

Oklahoma County Culvert Inventory

Company Overview



- Forward-thinking design and consulting firm specializing in engineering, community planning, environmental, and construction services.
- 28 Years in business.
- Recent acquisition of EST comprehensive engineering firm.
- We approach every project with enthusiasm, commitment and pride of workmanship for our customer.

Asset Management Advantages

- Improves operational efficiency
- Tracks estimated and actual costs
- Predicts asset performance
- Manages/prioritizes maintenance activities
- Improves community safety/reducing liability and exposure
- Maximizes existing budget dollars and helps plan future budgets
- Extends the life of the infrastructure
- Communicates planned and completed maintenance and inspections throughout the organization
- Improves the sharing of information across organizations
- Increases cost transparency through understanding the total cost of owning an asset

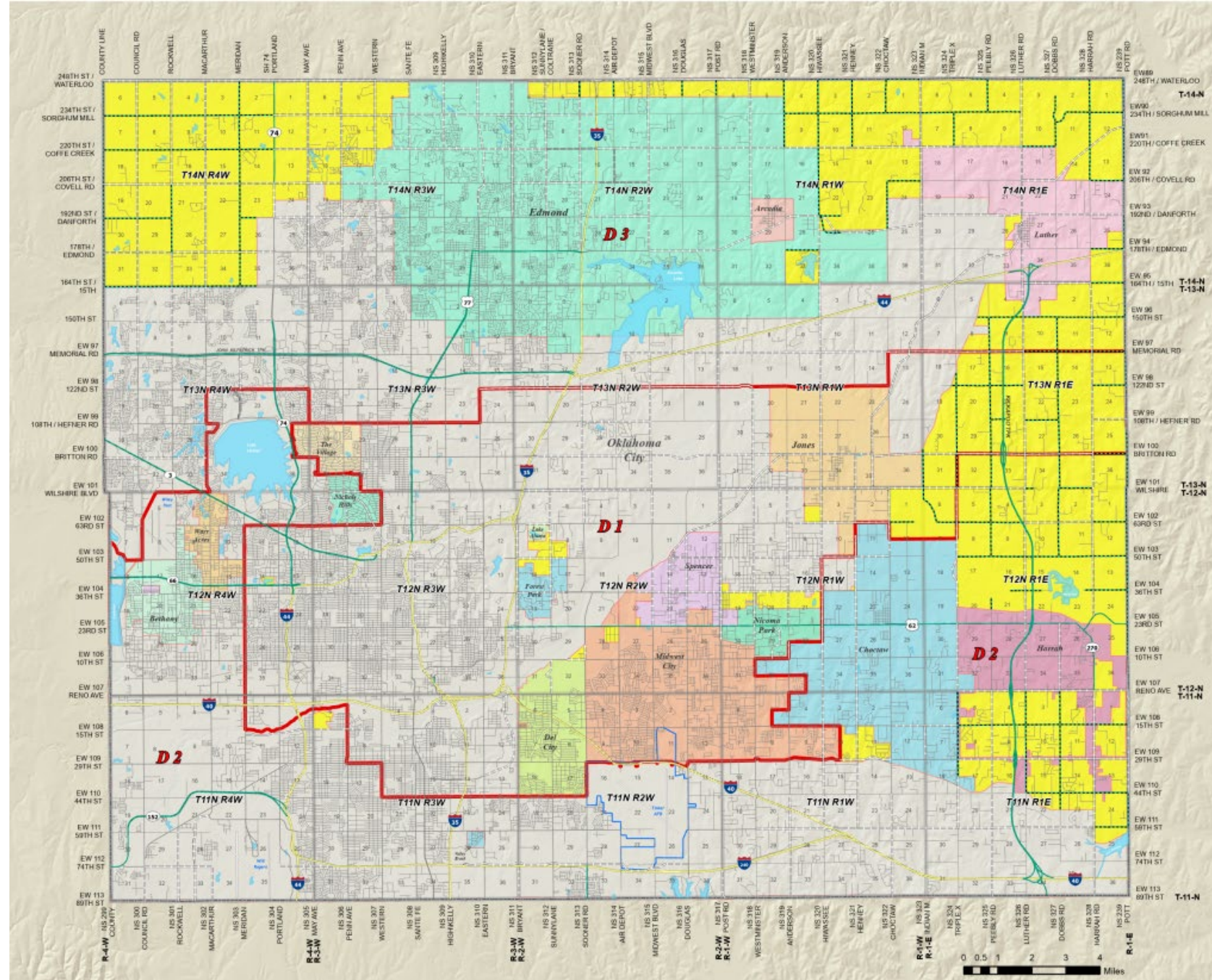




Deteriorating Highway Culvert Infrastructure

Service Area

- Oklahoma County's infrastructure jurisdiction includes unincorporated areas which are shaded in yellow, and small cities with population sizes less than 5000.
- A total of 537 road miles across three commissioner districts



Pre-Culvert Inventory Asset Management

- Relies on the public to report issues with culverts
- No centralized collection of culvert data
- Exact location unknown
- Difficulty in conducting Maintenance/Replacement

Scoping of Project

- Quantify an approximate number of structures
- Determining how much time, data collection, and integration requires per structure
- Define how a structure is classified



Project Team



Tony Terrell
Project Manager



Adam Carter
Utility Specialist-Survey Supervisor



Elizabeth Young
GIS Specialist



Sam Dalili
Graduate Engineer-CAD Tech



Jace McKee
Utility Specialist-Survey



Field Services



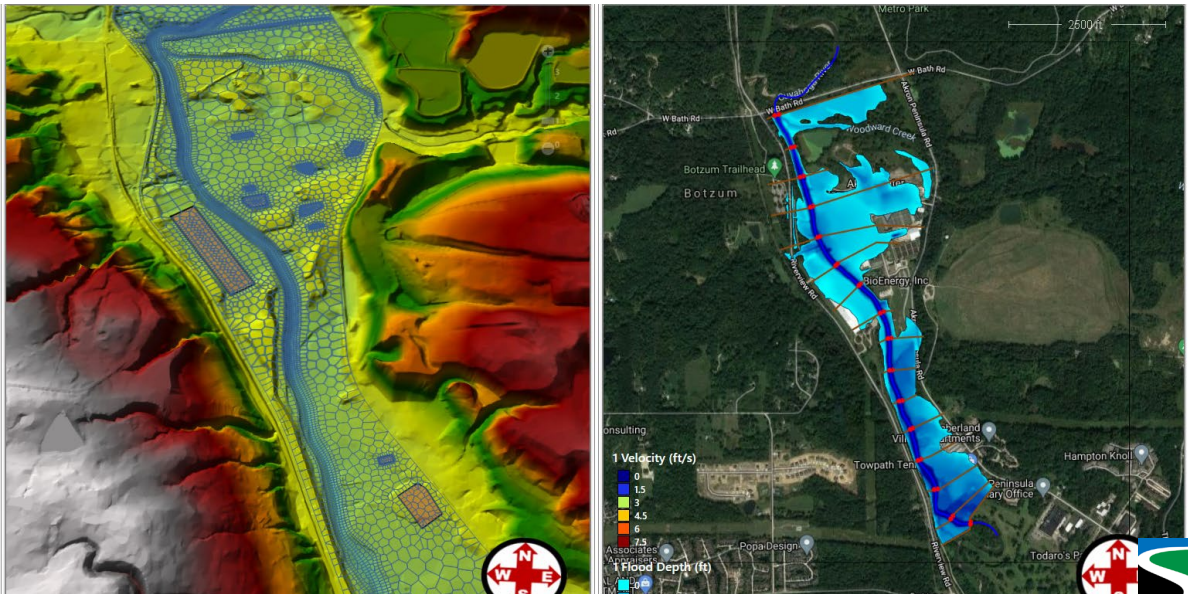


Field Services Breakdown

- Photography/Videography
 - Inlet/ outlet shots
 - Overall roadway shot
 - Through shots
 - Clear zone shots
- Data collection
 - Physical Dimensions
 - Surveyed data
- Coordination with county yards
 - Obstruction removal
 - Vegetation removal



Engineering Services



Not signed in

Project Portal Favorites

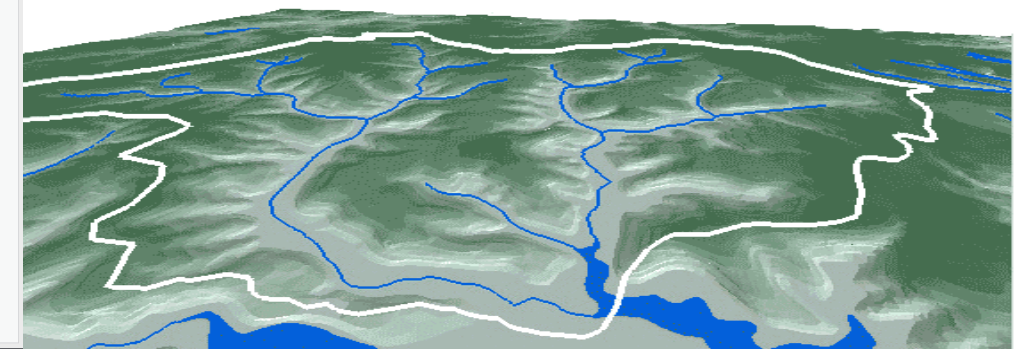
Search Project

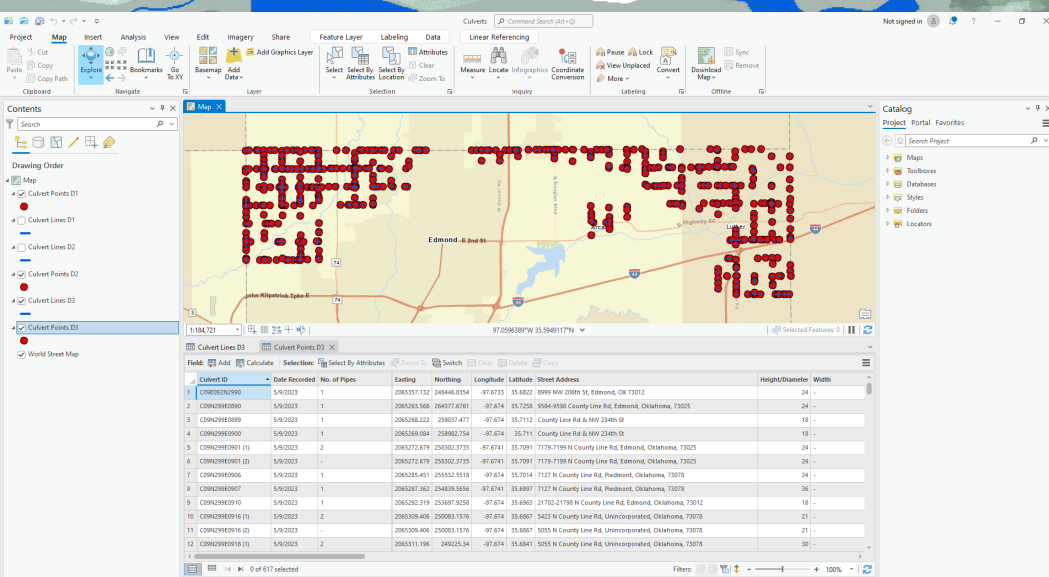
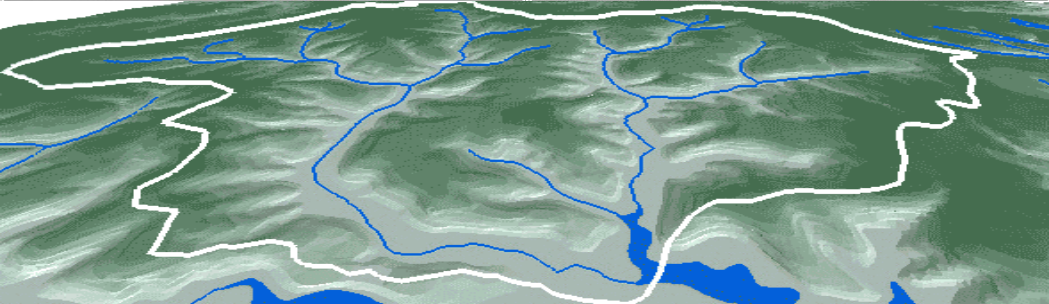
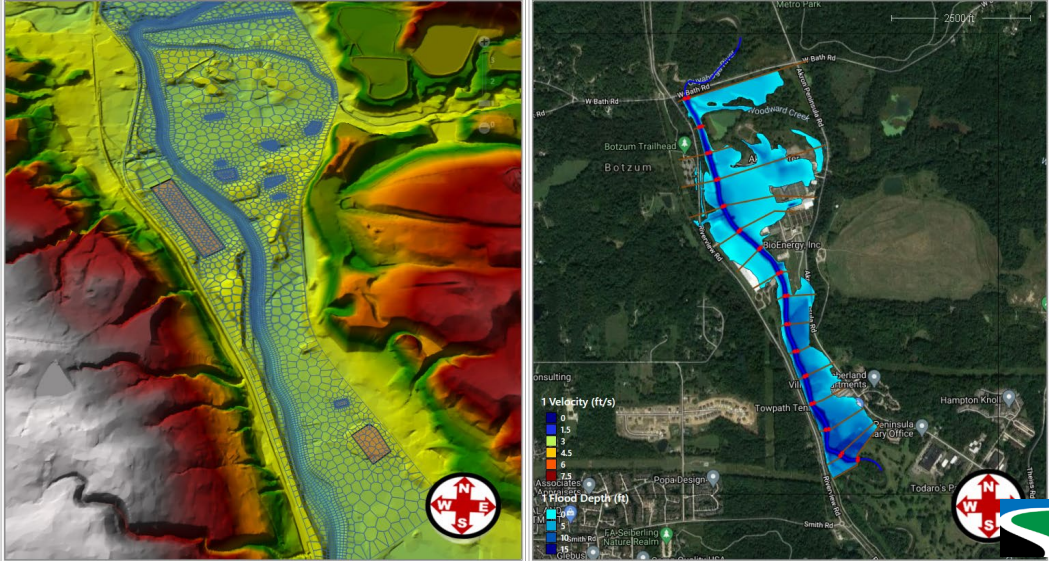
- Maps
- Toolboxes
- Databases
- Styles
- Folders
- Locators

Culvert ID	Date Recorded	No. of Pipes	Easting	Northing	Longitude	Latitude	Street Address	Height/Diameter	Width	
1	C09E092N2900	5/9/2023	1	2065357.132	248446.8354	-97.6733	35.6822	8999 NW 206th St, Edmond, OK 73012	24	-
2	C09N299E0890	5/9/2023	1	2065263.566	264377.6761	-97.674	35.7258	9584-9598 County Line Rd, Edmond, Oklahoma, 73025	24	-
3	C09N299E0899	5/9/2023	1	2065268.222	259037.477	-97.674	35.7112	County Line Rd & NW 234th St	18	-
4	C09N299E0900	5/9/2023	1	2065269.084	258982.754	-97.674	35.711	County Line Rd & NW 234th St	18	-
5	C09N299E0901 (1)	5/9/2023	2	2065272.679	258302.3735	-97.6741	35.7091	7179-7199 N County Line Rd, Edmond, Oklahoma, 73025	24	-
6	C09N299E0901 (2)	5/9/2023	-	2065272.679	258302.3735	-97.6741	35.7091	7179-7199 N County Line Rd, Edmond, Oklahoma, 73025	24	-
7	C09N299E0906	5/9/2023	1	2065285.451	255532.5518	-97.674	35.7014	7127 N County Line Rd, Piedmont, Oklahoma, 73078	24	-
8	C09N299E0907	5/9/2023	1	2065287.362	254839.5656	-97.6741	35.6997	7127 N County Line Rd, Piedmont, Oklahoma, 73078	36	-
9	C09N299E0910	5/9/2023	1	2065292.319	253697.9258	-97.674	35.6963	21702-21798 N County Line Rd, Edmond, Oklahoma, 73012	18	-
10	C09N299E0916 (1)	5/9/2023	2	2065309.406	250083.1576	-97.674	35.6867	5423 N County Line Rd, Unincorporated, Oklahoma, 73078	21	-
11	C09N299E0916 (2)	5/9/2023	-	2065309.406	250083.1576	-97.674	35.6867	5055 N County Line Rd, Unincorporated, Oklahoma, 73078	21	-
12	C09N299E0918 (1)	5/9/2023	2	2065311.196	249225.34	-97.674	35.6841	5055 N County Line Rd, Unincorporated, Oklahoma, 73078	30	-

0 of 617 selected

Filters





Engineering Services Breakdown

- Processing Survey Data
- Obtaining Topographical maps
- Performing desk analysis of drainage areas
- Reviewing county road design guidelines
- Performing data entry into the GIS model

Information Items

- Culvert ID
- Location
- Street Address
- Size
- Condition
- Average Annual Daily Traffic
- Flow Line Elevations
- Roadway Elevations
- Drainage Area
- End Section Material/Condition
- Clear Zone Compliance
- Maintenance History
- Photos
- Notes

Deliverable Product

Not signed in

Project Portal Favorites

Search Project

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Project Map Insert Analysis View Edit Imagery Share Feature Layer Labeling Data Linear Referencing

Clipboard: Cut, Copy, Copy Path, Paste
Navigate: Explore, Bookmarks, Go To XY
Layer: Basemap, Add Data
Selection: Select, Select By Attributes, Select By Location, Clear, Zoom To
Inquiry: Measure, Locate, Infographics, Coordinate Conversion
Labeling: Pause, Lock, View Unplaced, More
Offline: Sync, Remove, Download Map

Contents: Search, Drawing Order: Map, Culvert Points D1, Culvert Lines D1, Culvert Lines D2, Culvert Points D2, Culvert Lines D3, Culvert Points D3, World Street Map

1:184,721 97.0596389°W 35.5949117°N Selected Features: 0

Culvert Lines D3 Culvert Points D3

Field:	Add	Calculate	Selection:	Select By Attributes	Zoom To	Switch	Clear	Delete	Copy	
Culvert ID	Date Recorded	No. of Pipes	Easting	Northing	Longitude	Latitude	Street Address	Height/Diameter	Width	
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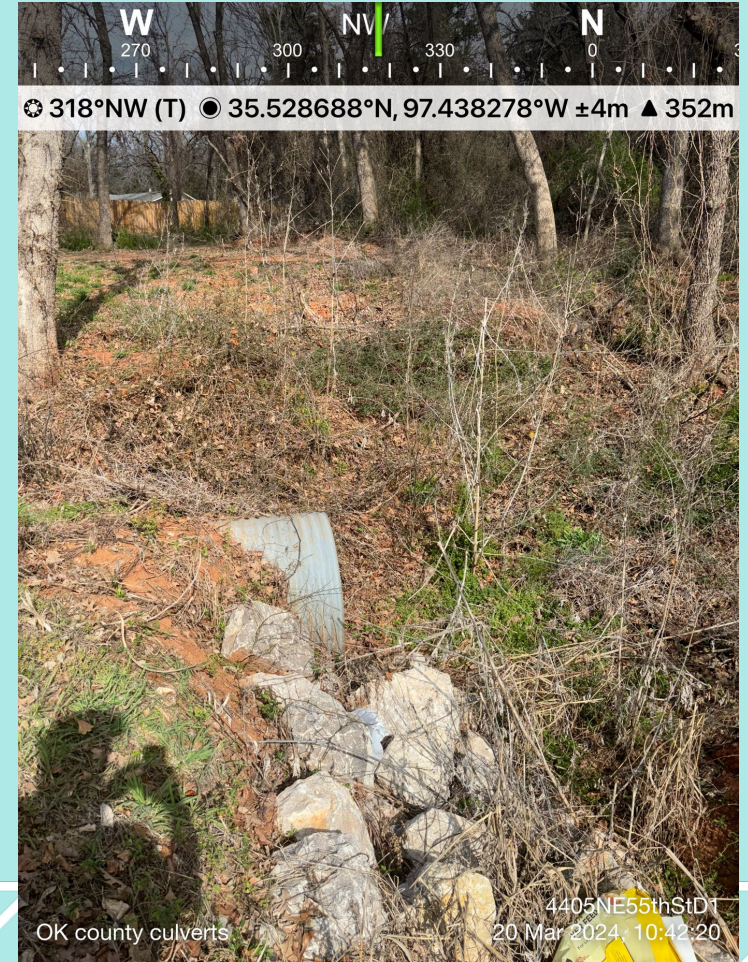
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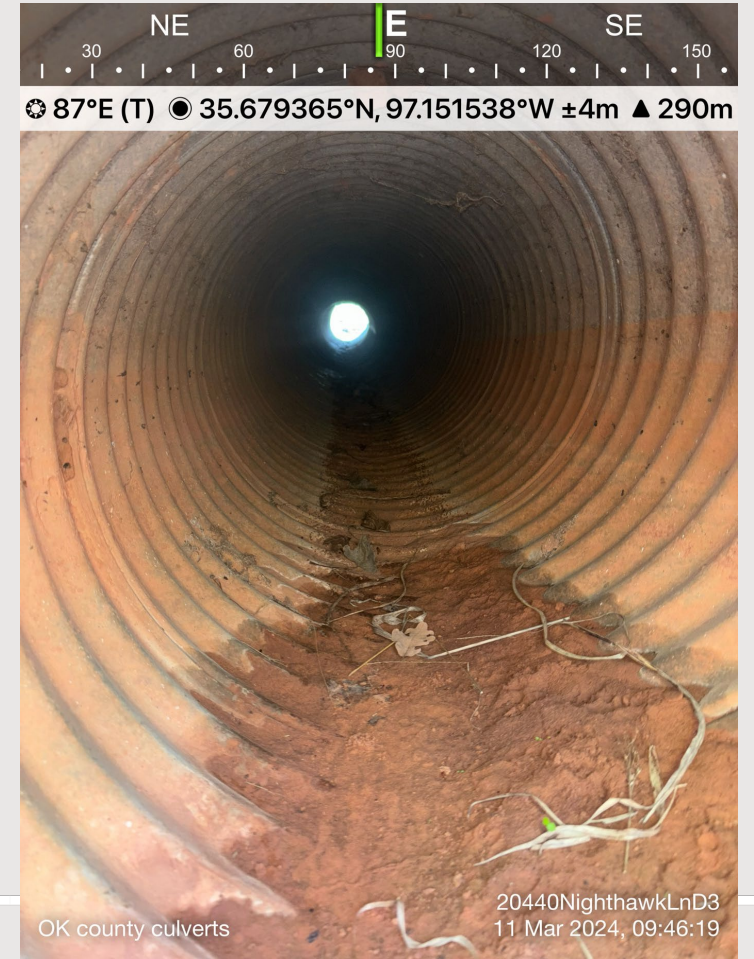
Obstacles And Learning Moments

- Access Limitations
- Cell reception dropping off requiring alternative survey approach
- Steep drop-offs where conditions are unsafe to get well documented pictures and conditions
- Obstructions directly in front of structure
- Vegetation obstruction
- Ownership of structures on jurisdiction border

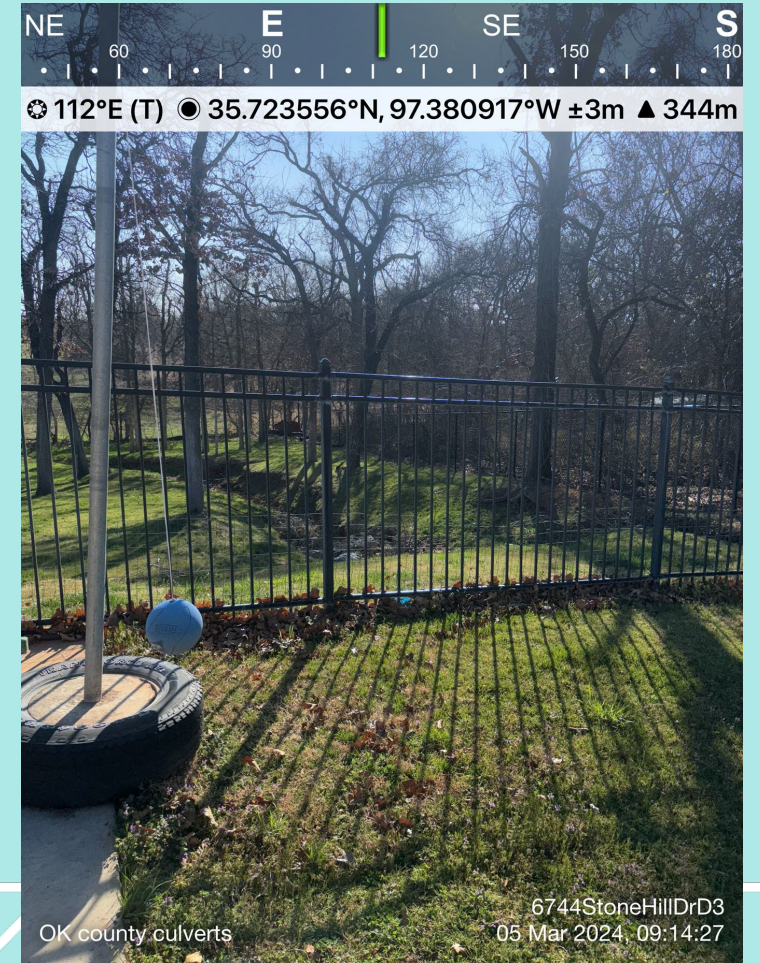
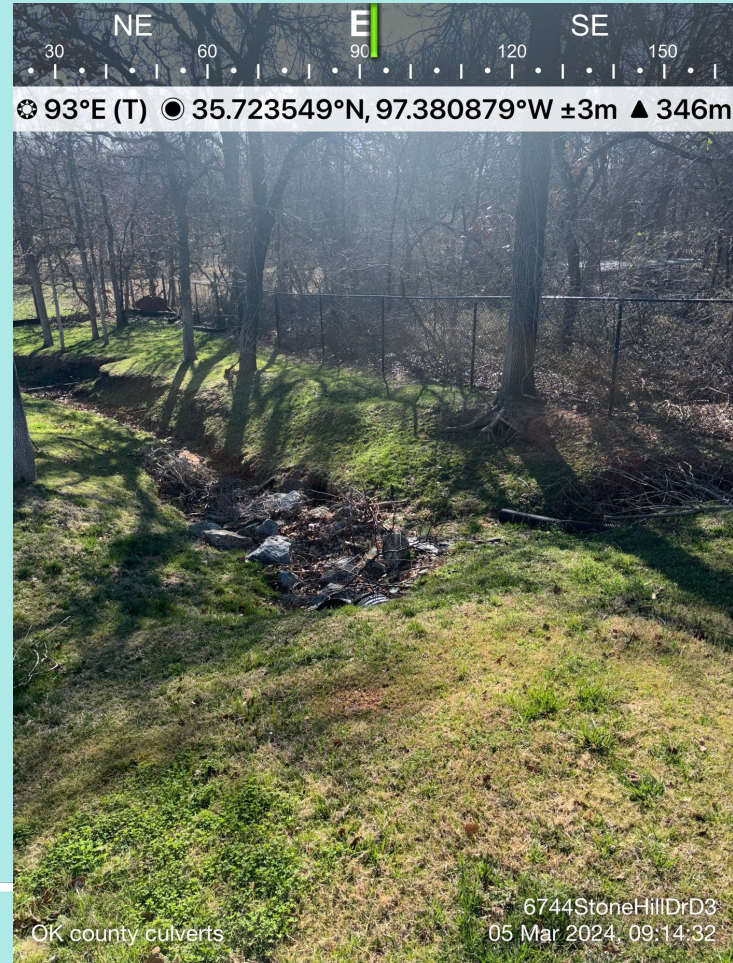
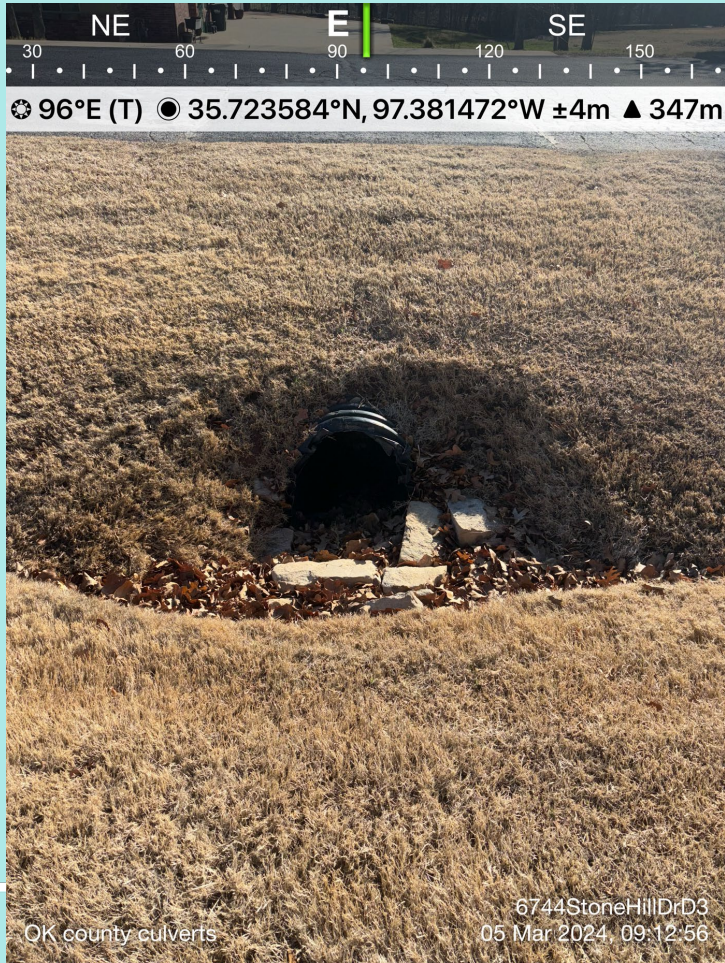
Common Example



Differing Pipe Material and Dimension Example



Private Access Example



Heavily Silted/High Vegetation Example



Culvert Attached to Bridge Example



97.1583605°W 35.5071984°N

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Recorded	No. of Pipes	Easting	Northing	Longitude	Latitude	Street Address
2024	1	2218774.323	185670.5917	-97.1592	35.5071	NE 36th St & N Harrah...



THANK YOU