# FIRST AMENDMENT PROFESSIONAL SERVICES AGREEMENT (CCNA)

Clerk Tracking No. 16-00180

THIS FIRST AMENDMENT (the "First Amendment") to the Contract for Professional Services is made and entered into this <u>16th day of November 2016</u> by and between the CITY OF NAPLES, a Florida Municipal Corporation (the "CITY"), and ERICKSON CONSULTING ENGINEERS, INCORPORATED, a Florida Corporation, authorized to do business in the State of Florida, (the "CONSULTANT").

WHEREAS, the CITY and the CONSULTANT entered into that certain Agreement on August 19, 2015; RFQ No. 15-048 and Clerk Tracking No. 15-00132 (the "Original Agreement") to furnish Naples Beach Stormwater Outfalls Services (the 'Project'); and

WHEREAS, the parties desire to amend the Original Agreement by this First Amendment so that the CONSULTANT will provide additional services pursuant to the terms and conditions contained herein.

WHEREAS, the parties are required by **119.0701 F.S.** to amend the Original Agreement so that the CITY and CONSULTANT will abide by the terms and conditions contained herein.

**NOW, THEREFORE,** for good and valuable consideration, the receipt of which is hereby acknowledged, and in consideration of the mutual covenants, promises and conditions herein set forth, it is hereby acknowledged and agreed as follows:

- 1. The above recitals are true and correct and are incorporated herein by this Reference.
- "Article Three Section 3.1, Time" shall be amended for the provision of additional time by the Consultant with a completion date of September 30, 2019 with a 60-day Project Close-out time frame.
- 3. "Article Four, Compensation" shall be amended for the provision of additional fees for Naples Beach Stormwater Outfalls Services Project by the CONSULTANT in the amount of \$799,300.00 as indicated in **Attachment A-1 Scope of Services and Basis of Compensation**, attached and made a part of this Amendment.
- 4. "Article Five, Maintenance of Records" shall be amended to add Articles 5.2 and 5.3 as indicated below and made a part of this Amendment.

5.2 119.0701 F.S. CONTACT INFORMATION FOR CITY OF NAPLES CUSTODIAN OF PUBLIC RECORDS, CITY CLERK'S OFFICE. If the CONSULTANT has questions regarding the application of Chapter 119, Florida Statutes, to the consultant's duty to provide public records relating to this contract, contact the City Clerk, City of Naples Custodian of Public Records, at Telephone: 239-213-1015, Email: <u>PublicRecordsRequests@naplesgov.com</u>;

Address: 735 8th Street South; Naples, Florida 34102. Mailing address: same as street address.

# 5.3 The CONSULTANT shall:

- 1. Keep and maintain public records required by the CITY to perform the service.
- 2. Upon request from the CITY'S custodian of public records, provide the CITY with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in this chapter 119.0701 F.S. or as otherwise provided by law.
- 3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the CONSULTANT does not transfer the records to the CITY.
- 4. Upon completion of the contract, transfer, at no cost, to the CITY all public records in possession of the CONSULTANT or keep and maintain public records required by the CITY to perform the service. If the CONSULTANT transfers all public records to the CITY upon completion of the contract, the CONSULTANT shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the CONSULTANT keeps and maintains public records upon completion of the contract, the CONSULTANT shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the CITY, upon request from the CITY'S custodian of public records, in a format that is compatible with the information technology systems of the CITY.
- 5. The terms of this First Amendment shall control and take precedence over any and all terms, provisions and conditions of Original Agreement which might vary, contradict or otherwise be inconsistent with the terms and conditions hereof.

- All of the other terms, provisions and conditions of Original Agreement, except as expressly amended and modified by this First Amendment, shall remain unchanged and are hereby ratified and confirmed and shall remain in full force and effect.
- 7. This First Amendment may be executed in any number of counterparts, each of which shall be deemed to be an original as against any part whose signature appears thereon and all of which shall together constitute one and the same instrument.

**IN WITNESS WHEREOF,** the CITY and the CONSULTANT have caused this First Amendment to be duly executed by their duly authorized officers, all as of the day and year first above written.

ATTEST:

Bv: Patricia L. Rambosk, C

CITY:

**CITY OF NAPLES, FLORIDA** 

A. William Moss, City Manager

Approved as to form and legal sufficiency:

Kohr Bv:

Robert D. Pritt, City Attorney

CONSULTANT:

ERICKSON CONSULTING ENGINEERS, INC.

7201 Delainey Court Sarasota, Florida 34240 Attention: **Karyn M. Erickson**, President

By: (Signature

Witness (Signature)

Printed Name: CHRISTIN PERKINSON

Printed ERICKSON Name:

Title: PRESIDE

On File FEI/EIN Number: A Florida Profit Corporation (FL)

Rev. 07/01/2016 CA SA Amendment gls/rdp



# NAPLES BEACH STORMWATER OUTFALLS - SCOPE OF SERVICES (PHASE 2) PURSUANT TO THE AGREEMENT BETWEEN THE CITY OF NAPLES AND ERICKSON CONSULTING ENGINEERS, INC

#### PROJECT DESCRIPTION

There have been long-standing concerns from the State's regulatory agencies, City officials and staff, environmental groups, property owners, residents and visitors that the beach outfalls adversely impact beach erosion, lateral beach access, sea turtle nesting habitat, water quality and beach aesthetics. In addition, the City has experienced significant flooding of Gulf Shore Drive during high frequency rainfall events.

In 2012, the City adopted Resolution No 12-13028 and amended their stormwater master plan to require the removal of the City's stormwater beach outfalls. In September 2015 to June 2016, Erickson Consulting Engineers, Inc. (ECE) conducted a technical analysis and presented the Design Development Phase 1 to the City Council assessing the feasibility of and providing a design (30%) for consolidation of the nine publically owned outfalls to a stormwater pump station(s) in a location that would receive all or a portion of the stormwater currently discharging along Naples Beach (Drainage Basin II); and discharge the collected and treated stormwater through an offshore gulf discharge pipeline(s). This work was detailed in a report by ECE entitled *"Naples Beach Restoration and Water Quality Improvement Project: 30% Design Technical Report"* dated May 2016.

ECE's prior work included the identification and ranking of three (3) alternatives that met the prescribed project goals and objectives which include:

- 1. Reduce flooding and improve water quality;
- Eliminate erosion rates from outfall induced scour and improve lateral beach access by removing pipelines;
- Reduce adverse impacts to the beach and nearshore natural resources (sea turtles and hardbottom);
- 4. Meets or exceeds the existing Level of Service (LOS) to convey flows and improve the stormwater system's resilience for:
  - a. 5-yr/1-hr rain event (City of Naples Comprehensive Plan) and
  - b. 25-yr/3-day rain event (SFWMD);
- 5. Convey treated stormwater to a pump station(s) and offshore; and
- 6. Community education and outreach (project goals & objectives).

The Preferred Alternative was identified as "Alternative 3," which is comprised of a north system and a south system as follows:



- North Drainage and Treatment System consolidates the existing stormwater flows associated with Outfalls 2, 3 and 4 (25-Yr) and conveys the flows to a pump station located in the vicinity of the Naples Beach Hotel and Golf Club with treatment and discharge lines deep drilled and a diffuser system placed offshore in the Gulf. All pipeline consolidation is along Gulf Shore Blvd. The north system treats 100% of the 25-yr peak flow through the pump station.
- South Drainage and Treatment System consolidates the existing stormwater flows associated with existing Outfalls 5, 6, 7, 8, 9 and 10 (25-Yr) and conveys these flows to a pump station located at 3<sup>rd</sup> Avenue North with treatment and discharge using directional drilled deep pipelines through an offshore diffuser system. The south system treats 77% of the 25-yr peak flow through the pump station. An overflow line will be located at Outfall 6 to convey stormwater during extreme storm events when peak discharge volumes exceed the maximum rates for the pump stations, by diverting the flows from Alligator Lake. The overflow line will be located below the visible beach and open only during extreme storm events, estimated to occur once in 10-15 years. The potential exists for pipeline consolidation along the back-beach or Gulf Shore Blvd.

The scope of work described herein continues the development of the Preferred Alternative's South System, hereinafter referred to as the "Project," through the detailed design, permitting and bidding phase based on the following tasks.

- Task 1. Meetings, Project Administration and Management
- Task 2. **City Council Meetings**
- Task 3. Grant Funding Assistance
- Task 4. Supplemental Data Collection and Mapping
- Task 5. Stormwater Modeling (ICPR)
- **Design Development** Task 6.
- Task 7. **Regulatory Permit Acquisition**
- Task 8. Final Engineering, Construction Documents and Bidding

ECE ("Engineer") will complete the following task assignments for the City of Naples ("City").

# SCOPE OF SERVICES - South System Design, Permitting and Construction Bidding Services

# Task 1: Meetings, Project Administration and Management

The Engineer will provide a Project Manager and staff to administer the technical, environmental



and administrative tasks necessary to execute the Project. To ensure timely and cost-effective completion of this contract, the Engineer will maintain rigid cost and scheduling controls on all work performed in association with the contract and will adhere to the Project timeline. The Engineer will coordinate sub-consultant contracts as required to establish deliverables, schedule and invoicing procedures to meet the City's requirements for payment.

Engineer will update the Project schedule (Attachment A) and budget (Attachment B) as needed to document progress and work accomplished. The Engineer's Project Manager will monitor and control costs, deliverables, schedules and provide quality control of all work products.

The Engineer and sub-consultant (Stantec) will prepare for and participate in four (4) meetings with City staff at key milestones in the design process. These meetings will be held in person at the City Engineer's office. The Engineer's Project Manager and senior staff member will attend each meeting, as appropriate. The timing of these meetings is as described below and in the schedule provided as Attachment A and correspond to the design phases of work. In addition to the design meetings, monthly progress meetings will be held between the Engineer and City's Project Manager and other team members as appropriate. These meetings will alternate between virtual and physical meetings held at the City Engineer's office. The monthly meetings will include the design meetings referenced herein.

<u>Project Kick-Off Meeting.</u> Upon entering into a contractual agreement with the City, the Engineer shall prepare for and attend the Project kick-off meeting with City staff. The purpose of the meeting is to review the Project scope and schedule as establish an overall understanding of the Project's goals and objectives. The meeting will set the stage for the maintenance of a high level of coordination and communication amongst the parties from the outset. The Engineer will prepare and distribute minutes to the Project participants following the meeting.

<u>Design Development Meeting.</u> This meeting is expected to occur upon completion of the supplemental engineering (Task 4), stormwater modeling (Task 5) and will provide the City with options for the pump station design.

<u>Design Development Meeting</u>. This meeting is expected to occur approximately half way through the design development to allow the City to comment on the pipeline consolidation and pump station design.

<u>60% Design Review Meeting.</u> Upon completion of the 60% design (Task 6), the Engineer will meet with the City to review the design prior to submission of the regulatory permit applications.

100% Final Design Review Meeting. Upon commencement of the Final Engineering (Task 8), the Page | 3



Engineer will meet with the City to review the final design and bid document requirements prior to submission of the regulatory permit applications.

<u>Monthly Progress Meetings</u>. The Engineer will facilitate monthly progress meetings with the City for the purpose of providing a summary on the Project status, schedule, major issues to be addressed and next steps relating to the execution of the Project. It is assumed that there will be periodic suspensions of monthly meetings for various reasons including holidays, with twenty (20) meetings anticipated.

Each meeting will have an agenda and sign in-sheet prepared by Engineer. Meeting summary notes will be prepared by Engineer and submitted to all attendees within three (3) business days of the meeting for review and comment. Monthly meetings will be arranged and setup in consultation with the City Project Manager.

These services will be provided for an estimated project duration of 24 months.

# Task 2: City Council Meetings and Communications

The Engineer will assist the City in presenting the progress of the design and permitting of the project to the City Council, including the preparation of a PowerPoint presentations, graphics and memorandums as appropriate. The scope of work assumes the Engineer's and Sub-Contractor(s) attendance at two (2) meetings, upon the request of City Staff or City Council.

# Task 3: Grant Funding Assistance

The Engineer previously identified potential funding under multiple grant programs including the following:

- TDML Water Quality Restoration Grants (FDEP)
- EPA 319(h) Clean Water Act Grants (FDEP)
- Cooperative Funding Initiative (SFWMD)
- RESTORE Act (Deepwater Horizon)
  - Pot 1 (Direct Component)
  - Pot 2 (Council Selected Component)
  - Pot 3 (Spill Impact Component)

The Engineer will conduct research, meetings and phone calls to identify the potential funding amounts and likelihood of success, and thereby rank the funding sources. Key dates and application requirements will be highlighted in a memo to the City Engineer. The Engineer will work with the City to develop two (2) applications for the selected funding opportunities.



For each funding application a draft package will be submitted to the City for review prior to submission of final documents to the respective funding sources. Application requirements will be specific to each funding source and will likely include signed and sealed design documents, cost estimates, project narratives and informational material specific to each application. For each package, the Engineer will provide the City with two (2) hard copies as well as an electronic PDF copy.

# Task 4: Supplemental Data Collection and Mapping

The Engineer will conduct supplemental data collection and mapping as necessary for detailed design and permitting of the Project. The Engineer will utilize existing City and available data (public non-proprietary) to the maximum extent possible.

# Task 4A: Survey

The Engineer will conduct surveys as specifically required to design and permit the project. These surveys include:

- A boundary and topographic survey of the 3<sup>rd</sup> Ave North beach access (future pump station location) and existing beach outfall #6 site in accordance with Rule 62B-33.0081, FAC as required to complete the design as well as procure a Coastal Construction Control Line (CCCL) permit from the State.
- 2) A topographic and bathymetric survey of the Alligator Lake site of sufficient detail for design and permitting for use of the site to house the generator. Additionally, the edge of shoreline (0 ft NAVD) along Alligator Lake will be surveyed for the length of the property. The survey point spacing shall be 20 ft (min) and denote all topographic features and major breaks in slope.
- 3) A stormwater infrastructure survey shall be conducted to obtain surface elevation and location data on all visible utilities and stormwater conveyance system components within each road intersection and beach access along Gulf Shore Blvd between North Lake Drive and 3rd Ave South. A survey of the stormwater structures, as well as one structure upstream and one structure downstream, at each intersection along Gulf Shore Blvd will be conducted. Additionally, the surveyor shall collect survey points for the centerline and both edges of payment at a 100 ft spacing along Gulf Shore Blvd between North Lake Drive and 3rd Ave South. Note: Visible utility locations will include all above ground sanitary, potable water, cable, phone and electric facilities. Subsurface location of utilities is not included in this scope of work. Inverts and sanitary manholes is not included in this scope of work.
- 4) The Engineer will rely on Collier County's Spring 2015, or more recent as it becomes available, beach profile and bathymetric data and sub-bottom sediment depths for the design of the directionally drilled line.



5) The Engineer will utilize Collier County's hardbottom mapping (August/September 2015), or more recent as it becomes available) to design and permit the project.

Electronic survey files signed and sealed by registered land surveyor will be provided to the City.

The scope does not provide for a subsurface utility locate to determine utility conflicts. These services, if needed, will be provided as an additional service.

## Task 4B: Geotechnical Investigation (Deep Core Boring)

One (1) standard penetration test (SPT) boring will be performed to determine the nature and condition of the subsurface soils. The boring will reach 80-100 ft below the natural ground surface or at least 20 feet into limestone rock exhibiting a minimum blow count of 50, whichever is less. Any limestone encountered will be characterized by recording Time-Pressure Cutting Profiles that record the time it requires to drill through 12" of limestone with a specific down pressure on the drill bit. This will give a profile of relative rock consistency/hardness. For design of the pump station, samples will be taken to a depth of 50 ft below the surface at 5 foot intervals and tested to determine (a) soil stratification, (b) a generalization of subsurface soil conditions encountered in the borings, (c) analysis of existing soil conditions with respect to the proposed construction of the pump station and (d) standards soil gradation, as necessary, should materials other than sand be encountered. Sediment samples analyzed and described from the log shall be of sufficient spacing and frequency to adequately describe the sediment layers within the cores. Individual sample analysis and total sample composite analysis shall be provided including percent silt, organics, rock and debris, as well as, any other significant compositions. The cores will be cataloged using standard drilling log forms, granularmetric reports, and grain size distribution plots with the testing and analysis performed to characterize the sediments using standard statistical methods (mean, standard deviation, etc.).

A geotechnical report summarizing the findings of the boring, signed and sealed by a professional geotechnical engineer, will be provided to the City.

### Task 4C: Water Level Recorders (Install & Data Download)

In situ water level recorders will be installed at two locations in Alligator Lake and South Lake for a duration of 3 to 4 months as needed to capture two storms events with rainfall of intensity greater than 1" per hour. One gauge will include a recording side looking directional current meter. These water level measurements will be correlated to rainfall data recorded at the City's two gauges (#3 and #7). In addition, the data will be used to assess water storage and runoff and lake levels for existing conditions (including incoming tidal flows) and storage capacity and staging when incoming tidal flows are restricted by raising the weir. These measurements will include current and water level readings measured over a winter-spring season.

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## Task 4D: Basemaps

The data acquired and compiled will be used to update the Project's base drawings and maps and utilized throughout the design, permitting and construction phases to create design and working drawings. The compiled base maps in AutoCAD format (2015/16) will be distributed to the City and the Project sub-consultant(s), as appropriate.

In addition to the basemaps, the work products and findings for the Supplemental Data Collection and Mapping work will be presented in monthly progress meeting(s) and through a brief and concise technical memorandum.

# Task 5: Stormwater System Modeling

Engineer will conduct a stormwater model study to support the Project. The model study will serve two main purposes: (1) provide a tool to aid the engineering design by evaluation of system design alternatives (lakes, weirs and the flow control structure at Outfall #6) and optimization of the trunkline geometry (size and inverts) and pump requirements; and (2) provide a framework for evaluation of the project impact on level of service.

The study will utilize the Interconnected Channel and Pond Routing Model (ICPR4) model. The model will be used to simulate the flow/discharge and staging (i.e., water surface elevations and flows), along the trunkline, at the 3<sup>rd</sup> Avenue North pump station and offshore.

The District's 5Yr-1Hr and 25Yr-3Day rainfall hydrographs will provide the hydrology forcing. Compilation and analysis of measured data with comparison to prior stormwater studies will drive the model development. The model will then be developed and adjusted to represent the observed stormwater staging and flows in Sub-Basins 5-10 of the City of Naples' Basin II. Following the model verification, the 5Yr-1Hr (City Requirement) and 25Yr-3Day (District Requirement) events will be simulated for the Project design development to evaluate the trunkline, pump station and overflow line for the system's "design" operating conditions. The extent of the model domain will cover Basin II from 4th Avenue South (at the south end of the Project Area), including Alligator Lake and South Lake, up to Broad Avenue North and South Golf Drive (at the north end of the Project Area). This extent includes the area surrounding the Alligator Lake System (Sub-Basin 6) for the evaluation of the cumulative stormwater flow to the pump station from each sub-basin and the importance of the lake system for storage and treatment as well as the lake system's significant contribution to the pump station during design storm events (5Yr-1Hr and 25Yr-3Day).

The stormwater model study will be summarized in a report including a description of the model setup, sub-basins, pipeline system, collected data, comparison with prior studies, and results.





The report will be provided to the City and the State (SFWMD /FDEP) as part of the regulatory permitting process.

#### Task 5A: Model Setup (ICPR)

Available topographic and infrastructure (stormwater conduit and structures) survey data, as well as data obtained from prior Phase 1 and new Task 4 above) field data collection efforts, will be compiled. The data will be analyzed to provide a characterization of the hydrologic and hydraulic processes that the model will simulate. These data will also be analyzed to provide the necessary model inputs and comparison data sets for basin set-up, and the baseline conditions under which the potential impacts of the Project will be evaluated.

The model setup will require several data sets. Baseline topographic and infrastructure (stormwater conduit and structures) survey information will be utilized as the digital, georeferenced basemap of the model domain. This information will be used to verify the sub-basin boundaries delineated by AECOM in their November 2011 Model Report. Topography, inlet and conduit geometry, and rainfall hydrographs will be processed to provide the inputs to the model. The model verification will require data observed and measured water levels, flows and rainfall for comparison to simulated staging during the model verification process.

#### Task 5B: Model Verification

The model will be developed for Sub-Basins 5-10. The model space defines the model nodes, links and storage areas, including Alligator Lake, South Lake, major inlets and stormwater conduits, and overland flow.

Model verification will include adjustment of friction coefficients, impervious areas, and prestorm upstream storage until agreement is obtained between observed and simulated data to meet the District (or FDEP) acceptance. Comparisons will include qualitative (i.e., water surface elevations and flows) as well as model (AECOM and Gulfshore Engineering, Inc.) and observation agreement.

#### Task 5C: Runnoff Simulations

The 5Yr-1Hr (City Requirement) and 25Yr-3Day (the District Requirement) events will be simulated for the Project design development to evaluate the trunkline, pump station and overflow line for the system's "design" operating conditions.

### Tasks 5D and 5E: Pipeline Consolidation Options and Pump Station Options

The resulting model will be applied to assess the design of the Project and varying system components (conduit geometry, capacities, and alternatives). These initial simulations will provide data to refine the design of the system hydraulics and will be used for refinement of the Page | 8





trunkline, pump station and offshore outflow designs for varying directionally drilled line geometries and offshore operating conditions.

The model will be applied to simulate the Project performance and resulting level of service; including simulating the Project effects on upstream staging.

### Task 5F: Plume/Sediment Mixing Zone Modeling

The mixing zone for the freshwater discharge to the gulf waters is a function of the flow rates, water depths and diffuser system design. A mixing zone analysis will be prepared, in conjunction with FDEP requirements, to address salinities resulting from the discharge of stormwater to define the dilution rate(s) at the discharge point. Suspended sediment concentration levels for the discharge flows to Gulf waters will be developed based on prior water quality data collected by Engineer. The EPA's Visual Plumes model system (or other method approved by FDEP) will be used to simulate the expected mixing and dispersion. If this should exceed the state allowable mixing zone of approximately 150m, a separate application for a mixing zone variance will be required in the permitting phase (mixing zone variance request).

# Task 6: South System Design Development (60%)

### Task 6A: Pipeline Consolidation

The Engineer shall prepare the detailed design for the pipeline consolidation including the consolidated trunkline and feederlines and associated utility, easement and structural conflicts. This scope provides for the design of eight conflict structures. Additional conflicts will be addressed using the general allowance fund (Task 10). The Engineer will design standard concrete replacement sections for driveways impacted as a result of the consolidated trunkline and feederline placement.

At the project kick-off meeting, the City shall provide direction as to the routing of the consolidated trunkline along the East or West ROW of Gulf Shore Blvd. Consolidation along the West ROW will require the replacement of the existing potable water main and sidewalk which are not included in this scope. Consolidation along the East ROW could create the opportunity to create a bike lane if the City so desired; however, the design of such a bike lane is not included in this scope.

The Engineer shall design the trunkline (main conveyance line which runs along N Gulf Shore Blvd and conveys flows from Outfalls 6, 7, 8, 9 and 10 to the 3<sup>rd</sup> Avenue North pump station) and feeder lines (connection of stormwater system collection points to the main trunk line for (Outfalls 6-10). In addition, a new feederline carrying flows presently discharging at Outfall #5 will be designed to redirect stormwater to Alligator Lake will be designed.



The trunk line and feeder lines will be sited to:

- minimize conflicts with existing utilities (power, fiber optics, sewer, potable water, etc.) to the greatest extent practical;
- 2. minimize trunk line length and pipe sizing to the greatest extent practical while maintaining the required flow; and
- 3. achieve maximum flow capacity.

The line locations, alignments, elevations and level of service (LOS) will be specifically identified in the design. The LOS will meet or exceed the minimum level of service as specified by the City of Naples Comprehensive Plan (5-yr/1-hr) and by the South Florida Water Management District (25-yr/3-day) for state-level permitting.

The size of the required stormwater trunk line infrastructure will be determined based on output and results of the stormwater system model simulations (Task 5). Collections points will be utilized where feasible at all existing inlet structures to minimize road and new construction. The consolidation of feeder lines will be limited to those collection points within the North Gulf Shore Boulevard ROW and the ROWs of the beach access streets to the west of North Gulf Shore Boulevard between North Lake Drive (Outfall #5) and 3<sup>rd</sup> Avenue South (Outfall #10). The consolidation, re-design and/or re-sizing of feeder lines and stormwater collection points east of the North Gulf Shore Boulevard ROW are not anticipated; however, existing connection of these lines to the North Gulf Shore Boulevard stormwater system will be maintained. The re-direct of existing trunk and/or feeder line stormwater conveyances to locations other than the proposed Gulf discharge is outside the SOW presented herein.

# Task 6B: Pump Station and Filtration System

The Engineer shall prepare the detailed design for the pump station and system which include the following equipment and structures:

- Pump Station
- Filtration System
- Yard piping
- Equipment Pads
- Control Panels
- Site Lighting
- Sound Attenuation
- Site Landscaping
- Electrical Systems
- Natural Gas Generator



- Civil/Site Design at Pump Station and Generator Sites
- Erosion Control and BMP

This project considers the treatment of stormwater prior to discharge into the gulf. Treatment objectives and requirements will be identified by the Engineer as a result of recent water quality data collection, discussions with jurisdictional entities, plume modeling of dispersion and direction provided by the City. The Engineer will design a filtration system to include filtration units, piping and valves, equipment pads, controls, screening, power supply and access (filtration), piping and valves, equipment pads, controls, screening and power supply.

In a report submitted by the Conservancy of Southwest Florida, dated May 27, 2016, to the City Council, the Conservancy and their engineering consultants discuss methods for additional filtration and stormwater treatment. These include stormwater treatment on empty lots owned by the City, installation of CDS units and underground storage tanks. Engineer will conduct an assessment and prepare a brief memo to the City on the viability of each option.

The pump station design shall include the components (e.g site/civil, electrical, etc) necessary to build the project.

### Task 6C: System Overflow

The Engineer will provide the detailed design for the system overflow pipe to be located at Outfall 6. The outfall system will be designed to convey stormwater during extreme storm events when peak discharge volumes exceed maximum rates for the pump station, by diverting the flows to Alligator Lake. Design of the system overflow includes modifications to the existing structures including the design of a training wall, anchor size and placement and flap gate system to force the pipes open during an overflow event.

### Task 6D: Offshore HDD

The Engineer will provide the detailed design for the Offshore HDD including:

- Pipeline size, length and material
- Bore hole size and depth
- · Pipeline profile considering allowable bending radius
- Outfall diffuser structure (diffuser size/type/number, strapping, cap, etc)
- Anchoring system
- Mixing zone and outfall location

The deliverable of the design develop tasks is a complete set of 60% design documents. Upon approval from the City, the Engineer will finalize the design documents and proceed with applying for regulatory permits. Drawings shall provide sufficient detail to identify the Project site



location, the existing site geometry, typical plan and sections view of the Project, staging areas, existing utilities, submerged land easements and so forth as necessary to permit the project.

The 60% design level plans will generally include:

- Cover, general notes and key sheet
- Access and staging plans
- Erosion and turbidity control plans
- Existing site conditions and demolition plan
- Consolidated feederline and trunkline site plans
- HDD Pipeline locations and profile
- Mixing zone plan
- Diffuser and fastening plan and anchoring plan (plan, section and details)
- Overflow outfall (plan, profile and sections)
- Pump Station plans, filtration and disinfection systems and sections, site yard piping plans and profiles, valve and appurtenance plans and elevations, site improvements including structural slabs, fencing, proposed grading and landscape treatments.
- Electrical, I&C drawings and generator will include plans, details, one-line diagrams and other details to identify the major portions of the design.

# Task 6E: Engineer's Opinion of Probable Costs

In conjunction with the development of the 60% design plans and documents, the Engineer will develop an engineer's Opinion of Probable Project Costs. The development of the Engineer's Opinion of Probable Costs will adhere to processes set forth by the City of Naples.

Two (2) sets of the 60% design plans and two (2) copies of the Engineer's Opinion of Probable Cost will be provided in hard copy will be provided to the City as well as an electronic PDF copy.

# Task 7: Regulatory Permit Acquisition

All documentation required for the permit applications will be prepared and submitted to the regulatory agencies. The following permits will be required:

- Standard (Individual Permit): USACE
- Environmental Resource Permit: SFWMD (or FDEP)
- Coastal Construction Control Line (CCCL) Permit: FDEP
- Sovereign Submerged Lands Lease Acquisition: FDEP
- Re-zoning of the Alligator Lake parcel: City

For each permit application, or other submittal, a draft package will be submitted to the City for review prior to submission of final documents to the respective permitting agency. Application



requirements will be specific to each permit source and will include signed and sealed design documents, project narratives and informational material. For each package, the Engineer will provide the City with two (2) hard copies as well as an electronic PDF copy.

The City is responsible for the direct payment of all applicable permit fees as required by the regulatory agencies.

# Task 7A: Federal (USACE) Permit

The project will require an individual (standard) permit from the US Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.

- 1) <u>7A.1 USACE Application.</u> Engineer will prepare the USACE application package based on the approved 60% design documents, as completed in Task 6E. The application will detail avoidance and minimization measures incorporated into the project's design. Detailed environmental documentation such as an Environmental Impact Assessment (EIA) or Environmental Impact Statement (EIS) are not anticipated for this Project, and are not included as part of this scope of services and neither is a mitigation plan for direct or indirect impacts to wetlands or surface waters. The project will include public noticing drawings as required by the USACE for the 21-day public noticing in the federal register.
- 2) <u>7A.2 USACE RAI Response(s)</u>. Following submittal of the application, the Engineer will respond to their first RAI, the agency's first request for request additional information. Comments from USACE will be incorporated into the design, and modifications issued if deemed appropriate. Appropriate changes to the design documents will be made following review and approval by City staff. A second RAI response, may be required and is not included as part of this scope of services. Upon acquisition of the permit, the Engineer will review the final intent and conditions. Based on the conditions presented, the Engineer will negotiate on behalf of the City, as necessary.
- 3) <u>7A.2 Consultation with Resource Agencies (USFWS, NMFS).</u> The project will be subject to additional review by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). As such, Engineer will coordinate with resource agencies including to facilitate the USACE permit issuance through teleconference meetings).



#### Task 7B: State (ERP) Permit

Under the State's environmental permitting regulations, the project will require an individual Environmental Resource Permit (ERP). ERP's are typically issued by FDEP for coastal works, and SFWMD for inland/wetland works. At a pre-application meeting held with FDEP and SFWMD during the Phase 1 work, the tentative decision was made that SFWMD would permit the project with consultation on coastal issues from FDEP, as needed.

- 1) <u>7B.1 State ERP Application (SFWMD)</u>. Engineer will prepare the ERP application package based on the approved 60% design documents, as completed in Task 6E. The project will require noticing in the local newspaper, the cost of which shall be paid directly by the City. Detailed environmental documentation such as an Environmental Impact Assessment (EIA) or Uniform Mitigation Assessment Method (UMAM) assessment are not anticipated for this Project, and are not included as part of this scope of services and neither is mitigation for direct or indirect impacts to wetlands or surface waters. The application will detail avoidance and minimization measures incorporated into the project's design.
- 4) <u>7B.2 SFWMD (or FDEP) RAI Response(s)</u>. Following submittal of the application(s), the Engineer will respond to first agency requests for additional information. Comments from the SFWMD (or FDEP) will be incorporated into the design and modifications issued, if deemed appropriate. Appropriate changes to the design documents will be made following review and approval by City staff. A second RAI response, may be required and is not included as part of this scope of services. Upon acquisition of the permit, the Engineer will review the final intent and conditions. Based on the conditions presented, the Engineer will negotiate on behalf of the City, coordinating with the City as necessary. The project will be subject to additional review by the Florida Fish and Wildlife Conservation Commission (FWC). As such, Engineer will coordinate FWC as needed.
- 2) <u>7B.3 Submerged Lands Lease.</u> The directional drilled line and outfall diffuser will require a submerged lands lease from the State of Florida. Legal descriptions and drawings for the proposed lease area coincident with the final HDD route and diffuser outfall structure across sovereign submerged state lands will be prepared, as required to satisfy the requirements of the FDEP state lands lease application process to the FDEP to acquire the submerged lands lease.

#### Task 7C: FDEP CCCL Permit

All project components occurring seaward of the State's Coastal Construction Control Line (CCCL) require a CCCL permit from the State. It is assumed that the directionally drilled pipeline will be





considered an exempt activity (for work occurring seaward of the CCCL) and therefore a Joint Coastal Permit (JCP) will not be required.

- 1) 7C.1 CCCL Permit Application. Engineer shall prepare and submit to the FDEP an application and required documents for a CCCL permit for siting of structures (HDD drill lines, pump station and ancillary structures) and all work occurring seaward of the CCCL in accordance with 62B-33, FAC. CCCL specific permit drawings will be prepared and submitted with application.
- 2) 7C.2 FDEP CCCL RAI Response(s). Following submittal of the application(s), the Engineer will respond to first agency requests for additional information with additional comments. Comments from the FDEP will be incorporated into the design, and modifications issued if deemed appropriate. Appropriate changes to the design documents will be made following review and approval by City staff. A second RAI response, may be required and is not included as part of this scope of services. Upon acquisition of the permits, the Engineer will review the final intent and conditions. Based on the conditions presented, the Engineer will negotiate on behalf of the City, as necessary.

# Task 8: 100% Construction Plans, Specifications and Bid Documents

# Tasks 8A/B/C/D: Pipeline Consolidation, Pump Station and Filtration System, System Overflow and Offshore DDL, Diffuser and Anchoring System Final Engineering and Drawings

The construction plans, specifications and bid documents will incorporate changes from the 60% design drawings and City review comments and regulatory agency permit authorizations and comments. Engineer will provide 100% construction ready signed and sealed plans and specifications to bid and construct the project.

# Task 8E: Engineer's Opinion of Probable Construction Costs

In conjunction with the development of the construction documents, the Engineer will develop the final engineer's opinion of probable construction costs. The development of the Engineer's Opinion of Probable Costs will adhere to processes set forth by the City of Naples. The final cost estimates will be included on the proposed bid form detailing the estimated quantities of work to be performed.

Two (2) sets of the signed and sealed construction drawings and two (2) copies of the Engineer's Opinion of Probable Cost will be provided in hard copy to the City as well as an electronic PDF copy.





### Task 8F: General, Technical and Environmental Specifications and Supplemental Conditions

The Engineer prepare the bid package inclusive of general, technical and environmental specifications as well as supplemental conditions to the City's contract documents. Additional components of the bid package will include appendices (permits, geotechnical reports, and other relevant site conditions and design related information).

#### Task 8G: Bidding Assistance

The Engineer will coordinate the bid advertisement with the City to determine an appropriate date for a Pre-Bid conference. The Engineer will prepare for and attend the Conference, and answer prospective Contractor inquiries or transcribe Contractor inquiries for subsequent research and response as appropriate.

During the bidding period, the Engineer shall communicate frequently with City staff regarding receipt of prospective Contractor written inquires seeking interpretation of the Construction Documents. The Engineer will assist the City with the preparation of bid addenda as appropriate by providing technical responses.

The Engineer will obtain copies of the sealed bids from the City and shall review them for accuracy, completeness and contractor qualifications. The Engineer will evaluate and tabulate the bids and provide a written recommendation for award to the City based on a review of the submitted bids.

#### TIME FOR COMPLETION

Engineer shall make every effort to complete the professional services specified in this scope assignment, as outlined in Attachment A.

#### COMPENSITATION

Project compensation is detailed by task in Attachment B.

#### Attachment A-1 : Scope & Compensation :

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Supplemental Data Collection & Mapping															
Stormwater Modeling															
60% Design					Design Dev Mtg #1		Design Dev Mtg #2		60% Design Rev Mtg						
Regulatory Permitting										File Application s	1 P				
Final Design and Construction Document Preparation															
Bidding and Construction Commencement															
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#### Attachment A-1 : Scope & Compensation

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			(CCCL)	) and S	FWMD (	ERP) P	ermits	ssued					Con	pleted	Constr	uction	comme	nces	

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Attachment A-1 : Scope & Compensation :

Naples Beach Stormwater Outfalls 19 of 20 Page 1

#### NAPLES BEACH RESTORATION & WATER QUALITY IMPROVEMENT PROJECT ALTERNATIVE 3 "SOUTH" STORMWATER IMPROVEMENT (OUTFALLS #6,7, 8, 9 and 10) Services Design, Permitting & Construction Documents Fee Schedule OCTOBER 28, 2017 Construction Permitting Design (60%) **Documents &** (80%) Bidding (100%) **Total Fee** Task Description Year 1 Year 2 Year 3 (2018/19) (2016/17) (2017/18) Project Administration and Contract Management 35,300.00 17,650.00 \$ 17,650.00 \$ \$ 1 2 12,200.00 \$ 6,100.00 6,100.00 City Council Meetings \$ \$ 3 Grant Funding Assistance \$ 15,500.00 \$ 7,750.00 \$ 7,750.00 Sub-Total Tasks 1-5 \$ 63,000.00 \$ 31,500.00 \$ 31,500.00 4 Supplemental Data Collection and Mapping A Survey A.1 Topographic Survey of 3rd Ave North and Outfall #6 \$ 14,900.00 \$ 14,900.00 A.2 Topographic and Bathymetric Survey of Alligator Lake Site \$ 4,900.00 \$ 4,900.00 A.3 Stormwater Infrastructure and Utilities Survey \$ 22,200.00 \$ 22,200.00 Bathymetric Survey of Offshore Discharge Site A.4 \$ A.5 Hardbottom/Geophysical Mapping \$ 7,300.00 \$ 7,300.00 В Geotechnical Investigation (Deep Core Boring) \$ 19,100.00 C Water Level Recorders (Install & Data Download) \$ 19,100.00 \$ 6,500.00 6,500.00 \$ D Base maps \$ \$ 74,900.00 \$ 74,900.00 Sub-Total Task 4 Stormwater Modeling 5 21,400.00 \$ 21,400.00 Model Setup (ICPR) \$ A 25,200.00 \$ 25,200.00 В Model Verification \$ 17,600.00 \$ 17,600.00 С \$ **Runnoff Simulations** D Pipeline Consolidation Options \$ 9,800.00 \$ 9,800.00 Pump Station Options 11,000.00 \$ 11,000.00 E \$ F Plume/Sediment Mixing Zone Modeling \$ 8,100.00 \$ 8,100.00 93,100.00 \$ 93,100.00 Sub-Total Task 5 \$ South System Design Development (60%) 6

**ATTACHMENT B** 

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Attachment A-1 Scope & Compensation

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					Year 1 (2016/17)		Year 2 (2017/18)		Year 3 (2018/19)
A	Pipeline Consolidation	\$	57,500.00	\$	57,500.00				
В	Pump Station & Filtration System	\$	155,000.00	\$	155,000.00	1			
C	System Overflow	\$	18,600.00	\$	18,600.00				
D	Offshore DDL	\$	40,000.00	\$	40,000.00				
E	Engineer's Opinion of Probable Costs	\$	19,000.00	\$	19,000.00				
	Sub-Total Task 6	\$	290,100.00	\$	290,100.00				
7	Regulatory Permitting	1						÷	
A	Federal (USACE)								
A.1	USACE Application	\$	18,000.00	\$	18,000.00		-		
A.2	USACE RAI Responses (2)	\$	15,000.00			\$	15,000.00		
A.3	Consultation with Resource Agencies (USFWS, NMFS, FWC)	\$	8,000.00			\$	8,000.00		
В	State ERP (SFWMD or FDEP)								
B.1	ERP Application	\$	21,500.00	\$	21,500.00				
B.2	SFWMD or FDEP RAI Responses (2)	\$	20,000.00	\$	5,000.00	\$	15,000.00		
B.3	Sovereign Submerged Lands Lease Acquisition	\$	4,000.00			\$	4,000.00		
С	State CCCL (FDEP)			-					
C.1	FDEP CCCL Permit Application	\$	12,000.00	\$	12,000.00				
C.2	FDEP CCCL RAI Responses (2)	\$	6,000.00	\$	1,500.00	\$	4,500.00		
D	Alligator Lake Re-Zoning							1	
	Sub-Total Task 7	\$	104,500.00	\$	58,000.00	\$	46,500.00	\$	
в	Construction Plans, Specifications and Bid Documents			-				-	
А	Pipeline Consolidation Final Engineering and Drawings	\$	21,700.00					\$	21,700.00
В	Pump Station and Filtration System Final Engineering and Drawings	\$	63,000.00					\$	63,000.00
С	System Overflow Final Engineering and Drawings	\$	12,000.00		T			\$	12,000.00
D	Offshore DDL and Anchoring System Final Engineering and Drawings	\$	16,000.00					\$	16,000.00
E	Engineer's Opinion of Probable Costs (Final)	\$	18,000.00					\$	18,000.00
F	General, Technical & Environmental Specifications & Supplemental Conditions	\$	25,000.00	1				\$	25,000.00
G	Bidding Assistance	\$	18,000.00					\$	18,000.00
	Sub-Total Task 8	\$	173,700.00					\$	173,700.00
asks 1-8	Total (Design, Permitting and Final Contract Bid Documents)	\$	799.300.00	\$	547,600.00	\$	78,000.00	\$	173.700.00

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