Ms. Wilhelmina Montero, PE
Senior Project Manager, ECSD
City of Hollywood – Public Utilities
1621 North 14th Avenue
Hollywood, FL 33022-9045

Arcadis U.S., Inc.
150 S. Pine Island Rd.
Suite 300,
Plantation
Florida 33324
Tel 954 761 3460
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www.arcadis.com

WATER

Subject:
Task Order Proposal
City of Hollywood Water System – Elevated Water Tank Inspections

Date:
December 4, 2023

Contact:
Daniel Garcia

Phone:
786-332-9494

Email:
daniel.i.garcia@arcadis.com

Our ref:
30137022

Dear Ms. Montero:

Arcadis U.S. Inc. (“Arcadis”) is pleased to present this task order (TO) proposal for the above-referenced project that includes a detailed description of the Scope of Work (SOW), as well as the proposed not-to-exceed fee for the services described herein. As part of this effort, Arcadis shall work in close collaboration with the City of Hollywood (City) staff to assure that the requirements and objectives of the project are met.

This Task Order will be performed under the Professional Services Agreement (PSA) (Number 1324-A) Resolution R-2023-251 executed by and between the City and Arcadis on October 31, 2023. The Terms and Conditions of the PSA shall apply to this Task Order.

BACKGROUND

The City of Hollywood has two elevated tanks: East Steel Elevated Storage Tank and West Steel Elevated Storage Tank. Both tanks were last inspected in April 2021 to assess the condition of the coatings and the steel structures and evaluate each tank for compliance with regulatory standards. The City has requested Arcadis provide engineering services to complete a current inspection of the structural condition of both tanks. Arcadis, in coordination with our designated specialty subconsultant World International Testing, Inc. (“subconsultant”), will conduct the requested inspections.

SCOPE OF WORK

Scope of work includes physical inspections of the tanks inside and out to assess the sanitary, safety, structural, security, and coatings conditions, and development of a findings summary report. Limited inspections of mechanical, electrical, and instrumentation/control components are included as part of this scope, as described in the Subconsultant Proposal in Attachment 1.

Subsequently Arcadis will include the findings of the tank inspections with the existing asset management condition assessment process and add the scoring to the City's Rehabilitation & Replacement Planning System (RRPS) database developed as part of the City's ongoing master planning efforts for the water treatment plant and water system. Below is a detailed description of tasks to be performed.

Task 1 – Project Management

Project management activities include the following:

- Coordination with the City for a preliminary onsite meeting to document the site, assess the required access, coordinate a health and safety plan (HASP) for each tank inspection, and confirm the schedule for the tank inspections.
- Review and approval of final HASP to be followed for the project.
- Three coordination meetings for the duration of the task for each tank
- Quality Assurance/Quality control of deliverables
- Development of invoice and status report

Task 2 – Structural Evaluation

It is assumed that the City will drain the tanks and make them available for the inspection crews. A three-person crew will be on-site for entry, cleaning, and inspection of the tanks. For each tank, the interior floor and lower walls of the tank will be cleaned using a pressure washer to remove mud, silt, and foreign sediment. The tank will be inspected inside and out to assess the sanitary, safety, structural, security, and coatings conditions. Digital images will be captured for corrosion observations of the concrete foundation and metal surfaces. Visual assessment of coatings will be made with notations of defect areas and severity of deterioration. The condition rating spreadsheet will be filled out for each tank and scoring in the City's RRPS database will be updated. After all inspection work is completed, the tank will be disinfected in accordance with American Water Works Association Standard for Disinfection of Water Storage Facilities (AWWA C652) and made ready for service. Arcadis shall coordinate site visits with the City and subconsultant.

A Structural Evaluation Report (SER) will be developed by Arcadis that summarizes subconsultant's findings including list of deficiencies, recommendations and cost estimates for necessary repairs, painting, and updates that are required to meet current safety regulations and compliance deficiencies. Examples of components that will be included in the SER are entrance hatches, ladders, legs, supports

rods, and walkways. A more detailed list of items to be inspected can be referenced in the Subconsultant Proposal in Attachment 1. Subconsultant's inspection report will be attached to the SER. A draft SER will be provided to the City for review. Once comments are received from the City a final version of the SER will be submitted by Arcadis.

A detailed description of services to be performed by the inspection subconsultant can be referenced in Attachment 1. Geotechnical investigation is not included in the scope; this could be added should the need be identified based on initial inspection results.

Code compliance

Based on the available as-built drawings with foundation details and the tank fabrication shop drawings, and WIT report findings, Arcadis will model the elevated tank using structural analysis software and perform finite element analysis of the tank structural members to evaluate the tank's compliance with current applicable codes. Also, the foundation will be checked to verify ability of the foundation to support the load combinations generated by structural modeling. The findings of the structural analysis will be included in the SER with repair recommendations, if required, for current code compliance.

Task 3 – Asset Management/Condition Assessment Integration

Arcadis shall align the findings of the tank inspection report with the existing asset management condition assessment process and add the scoring to the City's RRPS database.

- The existing Physical Civil Condition Assessment Form will be modified to include the relevant core and ancillary criteria from the detailed internal and external tank inspection proposed. RRPS will be configured to accept the updated form and criteria.
- The existing Functional Performance Scoring Form criteria will be modified to include the relevant performance aspects of the elevated tank related to safety and compliance levels of service. RRPS will be configured to accept the updated form and criteria.
- Arcadis shall enter the appropriate scores translated from subconsultant's inspection report for the tanks into the RRPS database.

Deliverables

1. Onsite and offsite coordination meetings agenda and minutes.
2. Safety and Inspection Plan
3. Modified Physical Civil Condition Assessment Form
4. Modified Functional Performance Scoring Form
5. Edits to RRPS database
6. Draft summary report of structural evaluation
7. Final summary report of structural evaluation, sign and sealed

Assumptions

1. City will coordinate drainage of the tanks and plan for an out of service period of up to three days per subconsultants estimate for cleanout and inspection time. The sequencing for the tanks will be discussed and agreed to during the initial coordination meeting with the City.
2. Detailed inspections by qualified, discipline-specific personnel of mechanical, electrical, instrumentation/control components are not included in this scope.

3. Geotechnical investigation/exploration is not included as part of these services.
4. Deliverables will not include structural calculations.
5. Deliverables will not include a preliminary engineering report (PER) or detailed design.

SCHEDULE

Arcadis' services shall commence upon receipt of written authorization from the City, which will constitute Authorization to Proceed (ATP). Arcadis estimates that the proposed scope of services will be completed within approximately five (5) months from receipt of the City's ATP.

Project Tasks	Estimated Duration to Completion from ATP
Task 1 – Project Management	20 weeks
Task 2 - Structural Evaluation	16 weeks
Task 3 – Asset Management/Condition Assessment Alignment	20 weeks

It is assumed that the City will provide responses/comments within two (2) weeks for the existing information/data (request no later than Kick-off Meeting) and draft structural evaluation report. Durations above to do not include City coordination prior to obtaining access to tanks for inspection.

BUDGET AND INVOICING

The terms of compensation shall be in conformance with our Agreement. The proposed fee for conducting the SOW described herein is shown in the table below, and a detailed breakdown of estimated level of effort of the subconsultant is provided in Attachment 1. Arcadis shall submit monthly invoices in accordance with the terms of our Agreement.

Task	Fee
Task 1 – Project Management	$11,060
Task 2 – Structural Evaluation	$72,781
Task 3 – Asset Management/Condition Assessment Integration	$6,780
Additional Services Allowance	$10,000
Total Compensation	**$100,621**

Thank you for considering Arcadis. Should you have any questions or require additional information from us, please do not hesitate to contact us. We look forward to supporting the City in this very important endeavor.

Sincerely,

Arcadis U.S., Inc.

Jose Custodio, P.E.
Certified Project Manager

Copies:
Leah K. Richter, P.E.
File

This proposal and its contents shall not be duplicated, used or disclosed — in whole or in part — for any purpose other than to evaluate the proposal. This proposal is not intended to be binding or form the terms of a contract. The scope and price of this proposal will be superseded by the contract. If this proposal is accepted and a contract is awarded to Arcadis as a result of the submission of this proposal, Arcadis and/or the client shall have the right to make appropriate revisions of its terms, including scope and price, for purposes of the contract. Further, client shall have the right to duplicate, use or disclose the data contained in this proposal only to the extent provided in the resulting contract.

Enclosures:

Attachment 1: Subconsultant Proposal

Attachment 1: Subconsultant Proposal

PRICE PROPOSAL

TASK 1 SERVICES:

Water Storage
Tank Inspection & Consulting

Hollywood Florida
West and East
1,000,000 Gallon EWSTs

FOR

Hollywood, Florida

In Partnership With:
Arcadis, US

SUBMITTED BY
WORLD INTERNATIONAL TESTING, INC.
(WIT)

DATE OF SUBMISSION:
January 30, 2023

WORLD INTERNATIONAL TESTING, INC.
"A GLOBAL LEADER IN INSPECTION SERVICES"
*Headquarters: 2300 Sunset Blvd. Steubenville, OH 43952 *740-264-1111*
Maryland-Ohio-North Carolina

January 30, 2023

Joan Fernandez
Arcadis, US
150 S. Pine Island Road, Suite 300
Plantation, Florida 33324
T: (954) 882-9566
E: joan.i.fernandez@arcadis.com

Re: Price Proposal for Tank Inspection Services
Arcadis, US – Hollywood Florida – West and East 1.0MG EWSTs

Dear Tung:

As per request, enclosed is World International Testing's Price Proposal to provide tank inspection services on the above referenced water storage tanks. The scope of work will include the following inspection:

a) Out of Service Dry Inspection (including silt removal and pressure washing of interior*)

World International Testing provides nondestructive testing and inspection services for a wide range of projects, industries, and clients. With over thirty-five years of experience, we have the knowledge and technical ability to identify problematic locations in structures. We locate high stress points, deformation areas, corrosion issues and fractures before catastrophic events occur (thus preventing failures, leaks, damage to property and/or loss of lives, unscheduled downtime, and financial loss). The inspection also allows our clients to meet federal, state, and local regulatory requirements. In addition, non-compliance and safety issues will also be identified in the report for mitigation.

At the completion of the field inspection phase, World International Testing, Inc. will provide a final assessment report that will include a list of deficiencies, recommendations and cost estimates for necessary repairs, painting, and updates that are required to meet current safety regulations and compliance deficiencies. This can then be used for tank maintenance programs.

Please contact us with any questions and thank you for the opportunity to provide a proposal for this project in accordance with our contract agreement. We look forward to hearing from you.

Sincerely,

Nickolas A. Bressler
Director of Operations
WORLD INTERNATIONAL TESTING, INC.

A. SCOPE OF WORK

TASK I – TANK INSPECTION:

The inspection survey includes an extensive evaluation for condition and integrity on primary and secondary stress areas in the substructure, structure, container, welded, bolted or riveted details, ladders, platforms, manways, protective coating systems and related tank appurtenances. These details will be evaluated for design deficiencies, physical condition, corrosion, section loss, deformation, and functional adequacy. Compliance deficiencies relating to OSHA, NFPA, AWWA, and AIA (Documents A281 & B141), will be evaluated and noted. These evaluations aid in documenting the projected life expectancies of the tank structure and coatings.

Deficiencies will be identified in a report to be included in any upcoming scheduled maintenance projects. World International Testing, Inc. seeks to identify issues prior to maintenance or rehabilitation work being performed, to assure critical items are not overlooked in the design and bid phase, thereby reducing the possibility of the tank experiencing structural problems after any rehabilitation projects and/or mandatory warranty dates. The tank will also be evaluated for the existence of degradation due to carbonation, chlorides, sulfates or any other chemicals.

a. OUT-OF-SERVICE (DRY) INSPECTION:

Once a tank has been drained, World International Testing, Inc. will provide inspections as contracted. Out-of-Service (Dry) inspections are typically the most efficient approach and will enhance inspection procedures and inspection data significantly. This is typically recommended to meet federal and state regulatory requirements and can provide valuable data for any scheduled upcoming maintenance projects. Under this option, the Owner will be required to take the tank out of service. After the tank is taken out of service, WIT will dispose of any sediment interrupting inspection procedures. Once the tank is drained, and WIT has cleaned and disposed of sediment, an evaluation for integrity, operational efficiency, safety compliance and a variety of operational and environmental compliance assessments will be conducted. An inspection of the Cathodic Protection system and the electrical system will be performed. However, this will be a compliance and condition inspection (not inclusive of functional and/or operational inspections). Once the tanks have been cleaned and inspected, the Owner will disinfect the tanks unless otherwise requested or agreed to by all parties. Additionally, a preventive maintenance program can be utilized while out-of-service. This includes addressing any critical tank needs at the time of the inspection such as severe pitting, clogged inlet/outlet piping, section loss approaching 100%, cracked welds on ladders, piping and miscellaneous tank appurtenances posing a threat to life and property. The owner will be responsible for providing water for pressure washing work.

c. TESTING AND INSPECTION PROCEDURES:

Testing and inspection procedures shall be in compliance with the tank Owner's RFP and shall include nondestructive testing (NDT) methods such as ultrasonic testing (UT), magnetic particle testing (MT), eddy current (ET), visual testing (VT), certified weld inspections (CWI) and other NDT methods which may be required.

If the tank remains in service, these methods will be limited below the water level and are more applicable to exterior and non-immersed areas. Coating assessments shall comply with the Florida Department of Environmental Protection (FDEP), the Environmental Protection Agency (EPA) and the Association of Materials Protection and Performance, formerly The Society of Protective Coatings (SSPC) and NACE International (NACE).

d. EQUIPMENT:

The following special tools and equipment are used in the evaluation of tanks and appurtenances. Testing and inspections will be performed on an "as needed/as directed" basis on all coatings, prepared surfaces, welds and metal substrate or structural members in order to acquire site specific data and pertinent information necessary to prepare reports and the accompanying cost estimates for modifications, repairs, and compliance upgrades to the tank members and components. Methods of nondestructive evaluations (NDE) available include:

- Acoustic Emissions (Ae)
- Magnetic Particle (MT)
- Liquid Penetrant (LP)
- Eddy Current (EC)
- Coatings:(QA Testing & Inspection Procedures)
- UV Black Light
- Various Visual Inspection Procedures (VT)
- Thermography
- Submersible Remotely Operated Vehicle (ROV)

e. PERSONNEL AND WORK FORCE: Field personnel for World International Testing, Inc. shall meet the qualifications defined under the RFP.:

- ASNT: The American Society of Nondestructive Testing
- AMPP: The Association of Materials Protection and Performance *(Formerly SSPC and NACE International)*
- CWI: Certified Weld Inspectors
- CCD: Certified Commercial Divers/Certified ROV Pilots
- W.I.T., Inc. Two years' experience, 80 hours' training and an NDE Level II

TASK II – DETAILED INSPECTION REPORT:

A detailed inspection report will be provided for the water storage tank following the conclusion of the inspection. The report will include a presentation of the inspection protocol and test results in compliance with what is defined in the industry as common practice for water storage tank inspections. The report will also include a Note Inventory of Deficiencies, CAD Drawings, Photographs, Recommendations and Cost Estimates for restoration, rehabilitation, or preventative maintenance.

B. TIME SCHEDULE:

The following general time estimates are given as a guide and will vary depending on the time of year the work is implemented and scheduling of specific contracted services.

TASKS: ITEMS 1 & 2 (*Reference Table Below)* –

TANK CAPACITY AND GENERAL DESCRIPTION	TASK I TANK INSPECTION (DAYS/HOURS) Out of Service	TASK II DETAILED INSPECTION REPORT (Days/Weeks)
Hollywood Florida West 1,000,000 Gallon	2-3 Day(s) Inspection	2-3-Weeks
Hollywood Florida East 1,000,000 Gallon	2-3 Day(s) Inspection	2-3-Weeks
TOTAL TANKS: (2)	**4-6 Days* (Total)**	**4-6 Weeks (Total)**

* Does not include coordination prior to tank access.

C. PROPOSAL BREAKDOWN & SCHEDULE OF VALUES (Option 1 & 2)

Hollywood Florida – West 1,000,000 Gallon EWST
Out of Service Inspection / Clean Out

PROPOSAL SUMMARY INSPECTION – DRY CLEAN OUT TASK AND/OR OPTION BREAKDOWN	**TOTAL**
TASK I – Comprehensive Field Inspection & NDT/Clean Out Services	
a. Mileage	-0-
b. Travel & Time (5 hrs. x 2 ways x 3 techs)	$1,260.00
c. Lodging (If necessary)	$450.00
d. Per Diem (Based on $50/day x 2 days x 3 technicians)	$300.00
e. Airfare (Estimated for 3-technicians)	$1,400.00
f. Rental Car/Fuel	$300.00
g. Mobilization & Material Costs	$200.00
h. Inspection Cost**:** (Lump Sum)	$2,821.50
i. Sediment Disposal/Cleaning**:** (Lump Sum)	$5,643.00
TASK II – Report Preparation	
a. Comprehensive Report (Recommendations, Cost Estimates, etc.)	$4,000.00
b. CAD Engineer Review	$540.00
c. CAD Development	$540.00
d. ROV Video *(Not included)*	- 0 -
SUB-TOTAL (TASK I–Inspection) & (TASK II-Comprehensive Report):	**$17,454.50**
MISCELLANEOUS	
a. Manlift or Special Rigging	-0-
b. Special Conditions or Requirements (Lead Samples of Interior, Interior Wet, and Exterior)	*$275.00**
c. DRUG TEST SPECIAL FEE	-0-
d. Overtime/Emergency/Re-inspection of Repairs & Misc.	N/A
TOTAL COST:	**$17,454.50**
***Cost of lead sampling is $275 per area, up to a maximum of three areas ($825.00), not included in total cost.**	

Hollywood Florida – East 1,000,000 Gallon EWST
Out of Service Inspection / Clean Out

PROPOSAL SUMMARY INSPECTION – DRY CLEAN OUT TASK AND/OR OPTION BREAKDOWN	**TOTAL**
TASK I – Comprehensive Field Inspection & NDT/Clean Out Services	
a. Mileage	-0-
b. Travel & Time (5 hrs. x 2 ways x 3 techs)	$1,260.00
c. Lodging (If necessary)	$450.00
d. Per Diem (Based on $50/day x 2 days x 3 technicians)	$300.00
e. Airfare (Estimated for 3-technicians)	$1,400.00
f. Rental Car/Fuel	$300.00
g. Mobilization & Material Costs	$200.00
h. Inspection Cost**:** (Lump Sum)	$2,821.50
i. Sediment Disposal/Cleaning**:** (Lump Sum)	$5,643.00
TASK II – Report Preparation	
a. Comprehensive Report (Recommendations, Cost Estimates, etc.)	$4,000.00
b. CAD Engineer Review	$540.00
c. CAD Development	$540.00
d. ROV Video *(Not included)*	- 0 -
SUB-TOTAL (TASK I–Inspection) & (TASK II-Comprehensive Report):	**$17,454.50**
MISCELLANEOUS	
a. Manlift or Special Rigging	-0-
b. Special Conditions or Requirements (Lead Samples of Interior, Interior Wet, and Exterior)	*$275.00**
c. DRUG TEST SPECIAL FEE	-0-
d. Overtime/Emergency/Re-inspection of Repairs & Misc.	N/A
TOTAL COST:	**$17,454.50**
***Cost of lead sampling is $275 per area, up to a maximum of three areas ($825.00), not included in total cost.**	

D. PROPOSAL SUMMARY OF PROPOSED COSTS:

SUMMARY OF PROPOSED COSTS	TOTAL
Comprehensive Field Inspection & NDT/Clean Out Services	
a. West Hollywood Florida 1.0MG – Out of Service Dry	$17,454.50
b. East Hollywood Florida 1.0MG – Out of Service Dry	$17,454.50
TOTAL COST:	**N/A**
Please note that item MISCELLANEOUS.B "LEAD SAMPLES OF INTERIOR, INTERIOR WET, AND EXTERIOR" is not included in the total price proposal – upon acceptance of the proposal, please specify any addittional services that are required.	

Please note: Quotes are based on previous job surveys and/or present discussions with facility representatives. Other variables, such as facility readiness upon inspector's arrival, delays for access, overall condition of the item(s) before inspectors' arrival, and other delays may affect initial quote by accruing additional field hours. In those cases where additional field hours are accrued or a separate mobilization is necessary to complete the inspection, another invoice will be generated. We strongly encourage all facilities to be prepared for the inspection to limit overage and/or communicate with WIT if change orders or an additional PO is necessary. The invoice or invoices will reflect the actual consumed hours.

E. CONTRACT APPROVAL

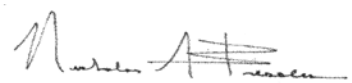
1. LIMITED LIABILITY

WORLD INTERNATIONAL TESTING, INC. understands fully the work and conditions of this project and will provide testing and inspection services, and also, will submit a detailed report with recommendations in compliance with this proposal and **AWWA, NFPA** or applicable federal, state and local guidelines for the sum or unit prices chosen. Let it be known and accepted by the signature on this proposal, by both parties, that **World International Testing, Inc.** can only guarantee the documented conditions of the tank at the conclusion of our inspection. All work will be performed in compliance with our current contract agreement.

NOTE: The enclosed NTE or LSB prices were provided based on the general scope of work necessary to provide a comprehensive field inspection and a detailed report of the findings. Additional options or tasks were not required for this project. Services as needed and prices shall remain in effect through the August 2023. The Owner will be responsible for providing drawings or history of the tank(s), if available or needed. If the proposal is satisfactory, please fax or email a signed copy of the Proposal Summary page, filled in, along with the Contract Approval page, back to our corporate headquarters along with one copy of original signatures.

2. CONTRACT APPROVAL

The Proposed Totals & Scope of Work are submitted by:



_____ 1/30/2023
Date

Nickolas A. Bressler, Director of Operations
Inspection Consultant
World International Testing, Inc.

Approved by:

_____ _____
OWNER Date

_____ _____
OWNER Date