- Digital Elevation Model (DEM)
- Updated Project Plan
- GWIS Geodatabase

Hydrologic and Hydraulic Feature Database

- Response to Comments Geodatabase
- Refined Topographic Information
- Updated GWIS Geodatabase
- Supporting Data
- Project Specific QA/QC Document

Preliminary Model Features

- Watershed Evaluation Report
- Supporting Data
- Project Specific QA/QC Document
- Refined Topographic Information
- GWIS Geodatabase

Final Approved Watershed Evaluation Deliverables

- Response to Comment Geodatabase
- Update Project Plan
- Revised Watershed Evaluation Deliverables
- Project Specific QA/QC Document

Floodplain Analysis
Watershed Model Parameterization

- Updated Watershed Evaluation Report
- Model Input/Output Files
- Project Specific QA/QC Document
- GWIS Geodatabase
- Supporting Data

Final Approved Watershed Model Parameterization Deliverables

- Revised Watershed Model Parameterization Deliverables
- Response to Comment Geodatabase
- Updated Project Plan
- Project Specific QA/QC Document

Watershed Model Development and Floodplain Delineation

- Floodplain Justification Report
- 100-Year Flood Depth Grids
- 100-Year Floodplains with Climate Change and Sea Level Rise Considerations
- Model Input/Output Files
- Project Specific QA/QC Document
- Updated GWIS Geodatabase
- Supporting Data

Approved Floodplain Analysis Deliverables for Preliminary Floodplain Open House

- Responses to Comments Geodatabase
- Revised Floodplain Analysis Deliverables
- Project Specific QA/QC Document

Final Approved Floodplain Analysis Deliverables

- Attendance at Preliminary Floodplain Open House
- Response to Public Comments
- Signed & Sealed Floodplain Justification Report
- PowerPoint Presentation
- Updated Project Plan
- Revised Floodplain Analysis Deliverables
- Project Specific QA/QC Document

Alternatives Analysis – FPLOS, Drainage Improvement Alternatives Analysis and Recommendations
FPLOS Determination

- FPLOS Analysis Report
- Flood Depth Grids for FPLOS Design Storms
- Model Input/Output Files for FPLOS Design Storms
- Geodatabase
- Responses to Comment Geodatabase
- Project Specific QA/QC Document

Drainage Improvement Alternatives Analysis and Recommendations

- Alternative Analysis and Recommendation Report
- Flood Depth Grids for Proposed Conditions
- Ranking of BMP Recommendations
- Model Input/Output Files for Proposed Conditions
- Geodatabase
- Responses to Comments Geodatabase
- Project Specific QA/QC Document

Alternatives Analysis – SWRA and BMPs of Water Quality
SWRA of Water Quality

- Surface Water Resource Assessment (SWRA) Report
- Geodatabase
- Existing Conditions Pollutant Loading Model
- Responses to Comments Geodatabase
- Project Specific QA/QC Document

Water Quality BMPs

- Water Quality BMPs Report
- Ranking of BMP Recommendations
- Proposed Conditions Pollutant Loading Model
- Geodatabase
- Response to Comments Geodatabase
- Project Specific QA/QC Document

DELIVERABLE REVIEW TIMES

The DISTRICT shall provide a written response to the COOPERATOR within twenty (20) business days of receipt of each deliverable specified below including supporting documentation. The COOPERATOR shall respond to the DISTRICT'S questions and concerns with twenty (20) business days of receipt by the COOPERATOR.

- All deliverables related to the following Project Tasks:
    - Watershed Evaluation
    - Floodplain Analysis
    - Alternatives Analysis – FPLOS, Drainage Improvement Alternatives Analysis and Recommendations
    - Alternatives Analysis – SWRA and BMPs of Water Quality

PROJECT SCHEDULE

DESCRIPTION	COMMENCE	COMPLETE
1.1 Procurement	10/01/2019	01/31/2020
2.1 Project Development	02/01/2020	03/31/2020
2.2 Watershed Evaluation	04/01/2020	03/31/2021
2.3 Floodplain Analysis	04/01/2021	01/31/2022
2.4 Alternatives Analysis – FPLOS BMP Alternatives Analysis	02/01/2022	03/31/2023
2.5 Alternatives Analysis – SWRA & BMPs of Water Quality	02/01/2022	03/31/2023

- Additional task deadlines contained in the project schedules of any consultant and contractor contracts will be incorporated herein by reference.

PROJECT BUDGET

DESCRIPTION	DISTRICT	COOPERATOR	TOTAL
2.1 Project Development	$5,000	$5,000	$10,000
2.2 Watershed Evaluation	$150,000	$150,000	$300,000
2.3 Floodplain Analysis	$140,000	$140,000	$280,000
2.4 Alternatives Analysis – FPLOS BMP Alternatives Analysis	$52,500	$52,500	$105,000
2.5 Alternatives Analysis – SWRA & BMPs of Water Quality	$52,500	$52,500	$105,000
TOTAL	$400,000	$400,000	$800,000

- Budget amounts for tasks can be adjusted by the Contract Manager in accordance with Subparagraph 1.2.
- Reimbursement for expenditures of contingency funds is contingent upon DISTRICT approval in accordance with the Funding Paragraph in the Agreement. The COOPERATOR must provide justification for the expenditure that will require documentation including, but not limited to, the purpose and necessity of the expenditure, the reason the expenditure was not included in the consultant agreement with the COOPERATOR, expenditure cost comparisons and justification of the cost.

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EXHIBIT "1"
MINORITY/WOMEN OWNED AND SMALL BUSINESS UTILIZATION REPORT

Projects receiving $100,000 or more in cooperative funding from the Southwest Florida Water Management District require the submission of the following information within 30 days of any amendment increasing project funding and with the final invoice. Questions regarding use of this form should be directed to Contracts Administration, Phone (352) 796-7211 ext. 4132.

COOPERATOR: _____

AGREEMENT NO.: _____

PROJECT NAME: _____

TOTAL PROJECT COST: _____

NAMES OF CONTRACTORS AND SUBCONTRACTORS UTILIZED	TOTAL AMOUNT PAID	INDICATE THE ONE CATEGORY THAT BEST DESCRIBES EACH ORGANIZATION LISTED*												
		BUSINESS CLASSIFICATION		CERTIFIED MBE					NON-CERTIFIED MBE					UNKNOWN
		NON-MINORITY	SMALL BUSINESS Section 288.703(1) F.S.	AFRICAN AMERICAN	HISPANIC AMERICAN	ASIAN/HAWAIIAN AMERICAN	NATIVE AMERICAN	AMERICAN WOMAN	AFRICAN AMERICAN	HISPANIC AMERICAN	ASIAN/HAWAIIAN AMERICAN	NATIVE AMERICAN	AMERICAN WOMAN	

* ☐ Our organization does not collect minority status data.

_____ Date _____

Signature Print Name and Title

Exhibit A

SCOPE OF SERVICES

Engineering Consulting Services
RFP No.: 190-0042-NC (SS)

Roosevelt Creek Watershed Management Plan

Prepared for:

Pinellas County
Public Works Department
22211 US Hwy 19 N Bldg. 1
Clearwater, FL 33765

Prepared by:

Singhofen & Associates, Inc.
11723 Orpington Street, Suite 100
Orlando, Florida 32817

September 2020

Table of Contents

PROJECT TITLE

Roosevelt Creek Watershed Management Plan

I. OBJECTIVE

On behalf of the Pinellas County Board of Commissioners, the Public Works Department (COUNTY) is seeking the services of a firm qualified to update and complete a Watershed Management Plan (WMP) for the Roosevelt Creek Watershed in accordance with County, Southwest Florida Water Management District (SWFWMD or DISTRICT) and Federal Emergency Management Agency (FEMA) requirements.

II. BACKGROUND

The Roosevelt Creek watershed is located in central Pinellas County and serves a drainage area of approximately 12.6 sq.mi. of developed urban land. The area contains portions of the cities of Pinellas Park and St. Petersburg, and includes a combination of residential, commercial, industrial, and transportation land uses. Discharges from the Roosevelt Creek Watershed flow from south to north into tidal marsh areas along Old Tampa Bay through a system of storm-sewers and open ditches. The Roosevelt Creek watershed contains a significant number of industrial facilities including three permitted wastewater facilities, the Bridgeway Acres Landfill, several closed Class I and Class II landfills, the Airco Golf Course, a waste-to-energy plant, and the St. Petersburg/Clearwater International Airport. Six tributaries drain the Watershed with Channel 5 being the largest in the basin. Existing drainage models are over 10 years old and documented flooding occurs at select locations. The watershed is one of SWFWMD's top 20 priority watersheds for WMP updates and is among the District's priorities in the Tampa Bay region for improving flood protection in Pinellas County coastal watersheds. There are also known water quality issues in the watershed. Previous studies indicate manure, sewage and wastewater inputs as sources of nutrient loading in the watershed. In addition, Roosevelt Creek is located within the Coastal Old Tampa Bay planning unit in FDEP's Group 1 for impaired water bodies for which Total Maximum Daily Loads (TMDLs) have been established. The marine portion of the Roosevelt Creek basin (WBID 1624) as well as the Cross Canal North (WBID 1625) are listed as impaired for dissolved oxygen and nutrients/Chl-a. The freshwater portion of Roosevelt Creek (WBID 1624A) is on the 2009 verified list as impaired for fecal coliform bacteria.

III. PROJECT DESCRIPTION

This project involves the update and completion of the comprehensive WMP for the Roosevelt Creek Watershed. The WMP will yield results and recommendations for water quality, flood control, and natural system improvement projects. Further, the WMP will consider sea level rise (SLR), where appropriate, as part of the County's resiliency planning efforts. This project will be co-funded by SWFWMD. Therefore, in accordance with the areas of responsibility of SWFWMD, the WMP will address flood protection, water quality and natural systems. The completed WMP will be used as a tool in the planning, regulation, and management of the watersheds for future development and as a method for determining and prioritizing capital improvements projects.

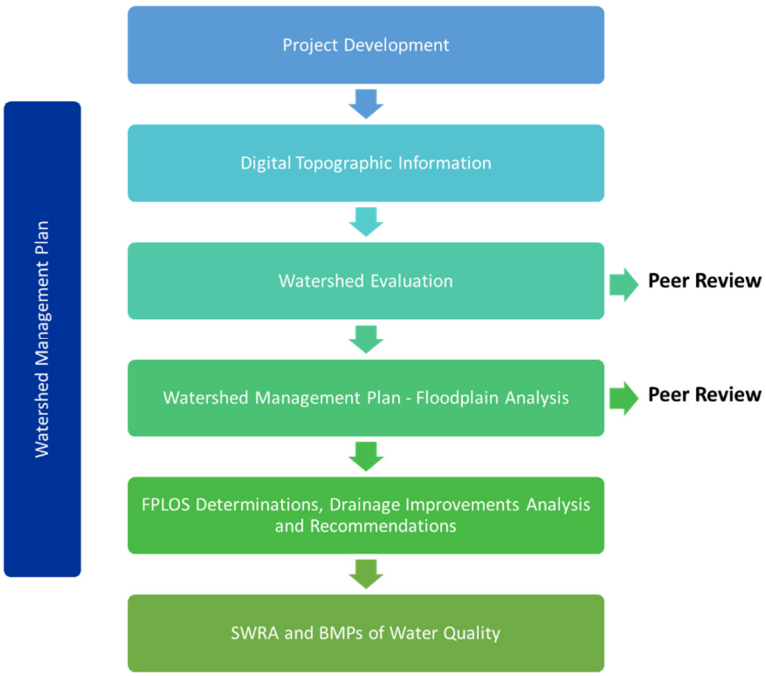
IV. SCOPE OF WORK

The general scope of this project is to update and complete the WMP for the Roosevelt Creek Watershed in accordance with the Guidelines and Specifications for:

- Flood Hazard Mapping Partners (available at https://www.fema.gov/medialibrary/assets/documents/13948)
- The nine elements listed in United States Environmental Protection Agency (USEPA) 319(h) Guidance Manual (http://water.epa.gov/polwaste/nps/cwact.cfm)
- SWFWMD Recommended Projection of Sea Level Rise in the Tampa Bay Region (http://www.tbrpc.org/recommended-projection-of-sea-level-rise-in-the-tampa-bayregion/)
- SWFWMD standards published in 2017 (rev 2018) ftp://ftp.swfwmd.state.fl.us/pub/GWIS/ Username: Anonymous Password: (your email address)
- Pinellas County Comprehensive Plan, as applicable. (http://www.pinellascounty.org/plan/comprehensive_plan.htm)

The general scope of work will include:

1. Project Development: Includes initial data collection and the development of a Project Management Plan (PMP) that lists deliverables, schedules, a quality assurance/quality control (QA/QC) plan, communication plan, and a breakdown of resource allocations.
2. Digital Topographic Information: Includes development of a digital terrain model (DTM) based on the latest Pinellas County LiDAR. This effort is typically included in the Watershed Evaluation phase of the project. It will include modifications to the DTM to accurately model the groundwater-surface water interaction and possibly adding missing breaklines.
3. Watershed Evaluation: This effort will develop an existing conditions watershed evaluation including data collection efforts and field evaluations and inspections.
4. Floodplain Analysis: Includes the development of an existing conditions water quantity model which will serve as the basis for other tasks including floodplain delineation/analyses consistent with SWFWMD and FEMA guidelines for rainfall volumes and flood zone definition.
5. Level of Service Determinations, Drainage Improvements Alternative Analysis and Recommendations: Includes determination of Level of Service (LOS) for the watershed based on model results and floodplain mapping. This effort, in conjunction with the SWRA and Water Quality analyses, will identify problem areas and guide development of Best Management Practices (BMPs) for flood reduction and/or water quality improvements. This effort will also consider evaluate and address future conditions by incorporating SLR.
6. SWRA and BMPs for Water Quality: Includes the development of a surface water resource assessment (SWRA) that is specific to the watershed. This effort also involves the development



of BMPs for improving water quality and natural systems. It will be performed in concert with the LOS determination and water quantity analyses mentioned above.

Notes:

- Unless specified, all deliverables will be digital files. No hardcopies will be provided.
- Peer review will be conducted at strategic points during the project by an independent 3rd party reviewer. At each peer review point, the CONSULTANT's efforts will include preparation of responses to peer reviews of the project geodatabase and all developed models.

A detailed scope of work is defined below:

1.0 PROJECT DEVELOPMENT

1.1 Kickoff Meeting

The CONSULTANT will coordinate and participate in a remote web-based project kickoff meeting. The CONSULTANT will provide an agenda and meeting minutes. The purpose of the meeting is to discuss the County's primary objectives of the WMP, the available information, flooding and/or water quality concerns in the watershed, stakeholder involvement, coordination with adjacent watershed studies (i.e., City of St. Petersburg), and the overall approach to the WMP.

1.2 Data Collection and Initial Evaluation

Following the kickoff meeting, the CONSULTANT will collect and review relevant information for the Roosevelt Creek Watershed Management Plan. The COUNTY will provide or direct the CONSULTANT to obtain the following relevant information:

- Topographic Information (COUNTY/2018/2019)
- Aerial Imagery (COUNTY/2019)
- Landuse and Soils Data (SWFWMD and NRCS)
- Rainfall Data (NEXRAD, SWFWMD, USGS and COUNTY)
- The DISTRICT Planning Units
- USGS National Hydrography Dataset (NHD)
- National Wetlands Inventory Dataset (NWI)
- ERP Polygons (DISTRICT ftp)
- ERP digital datasets (DISTRICT)
- Additional record drawings (COUNTY)
- Historical Water Levels (SWFWMD HWE database)
- FEMA Flood Insurance Rate Map (FIRM) feature data sets
- FEMA Flood Insurance Studies (FIS)
- Water quality sampling information
- USGS Gage Locations
- NOAA Tidal Gage Locations
- DISTRICT/COUNTY Data Collection Site Locations
- Stormwater Inventory (COUNTY)
- Site-Specific Information, including known flooding problem areas (photos, videos, notes, etc.)
- Existing Studies and Models
- Adjacent Watershed Studies
- Current approved ICPR model and associated GIS (COUNTY)

- Surface water and groundwater management operations records/protocols for both the Bridgeway Acres and Toytown Landfills

The consultant will set up a GIS base map using relevant information from the above list. It is assumed that the COUNTY and/or the DISTRICT will provide this information with limited exceptions.

Additional notes regarding this scope element:

1. Study Area: The study area is limited to the boundaries of the Roosevelt Creek Watershed but excluding the areas located within the City of St. Petersburg.
2. Date Certain: The CONSULTANT will use a "date certain of 2/7/2019 (aerial imagery acquisition date). Data for features altered or constructed after this date will not be incorporated or evaluated as part of this study with the exception of the following projects:
    - Roosevelt Stormwater Facility (PID 003130A) – Note construction not anticipated until June 2020
    - Roosevelt Creek Channel 5 (PID 002123A)
    - Gateway Project
    - 49th Street Harley Davidson (SWFWMD ERP 15405.002)
    - Waste Management Parking Expansion (SWFWMD ERP 42092.001)
    - FDOT I-275 – from south of Gandy Boulevard to north of 4th Street N (SWFWMD ERP 42458.002)
    - Carillon Phase II Master Plan (SWFWMD ERP 05537.046)
3. ERPs Files: These are the primary source of model input data. The CONSULTANT will identify the data needs for the project and obtain the necessary information from the COUNTY (or DISTRICT).
    - The DISTRICT's ERP layer will be reviewed to identify the development that has occurred since the model was developed and which ERP data sets will be needed to update the watershed model.
    - Aerial imagery will also be compared to previous project data to determine any additional areas that may need to be updated but were not in the DISTRICT's ERP layer.
    - The 2018/2019 DEM will be visually compared to the current model network to identify significant changes in the terrain indicating potential construction/development.
4. Additional Data Collection: ERPs needed but not provided by the COUNTY and/or DISTRICT will be downloaded from the DISTRICT's WMIS website. This task also includes requesting missing roadway construction documents (preferably record drawings) from the local FDOT office. It is assumed that there will be no fees associated with providing the information since it is for another State agency.
    - A preliminary review of the ERP feature class indicated that there are approximately 370 ERPs within the watershed.
    - It is assumed that the District and the County will provide the files for at least 80% of ERPs.
    - The CONSULTANT will be responsible for downloading up to 20% of the ERP files (74 ERPs).
5. Datum: The NAVD88 vertical datum will be used for all vertical elevations in the model and geodatabase (unless otherwise noted).
6. Datum Conversion: The CONSULTANT with the approval of the COUNTY will establish a consistent procedure (e.g., conversion factor) for the conversion of data from NGVD29 to NAVD88.
7. Water quality and groundwater related data will be collected as part of Tasks 4.2.2 and 2.1.5, respectively, instead of Task 1.

1.3 Draft Project Plan

The CONSULTANT will evaluate the available information and develop a project plan to execute tasks and identify outstanding project related issues. This is the initial effort; however, this document shall be

revisited periodically to assess the actual progress, evaluate staff allocations, include deficiencies and the recovery actions completed and planned, if any.

The Project Plan shall include the following contents:

- Introduction
- Goals and Objectives
- Project Approach for the approved Scope of Work
- Staff Allocation
- Quality Assurance Plan
- Communication Plan
- Assumptions and Issues Management
- Attachments/Appendices
  - Project Schedule
  - Project Cost

Note: This details scope of work document is anticipated to suffice for the Project Approach as well as the Assumptions/Issues Management sections of the plan.

1.4 Final Project Plan

The CONSULTANT will update the project plan based on comments provided by the COUNTY.

1.5 Project Management and Quality Assurance/Quality Control (QA/QC)

Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 1.0 Deliverables

A. Kickoff Meeting Minutes
B. Draft Project Plan
C. Final Project Plan

2.0 WATERSHED EVALUATION

2.1 Assembly and Evaluation of Watershed Data

2.1.1 Drainage Pattern and Watershed Boundary

The CONSULTANT shall examine drainage patterns and define the preliminary watershed boundary based on, but not limited to, the following:

- The DISTRICT Planning Units
- Topographic Information (2018/2019 LiDAR/DEM)
- USGS National Hydrography Dataset (NHD)
- 2017 Aerial Imagery
- Stormwater Inventory
- ERPs and Roadway Plans
- Existing Studies and Models
- Adjacent Watershed Studies

Additional notes regarding this scope element:

1. The watershed boundary will be reviewed and compared to surrounding watersheds for consistency.
2. The Roosevelt Creek Watershed is bounded on the west by the Cross Bayou watershed, on the south by the Tinney Creek and Sawgrass Lake watersheds, and on the northeast by Tampa Bay.
3. Cross Bayou: The most current model for these adjacent systems is in the Cross Bayou watershed which was updated in 2013. There are some overlaps noted between the two watershed boundaries that must be reconciled, however, it is generally assumed the Cross Bayou watershed, being more recently updated, is more accurate than the Roosevelt Creek information at this point. The Roosevelt boundary will be preliminarily matched to Cross Bayou but significant changes (e.g., adding/removing developments or storage features) will be reviewed against ERP data.
4. St Petersburg: Similarly, the St. Petersburg updated model will also be treated as a "boundary" of sorts against which the Roosevelt Creek limits will be compared. The SAI team will contact the City in an attempt to obtain advanced copies of the subbasin feature class data in the hopes of addressing discrepancies with the City's consultant prior to finalization of that study.
5. Tinney Creek and Sawgrass Lake: The existing models for the two remaining watershed boundaries, Tinney Creek and Sawgrass Lake, will not have much impact on the Roosevelt Creek system. Just half of the Sawgrass Lake watershed (referred to as Basin O by the City of St. Pete) has model information (c.a., 1996) and that extent is contained within the City of St. Petersburg and does not border the Roosevelt Creek watershed. There is no GIS or model data available for the remaining half of the watershed and it has not been updated since 1981. Tinney Creek is also contained within the limits of St. Petersburg. The original Tinney Creek model was developed in SWMM based on old data and will be updated along with the city-wide model update by the St. Petersburg.
6. Any areas of uncertainty will be identified for field inspections (under a subsequent task) to confirm final configurations.

2.1.2 DEM Review, Topographic Void Update, and Hydro-correction

The COUNTY will provide the CONSULTANT with a DEM from the best available LiDAR. It is anticipated that this is the new Florida State-Wide LiDAR data set that was acquired for the Pinellas County area on December 7-19, 2018 and March 8, 2019.

LiDAR Deliverables: It is SAI's understanding that in April 2020, the COUNTY anticipates receiving the final deliverables for the recent LiDAR acquired in December 7-19, 2018 and March 8, 2019. The COUNTY will provide the following related to this LiDAR product:

- LAS files with points classified to bare earth, roof top, and water.
- Breaklines
- Impervious surface polygons (roof tops, driveways, parking lots, and streets), if available.
- Polygons denoting FEMA low confidence areas
- DEMs (1-ft or 2-ft and 5-ft; for both bare earth and bare earth with structures)

QC Review: NOT INCLUDED. This scope of work does not include a detailed QC review of the LiDAR vendor's deliverables (e.g., reviewing the point clouds for mis-classifications or breaklines for inappropriate placement). It is anticipated that the QC reviews have been previously conducted by the LiDAR vendor, the COUNTY, and the DISTRICT.

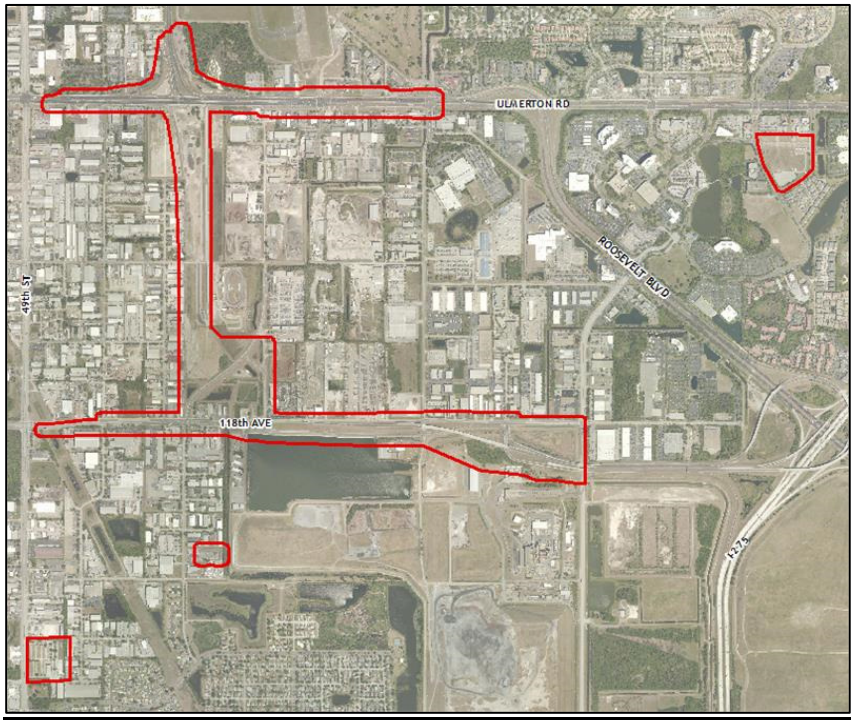
Low Confidence Area Review: SAI will review the low confidence areas and identify implications (if any) that they may have on the modeling effort.

Topographic Void Evaluation: The CONSULTANT shall conduct a topographic void evaluation. Using the 2019 DISTRICT aerial imagery the latest approved DEM, and the ERP layer, the CONSULTANT will identify areas where the DEM does not describe existing topography and will document them in a topographic void polygon feature class. The identified topo voids will be analyzed and designated as "minor impact" or "moderate and significant impact".

Topographic Void Update: The DEM will be modified to include storage areas (such as ponds) for topographic voids considered "moderate and significant impact". The DEM will only be modified to include those storage areas. The remainder of the ground surface in the void areas will remain unchanged. This will be accomplished by digitizing the pond/storage area information from the available construction documents. This will only be completed for the following post-date certain projects defined in Task 1.2.

- Roosevelt Stormwater Facility (PID 003130A)
- Roosevelt Creek Channel 5 (PID 002123A)
- Gateway Project
- 49th Street Harley Davidson (ERP 15
- Waste Management Parking Expansion (ERP 42092.001).002)

Figure 1 – Post Date Certain Projects to Be Included in Model



Missing Breakline Review and Update: It is SAI's understanding that breaklines were not developed by USGS/FDEM for wet ponds and/or depressional areas less than 2 acres in size. SAI will review the LiDAR

data and develop breaklines for wet ponds and/or depressional areas greater than 0.5 acres. The DEM will be leveled in the water body based on the lowest reasonable LAS point elevation.

Hydro-corrections: In addition to identifying topographic voids, the DEM will also need to be evaluated relative to needs of the groundwater model. Specifically, bathymetric information must be included to adequately model the interaction between the surface and groundwater. This effort will primarily include, but not limited to, modifications to the DEM in ponds, lakes and channels areas.

Documentation: The CONSULTANT shall document the evaluation, revision methodology, and results in the technical report (Task 1.2.1.9).

2.1.3 Areas of Development

The CONSULTANT shall identify ERPs and roadway plans to be incorporated into the watershed model based on, but not limited to, the following:

- 2017 Aerial Imagery
- Latest Approved Topographic Information (2019 DEM)
- The DISTRICT Guidance Documents
- Public Interest

The CONSULTANT conducted a preliminary review of the ERPs in the watershed from the DISTRICT's ERP shapefile. The review identified:

- 370 ERPs total

Date Certain: The Date Certain is anticipated to be the project's aerial imagery collection date February 7, 2019. With the exception of the specific projects/developments identified in Task 2.1.2, it is anticipated at this point that developments that are not substantially constructed as of the date certain will not be included in the model.

New Update Areas: The CONSULTANT will identify the areas of new development/construction based on review of the imagery, terrain, ERP features, and current model network. A polygon feature class will be developed to define the boundaries of the planned model update areas.

ERP Needs Comparison: The CONSULTANT shall compare the list of ERPs and roadway plans to be incorporated with the available scanned files provided by the DISTRICT. Additionally, the CONSULTANT will identify ERPs that may contain structure data but are not legible and will notify the COUNTY of additional collection efforts, if needed.

Data Cataloguing: The current model data set does not clearly and consistently identify the sources of information for each hydraulic feature. The existing reference documents will need to be catalogued for easy accessibility throughout the project and identification of verification needs. Reference documents (e.g., construction plans, record drawings, permit information, etc.) are cataloged in both an excel table and related GIS polygons. The excel table includes a reference ID for each document folder; this is typically the ERP permit application number, however if data is obtained from another source a reference ID is manually assigned. The excel document includes details such as the project name, vertical datum, and legibility.

- It is estimated that there are approximately 740 reference documents (from ~370 ERPs) that will require cataloguing.
- The excel file will be used to populate the RefDocs feature class (or joined to it).
- With respect to vertical datums, if the reference document does not indicate the datum, it will be assumed that the datum is NGVD29 if the source is before a specific date (e.g., 2006) to be

discussed with the COUNTY. After that date, the CONSULTANT will compare the ERP inverts to the DEM at minimum of 2 locations to identify the assumed vertical datum. It is assumed that approximately 20% of the reference documents will need to be checked against the DEM.

- A polygon will be established for each reference document which facilitates retrieval and review of the information as needed during the course of the project. Typically, the ERP shape will be used as the polygon. If no shape feature is already established, one will be drawn based on the extent of the project in the data set.

Georeferencing: The CONSULTANT shall geo-reference, in GIS, pertinent construction plan sheets from ERPs which are to be incorporated into the watershed model. These georeferenced sheets will be used in subsequent tasks for catchment development, topographic refinement, and HydroNetwork and HEP Network development.

The budget for this task assumes that up to 740 reference documents (from ~370 ERPs) will be reviewed and that 100 or fewer will be georeferenced.

2.1.4 Initial GIS Processing

The CONSULTANT shall perform initial GIS processing using the DISTRICT's Arc Hydro workflow to provide initial catchments based on the latest approved DEM. A significant portion of the model network was previously developed throughout the Roosevelt Creek Watershed, so it is not anticipated to be necessary to develop surface connectivity, develop preferential flow paths, change individual link flow directions, and incorporate linear structures. The preliminary catchments schematic will be a raw schematic that will be used as reference information in later tasks to develop subbasins in new development areas, evaluate the current subbasin delineations, and make changes where needed.

2.1.5 Hydrologic Characteristics and Recharge

The CONSULTANT shall examine hydrologic characteristics of the watershed. Integration of the surface water model with groundwater is anticipated for this project. The CONSULTANT shall review the following information and develop an approach to integrating the groundwater component using the available information:

- DEM
- Soil Map
- Potentiometric Surface Map
- ERP and Roadway Plans
- Site-Specific Information, if any
- NRCS Soil Data
- Well Data
- Surficial Aquifer Data (per FGS and WMD regional data)
- Evapotranspiration Data
- Potentiometric Surface Maps (FDEP and SWFWMD)
- Surficial Aquifer Base DEM (FGS)
- Crop Coefficient Data (FAO and IFAS)
- Reference Evapotranspiration (USGS)
- Surficial Aquifer Well Data (COUNTY and SWFWMD)

It is anticipated that the groundwater data will be available from the sources above. Geotechnical investigation is not included in this scope of work. The aquifer data will be evaluated to determine if leakage should be accounted for in the groundwater model. In addition, the development of the surface

water model will take into account the groundwater model needs to accurately model the surface water-groundwater interaction. Consequently, the surface water and groundwater model data development will be closely coordinated.

2.1.6 Historical Water Levels

The CONSULTANT shall assemble information on historic water levels, surveys, photos or videos of flooding, and any other available information including, but not limited to, the following:

- Seasonal High Water Level (SHWL)
- Lake levels
- Historic water levels
- Flood photos
- Flooding complaints
- Stream gage data
- Rain data

Field Data Collection: Field collection of high water mark data is not included in this scope of work but may be added as an additional task if the opportunity arises.

SWFWMD HWL Database: The DISTRICT's Historic Water Level database will be used along with any additional information provided by the COUNTY. The CONSULTANT will review the information provided, develop a point feature class (*KnownFlooding*) to represent the flooding, and hyperlink the flooding photos and complaint records to the point features. The *KnownFlooding* feature class will have the same schema as the DISTRICT's Historic Water Level database to facilitate future data migration by the DISTRICT if desired.

Meeting with Stakeholders to Discuss Flooding Concerns: The CONSULTANT will then conduct a web-based meeting with the COUNTY, DISTRICT, and other stakeholders to confirm the locations of all known flooding concerns and the locations of any and all known historic water mark data.

Flood Documentation Figures: A series of figures will be created that present the flooding complaints and photos along with associated dates for the various points throughout the watershed.

Notes on Known Flooding Conditions: Based on the CONSULTANT's previous review of available flooding documentation within the Roosevelt Creek watershed, most of the documented flooding has occurred on the west side of the watershed, near the City of Pinellas Park. SWFWMD has only one historic flood location documented within the watershed (at 40th St. N). The CONSULTANT reviewed the County's pipe inventory and determined there are no identified "hotspots" within the Roosevelt Creek watershed. The CONSULTANT previously contacted several of the stakeholders within the watershed to get input on flooding conditions in their areas. Pinellas County did identify that flooding is commonly observed along Automobile Boulevard (south of Ulmerton Road) and at the Public Works facility along 126th Avenue N. The City of Pinellas Park confirmed that flooding occurs in area south of Ulmerton Road and north of 118th Avenue N, between 4th Street and 49th Street N. Flood photos were provided by various stakeholders from within the watershed. The City of Pinellas Park provided flooding photos for various locations within their community and a local business, The Brett Company, provided flooding photographs of significant flooding that they have observed within the watershed.

2.1.7 Existing Model Data Migration

The existing conditions Roosevelt Creek model was last developed/updated in 2006 (Roosevelt Creek Watershed (L068) Watershed Evaluation Report, September 2006). The associated GIS is not in the GWIS format and will need to be updated to GWIS version 2.1 before the acquisition of data begins. The

CONSULTANT has previously migrated the spatial GIS data into a GWIS geodatabase during previous work on the County Wide Flood Forecasting model development, but the related data tables remain unpopulated. The CONSULTANT will use ArcHydro tools to convert the XML exports from the existing ICPR3 model into GWIS (version 1.6) and manual manipulations of the data to correctly populate all of the data tables. The CONSULTANT will then convert the geodatabase from version 1.6 to version 2.1.

2.1.8 Existing Model Data QC Review

The existing conditions Roosevelt Creek model was last developed/updated in 2006 based on LiDAR data from 1999. The CONSULTANT will conduct a series of QC checks on the existing model input data (outside of the St. Pete model domain). Issues and discrepancies in the current model data will be documented. Addressing the issues will be conducted in subsequent tasks.

2.1.9 Preliminary Hydro-, Model-, and HEP Network Development

Current Model Features: The current model only includes the Model Network, not the Hydro or HEP Networks. The CONSULTANT will develop HydroNetwork features and HEP Network features for all of the structures (e.g., pipes, drop structures, weirs, etc.) in the current model (excludes non-modeled secondary drainage features). Assumptions:

- 255 pipes
- 69 drops structures
- 9 structural weirs
- 85 channels

Current Model Feature Sub-Types: Feature sub-types are used by the modelers to facilitate model changes and for QC reviews. The CONSULTANT will add subtypes (to the ADDL_MODEL_DATA table) for the currently modeled features such as the following:

- Nodes: Wet pond, dry pond, wetland, channel node, junction, etc.
- Link: Structural weir, overland weir, etc.
- Subbasin: Conventional, orphan, etc.

New Model Features: In the areas of new development and in any currently modeled areas that require further discretization, the CONSULTANT will develop the HydroNetwork, Model Network, and HEP Network features. Assumptions:

- Up to 60 new structural links (update areas only)
- Up to 35 existing structural links to modify (remaining areas; approximately 10% of overall 333 structural links)

Notes:

- The above tasks will be conducted concurrently with **Task 2.1.10**.
- The referenced features will only be developed for the primary drainage system features (not collection systems).
- This effort only includes the spatial development of the referenced features. The hydraulic feature data will be populated under **Task 2.1.10**.

2.1.10 Initial Desktop Data Acquisition

Initial Data Capture: The ERP data provided by the COUNTY and/or DISTRICT (e.g. record drawings, construction plans, etc.) at the beginning of the project will be reviewed in detail at this time. All data for the HEP Network (aka Primary Network) will be collected and input into the project's GWIS Geodatabase in the applicable GWIS tables (e.g. PIPE_BARREL, WEIR, etc.). The source of the information will be documented in the ADDL_MODEL_DATA table.

Add Bleed-Down Structure Data to Currently Modeled Structures: Including orifices (or bleed down features) in control structures will be a necessary component of the integrated surface water – groundwater model. The CONSULTANT will research the available reference documentation (ERPs) and enter the orifice (bleed down feature) data for the currently modeled control structure features. Assumption: up to 88 structures.

Initial Subbasin Delineation - New (Update Areas): Subbasins in the update areas will be developed using the project DEM, ArcHydro-derived catchments, HydroNetwork, and available reference documents (e.g., infrastructure database, record drawings, etc.). Assumptions:

- Up to 50 new subbasins (update areas only)

Initial Subbasin Review and Revision (Remaining Areas): 100% of the current subbasins in the remaining model areas (excluding the area within St. Pete city limits) will be reviewed and revised based on the project DEM, ArcHydro-derived catchments, HydroNetwork, and available reference documents. Assumptions:

- 323 subbasins to review (remaining areas, total number of subbasins: 323)
- Up to 160 subbasins to revise (remaining areas; approximately 50% of current 323 subbasins)

Desktop Data Verification: The current model includes the following approximate number of hydraulic structures/features:

- Pipes: 255
- Drop Structures: 69
- Structural Weirs: 9
- Bridges: 0
- Nodes: 348

The CONSULTANT will review the source data for approximately 100% of the hydraulic structures (up to the quantities shown above) and confirm that the model data accurately reflects the information in the source reference documents. Any discrepancies will be corrected. The ADDL_MODEL_DATA table will be updated to reflect the appropriate RefDoc ID, source type, element subtype, and any field data acquisition needs. Pond normal water level (NWL) and wetland seasonal high water table (SHWT) elevations will be captured where available as well. These will be used in a subsequent task for confirming/re-setting initial conditions and will be important to facilitating model calibration in the future.

Field Data Acquisition Needs: Additional data acquisition efforts (e.g. survey, field verification, etc.) will be identified at this point and indicated in the ADDL_MODEL_DATA table which is related to the HydroNetwork features. These features are developed as part of **Task 2.1.9** for use in the field data acquisition, the GWIS database, and for eventual documentation of the acquisition process. The preliminary HydroNetwork with HydroJunction and HydroEdge feature classes will be further developed under a subsequent task upon completion of field data acquisition.

2.1.11 Data Acquisition Plan

Upon completion of the above referenced tasks, the CONSULTANT shall develop an approach for data acquisition, such as field reconnaissance and survey for structures not included or not legible on ERP plans. This watershed specific approach shall identify locations where collection will occur and detail the methods of collections. The CONSULTANT shall also document level of accuracy for acquisition of additional spatial information. It is anticipated that vertical referencing to LiDAR derived data points on hard surfaces will be acceptable. Field survey may also be performed for hydraulic structures, cross-sections, and other topographic information. Field survey may be accomplished with a combination of GPS and traditional survey techniques when sufficient information is not attainable from existing data sources (e.g. LiDAR, as-Built drawings). GPS surveying may involve Real-Time Kinematic (RTK) units

or Differential GPS (DGPS) depending on the circumstances. The appropriate level of accuracy for the information to be gathered will be evaluated by the CONSULTANT in close consultation with the COUNTY and must be approved by the COUNTY and DISTRICT prior to field data acquisition.

2.1.12 Task Memorandum

The CONSULTANT shall document the efforts involved in **Tasks 2.1.1 through 2.1.11**. The document shall include, but not be limited to, the following:

- Watershed Boundary and Surroundings
- Major Conveyance Systems and Drainage Patterns
- List of ERP and Roadway Plans to Incorporate
- Initial GIS Processing
- Topographic Voids Locations
- Methodology to Eliminate Topographic Voids
- Landuse Distribution by Cut-off Date
- Soil Parameterization (Vertical Layer and Green-Ampt)
- Groundwater Model Approach
- Historical Water Levels
- Potential Data Issues
- Data Acquisition Plan including Field Data Acquisition Accuracy Approach

This memorandum will be provided in an electronic format (PDF) only.

2.1.13 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

2.1.14 Project Management and QA/QC

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote web-based meeting, unless otherwise specified, will be conducted on a monthly basis between the DISTRICT, CONSULTANT, and COUNTY. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Management of the Team: This sub-task includes time for the SAI Project Manager to properly manage the team (SAI staff and sub-consultants) to keep the project on schedule and in budget.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 2.1 Deliverables

A. *Task memorandum*
B. *Digital Elevation Model (DEM)*
    - *Topographic information (e.g., contours, breaklines)*
C. *GWIS geodatabase containing the following feature classes:*
    - *Preliminary watershed boundary*
    - *Areas of development*
    - *Initial GIS catchments*
    - *Preliminary Hydro-, Model-, and HEP Networks*
    - *Historical water levels*
    - *Landuse map*
    - *Soil map*
    - *Data acquisition locations*
    - *Identify data type and acquisition methodology*
    - *Other feature classes and tables, if applicable*
D. *ERPs to be incorporated into the watershed model (i.e., reference documents)*
E. *Project specific QA/QC document*

2.2 Hydrologic and Hydraulic Feature Database

2.2.1 Acquisition of Data

The CONSULTANT shall perform data acquisition based on the approach developed in **Task 2.1.11.** This includes conducting field reconnaissance and survey to locate, verify, and/or parameterize hydraulic and verify/evaluate drainage divides and patterns.

Additional Desktop Data Acquisition: During the course of the watershed project additional reference documents (e.g., record drawings) will typically be obtained and cataloged. It is anticipated that the additional information obtained will be very limited.

Access Requirements Identification and Coordination: An access letter will be obtained from the COUNTY. Google Street View will be used to identify any gated communities. In the case of gated communities, homeowners associations will be contacted to obtain gate codes. A list of large private (or public) land owners from which access is needed will be provided to and discussed with the COUNTY to identify any known contacts and/or access concerns. Access to large private (or public) properties will be coordinated with the property owners or their representatives. The COUNTY's PM will be copied on any and all correspondence.

Field Reconnaissance Preparation*:* A sequencing plan will be developed for all structures to be addressed through field verification and/or engineering-level survey. Complete sets of field forms and maps will be prepared.

Field Verification/Measurement*:* Two-person teams will visit each of the hydraulic structures identified for field verification/measurement in the **Task 2.2.11** data acquisition approach. The field teams will photograph, video, record measurements and descriptions (e.g. dimensions, shape, material, condition, end treatments, description of accessibility, maintenance issues, etc.), and document GPS coordinates at the inspected hydraulic feature. Sketches will be prepared for complex structures. If vertical elevations measurements are required, the field teams will document the requirement, and mark/photograph the locations for vertical elevations collection (control structures only) by others. It is assumed that up to 152 structures will require field verification/measurement. In addition, the budget for this task assumes drainage features and structures are reasonable to access. Note: The CONSULTANT shall document any immediate maintenance needs and notify the COUNTY.

Drainage Pattern Verification*:* Catchments were delineated in the office using various existing datasets including the project DEM, aerial imagery, County asset inventory data, and site development plans (ERPs), where available. It is anticipated that there will be locations where analyses of the existing datasets are inconclusive or did not provide information sufficient to determine drainage patterns. Two-person teams will visit these locations and look for drainage patterns, divides, and absence or presence of hydraulic or topographic features that may change the boundary. The findings will be documented with photographs and field notes. This subtask assumes up to 4 days of field reconnaissance for two people

Field Data Post Processing*:* Following completion of the field data collection efforts, the data will be reviewed, the field forms will be finalized, the photograph files will be renamed based on the HYDROCODE_DESC, a FieldRecon point feature class will be developed based on the GPS coordinates, the photos will be captioned, and the completed data sets for each feature will be combined into a single PDF, named based on the HYDROCODE_DESC, and hyperlinked to the Hydro and HEP Networks.

Incorporation of the Acquired Field Data: Following completion of the field data acquisition efforts and QC of the data sets, the data will be migrated to the project GWIS GDB. In addition, the field data acquisition requirements will be updated in GIS to reflect any remaining data acquisition needs (primarily survey by a PLS/PSM).

Data Acquisition Plan Update: Following the completion of the field verification and measurement efforts, the Data Acquisition Plan will be updated to indicate the survey needs and completed field verification efforts.

Survey by a PSM: Based on the updated survey needs, a PLS survey scope will be developed and a quote obtained from Suncoast Surveying (member of the SAI Team). The surveyor's scope of work will indicate that the survey deliverables will be required to meet the COUNTY's and DISTRICT's survey specifications. After approval of the survey proposal by the COUNTY, the CONSULTANT will authorize the survey efforts. The Surveyor will be required to provide weekly progress updates to CONSULTANT. The Surveyor's final deliverables will include certification information and QC documentation. The initial survey budget is estimated at $30,000 but the final survey costs will be based on the actual survey needs.

Note: Additional field reconnaissance and survey can be provided for an additional fee with written concurrence from the COUNTY and DISTRICT if the need arises.

2.2.2 HydroNetwork Development

HydroNetwork Update: The HydroNetwork is used to establish connectivity between features to identify which direction water flows. The HydroNetwork is comprised of HydroEdge and HydroJunction feature classes, which are limited to modeled bridges, channel conveyances, and pipe and control structure conveyances. The CONSULTANT will update the HydroNetwork with information collected from **Task 2.2.1**.

HEP Network Update: The HEP Network is used to define sub elements (culverts, weirs, etc.) from the Hydro Network, and to store specific structure data. The HEP Network is comprised of Hydraulic_Element_Point and HEP_Line feature classes, which are limited to modeled bridges, pipes, and control structure conveyances. The CONSULTANT will update the HEP Network features with information collected from **Task 2.2.1**.

Data Capture: The related relevant data tables will be populated based on the information collected from **Task 2.2.1**. However, this task does not include establishing parameter values such as coefficients, Mannings roughness, etc. Parameterization will take place under a subsequent task.

2.2.3 Topographic Information Refinement (NOT INCLUDED)

Since recent LiDAR is being used for this project, additional topographic data refinement is not anticipated or included in the scope of work.

2.2.4 Hydrologic Feature Database

The CONSULTANT shall review and update, if necessary, the latest landuse map based on, but not limited to, the following:

- Data Collection Cut-off Date
- Aerial Imagery
- ERPs and Roadway plans
- Site-Specific Information
- Latest NRCS soil information

The CONSULTANT shall develop a generic lookup table for the watershed to include landuse and soils parameters.

2.2.5 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

2.2.6 Project Management and QA/QC

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as

compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Pre-Submittal Meetings: Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 2.2 Deliverables

A. *Refined topographic information (updated "Engineered Surface")*
B. *GWIS geodatabase containing feature classes from previous tasks and the following feature classes and tables:*
    - *HydroNetwork (HydroJunctions and HydroEdges)*
    - *HEPs*
C. *Updated landuse map and lookup table*
D. *Updated soils map and lookup table*
E. *Project specific QA/QC document*

2.3 Preliminary Model Features

2.3.1 Additional GIS Processing

When deemed necessary, the CONSULTANT shall perform additional GIS processing to update the catchment features. ArcHydro tools will be used to the extent that it is beneficial to develop/refine the model subbasins. Manual methods will be used where appropriate (e.g., dense development with extensive subsurface drainage networks).

2.3.2 Preliminary Model Schematic

The CONSULTANT shall refine the GIS-processed catchments and connectivity in conjunction with ERP and roadway plans and HydroNetwork developed in **Task 2.2.2**. This task should follow the DISTRICT Guidelines and Specifications to develop preliminary model features. The CONSULTANT shall identify the data source of each hydraulic feature to be included in the watershed model. The CONSULTANT shall evaluate adjacent watershed models for boundary conditions. When applicable, the CONSULTANT will coordinate with the COUNTY or other agencies to obtain boundary information.

This task includes the development of the Model Network (nodes, links, and subbasins) and population of sub-type information in the ADDL_MODEL_DATA table. The model naming convention will be consistent with the previous Roosevelt Creek model.

Subbasin Refinement: Subbasins will be further refined based on the additional data collection efforts of **Task 2.2.1,** the project DEM, ArcHydro-derived catchments, the updated HydroNetwork, and available reference documents. Assumptions:

- Up to 25 subbasins to be revised/added

Model Network Refinement: The model network elements will be further refined based on the additional data collection efforts of **Task 2.2.1,** the updated HEP Network, and available reference documents. Assumptions:

- 40 hydraulic features to be revised/added

Surface Water: The overland flow conditions in the Roosevelt Creek watershed were previously reviewed to determine the suitability for modeling 2D overland flow. It was determined that this watershed is not a good candidate for 2D overland flow modeling. The watershed is highly developed with a significant amount of underground pipe networks that convey surface water. Although the surface model will be modeled as 1D, an overland flow region will be developed with mapped basins. Additionally, several 2D features will be incorporated into the overland flow region in order to model the surface water-groundwater interaction. These include, but are not limited to—

- Pond Control Volumes
- Channel Control Volumes
- Breaklines
- Breakpoints.

Groundwater: Based on review of the drainage network, terrain, NRCS soils data and recent studies in the area, groundwater conditions in the Watershed are likely to be affected by tidal cycles. The NRCS soils data suggest many areas exhibit a naturally shallow water table (i.e., 2 feet or less) as well. Consequently, future sea level rise (SLR) conditions are likely to reduce water table depths even further in many areas. The resulting reduction in soil storage can have significant impacts, both in the near future and beyond. For these reasons, a groundwater component of the model will be developed as part of the analysis.

Groundwater features such as breaklines and breakpoints will be incorporated into groundwater region(s) to provide adequate detail in the groundwater triangular mesh to model the surface water-groundwater interaction. Increased mesh detail is typically needed in depressional areas, ponds, lakes and channels where seepage or percolation is anticipated. If applicable, aquifer leakage data will also be incorporated into the groundwater model.

2.3.3 Model Parameterization Approach

The CONSULTANT shall develop and document the approach to parameterize model features developed in **Task 2.3.2**. It is anticipated that the approach will follow the methodology described in Section 2 of the District Guidelines and Specifications to develop and update the following hydrologic model parameters:

- Design, Multi-day, Calibration, and Verification Storms
- Rainfall Excess (Vertical Layers and Green-Ampt)
- Time of Concentration
- Node Storage
- Initial Condition
- Boundary Condition
- Channel
- Bridge
- Pipe
- Weir
- Drop Structure
- Groundwater Features and Parameterization
- Overland Flow Features

The proposed approach shall be included in the Watershed Evaluation Report in **Task 2.3.4**.

2.3.4 Watershed Evaluation Report

The CONSULTANT shall document the efforts involved in Watershed Evaluation. This report will be an expansion of the memorandum developed in **Task 2.1.12** with documentation of subsequent tasks up to this point. This report will be provided in an electronic format (PDF) only.

2.3.5 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

2.3.6 Project Management and QA/QC

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the

performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Pre-Submittal Meetings: Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 2.3 Deliverables

A. *Watershed evaluation report*
B. *Refined topographic information*
C. *GWIS geodatabase containing feature classes from previous tasks and the following feature classes and tables:*
    a. *Preliminary model features*
    b. *Other feature classes and tables, if applicable*
D. *Project specific QA/QC document*

2.4 Peer Review of Watershed Evaluation

2.4.1 Peer Review Kick-off Meeting and Presentation

Draft Peer Review Presentation: The CONSULTANT will prepare and submit a draft PowerPoint presentation to the COUNTY and the DISTRICT for review and approval. The presentation will summarize the work accomplished in the Watershed Evaluation with emphasis on approach, effort, and end products. This subtask includes a web-based meeting to discuss the presentation and the COUNTY and DISTRICT comments.

Final Peer Review Presentation: The CONSULTANT will address and incorporate the COUNTY's and DISTRICT's comments into the final PowerPoint presentation. The CONSULTANT will then deliver the presentation in a web-based meeting format to the peer review consultant, the COUNTY, the DISTRICT, and other interested parties. The complete deliverable set shall be transmitted to the peer review consultant prior to this meeting.

2.4.2 Peer Review Communication

During the peer review process, the peer review consultant may seek clarification and request additional information from the CONSULTANT. Responses and/or additional information requested from the

CONSULTANT, if any, shall be transmitted to the peer review consultant and COUNTY PM within 5 business days.

The CONSULTANT may seek clarification from the peer review consultant after receiving comments. Clarification requested from the peer review consultant, if any, shall be provided to the CONSULTANT and COUNTY PM within 5 business days.

2.4.3 Meeting - Discuss Approach to Responding to COUNTY/DISTRICT/Peer Review Comments

One web-based meeting with the COUNTY and the DISTRICT will be held to discuss comments on the watershed evaluation and the approach to address them.

2.5 Final Approved Watershed Evaluation Deliverables

2.5.1 Revised Deliverables

Within sixty (60) days of receiving COUNTY/DISTRICT/PEER review comments, the CONSULTANT shall address and resubmit watershed evaluation deliverables to the COUNTY.

2.5.2 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as we ll as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

2.5.3 Project Management and QA/QC

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project’s actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted

with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 2.5 Deliverables

A. *Attend peer review kick-off meeting*
B. *Revised Watershed Evaluation deliverables*
C. *Responses to comments geodatabase*
D. *Project specific QA/QC document*

3.0 WATERSHED MANAGEMENT PLAN – FLOODPLAIN ANALYSIS

3.1 Watershed Model Parameterization

3.1.1 Acquisition of Additional Model Parameters

Additional information needed to fill the watershed parameter gaps, if any, shall be acquired. These parameter gaps may include, but not limited to, the following:

- Drainage Features
- Topographic Information
- Groundwater

This task includes the development of additional model features based on new information such as record drawings that were not previously available. Efforts included in this task: data collection, field verification (up to 1 day), documentation post-processing, and incorporation into the model.

It is assumed that additional surveying and/or revisions to the terrain data will not be required as part of this task.

The current scope of services does NOT include additional geotechnical investigation.

3.1.2 Development of Model Specific Geodatabase

The CONSULTANT shall develop watershed model parameters per the approach defined in **Task 2.3.3** of the Watershed Evaluation. When deemed necessary, and upon consultation with the County, the CONSULTANT may use a revised approach for certain parameters. The revised approach shall be documented in a revised version of the Watershed Evaluation report. The CONSULTANT shall store the parameterization information within a GWIS geodatabase in a format that can be imported into the model framework. Parameterization will include the following:

- Design, Multi-day, Calibration, and Verification Storms
- Rainfall Excess (Green- Ampt and Vertical Layers)
- Time of Concentration (for 1-D basins)
- Node Storage
- Initial Conditions
- Boundary Conditions
- Channels
- Bridges
- Pipes
- Weirs (structural)
- Weirs (overland flow)
- Drop Structures

- Groundwater Features
- Overland Flow Features

Calibration/Verification Storm Selection: These storms will be selected through a review of the available gage data (stage and flow) within the watershed. The COUNTY and/or DISTRICT will be responsible for providing the available data. Gage data qualifiers and method of rating curve development for flow calculation will be reviewed for each gage. It may be necessary to contact the gage data managers at the DISTRICT and USGS to determine this information and reconcile any concerns. Calibration and verification efforts will not begin without the COUNTY's and DISTRICT's approval of the selected storms. Assumptions:

- 1 calibration storm and 1 verification storm

Rainfall Excess: The Green-Ampt or Vertical Layers methods are anticipated to be used. The CONSULTANT will develop the associated runoff method parameters.

Time of Concentration: The CONSULTANT will develop times of concentration (TC) for all subbasins (current model and new) within the watershed. Assumptions:

- Up to 323 TCs for existing subbasins
- Up to 75 TCs for new subbasins

Node Storage: The CONSULTANT will recalculate stage-area relationships for all subbasins throughout the watershed using the new project DEM.

Initial Conditions: Initial conditions will be established for the surface water and groundwater using a continuous simulation no shorter than 5-years. The 25% stage exceedance from the continuous simulation will then be used as the initial conditions. The resultant level-pool floodplain plots will be reviewed for the reasonableness of the initial elevations. The water levels resulting from these simulations will be used to establish an initial water table surface that will then be used for subsequent simulations over the course of the project.

Boundary Condition Development: Node time series data (time-stage or time-flow) will also be developed for each simulated storm at boundary nodes along the watershed exterior. The Roosevelt Creek watershed is bounded by three watersheds: Cross Bayou, Sawgrass Lake, and Tinney Creek and also includes a portion of the City of St. Petersburg model which acts as a boundary to the Roosevelt Creek watershed. Conveyance interconnects will be identified and boundary stages and/or flows will be developed as needed. Initial locations will be determined based on SAI's County Wide Flood Forecasting model. Additional locations will be included if and as necessary. Along the boundary with Cross Bayou there are no known interconnects (i.e., culverts, drop structures, and ditches) that will need to be accounted for. There is only one anticipated interconnect with the Sawgrass Lake watershed, a double pipe crossing along MCI Drive. The time/stage data for this external boundary node, as well as any boundary data that is determined necessary for either the Cross Bayou or Sawgrass Lake watersheds, will be derived from the County Wide Flood Forecasting model. There are several interconnections (pipes, drop structures, and ditches/canals) between the City of St. Petersburg model and Roosevelt Creek. Each of these interconnects will be considered to make sure all connections are accounted for without duplicating conveyance. Data from the City of St. Petersburg model will be used to formulate time/stage data for boundary nodes within the Tinney Creek watershed, since this model is considered the best available data.

This task includes work to run adjacent watershed models to obtain appropriate boundary conditions for the design and calibration/verification storm events. At the direction of the County, the six required SLR scenarios (refer to Section 3.3.7) will not be simulated using the County-wide model or the St. Pete model.

Finally, a boundary condition will be required at the Roosevelt Creek outfall to Tampa Bay for modeling purposes. Using the preliminary FEMA Flood Insurance Study (FIS) for Pinellas County (current best-available data), the 1-year stillwater elevation will be extrapolated at the nearest two FIS transects, then averaged. The determined 1-year stillwater elevation will be used for all design storm event model runs to account for joint probability (coastal and precipitation-based events). The 1-year stillwater elevation will be adjusted to account for SLR as described in Section 3.3.7. For comparison purposes, the mean high water elevation (MHW) will also be identified and presented to the County. However, MHW will not be used in the simulations as a boundary condition.

Assumptions:

- Up to 51 boundary nodes to establish times series data sets for each storm (41 current plus 10 new)

Channel Parameterization: This will involve cutting cross sections from the project terrain data, thinning sections, reviewing sections, combining sections with survey data, assigning Manning's values, calculating composite Manning's values, generating and hyperlinking PDFs for supporting documentation, and migrating the data to the GWIS GDB. This also includes the development of channel exclusion polygons. Assumptions:

- Up to 85 existing channels
- Up to 20 new channels
- Up to 55 existing cross sections
- Up to 30 new cross sections

Bridge Parameterization: Properly conditioned bridge curves will be developed for each bridge. The bridge curve development will be conducted using HEC-RAS and importing the resultant rating curves into ICPR4. Assumptions: Up to 1 bridge feature.

Pipes, Weirs (structural), Drop Structures: This effort involves calculating the associated losses and populating the remaining link parameters (e.g., solution algorithm, energy losses, inlet/outlet controls, etc.). Assumptions:

- Up to 333 existing structures
- Up to 75 new structures

Weirs (Overland Flow): New cross section line features will be developed from the new subbasin feature class for the entire model. Cross section data for each overland flow weir will be derived from the project DEM. Some of these overland flow weir locations may be better represented using a short channel link instead. The CONSULTANT will determine the most appropriate method to model overland flow throughout the watershed.

Groundwater Features Parameterization: Model development will involve the use of collected information mentioned above including data for aquifer base elevations, well and potentiometric levels, the hydro-corrected DEM, reference evapotranspiration, irrigation data and NRCS soils information. SWFWMD's "Soil Retrieving and Process Tool" developed by Lei Yang, PhD with the assistance of Harry Downing, PE will be used to help parameterize the model. The tool uses layered soil parameters in SSURGO and IFAS Soil Characterization data to calculate soils information needed for the ICPR model. Preliminary simulations are used to set initial water table levels within the soil column so that the resultant moisture profiles and available soil capacities can be calculated using the tool. The soil parameters derived by the tool (hydraulic conductivities, soil porosities, etc.) can then be directly incorporated as soils input data for ICPR4.

Note: The watershed contains both the Bridgeway Acres and Toytown Landfills. The landfill drainage systems and operations will be considered, and the groundwater management protocols will be incorporated if applicable. Additionally, the tool mentioned above will be used for the initial soil

parameterization. These soil parameters as well as other groundwater parameters will likely be adjusted during the model calibration process.

Incorporate St. Pete Model: The CONSULTANT will incorporate the portion of the St. Pete model into the Roosevelt Creek WMP model.

Update Watershed Evaluation Report: The CONSULTANT will update the Watershed Evaluation Report to account for any changes in the approach to parametrization.

3.1.3 Model Setup, Debug, and Stabilization

Model Setup and Initial Simulation: The CONSULTANT shall transfer model parameters from GWIS geodatabase into the model framework, set up, and debug the model. The following preliminary simulations shall be performed:

- 100-year/1-day Storm
- No Rainfall

Flood Profiles and Level Pool Floodplains: Flood profiles will be developed for the main reaches for the above referenced storms. These flood profiles will be generated using ICPR4. The CONSULTANT will also develop the level pool plots for the following:

- Initial Conditions
- 100-year/1-day Floodplain

QC Review, Debug, and Stabilization: This is an iterative process until the model is deemed stable and representative of the existing conditions. The CONSULTANT shall identify and address the following potential issues based on the preliminary simulations and plots:

- Continuity Error (preferably less than 2%)
- Inadequate Simulation Time
- Flow Reversals or Sudden Change
- Instability
- Significant Initial Flows
- Node and Cross Section Extrapolations
- Missing Interconnections (glass walls)

Initial Conditions: Finalizing initial stages is also part of the stabilization and will be conducted once the model has been debugged and preliminarily reviewed for instabilities.

3.1.4 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

3.1.5 Project Management and Quality Assurance/Control

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming

milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 3.1 Deliverables

A. *Updated Watershed Evaluation Report*
B. *Model Input/output Files*
C. *Project Specific QA/QC Document*
D. *GWIS Geodatabase*
E. *Geodatabase containing level-pool floodplain plots*

3.2 Final Approved Watershed Model Parameterization Deliverables

3.2.1 Revised Deliverables

Within sixty (60) days of receiving the COUNTY review comments, the CONSULTANT shall address the COUNTY's review comments, and resubmit watershed model parameterization deliverables to the COUNTY.

3.2.2 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

3.2.3 Project Management and Quality Assurance/Control

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming

milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 3.2 Deliverables

A. *Revised Watershed Model Parameterization Deliverables (GWIS, Model input/output, supporting documentation, TSDN, report, etc.)*
B. *Response to Comments Geodatabase*
C. *Project Specific QA/QC Document*

3.3 Watershed Model Development and Floodplain Delineation

3.3.1 Model Calibration and Verification

The CONSULTANT will calibrate and verify the ICPR model to two (2) different rainfall events developed in the watershed evaluation task. If necessary, the CONSULTANT will adjust model parameters and rerun the model to evaluate results against readily available and suitable observations as part of the calibration. The CONSULTANT will then evaluate a second rainfall event as part of the varication analysis. Model calibration and verification shall consider the spatial distribution of rainfall. The calibration and verification rainfall will be based on the DISTRICT's NEXRAD rainfall data, which will be compared to rain gages in the watershed.

Surface Water Calibration: These may include:

- PRF (256 was reduced to 128 for Cross Bayou)
- Manning's roughness for overland flow
- Initial abstraction
- Soil properties: Kv, MCsat, MCfield

Groundwater Calibration: Based on available surficial aquifer well information.

- Parameters include: Kh, Fillable Porosity, Leakage

Calibration Metrics: Success of calibration will include statistical evaluation of the results including the following metrics.

- Correlation coeff (R)
- Coeff of Determination (R^2)
- Mean error (ME)
- Mean Absolute Error (MAE)
- Root Mean Square Error (RMSE)
- Nash-Sutcliffe Model Efficiency Coeff (N-S)

3.3.2 Model Validation

The model simulation results will be assessed for accuracy and reasonableness with historic water levels, if any, available in the study area corresponding to one of the existing, suitable simulations. The existing, suitable simulations include the calibration event, verification event, or design storm event with similar depth and duration. This is a qualitative assessment of the model results versus historic flood documentation as a whole.

3.3.3 Design Storm Simulations

The CONSULTANT shall simulate the following design storms:

- 2.33-year, 5-year, 10-year, 25-year, 50-year, 100-year, and 500-year, 1-day events using the Florida Modified Type II 24-hour distribution
- 100-year, 5-day events using the DISTRICT's 120-hour distribution

3.3.4 Multi-Day Event Simulations and Rainfall Justification to Project Floodplain

If directed by the COUNTY, the CONSULTANT shall simulate the following additional multi-day events:

- 100-year/3-day, 100-year/7-day, and 100-year/10-day events using FDOT rainfall distribution.

To delineate the 100-year floodplain, a rainfall event of duration longer than 1-day may be used if historic water levels developed in **Task 2.1.6** provide evidence that longer durations better represent the 100-year flood risk.

3.3.5a Floodplain Delineation

The CONSULTANT shall delineate the floodplain based on digital topographic information and model predicted peak stages of 100-year and 500-year storm event(s). The final product of this task shall be floodplain mapping that meets FEMA standards for updating the existing DFIRMs. Approach of mapping transition zones shall be documented in **Task 3.3.6 - Floodplain Justification Report**.

3.3.5b Floodway Development (NOT INCLUDED)

3.3.6 Floodplain Justification Report

The CONSULTANT shall document the efforts involved in **Tasks 3.3.1 through 3.3.5**, and merge with the discussion into the Watershed Evaluation report to develop this Floodplain Justification Report.

3.3.7 Sea-level Rise (SLR) Scenarios

The CONSULTANT will model and map the six scenarios for sea-level rise (SLR) shown below. As part of the SLR scenario evaluations, the CONSULTANT will modify the boundary conditions and initial stages, as appropriate. Long term simulations may be used to produce groundwater (GW) surfaces based on exceedance probabilities – one for historical tides and another for historical tides plus SLR. These GW surfaces could also be used as initial groundwater table (GWT) surfaces (e.g., 25% exceedance)". Note: At the Direction of the County, the adjacent available models will be used within simulating the referenced SLR scenarios. Only the coastal boundary to the Roosevelt Creek watershed will be revised to reflect the SLR scenarios below.

Scenario	Storm Event	SLR Scenario
1	100-year 24-hr	Intermediate-Low Scenario (1.9 ft. of SLR from 2000-2100)
2	100-year 24-hr	Intermediate Scenario (3.9 ft. of SLR from 2000-2100)
3	100-year 24-hr	High Scenario (8.5 ft. of SLR from 2000-2100)
4	25-year 24-hr	Intermediate-Low Scenario (1.9 ft. of SLR from 2000-2100)
5	25-year 24-hr	Intermediate Scenario (3.9 ft. of SLR from 2000-2100)
6	25-year 24-hr	High Scenario (8.5 ft. of SLR from 2000-2100)

3.3.8 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

3.3.9 Project Management and Quality Assurance/Control

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 3.3 Deliverables

A. *Floodplain Justification Report*
B. *100-Year & 500-Year Flood Depth Grid*
C. *Model Input / Output Files*

D. Project Specific QA/QC Document
E. Updated GWIS Geodatabase

3.4 Peer Review of Watershed Model Development and Floodplain Delineation

3.4.1 Peer Review Meeting and Presentation

Draft Peer Review Presentation: The CONSULTANT will prepare and submit a draft PowerPoint presentation to the COUNTY and the DISTRICT for review and approval. The presentation will summarize the work accomplished in the Watershed Model Development and Floodplain Delineation tasks with emphasis on approach, effort, and end products. This subtask includes a web-based meeting to discuss the presentation and the COUNTY and DISTRICT comments.

Final Peer Review Presentation: The CONSULTANT will address and incorporate the COUNTY's and DISTRICT's comments into the final PowerPoint presentation. The CONSULTANT will then deliver the presentation in an in-person meeting to the peer review consultant, the COUNTY, the DISTRICT, and other interested parties. The complete deliverable set shall be transmitted to the peer review consultant prior to this meeting.

3.4.2 Peer Review Communication

During the peer review process, the peer review consultant may seek clarification and request additional information from the CONSULTANT. Responses and/or additional information requested from the CONSULTANT, if any, shall be transmitted to the peer review consultant and County PM within 5 business days.

The CONSULTANT may seek clarification from the peer review consultant after receiving comments. Clarification requested from the peer review consultant, if any, shall be provided to the CONSULTANT and County PM within 5 business days.

3.4.3 Meeting - Discuss Approach to Responding to COUNTY/DISTRICT/Peer Review Comments

One web-based meeting with the COUNTY and the DISTRICT will be held to discuss comments on the watershed evaluation and the approach to address them.

3.5 Approved Floodplain Analysis Deliverables for Preliminary Floodplain Open House

3.5.1 Revised Deliverables

Within sixty (60) days of the meeting to present peer review comments (**Task 3.4.2**), the CONSULTANT shall address peer review comments, as well as any COUNTY review comments, and resubmit watershed model development and floodplain delineation deliverables to the COUNTY. This scope of work and associated fee estimate assumes changes to the model will be limited and that re-calibration and re-verification will not be required.

3.5.2 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will

involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

3.5.3 Project Management and Quality Assurance/Control

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 3.5 Deliverables

A. *Responses to Comments Geodatabase*
B. *Revised Deliverables*
C. *Project Specific QA/QC Document*

3.6 Preliminary Floodplain Open House and Response to Public Comments

3.6.1 Preliminary Floodplain Open House

The CONSULTANT will assist the COUNTY with conducting a preliminary floodplain open house. Assistance consists of preparing meeting materials, such as pdfs of floodplain maps, and attendance of up to three (3) professionals at one meeting, based on the number of impacted parcels and anticipated attendance of the public meeting. The CONSULTANT will assist citizens by responding to questions at the meeting; operate laptop computers that can display recent aerials, existing flood hazard zones, base map information, parcels, and the preliminary floodplains. The CONSULTANT will provide up to four (4) 24" x 36" mounted hard copy maps (e.g. Foamboard). Additionally, the CONSULTANT will develop a web-based map that depicts the floodplains that will be presented at the open house.

3.6.2 Response to Public Comments

Public comment period closes forty-five (45) days after the open house, unless otherwise specified. Within fifteen (15) days of the public comment period closure, the COUNTY will provide public comments collected to the CONSULTANT. The CONSULTANT will compile the public comments in a Comments geodatabase.

The CONSULTANT shall review and provide the COUNTY with responses to public comments and update Task 3.5 deliverables as necessary. Response to public comments will not include providing copies of floodplain maps.

3.6.3 Meeting - Discuss Approach to Responding to Public Comments

After the CONSULTANT has provided the COUNTY with a compiled public response database, the CONSULTANT will conduct a web-based meeting to discuss the approach to revising deliverables considering the public comments.

Task 3.6 Deliverables

A. *Attendance at Public Open House*
B. *Response to Public Comments*
C. *Approach to revising deliverables meeting*

3.7 Final Approved Floodplain Analysis Deliverables

3.7.1 Revised Deliverables

Within thirty (30) days after the completion of Task 3.6, the CONSULTANT shall resubmit the full floodplain analysis deliverables to the COUNTY in final format, including floodplain transition zones. This scope of work and associated fee estimate assumes changes to the model will be limited to the hours shown in the fee schedule and that re-calibration and re-verification will not be required.

3.7.2 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

3.7.3 Project Management and Quality Assurance/Control

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 3.7 Deliverables

A. *Sign and Sealed Floodplain Justification Report*
B. *PowerPoint Presentation*
C. *Revised Final Deliverables*
D. *Project Specific QA/QC Document*

4.0 FLOOD PROTECTION LEVEL OF SERVICE (FPLOS) DETERMINATION, DRAINAGE IMPROVEMENT ANALYSIS AND RECOMMENDATIONS

4.1 FPLOS Determination and Flood Damage Estimation

4.1.1 Methodology Meeting

A meeting will be conducted between the COUNTY, the CONSULTANT, and the DISTRICT, if needed, to discuss the methodology to be used to evaluate flood protection level-of-service and flood damage estimates for each basin. It is anticipated that the COUNTY's level-of-service, as defined in the Comprehensive Plan or elsewhere in County regulations, will be used as the basis for the FPLOS determination.

4.1.2 FPLOS Determination

The CONSULTANT will designate the flood protection level-of-service (FPLOS) throughout the watershed based on the methodology and criterion agreed upon during **Task 4.1.1**. The CONSULTANT will create a GWIS feature class documenting the results of the FPLOS analysis. The FPLOS documentation will also include an estimate of the number of habitable structures within floodplain areas by reviewing aerial photography.

After the FPLOS determination is complete, the CONSULTANT will analyze structure and roadway flood damages. Damage estimates for structure and roadway flooding will be analyzed independently. The CONSULTANT will work with the COUNTY to evaluate if the damage calculations in the DISTRICT BCA tool will be sufficient. If needed, limited updates to the spreadsheet tool will be made prior to completing the damage estimates.

4.1.3 FPLOS Analysis Report

The CONSULTANT shall document the efforts involved in **Tasks 4.1.1 through 4.1.2** in the FPLOS Analysis Report.

4.1.4 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

4.1.5 Project Management and QA/QC

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 4.1 Deliverables

A. *FPLOS analysis report*
B. *Flood depth grids for LOS design storms*
C. *Model input/output files for design storms required by FPLOS determination methodology*
D. *Geodatabase containing:*
    a. *Model simulation results*
    b. *Inundation polygons*
    c. *FPLOS designations*
E. *Flood damage estimate spreadsheets*
F. *Project specific QA/QC document*

4.2 Surface Water Resource Assessment (SWRA) and Best Management Practices (BMPs) of Water Quality

4.2.1 Surface Water Resource Assessment Approach - Water Quality

Some waterbody identification (WBIDs) numbers within the Roosevelt Creek watershed have been determined to be impaired due to water quality standard exceedances.

Although there are tools available to evaluate individual BMPs (e.g., BMPTrains) and generalized pollutant loading can be evaluated in spreadsheets or GIS, ICPR4's water quality module tracks the movement of pollutants for entire watersheds incorporating dynamic hydraulic and groundwater interactions along the way. An unlimited number of BMPs can be included in the drainage network. The methodology generates pollutant loads from catchments based on Event Mean Concentrations (EMCs) for user defined constituents and then delivers the loads to nodes. Links then move the pollutants through the drainage system removing pollutants through groundwater seepage and other user-defined removal mechanisms.

SWRA Approach Development: The CONSULTANT will develop an approach to the surface water resource assessment (SWRA) that is specific to the watershed and submit this approach to the COUNTY for approval before beginning the surface water resource assessment analysis task. This memorandum will also present the data compilation and data analysis methodology.

Meeting to Discuss Approach: The CONSULTANT will conduct a web-based meeting with the COUNTY, the DISTRICT, and other stakeholders to discuss the analysis of the available data and the recommended approach to conducting the SWRA. The CONSULTANT shall discuss with the COUNTY the list of pollutants to be assessed. Pollutants to be assessed will include, but not be limited to the following:

- Total Nitrogen (TN)
- Total Phosphorus (TP)
- Total Suspended Solids (TSS)

The consultant will document the discussions at this meeting and submit them to the COUNTY in the form of meeting minutes (draft then final).

SWRA Approach Revisions: The CONSULTANT will revise the SWRA Approach memorandum based on the results of the discussion with the COUNTY and the DISTRICT.

4.2.2 Water Quality Assessment

Detailed Data Collection and Analysis/Assessment: The CONSULTANT shall compile available historical and existing water quality data that may be pertinent to the watershed. Possible trends in water quality data that has been regularly collected shall be noted. The Roosevelt Creek watershed characteristics will also be assessed relative to any known anthropogenic or environmental factors, and physical features within the watershed which may be impacting water quality conditions or sampling results, particularly for the impairment parameters such as land use types, point and nonpoint discharges, extent of existing stormwater runoff treatment, and base flow. The assessment will include a comparison against criteria (e.g., NNC), as well as a discussion of the appropriateness of the criteria. As part of a subsequent task, the assessment will be used along with the pollutant loading model to guide in the development of water quality BMPs. The CONSULTANT anticipates collecting data for the following sources from the COUNTY and listed regulatory agencies:

- Pinellas County rain and stream gages, if available (and USGS)
- Pinellas County Phase-I NPDES-MS4 permit
- SWFWMD's Water Management Information System (WMIS)

- SWFWMD Potentiometric Elevation Data
- FDEP's Storage and Retrieval (STORET) Database
- FDEP's Watershed Information Network (WIN) Database
- FDEP's Waterbody Identification (WBID) basin shapefiles for WBIDs within the watershed
- FDEP's Impaired Water Rule (IWR) Database
- FDEP Wastewater Facility Regulation (WAFR)
- US Geological Survey (USGS) National Water Information System (NWIS)
- Florida Department of Health (FDOH) septic tank GIS Database
- Pinellas County Sanitary Sewer Service Area Map/Atlas
- Event Mean Concentrations (FDEP and SWFWMD)
- Water quality sampling information
- Water Quality Data (COUNTY)

Field Reconnaissance: The CONSULTANT will conduct up to two (2) days of field reconnaissance to identify potential sources of pollutant loads not readily available as part of the desktop assessment as well as to identify potential BMP locations.

4.2.3 Existing Conditions Pollutant Loading Analysis

The CONSULTANT will develop pollutant loading estimates for total nitrogen (TN), total phosphorous (TP), and total suspended solids (TSS) using the water quality module of ICPR4. This will involve a long-term simulation (probably 15-20 years) to estimate average annual loads. Pollutant loads will be reported and mapped by subbasin. The budget for this task assumes:

- Drainage subbasin delineations are sufficiently detailed (outfall basis or small sub-area basis) that further delineation is not needed
- ERP coverages and high-resolution aerials allow us to quickly assign a standard BMP on those served areas
- Existing BMPs will be assumed as: None, Wet Detention with std. 14-day residence time, Dry Ret (1/2" treatment)

The data collection, data analyses, model development methodology, results, and interpretation of results will be summarized in **Task 4.2.4**.

4.2.4 SWRA of Water Quality Report

The CONSULTANT shall document the efforts involved in **Tasks 4.2.1 through 4.2.3** in a SWRA of Water Quality report.

4.2.5 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables.

4.2.6 Project Management and QA/QC

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 4.2 Deliverables

A. *Meeting minutes*
B. *SWRA Report*
C. *Geodatabase/Water Quality Assessment Data*
D. *Pollutant Loading Model/GIS files*
E. *Project Specific QA/QC Document*

4.3 Alternatives Analysis and Recommendations (FPLOS and SWRA)

4.3.1 Alternatives Analysis and Project Ranking

Site Selection Meeting: A remote meeting, unless otherwise specified, will be conducted between the CONSULTANT, the COUNTY, and the DISTRICT to select a list of locations where alternatives analysis will be performed. The CONSULTANT shall prepare a preliminary list of locations prior to the meeting. The selection shall be based on, but not limited to, the following:

- FPLOS Designation
- Water Quality Impairments
- Natural Systems Restoration areas
- Documented Flooding Problems and Complaints
- Drainage System Classification (Regional vs. Intermediate)
- Anticipated Flood Damage
- Logical Precedence (Downstream vs. Upstream)
- Availability of property/Right of way

Conceptual BMP Development, Analysis, and Ranking: The CONSULTANT will develop best management practices (BMP) alternatives analysis for up to fifteen (15) BMPs in the watershed. The

CONSULTANT shall recommend projects that address flooding and SLR, improve water quality, and restore/create natural systems, where possible. The CONSULTANT will model the selected BMPs using ICPR, if appropriate, and will estimate the pollutant load reductions for the BMPs. The gross cost to reduce the pollutant loads will be estimated using a single estimated dollars-per-pound removed per constituent. The CONSULTANT will rank the alternatives using the COUNTY's ranking tool. The ranking may also include an analysis of the proposed project for one of the SLR/Rainfall Depth scenarios in **Task 3.3.7**. The CONSULTANT will not provide construction plans or apply for conceptual ERP permits for the proposed BMPs. A draft alternative analysis and recommendations report will be prepared to summarize the findings of the BMP Analysis. Upon review and comment by the COUNTY, a final report will be issued.

Note: The BCA and FPLOS will only be conducted for the most viable (ranked) alternatives.

Documentation: The CONSULTANT shall document the results of the analyses in the Alternatives Analysis and Recommendations Report.

4.3.2 Pre-Submittal Meeting

Within five (5) business days of each anticipated submittal, the CONSULTANT shall conduct a pre-submittal meeting with the COUNTY and DISTRICT prior to transmitting full deliverables. The CONSULTANT will present how the deliverables will satisfy the scope of work as well as follow the data delivery structure and include all applicable contents to date. The meeting will be in remote format, unless otherwise specified. This task includes one (1) pre-submittal meeting. The pre-submittal meeting will involve a web-based walk-through of key elements of the deliverables typically through a PowerPoint presentation format. A brief transmittal memorandum will be prepared summarizing the deliverables being submitted. Both of these efforts are intended to facilitate the review by the COUNTY and the DISTRICT. This task also includes packaging up and transmitting the deliverables

4.3.3 Project Management and QA/QC

Bi-Weekly Progress Meetings: A remote web-based meeting (or phone call), unless otherwise specified, will be conducted on a bi-weekly basis between the COUNTY and the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned. Written bi-weekly progress updates will also be provided via email.

Monthly Progress Meetings: A remote meeting, unless otherwise specified, will be conducted on a monthly basis between the COUNTY, the DISTRICT, the CONSULTANT. During each meeting the CONSULTANT Project Manager shall report the work completed, actual progress as compared to the performance schedule in the TWA, work planned for the next month, upcoming milestones, project issues, any deficiencies and the recovery actions completed and planned.

Progress Reports with Invoicing: All scheduled invoices shall include progress report with the CONSULTANT Project Manager's assessment of the project's actual progress as compared to the project schedule. Details must include any deficiencies and the recovery actions completed and planned.

Quality Assurance and Quality Control (QA/QC): The CONSULTANT shall follow the Quality Assurance Plan submitted in the Project Development task. A project specific QA/QC document shall be submitted with each scheduled submittal. The QA/QC manager shall certify that QA/QC has been performed on all deliverables and that any outstanding issues have been communicated with the COUNTY.

Task 4.3 Deliverables

A. *Alternatives analysis and recommendations report*
B. *Model input/output files for proposed conditions*
C. *Pollutant load model GIS files*
D. *Geodatabase containing:*
    a. *Site locations*
    b. *Locations of final recommended projects*
    c. *Model simulation results for proposed conditions*
    d. *Inundation polygons for proposed conditions*
E. *Project specific QA/QC document*
F. *Responses to comments geodatabase*

V. COMPENSATION

Basic Services:

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

- A lump sum fee of six hundred forty-eight thousand, six hundred seventy-seven dollars and zero cents ($648,677.00) for:

	Watershed Management Plan Tasks	Cost
1.0	Project Development	$13,498.00
2.0	Watershed Evaluation	$247,383.00
3.0	Floodplain Analysis	$248,213.00
4.0	FPLOS Determination, SWRA, Drainage Improvement Alternatives Analysis and Recommendations	$139,583.00
	Total	**$648,677.00**

Contingency Services:

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 sixty-four thousand, eight hundred sixty-eight dollars and zero cents ($64,868.00). Contingency services are subject to the prior written approval by the COUNTY.

Total Agreement:

Total agreement amount is seven hundred thirteen thousand, five hundred forty-five dollars and zero cents ($713,545.00).

Roosevelt Creek WMP Fees	Cost
Basic Services	$648,677.00
Contingency	$64,868.00
Total	**$713,545.00**

VI. PROJECT SCHEDULE

CONSULTANT shall commence professional services upon written receipt of Notice to Proceed (NTP) from COUNTY. Based on the schedule below, the project completion is anticipated to take twenty-seven (27) consecutive calendar months from the notice to proceed. An updated project schedule in Microsoft Project format will be provided to the COUNTY within 30 days of the Notice to Proceed. The schedule assumes a 30-day turnaround for the COUNTY to review deliverables.

Task Number	Task Description	Start Month/yr	End Month/yr
1.0	Project Development	Nov 2020	Jan 2021
1.1	Kickoff Meeting	Nov 2020	Dec 2020
1.2	Data Collection and Initial Evaluation	Nov 2020	Jan 2021
1.3	Draft Project Plan	Dec 2020	Dec 2020
1.4	Final Project Plan	Dec 2020	Jan 2021
1.5	Project Management and Quality Assurance/Quality Control (QA/QC)	Nov 2020	Jan 2021
2.0	Watershed Evaluation	Nov 2020	Nov 2021
2.1	Assembly and Evaluation of Watershed Data	Nov 2020	June 2021
2.1.1	Drainage Pattern and Watershed Boundary	Nov 2020	Jan 2021
2.1.2	DEM Review, Topographic Void Update, and Hydro-correction	Jan 2021	Mar 2021
2.1.3	Areas of Development	Jan 2021	Feb 2021
2.1.4	Initial GIS Processing	Mar 2021	Mar 2021
2.1.5	Hydrologic Characteristics and Recharge	Feb 2021	Feb 2021
2.1.6	Historical Water Levels	Jan 2021	Jan 2021
2.1.7	Existing Model Data Migration	Jan 2021	Feb 2021
2.1.8	Existing Model Data QC Review	Feb 2021	Feb 2021
2.1.9	Preliminary Hydro-, Model-, and HEP Network Development	Feb 2021	Mar 2021
2.1.10	Initial Desktop Acquisition	Mar 2021	June 2021
2.1.11	Data Acquisition Plan	June 2021	June 2021
2.1.12	Task Memorandum	June 2021	June 2021
2.1.13	Pre-Submittal Meeting	June 2021	June 2021
2.1.14	Project Management and QA/QC	Jan 2021	June 2021
2.2	Hydrologic and Hydraulic Feature Database	June 2021	July 2021

Task Number	Task Description	Start Month/yr	End Month/yr
2.2.1	Acquisition of Data	June 2021	July 2021
2.2.2	HydroNetwork Development	July 2021	July 2021
2.2.4	Hydrologic Feature Database	June 2021	June 2021
2.2.5	Pre-Submittal Meeting	July 2021	July 2021
2.2.6	Project Management and QA/QC	June 2021	July 2021
2.3	Preliminary Model Features	July 2021	Sept 2021
2.3.1	Additional GIS Processing	July 2021	July 2021
2.3.2	Preliminary Model Schematic	July 2021	Aug 2021
2.3.3	Model Parameterization Approach	Aug 2021	Aug 2021
2.3.4	Watershed Evaluation Report	Aug 2021	Sept 2021
2.3.5	Pre-Submittal Meeting	Sept 2021	Sept 2021
2.3.6	Project Management and QA/QC	July 2021	Sept 2021
2.4	Peer Review of Watershed Evaluation	Aug 2021	Oct 2021
2.4.1	Peer Review Kick-off Meeting and Presentation	Aug 2021	Sept 2021
2.4.2	Peer Review Communication	Sept 2021	Oct 2021
2.4.3	Meeting to Discuss Approach to Responding to COUNTY/DISTRICT/Peer Review Cmts	Oct 2021	Oct 2021
2.5	Final Approved Watershed Evaluation Deliverables	Sept 2021	Nov 2021
2.5.1	Revised Deliverables	Oct 2021	Nov 2021
2.5.2	Pre-Submittal Meeting	Nov 2021	Nov 2021
2.5.3	Project Management and QA/QC	Sept 2021	Nov 2021
3.0	Watershed Management Plan - Floodplain Analysis	Nov 2021	Dec 2022
3.1	Watershed Model Parameterization	Nov 2021	Feb 2022
3.1.1	Acquisition of Additional Model Parameters	Nov 2021	Nov 2021
3.1.2	Development of Model Specific Geodatabase	Nov 2021	Jan 2022
3.1.3	Model Setup, Debug, and Stabilization	Jan 2022	Feb 2022
3.1.4	Pre-Submittal Meeting	Feb 2022	Feb 2022
3.1.5	Project Management and QA/QC	Nov 2021	Feb 2022
3.2	Final Approved Watershed Model Parameterization Deliverables	Feb 2022	Mar 2022
3.2.1	Revised Deliverables	Feb 2022	Mar 2022

Task Number	Task Description	Start Month/yr	End Month/yr
3.2.2	Pre-Submittal Meeting	Mar 2022	Mar 2022
3.2.3	Project Management and Quality Assurance/Control	Feb 2022	Mar 2022
3.3	Watershed Model Development and Floodplain Delineation	Feb 2022	July 2022
3.3.1	Model Calibration and Verification	Feb 2022	Apr 2022
3.3.2	Model Validation	Apr 2022	Apr 2022
3.3.3	Design Storm Simulations	Apr 2022	Apr 2022
3.3.4	Multi-Day Event Sims and Rainfall Justification	Apr 2022	Apr 2022
3.3.5	Floodplain Delineation	June 2022	June 2022
3.3.6	Floodplain Justification Report	June 2022	July 2022
3.3.7	Sea-level Rise (SLR) Scenarios	June 2022	July 2022
3.3.8	Pre-Submittal Meeting	July 2022	July 2022
3.3.9	Project Management and QA/QC	Mar 2022	July 2022
3.4	Peer Review of Watershed Model Development and Floodplain Delineation	July 2022	Sept 2022
3.4.1	Peer Review Meeting and Presentation	July 2022	July 2022
3.4.2	Peer Review Communication	July 2022	Aug 2022
3.4.3	Meeting - Discuss Approach to Resp. to COUNTY/DISTRICT/Peer Review Cmts	Aug 2022	Sept 2022
3.5	Approved Floodplain Analysis Deliverables for Preliminary Floodplain Open House	July 2022	Sept 2022
3.5.1	Revised Deliverables	Aug 2022	Sept 2022
3.5.2	Pre-Submittal Meeting	Sept 2022	Sept 2022
3.5.3	Project Management and QA/QC	July 2022	Sept 2022
3.6	Preliminary Floodplain Open House and Response to Public Comments	Sept 2022	Dec 2022
3.6.1	Preliminary Floodplain Open House	Sept 2022	Sept 2022
3.6.2	Response to Public Comments	Sept 2022	Dec 2022
3.6.3	Meeting - Discuss Approach and Responding to Public Cmts	Nov 2022	Dec 2022
3.7	Final Approved Floodplain Analysis Deliverables	Sept 2022	Dec 2022
3.7.1	Revised Deliverables	Dec 2022	Dec 2022
3.7.2	Pre-Submittal Meeting	Dec 2022	Dec 2022

Task Number	Task Description	Start Month/yr	End Month/yr
3.7.3	Project Management and QA/QC	Sept 2022	Dec 2022
4.0	Watershed Management Plan - FPLOS Determination, Alternatives Analysis and Recommendations	Nov 2022	Mar 2023
4.1	FPLOS Determination	Nov 2022	Feb 2023
4.1.1	Methodology Meeting	Nov 2022	Nov 2022
4.1.2	FPLOS Determination	Dec 2022	Jan 2023
4.1.3	FPLOS Analysis Report	Jan 2023	Jan 2023
4.1.4	Pre-Submittal Meeting	Jan 2023	Feb 2023
4.1.5	Project Management and QA/QC	Dec 2022	Feb 2023
4.2	Surface Water Resource Assessment (SWRA) and BMPs of Water Quality	Nov 2022	Feb 2023
4.2.1	Surface Water Resource Assessment Approach - Water Quality	Nov 2022	Dec 2022
4.2.2	Water Quality Assessment	Dec 2022	Dec 2022
4.2.3	Existing Conditions Pollutant Loading Analysis	Dec 2022	Jan 2023
4.2.4	SWRA of Water Quality Report	Jan 2023	Jan 2023
4.2.5	Pre-Submittal Meeting	Jan 2023	Jan 2023
4.2.6	Project Management and QA/QC	Jan 2023	Feb 2023
4.3	Alternatives Analysis and Recommendations (FPLOS and SWRA)	Feb 2023	Mar 2023
4.3.1	Alternatives Analysis and Project Ranking	Feb 2023	Mar 2023
4.3.2	Pre-Submittal Meeting	Feb 2023	Mar 2023
4.3.3	Project Management and QA/QC	Feb 2023	Mar 2023

VII. INVOICES

Invoice Number	Task Deliverables	Invoice Amount
1.	Tasks 1.1, 1.3, and 1.5 • Kickoff Meeting Minutes • Draft Project Plan	$6,157.00
2.	Tasks 1.2, 1.4, and 1.5 • Final Project Plan	$7,341.00
3.	Tasks 2.1.1 and 2.1.14 • Preliminary watershed boundary	$2,319.25
4.	Tasks 2.1.3, 2.1.6, and 2.1.14 • Areas of Development • Reference Documents	$14,974.25

Invoice Number	Task Deliverables	Invoice Amount
	• Historic Water Levels • QA/QC Documentation	
5.	Tasks 2.1.7, 2.1.8, and 2.1.14 • Existing GWIS (Converted & Reviewed) • QA/QC Documentation	$4,692.25
6.	Tasks 2.1.2, 2.1.5, and 2.1.14 • Project DEM & topographic information • Soils map • Landuse map	$13,353.25
7.	Tasks 2.1.9 and 2.1.14 • Preliminary Hydro-, Model-, and HEP Networks • QA/QC Documentation	$16,415.25
8.	Tasks 2.1.10, and 2.1.14 • Updated GWIS (data capture and field data acquisition needs) • QA/QC Documentation	$15,141.25
9.	Tasks 2.1.4, 2.1.10 and 2.1.14 • Initial GIS Catchments • QA/QC Documentation	$17,285.25
10.	Tasks 2.1.11, 2.1.12, 2.1.13, and 2.1.14 • Data acquisition locations • Task Memorandum • Pre-Submittal Meeting	$13,214.25
11.	Tasks 2.2.1, and 2.2.6 • Field Reconnaissance & Survey Data ~ 50%	$27,255.00
12.	Tasks 2.2.1, and 2.2.6 • Field Reconnaissance & Survey Data ~ 50%	$27,255.00
13.	Tasks 2.2.1, 2.2.2, 2.2.4, 2.2.5, and 2.2.6 • Updated GWIS (Model, HEP, & Hydro Networks) • Updated landuse map • Lookup Tables • Pre-Submittal Meeting • QA/QC Documentation	$24,232.00
14.	Tasks 2.3.1, 2.3.2, 2.3.3, and 2.3.6 • Updated GWIS (Preliminary model features) • Refined topographic information • Approach documentation • QA/QC documentation	$30,599.00
15.	Tasks 2.3.4, 2.3.5, and 2.3.6 • Watershed Evaluation Report	$12,329.00
16.	Tasks 2.4.1 and 2.5.3 • Peer Review Kickoff Meeting Presentation	$5,267.33
17.	Tasks 2.4.2, 2.4.3, and 2.5.3 • Peer Review Communications • Approach to Response Meeting Minutes	$7,711.33
18.	Tasks 2.5.1, 2.5.2, and 2.5.3 • Revised Watershed Evaluation Deliverables • Response to Comments Geodatabase • QA/QC Documentation	$15,339.34

Invoice Number	Task Deliverables	Invoice Amount

19.	Tasks 3.1.1, 3.1.2, and 3.1.5
	• Updated GWIS, including the following parameterization updates:
	  ○ TC
	  ○ Bridges
	• Storm Selection
	• QA/QC Documentation
		$16,543.67

20.	Tasks 3.1.2 and 3.1.5
	• Updated GWIS, including the following parameterization updates:
	  ○ Node Storage
	  ○ Channels
	  ○ Structural parameters
	• QA/QC Documentation
		$16,083.67

21.	Tasks 3.1.2 and 3.1.5
	• Updated GWIS, including the following parameterization updates:
	  ○ Boundary Conditions
	  ○ Overland Flow Weirs
	  ○ Rainfall Excess Parameters
	• QA/QC Documentation
		$14,376.68

22.	Tasks 3.1.2 and 3.1.5
	• Updated GWIS, including the following parameterization updates:
	  ○ Initial Conditions
	  ○ Groundwater
	• Updated Watershed Evaluation report
		$12,069.33

23.	Tasks 3.1.2 and 3.1.5 • Incorporation of St. Pete GWIS • QA/QC Documentation	$3,018.33
24.	Tasks 3.1.3, 3.1.4, and 3.1.5 • Model Input/Output Files • Level-pool Floodplains • QA/QC Documentation	$18,630.33
25.	Tasks 3.2.1, 3.2.2, and 3.2.3 • Revised Watershed Model Parameterization Deliverables • Response to Comments Geodatabase • QA/QC Documentation	$20,008.00
26.	Tasks 3.3.1, 3.3.2, and 3.3.9 • Model Input/Output Files (Post-Calibration) • QA/QC Documentation	$20,291.60
27.	Tasks 3.3.3, 3.3.4, and 3.3.9 • Model Input/Output Files (Design Storms) • QA/QC Documentation	$8,436.60
28.	Tasks 3.3.5 and 3.3.9 • 100-Year Flood Depth Grid • Updated GWIS (Floodplains) • Project QA/QC Documentation	$27,194.60
29.	Tasks 3.3.6 and 3.3.9	$13,203.60

Invoice Number	Task Deliverables	Invoice Amount
	• Floodplain Justification Report	
30.	Tasks 3.3.7, 3.3.8, and 3.3.9 • Model Input/Output Files (SLR Scenarios) • Pre-Submittal Meeting	$17,877.60
31.	Tasks 3.4.1 and 3.5.3 • Peer Review Meeting Presentation	$4,030.33
32.	Tasks 3.4.2, 3.4.3, 3.5.3 • Peer Review Communications • Approach to Response Meeting	$8,861.33
33.	Tasks 3.5.1, 3.5.2, and 3.5.3 • Revised Deliverables • Response to Comments Geodatabase • QA/QC Documentation	$20,376.33
34.	Tasks 3.6.1 and 3.7.3 • Public Open House	$7,816.33
35.	Tasks 3.6.2, 3.6.3, and 3.7.3 • Response to Comments • Approach to Revising Deliverable Meeting	$6,063.33
36.	Tasks 3.7.1, 3.7.2, and 3.7.3 • Signed and Sealed Floodplain Justification Report • Revised Deliverables • Pre-Submittal Meeting • QA/QC Documentation	$13,331.33
37.	Tasks 4.1.1 and 4.1.5 • Methodology Meeting Minutes	$5,610.00

38.	Tasks 4.1.2 and 4.1.5
	• Flood Depth Grids for LOS Storms
	• Model Input/Output Files
	• Geodatabase containing:
	  ○ Model simulation results
	  ○ Inundation polygons
	  ○ FPLOS designations
	• Flood Damage Estimates
	• QA/QC Documentation
		$18,858.00

39.	Tasks 4.1.3, 4.1.4, and 4.1.5 • FPLOS Analysis Report • Pre-Submittal Meeting	$18,047.00
40.	Task 4.2.1 and 4.2.6 • Meeting minutes • Approach Memorandum	$10,067.50
41.	Tasks 4.2.2 and 4.2.6 • Geodatabase/Water Quality Assessment Data	$16,021.50
42.	Tasks 4.2.3 and 4.2.6 • Pollutant Loading Model/GIS files • QA/QC Documentation	$24,111.50
43.	Tasks 4.2.4, 4.2.5, and 4.2.6 • SWRA Report • Pre-Submittal Meeting	$14,209.50

Invoice Number	Task Deliverables	Invoice Amount
	• QA/QC Documentation	

44.	<u>Tasks 4.3.1 and 4.3.3</u>
	• Model input/output files for proposed conditions
	• Pollutant load model GIS files
	• Geodatabase containing:
	  ○ Site locations
	  ○ Locations of final recommended projects
	  ○ Model simulation results for proposed conditions
	  ○ Inundation polygons for proposed conditions
	• QA/QC Documentation
		$15,302.00

45.	<u>Tasks 4.3.1, 4.3.2, and 4.3.3.</u> • Alternatives analysis and recommendations report • Pre-Submittal Meeting	$17,356.00

PROJECT BUDGET BY: Singhofen & Associates, Inc.
PROJECT NAME: Roosevelt Creek WMP
AGREEMENT NUMBER:
TASK WORK ASSIGNMENT:
PROJECT METRIC (SQ MI): 12.5 and 6 (depends on the task/subtask)

Title/Job Description	Prof. Engineer IV	Prof. Engineer III	Prof. Engineer II	Prof. Engineer I	Engineer Intern / Scientist III	Engineer Intern / Scientist I	CADD/ GIS Tech. III	CADD/ GIS Tech. II	CADD/ GIS Tech. I	Admin III	Sr Principal	Super-visory Engineer	Sr. Prof. Engineer	Prof. Engineer	Engineer III	Sr. Design Engineer	Environ. Scientist I	Survey Sub-Consultant	Line Item Costs	Line Item Hours	Element Costs Running Total	Total Project Costs Running Total
Firm Name	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	ASCI	ASCI	ASCI	ASCI	ASCI	ASCI	ASCI					
Personnel Hourly Rate	$214.00	$181.00	$162.00	$152.00	$131.00	$110.00	$117.00	$95.00	$65.00	$85.00	$213.00	$185.00	$163.00	$142.00	$130.00	$129.00	$79.00					
ELEMENT & TASK DESCRIPTIONS																						
1.0 Project Development																						
1.1 Kickoff Meeting	2.0	2.0	2.0	0.0	0.0	4.0	0.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	$0	$2,420.00	16.0	$2,420.00	$2,420.00
1.2 Data Collection and Initial Evaluation	0.0	0.0	0.0	3.0	0.0	7.0	0.0	15.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$5,901.00	75.0	$8,321.00	$8,321.00
1.3 Draft Project Plan	0.0	0.0	0.0	4.0	0.0	20.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	$0	$3,517.00	31.0	$11,838.00	$11,838.00
1.4 Final Project Plan	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$1,220.00	12.0	$13,058.00	$13,058.00
1.5 Project Management and Quality Assurance/Quality Control	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$440.00	4.0	$13,498.00	$13,498.00
Element 1 Hours	2.0	2.0	2.0	7.0	0.0	43.0	0.0	15.0	50.0	11.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0				**$13,498.00**	
Element 1 Days (8 Hour/Day)	0.3	0.3	0.3	0.9	0.0	5.4	0.0	1.9	6.3	1.4	0.0	0.3	0.3	0.3	0.0	0.0	0.0					
Element 1 Costs	$428	$362	$324	$1,064	$0	$4,730	$0	$1,425	$3,250	$935	$0	$370	$326	$284	$0	$0	$0	$0				
2.0 Watershed Evaluation																						
2.1 Assembly and Evaluation of Watershed Data																						
2.1.1 Drainage Pattern and Watershed Boundary	0.0	0.0	0.0	3.0	0.0	7.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$1,986.00	18.0	$1,986.00	$15,484.00
2.1.2 DEM Review, Topographic Void Update, and Hydro-correction	4.0	1.0	4.0	0.0	0.0	16.0	23.0	5.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$8,431.00	81.0	$10,417.00	$23,915.00
2.1.3 Areas of Development	2.0	0.0	0.0	0.0	0.0	8.0	0.0	30.0	115.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$11,633.00	155.0	$22,050.00	$35,548.00
2.1.4 Initial GIS Processing	0.0	0.0	0.0	2.0	0.0	8.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$3,056.00	26.0	$25,106.00	$38,604.00
2.1.5 Hydrologic Characteristics and Recharge	0.0	3.0	22.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$4,589.00	29.0	$29,695.00	$43,193.00
2.1.6 Historical Water Levels	2.0	1.0	1.0	1.0	0.0	11.0	0.0	1.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$3,008.00	29.0	$32,703.00	$46,201.00
2.1.7 Existing Model Data Migration	0.0	0.0	0.0	0.0	0.0	10.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$2,504.00	22.0	$35,207.00	$48,705.00
2.1.8 Existing Model Data QC Review	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$1,855.00	23.0	$37,062.00	$50,560.00
2.1.9 Preliminary Hydro-, Model-, and HEP Network Development	3.0	0.0	0.0	8.0	0.0	20.0	37.0	16.0	95.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$16,082.00	179.0	$53,144.00	$66,642.00
2.1.10 Initial Desktop Acquisition	6.0	0.0	0.0	12.0	8.0	75.0	14.0	38.0	170.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$28,704.00	323.0	$81,848.00	$95,346.00
2.1.11 Data Acquisition Plan	0.0	0.0	0.0	6.0	0.0	10.0	7.0	0.0	9.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$3,756.00	36.0	$85,604.00	$99,102.00
2.1.12 Task Memorandum	2.0	2.0	4.0	4.0	0.0	24.0	2.0	4.0	8.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$5,990.00	52.0	$91,594.00	$105,092.00
2.1.13 Pre-Submittal Meeting	0.0	3.0	3.0	3.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$3,135.00	24.0	$94,729.00	$108,227.00
2.1.14 Project Management and QA/QC	0.0	2.0	2.0	0.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$2,666.00	22.0	$97,395.00	$110,893.00
2.2 Hydrologic and Hydraulic Feature Database																						
2.2.1 Acquisition of Data	0.0	0.0	0.0	9.0	1.0	33.0	13.0	0.0	20.0	0.0	0.0	0.0	0.0	60.0	0.0	124.0	80.0	$30,000.00	$68,786.00	340.0	$166,181.00	$179,679.00
2.2.2 HydroNetwork Development	0.0	0.0	0.0	2.0	0.0	2.0	3.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$1,200.00	12.0	$167,381.00	$180,879.00
2.2.3 Topographic Information Refinement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$0.00	0.0	$167,381.00	$180,879.00
2.2.4 Hydrologic Feature Database	0.0	0.0	0.0	3.0	0.0	3.0	6.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$2,528.00	28.0	$169,909.00	$183,407.00
2.2.5 Pre-Submittal Meeting	0.0	0.0	0.0	3.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$2,106.00	18.0	$172,015.00	$185,513.00
2.2.6 Project Management and QA/QC	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	4.0	0.0	0.0	0.0	$0	$4,122.00	27.0	$176,137.00	$189,635.00
2.3 Preliminary Model Features																						

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Title/Job Description	Prof. Engineer IV	Prof. Engineer III	Prof. Engineer II	Prof. Engineer I	Engineer Intern / Scientist III	Engineer Intern / Scientist I	CADD/ GIS Tech. III	CADD/ GIS Tech. II	CADD/ GIS Tech. I	Admin III	Sr Principal	Super-visory Engineer	Sr. Prof. Engineer	Prof. Engineer	Engineer III	Sr. Design Engineer	Environ. Scientist I	Survey Sub-Consultant	Line Item Costs	Line Item Hours	Element Costs Running Total	Total Project Costs Running Total
Firm Name	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	ASCI	ASCI	ASCI	ASCI	ASCI	ASCI	ASCI					
Personnel Hourly Rate	$214.00	$181.00	$162.00	$152.00	$131.00	$110.00	$117.00	$95.00	$65.00	$85.00	$213.00	$185.00	$163.00	$142.00	$130.00	$129.00	$79.00					
2.3.1 Additional GIS Processing	0.0	0.0	0.0	2.0	0.0	8.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$3,056.00	26.0	$179,193.00	$192,691.00
2.3.2 Preliminary Model Schematic	4.0	14.0	84.0	4.0	8.0	8.0	0.0	1.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$21,254.00	148.0	$200,447.00	$213,945.00
2.3.3 Model Parameterization Approach	0.0	2.0	4.0	6.0	4.0	22.0	0.0	0.0	8.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$5,726.00	50.0	$206,173.00	$219,671.00
2.3.4 Watershed Evaluation Report	2.0	2.0	6.0	4.0	0.0	34.0	0.0	0.0	4.0	4.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	$0	$7,688.00	62.0	$213,861.00	$227,359.00
2.3.5 Pre-Submittal Meeting	0.0	2.0	3.0	3.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	2.0	4.0	0.0	$0	$4,078.00	31.0	$217,939.00	$231,437.00
2.3.6 Project Management and QA/QC	0.0	2.0	2.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$1,126.00	8.0	$219,065.00	$232,563.00
2.4 Peer Review of Watershed Evaluation																						
2.4.1 Peer Review Kick-off Meeting and Presentation	0.0	2.0	2.0	8.0	0.0	8.0	0.0	0.0	2.0	0.0	0.0	5.0	5.0	0.0	1.0	0.0	0.0	$0	$4,782.00	33.0	$223,847.00	$237,345.00
2.4.2 Peer Review Communication	0.0	2.0	0.0	4.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$1,190.00	8.0	$225,037.00	$238,535.00
2.4.3 Meeting to Discuss Approach to Responding to	0.0	6.0	6.0	10.0	0.0	18.0	0.0	0.0	2.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	$0	$6,036.00	44.0	$231,073.00	$244,571.00
2.5 Final Approved Watershed Evaluation Deliverables																						
2.5.1 Revised Deliverables	0.0	2.0	2.0	20.0	0.0	36.0	24.0	12.0	12.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	$0	$13,280.00	114.0	$244,353.00	$257,851.00
2.5.2 Pre-Submittal Meeting	0.0	0.0	0.0	3.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	$0	$1,574.00	12.0	$245,927.00	$259,425.00
2.5.3 Project Management and QA/QC	0.0	2.0	2.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$1,456.00	11.0	$247,383.00	$260,881.00
Element 2 Hours	25.0	48.0	147.0	120.0	23.0	461.0	173.0	115.0	546.0	16.0	0.0	18.0	24.0	64.0	3.0	128.0	80.0				**$247,383.00**	
Element 2 Days (8 Hour/Day)	3.1	6.0	18.4	15.0	2.9	57.6	21.6	14.4	68.3	2.0	0.0	2.3	3.0	8.0	0.4	16.0	10.0					
Element 2 Costs	$5,350	$8,688	$23,814	$18,240	$3,013	$50,710	$20,241	$10,925	$35,490	$1,360	$0	$3,330	$3,912	$9,088	$390	$16,512	$6,320	$30,000				
3.0 Watershed Management Plan - Floodplain Analysis																						
3.1 Watershed Model Parameterization																						
3.1.1 Acquisition of Additional Model Parameters	0.0	0.0	0.0	3.0	0.0	8.0	4.0	0.0	8.0	0.0	0.0	0.0	0.0	8.0	0.0	8.0	16.0	$0	$5,756.00	55.0	$5,756.00	$266,637.00
3.1.2 Development of Model Specific Geodatabase	8.0	15.0	52.0	41.0	20.0	113.5	63.0	36.0	149.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$55,004.00	501.5	$60,760.00	$321,641.00
3.1.3 Model Setup, Debug, and Stabilization	4.0	6.0	22.0	10.0	8.0	24.0	25.0	1.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$14,904.00	118.0	$75,664.00	$336,545.00
3.1.4 Pre-Submittal Meeting	0.0	3.0	3.0	3.0	5.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$3,460.00	26.0	$79,124.00	$340,005.00
3.1.5 Project Management and QA/QC	0.0	2.0	2.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	$0	$1,598.00	12.0	$80,722.00	$341,603.00
3.2 Final Approved Watershed Model Parameterization Deliverables																						
3.2.1 Revised Deliverables	2.0	6.0	12.0	8.0	20.0	42.0	12.0	4.0	36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$16,038.00	142.0	$96,760.00	$357,641.00
3.2.2 Pre-Submittal Meeting	0.0	3.0	3.0	3.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$2,695.00	20.0	$99,455.00	$360,336.00
3.2.3 Project Management and Quality Assurance/Control	0.0	1.0	2.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$1,275.00	10.0	$100,730.00	$361,611.00
3.3 Watershed Model Development and Floodplain Delineation																						
3.3.1 Model Calibration and Verification	4.0	24.0	44.0	4.0	8.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$14,920.00	92.0	$115,650.00	$376,531.00
3.3.2 Model Validation	2.0	0.0	0.0	2.0	4.0	18.0	8.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$4,692.00	42.0	$120,342.00	$381,223.00
3.3.3 Design Storm Simulations	2.0	0.0	0.0	6.0	13.0	22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$5,463.00	43.0	$125,805.00	$386,686.00
3.3.4 Multi-Day Event Sims and Rainfall Justification	1.0	0.0	0.0	2.0	6.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$2,294.00	18.0	$128,099.00	$388,980.00
3.3.5a Floodplain Delineation	2.0	0.0	0.0	9.0	0.0	34.0	3.0	0.0	0.0	0.0	0.0	0.0	12.0	60.0	0.0	64.0	24.0	$0	$26,515.00	208.0	$154,614.00	$415,495.00
3.3.5b Floodway Development (NOT INCLUDED)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$0.00	0.0	$154,614.00	$415,495.00

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Title/Job Description	Prof. Engineer IV	Prof. Engineer III	Prof. Engineer II	Prof. Engineer I	Engineer Intern / Scientist III	Engineer Intern / Scientist I	CADD/ GIS Tech. III	CADD/ GIS Tech. II	CADD/ GIS Tech. I	Admin III	Sr Principal	Super-visory Engineer	Sr. Prof. Engineer	Prof. Engineer	Engineer III	Sr. Design Engineer	Environ. Scientist I	Survey Sub-Consultant	Line Item Costs	Line Item Hours	Element Costs Running Total	Total Project Costs Running Total
Firm Name	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	ASCI	ASCI	ASCI	ASCI	ASCI	ASCI	ASCI					
Personnel Hourly Rate	$214.00	$181.00	$162.00	$152.00	$131.00	$110.00	$117.00	$95.00	$65.00	$85.00	$213.00	$185.00	$163.00	$142.00	$130.00	$129.00	$79.00					
3.3.6 Floodplain Justification Report	4.0	6.0	16.0	6.0	0.0	46.0	4.0	0.0	16.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$12,524.00	104.0	$167,138.00	$428,019.00
3.3.7 Sea-level Rise (SLR) Scenarios	2.0	4.0	24.0	4.0	0.0	32.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$13,848.00	106.0	$180,986.00	$441,867.00
3.3.8 Pre-Submittal Meeting	0.0	3.0	3.0	3.0	5.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$3,350.00	25.0	$184,336.00	$445,217.00
3.3.9 Project Management and QA/QC	0.0	2.0	2.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	0.0	$0	$3,398.00	24.0	$187,734.00	$448,615.00
3.4 Peer Review of Watershed Model Development and Floodplain																						
3.4.1 Peer Review Meeting and Presentation	3.0	1.0	1.0	5.0	0.0	14.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$3,545.00	28.0	$191,279.00	$452,160.00
3.4.2 Peer Review Communication	2.0	2.0	2.0	2.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$2,298.00	16.0	$193,577.00	$454,458.00
3.4.3 Meeting - Discuss Approach to Resp. to Review Cmts	4.0	4.0	4.0	8.0	4.0	18.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$6,078.00	44.0	$199,655.00	$460,536.00
3.5 Approved Floodplain Analysis Deliverables for Preliminary																						
3.5.1 Revised Deliverables	8.0	2.0	4.0	12.0	12.0	58.0	16.0	0.0	44.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$17,570.00	160.0	$217,225.00	$478,106.00
3.5.2 Pre-Submittal Meeting	0.0	0.0	0.0	3.0	5.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$2,321.00	19.0	$219,546.00	$480,427.00
3.5.3 Project Management and QA/QC	0.0	2.0	2.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$1,456.00	11.0	$221,002.00	$481,883.00
3.6 Preliminary Floodplain Open House and Response to Public																						
3.6.1 Preliminary Floodplain Open House	10.0	0.0	0.0	1.0	0.0	18.0	23.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$7,303.00	56.0	$228,305.00	$489,186.00
3.6.2 Response to Public Comments	5.0	0.0	0.0	5.0	0.0	20.0	8.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$5,226.00	42.0	$233,531.00	$494,412.00
3.6.3 Meeting - Discuss Approach and Responding to Public Cmts	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$324.00	2.0	$233,855.00	$494,736.00
3.7 Final Approved Floodplain Analysis Deliverables																						
3.7.1 Revised Deliverables	4.0	0.0	0.0	8.0	8.0	24.0	16.0	16.0	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$10,712.00	100.0	$244,567.00	$505,448.00
3.7.2 Pre-Submittal Meeting	0.0	0.0	0.0	3.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$2,106.00	18.0	$246,673.00	$507,554.00
3.7.3 Project Management and QA/QC	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	$0	$1,540.00	14.0	$248,213.00	$509,094.00
Element 3 Hours	68.0	86.0	198.0	151.0	118.0	608.5	230.0	57.0	313.0	18.0	0.0	0.0	12.0	85.0	0.0	72.0	40.0				**$248,213.00**	
Element 3 Days (8 Hour/Day)	8.5	10.8	24.8	18.9	14.8	76.1	28.8	7.1	39.1	2.3	0.0	0.0	1.5	10.6	0.0	9.0	5.0					
Element 3 Costs	$14,552	$15,566	$32,076	$22,952	$15,458	$66,935	$26,910	$5,415	$20,345	$1,530	$0	$0	$1,956	$12,070	$0	$9,288	$3,160	$0				
Recommendations																						
4.1 FPLOS Determination																						
4.1.1 Methodology Meeting	2.0	0.0	0.0	2.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	14.0	0.0	8.0	0.0	$0	$4,518.00	32.0	$4,518.00	$513,612.00
4.1.2 FPLOS Determination	1.0	0.0	0.0	1.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	40.0	0.0	$0	$17,766.00	130.0	$22,284.00	$531,378.00
4.1.3 FPLOS Analysis Report	2.0	0.0	0.0	2.0	0.0	10.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	40.0	0.0	20.0	28.0	$0	$12,984.00	110.0	$35,268.00	$544,362.00
4.1.4 Pre-Submittal Meeting	0.0	0.0	0.0	3.0	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	13.0	0.0	4.0	0.0	$0	$3,971.00	30.0	$39,239.00	$548,333.00
4.1.5 Project Management and QA/QC	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	4.0	0.0	$0	$3,276.00	26.0	$42,515.00	$551,609.00
4.2 Surface Water Resource Assessment (SWRA) and BMPs of Water																						
4.2.1 Surface Water Resource Assessment Approach - Water Quality	1.0	2.0	2.0	3.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	26.0	0.0	16.0	0.0	$0	$8,534.00	61.0	$51,049.00	$560,143.00
4.2.2 Water Quality Assessment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	56.0	56.0	$0	$14,488.00	132.0	$65,537.00	$574,631.00
4.2.3 Existing Conditions Pollutant Loading Analysis	2.0	90.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	33.0	0.0	0.0	0.0	$0	$22,578.00	133.0	$88,115.00	$597,209.00
4.2.4 SWRA of Water Quality Report	2.0	0.0	0.0	2.0	0.0	4.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	40.0	0.0	24.0	0.0	$0	$10,458.00	78.0	$98,573.00	$607,667.00

PROJECT BUDGET BY: Singhofen & Associates, Inc.
PROJECT NAME: Roosevelt Creek WMP
AGREEMENT NUMBER:
TASK WORK ASSIGNMENT:
PROJECT METRIC (SQ MI): 12.5 and 6 (depends on the task/subtask)

Title/Job Description	Prof. Engineer IV	Prof. Engineer III	Prof. Engineer II	Prof. Engineer I	Engineer Intern / Scientist III	Engineer Intern / Scientist I	CADD/ GIS Tech. III	CADD/ GIS Tech. II	CADD/ GIS Tech. I	Admin III	Sr Principal	Super-visory Engineer	Sr. Prof. Engineer	Prof. Engineer	Engineer III	Sr. Design Engineer	Environ. Scientist I	Survey Sub-Consultant	Line Item Costs	Line Item Hours	Element Costs Running Total	Total Project Costs Running Total
Firm Name	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	SAI	ASCI	ASCI	ASCI	ASCI	ASCI	ASCI	ASCI					
Personnel Hourly Rate	$214.00	$181.00	$162.00	$152.00	$131.00	$110.00	$117.00	$95.00	$65.00	$85.00	$213.00	$185.00	$163.00	$142.00	$130.00	$129.00	$79.00					
4.2.5 Pre-Submittal Meeting	0.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	6.0	0.0	4.0	0.0	$0	$2,218.00	16.0	$100,791.00	$609,885.00
4.2.6 Project Management and QA/QC	0.0	0.0	0.0	4.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	14.0	0.0	$0	$6,134.00	46.0	$106,925.00	$616,019.00
4.3 Alternatives Analysis and Recommendations (FPLOS and SWRA)																						
4.3.1 Alternatives Analysis and Poject Ranking	7.0	0.0	0.0	13.0	0.0	11.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	58.0	82.0	16.0	0.0	$0	$26,154.00	193.0	$133,079.00	$642,173.00
4.3.2 Pre Submittal Meeting	0.0	0.0	0.0	3.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	0.0	0.0	$0	$3,732.00	29.0	$136,811.00	$645,905.00
4.3.3 Project Management and QA/QC	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	$0	$2,772.00	22.0	$139,583.00	$648,677.00
Element 4 Hours	17.0	92.0	4.0	37.0	0.0	100.0	0.0	0.0	0.0	20.0	0.0	0.0	15.0	373.0	90.0	206.0	84.0					
Element 4 Days (8 Hour/Day)	2.1	11.5	0.5	4.6	0.0	12.5	0.0	0.0	0.0	2.5	0.0	0.0	1.9	46.6	11.3	25.8	10.5				**$139,583.00**	
Element 4 Costs	$3,638	$16,652	$648	$5,624	$0	$11,000	$0	$0	$0	$1,700	$0	$0	$2,445	$52,966	$11,700	$26,574	$6,636	$0	$139,583			
Total Hours	112.0	228.0	351.0	315.0	141.0	1,212.5	403.0	187.0	909.0	65.0	0.0	20.0	53.0	524.0	93.0	406.0	204.0					
Total Days (8 Hour/Day)	14.0	28.5	43.9	39.4	17.6	151.6	50.4	23.4	113.6	8.1	0.0	2.5	6.6	65.5	11.6	50.8	25.5					
Basic Services Total Costs	$23,968	$41,268	$56,862	$47,880	$18,471	$133,375	$47,151	$17,765	$59,085	$5,525	$0	$3,700	$8,639	$74,408	$12,090	$52,374	$16,116	$30,000			$648,677.00	
Contingency Services																					$64,868.00	
Project Total Cost																					$713,545.00	

EXHIBIT B

HOURLY RATE SCHEDULE

SINGHOFEN & ASSOCIATES, INC.

MARCH 13, 2020

Labor Classification	Hourly Rate
Principal Engineer	$228.00
Professional Engineer IV	$214.00
Professional Engineer III	$181.00
Professional Engineer II	$162.00
Professional Engineer I	$152.00
Engineer Intern/Scientist IV	$144.00
Engineer Intern/Scientist III	$131.00
Engineer Intern/Scientist II	$122.00
Engineer Intern/Scientist I	$110.00
CADD/GIS Technician III	$117.00
CADD/GIS Technician II	$95.00
CADD/GIS Technician I	$65.00
Administrative Assistant III	$85.00

EXHIBIT B

HOURLY RATE SCHEDULE

APPLIED SCIENCES

MARCH 13, 2020

Classification	Hourly Rate
Senior Principal	$213.00
Principal Consultant	$195.00
Supervisory Engineer	$185.00
Sr. Professional Engineer	$163.00
Professional Engineer	$142.00
Engineer III	$130.00
Engineer II	$122.00
Engineer I	$91.00
Sr. Design Engineer	$129.00
Design Engineer	$114.00
Designer	$104.00
Senior Technician	$79.00
Technician	$74.00
Sr. Scientist Ph.D.	$185.00
Sr. Envir. Scientist	$185.00
Environmental Scientist III	$109.00
Environmental Scientist II	$98.00
Environmental Scientist I	$79.00
Administrative/Clerical	$59.00

EXHIBIT B

HOURLY RATE SCHEDULE

SUNCOAST LAND SURVEYING, INC.

MARCH 13, 2020

Classification	Hourly Rate
Survey Crew (2-man crew)	$127.00
Professional Land Surveyor	$127.00
CADD Technician	$106.00

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) Consultant shall email certificate that is compliant with the insurance requirements to **ssteele@pinellascounty.org** .If certificate received with bid was a compliant certificate no further action may be necessary. The Certificate(s) of Insurance shall be signed by authorized representatives of the insurance companies shown on the Certificate(s). **A copy of the endorsement(s) referenced in paragraph d) for Additional Insured shall be attached to the certificate(s) referenced in this paragraph.**

   c) No work shall commence at any project site unless and until the required Certificate(s) of Insurance are received and approved by the County. Approval by the County of any Certificate(s) of Insurance does not constitute verification by the County that the insurance requirements have been satisfied or that the insurance policy shown on the Certificate(s) of Insurance is in compliance with the requirements of the Agreement. County reserves the right to require a certified copy of the entire insurance policy, including endorsement(s), at any time during the RFP and/or contract period.

   d) All policies providing liability coverage(s), other than professional liability and workers compensation policies, obtained by the Consultant and any subcontractors to meet the requirements of the Agreement shall be endorsed to include **Pinellas County a Political subdivision of the State of Florida** as an Additional Insured.

   e) If any insurance provided pursuant to the Agreement expires, 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	$ 1,000,000
General Aggregate	$ 1,000,000

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.