

CONSULTANT WORK ORDER

Date:	9/19/2024
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1. PROJECT INFORMATION:

Project Title:	RO1 Chemical Storage and Feed System Improvements	
City Project Number:	23-0051-UT	
City Plan Set Number:		
Consultant Project Number:		

2. SCOPE OF SERVICES:

This Task Order is in conformance with the Agreement for Professional Services (Agreement), RFQ-34-23 dated July 20, 2023, between the City of Clearwater (CITY) and Mead & Hunt, Inc. (MEAD & HUNT) and is referred to herein as the contract.

This scope of services submitted for this project, involves design and engineering services for five (5) independent areas of work, as follows:

1. The chemical containment areas do not currently have leak detection. This project includes installation of new leak detection sensors for each of the chemical containment areas and integration of the sensors into the plants SCADA system. The chemical areas included in this task are Sodium Hydroxide, Sodium Bisulfite, Antiscalant, Hydrofluorosilicic Acid, and Liquid Ammonium Sulfate (LAS).
2. The existing liquid ammonium hydroxide tanks at the plant have reached the end of their useful life and are showing signs of corrosion. This project will replace the ammonium hydroxide tanks, all chemical piping to the tanks and from the tanks to the chemical dosing skids, and recoat the chemical containment area with a new, chemical resistant coating system. Engineering services will include design of systems that are compatible with the requested transition from ammonium hydroxide to liquid ammonium sulfate (LAS).
3. The sodium hypochlorite building at RO1 has undergone previous modifications to accommodate liquid chlorine dosing. The building does not have leak detection, appropriate containment, and the equipment layout has not been optimized. This task will replace the sodium hypochlorite system in the existing building, add chemical containment with leak detection, incorporate repairs and modifications to the existing housekeeping and equipment pads, and relocate piping and equipment

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in the building with input from operations to improve operator accessibility, and add protective coatings as appropriate. The new system will be designed as an in-kind replacement capacity.

4. The existing caustic injection point in the RO Process room at RO1 has historically been a location of a high-risk leak. This task will relocate the injection point to a location accessible by operations at ground level, include the addition of a static mixer, include an injection quill, and new chemical tubing to the new injection point.
5. The existing corrosion inhibitor dosing system requires operations to manually prepare dosing solution from heavy chemical sacks. This task will replace the corrosion inhibitor system with a new system in the same location. The new system will be designed to incorporate liquid corrosion inhibitor that can be purchased under a Pinellas County contract and will improve operator safety. The project will also include chemical transfer ability if deemed necessary with operations.

This phase of the project does not include any subsurface work, demolition, new buildings, or reconstruction; thus survey, geotechnical evaluations, or subsurface utility locates are not required.

The design, inspections, and recommendations will be conducted with the input of the CITY's operational staff to maintain plant operations throughout the design and construction of the project. The design plans shall be compiled using the City of Clearwater CAD standards, as attached. These projects address to the following goals identified in the CITY's Strategic Plan: High Performing Government, Community Well-Being, and Environmental Stewardship.

Task I. CHEMICAL LEAK DETECTION SENSORS:

Phase 1.1: Project Management

MEAD & HUNT'S Project Manager (PM) will prepare a project management plan, which will include all project work, design schedule with submittals, the project team and communication plan, and the quality control plan. MEAD & HUNT'S PM will prepare monthly invoices including work activity reports for the billed period.

MEAD & HUNT'S PM will monitor and manage the project budget, schedule and scope throughout the estimated five-hundred sixty (560) calendar day project duration (not including construction). This duration includes all tasks in this scope. The PM will manage the development of all project work and subconsultant efforts. The PM will prepare monthly invoices including monthly work activity reports. The PM will monitor a quality assurance and control process, which includes the independent review of the project technical work products before its submission to the CITY.

MEAD & HUNT will coordinate and preside over one (1) in-person project kick-off meeting (with virtual option) with the CITY and the project team

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to review project goals, scope of work, project schedule and administrative issues. This meeting will incorporate all tasks in this scope. Following the meeting, MEAD & HUNT will prepare a written summary of the project meeting and distribute to the attendees. Additionally, MEAD & HUNT will coordinate and preside over up to eighteen (18) monthly progress meetings. These meetings will include progress for all tasks in this scope.

MEAD & HUNT will coordinate and preside over three (3) virtual meetings with the CITY and the project team to review project deliverables, including 60%, 90%, and 100%. Following the meeting, MEAD & HUNT will prepare a written summary of the project meeting and distribute to the attendees. The deliverables for each of the phases are expected to be completed at different times; thus, the progress meetings for each are included in this task.

All project meetings will be limited to a maximum of 2 representatives of the Engineer unless otherwise approved by the City Project manager.

Phase 1.2: Data Collection and Site Reconnaissance

MEAD & HUNT will conduct up to four (4) site visits to verify existing conditions and collect photographic and other data collection needed for the design. MEAD & HUNT has received data from the City and will prepare and submit a written data request to the City's PM outlining any data not received that is required to complete design of the project. MEAD & HUNT will maintain a summary spreadsheet of the requested data, status, source, etc. The site visits under this task will include visits for all tasks in this scope.

MEAD & HUNT will review record drawings of the chemical systems provided by the City and coordinate with the City operations staff on project sequence to maintain plant operations during the construction phase.

Phase 1.3: Design

MEAD & HUNT will develop a 60% design submittal package, including Construction Drawings and Technical Specifications that reflect the proposed improvements as described above. It is assumed the CITY will conduct their review in a two-week period.

MEAD & HUNT will develop a 90% design submittal package, including Construction Drawings and Technical Specifications. MEAD & HUNT will prepare a comment/response log for comments received at the 60% review package to be included with 90% submittal documenting how the CITY's comments were addressed in the current submittal. It is assumed the CITY will conduct their review in a two-week period.

MEAD & HUNT will develop a Final Construction Documents submittal package, including Construction Drawings and Technical Specifications.

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MEAD & HUNT will prepare a comment/response log for comments received at the 90% review package to be included with Final Construction Documents submittal documenting how the CITY's comments were addressed in the current submittal. It is assumed the CITY will conduct their review in a two-week period. The CITY is responsible for combining the technical specs with Division 0 and Division 1 specifications.

Phase 1.4: Bidding Assistance

The CITY will be responsible for receiving and addressing bidder questions. MEAD & HUNT will prepare suggested responses to two (2) Addenda regarding design intent, technical specifications, and construction drawings. The CITY will be responsible for preparation and distribution of addenda.

MEAD & HUNT will coordinate and preside over one (1) in-person pre-bid meeting with a virtual option with the CITY and prospective bidders to review the scope of work, and project schedule.

Upon receipt of copies of the received bid documents from the CITY, MEAD & HUNT will review up to two (2) bids for completeness and conformance with the technical requirements. MEAD & HUNT will evaluate the low bidder(s) submitted qualifications information and contact provided references to inquire about bidders' experience. MEAD & HUNT will prepare a tabulation of received bid prices, including unit prices if applicable and verify extended values and totals. MEAD & HUNT will also review submitted pricing for imbalances and other disparities. Based on that review, MEAD & HUNT will submit to the CITY the bid tabulation and a recommendation of award.

Task II. AMMONIUM HYDROXIDE TANK REPLACEMENT:

Phase 2.1: Project Management

Project Managements work for Task II is included in Project Management for Task I.

Phase 2.2: Data Collection and Site Reconnaissance

Site visits for Task II are included in Project Management for Task I.

MEAD & HUNT will review record drawings of the ammonium hydroxide system provided by the City and coordinate with the City operations staff on project sequence to maintain plant operations during the construction phase.

Phase 2.3: Design

MEAD & HUNT will review all data collected at the site and from the CITY and draft a preliminary design report evaluating current system condition, evaluate options for design, and make a recommendation for design of the system upgrades.

MEAD & HUNT will develop a 60% design submittal package, including Construction Drawings and Technical Specifications that reflect the proposed improvements as described above. It is assumed the CITY will conduct their review in a two-week period.

MEAD & HUNT will develop a 90% design submittal package, including Construction Drawings and Technical Specifications. MEAD & HUNT will prepare a comment/response log for comments received at the 60% review package to be included with 90% submittal documenting how the CITY's comments were addressed in the current submittal. It is assumed the CITY will conduct their review in a two-week period.

MEAD & HUNT will develop a Final Construction Documents submittal package, including Construction Drawings and Technical Specifications. MEAD & HUNT will prepare a comment/response log for comments received at the 90% review package to be included with Final Construction Documents submittal documenting how the CITY's comments were addressed in the current submittal. It is assumed the CITY will conduct their review in a two-week period. The CITY is responsible for combining the technical specs with Division 0 and Division 1 specifications.

Phase 2.4: Bidding Assistance

The CITY will be responsible for receiving and addressing bidder questions. MEAD & HUNT will prepare suggested responses to two (2) Addenda regarding design intent, technical specifications, and construction drawings. The CITY will be responsible for preparation and distribution of addenda.

MEAD & HUNT will coordinate and preside over one (1) in-person pre-bid meeting with the CITY and prospective bidders to review the scope of work, and project schedule. Following the meeting, MEAD & HUNT will prepare a written summary of the project meeting and distribute to the CITY.

Upon receipt of copies of the received bid documents from the CITY, MEAD & HUNT will review up to two (2) bids for completeness and conformance with the technical requirements. MEAD & HUNT will evaluate the low bidder(s) submitted qualifications information and contact provided references to inquire about bidders' experience. MEAD & HUNT will prepare a tabulation of received bid prices, including unit prices if applicable and verify extended values and totals. MEAD & HUNT will also review submitted pricing for imbalances and other disparities. Based on that review, MEAD & HUNT will submit to the CLIENT the bid tabulation and a recommendation of award.

Task III. SODIUM HYPOCHLORITE SYSTEM REPLACEMENT:

Phase 3.1: Project Management

Project Managements work for Task III is included in Project Management for Task I.

Phase 3.2: Data Collection and Site Reconnaissance

Site visits for Task III are included in Project Management for Task I.

MEAD & HUNT will review record drawings of the sodium hypochlorite facility, storage, and dosing systems provided by the City and coordinate with the City operations staff on current operational issues and obstacles.

Phase 3.3: Design

MEAD & HUNT will review all data collected at the site and from the CITY and assess the current system condition, evaluate alternatives and their high-level cost estimates for design to address current operational and safety issues, and make a recommendation for design of the system upgrades submitted in a preliminary design report. The evaluation criteria will be based on capital and operational cost, how well the alternative addresses the existing issue, how well the alternative addresses operational issues, and how well the alternative addresses any safety issues. These evaluation criteria are subject to change with input from the CITY. It is assumed that the CITY will review and provide comments within two weeks. Comments will be addressed, and a final draft of the report will be submitted to the CITY. The anticipated options for design to be evaluated are listed below and are subject to change upon input from the CITY.

1. Do Nothing.
2. Repair and replace equipment, piping, valves, etc. and make minor modifications to update the system.
3. Repair and replace equipment, piping valves, etc.; remove concrete pads and structures that are not required; repair concrete pads as required; make modifications to the structure to add chemical containment; add leak detection to containment area; add coatings to containment area.
4. Build new chemical structure for chlorine and place into service. Demolish existing chlorine dosing area.

MEAD & HUNT will develop a 60% design submittal package, including Construction Drawings and Technical Specifications that reflect the proposed improvements as described above. It is assumed the CITY will conduct their review in a two-week period.

MEAD & HUNT will develop a 90% design submittal package, including Construction Drawings and Technical Specifications. MEAD & HUNT will prepare a comment/response log for comments received at the 60% review package to be included with 90% submittal documenting how the CITY's comments were addressed in the current submittal. It is assumed the CITY will conduct their review in a two-week period.

MEAD & HUNT will develop a Final Construction Documents submittal package, including Construction Drawings and Technical Specifications. MEAD & HUNT will prepare a comment/response log for comments received at the 90% review package to be included with Final Construction Documents submittal documenting how the CITY's comments were addressed in the current submittal. It is assumed the CITY will conduct their review in a two-week period. The CITY is responsible for combining the technical specs with Division 0 and Division 1 specifications.

Phase 3.4: Bidding Assistance

The CITY will be responsible for receiving and addressing bidder questions. MEAD & HUNT will prepare suggested responses to two (2) Addenda regarding design intent, technical specifications, and construction drawings. The CITY will be responsible for preparation and distribution of addenda.

MEAD & HUNT will coordinate and preside over one (1) in-person pre-bid meeting with the CITY and prospective bidders to review the scope of work, and project schedule. Following the meeting, MEAD & HUNT will prepare a written summary of the project meeting and distribute to the CITY.

Upon receipt of copies of the received bid documents from the CITY, MEAD & HUNT will review up to two (2) bids for completeness and conformance with the technical requirements. MEAD & HUNT will evaluate the low bidder(s) submitted qualifications information and contact provided references to inquire about bidders' experience. MEAD & HUNT will prepare a tabulation of received bid prices, including unit prices if applicable and verify extended values and totals. MEAD & HUNT will also review submitted pricing for imbalances and other disparities. Based on that review, MEAD & HUNT will submit to the CLIENT the bid tabulation and a recommendation of award.

Task IV. RO PROCESS ROOM CAUSTIC LEAK RESOLUTION:

Phase 4.1: Project Management

Project Managements work for Task IV is included in Project Management for Task I.

Phase 4.2: Data Collection and Site Reconnaissance

Site visits for Task IV are included in Project Management for Task I.

MEAD & HUNT will review record drawings of the caustic injection point and RO yard piping provided by the City and coordinate with the City operations staff on current operational issues and obstacles.

Phase 4.3: Design

MEAD & HUNT will review all data collected at the site and from the CITY and assess the current injection point, evaluate alternatives and their high-level cost estimates for design to address current operational and safety issues, and make a recommendation for design of the resolution submitted in a preliminary design report. The evaluation criteria will be based on capital and operational cost, how well the alternative addresses the existing issue, how well the alternative addresses operational issues, and how well the alternative addresses any safety issues. These evaluation criteria are subject to change with input from the CITY. It is assumed that the CITY will review and provide comments within two weeks. Comments will be addressed, and a final draft of the report will be submitted to the CITY. The anticipated options for design to be evaluated are listed below and are subject to change upon input from the CITY. It is anticipated that the selected option moving forward will be Option 3, relocation of the injection point and addition of a static mixer.

1. Do Nothing.
2. Add secondary containment around the chemical injection location.
3. Abandon the current dosing location and relocate at a point that is accessible from ground level. This option may include a requirement for the installation of in-line mixing.

MEAD & HUNT will develop a 60% design submittal package, including Construction Drawings and Technical Specifications that reflect the proposed improvements as described above. It is assumed the CITY will conduct their review in a two-week period.

MEAD & HUNT will develop a 90% design submittal package, including Construction Drawings and Technical Specifications. MEAD & HUNT will prepare a comment/response log for comments received at the 60% review package to be included with 90% submittal documenting how the CITY's

comments were addressed in the current submittal. It is assumed the CITY will conduct their review in a two-week period.

MEAD & HUNT will develop a Final Construction Documents submittal package, including Construction Drawings and Technical Specifications. MEAD & HUNT will prepare a comment/response log for comments received at the 90% review package to be included with Final Construction Documents submittal documenting how the CITY's comments were addressed in the current submittal. It is assumed the CITY will conduct their review in a two-week period. The CITY is responsible for combining the technical specs with Division 0 and Division 1 specifications.

Phase 4.4: Bidding Assistance

The CITY will be responsible for receiving and addressing bidder questions. MEAD & HUNT will prepare suggested responses to two (2) Addenda regarding design intent, technical specifications, and construction drawings. The CITY will be responsible for preparation and distribution of addenda.

MEAD & HUNT will coordinate and preside over one (1) in-person pre-bid meeting with the CITY and prospective bidders to review the scope of work, and project schedule. Following the meeting, MEAD & HUNT will prepare a written summary of the project meeting and distribute to the CITY.

Upon receipt of copies of the received bid documents from the CITY, MEAD & HUNT will review up to two (2) bids for completeness and conformance with the technical requirements. MEAD & HUNT will evaluate the low bidder(s) submitted qualifications information and contact provided references to inquire about bidders' experience. MEAD & HUNT will prepare a tabulation of received bid prices, including unit prices if applicable and verify extended values and totals. MEAD & HUNT will also review submitted pricing for imbalances and other disparities. Based on that review, MEAD & HUNT will submit to the CLIENT the bid tabulation and a recommendation of award.

Task V. CORROSION INHIBITOR SYSTEM REPLACEMENT:

Phase 5.1: Project Management

Project Managements work for Task V is included in Project Management for Task I.

Phase 5.2: Data Collection and Site Reconnaissance

Site visits for Task V are included in Project Management for Task I.

MEAD & HUNT will review record drawings of the corrosion inhibitor facility, storage, and dosing systems provided by the City and coordinate with the City operations staff on current operational issues and obstacles.

Phase 5.3: Design

MEAD & HUNT will review all data collected at the site and from the CITY and assess the current system condition, evaluate alternatives and their high-level cost estimates for design to address current operational and safety issues, and make a recommendation for design of the system upgrades submitted in a preliminary design report. The evaluation criteria will be based on capital and operational cost, how well the alternative addresses the existing issue, how well the alternative addresses operational issues, and how well the alternative addresses any safety issues. These evaluation criteria are subject to change with input from the CITY. It is assumed that the CITY will review and provide comments within two weeks. Comments will be addressed, and a final draft of the report will be submitted to the CITY. The anticipated options for design to be evaluated are listed below and are subject to change upon input from the CITY.

1. Do Nothing.
2. Convert the existing system to liquid corrosion inhibitor and keep some or all remaining equipment the same.
3. Relocate the corrosion inhibitor into a new chemical structure with containment and leak detection.

MEAD & HUNT will develop a 60% design submittal package, including Construction Drawings and Technical Specifications that reflect the proposed improvements as described above. It is assumed the CITY will conduct their review in a two-week period.

MEAD & HUNT will develop a 90% design submittal package, including Construction Drawings and Technical Specifications. MEAD & HUNT will prepare a comment/response log for comments received at the 60% review package to be included with 90% submittal documenting how the CITY's comments were addressed in the current submittal. It is assumed the CITY will conduct their review in a two-week period.

MEAD & HUNT will develop a Final Construction Documents submittal package, including Construction Drawings and Technical Specifications. MEAD & HUNT will prepare a comment/response log for comments received at the 90% review package to be included with Final Construction Documents submittal documenting how the CITY's comments were addressed in the current submittal. It is assumed the CITY will conduct their review in a two-week period.

The CITY is responsible for combining the technical specs with Division 0 and Division 1 specifications.

Phase 5.4: Bidding Assistance

The CITY will be responsible for receiving and addressing bidder questions. MEAD & HUNT will prepare suggested responses to two (2) Addenda regarding design intent, technical specifications, and construction drawings. The CITY will be responsible for preparation and distribution of addenda.

MEAD & HUNT will coordinate and preside over one (1) in-person pre-bid meeting with the CITY and prospective bidders to review the scope of work, and project schedule. Following the meeting, MEAD & HUNT will prepare a written summary of the project meeting and distribute to the CITY.

Upon receipt of copies of the received bid documents from the CITY, MEAD & HUNT will review up to two (2) bids for completeness and conformance with the technical requirements. MEAD & HUNT will evaluate the low bidder(s) submitted qualifications information and contact provided references to inquire about bidders' experience. MEAD & HUNT will prepare a tabulation of received bid prices, including unit prices if applicable and verify extended values and totals. MEAD & HUNT will also review submitted pricing for imbalances and other disparities. Based on that review, MEAD & HUNT will submit to the CLIENT the bid tabulation and a recommendation of award.

3. PROJECT GOALS:

The deliverables that will result from this project include the following:

1. Design package (plans and technical specifications) for the installation of leak detection for the chemical containment areas (Sodium Hydroxide, Sodium Bisulfite, Antiscalant, Hydrofluorosilicic Acid, and LAS)
2. Design package (plans and technical specifications) for the rehabilitation of the ammonium hydroxide dosing area and conversion to LAS
3. Design package (plans and technical specifications) for the modification of the sodium hypochlorite dosing facility, including chemical containment, leak detection, and new equipment and storage.
4. Design package (plans and technical specifications) for the relocation of the caustic injection point and addition of a new static mixer.
5. Design package (plans and technical specifications) for the modification of the existing corrosion inhibitor dosing facility, including new equipment and storage. This will also include conversion of the system to accept liquid corrosion inhibitor. This design package deliverable will be contingent on approval of a design path by the City following the completion of the preliminary design report.

The final project drawings and specifications will be delivered in electronic format. Meetings and site visits, as outlined in Section 2, will be coordinated to ensure project progress throughout the design and construction phase of the project. An FDEP permit is not required for this project, but it is assumed a minor modification to the FDEP permit will be required for the completion of Task 2 of the project. If permit fees are encountered, all permit fees are to be paid by MEAD & HUNT from Contingency and will be reimbursed by the City.

4. FEES:

Refer to fee table that depicts the total cost per task and/or phase for these engineering services – see Attachment “A.”

This price includes all labor and expenses anticipated to be incurred by Mead & Hunt for the completion of these tasks in accordance with Professional Services Method “A” – Hourly Rate, for a fee not to exceed four-hundred ninety-six thousand, three-hundred twelve Dollars (\$495,731).

ENGINEER shall provide a minimum of forty-eight (48) hours’ notice prior to conducting fieldwork/site visits. ENGINEER shall provide a minimum of seven (7) days notification for site visits requiring the assistance of City Operations and Maintenance personnel.

5. SCHEDULE:

Upon issuance of the Notice to Proceed, Mead & Hunt will schedule a project kickoff meeting with the design team, the CITY project manager, and operations staff.

Milestone submittals will be per the outline below. It is assumed all submittals will be reviewed and comments returned to Mead & Hunt’s project manager within a 2-week period.

The project is to be completed in five separate tasks as outlined below with their respective project deliverables. The deliverable calendar days are from receipt of review comments on previous deliverable (Note: initial deliverable dates of Preliminary Design Reports are from issuance of notice-to-proceed, all other submittals to be coordinated so City can review all design packages together at each design milestone). It is assumed that the task items will progress concurrently.

Task I: Chemical Leak Detection Sensors

60% Construction Submittal:	240 calendar days
90% Construction Submittal:	140 calendar days
Final Construction Documents:	90 calendar days

Task II: Ammonium Hydroxide Tank Replacement

Preliminary Design Report:	90 calendar days
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90% Construction Submittal:		140 calendar days
Final Construction Documents:		90 calendar days
Task III: Sodium Hypochlorite System Replacement		
Preliminary Design Report:		90 calendar days
60% Construction Submittal:		240 calendar days
90% Construction Submittal:		140 calendar days
Final Construction Documents:		90 calendar days
Task IV: RO Process Room Caustic Leak Resolution		
Preliminary Design Report:		90 calendar days
60% Construction Submittal:		240 calendar days
90% Construction Submittal:		140 calendar days
Final Construction Documents:		90 calendar days
Task V: Corrosion Inhibitor System Replacement		
Preliminary Design Report:		90 calendar days
60% Construction Submittal:		240 calendar days
90% Construction Submittal:		140 calendar days
Final Construction Documents:		90 calendar days

6. STAFF ASSIGNMENT:

Mead & Hunt's primary project manager and technical expert for this project will be Russell Ferlita (russ.ferlita@meadhunt.com). Additional assistance and expertise will include Electrical and I&C Engineering (Keff Kurella – keff.kurella@meadhunt.com), and additional assistance from a junior engineer. The City's project manager and primary point of contact will be Helene Kassouf. Key project staff assignments are as outlined below:

Mead & Hunt:

Russell Ferlita, Ph.D., P.E.	M&H Project Manager/Engineer of Record	russ.ferlita@meadhunt.com
Keff Kurella	M&H Senior Electrical Engineer	keff.kurella@meadhunt.com

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Shaleena Manzanero	M&H Project Engineering Assistant	Shaleena.manzanero@meadhunt.com

City of Clearwater:

Helene Kassouf, Ph.D., E.I.	City Project Manager	helene.kassouf@myclearwater.com
Kaylynn Price	Utilities Engineering Manager	kaylynn.price@myclearwater.com
Richard Gardner, P.E.	Public Utilities Director	richard.gardner@myclearwater.com
Michael Flanigan	Public Utilities Assistant Director	michaelr.flanigan@myclearwater.com
Fred Hemerick	Public Utilities Water Production Manager	Fred.hemerick@myclearwater.com
Wayne Lafluer	Maintenance Assistant Manager	wayne.lafleur@myclearwater.com

7. CORRESPONDENCE/REPORTING PROCEDURES:

Consultant's project correspondence shall be directed to: Russell Ferlita, Ph.D., P.E. with copies to Shaleena Manzanero (Shaleena.manzanero@meadhunt.com).

All City project correspondence shall be directed to: Helene Kassouf, Ph.D., E.I. (City Project Manager) with copies to the Public Utilities Director, Assistant Director, Engineering Manager, and Water Production Manager.

8. INVOICING/FUNDING PROCEDURES:

City Invoicing Code: **3217321-530100-96764**_____

For work performed, invoices shall be submitted monthly to:
CITY OF CLEARWATER, PUBLIC UTILITIES DEPARTMENT
ATTENTION: PU ENGINEERING
1650 N. ARCTURAS AVE
BUILDING C
CLEARWATER, FLORIDA 33765-1945

Email Invoices: PUEngineering@myclearwater.com

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.
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),

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technical memorandum/reports, addenda, progress reports, regulatory correspondence, and other project-related documents.

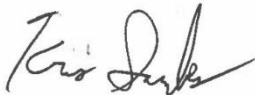
- b. If construction project, also include design plans, conformed plans, change orders, field orders, RFIs, work change directives, addenda, progress reports, shop drawing and progress submittals, as-builts, record drawings, and other project-related documents such as O&M manuals and warranty information.
 - 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 designed media replacement and construction sequence must take into consideration maintaining plant operations. All designed sequences will be done with the input of plant staff to ensure the plant can operate throughout the entire duration of construction.

13. SIGNATURES:

PREPARED BY:



Kris Samples
Vice President
Mead & Hunt

September 17, 2024

Date

APPROVED BY:

Richard Gardner, P.E.
Public Utilities Director
City of Clearwater

Date

ATTACHMENT "A"**CONSULTANT WORK ORDER – PROJECT FEES TABLE**
RO1 Chemical Storage and Feed System Improvements

Mead & Hunt

23-0051-UT

City of Clearwater

CONSULTANT WORK ORDER

PROJECT FEES TABLE

Task	Description	Subconsultant Services	Labor	Total
1.0	Chemical Leak Detection Sensors			
1.1	Project Management (All Tasks)		\$44,004	\$43,476
1.2	Data Collection and Site Recon.		\$10,708	\$10,708
1.3	Design		\$33,880	\$31,768
1.4	Bidding Assistance		\$8,101	\$8,101
Task 1 Total:				\$94,053
2.0	Ammonium Hydroxide Tank Replacement			
2.2	Data Collection and Site Recon.		\$3,948	\$3,948
2.3	Design		\$72,638	\$72,638
2.4	Bidding Assistance		\$8,101	\$8,101
Task 2 Total:				\$84,687
3.0	Sodium Hypochlorite System Replacement			
3.2	Data Collection and Site Recon.		\$3,892	\$3,892
3.3	Design		\$110,346	\$110,346
3.4	Bidding Assistance		\$8,101	\$8,101
Task 3 Total:				\$122,339
4.0	RO Process Room Caustic Leak Resolution			
4.2	Data Collection and Site Recon.		\$1,778	\$1,778
4.3	Design		\$62,193	\$62,193
4.4	Bidding Assistance		\$7,045	\$7,045
Task 4 Total:				\$71,016
5.0	Corrosion Inhibitor System Replacement			
5.2	Data Collection and Site Recon.		\$1,778	\$1,778
5.3	Design		\$66,418	\$66,418
5.4	Bidding Assistance		\$8,101	\$8,101
Task 5 Total:				\$76,297
SUBTOTAL, LABOR AND SUB-CONTRACTORS:				\$448,392
6.0	Other Direct Costs (prints, photocopies, postage, mileage, etc.)			\$2,500
7.0	Contingency (10% of Labor)			\$44,839
GRAND TOTAL:				\$495,731

ATTACHMENT "B"

CONSULTANT WORK ORDER – CITY DELIVERABLES
RO1 Chemical Storage and Feed System Improvements
23-0051-UT

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City of Clearwater

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 and in reduced 11" x 17" reproductions. Upon completion the consultant shall deliver all drawing files in digital format (pdf) with all project data in Autodesk Plant 3D file format (dwg file).

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.

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