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# Emergency Repair of an Exposed 84-inch Pipeline Crossing the South Sulphur River

Jimmy Sibert, P.E., City of Irving

Jeff Hogan, P.E., North Texas Municipal Water District

Ben Stephens, P.E., Halff Associates, Inc.

UCT 2017



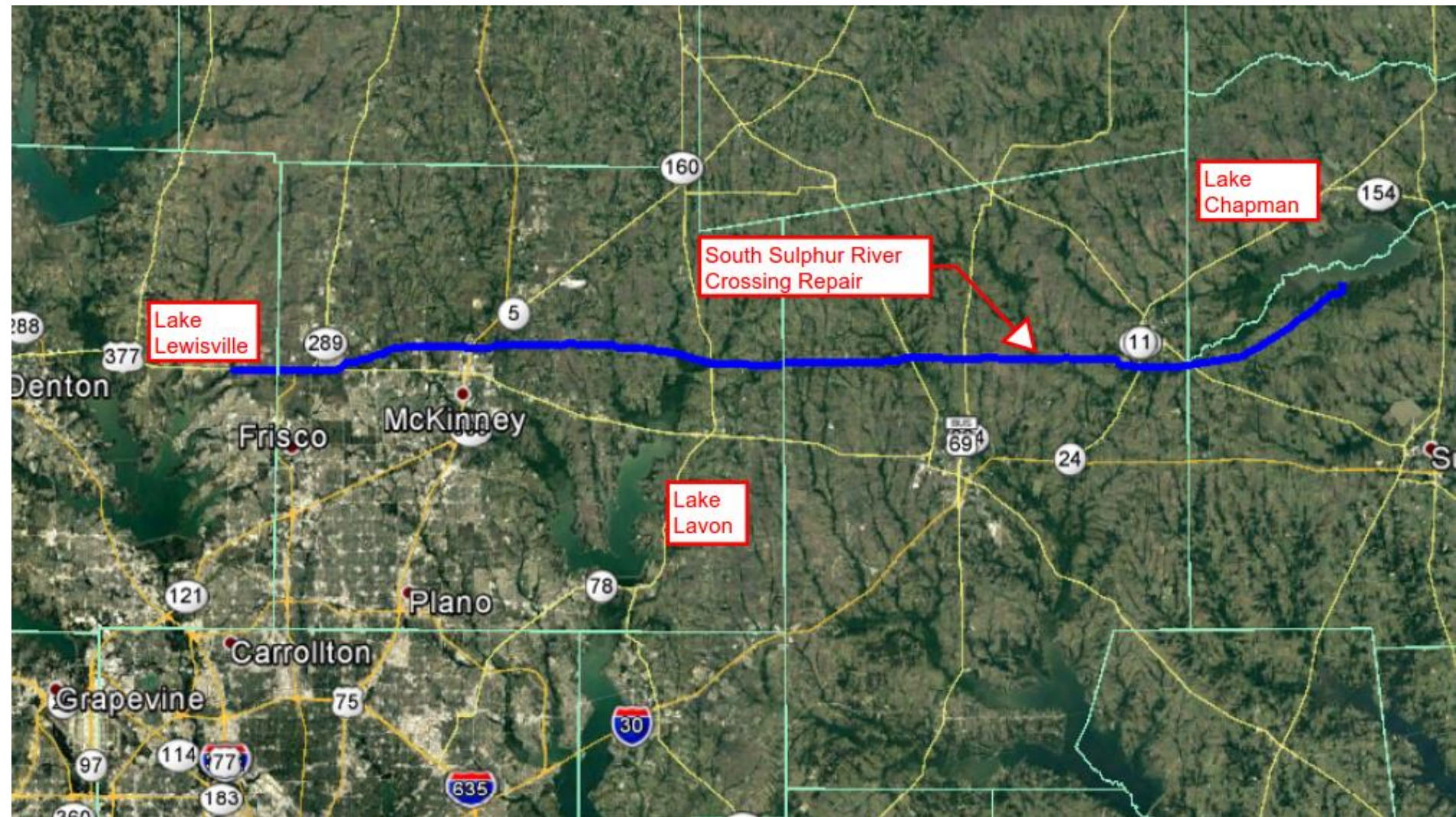
## Chapman Raw Water Transmission Pipeline

- 84" Transmission Pipeline
- Constructed beginning in 1990s
- Jointly owned and operated by the North Texas Municipal Water District and the City of Irving
- Transfers 110 MGD from Lake Chapman to Lake Lavon and Lake Lewisville



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Chapman Raw Water Transmission Pipeline





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June 2015 Aerial Survey





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July 2015 Site Visit





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February 2016 Site Visit



## Design and Construction Considerations

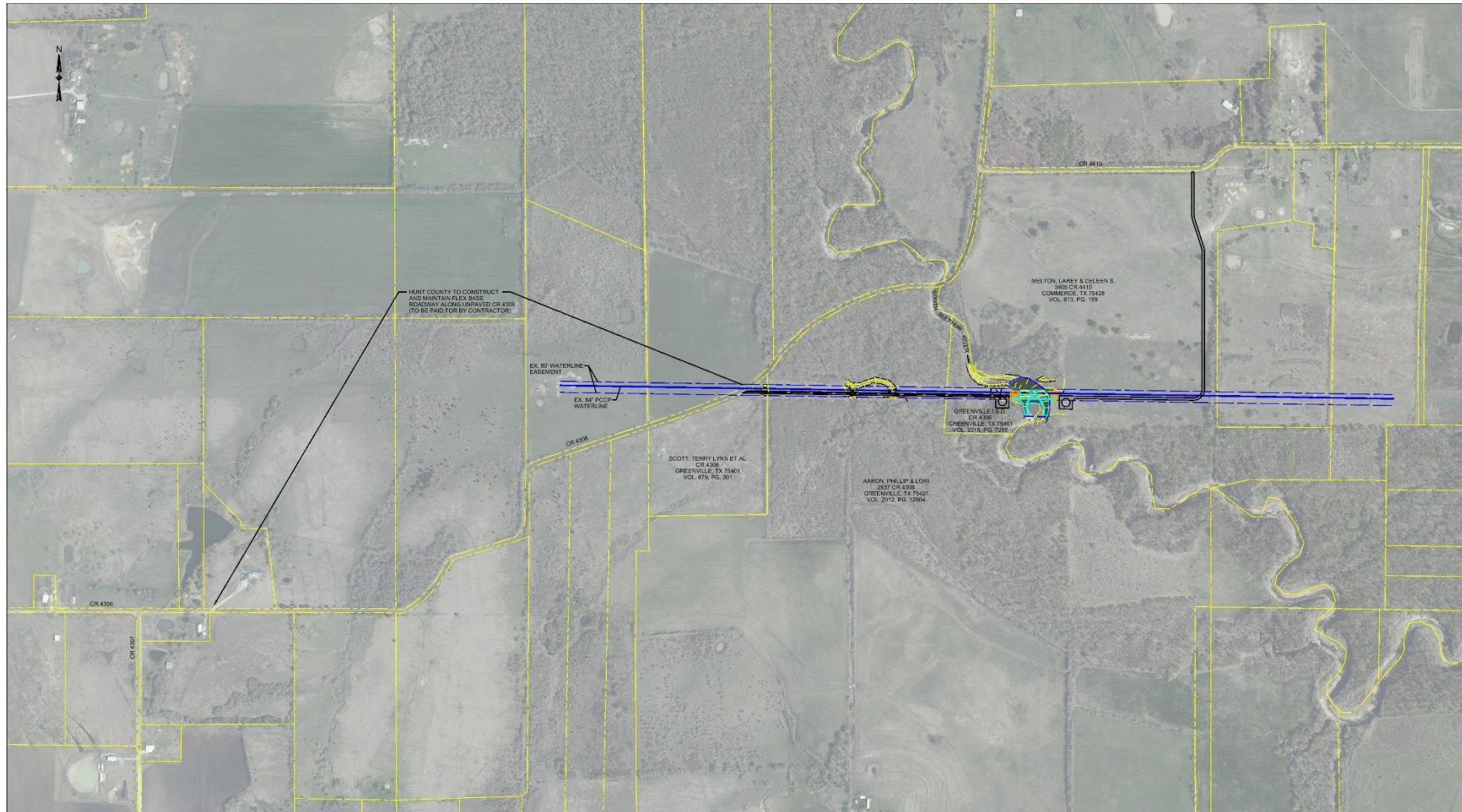
- Critical Water Supply
- Beam Strength of Existing PCCP
- Emergency Procurement of Contractor after Significant Additional Erosion from Heavy Fall/Winter Rains
- Access to Site
- Continual Channel Erosion
- Right-of-Way and Easements
- Environmental Impacts and Permitting





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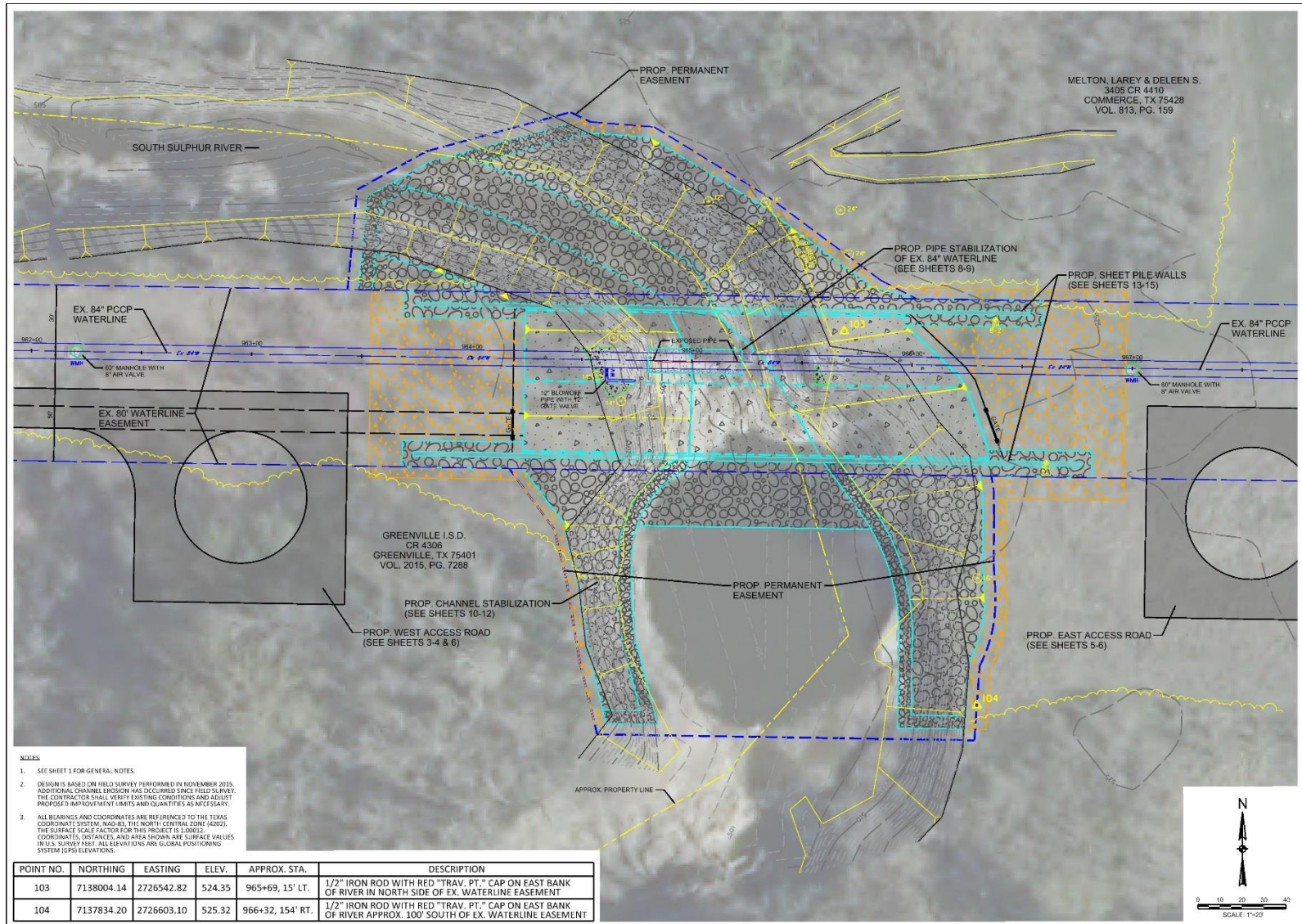
## Access to Site





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## Channel Stabilization Design





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Pipe Stabilization





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Pipe Stabilization





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May 2016 Rain Events





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Channel Preparation





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Rock Riprap Installation





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Sheet Piling





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Prepped for Concrete Placement





## Acknowledgments

- North Texas Municipal Water District
- City of Irving
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- Garney Companies, Inc.
- U.S. Army Corps of Engineers
- Texas Parks and Wildlife Department
- Hunt County
- Landowners