

## EXPLANATION OF CONSENT AGENDA ITEM E.2.c.(17) October 28, 2015

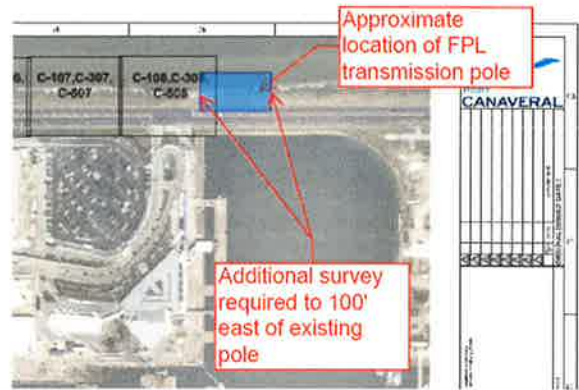
### ITEM:

Consideration of approving an increase to purchase order P13010 to Atkins North America Inc. under their continuing service contract for additional design work to correct river bank erosion at the north curve on the NW side of SR401 on the Banana River for a total cost of up to \$79,800. (Crowe/Hicks)

### EXPLANATION:

A purchase order was approved to Atkins at the February 2013 Commission meeting for design and permitting of plans to improve severely eroded areas, located at (1) State Road (SR) 401 bend, (2) a berm area on the regional stormwater pond north of the locks and (3) an area southwest of the CT-10 parking garage. Atkins prepared the plan alternatives, cost estimates, and biological resource surveys. Since this original authorization, a series of meetings have been held with all the regulatory agencies and numerous design slope alternatives have been presented to the agencies for permitting.

The Army Corps of Engineers has requested revisions to the proposed design slope along the embankment and that additional areas of concern for erosion be included in the design and construction project. This expanded area is being added to the scope for bathymetric survey, design and permitting and ultimately construction.



**Funding Review by Finance (Pat Poston):** The total NTE amount of \$79,800 is included in the FY16 Capital Budget and no increase is required. [Budget item 2222 - SR401 Improvements]

**Staff Recommends Approval**

**Prepared by: Bill Crowe, P.E.**

**Purchase Order Amendment  
Port Canaveral SR 401 Emergency Shoreline Stabilization  
Continuing Permitting Support, Engineer of Record, and Construction Services**

**The Canaveral Port Authority  
Port Canaveral, Florida**

**Background**

In August 2015, Atkins completed the designs and drawings for the State Road (SR) 401 temporary and permanent shoreline stabilization projects. As was discussed with CPA staff in a meeting on October 8, 2015, the services and funds covered under the current purchase order for this project (PO 13010) are nearing completion. Tasks 1-6 are 100% complete and Task 7 will be complete at the end of the construction of the emergency shoreline protection at the storm water pond (expected to be near October 31, 2015).

In the October 8 meeting, Atkins and CPA staff also discussed how to best move ahead with the design and permitting of the permanent structure. The main point of this discussion was whether to proceed with a 2:1 side slope or a structure with a more gradual slope such as a 3:1 or 4:1.

The relative pros and cons of the 2:1 versus a structure with milder side slopes include the following:

Relative advantages	Relative disadvantages
<b>2:1 side slope</b>	
Smallest footprint (and lowest mitigation costs)	Higher maintenance costs (compared with structures with milder slopes)
Minimal and possibly no impacts to seagrasses	May need to rebuild or rehabilitate sections in the future, especially in areas exposed to higher wave action (e.g., areas facing long stretches of open water)
Most acceptable plan to USACE (faster permitting time)	
<b>Milder side slope (3:1 or 4:1)</b>	
Lower maintenance costs (compared with structures with steeper slopes)	Larger footprints (and much higher mitigation costs)
	Will impact seagrasses and definitely require a mitigation plan
	Will be more difficult to permit than the 2:1 side slope option (longer time to obtain permit)

After discussing the options with CPA staff, it was decided to proceed with the 2:1 side slope.

The work proposed in this amendment consists of:

- Extending the design of the current structure to the east along SR 401 to include the FPL power pole and FDOT signal control box
- Assisting with permitting discussions with the FDEP and USACE
- If needed to assist in permitting discussions, performing a current sea grass survey (Note: The seagrass survey “season” is from April 1 to October 31. For this survey to be acceptable to the

permitting agencies without question, the survey needs to be done by the end of this month or delayed until after April 1, 2016).

- Assisting with the preparation of bid document and evaluation of bids
- Providing periodic construction observation and engineer of record services

Since this amendment is a continuation of work that ended with Task 7, task numbering will start with Task 8. Work to be performed under each task is described below.

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## **PROPOSED SCOPE OF WORK**

### **Task 8 – Extend current plans**

The current plans will be extended to cover an additional segment of shoreline along SR 401 to a point approximately 100' east of the FPL power pole (see attached exhibit). This extension is intended to provide protection for the eroding shoreline up to the power pole. The proposed structure will be tied back into the shoreline about 50 feet beyond the FPL power pole. This work will be based on:

- A. The current design for the adjacent structure. Other than adjusting for the local contours, no additional design work is anticipated.
- B. Additional survey data to be provide by ATM for this area.
- C. There is a concrete pipe located in the extended area. We have assumed that CPA can provide details on the current function and characteristics of this pipe and that this pipe can be simply covered with the proposed structure and no additional research or special design/construction measures will be required.

### **Task 9 – Baseline permitting support**

Permitting support will continue as CPA works towards obtaining permits for the “permanent” shoreline stabilization solution for SR 401 from Stations 1+00 through 27+50 (including the proposed extension to the east beyond the FPL power pole). The “permanent” shoreline stabilization project will have a side slope of 2H:1V and a crest elevation of +5 feet NAVD88, which will increase the level of protection for the SR 401 roadway in the long-term, but will require periodic monitoring, maintenance, and rehabilitation. The revetment plans will need to be submitted to the agencies (FDEP and the U.S. Army Corps of Engineers (USACE)). The proposed revetment minimizes environmental impact to shoreline and submerged aquatic resources as requested by the agencies.

At this time, we are assuming that updated shoreline vegetation and seagrass surveys and a mitigation plan will not be required. Since we do not have information on the area of the extension of the revetment eastward as that area was not included in the 2013 survey of the shoreline, we will use the best available information to discuss expected impacts to this area. If required, shoreline vegetation and seagrass surveys will be performed under Task 10. (Note: The seagrass survey “season” is from April 1 to

October 31. For this survey to be acceptable to the permitting agencies without question, the survey should be performed by the end of this month or delayed until after April 1, 2016).

Baseline permitting support will be limited to submitting the application for the permanent project based on 2H:1V side slopes and initial meetings to discuss the proposed project and associated impacts. If required, extended permitting support services and preparation of a mitigation plan will be covered by Tasks 13 and 14.

#### **Task 10 – Shoreline/seagrass assessment**

Depending on discussions with the permitting agencies, an updated shoreline wetland vegetation and seagrass survey may be required to continue the permitting process. If required, the survey will include the revetment area from Stations 1+00 through 27+50 (including the proposed extension to the east beyond the FPL power pole). As mentioned in the preceding sections, please be aware that seagrass surveys should be conducted between the dates of April 1<sup>st</sup> and October 31<sup>st</sup> within the project area to be considered as being performed within the seagrass season.

Atkins will conduct a shoreline wetland vegetation and seagrass survey along the shoreline of SR 401 for the project area. The purpose of this assessment will be 1) to update the seagrass limits, in particular the inshore limit along the SR 401 shoreline (species and estimated density (estimated percent cover)) and 2) update mangrove and wetland plant locations along the shoreline. The data collected will facilitate developing the Uniform Mitigation Assessment Method (UMAM) forms and planning for potential mitigation alternatives for the SR 401 project implementation.

The attached Exhibit 1 reflects the locations where shoreline/seagrass surveys will be performed.

#### **Task 11 – Periodic construction observation**

Construction of the proposed project is expected to take six (6) months. During this time, Atkins will provide periodic construction observation and construction support services. These services will supplement the more continuous construction inspection being provided by CPA staff and will consist of:

- A. Construction observation, progress meetings, and site visits. During the six (6) months of construction activities, as engineer of record (EOR), Atkins will periodically observe construction as necessary to certify that the project was constructed in reasonable conformity with the plans, specifications, and permit provisions. During the site visits, Atkins shall address any design related questions that arise during construction, review and document issues, and recommend solutions. We have assumed that we will visit the construction site once per month for six months for these meetings and associated meetings with CPA staff.

The work provided by Atkins shall, in no way, relieve the Contractor or the CPA's Construction Management team of responsibility for the satisfactory performance of the construction contract.

Survey data, turbidity monitoring reports and daily construction reports will be provided to the EOR on a timely basis, by the Contractor, Surveyor and CPA Construction Management staff.

### **Task 12 – Construction support services**

As EOR for this project, Atkins will provide the following construction support services:

- A. Document review and plan interpretation – Atkins will request, receive, review, reject and/or approve shop drawings, product data, and test results submitted by the Contractor for all pertinent items needed in construction. Atkins shall also review submittals to determine satisfactory compliance with the project plans and specifications, noting their approval or stipulations. Atkins shall determine the acceptability, subject to CPA approval, of substitute materials and equipment proposed by the Contractor and receive/review (for general content as required by the specifications) maintenance operating instructions, schedules, guarantees, and certificates of inspection, which are to be assembled by the Contractor in accordance with the contract documents. When appropriate, shop drawings shall be approved and copies sent to the CPA for record and to the Contractor for use in procuring and constructing components of the project. Atkins will assist the Contractor and the CPA's Construction Management Team with interpretation of the plans, specifications, and contract provisions and consult with the Contractor and CPA's Construction Management Team when an interpretation involves complex issues or may impact the cost and duration of performing the work. If in the opinion of Atkins, construction activities violate the requirements of issued permits, Atkins shall promptly notify the CPA and the Contractor. Atkins will review and assist the CPA's Construction Management Team with analyzing changes to the plans, specifications, or contract provisions and any extra work that may be necessary and provide recommends concerning such changes to the CPA's Construction Management Team for approval.
  
- B. Permit close out - Upon completion of construction, Atkins will prepare the required certification of completion letters to the FDEP and USACE using as-built drawings prepared by CPA's surveyor.

### **Task 13 – Extended permitting support services (Optional)**

This task, if exercised by CPA, will provide extended permitting support services to help address any additional information that the agencies may need in the permitting process. At present, we are anticipating that we can submit the plans and continue within the existing permitting process.

### **Task 14 – Mitigation planning services (Optional)**

In past discussions, the agencies have indicated that a Mitigation Plan will be required and that it address like for like resources. If this position remains unchanged, this task (if exercised by CPA) will address

the development of a Mitigation Plan based upon discussions with the permitting agencies and CPA staff on available mitigation options.

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**PROPOSED COSTS**

Work for this assignment will be performed on a time & materials basis not to exceed the amounts shown below. Work will be billed to CPA on a monthly basis based on the amount of work completed for the preceding month. The budget breakdown per task is as follows:

Task 8 – Extend current plans	\$7,875
Task 9 – Baseline permitting support	\$6,895
Task 10 – Shoreline/seagrass assessment	\$8,190
Task 11 – Periodic construction observation	\$14,740
Task 12 – Construction support	<u>\$11,125</u>
<b>Subtotal – Baseline tasks</b>	<b>\$48,825</b>

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**OPTIONAL TASKS**

Task 13 – Extended permitting services	\$21,575
Task 14 – Mitigation planning services	\$9,400
<b>Subtotal – Optional tasks</b>	<b>\$30,975</b>
<b>TOTAL – ALL TASKS</b>	<b>\$79,800</b>

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**SCHEDULE**

Work on the above tasks will be closely coordinated with CPA staff. All work is expected to be completed within twelve (12) months.

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### **ADDITIONAL ASSUMPTIONS**

1. This proposal is based upon conversations with CPA staff and work completed in preceding phases of this project
2. The plans and specifications for the permanent structure with a 2:1 side slope that were completed under preceding tasks will be submitted to the USACE and FDEP.
3. Any unused portion of the budget may be moved, with written permission from the Port, to another task as needed.