



**Plano**

*City of Excellence*

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# **Plano, TX Approach to EPA's Water Service Line Inventory**

Abby Owens

Director of Public Works

City of Plano, TX

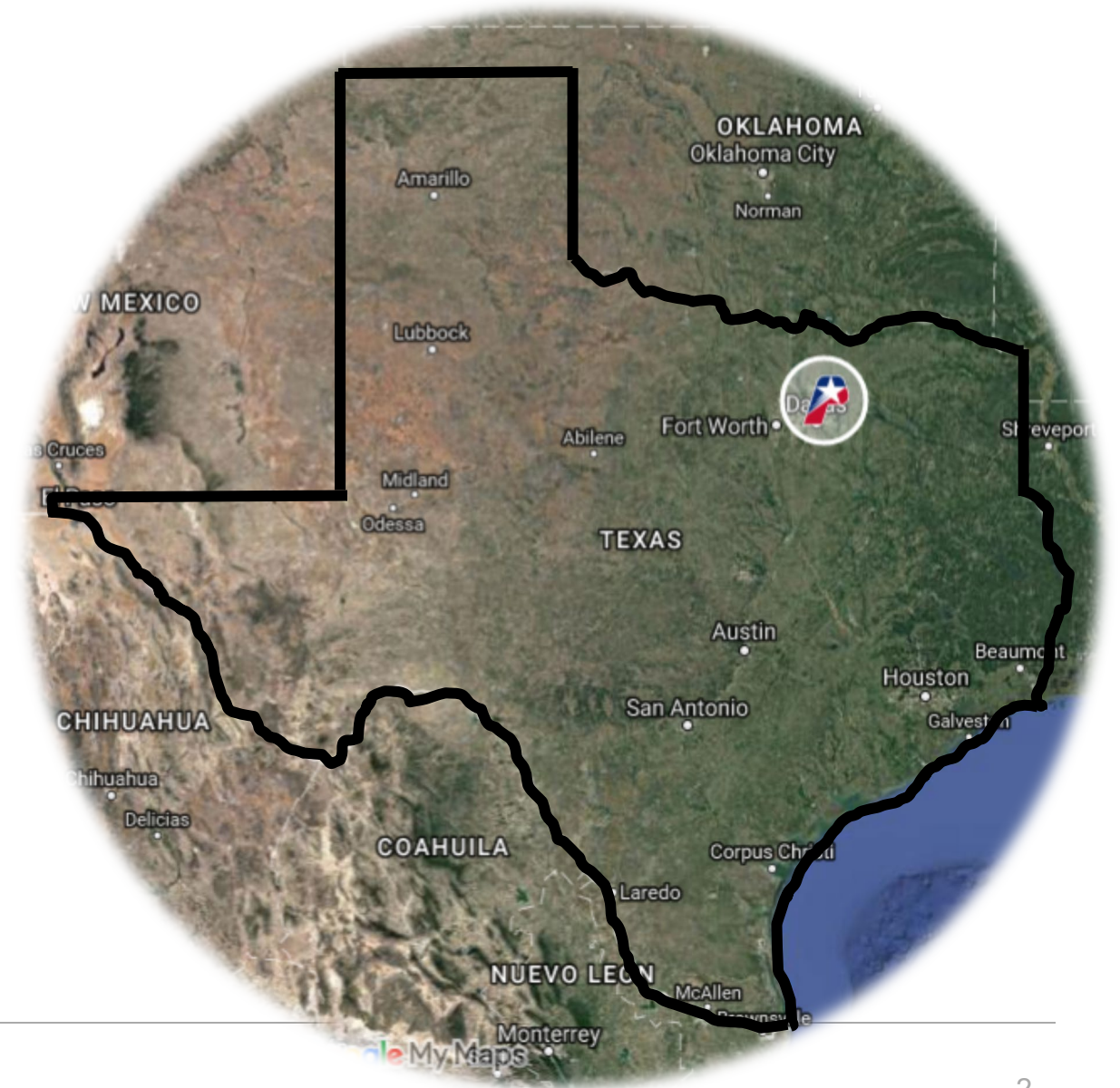
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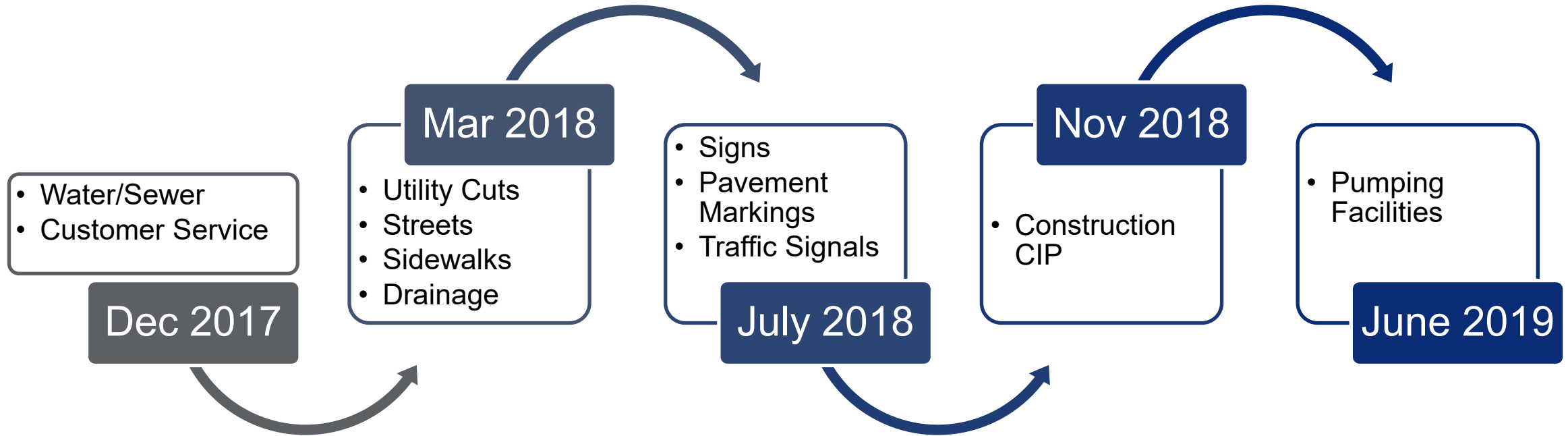
# Plano

*City of Excellence*

- 72 square miles
- 295,000 population
- 84,000+ water accounts
- Median Year Structure Built **1993**



# Plano's Asset Management Journey



# OpenGov/Cartegraph

**181  
Users**

**101  
iPads**



**Water &  
Sewer**



- 21,621 sewer mains
- 15,650 manholes
- 102,619 water mains
- 52,889 valves
- 17,009 fire hydrants
- 87,368 water meters
- 10 pump/lift stations
- 22 water storage tanks

**Signs &  
Traffic**



- 44,849 signs
- 24,561 supports
- 8165 pavement markings
- 256 signalized intersections
- 13,639 traffic assets

**600,000+  
Assets**

**Streets &  
Drainage**

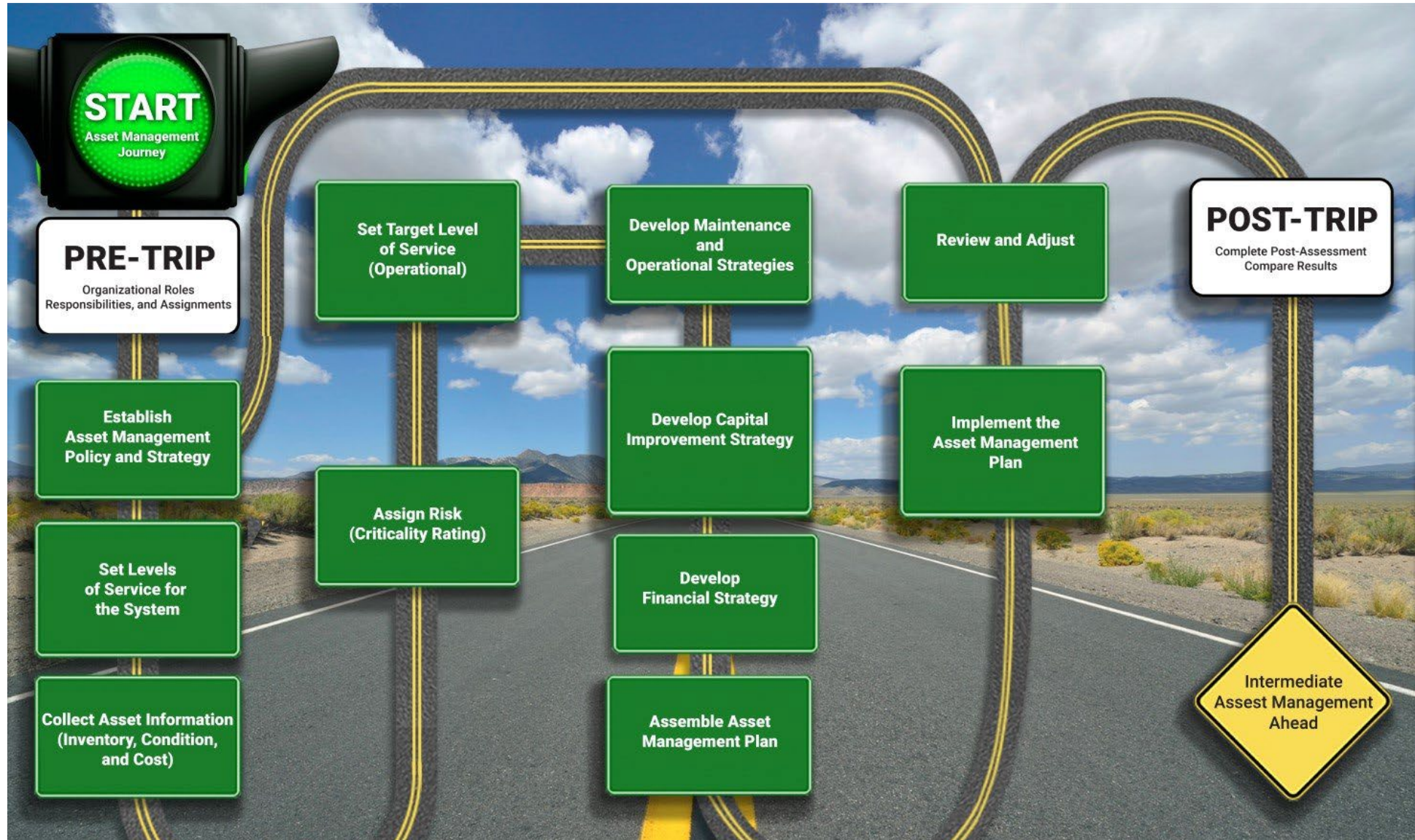


- 4,986 alleys
- 14,222 streets
- 96,990 storm assets
- 34,556 sidewalks
- 2,522 screening walls
- 193 guardrails
- 340 bridges





# APWA Asset Management Road Map





# Water Service Line Inventory

## Goal:

- Visual representation of service line for public map
- Classify material by EPA guidelines
- Process to track actual material (public & private)
- Document Verification Methods
- Maintain data for annual updates to state



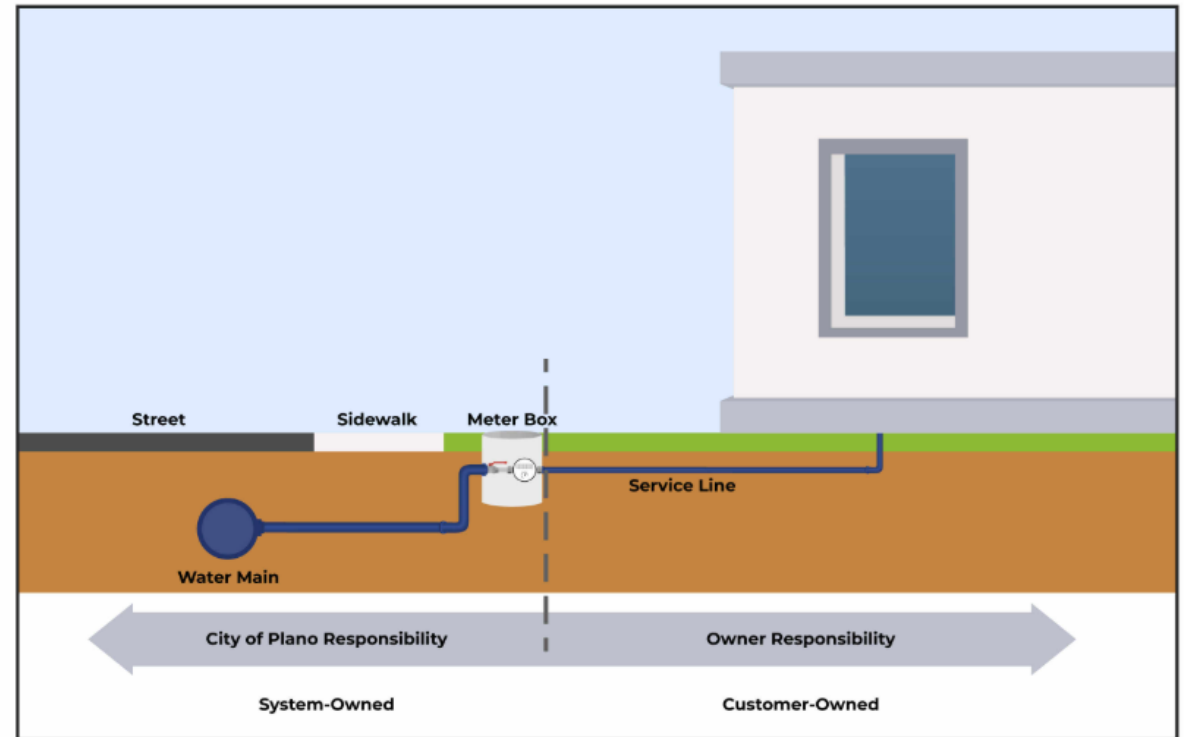
# Water Service Line Inventory

## Starting Point:

- Water Meter Asset
- Water Main Asset with Install Date
- Parcel Construction Dates
- Historical Work/Data
- Trained Field Staff

## Needed Information:

- Water Service Line Asset
  - Public Side
  - Private Side
- Address or Location ID



# Water Service Line 41077

## Location

### Linked Water Meter

Water Meter: 44322

Location Description: 2117 BENGAL LN

Water Meter Service: W

Parcel Date: 1/1/1978

Private Side

### Linked Water Main

Water Main: 20287

Installed: 1/1/2001

Public Side

### Water Service Line

Location Description: 2117 BENGAL LN

Street: BENGAL LN

Zip Code: 75023

## Details

### Basic Information

ID: 41077

Type: Water

Public Side

Service Line Material:

Material Documentation: Texas State Lead Ban (July 1, 1988)

Yard Line Material: Copper

Yard Line Documentation: Field Verification

Notes:

Private Side

### Lead/Copper

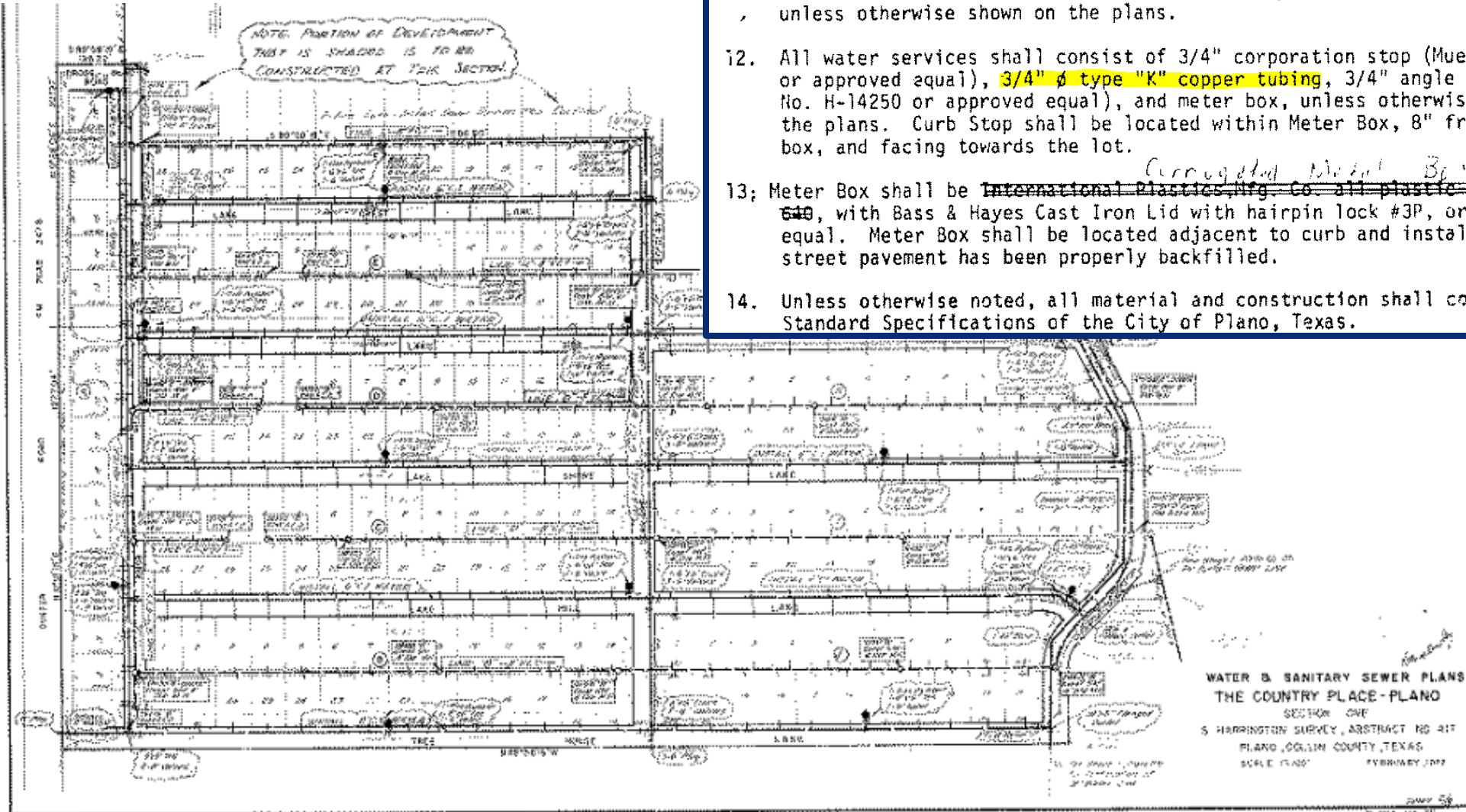
System Owned Classification: Non-Lead

Customer Owned Classification: Non-Lead

Entire Line Classification: Non-Lead



# Verification Methods – As Built Records



9. Sanitary sewer pipe joints shall conform to current ASTM Designation C-425 "Vitrified Clay Pipe Joints using Materials Having Resilient Properties".
10. All sanitary sewer laterals shall include 4" V.C.T. Wye, bend, pipe, and stopper installed at the mid-point of each lot, unless otherwise shown on plans.
11. All water services shall be located 10 feet upstream of the sewer lateral, unless otherwise shown on the plans.
12. All water services shall consist of 3/4" corporation stop (Mueller No. H-15000 or approved equal), 3/4"  $\phi$  type "K" copper tubing, 3/4" angle stop (Mueller No. H-14250 or approved equal), and meter box, unless otherwise indicated on the plans. Curb Stop shall be located within Meter Box, 8" from the top of the box, and facing towards the lot.
- 13; Meter Box shall be ~~International Plastics Mfg. Co. all plastic Meter Box No. 640~~ <sup>Corrugated Metal Box</sup>, with Bass & Hayes Cast Iron Lid with hairpin lock #3P, or approved equal. Meter Box shall be located adjacent to curb and installed after street pavement has been properly backfilled.
14. Unless otherwise noted, all material and construction shall conform to the Standard Specifications of the City of Plano, Texas.

# Verification Methods – Building Permits

	A	B	C	G	J
1	PERMIT_NC	SITE_ADDR	DESCRIPTION	STATUS	Cartegrap
3023	BLD07-13775	1606 M AVE	WATER AND SEWER YARD LINE RELAY	CLOSED	<a href="#">Review Details</a>
3027	BLD07-1469	3116 ROCKBROOK DR	WATER RELAY	CLOSED	<a href="#">Review Details</a>
3150	BLD09-11553	2200 INDEPENDENCE PKY	WATER RELAY AND RPZ INSTALLATION	CLOSED	<a href="#">Review Details</a>
3156	BLD09-11554	6800 ARCHGATE DR	WATER RELAY ONLY	CLOSED	<a href="#">Review Details</a>
3157	BLD09-11555	1401 HIGHEDGE DR	WATER RELAY	CLOSED	<a href="#">Review Details</a>
3188	BLD10-13534	2001 ANTWERP AVE	RELAY WATER SERVICE FROM METER TO HOUSE	CLOSED	<a href="#">Review Details</a>
3198	BLD10-1498	2209 STONE CREEK DR	WATER RELAY AROUND TREE	CLOSED	<a href="#">Review Details</a>
3212	BLD10-5363	2918 COIT RD	EXCAVATION & RELAY OF COPPER WATER LINE	CLOSED	<a href="#">Review Details</a>
3217	BLD10-7196	2200 INDEPENDENCE PKY	WATER & SEWER SERVICES - NEW SERVICES	CLOSED	<a href="#">Review Details</a>
3223	BLD10-8671	3404 RADCLIFFE DR	WATER RELAY	CLOSED	<a href="#">Review Details</a>
3242	BLD11-12155	1713 OLD COURSE DR	22 FIXTURES WATER LINE REPLACEMENT	CLOSED	<a href="#">Review Details</a>
3246	BLD11-12910	2913 BANDOLINO LN	YARD WATER SERVICE LINE REPLACEMENT	CLOSED	<a href="#">Review Details</a>
3247	BLD11-13342	1704 SHIPROCK DR	REPL WATER LINE FROM METER TO HOUSE	CLOSED	<a href="#">Review Details</a>
3248	BLD11-13643	7412 MARCHMAN WAY	WATER SERVICE RELAY FROM METER	CLOSED	<a href="#">Review Details</a>
3249	BLD11-13728	1824 BURNINGTREE LN	REPAIR WATER LEAK BELOW SLAB	CLOSED	<a href="#">Review Details</a>
3252	BLD11-13872	4513 BENTLEY DR	WATER SERVICE	CLOSED	<a href="#">Review Details</a>
3253	BLD11-14270	4845 HEDGCOXE RD	NEW CONSTRUCTION OF DAY CARE FACILITY	CLOSED	<a href="#">Review Details</a>
3254	BLD11-14438	6653 PINECREST DR	ALTERATION OF EXIST SPACE/ADDITION OF MECH YARD	CLOSED	<a href="#">Review Details</a>
3255	BLD11-1483	2308 BRIGHTON LN	REPAIR SLAB LEAK	CLOSED	<a href="#">Review Details</a>
3256	BLD11-15013	6804 HELEN CT	REPAIR MAIN WATER LINE	CLOSED	<a href="#">Review Details</a>
3257	BLD11-15103	1428 THAMES DR	WATER SERVICE RELAY IN FRONT YARD	CLOSED	<a href="#">Review Details</a>
3258	BLD11-15289	1905 SANDPIPER LN	REPL WATER SERVICE	CLOSED	<a href="#">Review Details</a>
3259	BLD11-15549	2300 HIGH COUNTRY WAY	REPLACE 2 EXISTING GAS WATER HEATERS IN ATTIC(REN)	CLOSED	<a href="#">Review Details</a>
3260	BLD11-1712	1013 FILMORE DR	REPLACE WATER SERVICE FROM METER TO HOUSE	CLOSED	<a href="#">Review Details</a>
3261	BLD11-1742	2909 ROUNDROCK TRL	REPL WATER SERVICE	CLOSED	<a href="#">Review Details</a>
3262	BLD11-1749	2205 VICKERS DR	RE-ROUTE WATER LINES	CLOSED	<a href="#">Review Details</a>


# Verification Methods – Historical Tasks

- Service Line Repair Task (Water Main, Water Meter, and Non-Asset)
- Description of Work in Notes
- Material in Material Log
- Update Material and Documentation Method

Cartegraph																																						
Requests		Work	Assets	Resources	Reports	Scenarios																																
Back		Home > Work > Task: 525621																																				
Task ID	525621	Activity	Service Line Repair		Asset	Water Main 83166																																
Total Cost		Productivity		Labor																																		
\$2,067		Cost per Unit		Labor Hours																																		
		\$2,067.10		24																																		
<input checked="" type="checkbox"/> Map <input checked="" type="checkbox"/> Location <input checked="" type="checkbox"/> Task Setup <input checked="" type="checkbox"/> Task Details <input checked="" type="checkbox"/> Labor <input checked="" type="checkbox"/> Equipment <input checked="" type="checkbox"/> Material <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> Attached Files		<b>Material</b> Material Log <table border="1"> <thead> <tr> <th>ID</th> <th>Description</th> <th>Quantity</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>1033</td> <td>ANGLE STOP 1" SWIVEL X COMP</td> <td>1 ea</td> <td></td> </tr> <tr> <td>1037</td> <td>CORP STOP 1" COMP X CC</td> <td>1 ea</td> <td></td> </tr> <tr> <td>1040</td> <td>POLY PIPE 1" X 100' HIGH DEN</td> <td>12 ft</td> <td></td> </tr> <tr> <td>1042</td> <td>POLY PIPE INSERT 1" S.S.</td> <td>2 ea</td> <td></td> </tr> <tr> <td>1648</td> <td>HY MAX CPLG 8"</td> <td>2 ea</td> <td></td> </tr> <tr> <td>964</td> <td>GASKET 3/4" METER WATER</td> <td>1 ea</td> <td></td> </tr> <tr> <td>965</td> <td>GASKET 1" WATER METER NEOPREN</td> <td>1 ea</td> <td></td> </tr> </tbody> </table>					ID	Description	Quantity	Cost	1033	ANGLE STOP 1" SWIVEL X COMP	1 ea		1037	CORP STOP 1" COMP X CC	1 ea		1040	POLY PIPE 1" X 100' HIGH DEN	12 ft		1042	POLY PIPE INSERT 1" S.S.	2 ea		1648	HY MAX CPLG 8"	2 ea		964	GASKET 3/4" METER WATER	1 ea		965	GASKET 1" WATER METER NEOPREN	1 ea	
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# Verification Methods – Field

← Back 🕒 ⋮ ↗ ✕

 **Task 1181825**  
Replace

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[Details](#) [Assignments 1](#) [Labor Log 2](#) [Equipment Log](#)

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**New Meter**

New Meter

HP61228025 ▼

- Brass ☆
- Cast Iron ☆
- Copper** ☆
- Ductile Iron ☆
- Galvanized Steel ☆

Copper ✕

Yard Line Material

Copper ▼

## Water Service Line 921

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Map

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Location

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Details

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Risk

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Inspections

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Tasks

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Linked Assets

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Attached Files

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### Details

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#### Basic Information

ID: 921  
Type: Water  
Service Line Material: Copper  
Material Documentation: Field Verification  
Yard Line Material: Copper  
Yard Line Documentation: Field Verification  
Notes:

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#### Lead/Copper

System Owned Classification: Non-Lead  
Customer Owned Classification: Non-Lead  
Entire Line Classification: Non-Lead



## Plano Water Resources

[plano.gov/water](https://plano.gov/water)

Plano cares about the quality of our water. Plano's water system has a "Superior" rating with the Texas Commission on Environmental Quality (TCEQ), and it exceeds all state and federal drinking water standards. We work together with our residents and fellow [North Texas Municipal Water District](#) member cities to provide reliable and safe water for your everyday use. Visit the links below to learn more about our water, ways to conserve, water quality and how to pay your bill.

### Helpful Water Information and Links

#### Water Bill

Access your Plano [water account online](#), view your water bill, [start or stop services](#), or [contact Customer & Utility Services](#).

#### Lead and Copper Water Service Line Inventory

The City of Plano has completed its initial lead and copper water service line inventory as required by the Environmental Protection Agency's (EPA) Lead and Copper Rule Revisions. More information on the City of Plano's efforts are available to the public through our [Water Service Line Inventory platform](#).

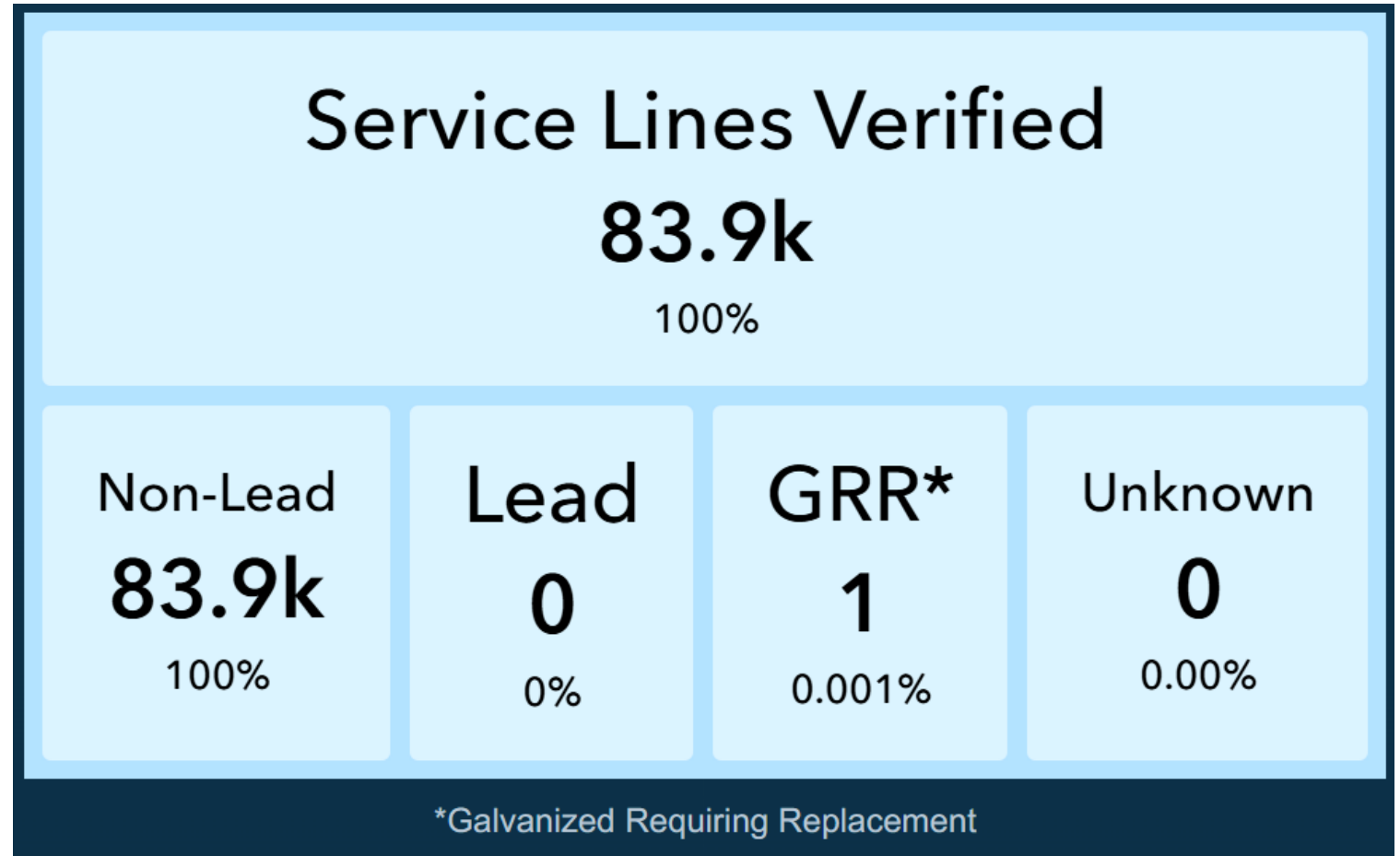
# Water Service Line Inventory Program

City of Plano



# Story Map Approach

- About the Inventory
- Lead & Copper Rule
- Plano's Data Approach
- Service Line Explanation
- EPA Categories
- Impact to Residents
- Interactive Map







# Water Service Lines: Material Assessment



## Legend

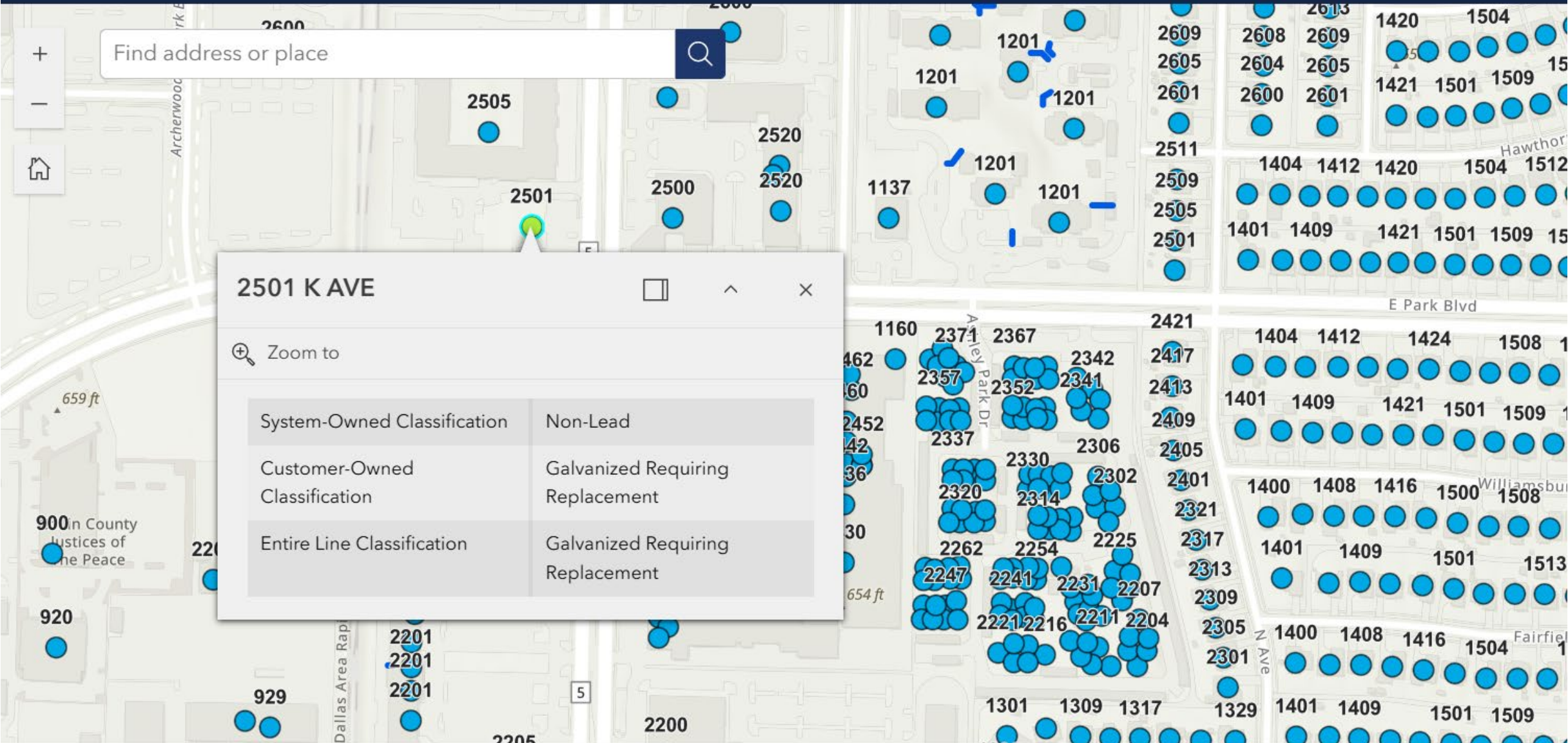
- ### Water Service Lines
- Galvanized Requiring Replacement
  - Lead
  - Non-Lead
  - Unknown

- ### Fire Lines
- Galvanized Requiring Replacement
  - Lead
  - Non-Lead
  - Unknown





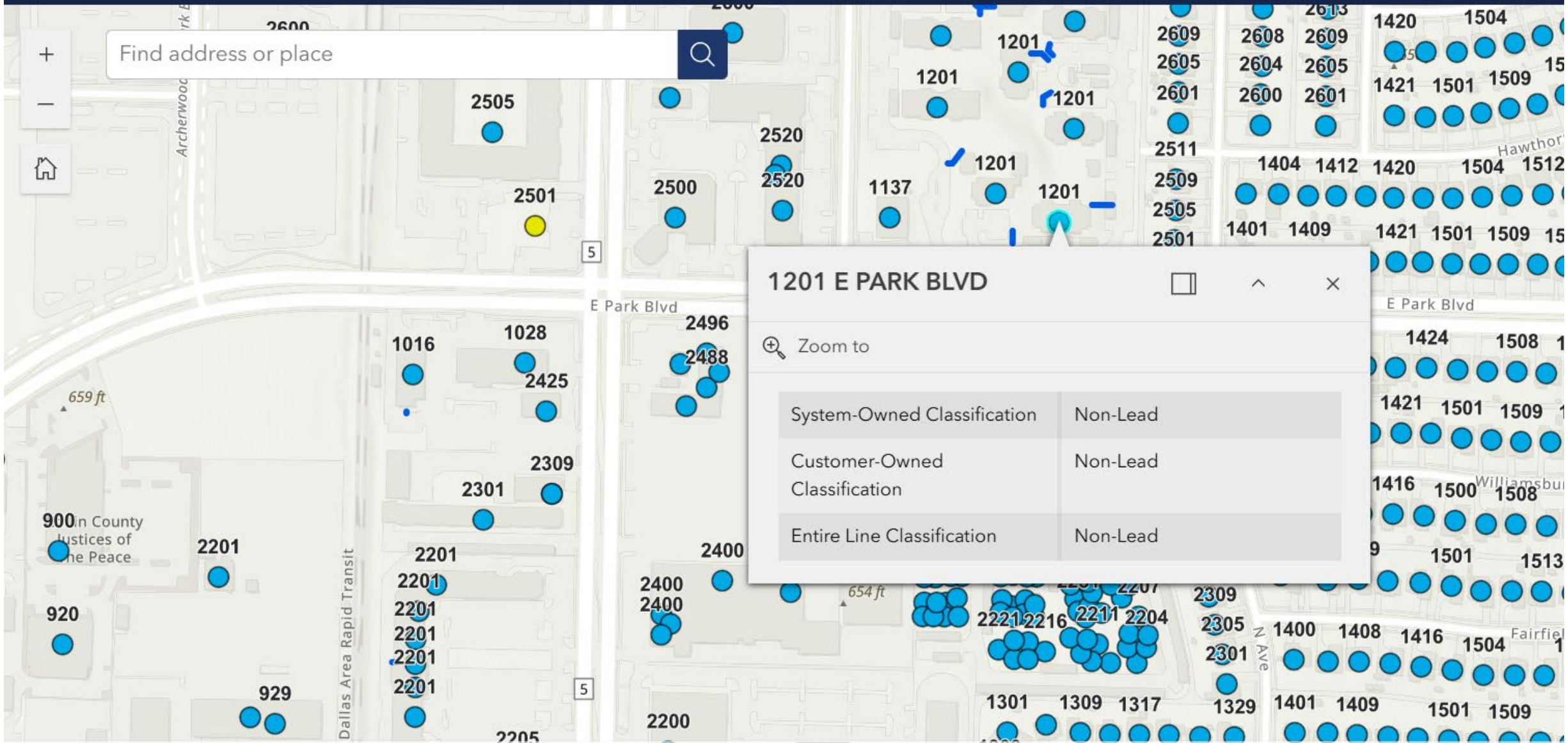
# Water Service Lines: Material Assessment







# Water Service Lines: Material Assessment





# Maintaining Inventory

- New Meters & Service Lines
- Add Fire Lines (new & existing)
- Retired/Removed Meters & Service Lines
- Water Main Rehabs
- Updating Material Daily
- EPA Field Verification of As-Built





# Plano

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## Questions?

Abby Owens, Director of Public Works

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