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Bid Delivery Address and Fax Number:

Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130
Fax: 304-558-3970

VENDOR NAME: **120Water Audit, Inc. (dba 120Water)**

BUYER: Josh Hager

SOLICITATION NO.: CRFQ 0313 DEP 2300000001

BID OPENING DATE: 6/15/2023

BID OPENING TIME: 1:30pm ET

FAX NUMBER:

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WV Purchasing Division



Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
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State of West Virginia
 Centralized Request for Proposals
 Service - Prof

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Proc Type: Central Master Agreement			
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BID RECEIVING LOCATION

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 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Customer Code:

Vendor Name : 120 Water Audit, Inc. (D/B/A 120Water, Inc.)

Address : 250
Street : South Elm Street
City : Zionsville
State : IN **Country :** United States **Zip :** 46077

Principal Contact : Paul Schuler

Vendor Contact Phone: 317-501-3188 **Extension:**

FOR INFORMATION CONTACT THE BUYER
 Joseph E Hager III
 (304) 558-2306
 joseph.e.hageriii@wv.gov

Vendor Signature X *Megan C Shaw* **FEIN#** 81-1714517 **DATE** 6/9/2023

All offers subject to all terms and conditions contained in this solicitation

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) Paul Schuler, Director of Enterprise Sales

(Address) 250 S. Elm Street, Zionsville, IN 46077

(Phone Number) / (Fax Number) 317-501-3188

(Email address) paul.schuler@120water.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

120 Water Audit, Inc.

(Company) _____

(Signature of Authorized Representative) Megan C. Glover

Megan Glover, CEO 6/9/2023

(Printed Name and Title of Authorized Representative) (Date) _____

317-501-3188

(Phone Number) (Fax Number) _____

paul.schuler@120water.com

(Email Address) _____

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFP DEP23*01

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

120 Water Audit, Inc.

Company

Megan C. Slavin

Authorized Signature

6/9/2023

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.



Response to Requests for Proposals - **Technical Proposal**

Lead Service Line Inventory System for DWWM

Solicitation No: CRFQ 0313 DEP 2300000001



The West Virginia Department of Environmental Protection

Submission To:

Josh Hager
Department of Administration,
Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

Response Submitted By:

120Water
250 S Elm Street
Zionsville, IN 46077
120Water.com

Primary Contact:

Paul Schuler
Director, Enterprise Sales
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Paul E Schuler

June 9, 2023

INDEX

INDEX	2
COVER LETTER	3
TECHNICAL PROPOSAL	4
4.2 - Project Goals and Objectives - Overview	4
Inventory Database	6
Field Services	8
Customer Outreach Services	8
Mandatory Project Requirement	9
4.3 - Qualifications and Experience - Overview	9
Lead & Copper Rule and LCRR Program Experience	10
LSLI Inventory Development Experience	10
LSLI Inventory (Database) Deployment Experience	10
APPENDICES	11
Appendix A: Proposed Approach	11
Appendix B: Estimated Project Schedule	22
Appendix C: Safety Plan and Data Security	24
Appendix D: Data Flow Diagram	26
Appendix E: Key Personnel and Program Team	27
Appendix F: Firm Background, Past Performance, Qualifications, and Experience	34
Appendix G: State Dashboard and PWS Portal Screenshots	40



Cover Letter

Mr. Josh Hager
Department of Administration, Purchasing Division
2019 Washington St. E.
Charleston, WV 25305

Mr. Hager

It is with great interest that we submit our proposal to be considered as WV DEP's partner to deliver the Lead Service Line Inventory System for DWWM . Federal drinking water regulations continue to evolve, significantly increasing the burden for agencies responsible for enforcing existing and new requirements. ASDWA estimates the increased hours required to implement the revised Lead & Copper Rule - each year for the first 5 years - is 20,570 hours annually per primacy agency, with nearly 5,000 hours spent year-over-year on service line inventory and replacement work alone. Complying with the revised Lead and Copper Rule, and regulatory oversight is not a short term project; rather, a long term endeavor with expected increases in requirements over time. 120Water is committed to providing solutions that relieve the administration burden while meeting the holistic, long term compliance management needs for State Drinking Water Administrators.

We believe we can be a trusted partner for WV DEP to deliver the Lead Service Line Inventory System for a number of reasons 1. Our track record of success providing solutions such as data management and software applications to manage state-wide and multi-state programs, 2. Experience collecting lead service line inventory data for systems of all sizes, 3. Focus on continued innovation to adapt to policy changes, and 4. Our current depth and breadth of collaboration with West Virginia based water systems and associations.

120Water will fulfill the outcomes specified by WV DEP in the RFP through 120Water's modern off the shelf cloud applications: PWS Portal, State Dashboard and Public Transparency Dashboard. These intuitive applications meet all of the functional and technical requirements specified, to provide a complete solution. WV DEP will be supported by a best in class team that specializes in government software implementation, and program management to assist the State, and other program partners through the lifetime of the contract.

All of the information provided within this response is complete and accurate to the best of our knowledge. We are hopeful to have the opportunity to discuss our proposed solution and plan in more detail; as well as the opportunity to be chosen as the trusted partner to build your Lead Service Line Database.

Sincerely,



Megan Glover
CoFounder & CEO 120Water



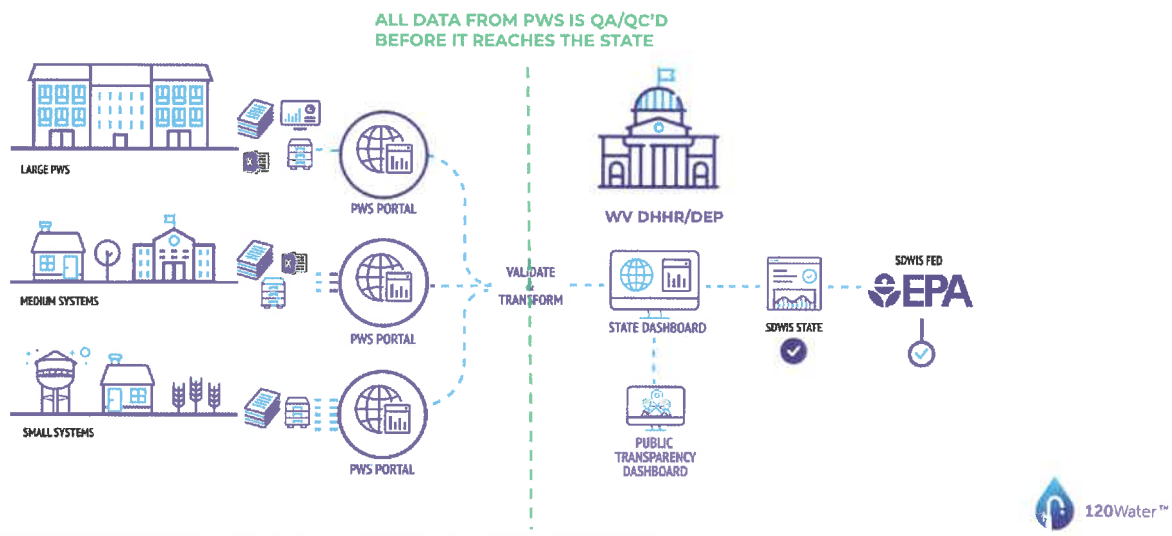
TECHNICAL PROPOSAL

4.2 - Project Goals and Objectives - Overview

120Water's technical approach in partnering with WV DEP on its Lead Service Line Database is to implement PWS Portal for all CWS/NTNCWS so that systems of all sizes have an intuitive easy-to-use tool to normalize, validate and manage service line data BEFORE it is uploaded to the State Dashboard for ongoing compliance management.

We understand many water systems do not have digital inventories or capabilities to track and submit inventories today. Instead they have multiple systems that house data points such as GIS, billing systems, spreadsheets, and paper records. 120Water will deliver a WV DEP approved reporting template and cloud based PWS Portal instance to every eligible water system, which allows them to submit pre-validated, standardized LSLI data, in a digital format to the WV DEP State Dashboard application. The water system submissions will automatically go through a validation process upon import of CSV/EXCEL template; as well as, when records are manually updated in PWS Portal. When the water systems are scheduled to report, annually or eventually tri-annually, the data will be transmitted from PWS Portal to the WV DEP State Dashboard application where various program workflows and ongoing management and reporting occurs. The State will then have the opportunity to publish the approved service line inventories to our Public Transparency Dashboard application for the public to access location based inventories across the State. Additionally, the State can utilize their State Dashboard application submit and report directly to SDWIS.

Below is a visual representation of the 120Water applications: PWS Portal, State Dashboard and Public Transparency Dashboard, that will be used to deliver WV DEP's program requirements. The infographic also shows the data flow between applications that will result in the desired outcomes outlined in the RFP requirements, including data management, reporting, and public data access. The PWS Portal, the Public Transparency Dashboard, and the State Dashboard are commercially available today.. The 17.2 Project Schedule reflects our proposed timeline for delivery of such scoped items, with more detailed architecture and data flow diagrams included in **Appendix D**



Scope Requirements

Section	Requirement	120Water Capabilities
4	PROJECT SPECIFICATIONS	
4.2	Project Goals and Mandatory Requirements	
4.2	<p>The Vendor must be able to provide a turnkey solution to develop and maintain a lead service line inventory database as well as provide technical assistance to the CWSs to develop CWS specific initial and final lead service line materials inventories and lead service line replacement plans for applicable CWSs that meets the requirements under LCRR.</p>	<p>120Water’s cloud based turnkey applications are purpose built to help state regulators manage statewide Lead Service Line Inventories and in accordance with EPA recommended best practices for the revised Lead & Copper Rule. applications are mobile responsive, hosted in AWS and supported by all commonly used web browsers. The platform is designed to scale; 11 State agencies and over 4,000 end users possess the ability to actively log in today.</p> <p>120Water is the leading Lead & Copper Rule compliance platform in the industry. We have executed over 7,000 compliance and public health water quality programs with over 4,000 water and wastewater utilities, and state and municipal agencies in 41 states. Our company specializes in end-to-end solutions including: service line inventory development, sampling, public outreach and communications, pitcher/filter distribution, and cloud based data management. The 120Water platform is built as a long term solution to support all elements of the revised lead and copper rule, while constantly innovating to support additional utility compliance needs in the future.</p>
	<p>Vendor should describe its approach and methodology to providing the service or solving the problem described by meet the goals/objectives identified below.</p>	<p>See “Proposed Approach” below in Appendix A</p>
	<p>Vendor’s response should include any information about how the proposed approach is superior or inferior to other possible approaches.</p>	<p>We are the only company in the United States with a standardized platform to manage the verification, replacement, and sampling components of the new Rule, visualize key performance indicators, and communicate the</p>



		necessary information to the right stakeholders at the right time. This technology is rapidly deployed, within weeks, for a system to immediately begin their program. In addition, 120Water is innovating at a rapid pace to offer additional consulting services, software management, and custom consumables to meet customer needs, which guarantees that customers are supported long term.
4.2.1	Goals and Objectives - Database Services	
4.2.1.1	Inventory Database – The Vendor should describe how they will develop/provide an intuitive and secure database solution for 450 concurrent users that the Agency and Primacy Agency can use to track and compile all lead service line inventories from all CWSs and NTNCs throughout the State of West Virginia.	See “Estimated Project Schedule” below in Appendix B
	The vendor should include how they will provide technical assistance, support, and storage of the database.	<p>120Water will provide document and video training materials, in addition to multiple live guided webinar training for both system administrators and end users. Up to 12 hours of in person/live training for all users is included in the annual license as well as live training at up to 3 scheduled events annually (ie WVRWA conferences).</p> <p>Customer Support is included in the annual license fee. The 120Water Support team is available live Monday– Friday 8:00a – 5:00p support (Eastern Time) with 24/7 email submission.</p> <p>PWS Portal and State Dashboard are hosted in AWS, which operates under a shared security model. AWS provides security ‘of the cloud’, while 120Water provides security ‘in the cloud’. AWS has more information here: https://aws.amazon.com/compliance/programs All data is encrypted both in transit (TLS 1.3) and at rest (AES-256) within the 120Water platform.</p>
	The Vendor must include an explanation of how the state’s data will be protected against being altered or mis represented to the public by efforts of cyber criminals and describe how	<p>See Data Security and Safety Plan below in Appendix C</p> <p>120Water and our State Dashboard application</p>



	they will export their data to the Safe Drinking Water Information System (SDWIS) as required by the EPA	<p>has the ability to write to REST APIs. We assume that SDWIS-State has an available REST API or will have one eventually with the SDWIS modernization.</p> <p>An alternative approach would be a direct export from the State Dashboard in the SDWIS LSL Inventory Migration template (available in SDWIS Bridge 3.6) format. This file can then be easily loaded into SDWIS State.</p>
4.2.1.2	The Vendor should describe how the material inventory and lead service replacement data will be compiled, tracked, and provided to the Primacy Agency and CWSs for each individual CWS's review.	<p>120Water team will work with the WV DEP and DHHR program team to standardize a CSV/Excel template with SOP's the PWS must follow to upload and/or submit their LSL inventory data.</p> <p>In addition, each system will be provided an instance of PWS Portal where they will be able to upload the template directly, or input the data fields manually into the software. PWS Portal will be configured to include all of the template data fields, so that a PWS will have the option of inputting data directly into the software. If uploading template data to the PWS Portal, any deviations from the template fields will be flagged upon upload to, prior to the system submitting the LSLI to WV DEP and DHHR .</p> <p>For more detail, see "Proposed Approach" below in Appendix A</p>
	The vendor should include how the data will be assembled and compiled in a statewide database to provide an overview of West Virginia's lead service line replacement needs.	See Data Flow Diagram below in Appendix D
4.2.1.3	The Vendor should describe how they will be able to import data from CWSs without receiving assistance from the Agency or Primacy Agency.	<p>PWS Portal is a user-friendly web based application that allows users to upload, manage and submit their inventories to the State. Inventory data can be entered manually through the screens within the mobile responsive web application OR imported through an interactive import wizard using CSV or Excel files that will guide them through the upload process.</p> <p>See Appendix C</p> <p>If needed to accommodate various levels of technical abilities, 120Water can support automated data loading by exposing our</p>



		established REST API, or through an SFTP server upload process.
	The Vendor should also include an escalation plan in case a CWS is being uncooperative, in which the Primacy Agency may need to assist uncooperative CWSs if data is not provided to the vendor.	We will work directly with DEP and DHHR to determine the best plan for escalation and strategy. In working with other states, outreach timing and method of communication vary based upon preference.
	Goals and Objectives - Field Services	
4.2.1.4	The Vendor should describe how they will locate new inventory and provide technical assistance to the CWS's.	See "Proposed Approach" below in Appendix A The use of subcontractors, specifically the <u>West Virginia Rural Water Association</u> as well as engineering firms (ie Khafra Engineering, an MBE licensed for work in WV) is anticipated for the most efficient and successful deployment of our Field Services approach and plan.
	The vendor should include how they plan to develop initial/ final materials inventories, and lead service replacement plans for the CWS's.	See "Proposed Approach" below in Appendix A
	The vendor needs to understand that the Primacy Agencies' primary focus will be on CWSs serving less than 1,000 persons, that meets the requirements of the LCRR. CWSs serving less than 10,000 persons may also be included after a satisfactory number of CWSs serving less than 1,000 persons is complete and keep the rural population in mind when determining your method of locating inventory.	Understood. Approach and strategy will be deployed accordingly 120Water currently works with dozens of water systems with populations under 1,000, and has developed techniques tailored to best serve this PWS segment.
4.2.1.5	The Vendor should describe their identification methods used to determine if lead is present in the lines, up to and including home inspection, meter box inspection, water sampling, and physical inspection.	See "Proposed Approach" below in Appendix A The use of subcontractors, specifically the <u>West Virginia Rural Water Association</u> as well as engineering firms (ie Khafra Engineering, an MBE licensed for work in WV) is anticipated for this for the most efficient and successful deployment of our Field Services approach and plan.
	All costs associated with lab analysis (including testing and shipping) must be included in the vendor's cost	Noted and priced assuming all bottles filled will be analyzed. Ex. A 5 bottle sample kit includes 5 Lead only analyses. If only 1st and 5th bottles are analyzed, the price will be amended accordingly.
	Goals and Objectives - Customer Outreach Services	



4.2.1.6	The Vendor should describe the methods they plan to use for customer outreach of the opportunity to participate in lead service discovery and replacement. This should include, but not be limited to postcards and letters as identified on the Attachment A Cost Sheet.	See “Phase 1 - Public Engagement Plan” in “Proposed Approach” below in Appendix A
	All costs associated with customer outreach (including mailing costs) must be included in the vendor’s Attachment A Cost Sheet.	Noted and priced accordingly
4.2.2	Mandatory Project Requirements	
4.2.2.1	Vendor’s proposed database solution must be in a usable format compatible with the Primacy Agency’s Safe Drinking Water Information System (SDWIS-State) and must include the data fields required to be reported to the EPA under the LCRR.	120Water and our State Dashboard application has the ability to write to REST APIs. We assume that SDWIS-State has an available REST API or will have one eventually with the SDWIS modernization. An alternative approach would be a direct export from the State Dashboard in the SDWIS LSL Inventory Migration template (available in SDWIS Bridge 3.6) format. This file can then be easily loaded into SDWIS State.
4.3	Qualifications and Experience	
4.3.1	Information and documentation should include, but is not limited to, copies of any staff certifications or degrees applicable to this project, proposed staffing plans, descriptions of past projects completed (descriptions should include the location of the project, project manager name and contact information, type of project, and what the project goals and objectives where and how they were met.), references for prior projects, and any other information that vendor deems relevant to the items identified as desirable or mandatory below	See “Key Personnel and program Team” below in Appendix E
4.3.1.1	Vendor should specify previous experience with the current Lead and Copper Rule or new LCRR requirements. Vendor should include the scope of programs implemented. Vendor should also include any contacts at the specified entity who can be contacted for verification.	See “Firm Background, Past Performance, Qualifications, and Experience” below in Appendix F



4.3.1.2	Vendor should specify previous experience with identifying materials inventories within CWSs and identify methods to be used to complete the initial and final materials inventories for both the utility owned and customer owned portions of the service lines.	See “Firm Background, Past Performance, Qualifications, and Experience” below in Appendix F
4.3.1.3	Vendor should list specific references and/or examples for previous experiences in deploying and creating a Lead Line Inventory System. Vendor should include any applicable documentation pertaining to these Lead Line Inventory Solutions	See “Firm Background, Past Performance, Qualifications, and Experience” below in Appendix F



APPENDICES

Appendix A: Proposed Approach

Approach to Services - Project Approach and Plan

Strategy for Scope of Work Requirements

Developing a preliminary inventory is Phase I of the LSLI process. The goal is to identify, gather, organize, clean and categorize the data appropriately for Implementation into the 120Water Platform. Here is the process describing the various sections for Phase I of the LSLI process:

- The *Implementation* section outlines the steps that begin once the 120Water Platform has been provisioned and distributed to the PWS
- The *Consider* section outlines the steps that follow once we work with the client to identify data sources and receive the data from the client
- The *Clean* section details steps for bringing the data into a coding environment and preparing the data so that it can be combined
- The *Combine* section details steps for merging data from different sources into a centralized LSLI data source. It is likely that the clean and combine processes will overlap when interacting with the data
- The *Verify* section outlines the steps for organizing the data so that Verify can be budgeted and prioritized
- The *Report* section outlines the steps for reporting the inputs that are auto populated and efficiently reported to the State.

Consider

The first step is to determine the best way to pull together the data set by leveraging some unique combination of the data sources that were previously identified. The goal is to consider “combine potential” by taking a closer look at the data. When developing a records-based LSLI, the current LCRR language permits the following as records:

- (i) All construction and plumbing codes, permits, and existing records or other documentation which indicates the service line materials used to connect structures to the distribution system.
- (ii) All water system records, including distribution system maps and drawings, historical records on each service connection, meter installation records, historical capital improvement or master plans, and standard operating procedures.
- (iii) All inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system.
- (iv) Any resource, information, or identification method provided or required by the State to assess service line materials.



It should be noted that the state of West Virginia may approve other sources of information not listed below for a system to use in their preliminary inventory. As states come up with their own policies, more information around these additional, acceptable sources will come to light. EPA is in the process of drafting and releasing Lead Service Line Inventory Improvements, as those are released, the Preliminary Inventory may be adjusted.

Data Variable / Dataset	What to Look For
<i>GIS Shapefiles</i>	
Customer Locations	Includes street addresses or latitude/longitude data
Service Lines	Where the service lines are located, material type, pipe size
Meter Locations	Where the water meters are located
Meter Type	The type of water meter installed, type of customer served detected through meter size (residential versus commercial)
Tax Parcels	Building age and building assessed value
Water Mains	Where water mains are located, material type, pipe size
Zones/Neighborhoods/Wards	Map of how the city/community is organized, helps with LSLI prioritization
<i>Work Order System</i>	
Service Line Repairs	Looking for material installed, date installed to cross-reference with Ban Dates (1988-1990), pipe size
Service Line Replacements	Looking for material installed, date installed to cross-reference with Ban Dates (1988-1990), pipe size
Meter Repairs	Pipe materials on either side of meter location, date installed, pipe size
Meter Replacements	Pipe materials on either side of meter location, date installed, pipe size
<i>Customer Billing System</i>	
Unique Customer ID	Such as a unique account number or other code used to identify that specific customer



Unique Location ID	Location code, street address, or latitude/longitude
Customer Type	<p>Residential, Commercial, Industrial Customer Types</p> <p>All customer type SLs have to be inventoried but PWS might want to narrow in on residential first</p> <p>Commercial and industrial user SLs are typically larger and pump a lot of water through. Lead is not ideal for larger pipes, lead is better for smaller pipes because of malleability. Can help prioritize. If the pipe is > 2 inches, then they <i>likely</i> do not have lead</p>
Meter ID	
Tax Parcel Data / Records	
Tax Parcel Identification Number (PIN)	Provides a unique identifier to support data merge
Home Year Built	<p>Right now we cannot use home built date as a justification for classifying materials type. As-built year can be used as a cross comparison point.</p> <p>You can cross check as-built with home built date from the tax parcel data BUT it does not count/ is not accepted as proof from the EPA (unknown really if they will accept it/not clear right now) that an LSL doesn't exist.</p> <p>One example for where As Builts will be helpful is for <i>neighborhoods established/constructed dates</i>. If we can prove if a neighborhood was built after the state's lead ban date, then EPA is fine with that as proof.</p>
Lot Size	Smaller lot is more likely to be associated with higher levels of lead, correlation with assessed value
Property Type	Fallback if we do not get this data on Residential, Commercial, and Industrial from the client
Latitude/longitude	Location identifier (If client cannot provide this data)
Street Address	Location identifier (If client cannot provide this data)
Home Assessed Value	<p>Correlation between home value and probability of lead in SL and internal plumbing (the lower the home value, the higher the SL probability)</p> <p>Useful for environmental justice considerations</p>
Tier Sites Data	



Street addresses	Can use street addresses to connect tier site sample results to specific addresses in our baseline file
Subdivisions or neighborhoods	Can use this as supplemental information to help us understand whether or specific subdivision or neighborhood has a lot of lead exceedances
Lead concentrations from sample results (ppb or ug/L)	Use this information to help us understand the probability of a lead service line
LCR event months and year	Use this longitudinal data to understand how lead concentrations have evolved over time and helps us understand the probability of a lead service line

Clean & Combine

Cleaning and combining the data means to modify, reorganize, and adjust the data in a way that prepares it for more in-depth analysis. Cleaning and combining data happen simultaneously and the process used is contingent on the type of data sources provided and how the data is organized.

120Water Program Consultants will review and analyze all records to determine which locations in the customers service area are known to be Lead, Non-Lead, GRR or Unknown which permits identifying areas where LSL's are most likely to exist.

Verify

At this point in the process, a compliant Service Line Inventory has been reached. The goal of this stage is to understand the inventory findings and evaluate what the future holds. Through the Verification Workshop, 120Water will provide a detailed summary with the recommendations of how to verify lead status unknown given the various methods approved by the EPA but also the state of West Virginia. Within this report, 120Water will provide a cost analysis for the verification efforts. As part of the services, Client agrees that, during the agreement, 120Water has the right to use data the Client has provided (including, but not limited to, personal information) internally to provide the services and to correct, train, develop, and improve 120Water's services and products.

Deliverables and Work Product:

The following are all of the deliverables and work product which will be produced and provided as part of this Scope of Work:

- 120Water Platform reports/documents:
 - Preliminary Service Line Inventory



- Locations Based
- Inventory Classification Report
- Public Transparency Dashboard
- Verification of Lead Status Unknown Report
 - Draft Budget for Verification
 - Recommendation of Verification Methods
 - Replacement Plan Development/Assistance

Project Milestones/Schedule:

Milestone 1 - Client Kick-off Meeting and Platform Delivery

Host: 120Water Client Success Team

Description: The Client and 120Water have hosted and completed the Project Kick-off meeting. In this meeting, the 120Water Platform is shown to the Client with invitations being received by the Client from Client Success. The goal of this meeting is to begin the Client Onboarding Process and establish the External Knowledge Transfer from the Client to 120Water's Client Success and Program Consulting Teams.

Result: Project Kick-off Meeting Complete - Timelines and Expectations Established - Platform Invitation and Delivery

Deliverable: Access to the 120Water Platform

Milestone 2 - Data Investigation Call Complete

Host: 120Water Program Consultant

Description: The most important component of 120Water developing a Preliminary Inventory begins with the external knowledge transfer with an investigation of all of the various data sources that exist within the utility. It is critically important that the 120Water Program Consultant identify and familiarize themselves with these data sources so we can begin developing the Methodology Document as well as internalize the application of organizing, cleaning and merging these various data sources.

Result: Data Investigation Call is complete and a path forward for transferring identified data sources to the 120Water Program Consultant.

Milestone 3 - Inventory Evolution through Tax Parcel Data

Host: 120Water Program Consultant

Description: Tax Parcel Data plays a pivotal role in creating a Lead Service Line. Within this data set includes Home Age, which is an initial source for identifying lead status unknown per various state regulations.

Result: First evolution of Inventory Status from unknowns to classified know or likely known materials

Milestone 4 - Platform Training - Verification Workshop + Workflow

Host: 120Water Client Success

Description: Now that locations and services are loaded into the 120Water Platform, the client needs to be trained on how to access the platform and how to document any verification efforts that take place during the preliminary inventory development phase. This is critical for ensuring all information and data are most up to date.

Result: Client is enabled on how to track information through the platform and directly through the logbook (offline).

Deliverable: Excel Logbook for Field Services if Platform Access is unavailable



Milestone 5 - Incorporation of Batch 1 of Client Data

Host: 120Water Program Consultant

Description: Applying Batch 1 of Client Data to the Preliminary Inventory inclusive of Tax Parcel Data. Customer Billing is mandatory to be included in Batch 1 of Client Data.

Result: Tax Parcels overlaid with Customer Billing Locations equate to a robust starting point for establishing a Lead Service Line Inventory.

Milestone 6 - Baseline Compliant Inventory

Host: 120Water Program Consultant + Client

Description: All Customer Billing Locations have been identified and service lines tied to each location. Service Line materials may be documented as non-lead or likely non-lead (based on home age) and unknown. Unknown service line materials are allowed for the initial preliminary inventory submission.

Result: A preliminary inventory has been established and a plan for further verifying various records continues.

Milestone 7 - Incorporation of Batch 2 of Client Data

Host: 120Water Program Consultant

Description: All remaining data sources have been identified and evaluated for the effectiveness of signifying service line material. All records have been cleaned, joined and imported into the 120Water Platform.

Result: Preliminary Inventory has been completed with the evaluation of all service line records.

Milestone 8 - Preliminary Inventory Delivery & Verification Recommendation

Host: 120Water Program Consultant

Description: The Preliminary Inventory has been finalized with all data imported into the 120Water Platform. Initial findings with a recommended verification plan have been documented and are ready to be presented to the client.

Result: Client has received the Preliminary Inventory and Verification plan for mitigating lead status unknown. The template released in the EPA's August 2022 LSLI guidance will be the default format for delivery of your Preliminary Inventory. If and or when a state specific template is released your Preliminary Inventory will be formatted to meet that state specific template requirement.

Deliverable: Completed Preliminary Service Line Inventory & Verification of Lead Status Unknown Report

Milestone 9 - Public Transparency Dashboard Created

Host: 120Water Program Consultant

Description: The Public Transparency Dashboard functionality has been turned on in Backoffice and is ready to be presented to the client.

Result: Given the clients plans for the sharing the service line inventory, location, timing, etc - this functionality is ready for the client to implement.

Milestone 10 - Verification Go-Live

Host: 120Water Program Consultant + Client

Description: Verification Recommendation has been presented and the client has agreed to implement a method of verifying lead status unknown.

Result: A method of verification is being implemented by the client for verification

Milestone 11 - Replacement Plan Development

Host: 120Water Program Consultant + Client

Description: The purpose of this program stage is to prepare a given system or municipality for any replacement efforts that may need to be initiated.



Result: The 120Water team will craft a lead service line replacement plan should the system either encounter lead service lines in the field or still have service lines categorized as unknown in the lead service line inventory by the EPA compliance date, October 16, 2024

The following sections detail our approach to completing each Phase specified. **Scope of Services.** 120Water will deliver a comprehensive solution consisting of software, services, and consumables such as surveys, letters, lead check swabs, and water testing kits to achieve the state of West Virginia program outcomes. 120Water will subcontract to local partners (such as West Virginia Rural Water Association) to support the delivery of services inclusive of any onsite field work required, such as site inspections.

Our combination of proven and standardized service line inventory development and verification playbooks, tech-enabled services, and local partnerships are built to support the unique demographics of West Virginia. The approach caters to serving rural communities, and geographically disparate locations in parallel, so that all systems meet the October 2024 compliance deadline.

PHASE 0 - Program Startup

Phase 0 will be led by the State Program Manager and will bring 120Water's entire program team together with all the state of West Virginia stakeholders to kick-off the program and set its foundation. The program startup effort will take place through several structured meetings to review and refine the program plan, and to establish the program monitoring and communications method and cadence.

During this phase the state of West Virginia will provide 120Water with a list of all eligible systems and those systems will be distributed and assigned by region to Program Consultants from the 120Water program team. 120Water anticipates organizing its Program Consultants across geographic regions with a Program Consultant based in each region which will allow them to work closely with the PWS's in their region.

This phase will culminate with 120Water implementing the PWS Portal application for all PWS's so that the software data management tool is ready to be used immediately when the Phase 2 - Initial Service Line Campaign begins. The software implementation consists of provisioning each system's PWS Portal software account, seeding it with locations data and then enriching those locations with parcel data such as home age, size, and value from 120Water's parcel information enrichment database.

PHASE 1 - Public Engagement Plan

Phase 1 will be led by the State Program Manager and will tap into 120Water's significant experience in program communications development, PWS and resident education and engagement, and tools and template creation to craft a holistic engagement plan. 120Water will do this through close collaboration and advisory input from its local partner, the West Virginia Rural Water Association. Deliverables from this phase will include the Engagement Plan itself, and a PWS Toolkit that systems can use in a turnkey manner to execute against the plan.



120Water will develop the training plan and training content to support systems with both the programmatic and technical elements of the project, including software/data tracking videos, and relevant SOPs. We will collaborate with the state of West Virginia on the LSLI template, and finalize the required and recommended fields that systems must report. 120 will then configure these fields into the PWS Portal application, and provision the instances for all systems.

120Water will collaborate with the state of West Virginia on communication materials to distribute to all water systems to educate them about the LCRR requirements, and invite systems to attend an initial co-hosted webinar with the state of West Virginia and 120Water discussing this program and the LSLI requirements. In addition to the state of West Virginia support with outreach to water systems, we will lean on the state of West Virginia to promote the program and training to their member base.

We will develop a public outreach and communications toolkit that caters to the unique community demographics in West Virginia. The toolkit will be provided to the water systems, and the approach will comprehensively address all potential public stakeholders and influencers. The following will be included in the toolkit:

- High level plan on when and how to publicly communicate LSLI efforts.
- Letter templates – The templates will cover, at a minimum, the start of the overall inventory effort, the start of the customer-side inventory work, and a letter informing customers of work to be conducted in their communities. A letter will also be used – after consultation with the state – describing next steps for the customer when lead is found.
- Brochures – A brochure describing the LCR, the required LSLI work, and why customers should participate in the private side inspections. Directs to a website for more information. Another brochure dedicated to providing instructions for private-side inspections. For use in customer mailings and at customer service offices.
- Postcard templates - Postcards highlighting the inventory work and encouraging customer participation. Would direct to the utility's website for more information.
- Call/email script for 120Water support staff - in order to handle inquiries from residents.
- Call/email script for water system staff - how to handle inquiries from residents.
- Call/email script for PM/Support staff to handle proactive outreach to residents to invite to participate
- Media information – Would be provided to local media sources to help create program awareness and credibility, since residents will be needed to help support customer side verification. Press release templates for start of inventory effort. Press release for start of customer-side inspection effort, with instructions. Both would provide links to additional information at the state and federal levels. At a later date, the announcement of the public release of the inventory. (All customer communications would also be provided to the press as they happen.)
- Talking points for local elected officials and community leaders, and a one-page leave-behind that can be used to support elected/local community leaders. Brochures would also be left behind for distribution.
- Customer surveys - a standard letter and digital survey template

All of this content will be provided in a digital format, but will be printed and distributed either by 120Water, the state of West Virginia, or the water systems.



PHASE 2 - Initial Service Line Inventory Campaign

Phase 2 is the most significant phase in the program in terms of time, coordination, resourcing and overall effort. It is central and fundamental to the program’s success and represents the implementation of the public engagement campaign and tools developed in Phase 1 along with the field services delivered by Program Consultants to lead and support each PWS in creating their initial service line inventory, determining verification techniques and establishing their LSLR plan. This phase, and the approach is designed to meet water systems where they are, including those that do not have digital inventories or capabilities to track and submit such inventories. Systems will have a range of data sources today, such as GIS, billing systems, spreadsheets, and paper records that house data points such as locations, service line assets, material type, and other information that are relevant to establishing a service line inventory.

The first step will focus training and enablement for all water systems. 120Water’s program team will introduce the LSLI template, PWS Portal, and comprehensive communications toolkit. Training will be conducted in a cohort based approach, with training recordings and digital training content provided to all participants following the session. Even if water systems are progressed through their inventories, 120Water will provide training on the toolkit, template, and PWS Portal to ensure consistent and standardized data capture for all West Virginia water systems. This will be key for statewide reporting, inventory reviews, and funding estimations.

The next step in this phase will be 120Water’s execution of the Initial Service Line Inventory Campaign in partnership with its local subcontractor partners and team members. The campaign will follow 120Water’s proven methodology for inventory development which focuses first on developing a records-based Preliminary Inventory, and then where needed relative to determining unknown material types, on recommending and implementing verification techniques to identify service line material. The 120Water methodology is based on the EPA best practice approach.

Campaign implementation will be led and supported by the Program Consultants for their regional cohort of systems. Program Consultants are geographically scattered across the State, and will be available to support water systems with all development and verification actions, including site inspections. Program Consultants can manage up to 50 systems in parallel, and if participation in their region exceeds 50 systems, they will be queued as systems complete their process.

The following table represents the approach, key action steps and sequencing for Phase 2:

Action Step	Deliverable	Detailed Description
PWS Cohort Training	Live training LSLI Template Training content Comms Toolkit	PWS’s will be grouped into cohorts based on region and potentially additional factors such as size. Cohorts will likely range in size from 10-100 systems. Each cohort will participate in a live webinar style training that will educate systems on the state of West Virginia’s data requirements, LSLI template, toolkit, PWS Portal, and communication materials. The training webinar will be recorded and available on an ongoing basis, along with digital training guides.
Data Collection	Kick-off meeting	The Program Consultant will hold a program kick-off meeting with the PWS to share the overall approach to inventory development,



	<p>Software tour</p> <p>Identify & collect data sets</p>	<p>program expectations, and provide an overview tour of the PWS Portal software account</p> <p>Program Consultant will determine system expectations for data access, and existing data sources, and address any barriers to the data collection process.</p> <p>The PWS identifies and collects the data needed and available for the records-based inventory from digital and/or paper based sources.</p>
Obtain Locations Data and Enrich	<p>Locations loaded in the software and Service Lines created for all Locations</p> <p>Location data enriched</p> <p>Software access granted to PWS user</p>	<p>A list of the PWS customer locations (addresses) will be loaded into the 120Water platform through a combination of existing PWS billing data records and data enrichment to ensure address data is clean and able to be geolocated to be viewed on our map visualizations and for easy integration with existing GIS platforms. 120Water's data enrichment process includes USPS CASS Certified address verification provides address matching, standardization, lat/long coordinates and mail deliverability status.</p> <p>120Water's proprietary data enrichment process is used to augment location data with additional information such as tax parcel, year built, lot and building size, and value. This data enrichment process allows an initial wave of records based verification to occur without any onsite effort required. For example, 120Water will consider any state lead ban dates to disqualify homes built after that date. *Pending acceptance from the state of West Virginia's policy.</p> <p>Service Line records for each Location are created at this time as will default to unknown material type, if existing record isn't available, establishing a default baseline for the inventory development efforts.</p>
Data Analysis	Review-ready records-based Preliminary Inventory	Data Analysts from the 120Water team will clean data set(s) provided, join them together and conduct analysis. This step can optionally include digitization of paper-records such as Tap Cards.
Preliminary Inventory Review	Review meeting with the PWS	Led by the Program Consultant, this step is an interactive meeting in which the Preliminary Inventory (records based) is reviewed with the individual system revealing findings, discussing the findings of the analysis, and identifying any follow up actions.
Preliminary Inventory iteration (if needed) and finalization	<p>Finalized records-based Preliminary Inventory</p> <p>Inventory loaded into PWS Portal software</p>	<p>Led by the Program Consultant, this step is focused on moving to a finalized records-based Preliminary Inventory.</p> <p>If a system uses a paper or excel based method to track inventory data, this finalized inventory data is loaded into the PWS Portal software to allow for visibility and submission to the state of West Virginia, or can be manually inputted.</p>



Verification Workshop	Workshop Verification technique(s) recommendations	<p>With a Preliminary Inventory established, the Verification Workshop is led by the Program Consultant and uses 120Water’s Verification Techniques Decision Tree tool to review and recommend relevant verification technique(s) for the PWS based on the nature of their unknown material types, situations and volume. 120Water may deploy any EPA and/or State approved verification methods including:</p> <ul style="list-style-type: none"> ● Customer Surveys ● Verification Kits ● Site Inspections ● Water Quality Sampling ● Excavation ● Emerging Methods <p>*Systems eligible to use the 120Water predictive model may opt to run the model in advance of the verification workshop to help determine prioritization of verification efforts.</p>
Verification execution	Implementation of chosen verification technique(s)	<p>Once the PWS approves the verification plan and technique(s) the plan will be executed until all unknown material types are determined.</p> <p>Depending on the technique(s) chosen, 120Water’s consumables will be deployed, such as customer surveys, water testing kits, and lead check swabs.</p> <p>Additionally, if field work based techniques such as site inspections and/or excavation is chosen then this work is executed by the Program Consultant (site inspections) or through use of third-party firms with techniques such as hydro excavation</p>
Replacement Plan Development	Ongoing development and execution of replacement plan	<p>Action on the replacement plan</p> <ul style="list-style-type: none"> ● Replacement Planning Workshop to define locations, processes, staff, pre and post replacement approach ● Scheduling ● Resident engagement ● Pitcher filter delivery and post-replacement sampling ● All program and asset data will be updated in real time in the 120Water software to consistently showing a reduction in unknowns throughout the verification period



Appendix B: Estimated Project Schedule

The following table represents the proposed project schedule for the West Virginia Lead Service Line Database. The project schedule is broken out into four phases: Meetings & Reporting, Implementation, Training, and Ongoing Support. Within the schedule we have outlined the significant steps within each milestone.

Based on the current scope of the project 120Water estimates that each PWS will have access to the template and PWS Portal by August 15, 2023. State Agency stakeholders will have phased access to State Dashboard functionality from early Q4 2023 and complete the ability to ingest service line submissions in State Dashboard by the end of Q4 2023. The WV DEP & DHHR team will be trained initially on the PWS portal to ensure it's configured properly to capture all necessary data at the PWS level to support LSLI submissions, and ongoing training will be provided as new State Dashboard features are released.

YEAR/CALENDAR QUARTER	2023 Q3		2023 Q4		2024 Q1		2024 Q2		2024 Q3	
	July	Aug	1H	2H	1H	2H	1H	2H	1H	2H
MILESTONES										
Meetings & Reporting										
Kick-Off Meeting	X									
Weekly Implementation Meetings	X	X	X	X	X	X	X	X	X	X
Quarterly Business Reviews			X		X		X		X	
Implementation										
Inventory Template Mapped/Delivered		X								
PWS Portal: Provision & permission all CWS/NTNCWS Portal accounts using SDWIS State data.		X	X							
PWS Portal: Configure Validation and Error Handling for Template Reporting to State Dashboard			X							
Deliver Support Documentation for PWS Portal			X							
State Dashboard: Configure Database for WV DEP & DHHR			X							
State Dashboard: Configure Inventory Submission Workflow			X							
State Dashboard: WV DEP & DHHR User Permissioning			X							
State Dashboard: Dashboard Homepage Map & Reporting					X					
State Dashboard: Integrations- SDWIS State and other systems.						X	X	X	X	X
Deliver Support Documentation for State Dashboard							X			



Configure State Public Transparency Dashboard							X			
Training										
PWS Portal Online & Written Training Documentation Available		X	X	X	X	X	X	X	X	X
Live Online Training Webinars			X		X		X		X	
State Dashboard WV DEP & DHHR Guided User Training			X							
Other Guided PWS User Training Sessions - TBD										
Ongoing Support										
Call Center Monday - Friday 8:00am - 5:00pm ET, 24/7 Email		X	X	X	X	X	X	X	X	X

*1H Defined as Day 1-45 of Calendar Quarter, 2H Defined as Day 46 - End of Calendar Quarter



Appendix C - Safety Plan and Data Security

The manual defines minimum standards for all 120Water projects and facilities. It also serves as a guideline for 120Water managers to establish and clearly define safety requirements specific to each work site. This manual is a working document. Additions and revisions will be made when necessary to keep procedures current. All employees are encouraged to share questions and suggestions on this manual with their supervisors and local safety coordinators. Our goal is to constantly improve and increase the value of this Safety Manual.

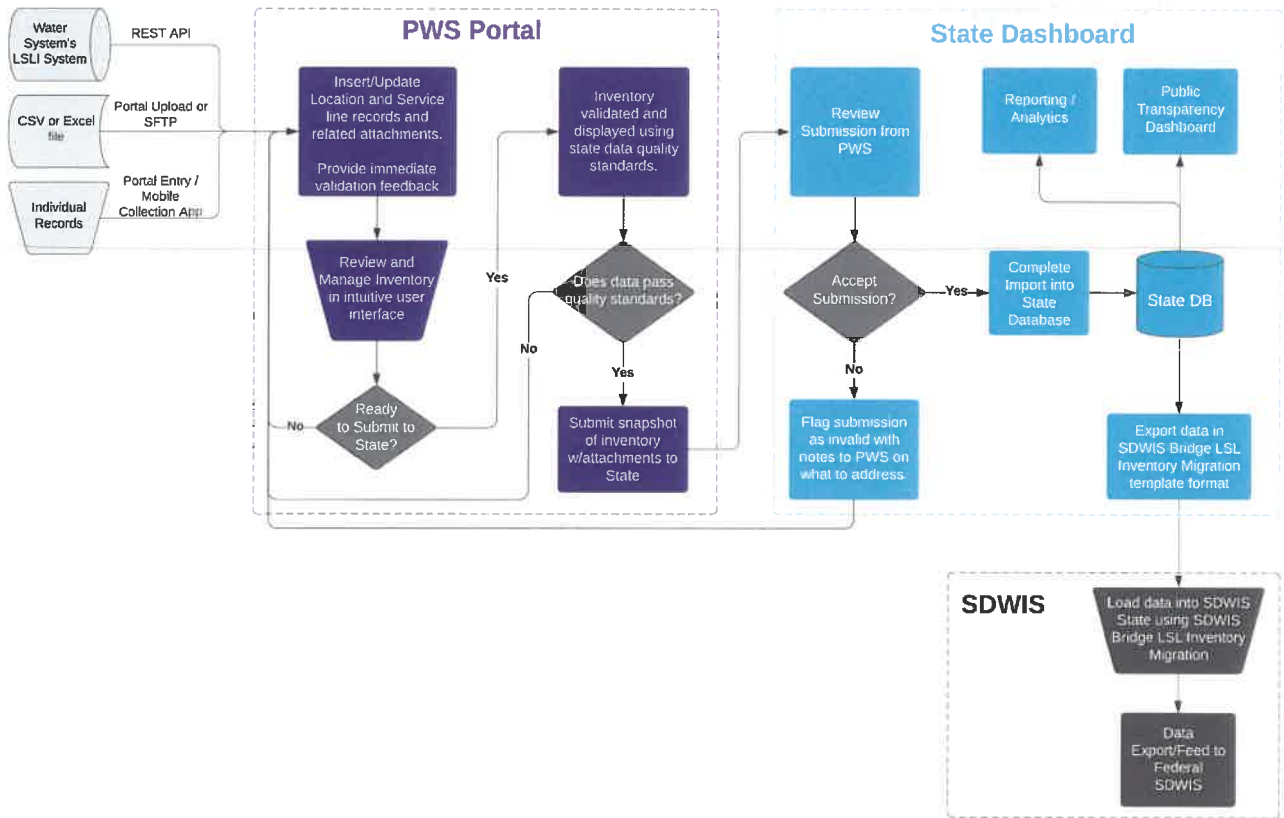
Category	Safety Plan and Data Security
Work Environment Health & Safety	Every manager, supervisor or foreperson has a responsibility for the health and safety of employees through observing all safe work procedures, rules and instructions.
Work Environment Health & Safety	Encourage employee consultation and participation in all matters relating to health and safety. Promote a system of continuous improvement – this includes reviewing policies and procedures each year
Data Protection Guarantees	We employ IT best practices of protecting customer data by network infrastructure safeguards, firewalls, authentication, and authorization mechanisms. Additionally, users are logged out after a period of inactivity. Access to servers is limited to only authorized system administrators who leverage multi-factor authentication.
Data Encryption & Authentication Protocol	Azure and Google Cloud Platform (GCP) leverage AES-256 asymmetric keys for data at rest as well as envelope encryption. Our authentication pattern follows OAuth 2.0, an industry-standard protocol.
Data Access in Data Center	Our data center providers (Azure & GCP) operate under a shared security model, wherein they supply the security “of the cloud” while 120Water supplies the security “in the cloud”. Therefore, our data center providers provide their own compliance programs related to their data centers. See more information here: https://cloud.google.com/security/compliance https://azure.microsoft.com/en-us/overview/trusted-cloud/compliance/
Data Access Regulations	Access to the 120Water system requires authentication with username and password. Passwords are encrypted. We enforce industry standards as it relates to password length and complexity. We maintain access logs for system access. Our databases are encrypted with AES-256 asymmetric encryption.



Data Storage Format(s)	We store our structured data in MS SQL Server, and we store unstructured data in its original format (e.g. PDF, Images, etc.) in private Google Cloud Storage buckets.
Incident Response	120Water system administrators routinely sample our vulnerability scans and alerts. As part of this analysis, we review any findings which need immediate attention. As preventative measures, we routinely patch and keep systems up-to-date in order to reduce attack vectors. In the event of an incident, we would take immediate steps to address the situation and then contact you regarding the event.



Appendix D - Data Flow Diagram



Appendix E - Key Personnel & Program Team

1. Principal Personnel

The WV DEP and DHHR assigned project team have deep expertise in both LCRR (inclusive of inventory development and management) and enterprise software development. Megan Glover, 120Water CEO, will maintain executive oversight for the entire project. Below is a breakdown of assigned 120Water team members and their roles throughout the project, and key subcontractors that are expected to support deliverables. All 120Water personnel are fully prepared and committed to meet the desired outcomes within the specified timeline, and are actively managing similar programs. The team is capable of fulfilling both the software/technical requirements outlined, as well to support individual water systems with the development and validation of their service line inventories. The software applications proposed for this program are commercially available, and/or development is well underway to meet the Q3 2023 launch timeframe. Assigned 120 personnel all specialize in LCRR compliance software implementations for water systems and primacy agencies. *Refer to resumes below for key lead staff.*

Key Personnel & Program Team		
WV DEP and DHHR Program Management Lead	Logan Turner <i>Director of Client Success</i> logan.turner@120Water.com	As Program Lead, Logan will coordinate all work under this contract, and be the primary point of contact between the WV DEP/DHHR program team and 120Water. He will collaborate with the State to ensure program deliverables and milestones are defined and on target. He will also have oversight for all participating sub consultants.
Technical Lead	Mark Preston, <i>VP of Engineering</i> Mark.Preston@120Water.com	As Technical Lead, Mark will deliver the technical scope of work outlined within the proposal in accordance with the mutually agreed upon project plan. His team is responsible for maintaining the product roadmap and development of new features or enhancements that may be of interest to WV DEP/DHHR stakeholders.
Customer Support Lead	Daniel Lundberg, MPA, MSCS <i>Director of Customer Support</i> Daniel.Lundberg@120Water.com	As Customer Support Lead, Daniel will manage the ongoing technical support needs of WV DEP/DHHR users and PWS users Monday - Friday via phone, email or other accessible channels. His team will assist with training for the PWS cohorts and serve as the helpdesk when bugs or enhancements are requested of the software.
Delivery Team Oversight	Jillian Terhune <i>Director of Program Consulting</i> Jillian.Terhune@120Water.com	Jillian oversees the program delivery team, and all 120 program consultants. She spent a decade managing WQ compliance for large and small water systems, and will



		serve as an advisor and escalation point for WV DEP/DHHR.
Executive Sponsor	Megan Glover <i>CoFounder & CEO of 120Water</i> Megan.Glover@120Water.com	Megan is a seasoned technology leader, and will serve as Executive Sponsor for the program. She will oversee the entire 120Water team maintaining accountability, and furthering product innovation.
Support Lead	Amy Morrison <i>Customer Support Manager</i> amy.morrison@120water.com	Amy's role as Customer Support Manager is to manage a team of support specialists that field inbound and outbound phone and email support inquiries from customers.
Commercial Lead	Paul Schuler <i>Director of Enterprise Sales</i> Paul.Schuler@120Water.com	Paul's role as Account Manager is to manage the overall relationship with WV DEP & DHHR and ensure we are meeting the customer's expectations as well as identifying additional opportunities to be of assistance.
West Virginia Rural Water Association Lead	Todd Grinstead <i>Executive Director</i> jay@grwa.org	WVRWA maintains staff across the state, specializing in supporting small, rural water systems. They will help with group and 1:1 training, technical assistance for water systems such as data collection, validation of service line materials, and LSLR plan development, and other field support.
KHAFRA Lead	Valentino Bates, P.E. Principal, KHAFRA	KHAFRA specializes in planning and design of water and wastewater treatment plants and processes and civil site work. They will perform technical assistance and field work to water systems, and additive program management resources. Headquartered in Atlanta, KHAFRA has staff located across the country and is prepared to assist water systems with data collection, validation of service line materials, and LSLR plan development. They have previously assisted 120Water with the development of a service line inventory for Asheville, NC.



Key Resumes:

Logan Turner Director of Client Success Zionsville, IN

EDUCATION

Indiana University

CORE SKILLS

Product Management
Customer Relationship
Management
Business Development

120Water

Director of Client
Experience
2021–Present

Solutions Consultant
2020-2021

Senior Account Executive
2019-2020

INDUSTRY EXPERIENCE

Buffalo Water
Lead Committee Member

Newark Water & Sewer
Lead Consultant & Advisor

SUMMARY

Logan Turner is an experienced Project Manager with a passion for leveraging technology to solve complex problems improving customer operations. He's an attentive, strategic, and resourceful leader with proven success managing teams. He oversees all aspects of customer experience at 120Water including implementation, project management, delivery, and fulfillment operations. Logan will act as a resource and escalation point for any programmatic aspects of the relationship.

ROLE AND RESPONSIBILITIES

Will ensure that all products and software not only meet but exceed expectations and ensure client success. Abby Warner, SVP of Client Experience, will also be involved in product management and fulfillment, guaranteeing client standards are met.

RELEVANT PROGRAM EXPERIENCE

SUEZ North America / Compliance & LSLR Program
2019-PRESENT

SUEZ North America partners with 120Water for various solutions, ranging from LCRR Assessments covering all SUEZ PWSID's, Lead Service Line Replacement Sampling, LCR Compliance Sampling, Verification Test kits and Communications to the public. Logan has overseen national program adoption and solution delivery for SUEZ systems.

Buffalo Water Lead and Copper Rule
2020-PRESENT

Buffalo Water, managed by Veolia, partnered with 120Water to mitigate risk for the City of Buffalo. 120Water was hired to lead all sampling programs within the city, offering 1st & 5th-liter sampling to study the impact of the newly introduced trigger level. Buffalo Water will be leaning on 120Water to manage verification of unidentified services lines, coordinating replacement and sampling, facility identification, sample plan creation, and sample collection as well as managing all public outreach campaigns to support the various lead abatement programs.

Citizens Energy Group / Lead Testing in Schools
2019-Present

Citizens Energy Group hired 120Water to develop a lead service line inventory and implement predictive modeling to support their IURC submission for initiating Lead Service Line Replacement. Logan led the initial program evaluation, and is supporting the capital funding request for successive lead service line replacement phases of the partnership.



Mark Preston

VP of Product & Engineering

EDUCATION

The Ohio State University

B.S. Computer and Information Science

ROLE AND RESPONSIBILITIES

Mark Preston serves as the VP of Product & Engineering for 120Water. He is a respected technology leader with 20+ years experience in delivering SaaS solutions. A strong communicator, he is able to clearly present technical concepts to business stakeholders.

As the VP of Software Engineering, Mark leads the team of engineers to develop the 120Water software to support client programs and meet customer needs. His areas of expertise include SDLC Best Practices, Technical Leadership, SaaS/PaaS, Event Driven Architecture, Amazon Web Services (AWS), Java, Relational and Document Store Databases, Microservices, DevOps and Data Integration.

Prior to joining 120Water, Mark spent nearly 20 years in the hospital and clinical laboratory space developing enterprise data management and workflow software. His experience in a highly regulated industry, with national and large regional cloud based software development and implementations has been invaluable in crafting solutions for 120Water.

RELEVANT PROGRAM EXPERIENCE

HC1, Indianapolis, IN

VP, Architecture

2004-2020

Guided hc1 architecture from initial startup POC project to current platform which supports over 20 billion clinical lab transactions and over 160 million unique patients. Worked closely with Product Owners to guide prioritization of features, balancing between sales and existing customer needs. Introduced new SaaS Data Warehouse (Snowflake) for analytics resulting in better user experience.

Quovadx, Columbus, OH

Software Engineer

2000-2004

Designed and implemented support for XML as message format, including tool to parse DTD or Schemas and generate internal message model used by translation engine. Tracked down and fixed a persistent, long standing bug limiting the number of processes a server could run. After the fix, customers could run more of the processes on a single server for better utilization of existing hardware.

AGT International, Columbus, OH

Software Engineer

1994-2000

Managed IVR portion of Ford Motor Company's annual flexible benefits enrollment program, including single handedly building a desktop application used by call center agents to assist employees with benefit elections. Inherited National City Bank with unstable custom fax loan application system which would corrupt applications sporadically, losing potential business. Diagnosed and fixed stability issues to regain customer confidence, resulting in expansion of usage of the application for other lines of business.



Daniel Lundberg, MPA, MSES

Client Support Manager

EDUCATION

Indiana University Bloomington
Master of Public Affairs
Master of Science, Environmental Science, Environmental Management, Policy Analysis

Indiana University Bloomington
Bachelor of Science, Public Affairs, Environmental Management
Minor: Biology

CORE SKILLS

Data Analysis & Modeling
Microsoft Access
Project Management
Funding & Budget Administration
Risk Communication

120WATER

Client Support Manager
Program Consulting
2020–Present

PREVIOUS EXPERIENCE

Indiana Finance Authority
Project Manager
2018–2020

Shahzeen Attari Lab
Research Manager
2015–2020

Gunn Communications
Public Involvement Coordinator
2017

Indiana Finance Authority
Special Projects Assistant
2016

ROLE AND RESPONSIBILITIES

Daniel is an expert in environmental and water management. After managing water programs and data analysis for entities like Gunn Communications and the Indiana Finance Authority, he joined 120Water to help other water professionals execute and operationalize their drinking water programs. He is passionate about land conservation and strives to accomplish 120Water's mission of protecting public health.

As a Client Support Manager Daniel oversees the logistics, public outreach campaign fulfillment, technical support, and resident support for programs. He works proactively to ensure the client understands program status, and is taking the necessary steps to move through the process and achieve the customer's goals. Daniel applies his program management expertise, technical acumen, and background running statewide programs to provide best practices, and constantly optimize the fulfillment and support processes to meet client goals.

RELEVANT PROGRAM EXPERIENCE

120Water Program Management, 2020

Client Support Manager - Daniel oversees technical support, public support, and fulfillment of consumables for all 120Water clients and programs. His team is responsible for the implementation of software at all customer sites, and for all end users.

Program Consultant - Managed a portfolio of client programs including statewide lead testing in school and daycare programs, Lead and Copper Rule compliance programs, and Lead Service Line Inventory Development programs.

The Indiana Finance Authority 2016, 2018-2020

Project Manager - The Water Resources and Infrastructure Planning Program (WRIPP) of the Indiana Finance Authority plans, implements, and improves water initiatives across Indiana. Daniel's responsibilities included

- Coordinated long-term regional water supply and demand modeling in Central Indiana
- Built lead sampling programs for daycares and schools
- Designed technical assistance and training programs to ensure drinking water utilities address water loss and meet legislative requirements
- Created a database to improve value of current data and simplify data requests to outside partners

Special Projects Assistant - Supported the Implementation of Indiana Senate Enrolled Act 347 including the following:

- Collected, verified, and analyzed audits and surveys from 552 major Indiana drinking water utilities in conjunction with a team of environmental engineers, lawyers, and financial managers.
- Summarized project progress and provided strategic suggestions to the State Revolving Fund Executive and Program Directors through weekly updates
- Provided technical assistance as needed to utility operators and other stakeholders.



Jillian Terhune

client delivery

Senior Program Consultant

Boston, MA

SUMMARY

Jill has over 10 years' experience in the water industry having worked as the Laboratory Supervisor at Mount Pleasant Waterworks in South Carolina, a facility that provides wastewater treatment and drinking water testing services (100K customers) for 5 years before making the move to Norfolk, Virginia where she was the Water Quality Manager for the City of Norfolk, Department of Utilities for 6 years (over 1,000,000 water customers, wholesale raw and finished water, military installations and neighboring localities). She managed all Water Quality compliance programs (including Lead and Copper) from source water to tap, including the fully certified drinking water Laboratory as well as the Cross Connection Control and FOG Programs.

ROLE AND RESPONSIBILITIES

As a senior program consultant Jill manages a variety of client facing SDWA programs including Lead and Copper Rule Monitoring, Lead Service Line Inventory Development, Water Quality Parameters, Volatile Organic Compounds, Customer Request Programs, Pitcher/Filter Response Programs (for LCR), Lead in Facilities, and Lead Remediation Programs. Jill also perform and act as Program Manager for data analysis (asset management, laboratory results, as-builts, etc.), cleaning, and preparation in GIS, R, and other statistical programming for Lead Service Line inventory development

EDUCATION

College of Charleston

M.S.
Environmental Science and Water Resources Management

University of Rhode Island
B.S. Environmental Science and Management

CORE SKILLS

Water Quality
Soil Science,
Water Resource Management,
Environmental Pollution, and Microbiology

120WATER

Senior Program Consultant
Present

RELEVANT PROGRAM EXPERIENCE

City of Norfolk, Department of Utilities, Water Quality Manager, *Norfolk, VA*
September 2016-December 2021

- Manage divisional operations pertaining to Water Quality in the City of Norfolk which includes the Water Quality Laboratory, FOG, and Cross Connections Control Program.
- CIP project management pertaining to water resources and water quality, treatment, and regulatory compliance.
- Develop contracts to ensure City obtains best possible technology and laboratory instrumentation while following proper procurement processes.
- Manage annual operational budget of \$1.5M+
- Responsible Official for regulatory compliance, policy development, and certification programs (SDWA, NPDES, NELAP accreditation), method development and certification.
- Provide cross-divisional leadership and project management skills to ensure drinking water meets the highest standards for our 1 million raw and finished water customers.
- Quality Assurance Officer for internal audit and quality assurance programs
- Prepare and submit cross-divisional operational compliance reports for state, local, and federal primacy agencies.
- Participate in regional and statewide policy and legislative groups for water quality advocacy

Mount Pleasant Waterworks, Laboratory Technician II, *Mount Pleasant, SC*



October 2012-August 2016

- Verified the safety and quality of wastewater and drinking water through certified laboratory and field analyses
- Developed and implemented a microbial health assessment and categorization program.
- Provided technical assistance for field and laboratory equipment including routine calibration and preventative maintenance and training of new technicians.
- Inspected and oversaw laboratory conditions for safety and quality by ensuring compliance with the Chemical Hygiene Plan.
- Managed laboratory internal audit, proficiency testing, and QA/QC programs.
- Attended, presented, and assisted in regional conferences for professionals in the water and wastewater industry.
- Communicated with both internal and external customers concerning technical and analytical issues and/or results.
- Supervised laboratory staff activities ensuring all results met Federal and State Drinking Water Standards Clean Water Act, and NPDES permitting standards.

Non-Point Education for Municipal Officials, Environmental Scientist, *Kingston, RI*
May 2011-July 2012

- Assisted in the review, development, and publication of Soil Quality and Depth manual for municipalities.
- Developed a planning/mapping guide to using hydrologic soil groups in site specific soil mapping.
- Presented at workshops educating state-wide municipalities, educators, and students on stormwater and LID.
- Educated and communicated with the public regarding stormwater mitigation techniques.
- Led special projects including the creation of a stormwater runoff model for the state of Rhode Island and stormwater models to predict N-loading for storm events.
- Worked in GIS developing maps used in conjunction with soil mapping manual and hydrologic soil groups.

USDA-NRCS, Soil Scientist, *Warwick, RI*
May 2010-July 2012

- Managed laboratory receiving regional rapid carbon assessment soil samples.
- Performed soil, plant, and hydrology-based wetland delineations.
- Lead and coordinated a team for extensive soil sampling/mapping of sub-aerial and sub-aqueous soils.
- Described soils for establishment of soil series and land use by working offshore and on coastline describing and sampling subaqueous soils and benthic landforms.
- Coordinated and lectured at regional soils and geological workshops for graduate students and professionals.
- Collected bathymetric data using GPR on freshwater ponds and coastal ponds.
- Provided technical assistance and troubleshooting in the laboratory and field settings.
- Produced GIS maps of bathymetry and soil mapping sites.



Appendix F - Firm Background, Past Performance, Qualifications, and Experience

120Water is a Water Quality as a Service provider, offering off the shelf software, consulting services, and sampling kits that are purpose-built to standardize and streamline the execution of water quality programs. 98% of the programs run by 120Water are focused on mitigation of lead in drinking water, predominantly assisting States, Investor Owned Utilities, and individual community water systems of all sizes maintain compliance with the current and revised Lead & Copper Rule. Since 2016, our software has been the foundation for executing and reporting water quality programs for state agencies, municipalities and facilities across the country. Our team manages programs at every level depending on the needs of the customer. From statewide program implementation of a lead service line inventory project, managing sampling and customer communications for an individual utility, or coordinating lead sampling in schools and daycares, our proven approach has been adopted by over 2,000 customers in 41 states.

Our commercial off-the-shelf cloud software, point-of-use kits and managed services enable clients to eliminate fragmented data, with our software automating everything from compliance and sample management to dashboards and communication. This cloud-based, modern technology is natively designed to combine asset, customer, and sampling data in a centralized platform to facilitate LCR compliance programs. It is designed specifically to foster collaboration across a multitude of stakeholders, without requiring a high degree of technical expertise. This data foundation then allows 120Water to automate customer communications, sampling efforts, track tier sites, and send quality controlled progress reports to the State, such as completed LSLIs.

120Water program teams include water quality experts, Program Consultants, data engineers, and direct to consumer marketing experts that have deep knowledge of the revised lead and copper rule, and established best practice playbooks to execute all components of the revised Lead and Copper Rule at scale. 120Water augments our team with local, minority owned, and non-for profit subcontractors who have strong local ties with the systems we serve. In particular, 120Water has established a partnership with National Rural Water to align 120Water expertise with local circuit riders and technical assistance personnel, in addition to educational workshops to teach systems what is needed to comply with the LCRR.

We are the only company in the United States with a standardized platform to manage the verification, replacement, and sampling components of the new Rule, visualize key performance indicators, and communicate the necessary information to the right stakeholders at the right time. This technology is rapidly deployed, within weeks, for a system to immediately begin their program. In addition, 120water is innovating at a rapid pace to offer additional consulting services, software management, and custom consumables to meet customer needs, which guarantees that customers are supported long term.

120Water's technology platform, services, and sampling solution kits are purpose-built to standardize and streamline the execution of water quality programs and is configured to meet the specific compliance requirements laid out in the Lead & Copper Rule Revisions. Since 2016, our software has been the foundation for executing and reporting water quality programs for state agencies, municipalities and facilities across the country.

Our solutions enable clients to eliminate fragmented data and foster collaboration with our software automating everything from compliance and sample management to dashboards and communication. This cloud-based,



modern technology helps our clients get real-time visibility into program performance so they can make better data-driven decisions on behalf of the water systems in their state. It also enables clients to communicate the status of the program easily with all stakeholders.

We are the most widely used company in the United States with a platform to manage the verification, replacement, and sampling components of the new Lead and Copper Rule, visualize key performance indicators, and communicate the necessary information to the right stakeholders at the right time. Because of these capabilities, our commercial off-the-shelf cloud software and point-of-use kits have been implemented by Public Water Systems in 41 states.

120Water's executive leadership team, investors, and board members have deep roots in environmental consulting, high growth technology companies, logistics, and water quality infrastructure. The majority of our approximately 80 employees work out of our Indianapolis, IN, headquarters, with a small concentration of employees based in Pennsylvania, New York, Washington D.C., Massachusetts, Illinois, Georgia, Colorado, and Texas.

A few of the accolades we've received as we've grown include winning the "Rise of The Rest" competition, participating in the Imagine H2O accelerator, and being named to Fast Company's 2021 list of the World's Most Innovative Companies. In addition, Environmental Policy Innovation Center (EPIC) awarded 120Water with the [2022 Water Data Prize](#) for our lead service line inventory solution that enables utilities to identify and track service line material inventories and avoid expensive digs.

You'll find that our team, experienced at executing these programs at scale, uses a data-driven approach to advise on best practices and make sure our Customer and Partner Support is thoughtful and effective. We communicate the status of the multiple interwoven parts of the project with all stakeholders, ensuring that all parties are working towards the common goals of protecting public health and achieving compliance.

120Water currently works with over 4000 water systems and 13 state agencies across more than 42 states to execute lead and other ongoing water quality initiatives. We are developing service line inventories for over 700 community water systems across the country. Our software platform has been implemented to manage over 673,113 locations, inclusive of lead service inventory line management, and our company has executed over 7,000 sampling events to support lead and other water quality initiatives. We are presently inventorying over 3 million service lines to a population served over 10 million.

The breadth of water systems we work with is the most diverse in the industry. We support very large community water systems serving millions of customers to small systems serving less than 500 customers. We understand the unique challenges that go along with supporting small systems, as well as large and very large entities, including state agencies.



Sampling of Previous Work

Indiana Finance Authority

Lead Service Line Inventory Database

Dec 2022 - Present

The Indiana Department of Environmental Management selected 120Water as the provider for their statewide database which included the development of a LSLI template, software to aggregate and track all LSLI submissions, train systems and their chosen technical assistance providers on data requirements, software use, and revised LCR policies. 120Water was selected in mid December of 2022, the inventory template was finalized by the end of December, and the software was implemented for all 1,365 CWSs and NTNCWSs subject to meeting the revised LCR requirements, by Jan 3, 2023. Live training and training content has been provided to key engineering firms and the Indiana Alliance (rural water association), who are supporting the majority of small systems with development of their inventories. Ongoing training will be provided through the spring of 2023 to all users. IDEM will use the 120 software (PWS Portal and State Dashboard) to aggregate and manage all submitted inventories, and report to SDWIS.

City of Providence, RI

Lead and Copper Rule Revisions

2018 - Present

Providence Water purchased the 120Water LCRR application as its modern “Lead Database” to manage data for all of its lead programs and to move to a cloud-based commercial off the shelf software from a legacy custom database that had become difficult and risky to maintain. Providence manages LCRR compliance data inclusive of LCR monitoring, LSLR, and their Consumer Requested sampling program spanning **7,000+ sampling locations**. They use the 120Water platform to simplify inventory data collection, tracking, updates, and reporting to internal and primacy agency stakeholders, reducing the administrative burden of complying with LCRR.

Citizens Energy Group

Lead Service Line Inventory Management & Lead Service Line Replacement

2021 - Present

Citizens Energy Group purchased the 120Water LCRR application to manage their service line inventory and verification efforts **across 214,000 service connections**, and to support their impending large scale Lead Service Line Replacement program. 120 identified, aggregated, and analyzed data from ArcGIS, Billing, spreadsheets, asset management, a work order system, and other data sources to develop the initial records based inventory. We then developed a verification approach with the CEG team, which included applying the 120 predictive model to existing data to prioritize field verification work. All EPA approved verification techniques, including customer outreach surveys, field inspection, sequential sampling, are considered and likely to be used to identify all unknowns. The CEG team uses the platform in the field to input service line material, capture photo evidence, and upload relevant documentation to the location, including customer notification and communications.



Liberty Utilities

Lead Service Line Inventory Management

2022 - Present

Liberty Utilities is an Investor Owned Utility operating water systems across the United States. Their corporate team chose to partner with 120Water to manage their overarching LCRR compliance program. They use 120Water's LCRR application to standardize and centralize the lead service line inventory data across **65** of their North America based water systems in four (4) states. After preliminary inventories are developed they will use 120Water's LCRR application to expand into other areas of LCRR compliance management such as sampling and communications.

Loveland, CO

Lead & Copper Sampling Program

2017 to Present

Loveland engaged 120Water in 2017 to manage their Lead & Copper sampling program, including customer outreach. The engagement has evolved over time, including a tier site validation effort, and now preparation for compliance with the revised Lead & Copper Rule. To update the sampling sites for LCR, 120Water built a customer outreach plan, and managed the customer campaign. 120 sent postcards to 1,812 targeted customers with a request to participate in Loveland's service line verification program. Loveland offered customers \$10 off their bill if they requested a swab kit & an additional \$25 off if they used that swab kit and qualified for their LCR program (and collected a sample). 620 Customers enrolled through the digital process 120 set up, using the QR code on the postcard. 120 shipped swab kits to all enrollees, with 200 reporting results through the digital format. Customers that met the Tier 1 requirements were asked to participate in LCR sampling. A total of 70 Tier 1 sites were added based on the findings of this program.

Wheeling, WV Water Department

Lead Service Line Inventory Development, Replacement Plan Development, Customer Side Verification

2020 to Present

Wheeling, a community of 27,000, contracted with 120Water in 2020 to help develop their Lead Service Line Inventory in preparation to meet the revised Lead & Copper Rule requirements. Marcus Hagberg led the engagement with Wheeling, which included records based inventory development, digitizing their tap cards, and now verification planning. 120Water provides a cloud based platform to manage all LSLI data for Wheeling's program, including State reporting capabilities. Lori Siburt, Superintendent, made the decision to have 120Water manage their 2022 Lead & Copper sampling program. She said "We've been a little understaffed this year so we have 120Water involved to get our dashboards up and running and do our lead and copper sampling this year. They sent out a very professional sample box that was informative and very easy to use and we are so appreciative of that." The 120Water team worked with Wheeling to create the sample plan, then shipped sample kits directly to residents with instructions on how to collect LCR compliant water samples.

American Water Illinois

Lead & Copper Customer-side Validation Program

2021 to Present

American Water IL contracted with 120Water and an engineering firm to manage a customer side validation program. Illinois updated their requirements for Tier sites, and increased the amount of data that needed to be shared about each location, much of which is consistent with the requirements outlined in the revised lead and copper rule. American Water had an expedited timeline to update their Tier sites, and needed to validate customer side assets in a matter of weeks. 120Water handled the customer surveys, outreach communications, and managing program data for reporting to IL regulators. The engineering firm handled onsite field efforts where needed.



Asheville, NC

Lead Service Line Inventory Development

2020 to Present

Asheville contracted with 120Water to assist with full support to meet the requirements of the revised Lead & Copper Rule including:

- Lead Service Line Inventory Development
- Lead and Copper Rule compliance sampling
- Lead sampling in schools
- Public outreach & communications
- Lead service line replacement program plan
- Pre & Post sampling of LSLRs
- Pitcher/Filter Distribution

The program is a multi year phased approach, with each phase building on the next. 120Water initially reviewed historical sampling, inventory, and customer data from ArcGIS, Cityworks, spreadsheets, paper based records, LIMS, and the billing system. The data was then analyzed, cleaned, and a preliminary inventory loaded into the 120Water cloud based platform. 120 developed a validation plan to identify unknown lines, which includes sending lead swab kits to residents, and potholing designated high probability lead locations. Field data, such as material type, is inputted directly into the software, and associated with a specific customer address. 120Water subcontracted KHAFRA to conduct onsite validation via hydrovacating. The data inputs gathered from visual inspections, including customer swabs, inform the 120Water proprietary predictive model, the Probability Finder, which is run on an ongoing basis until the inventory is validated up to 90%+ accuracy. 120Water provides a public-facing dashboard for residents to visualize locations of lead service lines in their community, and search their address for service line material type on both the private and public side.

Asheville has begun sampling all schools in their system for lead. 120Water is providing educational content, training webinars, sample planning guidance, sampling kits, and remediation guidance to the school systems over the course of the next 3 years. 120Water supports Asheville with program progress reports that are presented to the City Council, and prepares supporting cases for additional funding/resourcing needed to prepare the utility to meet longer term requirements, such as 1st 5th liter sampling. Once we have a completely validated inventory, the next phase will be to create a lead service line replacement plan, continue school sampling, and LCR compliance sampling.



Past Performance

Reference	Project Description	Systems & Solutions	Budget, Schedule, Performance
Jim McGoff COO & Director Indiana Finance Authority (317) 233-4337 jmcgoff@ifa.in.gov	LSLI Statewide Database & Lead Testing & Childcare Facilities	PWS Portal Software for 1365 systems State Dashboard Public Transparency Dash Software Training Facilities Application	Outcome based pricing determined up front No Change orders No Unplanned charges Milestones achieved to date
		Program Management Remediation Guidance Water testing kits	Outcome based pricing Renewals approved Delay during COVID
Lori Siburt Superintendent City of Wheeling, WV Water (304) 234-3850 lsiburt@wheelingwv.gov	LCRR Compliance Lead Service Line Inventory Development Lead & Copper Compliance Sampling	PWS Portal Public Transparency Dash Software Training Records Review Verification guidance Tap Card Digitization & Transcription Water Testing Kits	Outcome based pricing No change orders No unplanned charges Milestones achieved to date
Manny Patel Drinking Water Program Director Georgia Environmental Protection Division (404) 657-2044 manny.patel@dnr.ga.gov	LSLI Statewide Database	PWS Portal Software for 1960 systems State Dashboard Public Transparency Dash Software Training	Outcome based pricing determined up front No Change orders No Unplanned charges Milestones achieved to date
Bo Jones Assistant Public Works Director City of Smyrna, GA bjones@smyrnaga.gov	Lead Service Line Inventory Development	PWS Pro Public Transparency Dash Software Training Records Review Verification guidance	Outcome based pricing No change orders No unplanned charges Milestones achieved to date

Reference Statement:

“The Indiana Finance Authority appreciates 120Water’s attention to detail, excellent customer service, and overall responsiveness. They quickly address any questions that are raised as we utilize the software platform.” - Jim McGoff



Appendix G - PWS Portal and State Dashboard Screenshots



PWS Portal tracks unique location ID's and service line material that is utility owned and customer owned in addition to information about the structure receiving service. This is live data in 120Water software.



The screenshot displays the 'Service Lines' interface in the PWS Portal. The main area is a map with numerous service line markers. A 'View Record' window is open on the right, showing the following information:

- View Record** (with 'Edit' and 'Close' buttons)
- 185,242
- 196200
- 241 W 54TH ST
INDIANAPOLIS, IN 46208
- Lead Material: **Lead**
- 10/31/1951
- Records
- Quantity: 0.625
- Cu + Unknown Solder**
- 10/31/1951
- Records
- Quantity: 0.75
- Unknown

A smaller pop-up on the map for 241 W 54TH ST shows:

- 241 W 54TH ST
- Public Material: LEAD
- Private Material: Non-lead
- Public Verified
- Private Verified
- View Details

PWS Portal tracks service line material that is utility owned and customer owned in addition to information about the structure receiving service. This is live data in 120Water software.



Locations Inventory State Reporting

241 W 54TH ST, INDIANAPOLIS, IN 46208

Location External ID: 105-9469820000

Details Assets Attachments

Map data ©2022 Terms of Use

Latitude

Longitude

183242

Status: In Service

Service Line External ID: 196200

Description: 250 Character Limit

Public Line

Material: Lead Verification: Records

Installed Date: 10-31-1951 Verified By:

Verification Date: Removal Date:

Diameter (in): 0.625 Depth (in):

Fittings

Lead Fittings: Unknown

Verification:

Verified By:

Verification Date:

Private Line

Material: Cu + Unknown Solder Verification: Records

Installed Date: 10-31-1951 Verified By:

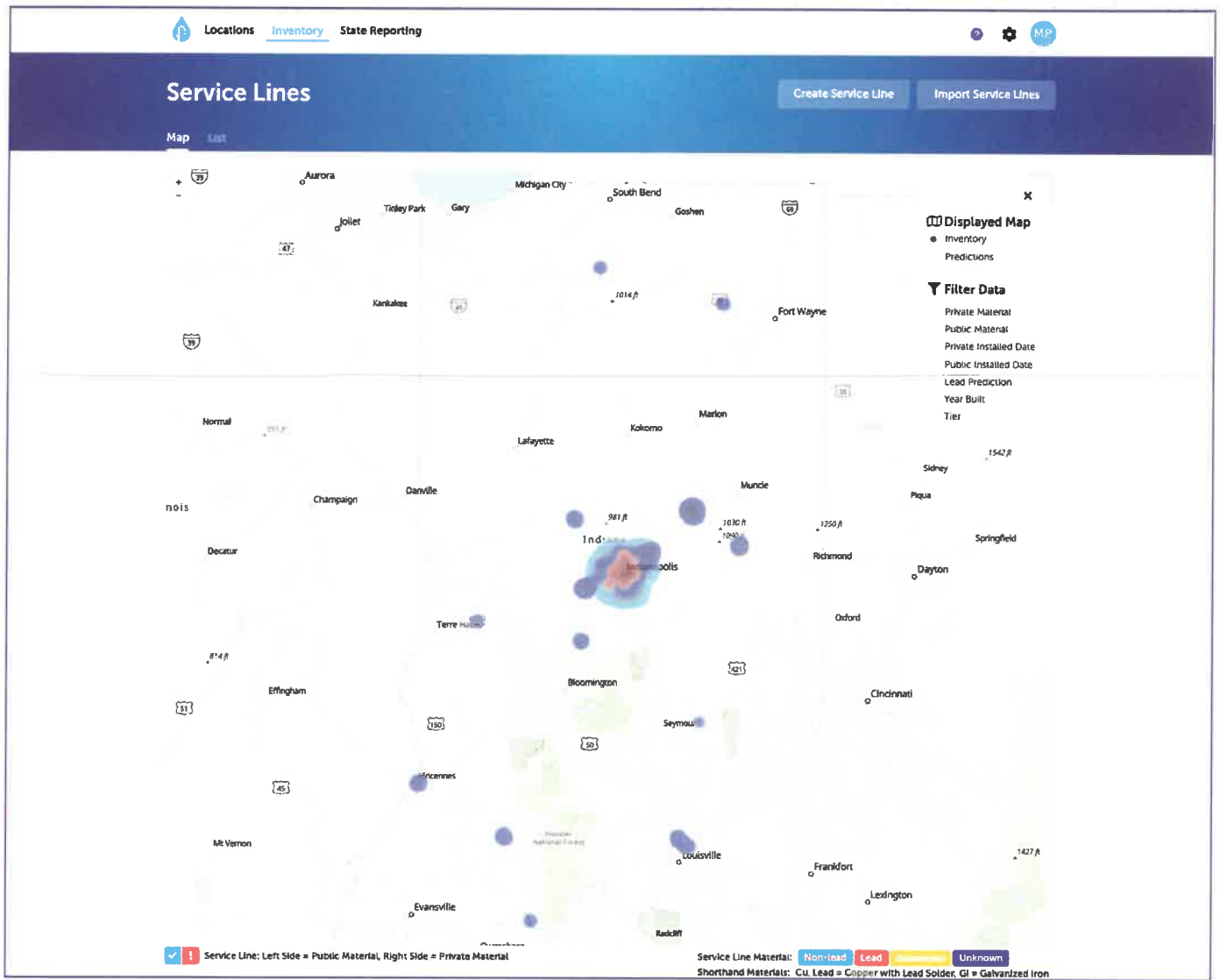
Verification Date: Removal Date:

Diameter (in): 0.75 Depth (in):

Cancel Save Details

PWS Portal supports manual entry of required information in addition to uploads of CSV/EXCEL files to support the verification method. This is live data in 120Water software





State Dashboard: Current 120Water customers in Indiana building their inventories. This is live data in 120Water software.



LCRR Inventory State Reporting

You have 1 new message from the State of New Hampshire

State Reporting Approved

2022

Compliance Deadline
123 Days
October 9, 2022

Lines submitted
30,094 of 30k

Verified Service Connections
86%

Material
Lead Galvanized Other Unknown

All Known (569) Unknown (418)

Search

Loc. ID	Address	Install	Material	Asset Type	Category
5227365	123 Cactus Court Benton, NH	Install Verifi		Service Lines	Distribution
8466754	678 Pine Drive Grafton, NH	Install Verifi		Service Lines	Distribution
5425681	982 Sunny Street Hanover, NH	Install Verifi		Service Lines	Distribution
7372572	123 Cactus Court Ashland, NH	Install Verifi		Service Lines	Distribution
5227365	678 Pine Drive Haverhill, NH	Install: 4/22/1971 Verification: 5/23/1978	Unknown	Unknown	1 R
5227365	982 Sunny Street Piermont, NH	Install: 11/30/1981 Verification: 10/21/1982	Lead	Unknown	1 R
8466754	123 Cactus Court Lisbon, NH	Install: 1/5/1985 Verification: 5/23/1990	Copper	Unknown	1 R
5425681	678 Pine Drive Rumney, NH	Install: 7/22/2012 Verification: 5/23/2014	Copper	Copper	2 R
9092984	982 Sunny Street	Install: 4/22/2001	Galvanized	Lead	1 R

Add Service Lines to State Inventory

You are about to add **20 Service Lines** to your State Inventory for Compliance.

This will not submit to the state.

Missing 2 Required Fields

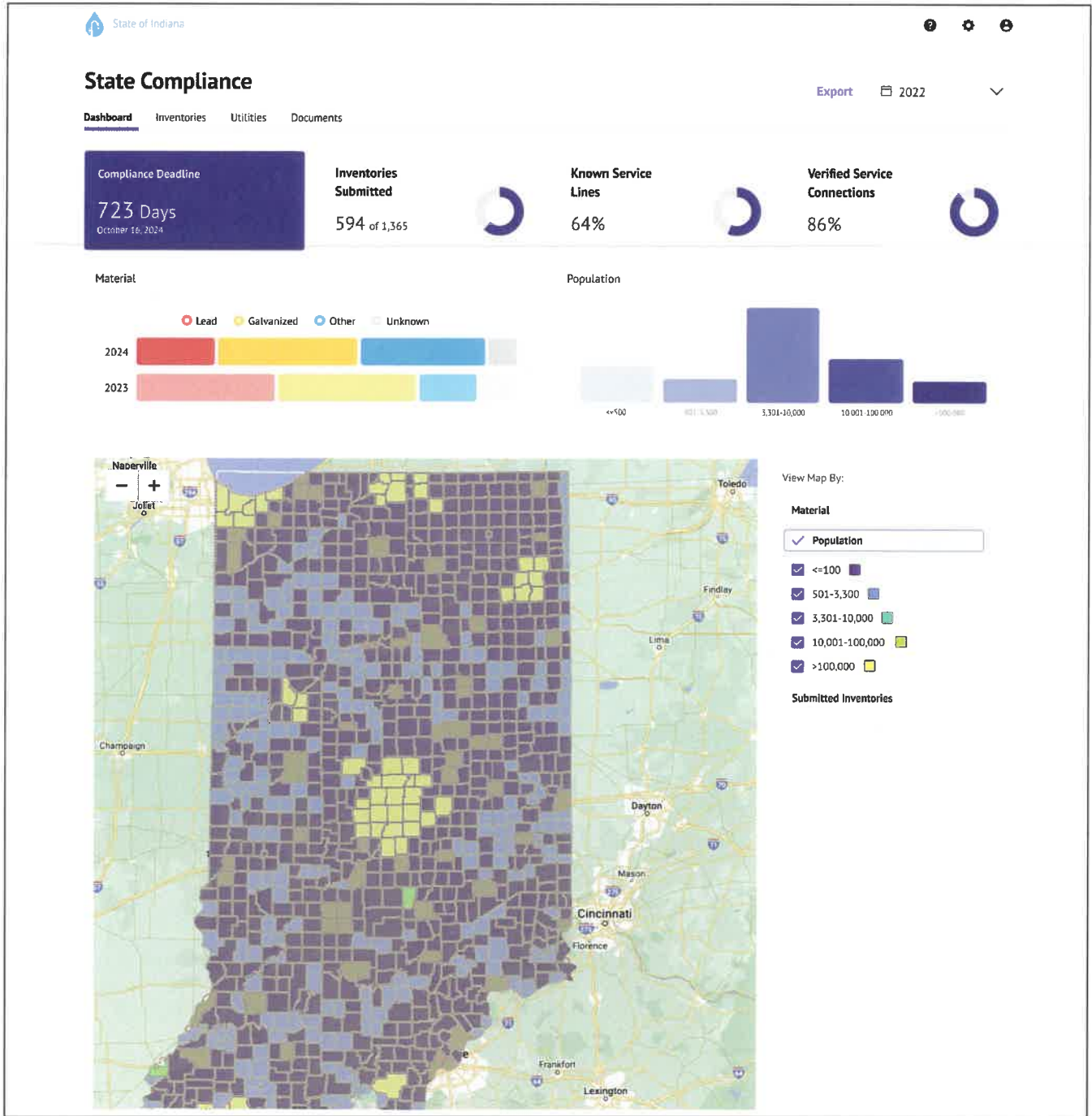
- 516 Pawling Road
- 679 Michigan Point

View your State form [here](#).

Cancel **Confirm**

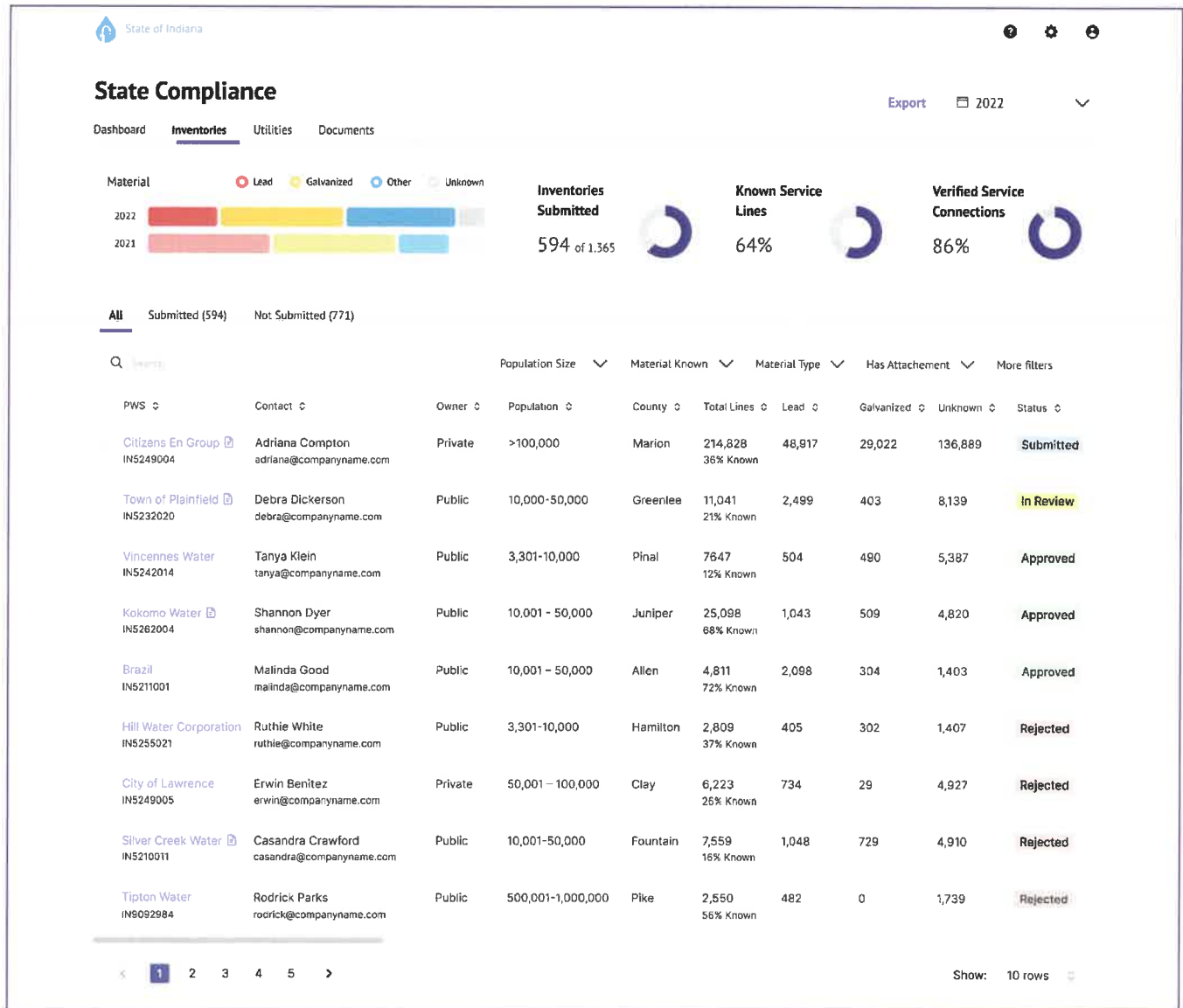
PWS Portal provides validation and normalization logic at the time data is uploaded via CSV/Excel as well as when fields are updated manually directly in the screens. There is a 'State Reporting' section within the application that shows a live transformed version of their inventory that meets the Federal and State requirements. Any issues with the data are flagged for correction before the system submits their inventory to the state.





State Dashboard's home screen will contain a geospatial reporting view and dashboard with KPIs that track inventory reporting, service lines by type and other key metrics related to LSLI/LCRR. The KPI's can be filtered and grouped to represent metrics for a particular cohort. This is a rendering in active development.





State Dashboard's list view shows key metrics and status of inventory submissions for each PWSID. This is a rendering in active development.