



LeakTracer

Securing New Mexico's Water Future

September 2026, Year One Summary



Prepared by:

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Impact At-a-Glance



133

Utilities Contacted



28

Communities Served



25

Satellite Images



180

Miles of Pipe Inspected



216

Leaks found



328

MGY Water Loss Recovered



5.5%

of Population Served

Project Summary

The New Mexico Environment Department (NMED) contracted with ASTERRA USA to use their patented satellite technology to find leaks in the drinking water systems of the state. This program was developed in order to meet the goal of Action A3 of the 50-Year Water Action Plan to deploy innovative remote sensing technology to complete an inventory of water loss across the state and reduce water loss from public drinking water infrastructure by 25% by 2040.

The LeakTracerNM program focuses on small, rural public utilities with populations less than 20,000 people. Some drinking water systems in New Mexico are losing 40-70% of all treated drinking water due to breaks and leaks in aging underground distribution pipes. The LeakTracerNM program will continue through 2029.

Eligible utilities can find more information and apply on the [NMED LeakTracer landing page](#).

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“A large spike in water leakage rates convinced the board to direct us to look for leaks. ASTERRA found large main leaks and many smaller service line leaks that we did not expect. These were the main cause of the increase and now our lost water percentage is back to 6%.”

- Maya Clifford
General Manager
Eldorado Area Water and Sanitation District

I. Executive Summary

The New Mexico Environment Department (NMED) partnered with ASTERRA USA to find leaks in drinking water systems across the state. After a successful pilot in 2025, NMED launched a four-year program in 2026. Using satellite radar technology, the team identifies areas of interest (AOIs) and sends inspectors to confirm leaks and allow local partners to repair them.

The funding for the program comes from the Rural Infrastructure Program (RIP), which by statute focuses on municipalities with populations under 20,000, counties with populations under 200,000, and mutual domestic water associations. LeakTracer is a collaborative effort among the NMED, ASTERRA USA, and the local utilities served by the program.

As of September 2026, the program identified 216 leaks of potable water in 28 utilities across the state. The leak detection process consists of two parts: a satellite survey to identify likely leak locations, and a physical field inspection process to pinpoint the leaks so they can be excavated and repaired. The program provides a report of findings to each utility showing where leak detection activities occurred so that they can efficiently repair the leaks.

The program has directly contacted 133 utilities by phone, email, and organic promotional methods. Under the current LeakTracer program, to be eligible for the field inspection pinpointing activity, utilities must “apply” for the grant through the RIP portal. Out of the 133 utilities, 55 (or 41%) have signed up for the services through the NMED RIP portal.

The program completed leak detection, survey, and inspection services for 28 of these systems so far, and the remaining 27 utilities that have signed up for the program are priorities for the FY27 work plan.

ASTERRA USA estimates that repairing all the leaks would result in savings of 623.5 gallons per minute (gpm). The estimate is based on average leak size rates in lieu of actual measured flow rates. This equates to 898,000 gallons per day (gpd) and 328 million gallons per year of saved water resources. This is equivalent to the amount of water that would fill 5,000 Olympic-sized swimming pools or fill University Stadium over 5 times.

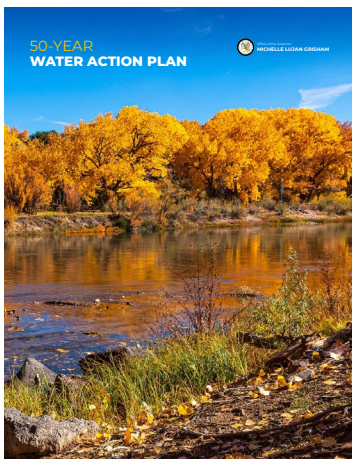
“ASTERRA is a game changer for us. Before them, we found leaks the old fashioned way; waiting for water to surface or for a customer complaint. Now, we can fix leaks before we can see them, saving water, money and time.”

***- Rolf Hechler
Mayor, Truth or Consequences, NM***

Using an average cost of water production in the state, this lost water reduction saves the participating utilities almost \$1,382 per day, or approximately \$505,000 per year. These reduced expenditures could be used by municipalities or utilities to make investments in other critical utility infrastructure and support the general funds in any manner that is most needed, such as roads, public safety or recreation facilities.

II. Background

Governor Michelle Lujan Grisham announced New Mexico's 50-Year Water Action Plan in 2024. Climate change is threatening the precious resource that holds immeasurable cultural, agricultural, ecological, economic, and recreational value to the state. Complex issues affect all aspects of water supply; precipitation is more variable, and snowpack, runoff, and aquifer recharge are declining. Higher temperatures are drying landscapes, leading to increased erosion and more extreme wildfires. It is estimated that the state will have 25% less water supply over the next 50 years. It is critically important that the state takes the lead in proactively addressing this gap.



New Mexico's 50-year Water Action Plan aims to address complex issues affecting all aspects of the state's water supply.

The Water Action Plan prioritizes water conservation, creating new water supplies, and protecting water and watersheds. One of the activities proposed to address the reality of reduced water supplies in the future is to reduce leaks in municipal drinking water systems. Some local utilities have real water losses of 40-70%. Exacerbating the problem is the fact that most municipal drinking water utilities in the state are small and located in rural areas (84% of the state's utilities serve less than 500 connections). The customer base cannot bear the cost of large capital programs to maintain aging water systems.

The state stepped in to help local utilities find these leaking drinking water pipes by using an innovative satellite imagery program that can survey the entire state. NMED partnered with ASTERRA USA to provide intelligence and insight on below-ground, non-surfacing, potable water system leaks.

“In Angel Fire, we have very porous soils, so leaks do not surface. This makes it difficult to pinpoint the leak locations. The ASTERRA technology helps us find them in high profile locations”.

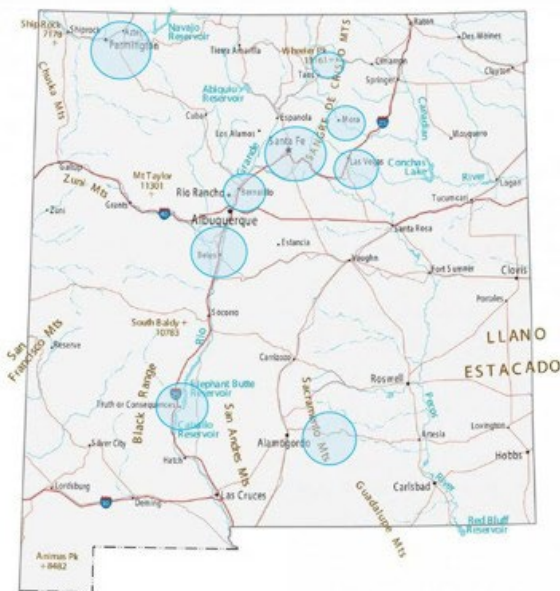
***- Evan Trujillo
Water Superintendent
Village of Angel Fire Water Dept.***

This technology utilizes a sophisticated remote sensing radar technology, known as L-band synthetic aperture radar, to survey large areas of land and is the first of its kind capable of monitoring soil characteristics such as moisture levels that have a potable water signature. 30-mile by 40-mile satellite surveys are collected, and the backscatter is analyzed using a proprietary algorithm to determine likely leak locations and generate a point-of-interest (POI) map. Field inspection crews are then deployed to these areas, typically less than 10% of the total system pipeline length, to pinpoint these leaks for the water system to repair.

ASTERRA USA performed a pilot test in May 2025 and identified a significant amount of leaks, proving the effectiveness of this approach. Following up on the success of that work, NMED and ASTERRA USA entered into a long-term, four-year, \$4 million agreement. The partners then executed the FY26 work plan, which is the subject of this report.

III. Results

ASTERRA performed the first phase of the work between May 2025 and June 2026, after developing a work plan identifying areas of interest (AOI's) for collecting satellite images and the backscatter signals analyzed for likely leak locations. The resulting map containing points of interest (POIs) is then overlain with the utility pipeline maps. When pipe maps were not available (as has often been the case thus far), then POIs are developed based on roadways where pipelines are likely. ASTERRA collected a total of 25 satellite images during the course of this work. The areas covered by these images are shown below:



NMED's Construction Programs Bureau (CPB) provided a utility contact database. This information provided an excellent starting point for the targeted promotional effort, and ASTERRA USA used it to contact 133 water systems for this initial phase. By statute, the Rural Infrastructure Program's (RIP) financial assistance is strictly restricted to "local authorities." The program defines these local authorities as any incorporated city, town, village, mutual domestic water consumers association (MDWCA), water and sanitation district,

or county meeting specific population caps (less than 20,000 for communities and less than 200,000 for counties).

Because federally recognized tribal governments operate as sovereign nations rather than as New Mexico political subdivisions or municipal corporations, they do not fall under the statutory definition of an eligible local authority for funding under the RIP program. Privately run utilities, referred to as Investor-Owned Utilities (IOUs), also do not fall into the category of "local authorities." Typically, Native American entities look to the New Mexico Tribal Infrastructure Fund (TIF), which is administered via the New Mexico Indian Affairs Department (IAD), for funding. While NMED's RIP funding limits eligibility, other state agencies or local governments can contract directly with ASTERRA USA to receive the same services. NMED is exploring other options to expand funding, and eligibility, for LeakTracer participation.

LeakTracerNM Contact Metrics

Total # of Utilities Contacted	133
Contacted Through Targeted Activities	108
Contacted Through Organic Promotion	25
Utilities Filed Grant Application	55
Utilities Field Inspected	28
Utilities Filed Application Not Inspected	27

Of the 106 RIP-eligible water systems that ASTERRA USA contacted in this manner, 28 applied for the grant and received LeakTracer services to identify potable water leaks. Another 26 utilities heard about the program through organic promotional outreach programs and filed grant applications. These systems were not included in the FY26 work but will be part of the first phase of the FY27 work plan.

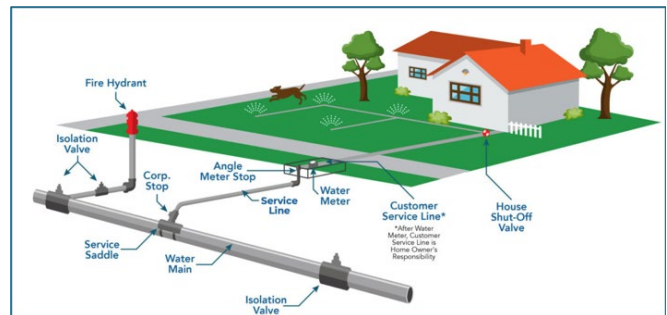
The 28 utilities inspected thus far serve a total population of 117,400 people. This is 5.5% of the total population of the state. In the twenty-eight utilities that were inspected by the field team, LeakTracer found a total of 216 leaks; 45 leaks on pipe mains, 54 leaks on service pipes, and 117 customer-side leaks. Based on average leak size data from the American Water Works Association (AWWA; AWWA Manual M-36, Water Audits and Loss Control Programs), this equates to a total estimated water loss reduction of 623.5 gpm.

This is equal to 897,840 gpd, and, if these leaks were to stay active for a full year, this would equal an estimated **327.7 million gallons per year of potentially recoverable leaked water.**

The AWWA leak rate estimate is an industry standard guide published by the American Water Works Association that provides water utilities a framework to track water balance, identify non-revenue water (NRW; water systems' preferred term for lost water that is treated but not delivered to or paid for by customers), and manage real and apparent losses. It contains data related to average leak sizes based on leak sub-type (e.g. main pipe, service lines, valves, hydrants) at various system pressures. These averages were used to calculate water loss volumes.

Main, or distribution, pipelines are utility-owned pipes that distribute water from the treatment plant or groundwater well throughout the service area. These pipes range in size from four to 16 inches in diameter, are made of metal or plastic, and are routed through streets and rights-of-way. Service lines are those pipes that take water off the main lines and deliver it to customers. These range from $\frac{3}{4}$ inch for residences to two inches for small commercial properties. Service lines are owned by the utility up to the point where they cross onto private property or go through a meter. After that point, the service lines are a customer's responsibility.

Main leaks tend to be larger than service leaks because the pipes are larger and operate under higher pressure. Customer leaks tend to be smaller than service line leaks because the pipes are smaller and operate under lower pressures.



Average leak sizes depend on leak sub-type (e.g. main pipe, service lines, valves, hydrants) at various system pressures.

Finding and pinpointing leaks is the first step in reducing non-revenue water. It is incumbent on the utilities to fix the leaks to realize the value of the program.

Most typically, utility personnel shadowed the field leak inspection teams while pinpointing efforts were ongoing. The utilities received a dashboard that showed the locations and sizes of the identified leaks. The utilities prioritized the repairs of the high priority leaks and also repaired leaks that did not require excavation. Meter, valve, curb stop and hydrant leaks were typically repaired immediately. Systems tended to enter smaller leaks on buried pipelines into their work order system for later repair.

LeakTracerNM Results

Utility	Total Leaks	Main Leaks	Service Leaks	Customer Leaks	Leak Volume (gpm)
Truth or Consequences	42	6	13	23	140.5
Bernalillo	12	1	2	9	26.3
Tranquillo Pines	2	1	1	0	10.4
Cloudcroft	10	4	2	4	31.8
Timberon	16	3	1	12	20.8
Mora	7	2	0	5	18.8
Pendaries Village	2	1	1	0	26.5
Las Vegas	10	3	2	5	34.5
Eagle Nest	4	1	0	3	12.0
Angel Fire	7	2	4	1	32.0
Belen	26	4	13	9	71.9
Los Lunas	16	4	7	5	41.4
Bosque Farms	7	0	2	5	15.8
Rio Communities	4	0	1	3	9.9
El Cerro	4	0	1	3	9.9
Meadow Lake	15	2	4	9	39.9
High Mesa	1	0	0	1	1.0
Bloomfield	3	1	0	2	7.9
Upper La Plata	11	1	0	10	16.9
Blanco	3	1	0	2	7.9
Flora Vista	3	1	0	2	7.9
Pecos	4	3	0	1	15.8
Las Campanas	3	3	0	0	14.8
La Cueva	0	0	0	0	0
Tome	0	0	0	0	0
Peralta	0	0	0	0	0
Agua Fina	0	0	0	0	0
Lee Hammond	4	1	0	3	8.9
Total	216	45	54	117	623.5

LeakTracer found 216 leaks in 130 days of field inspection, resulting in a performance of 1.7 leaks found per crew day. Based on a total of 906 POIs, the length of pipeline traversed during the field inspection was 181 miles. This results in a performance of 1.2 leaks found per mile inspected.

LeakTracerNM POI Results

Utility	# of POIs	Unverifiable	Quiet	Suspected	Leaks
Truth or Consequences	40	6	11	1	42
Bernalillo	25	8	8	2	12
Tranquillo Pines	6	2	3	0	2
Cloudcroft	20	4	7	1	10
Timberon	58	27	17	1	16
Mora	26	13	6	0	7
Pendaries Village	5	1	4	1	2
Las Vegas	46	4	35	0	10
Eagle Nest	13	7	2	0	4
Angel Fire	34	8	19	0	7
Belen	116	72	18	4	26
Los Lunas	207	136	51	0	16
Bosque Farms	16	4	5	0	7
Rio Communities	11	2	5	0	4
El Cerro	5	1	0	0	4
Meadow Lake	15	0	0	0	15
High Mesa	1	0	0	0	1
Bloomfield	27	8	16	0	3
Upper La Plata	52	29	15	0	11
Blanco	85	68	14	0	3
Flora Vista	25	9	14	0	3
Pecos	16	5	7	0	4
Las Campanas	18	9	6	0	3
La Cueva	1	1	0	0	0
Tome-Adelino	2	2	0	0	0
Peralta	13	12	1	0	0
Agua Fina	3	0	3	0	0
Lee Hammond	20	10	6	0	4
Total	906	448	273	10	216

The four categories of POI results are defined below:

- **Unverifiable** – Any POI where the field crews could not inspect the area. This could be due to there being no listening points in the area, the POI being behind a fenced or enclosed area, the POI being on private property, or no pipeline could be located in the area.
- **Quiet** – The POI was inspected, and no leak noises were identified. This could be due to large spacing between listening points, deeply buried pipe, plastic pipe, low water pressure, or a very small leak that generates an undetectable noise.
- **Suspected** – A leak noise was identified, but it could not be pinpointed with correlators or other equipment.
- **Leak** – A leak was identified and pinpointed in the POI.

IV. Insights and Recommendations

Utility Outreach, Public Relations and Program Promotion

With the 28 systems participating in the program, LeakTracer saw a lower than expected 27% registration rate in the initial year of work. NMED and ASTERRA USA are implementing several actions to remedy this low turnout and increase the percentage of utilities within targeted AOIs to sign up for the program.

For a utility to qualify for the LeakTracer program under the RIP grant, it must complete a quick, 15-minute online application process. Once completed, NMED processes applications immediately and passes them on to the ASTERRA USA team for analysis and inclusion in the upcoming work plan. The low response rate limited the reach of the program, reduced the number of utilities that benefited, and reduced the overall water loss reduction.

State legislators could consider using unspent capital outlay appropriations to educate RIP-eligible water systems about the program and fund leak detection and repair services. If applicable, legislators could reallocate unspent funds to systems that are not eligible for RIP funding.

NMED plans to increase awareness of the opportunity to participate in the LeakTracer program through direct outreach and participation in events targeted to small water systems. For example, an email campaign by NMED and backed up by ASTERRA USA to advertise and promote the program to all eligible systems will increase the number of channels where utilities can learn of the program. Such communications should happen on a regular basis to encourage participation and document the program's success levels for participating water systems.



Using acoustic correlation, a survey technician verifies a leak at a satellite-identified point of interest (POI).

NMED and partners should also promote the LeakTracer program by attending and providing presentations at conferences attended by small water systems, such as the New Mexico Rural Water Association's Annual Conference and the annual Infrastructure Finance Conference. Reaching out to utilities through these events has been successful in the past; many of the participating utilities that NMED did not contact directly heard about it from a presentation at the November 2025 New Mexico Infrastructure Finance Conference.

Utility Mapping and Unverifiable POIs

One of the biggest issues encountered in the first year was the lack of pipeline mapping data available from the utilities. Many small systems lack maps of their water distribution systems and pipeline assets (including valves and meters). Additionally, within the utility service areas, there are many private wells that make pipeline location determination more difficult.

The level of unverifiable POIs of 50% was significantly higher than ASTERRA USA's expectation of 1-2% and is attributed to many utilities not having maps to align leak data with pipeline locations. In instances where no pipeline maps are available, ASTERRA USA uses roads as a proxy. However, this approach can lead to a number of issues. For example, in many instances, there are not adequate "listening points" for the field crews to use for acoustic pinpointing of leaks. In other cases, the areas identified are on private property, and some of these have limited or no access.

Lack of a system map is not necessarily a barrier to program participation but it does reduce LeakTracer's effectiveness. NMED is exploring funding options to support entities that do not have system maps. By allocating funds to mapping and digitizing water system assets, the satellite data could more accurately align with water pipelines and the field inspectors could be more efficient and effective at pinpointing leaks. With better data on pipeline locations, the efficiency of finding leaks will greatly improve. NMED could use mapping as a selection criterion for utilities to be inspected; if a system cannot locate its pipelines, then its priority would drop below others that do have pipeline maps.

"Many thanks to all of you for your help in finding the leak in the transmission line from the Skyline Tank. Words do not express my full appreciation."

*- Debbie Simpson
Executive Director
Pendaries Village Mutual Domestic
Water Association*

Funding Source Limitations

Twelve municipal utility areas in New Mexico have more than 20,000 customers, so they are not eligible for the RIP funding that NMED identified for the LeakTracer program. These larger utilities, like those serving

Santa Fe, Las Cruces, and Albuquerque, do have maps of their systems; therefore, finding a funding source for them to participate in LeakTracer would provide a much higher percentage of POIs and more likely result in leaks being found and fixed. Due to the size of these systems relative to others across the state, this would greatly increase the amount of leaks LeakTracer can identify.

Water Systems Serving > 20,000 People

City	Approximate Population
Albuquerque	555,000
Las Cruces	118,000
Rio Rancho	116,000
Santa Fe	90,000
Roswell	46,000
Farmington	45,000
Hobbs	40,000
Clovis (Epcor)	38,000
Carlsbad	32,000
Alamogordo	32,000
Gallup	20,000

Customer Side Leaks

There were a higher percentage of customer-side leaks than ASTERRA USA projected. During the first work plan period, approximately 55% of leaks found were on the customer side of the meter as opposed to 10-15% for typical projects in North America. This may be due to use of older, less accurate meters contributing to apparent loss rates. It is also possible that rate structures contribute to this impact. If the utility uses a fixed rate structure, where billing is set on a baseline amount of water usage, it may be difficult for a resident to see the impact of leaks occurring on property.

Another potential issue is that many residential customers in rural New Mexico do not occupy the residence year-round. When there is no one at a location, leaks can go unnoticed and unreported for months. This is where smart water metering can play a critical role in ensuring leaks are detected earlier and fixed sooner.

V. FY2027 Work Plan

NMED and ASTERRA USA will provide the FY27 Work Plan in a separate document. The plan will consist of a combination of a number of different areas of interest (AOIs). Twenty-seven utilities have submitted grant requests but have not yet been inspected. Three are not eligible due to size (over 20,000 customers) or designation (i.e., private or tribal utilities). The remaining 24 utilities that have signed up are spread around the state and not in a specific cluster area.

The first step in the FY27 work plan process will be to contact each of the 24 utilities mentioned above and confirm program eligibility. ASTERRA USA will request maps, digitized or manually generated, so it can generate a valid POI map from the satellite image. These utilities will be prioritized along with the three other AOI utilities listed below.

Area	Images	Description
1 - Various	11	24 utilities previously signed up
2 - Artesia	6-8	25 utilities, two over 20,000 (Carlsbad and Roswell)
3 - Las Cruces	4-6	43 utilities, one over 20,000 (Las Cruces)
4 - Alamogordo	5-8	54 utilities, one over 20,000 (Alamogordo)

Once this work is completed, NMED and ASTERRA USA will identify clusters of utilities within specific areas to create AOIs for field surveys. NMED and ASTERRA will then contact the additional utilities to sign up for the grant and to request pipeline maps.

When a critical mass of certified utilities is registered and have provided proper information, ASTERRA USA will order, collect, and analyze satellite images, and schedule boots-on-the-ground inspector teams.

“I look forward to working with you again. We have had other leak detection companies come out to Tranquillo Pines, and you guys are the best I have seen.”

- Gary Ashcraft
President
Tranquillo Pines Mutual Domestic
Water Association

NMED and ASTERRA USA will implement the outreach recommendations contained in this report in the FY27 Work Plan. These include obtaining more information from utilities that wish to participate in the program including pipe mapping data, field contact designee, system operational metrics. Program management staff will also request information on process and results related to pipe repair and non-revenue water reduction so that actual water savings can be documented.

