



# **Legal Waters: Navigating Oklahoma's Small Watershed Flood Control Program with Dam Intelligence**

JANET STEWART

JUNE 2025



# Silently Protecting

OUR PEOPLE  
OUR LAND  
OUR ECONOMY

**Why do we have flood  
control structures in  
Oklahoma?**

# Oklahoma Drought/ Flood Cycle

Old Oklahoma adage “every drought is ended by a flood”

Historical records tend to support this old adage.

Example: Dust Bowl / Rains of 1934;

- 2010 Drought ended with the heavy rains from April through July of 2015.

# 15 DEAD AND 6 MISSING IN FLOOD

## Five Men, Numb With Exposure, Rescued From Tree Tops

### RESCUE BOATS BATTLE WATER TO REACH MEN

All Five, Suffering  
From Cold, Said To  
Be Recovering

### MOST POPULAR STUDENTS



### CLINTON STUDENTS TO TAKE PART IN FINE ARTS MEET

300 Contestants From  
14 Towns To Enter  
Museum Contest

### In U. S. for Visit



## River Bottom Is Hunted for Flood Victims

### BULLETIN

Law A. Hays, of this city, was called at 4 o'clock this afternoon by C. P. Smith, relief director at Harrison, advising that four men's bodies had been located.

Smith said a boat with oarlocks was used to recover the bodies. Plans immediately sent his boat to Harrison.

The four flood victims could not be identified until reached, it was said.

Discovery of these bodies brought the known dead toll to 15.

# Oklahoma Drought/ Flood Cycle

### HART COUNTY OIL COUNTY COUNCIL CASES RECORDED GROUP ORGANIZES

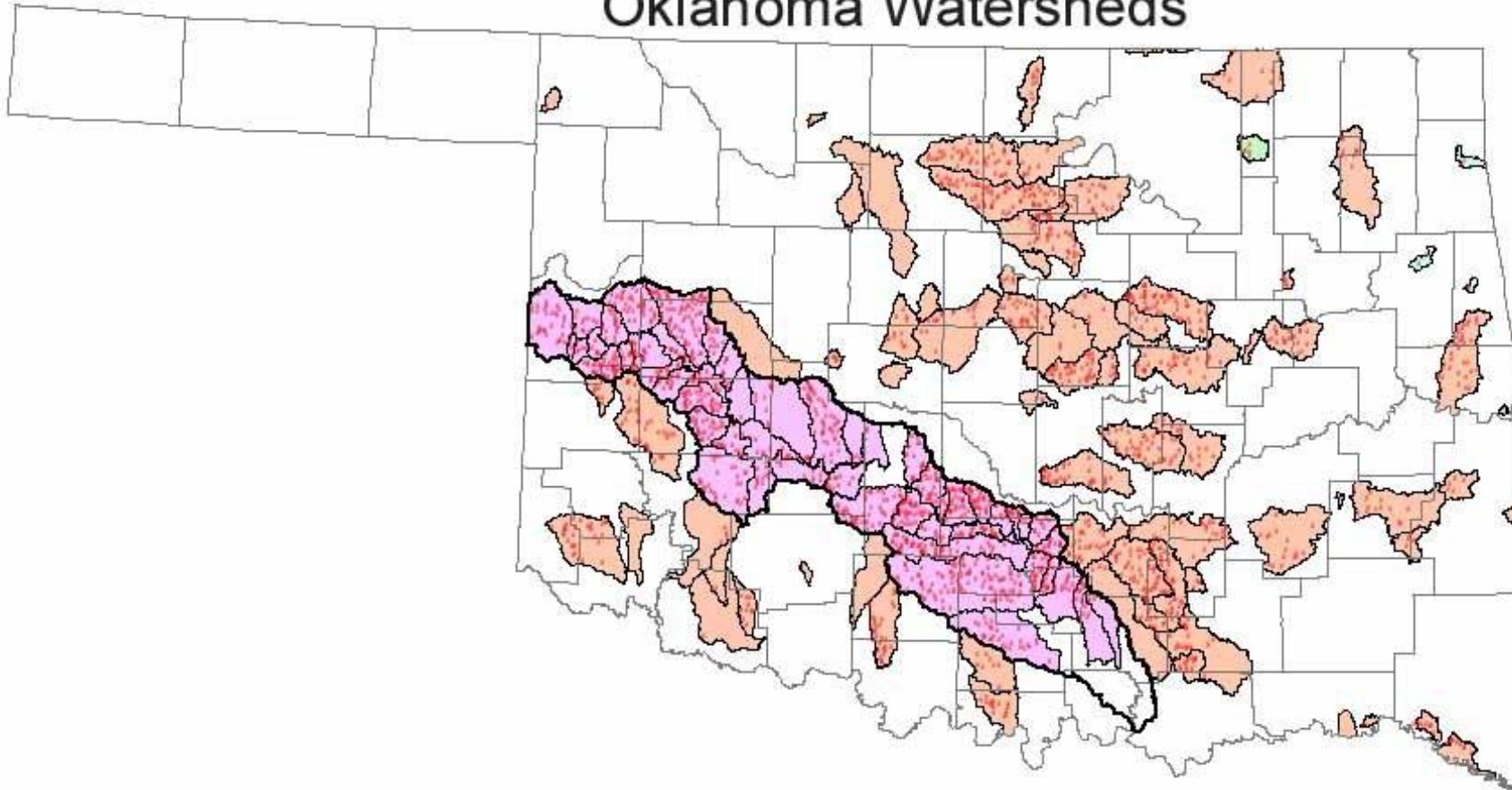
Danger Echoes Still Louder Dunes Elected  
Strong Here President





**These areas do not flood like this today, so what happened to prevent this type of flooding?**

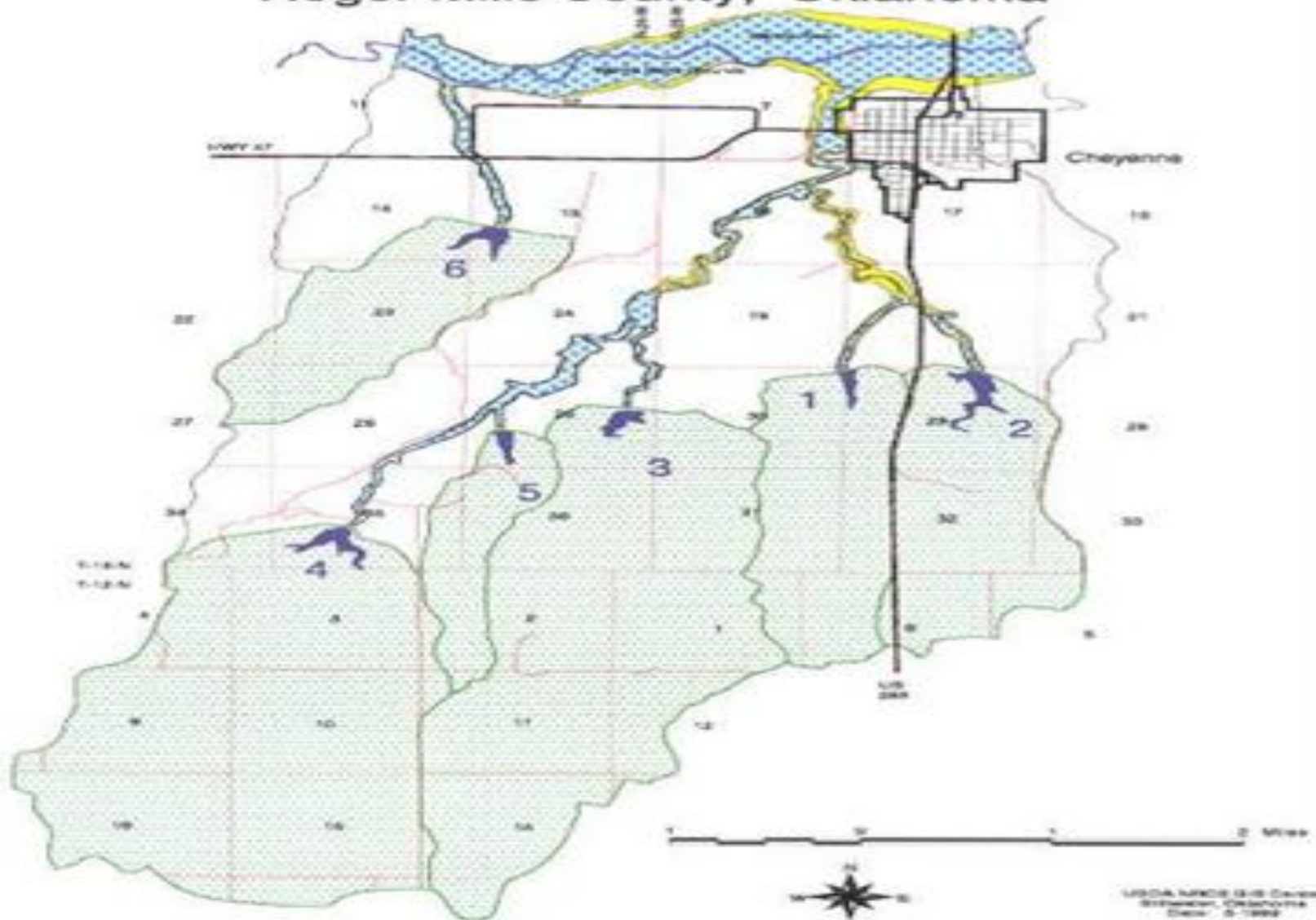
## Oklahoma Watersheds



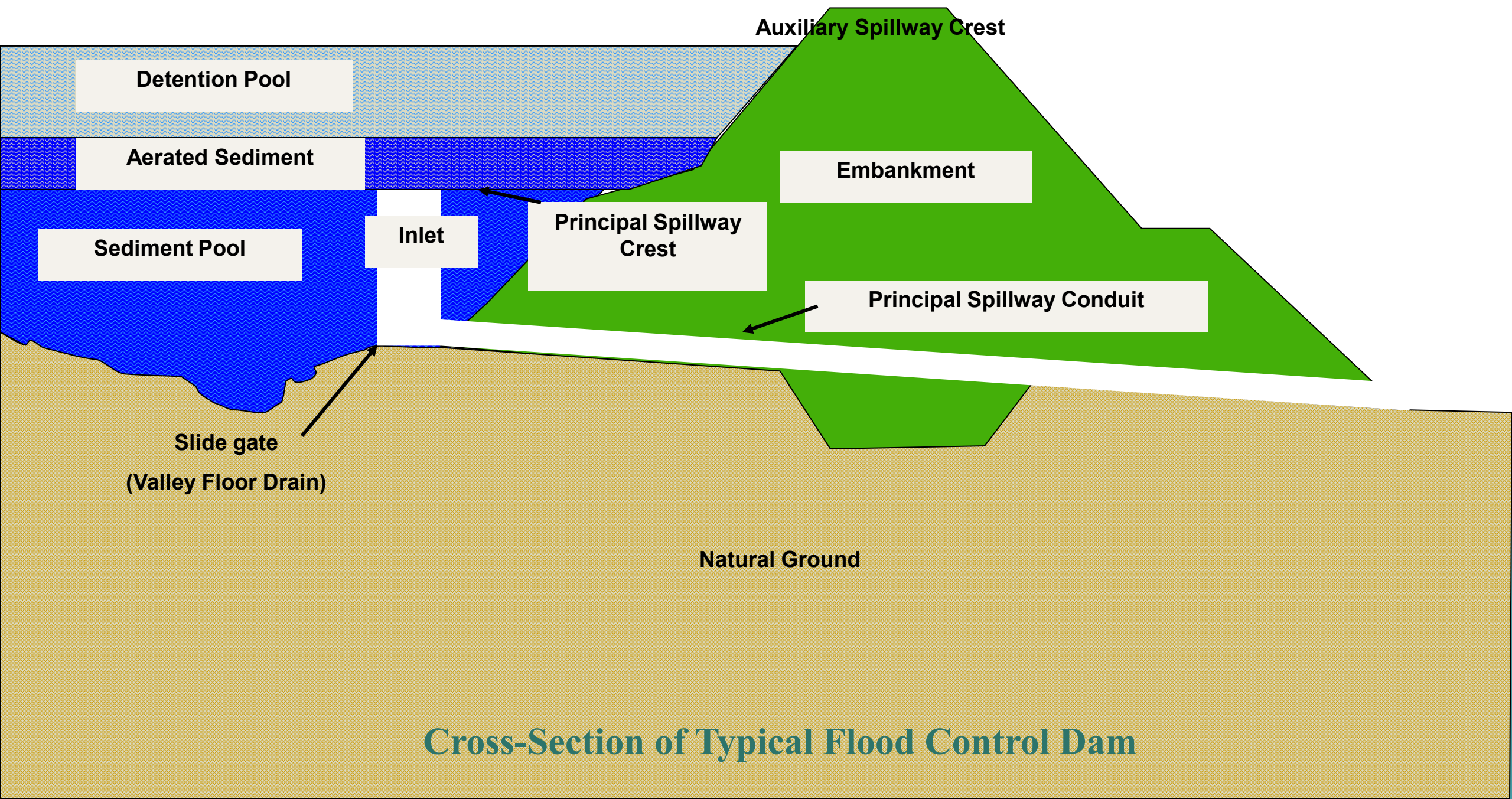
2,107 Dams in 129 Watersheds  
(20% of the national total)

**How does a  
Watershed dam  
reduce downstream  
flooding?**

# Sergeant Major Creek Watershed Roger Mills County, Oklahoma









# Store and Release

# Flood Storage



# Principle Spillway Towers





# Auxiliary Spillways

# Monument





Dry Structure

# Oklahoma's Watershed Program – National Leaders –



2,107

Floodwater Retarding Structures

\$2 Billion

Public Infrastructure

\$96.3 Million/yr.

Public Benefits

2007 - 340 million

2015 - 280 million

# Annual Benefits - Statewide

- Number of bridges benefited  
1,532
- Number of farms/ranches benefited  
20,541
- Reduced sedimentation (tons/yr)  
9,152,225
- Number of lakes providing municipal water  
42



# **The Watershed Program A Federal, State, Local, Private Partnership**

Federal (USDA-NRCS)

Local Project Sponsors (Conservation Districts)

State (Oklahoma Conservation Commission)

Private

# Law and Dam Classifications

## Federal / Oklahoma Dam Safety Act

- Low Hazard – Protects agricultural lands
- Significant Hazard – Protect roads, state highways and bridges, agricultural lands
- High Hazard – Protect life, roads, highways, bridges, and agricultural lands

# High Hazard Dams

Originally Oklahoma had 29 HH

Due to downstream development we have 265 with 188 waiting to be modified to meet HH criteria. The cost to modify these dams is over \$752 million dollars and growing

# Modifying Dams to HH

Dams that are low or significant may have to be modified to meet high hazard criteria

Reasons: Downstream development in breach area

Possible Results: Higher dam, longer dam, large pipe through the dam, larger or smaller principal pool area, extra auxiliary spillway on the other side of the dam or a large widening of the original spillway, larger flood pool area.

This is important because land users will want to be far enough away from the structure to allow for future modifications if the structure is low or significant

# Operation & Maintenance



## Project Sponsor(s)

Conservation Districts  
Conservancy Districts  
Cities  
Universities



This is who you contact first to get more information regarding a flood control structure

## Contact Information For CD

- All conservation district contact information can be found on the Commission website
- <https://conservation.ok.gov/>
- <https://conservation.ok.gov/conservation-district-directory/>

E-mail: [arbucklecd@conservation.ok.gov](mailto:arbucklecd@conservation.ok.gov)

## Cleveland County Conservation

2600 Van Buren, Suite 2601

Norman, OK 73072-5609

Phone: [405-364-7319](tel:405-364-7319)

Fax: 855-421-2591

E-mail: [clevelandccd@conservation.ok.gov](mailto:clevelandccd@conservation.ok.gov)

Facebook: [Cleveland Co. Conservation District](#)

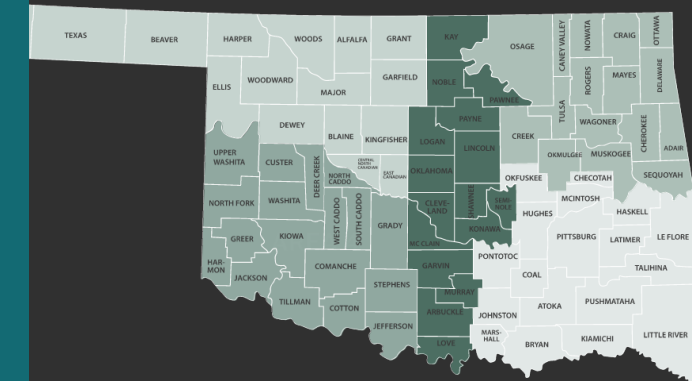
**Garvin Conservation District**

16664 N. Butler Road

Pauls Valley, OK 73075

Phone: 405-238-6767

## RY OF CONSERVATION DISTRICT OFFICES



## Resources



Oklahoma's 2,107 Small Watershed Upstream Flood Control Dams

### Information about select sites and projects

## Special topics

[Landowners With Watershed Dams on Their Land Fact Sheet \(2018\)](#)

[Oklahoma Watershed Dam Benefits Fact Sheet \(2016\)](#)

[Oklahoma's NRCS-Assisted Flood Control Program](#)

[Flood Control Dams Prevented \\$280 Million in Damages During 2015 Storms](#)

[Flood Control Dams Prevented \\$320 Million in Damages During 2007 Storms](#)

SEARCH

### Keywords

SUBMIT

## RESOURCES

## MEETINGS

## IN THE NEWS

# Easement Considerations



Most of the flood control structures are held by the Conservation Districts through easements.



Permanent and Perpetual: block or elevation



The majority of easements are old (40's, 50's, 60's and 70's). Have to look back in the county land records



Purpose: Construction, operation, maintenance, repair, inspection, flowage of water, detention of water, access

# Easement

Use the land at any time,

in any manner,

for any purpose that

does not interfere with the

works of improvement (structure).

38043B  
Easement

(For Construction and Impoundment Purposes) 270-170  
For and in consideration of One Dollar (\$1.00) and other good and valuable considerations, the receipt whereof is hereby acknowledged,

J. W. Burrow and Thelma Burrow

of \_\_\_\_\_, Grantor, does hereby grant, bargain, sell, convey and release unto

Sequoyah County Soil and Water Conservation District and Sallisaw Creek

Conservancy District

Sallisaw, Oklahoma

its successors and assigns Grantee, an easement in, over and upon the following described land situated in the County of Sequoyah, State of Oklahoma, to wit:

S<sup>1</sup>NESE of Sec. 7, Twp. 12N., R. 25E.

for the purpose of:

For or in connection with the construction, operation, maintenance and inspection of the following described works of improvement to be located on the above described land; for the flowage of any waters in, over, upon or through such works of improvement; and for the permanent storage and temporary detention, either or both, of any waters that are impounded, stored or detained by such works of improvement:

Part of Site 36

1. In the event construction of the above described works of improvement is not commenced within 10 years from the date hereof, the rights and privileges herein granted shall at once revert to and become the property of the Grantor, his heirs and assigns.
2. This easement includes the rights of ingress and egress at any time over and upon the above described land of the Grantor and any other land of the Grantor adjoining said land for the purpose of construction, the checking of operations, and the inspection and maintenance of the structure.
3. There is reserved to the Grantor, his heirs and assigns the rights and privileges to use the above described land at any time, in any manner and for any purpose that does not interfere with construction, operations, maintenance and inspection of the structure.
4. The rights and privileges herein granted are subject to all easement, rights-of-way, mineral reservations or other rights now outstanding in third parties.
5. The Grantee is responsible for operating and maintaining the above described works of improvement.
6. Special provisions:

and for record this the 18 day of January 1962 at 4 o'clock P.M.

TO HAVE AND TO HOLD the aforesaid easement in, over and upon the above described land of the Grantor with all the rights, privileges and appurtenances thereto belonging or in anywise appertaining, unto the Grantee, its successors and assigns for so long as they should use said easement for the purpose described above.

IN WITNESS WHEREOF the Grantor has executed this instrument on the 18th day of January, 1962.

J. W. Burrow (SEAL)  
Signature of Grantor

Thelma Burrow (SEAL)  
Signature of Grantor

# Easement Issues - Landowners

Old easements

Landowners buy the property not understanding the easement, some don't even know there is an easement

Districts have Released portions of their easements

Portion of the storage is meant to fill up with sediment

Use of the water

- District can drain or use the water for O&M
- Otherwise water can be used by the landowner in compliance with OWRB

# Flood Control with Other Uses

Irrigation

Recreational

Municipal Water Supply

- Held by Cities
- Fee simple

# Prevent Dam Failure

8/19/2007

4:38 AM CDT



History of 10 history  
A 30 min CDT

Geographic

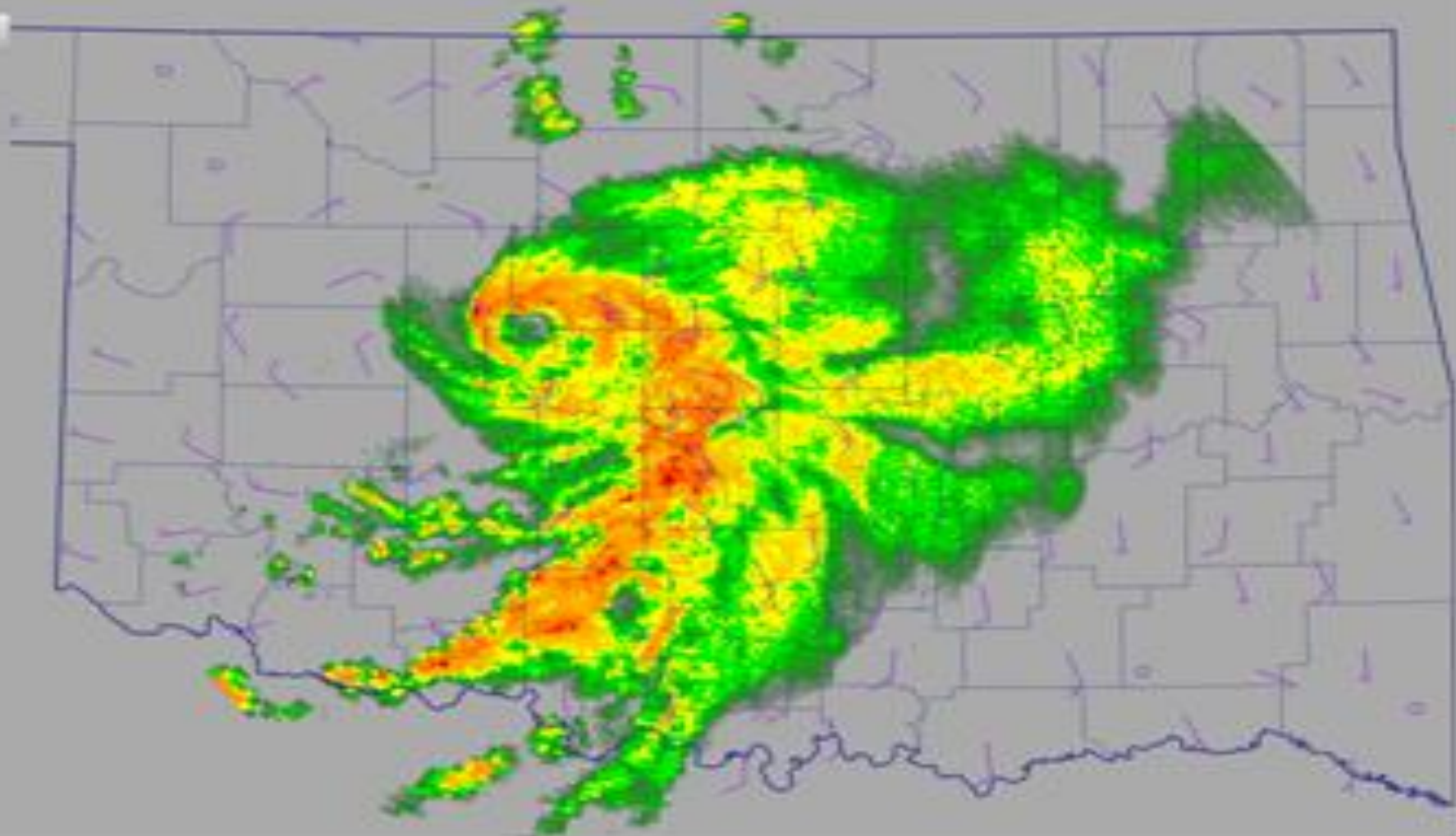
State Borders

Geographic

County Borders

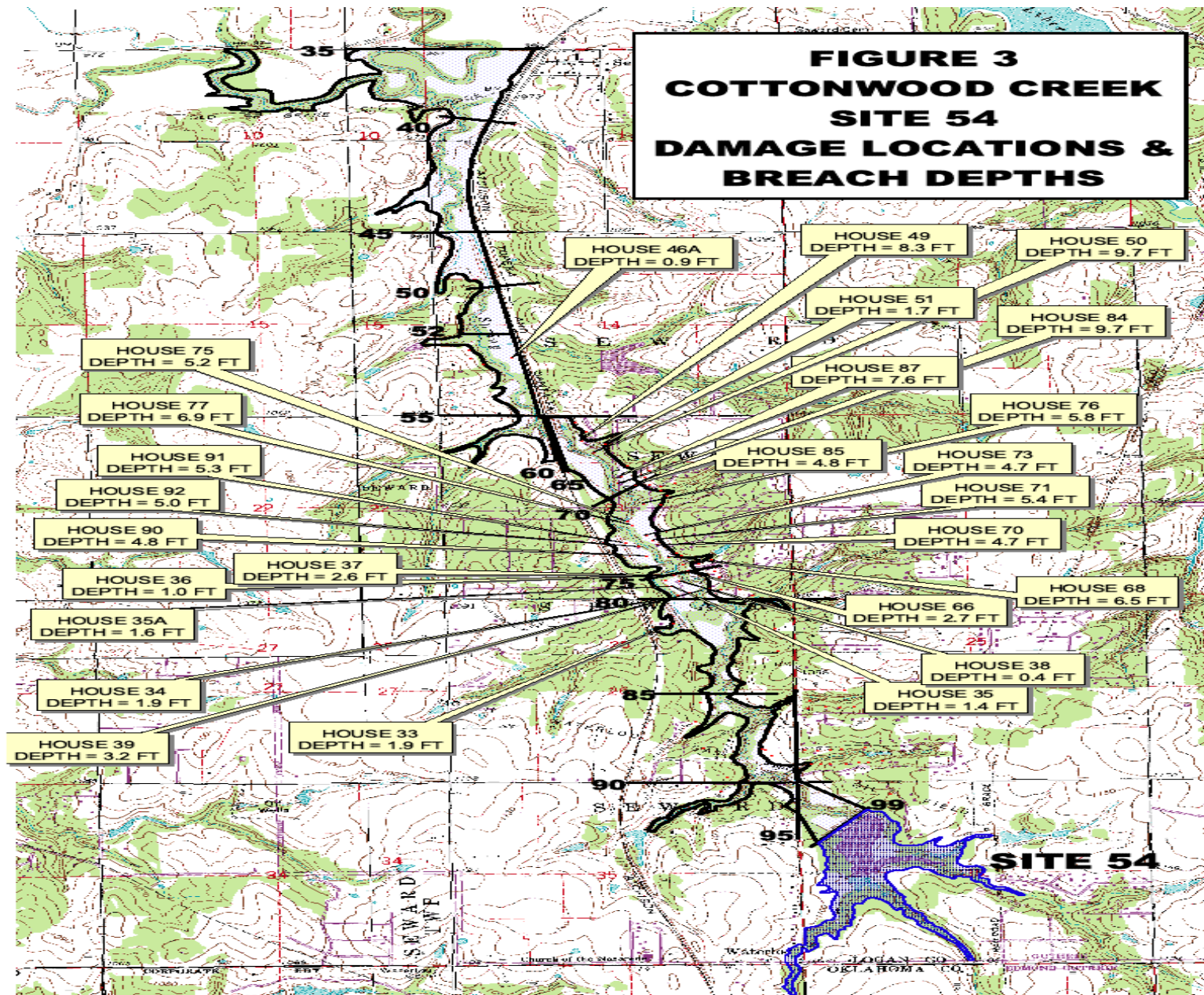
WUE - 2007

A 30 min CDT





**FIGURE 3  
COTTONWOOD CREEK  
SITE 54  
DAMAGE LOCATIONS &  
BREACH DEPTHS**



# Breach Inundation Map Dam No. 40 Lake McMurtry Stillwater Creek Payne/Noble Co. Ok. Dec. 2009



United States Department of Agriculture  
Natural Resources Conservation Service

| PDL ID   | Residence/Business           | Structures | Water Depth (ft. from ground)         | Time to Peak Flow (hr-Min) |
|----------|------------------------------|------------|---------------------------------------|----------------------------|
| STW00238 | House                        | 1          | 16.1                                  | 01:17                      |
| STW00239 | House                        | 1          | 2.4                                   | 01:21                      |
| STW00244 | Commercial/Tree Nursery      | 1          | 3.2                                   | 01:30                      |
| STW00309 | House                        | 1          | 7.7                                   | 02:14                      |
| STW00330 | House                        | 1          | 2.0                                   | 02:30                      |
| STW00344 | Mobile Home                  | 1          | 8.1                                   | 02:46                      |
| STW00350 | House                        | 1          | 3.8                                   | 03:00                      |
| STW00358 | Mobile Home                  | 1          | 3.5                                   | 03:21                      |
| STW00359 | House                        | 5          | 2.6                                   | 03:17                      |
| STW00360 | Apartment - Squires Landing  | 18         | 6.7                                   | 03:52                      |
| STW00361 | Commercial                   | 1          | 2.8                                   | 03:53                      |
| STW00367 | Commercial                   | 1          | 2.8                                   | 03:52                      |
| STW00368 | Commercial                   | 1          | 2.3                                   | 04:04                      |
| STW00369 | Commercial                   | 1          | 2.1                                   | 04:06                      |
| STW00370 | Commercial                   | 1          | 2.0                                   | 04:07                      |
| STW00371 | Commercial                   | 1          | 2.3                                   | 04:42                      |
| STW00440 | Commercial                   | 3          | 2.0                                   | 05:05                      |
| STW00441 | House                        | 1          | 0.3                                   | 05:18                      |
| STW00442 | House                        | 1          | 0.5                                   | 05:18                      |
| STW00443 | House                        | 1          | 1.5                                   | 05:08                      |
| STW00550 | House                        | 1          | 6.2                                   | 05:10                      |
| STW00551 | House                        | 1          | 3.8                                   | 05:13                      |
| STW00552 | House                        | 1          | 3.9                                   | 05:17                      |
| STW00553 | House                        | 1          | 5.2                                   | 07:21                      |
| STW00554 | House                        | 1          | 12.8                                  | 07:32                      |
| STW00555 | Church - Countryside Baptist | 1          | 4.0                                   | 07:21                      |
| STW00556 | House                        | 65         | 6.8                                   | 07:34                      |
| STW00557 | Commercial                   | 6          | 2.8                                   | 07:50                      |
| STW00558 | House/Double                 | 14         | 7.7                                   | 07:50                      |
| STW00559 | House                        | 141        | 10.0                                  | 07:58                      |
| STW00560 | Church                       | 1          | 7.6                                   | 07:59                      |
| STW00661 | School                       | 1          | 9.6                                   | 07:59                      |
| STW00662 | House                        | 1          | 8.3                                   | 08:03                      |
| STW00663 | House                        | 1          | 6.9                                   | 08:03                      |
| STW00664 | House                        | 1          | 8.6                                   | 08:03                      |
| STW00665 | House                        | 8          | 12.8                                  | 08:04                      |
| STW00666 | Commercial                   | 10         | 9.6                                   | 08:04                      |
| STW00667 | House                        | 1          | 11.8                                  | 08:05                      |
| STW00668 | House                        | 1          | 11.6                                  | 08:05                      |
| STW00700 | Mobile Home                  | 1          | 10.8                                  | 08:03                      |
| STW00701 | Commercial                   | 1          | 1.6                                   | 08:04                      |
| STW00702 | Mobile Home                  | 70         | 7.2                                   | 08:06                      |
| STW00703 | Mobile Home                  | 14         | 1.9                                   | 08:08                      |
| STW00704 | House                        | 1          | 5.6                                   | 08:11                      |
| STW00705 | Apartment                    | 2          | 7.9                                   | 08:10                      |
| STW00706 | House/Double Wide            | 1          | 6.2                                   | 08:14                      |
| STW00707 | House                        | 50         | 12.8                                  | 08:13                      |
| STW00708 | House                        | 1          | 2.8                                   | 08:23                      |
| STW00880 | Commercial                   | 1          | 9.3                                   | 08:47                      |
| STW00881 | House                        | 1          | 9.1                                   | 08:51                      |
| STW00882 | House                        | 23         | 7.3                                   | 08:41                      |
| PDL ID   | Bridge/Roadway               | Structures | Water Depth (ft. from Bridge/Roadway) | Time to Peak Flow (hr-Min) |
| STW02002 | Airport Road Bridge          | 1          | 11.3                                  | 0:29                       |

Map Inset 1

Map Inset 2

Map Inset 3

- Legend**
- Breach Inundation Area
  - Potential area flooded by dam failure
  - Potential Damage Locations
  - Water Depth (from ground/roadway)
    - < 1 ft.
    - 1 - 3 ft.
    - > 3 ft.
  - Potential Damage Location Groups

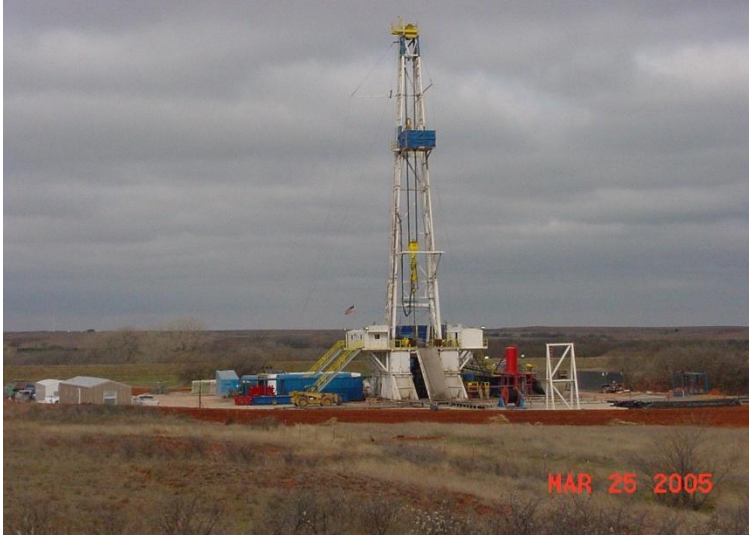
**Prepared By:**  
Oklahoma Conservation Commission  
Conservation Programs Division  
Hydraulic Engineer: Ray C. Riley PE  
GIS Specialist: Jim Henley

**Source Data:**  
City of Stillwater 2 ft Contour (2006)  
3M elevation grid from 2 ft. contours  
USGS 10M National Elevation Dataset  
USGS 24K DRG Topographic Quad  
USDA 2008 NAIP Color Photography

**Breach Inundation Area developed using:**  
US Army COE HEC-RAS & HEC-GeoRAS

0 500 1,000 2,000 3,000 4,000 5,000 6,000 Feet

# DAM PROBLEMS



# Landowner & Development Problems

Auxiliary Spillways,  
Detention pool – attractive  
areas

Structures (houses,  
cabins, docks, diving  
boards)

Farming/overgrazing/trails

Changes to structure (fire  
pits, water sales,  
garden...)

Property changes hands,  
lack of knowledge

# Ingress/Egress Issues

Outright denial of access

Limited access

Building gates across the dam

Roads across dam, auxiliary spillway & in flood pool

# Common Landowner Complaints

Never told about  
the easement  
before purchasing  
the land

Never would have  
bought the property  
had they known  
about the easement

Nothing brought to  
their attention from  
anyone during the  
purchasing process

Did not understand  
the easement





High water line set by land owner

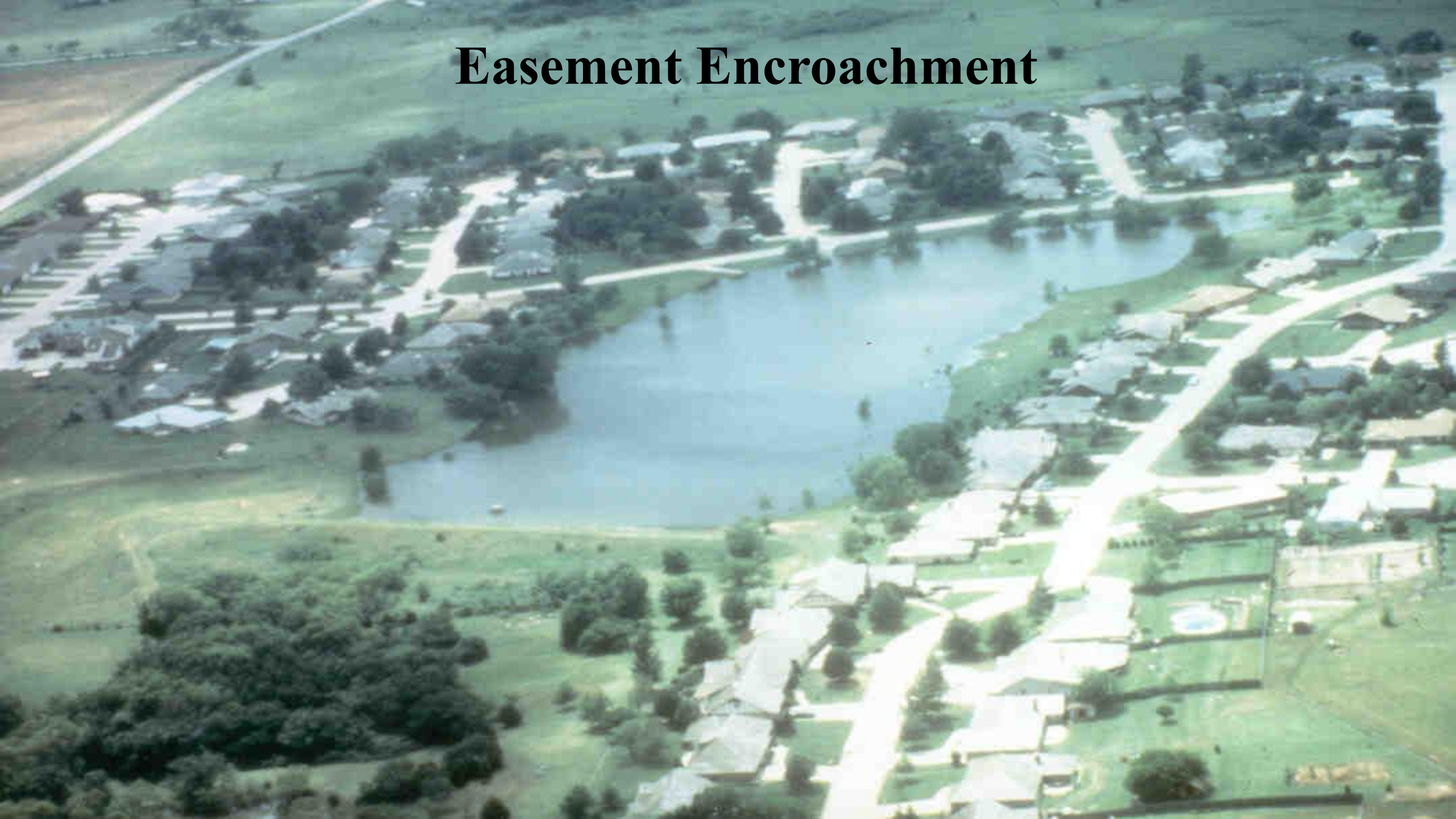


# Auxiliary Spillway Issues





# Easement Encroachment



# Development

March  
2002

Google Earth Image



# Development

## April 2008

Google Earth Image



# Development

## April 2010

Google Earth Image



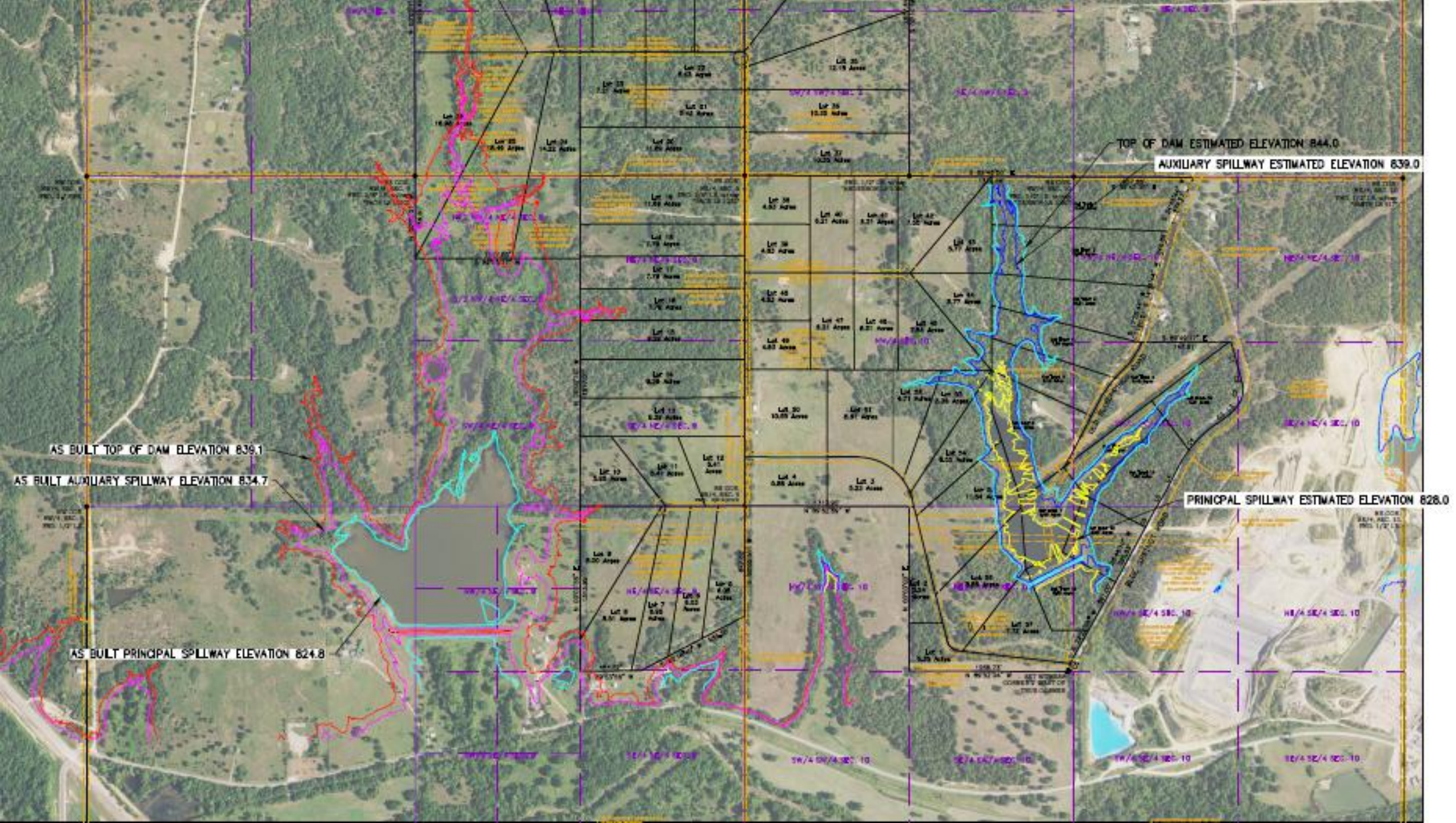
# Development

## June 2017

Google Earth Image

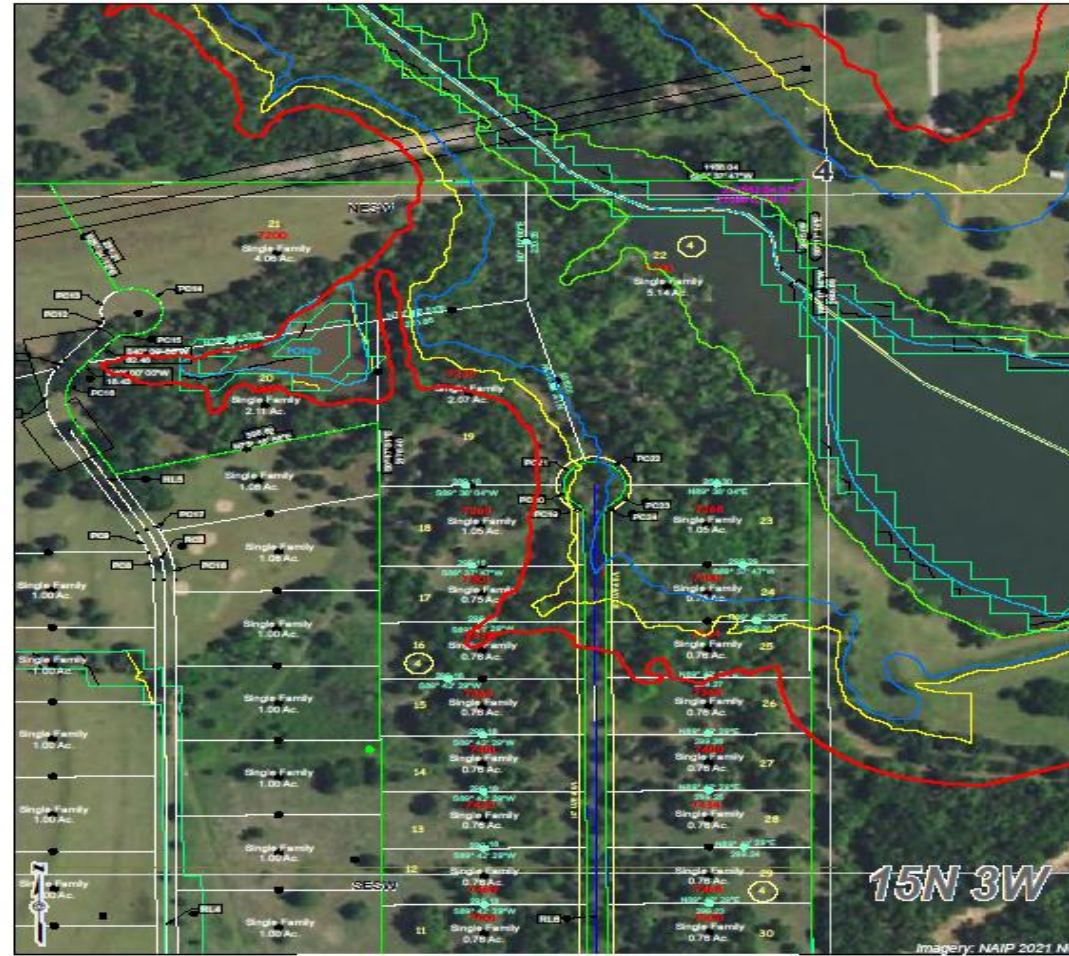


# Developers



# Cottonwood Creek 5

Logan County, Oklahoma | Logan County Conservation District



0 100 200 400 600 Feet

## Current Hazard Classification: LOW

- Rivers & Streams
- Principal Spillway (Elev 992.6 ft NRCS)
- Auxiliary (Emergency) Spillway (Elev 1005.6 ft NRCS)
- Effective Top of Dam (Elev 1009.3 ft NRCS)
- Effective Top of Dam +5 feet (Elev 1014.3 ft)
- Township
- Section
- QTRQTRs

\*some easements contain additional ingress & egress rights



Oklahoma Conservation Commission  
Conservation Programs Division

OKLAHOMA  
CONSERVATION  
COMMISSION

Date: 2/12/2025  
Scale: 1 in = 200 ft  
Author: W. Sharp  
Coordinate System:  
NAD 1983 StatePlane Oklahoma North  
FIPS 3501 Feet

# Steps to prevent violations

Educate and Inform

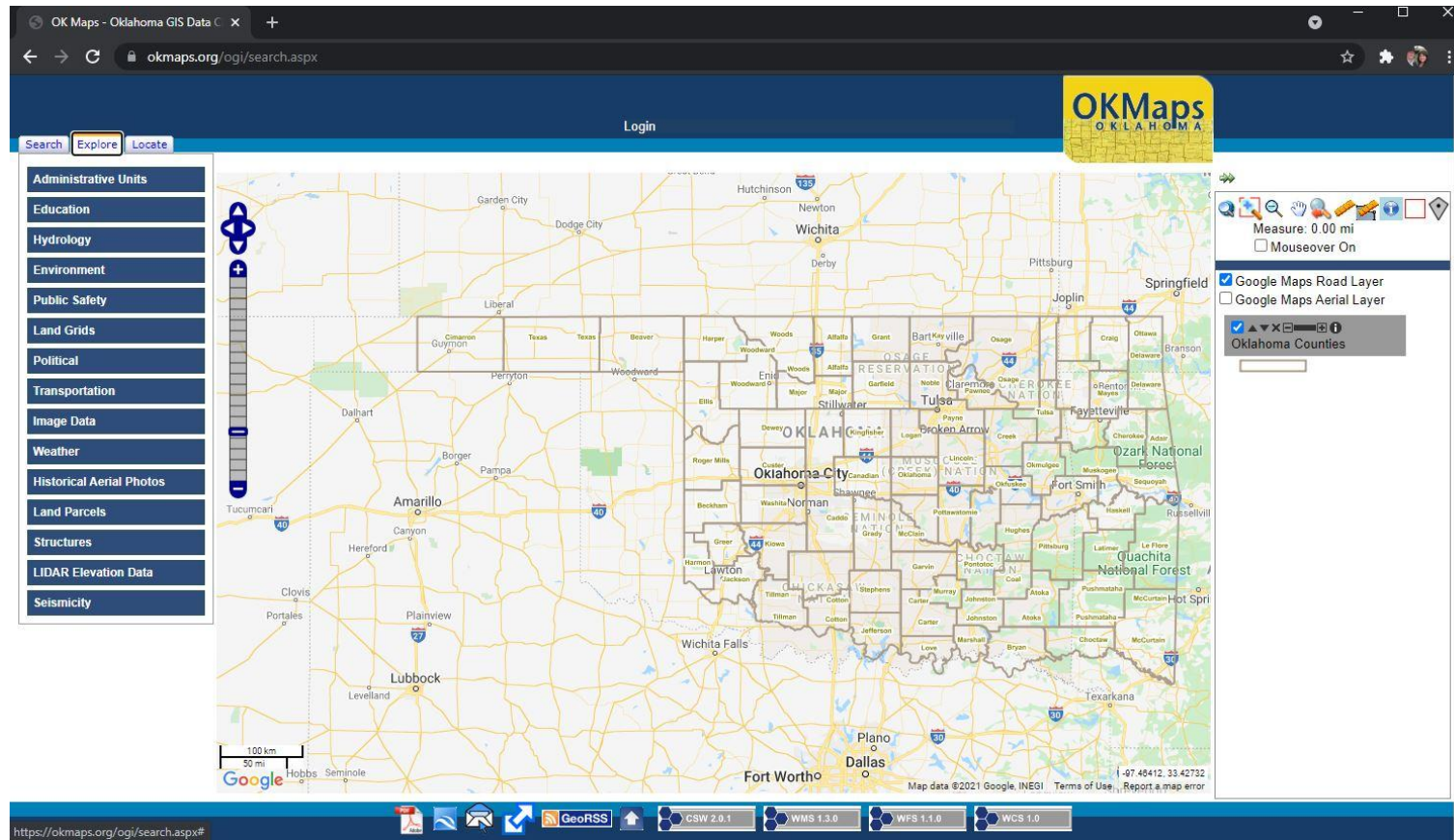
Build Relationships

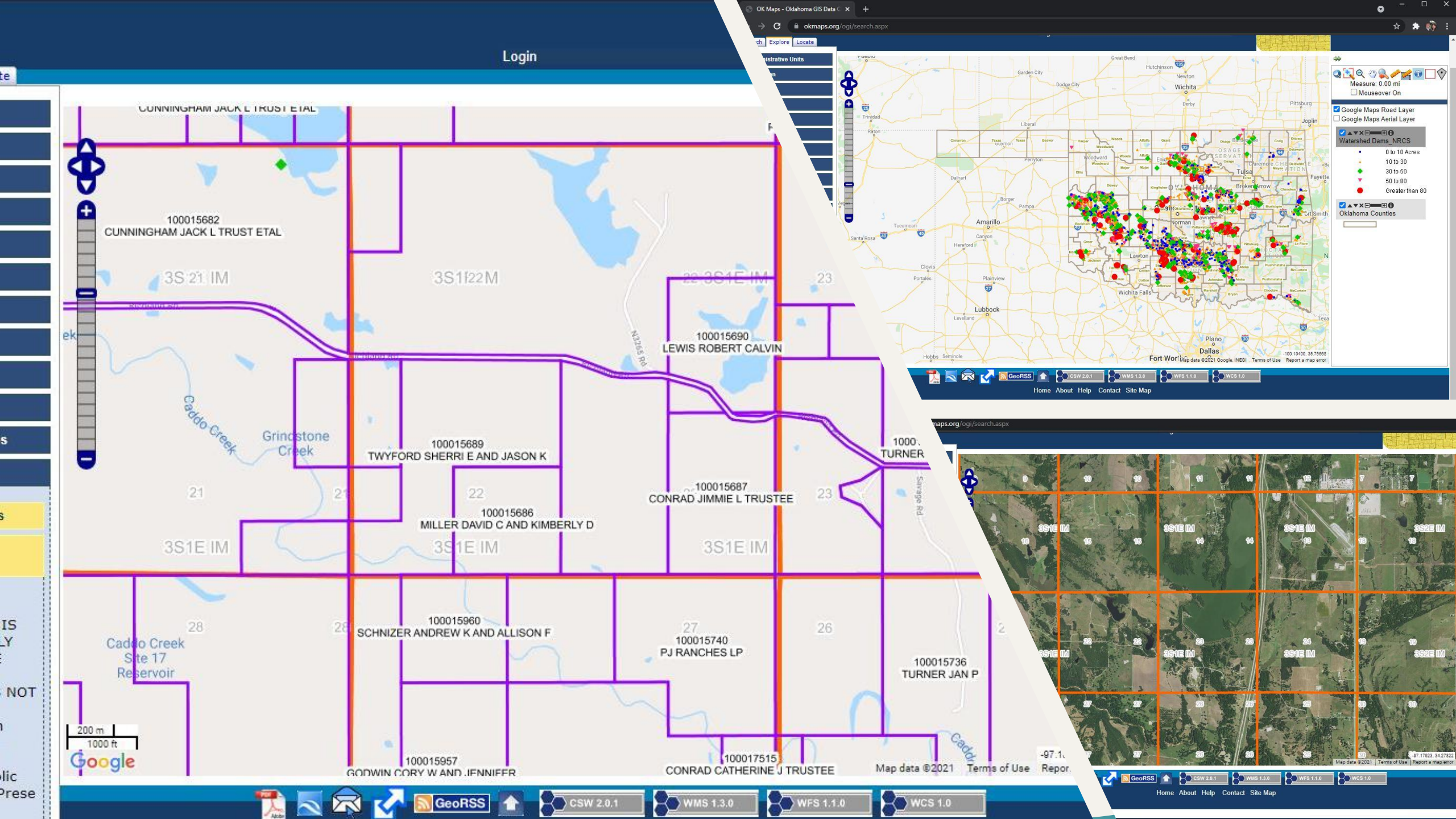
OKMAPS - resource of info.

Call OKIE system

# OKMAPS

## okmaps.org/ogi/search.aspx





Login

OK Maps - Oklahoma GIS Data

Explore Locate

Administrative Units

Measure: 0.00 mi

Mouseover On

Google Maps Road Layer

Google Maps Aerial Layer

Watershed Dams\_NRCS

0 to 10 Acres

10 to 30

30 to 50

50 to 80

Greater than 80

Oklahoma Counties

CSW 2.0.1 WMS 1.3.0 WFS 1.1.0 WCS 1.0

Home About Help Contact Site Map

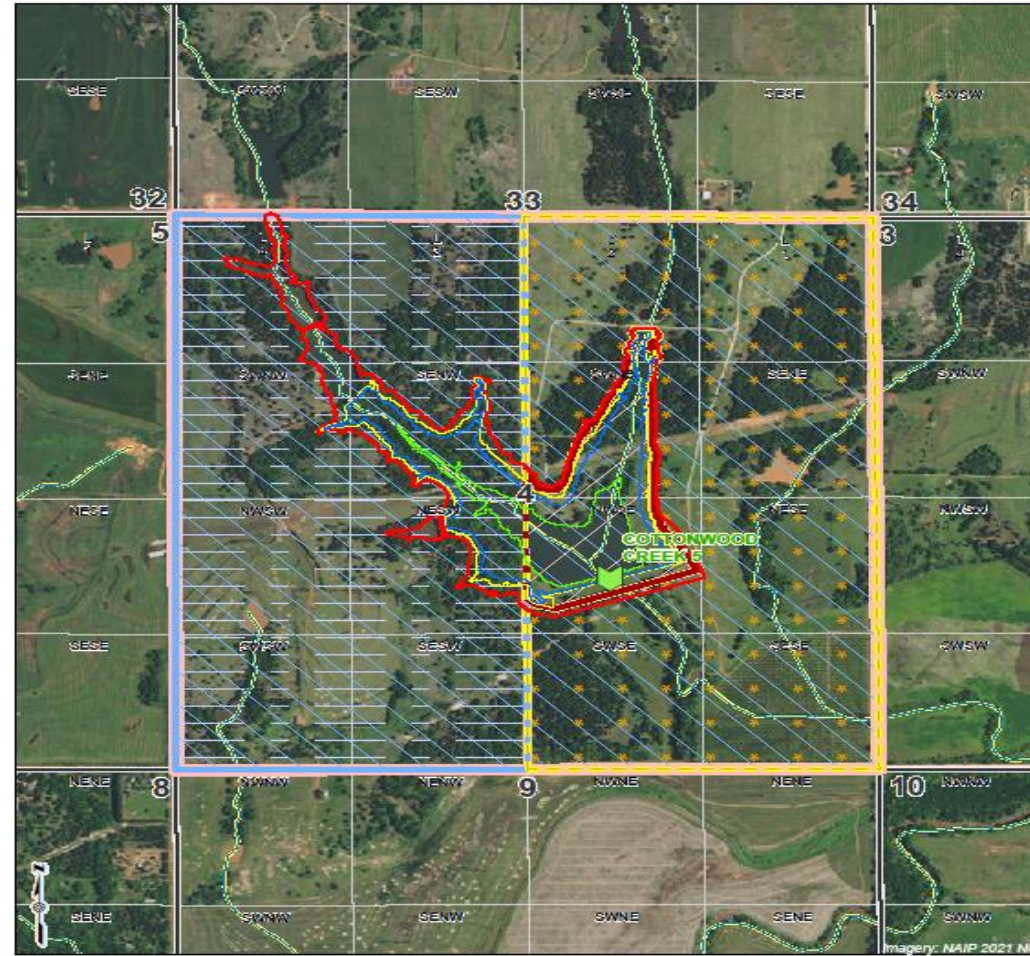
maps.org/cgi/search.aspx

CSW 2.0.1 WMS 1.3.0 WFS 1.1.0 WCS 1.0

Home About Help Contact Site Map

# Cottonwood Creek 5

Logan County, Oklahoma | Logan County Conservation District



0 500 1,000 2,000 3,000  
Feet

## Current Hazard Classification: LOW

- Watershed Dam (NRCS)
- Rivers & Streams
- Encroachment Areas
- Additional Ingress & Egress Rights\*
- Watershed Dam Easements**
  - Construction, Maintenance and Impoundment Easement
  - Impoundment and Maintenance Easement
  - Partial Release of Easement
  - Junior Easement
- Principal Spillway (Elev 992.6 ft NRCS)
- Auxiliary (Emergency) Spillway (Elev 1005.6 ft NRCS)
- Effective Top of Dam (Elev 1009.3 ft NRCS)
- Effective Top of Dam +5 feet (Elev 1014.3 ft)
- County
- Section
- QTRQTRs

\*some easements contain additional ingress & egress rights



# Enforcement of Easements



Project Sponsors – conservation districts, conservancy districts, universities, cities

Either be able to assess a tax or have the power of eminent domain



Under the Oklahoma Conservation District Act – District Attorney represents conservation district



**Full of Surprises**

**Any Burning Questions?**

