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City of Hollywood – Public Utilities
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Date: June 27, 2023
Our Ref: 30173878
Subject: Lead and Copper Rule Revisions Compliance (Phase 1) Work Order
Proposal

FL Engineering License #7917
FL Geology License #GB564
FL Surveying License #LB7062

Dear Ms. Montero,

Arcadis U.S., Inc. (Arcadis) is pleased to submit this Work Order proposal to assist the City of Hollywood (City) with the Lead and Copper Rule Revisions (LCRR). This first phase of work (Phase 1) will focus on critical path compliance activities to lay the foundation for a successful LCRR program and will include:

- Identifying program goals and milestones,
- Developing a comprehensive Service Line Inventory (SLI), and
- Initiating outreach and education to key stakeholders and customers.

Optional services are also presented for consideration. This Work Order proposal shall be executed per the terms and conditions of the Professional Services Agreement (PSA) (Number 17-1324) executed by and between the City and Arcadis on November 11, 2017.

Background

The final LCRR were published in the Federal Register on January 15, 2021, with the overall goal of improving public health protection via a proactive and holistic approach by requiring earlier action and improved transparency and communication by utilities to reduce risks around lead in drinking water. Key requirements under the LCRR include:

- Develop an initial SLI that documents the service line material on both the utility- and customer-owned portions for all water service lines in the system and submit to the State on or before October 16, 2024.
- Post the SLI online for easier customer access.
- Unless all service lines in the SLI are determined to be non-lead (i.e., the inventory does not contain any lead, galvanized requiring replacement or unknown service lines):
 - Create a lead service line replacement (LSLR) plan and submit to the State on or before October 16, 2024.
 - Notify customers of their service line material within 30 days of completion of the initial SLI and annually thereafter.

- Modify tap sampling locations, as appropriate, and submit an updated LCRR sampling plan to the State by the start of the first standard monitoring round, which begins January 1, 2025.
- Beginning on October 16, 2024:
 - Perform a find and fix assessment at any compliance sites where the lead result is above 15 parts per billion (ppb).
 - Offer to sample schools and licensed childcare facilities that are served by the City. Conduct sampling at 20% of elementary schools and 20% of licensed childcare facilities per year for the first five years.
- After October 16, 2024, conduct full LSLRs, perform education and outreach and optimize corrosion control treatment if the 90th percentile for all lead samples in a monitoring round is above the new lead trigger level of 10 ppb.

The City has requested support from Arcadis to prepare for these new requirements beginning with a first phase of support (Phase 1) that includes Strategic Planning (Task 1), Development of an SLI (Task 2), and Outreach and Education (Task 3). The Phase 1 scope of work is included below. Subsequent Phase 2 services will be determined and authorized by the City at a later date.

Scope of Work

Task 1: Project Kickoff and Strategic Planning Workshop

Given the critical timelines in the schedule, immediately after receiving the authorization-to-proceed (ATP), Arcadis will submit a data request and schedule the Kickoff Meeting to establish lines of communication, confirm the City's objectives, review the proposed scope and schedule, and review the data request. Following receipt and review of data, Arcadis will conduct up to two (2) virtual planning meetings with key stakeholder groups to understand current activities and practices around LCRR and communications and discuss challenges, expectations, and goals around applicable LCRR components.

Arcadis will then facilitate a ½ day in-person Strategic Planning Workshop with City stakeholders (to be identified and invited by the City) focused on the following objectives:

- Outline major elements of the LCRR requirements for each regulatory component.
- Discuss existing practices, strengths, and gaps and identify preliminary resource needs (e.g., systems, processes, staff).
- Describe best practices and provide examples of approaches from other systems.
- Establish clear expectations and provide an open forum for City staff to provide input on the project.
- Identify key decisions that require input from the City, including any desired proactive measures and timelines.
- Identify external stakeholders to engage in education and outreach activities.
- Begin discussing potential field investigation methods and locations.
- Identify next steps

Outcomes from the workshop will be incorporated into Tasks 2 and 3 and used to develop a roadmap that summarizes all LCRR tasks to be completed in 2024 and 2025, including a brief description of the task, the priority or proposed timeframe to complete, resource needs, responsible party(s) and planning level estimates by year.

Deliverables

- Request for information (electronic in Adobe PDF)
- Kickoff meeting agenda and meeting summary (electronic in Adobe PDF)
- Summaries of virtual planning meetings (up to five, electronic in Adobe PDF)
- Strategy Workshop agenda, materials, and minutes (electronic in Adobe PDF)
- Prioritized LCRR Roadmap (electronic in Adobe PDF; presented in a tabular format)

Task 2: Service Line Inventory Development

Arcadis shall implement a four-phase approach to develop a comprehensive SLI. This includes (1) a desktop review of existing data, (2) strategic field investigations to reduce unknowns and determine the suitability of a predictive model, (3) predictive modeling (or statistical analysis, where predictive modeling is not feasible), and (4) development of the SLI and associated public facing web application. This phased approach is discussed in the below subtasks.

Task 2A: Desktop Review of Existing Information

Arcadis shall conduct a desktop review of available City service line records to establish a documented common understanding of all available data sources and how those records were used by others to start the inventory. Arcadis will hold one virtual meeting with key City staff to discuss/confirm the following:

- a. Available records/information
 - i. Permits for new services
 - ii. Publicly available information (i.e., tax records for home age, plumbing codes or ordinances)
- b. Preliminary inventory by the City of Hollywood and/or Florida Technical Consultants (FTC)
 - i. Format: Scanned versus digital information, GIS compatible, availability of unique premise identification number, etc.
 - ii. Documented data fields: Fields that are available for data input and the percentage of information known
 - iii. Assumptions: Understanding which assumptions have been applied to current inventory (i.e., all homes built after 1988 have been designated as non-lead on the customer side of the service line)
 - iv. Workflows: General procedure for collecting information and storing it in the central database
- c. New practices and procedures to verify unknown materials as part of ongoing field efforts, such as:
 - i. Identification of the material on the City's portion as part of capital improvement projects, meter repairs/replacements, or work orders
 - ii. Identification of the material on the private portion as part of any in-home water quality investigations, meter replacements/repairs, or proactive in-home identification

Subsequently, Arcadis will hold a workshop with the City to:

- Review the results from the review.
- Confirm the priority of the data sources.
- Discuss strategies to reduce the number of service lines of unknown material.
- Discuss recommendations and next steps for improving the LSLI.

Deliverables:

- Meeting agenda, slides and minutes (electronic in Adobe PDF format)

Task 2B: Field Investigations

Based on information gathered in Task 2A, Arcadis will develop a list of properties to conduct field investigations to determine the service line material on both the utility and customer-owned sides of the service line. As little information is known, it is assumed that field inspection will be conducted at a random subset of unknown sites to understand typical materials used throughout the City's distribution system and to determine the feasibility of using a predictive model to identify the likelihood of lead at each unknown service line. Appropriate field investigation methods may include potholing and/or inspection in the meter box where feasible. Field investigations will be conducted on both sides of the service line on utility and customer-owned sides by the Contractor selected by the City.

To successfully execute this task, Arcadis will:

- Hold up to three (3) virtual coordination meetings to plan for field inspection efforts. Discussions may include:
 - Recommended inspection locations, including the order and schedule
 - Recommended updates to the mobile collection form
 - Method(s) to be used for inspection
 - Outreach materials and distribution
 - Approach to inform and/or obtain approval from the customer and track responses
 - Roles and responsibilities of each party
 - Data access and sharing
- Add recommended fields to ArcGIS Online and create web map for Field Maps
- Develop a dashboard to track Contractor progress and results
- Meet with the City to review the results of the inspections
- Provide a field representative (up to 80 hrs) to perform the following activities (once the Contractor selected by the City starts the fieldwork):
 - Witness two full days of the verification activities performed by the Contractor to determine if improvements are needed.
 - Coordinate troubleshooting or assist with field activities related items as needed via the remaining 64 hours.

Deliverables:

- Meeting agenda, slides and minutes (electronic in Adobe PDF format)
- List of recommended locations to conduct field investigations (electronic in Adobe PDF format)
- Dashboard to track contractor progress and result (in GIS or PowerBI)
- Review of and compiled results from the completed field inspections (in Microsoft Excel, GIS or electronic in Adobe PDF format)
- Field representative activities

Task 2C: Predictive Modeling

Arcadis will work in collaboration with VODA.ai to either (1) configure and apply a predictive (i.e., machine learning) model (should lead be found under Task 2B) or (2) perform statistical analysis (should no lead be found under Task 2B) that will predict the likelihood of lead for service lines of unknown material using the data from Tasks 2A and 2B. This effort will assist in estimating how many lead service lines are in the distribution system, where they are located, and help prioritize where to begin additional service line verification and replacements. To successfully complete this task, Arcadis will:

- Meet with the City to discuss the recommended approach (i.e., predictive modeling or statistical analysis)
- Provide a ranking of all unknown pipe segments by likelihood of lead throughout the service area
- Meet with City to review the results of the initial model output and train City staff on the user interface

Deliverables:

- Meeting agenda, slides and minutes (electronic in Adobe PDF format)
- A list that ranks the likelihood of lead for both portions of the service line for each unknown service line in the system (electronic .csv or .shp file)
- Access to model results displayed in the VODA.ai web-based User Interface (UI)
- User Interface onboarding and training are available for 30 days after User Interface is deployed

Task 2D: Develop Service Line Inventory

Under this task, Arcadis will:

- Develop a comprehensive inventory using the data obtained from Tasks 2A, 2B and Task 2C.
- Meet with FDEP to review the final inventory and clarify any questions related to the assumptions, incorporation of the predictive modeling results and inventory reporting requirements.
- Populate the required template for submission to the State ahead of the October 2024 deadline.
- Create a web-based application for a public-facing dashboard of the LSLI. The LSLI shall be hosted on ArcGIS Online (AGOL) under the City's existing ESRI Enterprise licensing agreement.
- Hold up to two (2) virtual meetings to discuss requirements for and review the public facing web application.
- Develop a standard operating procedure (SOP) for the City to update and maintain the SLI and public facing web application.
- Train City staff on procedures for maintaining the SLI public facing web application.

Deliverables:

- Initial Inventory (electronic in GIS format)
- Complete Inventory Reporting Template (electronic in Microsoft Excel)
- Public-facing SLI web application
- SOP for updating and maintaining the SLI
- Staff training workshop agenda and slides

Task 3: Outreach and Education

A comprehensive public outreach and education program is critical to successful compliance with the LCRR. Communications programs have shifted from written bill inserts to holistic programs focused on building trust,

Ms. Montero, PE
City of Hollywood
June 27, 2023

visual content development, and community partnerships to keep customers informed and educated about their water. Arcadis will work closely with the City's communications and LCRR teams from the onset of the project to plan and initiate a strong outreach and education program through the activities described below.

Task 3A: Gap Analysis

This initial task will focus on early planning to understand the current communications strategies and materials, educate City staff on Federal and State LCRR communications-related requirements, and identify next steps and responsible parties. To do this, Arcadis will:

- Hold up to three (3) 2-hr hybrid (in-person with a virtual option) workshops to (1) review Federal and State LCRR requirements specific to public education, outreach and customer notifications, (2) share example outreach materials, lessons learned and industry best practices, and (3) understand current City strategies, preferences, partners and materials.
- Identify key stakeholders including but not limited to:
 - Elected officials at the municipal, state and federal levels
 - Other officials at the city, county, state and federal levels
 - Community groups and neighborhood associations
 - Community leaders who might act as champions
 - Business groups, including groups likely to include owners and managers of single-and multi-family residential properties
 - Nonprofit, health care and other groups with an interest in public health
- Assist in the development of key messaging regarding the LCRR targeted to different audiences or program elements.
- Develop a Public Outreach and Education Work Plan summarizing goals, strategies including content purpose and delivery method, responsible parties, partnering organizations, stakeholders, and timelines for each element of the LCRR.
- Hold up to three (3) virtual follow up meetings with the LCRR Project and Communications teams to identify resource needs, discuss program branding and key messaging regarding the LCRR targeted to different audiences or program elements and stakeholder engagement strategies including content purpose and delivery method, and review the draft Plan.

Deliverables:

- Meeting agendas, slides, and minutes
- Public Outreach and Education Work Plan (electronic in Adobe PDF format)

Task 3B: Outreach and Education Materials

Arcadis will work collaboratively with the City staff to develop and provide communications content to support the field investigations under Task 2B using effective messaging and delivery approaches. These include the following:

- A one-page fact sheet to educate customers about the LCRR and how it will impact them
- A one-page fact sheet to inform customers about the dangers of lead and how to reduce lead exposure
- A door hanger to notify customers of upcoming service line investigations
- A door hanger to notify customers of service line material

Ms. Montero, PE
City of Hollywood
June 27, 2023

In addition, Arcadis will work with the City to identify and develop up to eight (8) additional pieces of collateral in both English and Spanish to be used for public outreach and education. These may include:

- Bill inserts
- Fact sheets for elected officials and other audiences
- Frequently asked questions
- Door hangers
- Direct mail pieces
- Maps
- PowerPoint presentations
- Ads for traditional and digital media
- Graphics for social and digital media
- Directional signage and displays for public meetings
- Yard signs

Arcadis will hold up to two (2) virtual meetings with the City to review comments on the proposed draft materials and delivery format.

Deliverables:

- Meeting agenda, materials, and minutes (electronic in Adobe PDF)
- Up to ten pieces of collateral (electronic in Adobe PDF in both English and Spanish)

Task 3C: City Stakeholder Engagement

Under this task, Arcadis will prepare for and participate in up to ten (10) virtual and four (4) in person meetings with City leadership, specifically the Public Utilities Director, City Manager, Mayor, and/or City Commissioners (individually), to discuss the LCRR program and requirements.

The objectives of these meetings are to provide updates on completed and upcoming activities, answer questions, address key issues and resource needs, obtain consensus on key decisions, discuss regulatory updates/changes, and identify additional scope needs. A summary of the key decisions and action items from each meeting will be provided.

Arcadis will also attend and lead two (2) in person public meetings (or virtual Town Halls, if preferred) to educate customers about the LCRR, how it will impact them, steps the City is taking to proactively prepare, and steps customers can take to reduce lead exposure. Arcadis will provide live translation services in Spanish.

Deliverables:

- Meeting agendas and summary of key action items (electronic in Adobe PDF)
- Materials (electronic in Adobe PDF) and translation services for public meetings

Task 3D: Schools and Childcare Facility Stakeholder Engagement

Under this task, Arcadis will:

- Review the recently-developed list of schools and licensed childcare facilities

Ms. Montero, PE
City of Hollywood
June 27, 2023

- Gather additional contact information for school and childcare staff including Administrators, Superintendents, Principals, Communications Directors, and/or Facility Managers
- Create a multimedia communications strategy to notify and engage all applicable schools across the service area
- Customize communications workflows and messaging to share program information and results with school personnel, parents and guardians, and the broader community
- Develop a customized dashboard to track participant communications and engagement
- Customize notification letter and email notification templates with client branding and messaging for program information, upcoming sampling reminders and sampling results
- Facilitate up to three (3) virtual meetings with key stakeholders (e.g., Florida Association of School Administrators, Broward County Public School Districts, Archdiocese of Miami) to provide education and obtain buy-in to encourage participation and ensure consistent messaging across the schools
- Contact key stakeholders to inform them of the program, identify primary points of contact and additional next steps. The task includes up to 40 hours to support communication through direct phone calls.
- Host up to three (virtual) meetings with City staff to support the execution of this task

Deliverables:

- Meeting agenda, materials, and minutes (electronic in Adobe PDF format)
- Proposed workflow for facility communications (one-page flow chart)
- Customized dashboard to track facility communications and participation
- Customized notification templates

Task 4: Project Management

This task is reserved for the overall management of the project and will include but is not limited to the following activities:

- Develop project schedule and track schedule, budget and costs.
- Prepare monthly invoices and progress reports that describe:
 - Work performed during the previous month
 - Work scheduled for the next month
 - Schedule status/deliverable status
 - Budget status.
 - Input needed from the City or others
 - Other issues or concern

Deliverables:

- Monthly invoices
- Monthly progress reports
- Schedule updates

Task 5: Additional Services (Optional)

This task includes added services to support the City with LCRR compliance. If authorized in writing by the City, Arcadis shall furnish or obtain Additional Services of the types listed below.

- Identify and complete applications to the State for funding to support the SLI development.
- Configure and deploy Lead Insights web based data management platform
- Support additional public outreach including:
 - Leading additional public outreach events
 - Develop communication materials to encourage participation in school sampling program including sampling protocols, education materials and templates for rapid reporting to facilities, health department and primary agency.
 - Develop and maintain web portal/dashboard for scheduling and reporting.

The fee will be developed upon request and work will not proceed until Arcadis has received written authorization from the City.

Assumptions and Limitations

The following assumptions and limitations are applicable to this work order.

1. All SLI work will be completed within one year from receipt of the necessary data assuming prompt response from the City on additional data needs or clarification questions.
2. The City will provide or procure tax parcel data including home build dates for all properties within the service area to support the SLI development.
3. The City shall be responsible for all applicable permits including any fees.
4. Field inspections will be conducted by a Contractor(s) selected by the City and Arcadis will only provide direction on which locations to verify and manage and evaluate the data provided by others.
5. The City shall be responsible for all construction management activities including supervising and acceptance of the Contractor's work, responding to RFIs, restoration acceptance, verification of quantities, payment application review and approval, change orders, contingency use approval, liquidation damages determination, creation and completion acceptance of punch list items, and ensuring that the substantial completion requirements are met (punch list, coating touchup, record drawings, guarantee certifications, performance affidavits and all other certifications).
6. The City and/or Contractor shall be responsible for communication and coordination with the owners on the private side during the field activities.
7. The selected Contractor shall be responsible for all work necessary and required to complete, notarize and catalogue the right of entry permits including:
 - a. Notifying the customers of the upcoming inspections
 - b. Providing a right of entry form to be used to gain access to private property
 - c. Obtaining approval from the customer to conduct the inspections
8. The City will provide Arcadis with any necessary licensing and access to the field collection application and data that are being collected to support the development of the dashboard and tracking, QC and analysis of the data. Any additional licensing fees are the responsibility of the City.
9. Up to 42,000 service lines will be modeled and the scope includes one guided model run.
10. Fee assumes City's enterprise license agreement with ESRI is current and includes the use of mobile applications and ArcGIS Online at no additional cost to the City.
11. The public-facing SLI website shall be in English only.

Ms. Montero, PE
 City of Hollywood
 June 27, 2023

12. Printing of the planning documents, minutes, presentations, or collateral materials is not included. All deliverables will be provided electronically.
13. Fee assumes that available national, state and local databases will be used to populate the database and no verification of the information available online will be conducted (e.g., calling schools to ensure correct phone number is available on national, state or local databases).
14. Excludes scanning, digitization, and automated data extraction of paper records with service line material information, such as tap cards, work orders, and as-built drawings.
15. The SLI staff training workshop is assumed to be up to 2 hours. All other meetings are assumed to be up to 1-hour each unless otherwise specified.

Schedule

Arcadis’ services shall commence upon receipt of written authorization from the City, which will constitute ATP. Below is a high-level project schedule.

Task	Days from ATP
Task 1: Project Kickoff and Strategic Planning Workshop	45
Task 2A: Desktop Review of Existing Information	90
Task 2B: Field Investigation	240
Task 2C: Predictive Modeling	300
Task 2D: Develop Service Line Inventory	365
Task 3A: Outreach and Education Gap Analysis	100
Task 3B: Outreach and Education Materials	145
Task 3C: City Stakeholder Engagement	300
Task 3D: School and Childcare Facility Stakeholder Engagement	200

Budget

The terms of compensation shall be in conformance with the Professional Services Agreement for General Engineering Consulting Services dated November 11, 2017, between the City and Arcadis. The proposed not to exceed fee for this project is \$432,160, including a lump sum amount of \$36,000 for the Voda.ai (predictive model/analysis) and reimbursable expenses up to \$9,300. A breakdown of this fee is enclosed as Attachment A.

Arcadis is excited about this opportunity to assist the City with this very important project. Should you have any questions regarding this work order proposal, please do not hesitate to contact Joan Fernandez via email (joan.i.fernandez@arcadis.com) or telephone (954.882.9566).

Ms. Montero, PE
City of Hollywood
June 27, 2023

Sincerely,
Arcadis U.S., Inc.



Leah Richter, PE
Vice-President



Joan Fernandez, PE
Project Manager

Email: joan.i.fernandez@arcadis.com
Direct Line: 954-882-9566

CC. Wilhelmina Montero, PE (City)
Rebecca Slabaugh, PE (Arcadis)

Enclosures:
Attachment A – Fee Breakdown

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 — or in connection with — 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.

ATTACHMENT A

Fee Breakdown

Project: Lead and Copper Rule Revision Compliance - Phase 1

TASK		CATEGORIES									PROPOSED FEES (\$)		
Task No.	Description	Senior Officer	Technical Expert	Project Manager	Senior Expert	Senior Project Engineer 6	Project Engineer 5	Project Scientist 3	Administrative 3	Total Hours	Labor Fee	Other Fees	Total Labor + Other Service Fees
		Leah Richter	Rebecca Slabaugh	Joan Fernandez	James McCallon	Vishakha Kaushik	Garth White	Emily Baca	Sandra Demma				
1.0	Project Kickoff and Strategic Planning Workshop	10	22	26	26	72		34		190	\$38,020		\$38,020
2.0	Service Line Inventory Development	4	38	62	135	72	80	180		571	\$106,440	\$36,000	\$142,440
3.0	Outreach and Education	80	186	126	36	548		52		1,028	\$214,640		\$214,640
4.0	Project Management	16		72					60	148	\$27,760		\$27,760
	Travel Expenses											\$ 9,300	\$9,300
Totals		110	246	286	197	692	80	266	60	1,937	\$386,860	\$45,300	\$432,160
Approved Billing Rates (\$/hr)		\$280	\$260	\$240	\$200	\$180	\$170	\$150	\$100				
TOTAL AUTHORIZED NOT-TO-EXCEED FEE												\$432,160	

Note: Service fee for Voda.ai predictive modeling services included under Task 2 (\$36,000) is lump sum.