



WORK ORDER INITIATION FORM for the CITY OF CLEARWATER

Date: September 6, 2016
Project Number: TBD
City Project Number: 16-0026-EN

1. PROJECT TITLE:

City of Clearwater's Master Plan for Cooper's Point

2. SCOPE OF SERVICES:

The City of Clearwater (City) has requested that AECOM provide a Scope of Services for professional consulting services for master planning as described herein to develop a Master Plan for Cooper's Point. This master planning effort is part of the ongoing effort to restore habitats and water quality in Old Tampa Bay. The proposed study area includes Cooper's Point, Cooper's Bayou, and the coastal basin adjacent to Cooper's Bayou. The project site is located at the west end of the Courtney Campbell Causeway (State Road 60) near the intersection of South Bayshore Boulevard, in Pinellas County as shown on the attached Project Location Map. The project areas around Cooper's Point total approximately 381 acres, the majority of which is tidally influenced submerged lands and mangrove swamp. Approximately 111 acres of the project lands are owned by the Clearwater Christian College, but under contract to be purchased by the City of Clearwater in July 2016.

The evaluation, modeling, conceptual design, and engineering tasks to be performed by AECOM will take into account the following key program elements:

- **Environmental** – Improving water quality in Cooper's Bayou, improving tidal flushing and circulation between Cooper's Bayou and Old Tampa Bay, improve and protect mangroves and other wetland habitats, improve wildlife utilization,;
- **Stormwater** – Developing a quantitative modeling tool to estimate current (baseline) stormwater hydraulic capacity and pollutant loads associated with stormwater runoff, and to assess benefits of proposed projects; Improving existing flooding conditions west of

- South Bayshore Boulevard (if practicable); Assessing the feasibility of piping plant water discharge from the East Plant to the north side of State Road 60 into Cooper's Bayou;
- **Parks & Recreation** – Providing appropriate recreation and environmental education opportunities: such as public access for non-motorized users, including paddlers, pedestrians, and cyclists; environmental education such as observation towers; and supporting amenities such as parking and trailheads; and
- **Other** – Summarizing other on-going water quality/environmental improvement efforts in Old Tampa Bay, developing preliminary construction costs to implement the master plan.

AECOM will perform Project Management for the duration of the project. Project management tasks will include the following:

- Correspondence and coordination with the City;
- Managing the tasks described herein;
- Supervision of AECOM staff working on the project;
- Maintaining the project schedule and production progress;
- Perform miscellaneous administrative and accounting tasks, and monthly reporting to the City;
- Performing quality assurance reviews of all deliverables and data produced for the project and submitted to the City as deliverables.

I. PRE-CONCEPTUAL DESIGN PHASE

Task 1 – Kick-off Meeting

AECOM will convene a Kick-off Meeting with the City within two weeks after receiving the written Notice to Proceed. AECOM will develop the agenda for the Kick-off Meeting with input from the CITY. The Kick-Off Meeting will discuss and document the points of contacts within the CITY and AECOM, communication protocol, data requirements, the scope of work, confirm desired program elements, project schedule, milestones and submittals, and other miscellaneous issues.

AECOM will prepare minutes of the Kick-Off Meeting and will distribute them to the meeting attendees.

Deliverables:

- Draft and Final Meeting Minutes
- Project schedule

Task 2 – Data Collection

AECOM will collect and review all relevant base data information that is available in the Public Record files. At a minimum, AECOM will review public files from the following public agencies:

- City of Clearwater
- Pinellas County Water and Navigation
- Southwest Florida Water Management District (SWFWMD)
- Florida Department of Environmental Protection (FDEP)
- Federal Emergency Management Agency (FEMA)
- Army Corps of Engineers (ACOE)
- Tampa Bay Estuary Program (TBEP)
- Florida Department of Transportation

Following the public records review, AECOM will perform site inspections of the various project areas to check and verify specific information against the data collected in Tasks I.1 and I.2. The sites will be visually examined and photographed by the Project Team prior to the start of the conceptual design phase. The existing properties owned by the City of Clearwater in the study areas will be visually inspected to gain an understanding of their habitats, infrastructure, safety concerns, grading and drainage issues, currently implemented best management practices (BMPs) and other design constraints.

As part of this task, AECOM may also review other existing environmental lands with elements similar to those envisioned by the City for this Master Plan. AECOM will collect data and information from the other local parks with similar program elements to aid in determining a compatible program mix for the project.

Task 3 – Site Analysis and Base Plan

Upon completion of Tasks I.1 and I.2, AECOM will analyze the data collected and produce a base plan (existing conditions) of the project areas. Site Analysis graphics that identify the program element opportunities and constraints of the project areas will be developed and used to draft a Conceptual and Final Master Plan. Items addressed in the Site Analysis graphics will include, but may not be limited to:

- Project Study Area Boundaries
- Hydrology;
- Flood Plains;
- Wetlands;
- Land Uses/Vegetative Cover;
- Other Sensitive Habitats;

- Open Spaces;
- Site Access;
- Multi-modal connectivity;
- Adjacent Land Uses;
- Property Ownerships;
- Utilities;
- Upland Infrastructure;
- Excess Water Quantity/Flooding Areas.

AECOM will meet with the City to present the Site Analysis and Base Plan, and obtain comments on the proposed opportunities and constraints. The purpose of the meeting will be to determine which of the environmental, stormwater, and recreational components can be integrated in to the 30% Conceptual Master Plan (Task II.1).

Deliverable:

- Site Analysis graphics (pdf and AutoCAD)

Task 4 - Master Plan Hydrodynamic and Water Quality Model

AECOM proposes to develop the baseline Hydrodynamic and Water Quality Model for use in the Cooper's Point Master Plan region. The purpose of the model will be to represent current existing hydrodynamic and water quality conditions in Cooper's Bayou and provide a quantitative modeling tool to assess benefits of proposed future projects.

The model development will consist of 4 sub-tasks:

1. Literature Review
2. Conceptual Model Development
3. Model Configuration and Calibration
4. Documentation of Model

The Literature Review for the modeling development will be completed concurrently with the Task 2 - Data Collection effort with a focus on information required to guide the model development. Existing reports and data sets will be acquired and reviewed to determine previous modeling efforts and the available bathymetric, meteorological, hydrodynamic and water quality data that can be used to configure, force and calibrate the model. The locations and measurement frequency of water quality data will be a primary focus of this effort, as it is an important consideration in the level of modeling that can be supported.

The second sub-task, the conceptual model development, is important in that it sets the framework for the model selection, configuration and calibration. The information reviewed in

the Literature Review and that will be used to guide the model development include consideration of:

- The physical processes that require simulation within the model. These include consideration of a 1D, 2D or 3D model, and which water quality constituents require representation (for instance Salinity, TSS, BOD/DO, Nitrogen, Phosphorus).
- The types of future project that need to be represented in the model. This is required to be sure that the selected model can represent the associated processes and impacts. For instance, if dredging of nutrient rich sediment is proposed, then the representation of sediment nutrient loads or sediment oxygen demand should be included.
- The model domain and boundaries, such as the outer limits in Old Tampa Bay and whether Alligator Lake should be included.
- The required model resolution, time steps, and simulation durations.
- Suitable calibration and 'assessment' periods. The assessment periods may include a range of meteorological conditions (i.e. tides, discharges and winds) as well as extreme storm events that will be used to evaluate future project impacts and benefits.
- The need for non-point source inputs and the optimal approach for acquiring or developing them.

The items listed above and other items and considerations raised by the City during the kick-off meeting will be used to select the modeling software. AECOM considers models such as EFDC-Explorer, or EFDC + WASP or simpler hydrodynamic models +WASP, to be potential candidates among others.

The results and conclusions from the conceptual model development tasks will be summarized in a technical memo and provided to the City for review. The memo will describe optional approaches for the modeling analysis, listing the benefits and limitations of each, with a recommendation for one or two modeling approaches. AECOM will meet with the City after their review and develop a final modeling plan. The meeting may be on-site, Web-Ex, conference call or a combination thereof.

When the final model selection is completed and approved, the selected model will be configured and then calibrated according to the conceptual model development plan. The calibrated model will provide the quantitative tool for evaluating future project benefits and impacts on Cooper's Bayou.

The results of the analysis will be documented in a technical report. Specifically the report will include:

- Description of data sources, engineering assumptions and model limitations
- Narrative interpretation of site hydrodynamics and water quality baseline conditions
- Tables and graphics presenting the calibrated hydrodynamic water quality results

The completed baseline Master Plan Hydrodynamic and Water Quality Model can subsequently be used to evaluate both the flooding and pollution reduction benefit of future site improvements and engineering projects.

Deliverable:

- Model input and output files
- Cooper's Point Master Plan Baseline Hydrodynamic and Water Quality Model Technical Report (pdf)

Task 5 - Preliminary Geotechnical Investigation

An evaluation of subsurface conditions within Coopers Bayou will be performed to document existing soil layer depths and sediment composition. Seven core borings will be collected within the open water portion of Coopers Bayou. The geotechnical scope of work will include a review of existing data, subsurface exploration program, visual classification of soils, laboratory gradation tests on the soil samples, and a final engineering report. This task assumes that all soil borings within Coopers Bayou will be collected with hand/manual retrieval methods.

II. CONCEPTUAL DESIGN PHASE

Task 1 – 30% Conceptual Master Plan

AECOM will develop a 30% Conceptual Master Plan based on the results of Task I.3 and I.4. The 30% Conceptual Master Plan will include a proposed concept showing program elements and their relationship to existing conditions in the project study areas. The concept will be provided in color and at an appropriate scale. The plan graphics will consist of bubble diagrammatic depictions of proposed improvements. Detailed layout and design of the improvements is not included.

It is anticipated that the 30% Conceptual Master Plan will be used to solicit feedback from project stakeholders on the proposed design and amenities. AECOM will attend one meeting with the City to obtain written comments on the 30% Conceptual Master Plan prior to receiving input from stakeholders. AECOM will incorporate the City's review comments to produce a revised 30% Conceptual Master Plan for a meeting with stakeholders identified by the City.

Deliverable:

- 30% Conceptual Master Plan (pdf and AutoCAD)

Task 2 – Agency Pre-application Meetings

AECOM will coordinate and participate in telephone calls with representatives of the City of Clearwater, FDEP, SWFWMD, Pinellas County, USACE and other appropriate permitting agencies. The purpose of the pre-application meetings would be to discuss the proposed program elements being considered in the Conceptual Master Plan and identify any regulatory issues that should be considered during the planning process. Field meetings may be necessary, but will be minimized to the greatest extent possible. Two (2) field meetings are anticipated and budgeted.

Deliverable:

- Pre-application meeting minutes with each agency (pdf)

Task 3 – Public Meeting #1

It is anticipated that the 30% Conceptual Master Plan will be used to solicit feedback from project stakeholders on the proposed design and amenities. The City shall be responsible for coordinating with all City personnel and stakeholders required or invited to attend the meeting. The City shall be responsible for the logistics of the meeting, including noticing, venue, and hosting. AECOM understands that this meeting will be held at the TBRPC's Agency on Bay Management Natural Resources Committee.

AECOM understands that the stakeholders will provide input into the proposed Master Plan and process, but that the City will ultimately decide on the final direction and program elements for the Master Plan. The purpose of the stakeholders meeting is to discuss the proposed environmental, stormwater, water quality, and recreational elements with the stakeholders in a collaborative session. AECOM will take notes during the meeting and summarize the comments provided by the stakeholders in a memorandum. The memorandum will be provided to the City and included in the Draft Report (Task II.6).

Task 4 – 60% Conceptual Master Plan

Based on the results of Tasks II.2 and II.3, AECOM will refine the 30% Conceptual Master Plan. The 60% Conceptual Master Plan will be drawn at an appropriate scale, in color and depict the proposed program elements and existing conditions. The plan graphics will consist of bubble diagrammatic depictions of proposed improvements. Detailed layout and improvement designs are not included.

It is anticipated that the 60% Conceptual Master Plan will be used to solicit feedback from the public on the proposed design and amenities developed in Tasks II.1 through II.3. AECOM will attend one meeting with the City to obtain written comments on the 60% Conceptual Master

Plan prior to receiving public input. AECOM will incorporate the City's review comments to produce a revised 60% Conceptual Master Plan for the City to present to the public.

Deliverable:

- 60% Conceptual Master Plan (pdf and AutoCAD)

Task 5 – Public Meeting #2

It is anticipated that the 60% Conceptual Master Plan will be used to solicit feedback from the public on the proposed design and amenities developed in Tasks II.1 through II.3. The City shall be responsible for coordinating with all City personnel and stakeholders required or invited to attend the meeting. The City shall be responsible for the logistics of the meeting, including noticing, venue, and hosting.

AECOM understands that the stakeholders will provide input into the proposed Master Plan and process, but that the City will ultimately decide on the final direction and program elements for the Master Plan. The purpose of the public meeting is to discuss the proposed recreational elements with the interested parties in a collaborative session. AECOM will take notes during the meeting and summarize the comments provided by the stakeholders in a memorandum. The memorandum will be provided to the City and included in the Draft Report (Task II.6).

Task 6 – 90% Conceptual Master Plan

Based on the results of Tasks II.4 and II.5, AECOM will revise the 60% Conceptual Master Plan. The 90% Conceptual Master Plan will be drawn at an appropriate scale, in color and depict the proposed program elements and existing conditions. The plan graphics will consist of bubble diagrammatic depictions of proposed improvements. Detailed layout and improvement designs are not included.

Each program element of the Conceptual Master Plan will include an opinion of probable construction cost. The estimates will be in present day costs with no escalation. Since the project does not provide final construction documents, the probable construction costs will be conceptual in scope and content; and will include all elements and features depicted in the 90% Conceptual Master Plan.

Any element with potential hydraulic or water quality impacts will be evaluated at a conceptual level of detail using the baseline Master Plan Stormwater Model developed in Task I.4

AECOM will also prepare a Draft Report to accompany the Conceptual Master Plan with supporting graphics and a brief narrative describing the master planning process. AECOM will attend one meeting with the City to obtain written comments on the 90% Conceptual Master

Plan and the Draft Report. AECOM will incorporate the City's review comments to produce a revised 90% Conceptual Master Plan and Draft Report.

Deliverables:

- 90% Conceptual Master Plan (pdf and AutoCAD)
- Preliminary Opinion of Probable Construction Costs (pdf)
- Draft Report (pdf)

III. FINAL CONCEPTUAL DESIGN PHASE

Task 1 – 100% Final Master Plan

AECOM will attend one meeting with the City to discuss comments from the stakeholders and the TBEP (probably Agency on Bay Management?) on the 90% Conceptual Master plan and the Draft Report. Based on receipt of final comments from the City, AECOM will refine the 90% Conceptual Master Plan into a Final Master Plan. The Final Master Plan will be drawn at an appropriate scale, in color and depict the proposed program elements and existing conditions. The plan graphics will consist of bubble diagrammatic depictions of proposed improvements. Detailed layout and improvement designs are not included. AECOM will prepare an update to the opinion of probable construction cost to reflect the Final Master Plan improvements. The costs will be conceptual in scope and content. The cost estimate will include proper contingency such that the estimate will provide adequate project funding in present day costs.

AECOM will also prepare a Final Report with supporting graphics, final opinion of probable construction costs and a brief narrative describing the master planning process.

Deliverables:

- 100% Final Master Plan (pdf and AutoCAD)
- Opinion of Probable Construction Costs (pdf)
- Final Report (pdf)

IV. BIDDING PHASE

Not Applicable

V. CONSTRUCTION PHASE (if applicable)

Not Applicable

3. PROJECT GOALS

The goal of the Master Plan for Cooper's Point is to:

- Identify data necessary to complete hydrologic, hydraulic and water quality models which aid in the development of appropriate projects,
- Develop a hydrologic, hydraulic and water quality model to allow quantification of impacts/benefits of proposed projects,
- Identify sediment composition and transport patterns,
- Identify current limits of seagrass habitat and potential local stressors,
- Identify appropriate parameters and locations of on-going water quality testing,
- Identify measurable benefits necessary to demonstrate project success,
- Quantify specific of benefits for all projects which will contribute to the likelihood of funding through grants and other revenue sources, and
- Provide realistic cost estimation for all projects which will also contribute to the likelihood of funding through grants and other revenue sources.

The goal of the Master Plan for Cooper's Point is to also provide projects that:

- Improve water quality in Cooper's Bayou which will contribute to improved water quality in Old Tampa Bay, including meeting TMDL and NNC parameters,
- Improve tidal flushing in Cooper's Bayou which will contribute to improved estuarine and submerged aquatic habitats,
- Improve and protect mangrove and other wetland habitats which will contribute to improved water quality with the sequestration of nutrients and additional defense of man-made resources from tidal influences and storm surge,
- Improve wildlife utilization in wetlands and upland habitats throughout Cooper's Bayou and Cooper's Point which will contribute to species diversity, including threatened and endangered species,
- Improve stormwater flows into Cooper's Bayou which will contribute to improved flood conditions,
- Provide recreation opportunities which will contribute to improved public awareness of environmental resources, and
- Provide environmental education opportunities which will also contribute to improved public awareness of environmental resources and action they can take to protect those resources.

4. BUDGET:

Attachment "B" provides the fee estimate detail. This price includes all labor and expenses anticipated to be incurred by AECOM for the completion of these tasks in accordance with Professional Services Method "A" – Cost Times Multiplier Basis, **for a fee not to exceed (\$185,000.00).**

5. SCHEDULE:

The project is to be completed 330 days from issuance of notice-to-proceed, or from the date all information that is to be provided by the CITY is received by AECOM. This schedule does not necessarily include the public meetings and/or stakeholder presentations being coordinated by the CITY. The schedule is based upon the assumption that CITY reviews of the project work products will be completed in two (2) weeks from the date of submission. The major project deliverables are to be phased as follows:

| | |
|--|--------------------------|
| 30% Conceptual Master Plan | 116 calendar days |
| 60% Conceptual Master Plan | 81 calendar days |
| 90% Conceptual Master Plan/Draft Report | 89 calendar days |
| Final Master Plan/Report | 44 calendar days |

6. STAFF ASSIGNMENT (Consultant):

| | |
|-----------------------------|--|
| Officer-in-Charge: | Dana K. Tallman, PE, BCEE |
| Project Manager: | Terry Cartwright |
| Landscape Architect: | Paul Kurtz, RLA, LEED AP, BD+C™ |
| Senior Engineer: | Christopher Reed, PE |
| Admin Assistant: | Deborah Mols |

7. CORRESPONDENCE/REPORTING PROCEDURES:

ENGINEER's project correspondence shall be directed to Terry Cartwright and all City project correspondence shall be directed to Sarah Kessler with copies to others as may be appropriate.

8. INVOICING/FUNDING PROCEDURES:

For work performed, invoices shall be submitted monthly to the City of Clearwater, Engineering Department, Attn.: Veronica Josef, Senior Staff Assistant, PO Box 4748, Clearwater, Florida 33758-4748. Contingency services will be billed as incurred only after written authorization provided by the City to proceed with those services.

City Invoicing Code: **0315-96170-561200-539-000-0000**

9. INVOICING PROCEEDURES

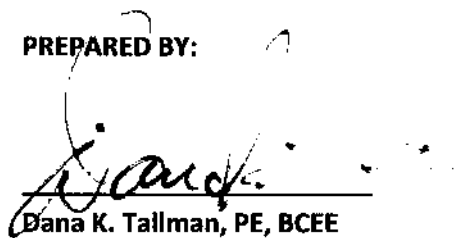
At a minimum, in addition to the invoice amount(s) the following information shall be provided on all invoices submitted on the Work Order:

- A. Purchase Order Number and Contract Amount.
- B. The time period (begin and end date) covered by the invoice.
- C. A short narrative summary of activities completed in the time period
- D. Contract billing method – Lump Sum or Cost Times Multiplier
- E. If Lump Sum, the percent completion, amount due, previous amount earned and total earned to date for all tasks (direct costs, if any, shall be included in lump sum amount).
- F. If Cost Times Multiplier, hours, hourly rates, names of individuals being billed, amount due, previous amount earned, total earned to date for each task and other direct costs (receipts will be required for any single item with a cost of \$50 or greater or cumulative monthly expenses greater than \$100).
- G. If the Work Order is funded by multiple funding codes, an itemization of tasks and invoice amounts by funding code.

10. SPECIAL CONSIDERATIONS:

The consultant named above is required to comply with Section 119.0701, Florida Statutes (2013) where applicable.

PREPARED BY:



Dana K. Tallman, PE, BCEE

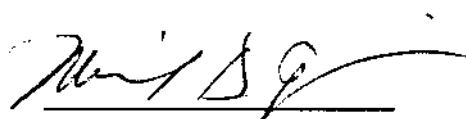
Vice President

AECOM

September 2, 2016

Date

APPROVED BY:



Michael D. Quillen, PE

City Engineer

City of Clearwater

8-9-16

Date



BRIGHT AND BEAUTIFUL - RAY TO BEACH

CITY OF CLEARWATER ENGINEERING DEPARTMENT

WORK ORDER INITIATION FORM CITY DELIVERABLES

1. FORMAT

The design plans shall be compiled utilizing the following methods:

1. City of Clearwater CAD standards.
2. Datum: Horizontal and Vertical datum shall be referenced to North American Vertical Datum of 1988 (vertical) and North American Datum of 1983/90 (horizontal). The unit of measurement shall be the United States Foot. Any deviation from this datum will not be accepted unless reviewed by City of Clearwater Engineering/Geographic Technology Division.

2. DELIVERABLES

The design plans shall be produced on bond material, 24" x 36" at a scale of 1" = 20' unless approved otherwise. Upon completion the consultant shall deliver all drawing files in digital format with all project data in Autodesk Civil 3D file format. If not available Land Desktop files are still acceptable, however the City of Clearwater is currently phasing out Land Desktop.

NOTE: If approved deviation from Clearwater CAD standards are used the Consultant shall include all necessary information to aid in manipulating the drawings including either PCP, CTB file or pen schedule for plotting. The drawing file shall include only authorized fonts, shapes, line types or other attributes contained in the standard release of Autodesk, Inc. software. All block references and references contained within the drawing file shall be included. Please address any questions regarding format to Mr. Tom Mahony, at (727) 562 4762 or email address Tom.Mahony@myClearwater.com.

All electronic files (CAD and Specification files) must be delivered upon completion of project or with 100% plan submittal to City of Clearwater.

Master Plan for Cooper's Point



WORK ORDER INITIATION FORM PROJECT BUDGET

| Task | Description | Subconsultant Services | Labor | Total |
|---|--|------------------------|-------------|---------------------|
| 1.0 | Pre- Conceptual Design | | | |
| 1.1 | Kick-off Meeting | | \$3,161.00 | |
| 1.2 | Data Collection | | \$3,840.00 | |
| 1.3 | Site Analysis and Base Plan | | \$21,050.00 | |
| 1.4 | Master Stormwater Model | | \$53,815.00 | |
| 1.5 | Preliminary Geotechnical Investigation | \$5,375.00 | | |
| 1.6 | Task Allowance (10%) | | \$0 | |
| | | | | \$83,676.00 |
| 2.0 | Conceptual Design Phase | | | |
| 2.1 | 30 Percent Conceptual Master Plan | | \$16,504.00 | |
| 2.2 | Agency Pre-application Meetings | | \$3,000.00 | |
| 2.3 | Public Meeting #1 | | \$9,300.00 | |
| 2.4 | 60 Percent Conceptual Master Plan | | \$16,163.00 | |
| 2.5 | Public Meeting #2 | | \$10,760.00 | |
| 2.6 | 90 Percent Conceptual Master Plan | | \$30,818.00 | |
| 2.7 | Task Allowance (10%) | | \$0 | |
| | | | | \$77,946.00 |
| 3.0 | Final Conceptual Design Phase | | | |
| 3.1 | Final Master Plan | | \$21,618.00 | |
| 3.2 | Task Allowance (10%) | | \$0 | |
| | | | | \$19,858.00 |
| 4.0 | Permitting Services | | | |
| | Not Applicable | | \$0 | |
| | | | | |
| | | | | \$0 |
| 5.0 | Construction Phase Services | | | |
| | Not Applicable | | \$0 | |
| | | | | |
| | | | | \$0 |
| Subtotal, Labor and Subcontractors | | | | \$181,481.00 |
| Permit Review Fees | | | | \$0 |
| Other Direct Costs (prints, photocopies, postage, etc.) (Not applicable to lump sum Work Orders) | | | | \$3,519.00 |
| Grand Total | | | | \$185,000.00 |