

# City of Broken Arrow

## Drainage Advisory Committee



## PROJECT REPORT

DATE:	January 14, 2025
NAME	Sarah Walters, Stormwater Project Manager, City of Broken Arrow
ADDRESS / LOCATION	Preserve Park, City of Broken Arrow
WATERSHED	Adams Creek
ESTIMATE	\$115,000.00
CASE NO.	25-002

### DESCRIPTION

Erosion is occurring along the north bank of Adams Creek adjacent to Preserve Park Regional Detention Pond. The stream bank is eroding adjacent to the detention pond embankment.

Preserve Park Regional Detention Pond is located North of Albany St (61<sup>st</sup> St) and west of 37<sup>th</sup> St (209<sup>th</sup> St) immediately north of Adams Creek. The park and the pond are owned by the City of Broken Arrow. The regional detention pond was constructed in 2021. The area the regional detention pond serves is just under a square mile. The drainage area for Adams Creek at this point is approximately 7.5 square miles. The fully developed 1% (100-year) flow in Adams Creek is 10,582 cfs and the velocity is 9.7 ft/s. The fully developed 10% (10-year) flow in Adams Creek is 5,643 cfs and the velocity is 8.6 ft/s.

A 30-inch sanitary sewer runs parallel to the detention pond and along/through Adams Creek to the Adams Creek Northwest lift station. A portion of the steel casing over the line is exposed on the creek.

If the erosion continues and the pond embankment is breached, the water in the pond has the potential to damage the sanitary sewer and 37<sup>th</sup> St drainage structure approximately 550 ft downstream.

Highwater/flood events in 2019 and 2021 caused considerable erosion to the bank. \$50,000.00 of funds was recommended by the DAC on 01-29-24 with a vote of 4-0 and approved at council on 02-20-24. The City has been scoping the project with several design engineering firms. The project is more detailed and complex than originally thought. Therefore, this request is for the difference in the actual cost and what was originally requested.

### BENEFIT

Mitigate the erosion to protect the regional detention pond, sanitary sewer, and 37<sup>th</sup> St culverts.

### RECOMMENDATION

Provide additional funds to move forward with hiring a consulting engineer to design erosion mitigation measures along the Adams Creek along the Preserve Park Regional Detention Pond.

**COMPLETED BY:** Sarah Walters

**DATE:** 1/14/25

# City of Broken Arrow

Drainage Advisory Committee



## APPLICATION

DATE:	1/22/24
OWNER NAME:	City of Broken Arrow
PHONE NUMBER:	918-259-7000 ext. 5243
EMAIL ADDRESS:	
OWNER MAILING ADDRESS:	PO Box 610, Broken Arrow, OK 74013
ADDRESS OF PROPERTY WITH DRAINAGE PROBLEM:	Preserve Park Pond
LOCATION OF DRAINAGE ISSUE ON PROPERTY:	North bank of Adams Creek along the south side of the Preserve Park Regional Detention Pond.

### DESCRIPTION OF PROBLEM: (\*PHOTOS SHOULD ACCOMPANY APPLICATION)

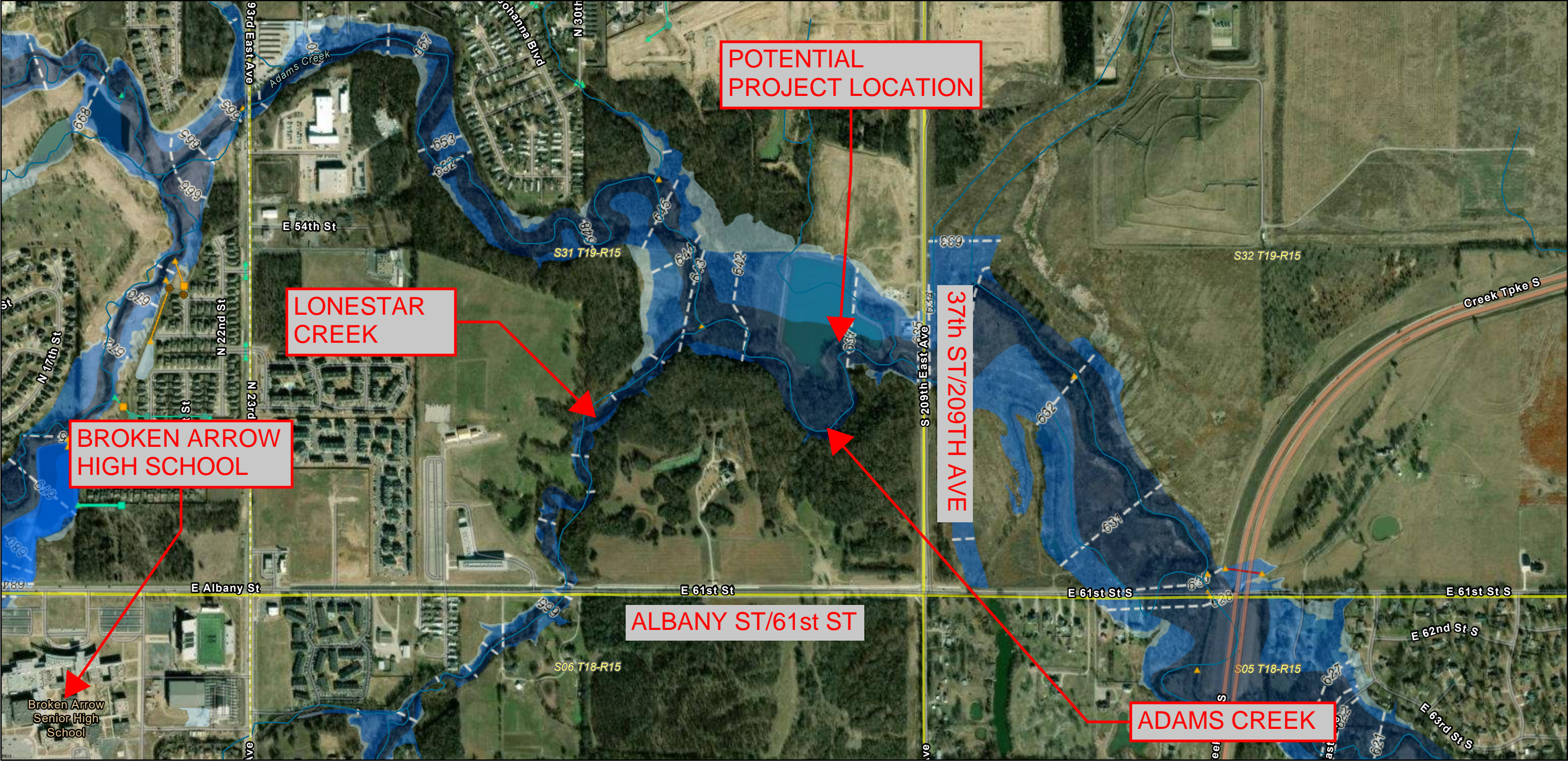
Bank Erosion on the north bank of Adams Creek at the south side of Preserve Park Pond.

**Signature: Patrick P. Wilson, P.E., CFM, City of Broken Arrow, Stormwater Division Manager**

RETURN TO STORMWATER DIVISION MANAGER'S OFFICE, PO BOX 610 Broken Arrow, OK 74013



Preserve Park Pond



1/24/2024, 8:48:03 AM

Sections (PLSS)

Blue Line Streams (ODOT)

Address Points

Dentention Ponds

NO

YES

Stormwater Lines

Broken Arrow

State-Federal

State-Federal

Private

Stormwater Structures (Private)

Inlet

Manhole

Manhole

Other

Other

Other

Other

Other

Stormwater Structures

Inlet

Manhole

Manhole

Other

Other

Other

Other

Other

0.2% Annual Chance Floodplain

0.2% Annual Chance

1% Annual Chance Floodplain

Floodway

1% Detailed

Base Flood Elevations

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

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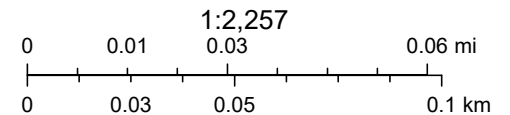
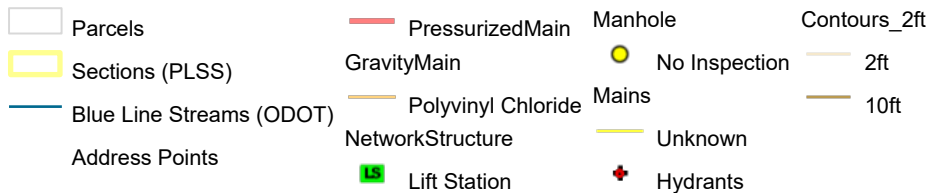
City of Broken Arrow



# POTENTIAL MITIGATION LOCATIONS



1/19/2024, 8:59:40 AM



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City of Broken Arrow

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Photographs taken January 10, 2024



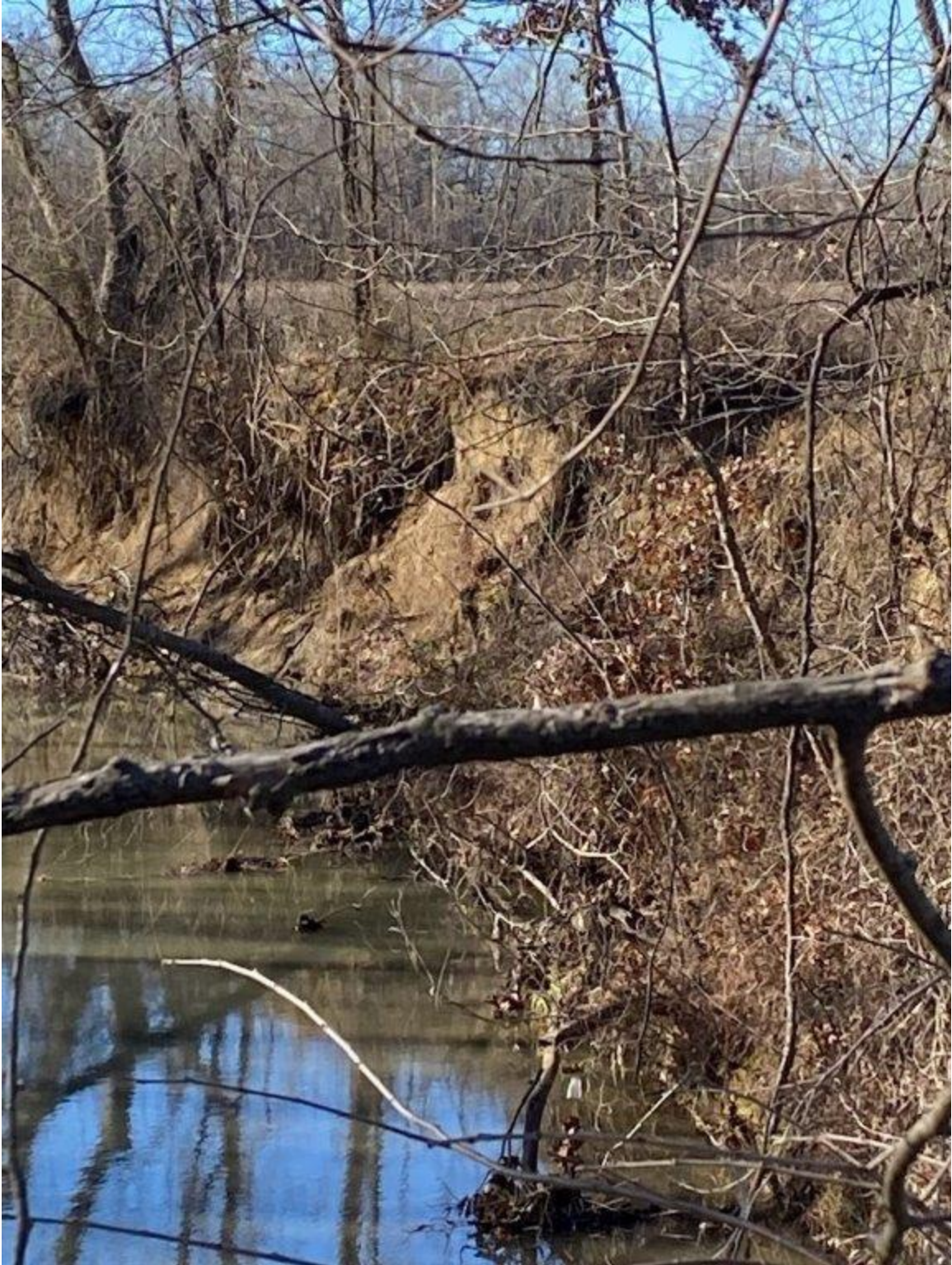
On walking trail, looking down to stream





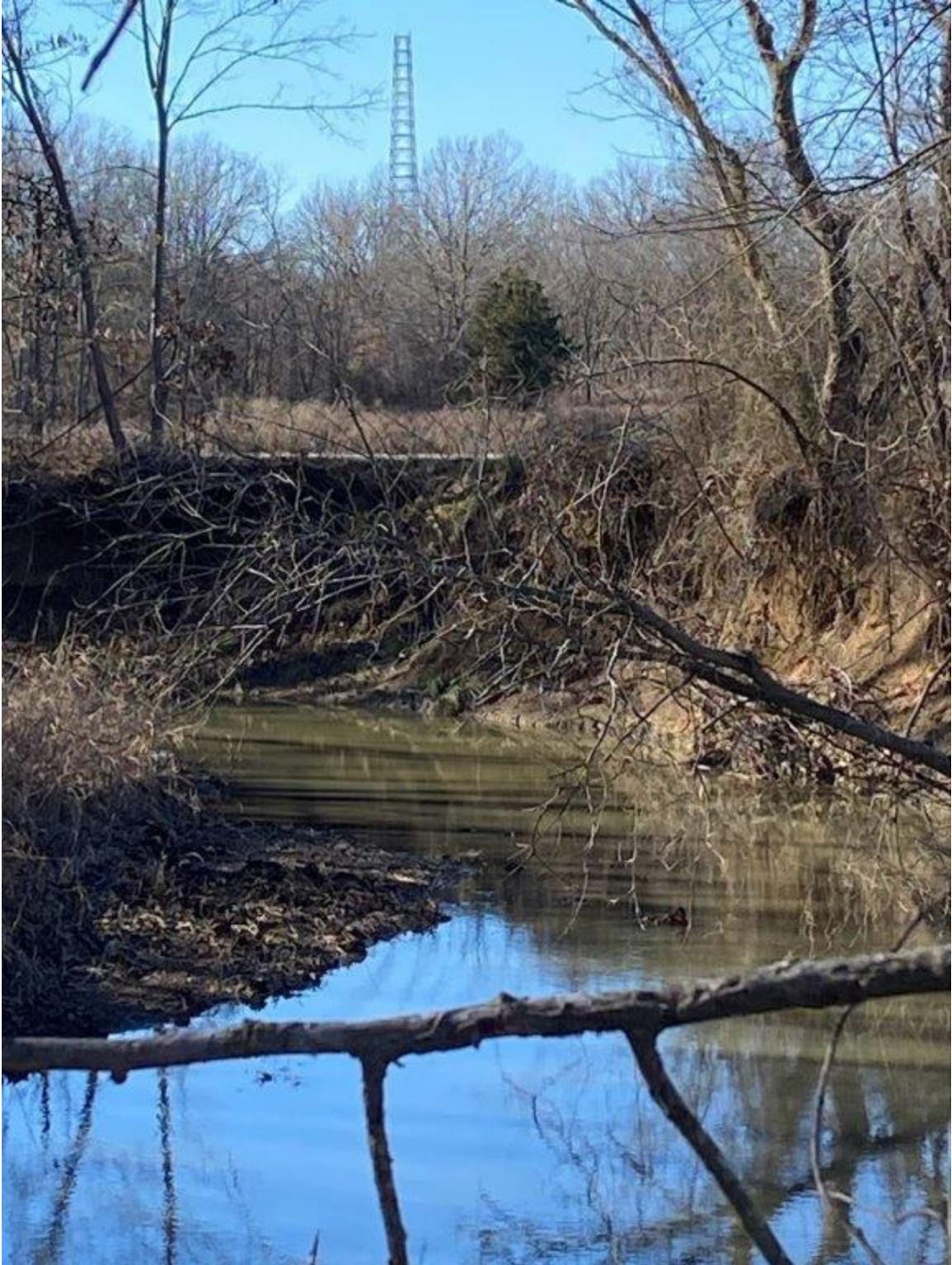
Looking along bank





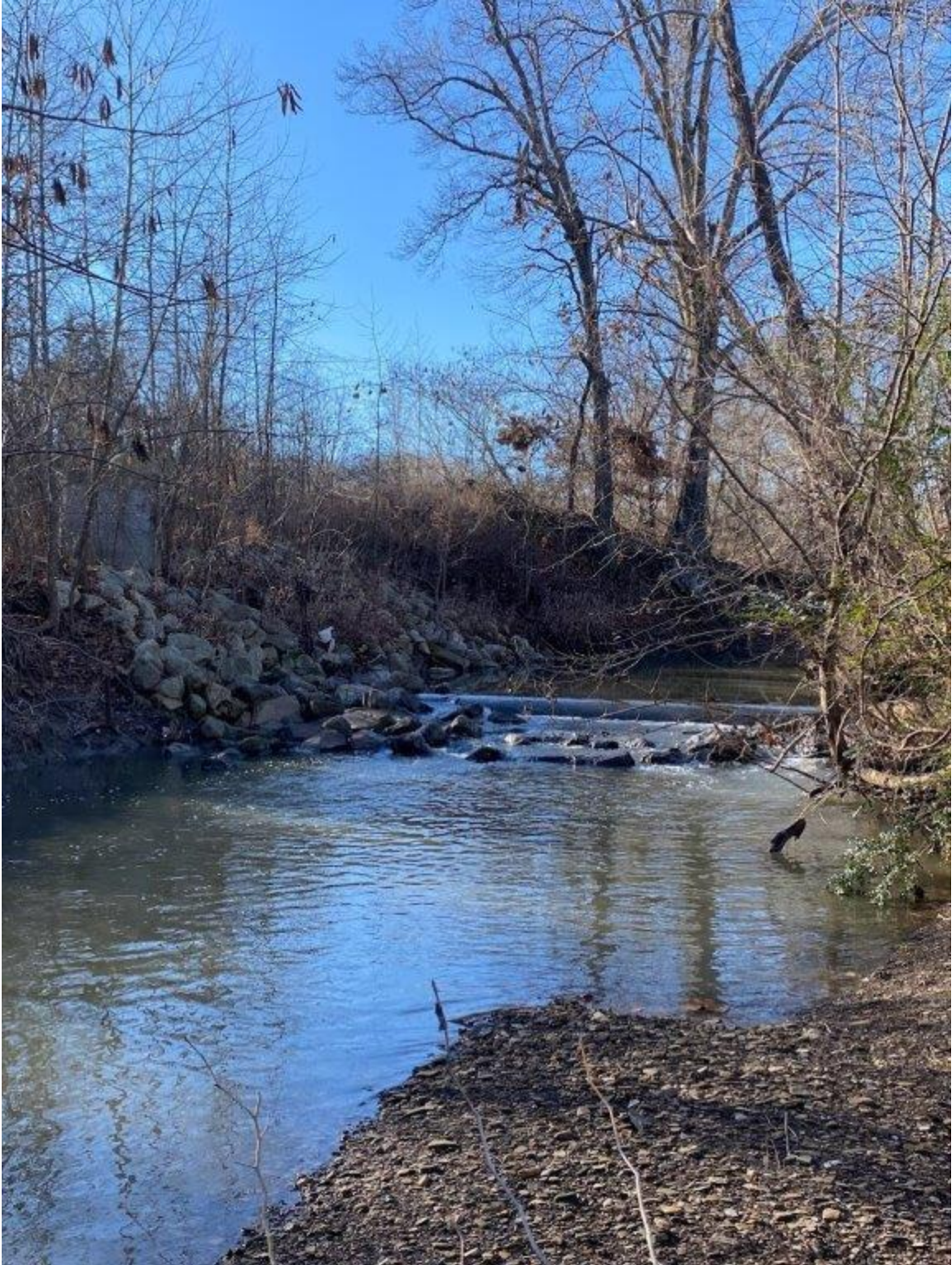
Looking along bank





Looking along the bank





Looking upstream to sanitary sewer line.