Southeast Oklahoma Regionalization Study

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Planning Assistance to States and Tribes

A great Federal-State-Tribal program for water resources planning studies.
Scope: Improve water supply reliability
Water Providers in the Region

- Poteau Valley Improvement Authority (PVIA)
- Rural Water District No. 6 (RWD #6)
- Rural Water District No. 8 (RWD #8)
- Sardis Lake Water Authority (SLWA)
- New Spiro
- The City of Wilburton
- The City of Talihina

All Surface Water
Project Tasks

- Firm Yield Verification
  - Lakes Wister, Carl Albert, New Spiro
- Form Watershed Task Force
- Identify Water Vulnerabilities
- Develop Mitigation Plans
- Costing of Proposed Strategies
- Impacts on Rates
- Ranking of Strategies
- Water Action Plan
Lake Volumetric and Sediment Surveys
Bathymetry (Capacity)

Lake Wister
Sediment Thickness, Volume and Rate of Accumulation

Lake Wister

Lake Wister

Sediment Thickness (in feet)

- 2.5 - 3
- 3 - 3.5
- 3.5 - 4
- 4 - 4.5
- 4.5 - 5
- 5 - 5.5
- 5.5 - 6

Legend:

- <= 0
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5

Scale:

0 0.5 1 1.5 2 mi

North
Conclusion:
Physical Water Availability is not limiting factor.
Water Infrastructure Issues

- Filtration and Sedimentation
- Clearwell Capacity
- Raw Water Intake and Conveyance
- Aging Distribution Systems
Water Quality Issues

- Total Organic Carbon (TOC)
- Disinfection By-Product (DBP)
- Lead and Copper (SLWA)
<table>
<thead>
<tr>
<th>Provider</th>
<th>Demand &gt; Supply</th>
<th>Demand &gt; Capacity</th>
<th>Redundancy</th>
<th>DBPs</th>
<th>Stability</th>
<th>Distribution</th>
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<tbody>
<tr>
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<td></td>
<td>X</td>
<td></td>
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<td></td>
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<tr>
<td>RWD #8</td>
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</table>

*Demand projection should be updated to determine if additional supply is needed. It was reported by the provider that the demands are higher than the Oklahoma Comprehensive Water Plan projections.*
Centralizing Water Treatment

Figure 3-1: Potential Centralized Water Treatment Plant Locations

Legend
- Potential Regional WTP Location
- Existing Pipelines
- New Piping (~10.5 miles)
- RWD #6 Piping
Does not include:

- Distribution system improvements
- Chlorine residual maintenance
- New trunk lines
- Booster pumps

Table 3.2: Comparison of Opinion

<table>
<thead>
<tr>
<th>Provider</th>
<th>Total Estimated Cost</th>
<th>Total Planning Cost</th>
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<tr>
<td>PIA</td>
<td>$19,870,000</td>
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<td>$750,000</td>
<td>$4,000</td>
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<tr>
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<td>$5,880,000</td>
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<tr>
<td>120,495,000</td>
<td>$2,630,000</td>
<td>10,540,000</td>
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Interconnects Make Sense

Recommended Interconnections:

PVIA – Talihina
Talihina - SLWA
Improvements Needed at the Provider Level

- Filtration and Sedimentation
- Clearwell Capacity
- Raw Water Intake and Conveyance
- Aging Distribution Systems
Water Action Plan

- Filtration and Sedimentation
- Clearwell Capacity
- Raw Water Intake and Conveyance
- Aging Distribution Systems
- Costs and Prioritization

To be delivered in next few weeks
Q&A

Duane Smith & Associates

AquaStrategies
Water Planning, Science & Engineering

US Army Corps of Engineers

The Great Seal of the Chickasaw Nation

Burns McDonnell

The Great Seal of the Choctaw Nation