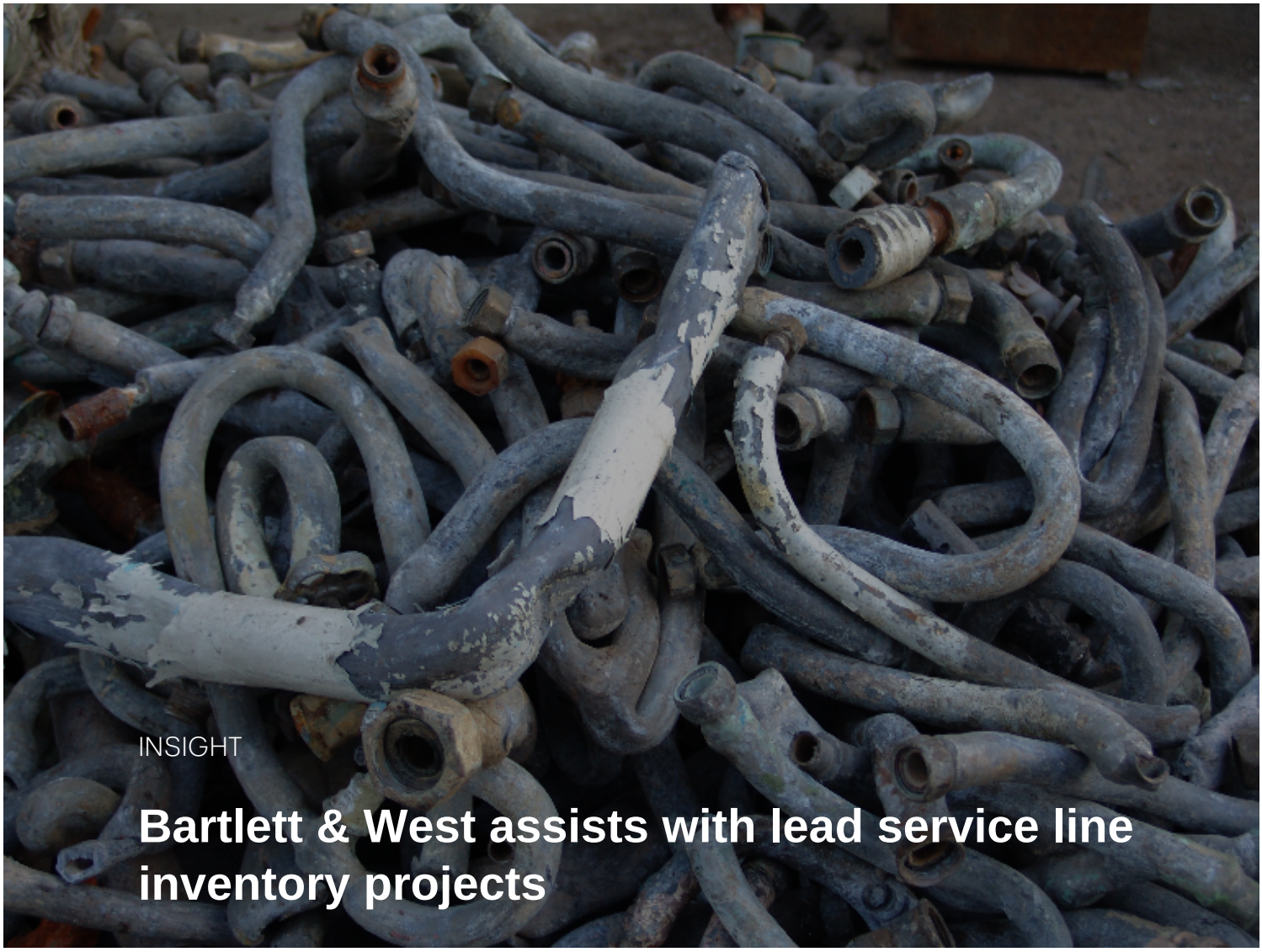


INSIGHT

Bartlett & West assists with lead service line inventory projects

Bartlett & West is helping communities across South Dakota, North Dakota, Wyoming and Missouri with Lead and Copper Rule Revision (LCRR) compliance. With an Environmental Protection Agency (EPA)-estimated 6 to 10 million lead service lines in cities and towns across the country, we are supporting various communities in their efforts to remove lead-related health risks that accompany lead pipes and help guide communities to a better—and healthier—tomorrow.

South Dakota

Bartlett & West was awarded the Lead Service Line Inventory (LSLI) project by the South Dakota Department of Agriculture and Natural Resources in early 2023. Bartlett & West is leading the project, and the team includes Black & Veatch for technical and lead service line specific GIS expertise, Brosz Engineering for most of the field services and ClickRain + Lemonly for message and media development.

South Dakota Department of Agriculture and Natural Resources (DANR) was looking for a trusted partner to simplify the service line inventory tasks for utilities across the state, ensuring LCRR compliance by the October 2024 deadline. This project is divided into four phases as described below:

- **Phase 1 - Public Engagement** to develop a consistent message across the state, both verbally and in print materials. A project website, both electronic and paper Customer Surveys for the private service pipes, and a statewide ArcGIS service were developed to meet the EPA's requirements for consistent use across all public water system in the state. This phase of the project was completed in June 2023.
  Throughout the project duration, educational opportunities are being provided for public water systems and stakeholders assisting in development of Service Line Inventories. These opportunities allow our team to provide project status updates, answer question and clarify messaging along with detailing the what, why, where and who so that the water systems can understand their role and provide the required data to maintain compliance with regulations.
- **Phase 2 - Initial Service Line Inventory Campaign** includes finalizing the GIS database. Water systems are able to use spreadsheets, GIS and manual data entry to populate their inventory. Several status dashboards have been developed for water systems to track how they are doing in relation to other systems across the state, and for us to identify systems that need additional attention and assistance to complete their inventory.
- **Phase 3 - Statewide Data Compilation and Costs Estimates** will quantify the remaining unknowns as well as the locations of known public and private lead service lines. Predictive modeling and other tools will be utilized to agree on the level of accuracy desired for the known and estimated data. Cost estimates, standard specifications and minimum thresholds for plumbers and small contractors will be developed as well as a plan for equitable service line replacement to take full advantage of grant dollars for disadvantaged and underserved areas utilizing the State's existing classification system. Expected completion for Phase 3 is the October 2024.
- **Phase 4 - Final Inventories and Replacement** defines areas for further discovery, and training and transfer of ownership will take place on the Esri's ArcGIS geodatabase and dashboard technology to DANR. Replacement projects planning and coordination will also begin during this phase. Expected Completion is mid-October 2024.

The 481 community water systems throughout South Dakota are expected to complete the inventory. Several communities have nearly complete records to develop their inventories.

North Dakota

In North Dakota, the Bartlett & West team was selected via an RFP process into a pool of nine consulting firms to assist water systems with their lead service line inventories. The North Dakota Department of Environmental Quality (NDDEQ) has awarded 11 work orders to the Bartlett & West team, and preliminary inventories are due at varying dates, beginning on April 1, 2024. The work orders limit the effort to historical records review and customer surveys, and inventory development will continue into the summer. Bartlett & West is the prime consulting firm for this project, and we are joined by Black & Veatch and Brosz Engineering.

Wyoming

Bartlett & West is part of the team that was awarded the statewide lead service line inventory project for the state of Wyoming. HDR is the prime consultant, and several local firms are also subcontractors on the team. Bartlett & West's scope includes public engagement, development of a website, data collection, geodatabase development, customer survey development and review and overall data compilation and management. More than 400 communities will be engaged during this effort to submit a statewide inventory in the form of a geodatabase to the Wyoming Department of Environmental Quality and EPA Region VIII before the EPA's October 16, 2024 deadline.

Missouri

The State of Missouri has released two separate rounds of funding targeted at addressing the EPA's requirement for water systems to inventory their lead service lines.

The first funding opportunity came through the American Recovery Plan Act (ARPA) in 2022, in which the State allotted $10 million targeted at completing these inventories. Bartlett & West assisted our clients with the submission of applications. As a result, Bartlett & West clients received a total of nearly $1.5 million of the total $10 million grant allotment.

The second opportunity came through a supplemental call for LSLI and replacement projects funded through the Drinking Water State Revolving Fund (DWSRF) Bipartisan Infrastructure Law (BIL) with approximately $50 million available in the form of grants and low-interest loans. This funding program is being administered by the Department of Natural Resources' Financial Assistance Center (FAC). The funding opportunity was targeted at water systems that were not funded in the original ARPA funding opportunity released in 2022.

Bartlett & West assisted several of clients that either were not awarded ARPA funding for these projects, did not submit for the original ARPA opportunity, or wanted additional funding to put towards replacements of service lines discovered to be lead or galvanized material. As a result, these clients were able to help secure an additional $5.6 million through this funding opportunity, many received 100 percent grant funding for their LSLI projects.

Bartlett & West's approach to these projects consists of the following:

- **Procurement Assistance -** Bartlett & West staff has helped and continues helping our Clients navigate the Missouri Department of Natural Resources (MDNR) procurement process for hiring a company to complete their inventory. This involves helping coordinate with MDNR staff to obtain an RFP document that is approved for soliciting bids, assisting throughout the advertisement process, helping our Clients to tabulate bids that are received and helping our Clients through the Contracting process regardless of whether or not we are being awarded the Contract. Our overall goal with these projects is to ensure our Clients are able to complete their inventories by the October 16, 2024 deadline. Even if we are not directly selected for the projects due to pricing, we still make ourselves available to assist our Clients through the process to reach the final goal of a completed inventory.
- **Needs Analysis -** Meeting with client staff to determine project goals, schedule and approach. This involves the discussion of data currently available, game planning for public outreach and discussion of alternate methods for reducing the number of unknown service line material.
- **Records Review -** The records review phase of the LSLI will come before any in-field verification is performed. The records review is the least invasive and many times the least costly per service line. Bartlett & West will request and review documentation that may include construction plans and specifications, building codes, City ordinances, maps, meter cards, County assessor records and other pertinent data. Some service line materials may be identified during this phase of the work, which will allow the in-field verification to focus on only the true "unknowns." A GIS or AutoCAD based map of the service lines will be developed during the records review phase. If the City is interested in the GIS approach to collecting the data, the GIS will have a database to retain service line material information. At the end of the inventory field work, an excel file will be exported to allow the official service line spreadsheet to be completed and submitted. The customer survey will be the second step in the record review phase. An electronic survey or a hardcopy survey is provided to homeowners. Electronic survey responses can

be submitted via smartphone. Paper surveys can be mailed or dropped off at the Client's office.

- **In-Field Verifications -** After a review of pertinent records and collection of customer surveys, it is likely many service lines will not have a verified material type. The in-field verification step is more invasive and expensive per service line. That is why a thorough records review is essential prior to fieldwork. In-field verification may be performed by potholing (using a vacuum excavator or mini-excavator) or internal plumbing inspections. Potholing will yield the most conclusive results, especially on the City's side of the meter, but the internal plumbing inspections may be more effective for the customer's side. When potholing is utilized, the excavated holes will be filled with sand and topsoil and then seeded. If a service line is damaged, our subcontractor will turn the water off at the meter, over-excavate the line, repair the damage, backfill and clean up.

Ultimately, more than 30 Bartlett & West Missouri clients were awarded funding, and these projects will span across the entire State of Missouri. In total, this funding will provide more than $7 million in work.

Use the form below if you are a water utility provider looking for assistance with your own lead service line inventory project.