

## ATTACHMENT "A"

### CONSULTANT WORK ORDER – PROJECT FEES TABLE

Harbor Marina South Basin North Wave Attenuator Replacement

Moffatt & Nichol

[23-0030-MA]

City of Clearwater

# CONSULTANT WORK ORDER

Date:	September 12, 2023
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## 1. PROJECT INFORMATION:

Project Title:	Harbor Marina South Basin North Wave Attenuator Replacement	
City Project Number:	23-0030-MA	
City Plan Set Number:	2023016	
Consultant Project Number:	230886	

## 2. SCOPE OF SERVICES:

This scope of services is for the Moffatt & Nichol Team to provide construction documents and environmental permit applications for the City of Clearwater (City) for the replacement of three (3) floating Wave Attenuator (WA) segments. The WA replacement will consist of WA units located at the northwest corner of the South Basin with associated marina utilities. Two units are 50 feet long by 12 feet wide and are aligned on an approximate west-northwest bearing. The third unit is 41 feet long by 12 feet wide and is aligned on an approximate north-northeast bearing.

The existing marina floating docks and attenuators were manufactured by Shore Master (SM), a fabricator that is no longer in business. The SM design utilizes continuous post-tensioned cables to connect the individual float/attenuator units together. There are other manufactures that use a similar system; however, the alignments and configuration of those systems differ from SM. As such, the new wave attenuator units will require a unique one-of-kind connection to the existing floats and attenuators that are to remain. This mix of float/attenuator systems is untested and may result in unanticipated response to the wave environment. Given these circumstances, Moffatt & Nichol (M&N) will work with established concrete dock manufacturers in the industry to select and customize a system for this unique scenario; however, M&N cannot warrant or guarantee that the repaired system will perform in all weather conditions and may sustain damage during extreme wave climates.

For this task, M&N will provide the City with the following services related to the replacement of the three corner WA units: environmental permit applications; coastal, structural, electrical, and mechanical engineering; bid and construction phase services.

Construction documents will be developed for the full scope of the project. The design plans shall be compiled using the City of Clearwater CAD standards, as attached.

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#### I. PRE-DESIGN PHASE:

##### Task 1.1: Project Management and Meetings

Project management and meetings will run concurrent with all phases of the project. M&N staff will attend meetings with the City and other stakeholders to gain an understanding of the project requirements, and to discuss design criteria ahead of performing any design. M&N will manage internal staff to complete the scope of work outlined in this proposal, and coordinate project requirements and updates with the City. Regular progress reports will be provided outlining progress and decisions made by the City and M&N. M&N Project Manager will prepare monthly invoices based on percent complete.

Meetings will include the following:

- Kick-Off Meeting and Stakeholder requirements and criteria meeting
- Monthly Update meetings with City Staff (12 meetings)
- 60% Design Review Meeting
- 90% Design Review Meeting

The design review meetings will focus on review comments received from the City reviewers and the M&N proposed resolution to those comments.

##### Task 1.2: Data Review

M&N Staff will review available information and data for the existing Harbor Marina and identify gaps, if any, where additional information will be required. The data to be reviewed includes but is not necessarily limited to existing topographic and bathymetric surveys, record drawings, inspection reports, geotechnical data, previous underwater inspection reports, shop drawings and construction records.

##### Task 1.3: Site Investigation

The site investigation will include topside inspection only. Underwater investigation is not included. A team of M&N Engineers to include structural, mechanical, and electrical will complete a one-day site investigation. The purpose of this investigation is to determine the existing conditions as they relate to the record information and data, determine tie-in points for mechanical and electrical utilities, and assess the interface between the floating docks/attenuators to remain and the new floating attenuators units.

##### Task 1.4 Coastal Engineering

The coastal engineering scope will be limited to estimating the maximum wave that may impact the wave attenuator based on the long fetch to the north and south using desktop analysis (hand calculations) for a 50-year storm. These desktop estimates are inherently conservative because the estimates do not

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account for the complex bathymetric, topographic, and geometric conditions at the site. Because of the long fetch from the north and south, the wave conditions at this site may be extreme and it is understood that this repair/replacement project objective is to provide the best results possible given the exposed location of the project site. Extreme wave climate may exceed what is possible to mitigate with a floating wave attenuator system.

Wave climate will be evaluated using the MIKE SW numerical model (by DHI). Winds of varying intensities from varying directions will be used to drive the wave simulation. The results will be used to identify operational wave conditions that are to be blocked by the wave attenuator as well as extreme wave conditions that will establish the structure survivability conditions.

Wave model results will be incorporated in the basis of design document for the WA.

## II. DESIGN PHASE (if applicable):

Task 2.1: Design Phase

2.1.1: 60% Design

This task is for the preparation of 60% Design contract documents to include:

- Prepare Design Criteria Memorandum that outline assumptions and design criteria used during design of the wave attenuator repairs
- Prepare list of technical and performance specifications for primary project components
- Analyze mechanical and electrical utility system and prepare design repairs/replacement system.
- Prepare 60% construction drawings for City review and comment based on existing dock record drawings. The following drawings are anticipated for required disciplines:
  - Coversheet and Index of Drawings
  - General Notes
  - General Arrangement Plan
  - Existing Conditions Plans
  - Demolition Plans, Sections, and Details
  - Overall Site Plan
  - Wave Attenuator Plan
  - Enlarged Attenuator Plans
  - Attenuator Sections and Details
  - Electrical Plans, Notes, Details, Single Line Diagrams, and Schedules
  - Marina Utility Routing Plans

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- Marina Potable Water, Fire Water, and Sanitary Plans, Notes, and Details
- Prepare Engineer's Opinion of Probable Construction Cost (EOPCC) for 60% design stage.

#### Task 2.1.2 Permit Applications

Permit application package will be prepared using the 60% Design Development drawings. It is anticipated that the work on this project will qualify for permit exemption from the FDEP. A Pinellas County permit will be required (PCWNCA Dock/Fill Permit).

#### Task 2.1.3: 90% Design

The M&N team will complete the draft-final design and detailing of structural and utility components and prepare draft-final (90% level) construction documents. This task is for the preparation of 90% Design contract documents to include:

- Update Design Criteria Memorandum that outlines assumptions and design criteria used during design of the wave attenuator repairs
- Preparation of technical and performance specifications for primary project components
- Finalize utility design and specifications.
- Advance 60% Design to 90% construction drawings for City review and comment based on City review comments at 60% Design. The following drawings are anticipated for required disciplines:
  - Coversheet and Index of Drawings
  - General Notes
  - General Arrangement Plan
  - Existing Conditions Plans
  - Demolition Plans, Sections, and Details
  - Overall Site Plan
  - Wave Attenuator Plan
  - Enlarged Attenuator Plans
  - Attenuator Sections and Details
  - Electrical Plans, Notes, Details, Single Line Diagrams, and Schedules
  - Marina Utility Routing Plans
  - Marina Potable Water, Fire Water, and Sanitary Plans, Notes, and Details
- Prepare Engineer's Opinion of Probable Construction Cost (EOPCC) for 90% design stage

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#### III. FINAL DESIGN PHASE (if applicable):

##### Task 3.1: Final Design

The M&N team will complete the final design and detailing of structural and utility components and final (100%) construction documents. The final design will incorporate City comments from 90% submittal. The construction documents will include a combination of drawings, technical specifications, and performance specifications detailing final WA geometry, facility function, design requirements and final utility routing details as outlined below. The project team will complete the following scope of work for final design:

- Finalize Design Criteria Memorandum with final performance requirements, material selections, finishes, etc.
- Technical and performance specifications for primary project components.
- Construction drawings at final (100%) level design for City review and contractor bidding. Upon approval of final construction drawings, provide signed/sealed drawings to the City for permitting and construction.
- One comprehensive drawing set with Marine Structural and Marina Utilities will be provided for the project.
- Update EOPCC 100% Construction document stage.

#### IV. BIDDING PHASE (if applicable):

##### Task 4.1: Bid Support

It is assumed that the City will lead this process with the following technical input from the Project Team:

- Provide list of marine contractors
- Prepare scope of work description for RFP/FRQ
- Review contractor qualifications section and recommend edits, if needed
- Provide responses to requests for additional information pertaining to the technical scope of work during the RFP/RFQ period.

#### V. CONSTRUCTION PHASE (if applicable):

##### Task 5.1: Construction Support

In this task, M&N will provide services related to construction as indicated below:

- Attend a preconstruction meeting
- Attend bi-weekly virtual construction meetings to discuss construction progress
- Perform a site visit each month to review the construction progress
- Provide responses to contractor requests for information (RFIs)

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- Review and respond to contractor submittals
- Attend pre-final walkthrough.
- Review punch list for concurrence.

### 3. PROJECT GOALS:

- Meeting minutes in MS Word and PDF format
- 1 Kick-off meeting
- 12 City project progress meetings (monthly)
- Deliverables:
  - Meeting Agendas and Minutes
  - Design Criteria Memorandum in PDF format
  - Permit Application Packages in PDF format
  - 60% Submittal (drawings, list of specifications) in PDF format
  - 60% EOPCC in PDF format
  - 90% Submittal (drawings, specifications) in PDF format
  - 100% Construction Documents (drawings, specifications) in PDF format
  - 100% Construction Documents (signed & sealed) in Hard Copy (Arch D, 5 copies)
  - 100% EOPCC in PDF and Excel Formats

### 4. FEES:

See Attachment "A".

This price includes all labor and expenses anticipated to be incurred by Moffatt & Nichol for the completion of these tasks in accordance with Professional Services Method "B" – Lump Sum – Percentage of Completion by Task, for a fee not to exceed Three Hundred Two Thousand, One Hundred Six Dollars (\$302,106.00).

The permit application fees will be paid by the consultant and invoiced to the City as a reimbursable.

### 5. SCHEDULE:

The project is to be completed in 12 months from issuance of notice-to-proceed. The project deliverables are to be phased as follows:

**60% Construction Plans and Permit Applications\*: 90 calendar days**

**90% Construction Plans: 45 calendar days**

**Final Construction Documents: 21 calendar days**

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Calendar days for 90% and Final Construction Documents start at the day after the completion of the 60% Review Meeting and the 90% Review Meeting, respectively.

\*Permitting review/approvals are not included in this schedule. The permit applications will be used to initiate the environmental permitting process; however, duration of this process varies by project and agency reviewer and is outside of the Consultants' control.

## 6. STAFF ASSIGNMENT:

### Consultant Team

**Moffatt & Nichol (M&N)** – Project management, marina planning and design, coastal engineering, marine structural engineering, marina utility (mechanical, plumbing, electrical) engineering.

Nancy E. Lehr, P.E.	Project Manager – Marine Structural Engineer
Derek Sears, P.E.	Electrical Design Lead
Wilfredo Ruiz, P.E.	Mechanical Design Lead
Manuel Garcia-Castano, PE.	Coastal Engineering Lead

### City of Clearwater Staff:

Jeff Walker, P.E.	Project Manager
Michael MacDonald	Marine & Aviation Director

## 7. CORRESPONDENCE/REPORTING PROCEDURES:

Consultant's project correspondence shall be directed to:

Moffatt & Nichol  
501 E. Kennedy Blvd, Suite 1910  
Tampa, FL 33602  
813.258.8818

### **Project Manager**

Nancy Lehr, P.E.  
[nlehr@moffattnichol.com](mailto:nlehr@moffattnichol.com)  
813.258.8818

### **Project Director**

Michael Herrman, P.E.  
[mherrman@moffattnichol.com](mailto:mherrman@moffattnichol.com)  
813.463.4423

All City project correspondence shall be directed to:

Jeff Walker, P.E.  
100 S. Myrtle Ave.

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Clearwater, FL 33756

727.562.4827

[Jeff.Walker@myclearwater.com](mailto:Jeff.Walker@myclearwater.com)

## 8. INVOICING/FUNDING PROCEDURES:

**City Invoicing Code: 4331376-546300-D2201 IAN**

For work performed, invoices shall be submitted monthly to:

**ATTENTION: JAMIE GAUBATZ, SR. ACCOUNTANT  
CITY OF CLEARWATER, PUBLIC WORKS DEPARTMENT/ENGINEERING  
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.

## 9. INVOICING PROCEDURES:

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

1. Purchase Order, Project and Invoice Numbers and Contract Amount.
2. The time period (begin and end date) covered by the invoice.
3. A short narrative summary of activities completed in the time period.
4. Contract billing method – Lump Sum or Hourly Rate.
5. 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).
6. If Hourly Rate, hours, hourly rates, names of individuals being billed, amount due, previous amount earned, the percent completion, 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).
7. If the Work Order is funded by multiple funding codes, an itemization of tasks and invoice amounts by funding code.

## 10. CONSIDERATIONS:

Consultant acknowledges the following:

1. The Consultant named above is required to comply with Section 119.0701, Florida Statutes, where applicable.
2. All City directives shall be provided by the City Project Manager.
3. "Alternate equals" shall not be approved until City Project Manager agrees.



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4. All submittals must be accompanied by evidence each has been internally checked for QA/QC before providing to City.
5. Consultants/Contractors are not permitted to use City-owned equipment (i.e. sampling equipment, etc.).
6. Documents posted on City website must ADA accessible.

## 11. ADDITIONAL CONSIDERATIONS:

All work orders should include considerations for the following:

1. Sea Level Rise and Flood Resilience, as applicable.
2. Submittal of a Critical Path Method (CPM) Schedule(s).
3. Submittal of a Project Catalog with the following items, as appropriate:
  - a. Data requests, assumptions, critical correspondence, meeting agenda, sign-in sheets, meeting minutes, document comment-response log(s), technical memorandum/reports, addenda, progress reports, regulatory correspondence, and other project-related documents.
  - b. If construction project, also include design plans, conformed plans, change orders, field orders, RFIs, work change directives, addenda, progress reports, shop drawing and progress submittals, as-builts, record drawings, and other project-related documents such as O&M manuals and warranty information.
  - c. At the conclusion of the project, ENGINEER will combine this information into a Project Catalog and submit to the City for review and comment.
4. Arc Flash labeling requirements:
  - a. All electrical designs and construction shall adhere to NFPA 70 E "Standard for Electrical Safety in the Workplace".
  - b. Updated calculations of Fault and Arc Flash, and provisions for new or updated Arc Flash equipment labeling shall be included in the contract documents.

## 12. SPECIAL CONSIDERATIONS:

- The M&N Team does not issue environmental, or construction permits and cannot control agency permit review and issuance timelines.
- The project schedule is predicated on assumed permit agency responsiveness but delays due to permitting agency processing are outside of the Consultants' control.
- This project is to repair by replacement three WA units damaged by extreme storm events. Because this is an existing facility where site location and orientation are fixed, M&N makes no assurance that the new WA units will not be damaged by future storms. The goal of this project is to provide the best possible repair in the given conditions.

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## 13. SIGNATURES:

PREPARED BY:

APPROVED BY:

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Michael Herrman, P.E.  
Vice President  
Moffatt & Nichol

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Tara Kivett, P.E.  
City Engineer  
City of Clearwater

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Date

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Date

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Task	Description	Subconsultant Services	Labor	Total
1.0	Pre-Design			
1.1	Project Management		24,940	24,940
1.2	Coordination		5,590	5,590
1.3	Meetings		3,440	3,440
Pre-Design Total:			33,970	
2.0	Design			
2.1	Site Investigation		8,998	8,998
2.2	Data Review		4,155	4,155
2.3	Spectral Wave Model		25,116	25,116
Design Total:			38,269	
3.0	Final Design Plans and Specifications			
3.1	60% Submittal		82,250	82,250
3.2	90% Submittal		39,695	39,695
3.3	Final Construction Documents		15,558	15,558
3.4	Bid Support		4,800	4,800
Final Design Plans and Specifications Total:			142,303	
4.0	Permitting Services			
4.1	Permitting		14,162	14,162
Permitting Services Total:			14,162	
5.0	Construction Phase Services			
5.1	Preconstruction Conference		860	860
5.2	Bi-weekly Progress Meetings		9,594	9,594
5.3	Contractors RFI's & Shop Drawing Review		32,184	32,184
5.4	Site Visits		3,300	3,300
Construction Phase Services Total:			45,938	
SUBTOTAL, LABOR AND SUB-CONTRACTORS:			274,642	
6.0	Design Contingency			\$27,464
GRAND TOTAL:			302,106	

**ATTACHMENT "B" *(Include if applicable)***

**CONSULTANT WORK ORDER – CITY DELIVERABLES**

Harbor Marina South Basin North Wave Attenuator Replacement

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[23-0030-MA]

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# CONSULTANT WORK ORDER

## 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.

NOTE: If approved deviation from Clearwater CAD standards is 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 software. All block references and other references contained within the drawing file shall be included. Please address any questions regarding format to Mr. Thomas Mahony, at (727) 562-4762 or email address [Thomas.Mahony@myClearwater.com](mailto:Thomas.Mahony@myClearwater.com).

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