

EXPLANATION OF CONSENT AGENDA ITEM E.2.c.(9) April 27, 2016

ITEM:

Consideration of approving an increase to Purchase Order 17763 to CH2M under their continuing services contract for additional design phase services to support the development of NCB3 & 4 in an amount not to exceed \$338,791. (Crowe)

EXPLANATION:

In July 2015, CH2M was provided a contract for design of new berth facilities at NCP3&4 due to age of berth and limited draft. In addition, allowable vessel widths berthed at these two facilities are greatly restricted due to constraints of the adjacent inner reach channel. As cruise ships and now cargo ships accessing the west turning basin have increased in beam over the years since the construction of these two berths, the available channel width for passing ships has become a great concern. In order to accommodate future berth depth requirements for cargo vessels in addition to growing width requirements of the adjacent channel, these two pier structures will be demolished, the berthing line will be moved northward and the existing bulkheads will be replaced with deep water berthing facilities.

Through the design development process, additional design elements have been identified as needed for a complete berth. This proposal adds additional design services for STS crane rails on NCB3 in addition to 40' gauge rail system design to support a rail-mounted dry bulk auger type vessel unloader and berth lighting. This proposal also includes the addition of bidding phase service support.

Funding Review by Finance (Pat Poston):

The total NTE amount of \$338,791 will bring this purchase order to \$848,093. It is included in the FY16 Capital Budget and no increase is required. [Budget item 2240- Cargo Berth & Terminal Phase 2]

Staff Recommends Approval

Prepared by: Bill Crowe, P.E.





CH2MHILL

April 7th, 2016

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CH2M HILL \$338,791.00

Canaveral Port Authority (CPA)
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Attn: Bill Crowe, P.E.
Senior Director - Engineering, Construction and Facilities

**Re: Budget Increase Proposal - Engineering Order CPA 2015-31 (PO #P17763):
NCB 3 and 4 Crane Rails, Lighting and Environmental Permitting**

In accordance with the provisions of our June 18, 2014, General Engineering Professional Services Contract, CH2M HILL Engineers, Inc. is pleased to submit the following proposal as basis for professional services budget increase in connection with NCB 3 and 4 Crane Rails. Below is a description of our scope of services.

Scope of Services

Background

As part of the continued cargo operations expansion at Port Canaveral, a new deep berth facility is planned at the existing NCP3 and 4 sites. At the time the original proposal for design of the new NCB3 and 4 facility was requested (CPA Project No. 2015-31), information related to facility operations was not available. Subsequent discussions and coordination between CPA and their tenants have resulted in more specific definition of cargo operations and equipment needs at the new facility. This proposal was requested to incorporate cargo crane rails, lighting system, permitting and additional demolition items as part of the design of the new facility. As requested, this proposal excludes construction administration services.

Engineering Services

Task 1. General Coordination

CH2M HILL (consultant) will assist the CPA with project management tasks, including scheduling, scope definition and coordination with CPA tenants and consultants. Under scope definition, CH2M Hill will assist CPA in defining options for phasing the construction of crane rails and lighting system. The effort will include information gathering and coordination with CPA staff, bulk unloading and ship to shore crane manufacturers, tenants, contractors and regulatory agencies regarding project requirements. Estimated milestone schedules and opinions of cost for three (3) alternatives are included as part of task 1 deliverables. Task includes attendance at three (3) coordination meetings to be conducted by CPA staff.

Task 2. Engineering Design

The following design services will be included:

- Structural and civil engineering design of cargo equipment rails and supporting beams, including:

- Approximately 1,700 lineal feet of Waterside Rail (WR) and supporting structure. The WR structure will be designed for support of bulk unloading equipment and future ship to shore container cranes. Design will be carried out for one of each type of equipment; bulk unloading and STS crane equipment particulars (to be used as design basis) will be provided by CPA and their tenants. The design will consider CPA required construction phasing. It is anticipated rail beams will be initially constructed over the NCB4 facility limits (approx. 1,000 lineal feet of berth length). Future construction would extend WR construction into NCB3.
- Approximately 1,700 lineal feet of Intermediate Rail (IR) and supporting structure. The IR structure will be designed for support of bulk unloading equipment. Design will be carried out for one type of equipment, to be defined by CPA and their tenants. The design will consider CPA required construction phasing. It is anticipated the IR will be initially constructed over the NCB4 facility limits (approx. 1,000 lineal feet of berth length). Future construction would extend it into NCB3.
- Approximately 1,000 lineal feet of Landside Rail (LR) and supporting structure. The LR structure will be designed to support STS crane equipment. Design will be carried out for one type of equipment, to be defined by CPA and their tenants. It is anticipated the LR will be initially constructed over the NCB3 facility limits (approx. 1,000 lineal feet of berth length). This option would result in a reduction to the NCB4 berth area, to approximately 700 lineal feet.
- Crane rail supporting structure will consist of continuous reinforced concrete beams directly connected to the relieving slab. Various equipment applied loading conditions (as defined above) will be added to the relieving slab design scope.
- Civil design modifications to apron and utilities resulting from the addition of cargo equipment rails. Storm water drainage system will be adapted for water collection from crane rail trenches at tie-down locations.
- Electrical engineering design of berth lighting systems, compliant with Occupational Safety and Health Administration (OSHA) requirements. Specific scope includes:
 - Low-mast lighting system at NCB4 and NCB3, to support bulk cargo operations. Design will consider option of mounting lighting fixtures on tenant conveying equipment. Overall facility is approximately 1,700 feet long. Wharf apron extends approximately 5.0 acres.
 - High-mast lighting system at NCB3, to support container cargo operations, combined with low-mast lighting system at NCB4 for bulk cargo operations. Design at NCB4 will consider option of mounting lighting fixtures on tenant conveying equipment. Overall facility is approximately 1,700 feet long. Wharf apron of approximately 5.0 acres.
 - Low-mast lighting system at NCB4 to support bulk cargo operations. Design will consider option of mounting lighting fixtures on tenant conveying equipment. This design option would be exercised in the event construction of the facility is phased with initial construction of approximately 1,000 feet of berth length at NCB4.
 - Conduct one four (4) hour site visit for recognizance and to evaluate existing conditions.
- Design provisions for demolition of the north warehouse building.
- Incorporate the scope described above into the NCB 3 and 4 facility drawings and specifications package to be issued at 90 and 100 percent completion.

- Incorporate the scope described above into the overall NCB 3 and 4 facility opinion of construction costs to be issued at 100 percent completion.

Assumptions:

- Based on CPA's directive, equipment rail and supporting beam design scope excludes the requirement for connectivity to future rail structures at NCB5.
- WR, LR and their supporting structures will be located based on the layout that was established at the NCB 6 facility. The layout parameters consist of a 90 foot STS crane gauge and offset position of WR from bulkhead wall to match NCB6.
- Based on CPA's directive, lighting design will exclude any consideration of the Port's Exterior Light Management and Security Alternatives Plan (ELMSAP). Also excluded is permit agency coordination related to the ELMSAP, and design modifications required for environmental permit compliance with any provisions of the ELMSAP. In the event environmental permit agencies establish ELMSAP compliance as a permit requirement, we would expect to negotiate with you an equitable adjustment of our not-to-exceed budgets and schedule for re-design of the lighting system. Re-design to be completed prior to bidding the lighting system construction.
- Electrical design for the option of installing lighting fixtures on tenant's conveyance equipment assumes the following:
 - Lighting fixtures will be installed on fixed structures and not on moving equipment.
 - Power to lighting fixtures will be provided by separate lines to be designed and installed as part of project. The design scope excludes the option of power supply from equipment or the option of tenant installed power supply
- Electrical design excludes provisions to supply power to STS cranes. Crane electrification at NCB3 would be carried out as a separate future project following CPA's request.
- Electrical lighting design will be limited to illumination of berth apron areas. Lighting design over container cargo yard areas is excluded from the project scope.

Task 3. Permitting

The following permitting services were not included as part of the original facility development scope (CPA project 2105-31). We are requesting fee increase based on the additional scope below:

- Permit coordination and support to conduct programmatic consultation under Section 7 of the Endangered Species Act with the US Army Corps of Engineers (USACE) and National Marine Fisheries Service (NMFS) for marine improvements within Canaveral Harbor. The programmatic consultation as directed by the USACE is intended to provide advanced federal resource agency coordination for in-water development including dredging, demolition of existing structures, new marine structures, and shore protection (rip-rap/scour mat) installation throughout the Canaveral Harbor. The advanced consultation will be applied to pending and future USACE permit actions. Consultation efforts also include coordination with CPA environmental testing consultants for preparation of proposed dredged material volumes, sampling, analyses and quality assurance plans required for EPA Section 103 authorization to place dredge materials at the Canaveral Harbor ODMDS, in accordance with Marine Protection Research and Sanctuaries Act (MPRSA) regulations.

- As part of USACE consultation with NMFS, coordinate permit efforts, including mitigation measures that satisfy noise abatement requirements during in-water pile installation operations. This is the first time these requirements have been established by the permit agencies for Port Canaveral projects.

Assumptions:

- Data gathering for noise propagation during in-water pile driving in Canaveral Harbor is excluded and would be submitted under a separate task order if determined necessary to properly assess the appropriate means to reduce impacts to listed species.

Task 4. Bidding

Services during bidding will consist of the following:

- Assist CPA staff with preparation of bid documentation. Assist CPA staff during bid process. Provide technical interpretation and respond to bidder's questions during the bid period.
- Attend pre-bid meetings.
- Issue up to three (3) addenda, including any required document revisions.

Assumptions:

- CPA will distribute bid documents to contractors and suppliers.

Project Schedule

It is estimated that it will require approximately four (4) months from the time CPA confirms facility requirements, to complete design and incorporate into the NCB 3 and 4 submittal package. If there are protracted delays for reasons beyond our control, we would expect to negotiate with you an equitable adjustment of our not-to-exceed budgets and schedule taking into consideration the impact of such delay.

The schedule associated with permitting tasks greatly depends on the availability and disposition of permit agencies and is totally out of the control of the consultant.

Price

The Consultant shall be paid on a time and materials basis. Find below task breakdown:

Task 1 – General Coordination	\$62,241
Task 2 – Engineering Design	
Crane Rails	\$92,400
Lighting Design	\$84,780
Warehouse Demolition	\$25,070
Project Management	<u>\$14,470</u>
SubTotal	\$216,720
Task 3 – Permitting	\$42,070
Task 4 – Bidding	<u>\$17,760</u>
TOTAL	\$338,791

Terms and Conditions

Opinions of Cost

In providing opinions of cost for the project, Consultant has no control over cost or price of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operation factors that may materially affect the ultimate project costs. Therefore, Consultant makes no warranty that the Port's actual project costs will not vary from Consultant's opinions or estimates. If the Port wishes greater assurance as to any element of project cost, the Port will employ an independent cost estimator, contractor, or other appropriate advisor.

Schedule Estimates

Consultant has no control over permitting, bidding and construction, task durations or resources that affect time required to complete tasks. Therefore, Consultant makes no warranty that actual task durations outlined on schedules will not vary from Consultant's opinions or estimates. If CPA wishes greater assurance as to any element of project schedule, the Port will employ an independent scheduler, contractor, or other appropriate advisor.

Acceptance of Proposal

Acceptance of this proposal may be indicated by the signature of a duly authorized official of the Port in the space provided below. One signed copy of this proposal returned to the Consultant will serve as an Agreement between the two parties and as Notice to Proceed. Should this proposal not be accepted within a period of thirty (30) days from the above date, it shall become null and void.

CPA agrees to indemnify CH2M Hill, its officers, employees, subcontractors and affiliated corporations from all claims, damages, losses, and costs, including but not limited to litigation expenses and attorney's fees, arising out of or related to the unauthorized reuse, change or alteration of any of the project documents.



Max Mozo, P.E.
Geographic Operations Manager
CH2M HILL ENGINEERS, Inc.

Accepted By:
CANAVERAL PORT AUTHORITY

Bill Crowe, P.E.
Senior Director, Engineering, Construction and Facilities
Canaveral Port Authority

Date

Approved at CPA Commission Meeting on _____