

West Fork White River Restoration Project Fayetteville Executive Airport

ANRC 09-1600



Watershed Conservation Resource Center

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Nonpoint Source Review Meeting, September 18, 2014



West Fork White River Restoration

Background: Purpose

- Reduce Sediment and Nutrient Loading to the WFWR and Beaver Lake
- Improve Habitat
- Protect Land
 - County Road
 - Farmland
 - Airport Safety Zone



West Fork White River Restoration

Background: Partners

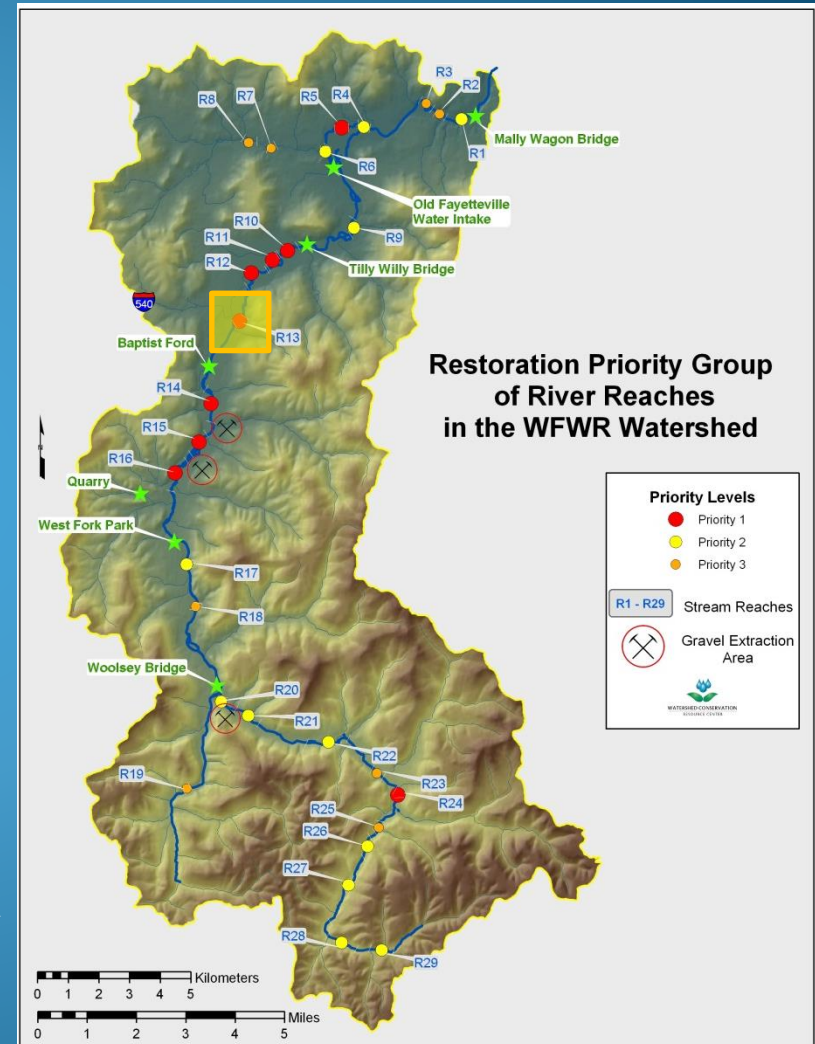
- ANRC
- EPA Region VI
- WCRC
- City of Fayetteville
- Washington County, AR
- Beaver Water District
- Arkansas Game and Fish
- Beaver Watershed Alliance
- Walton Family Foundation



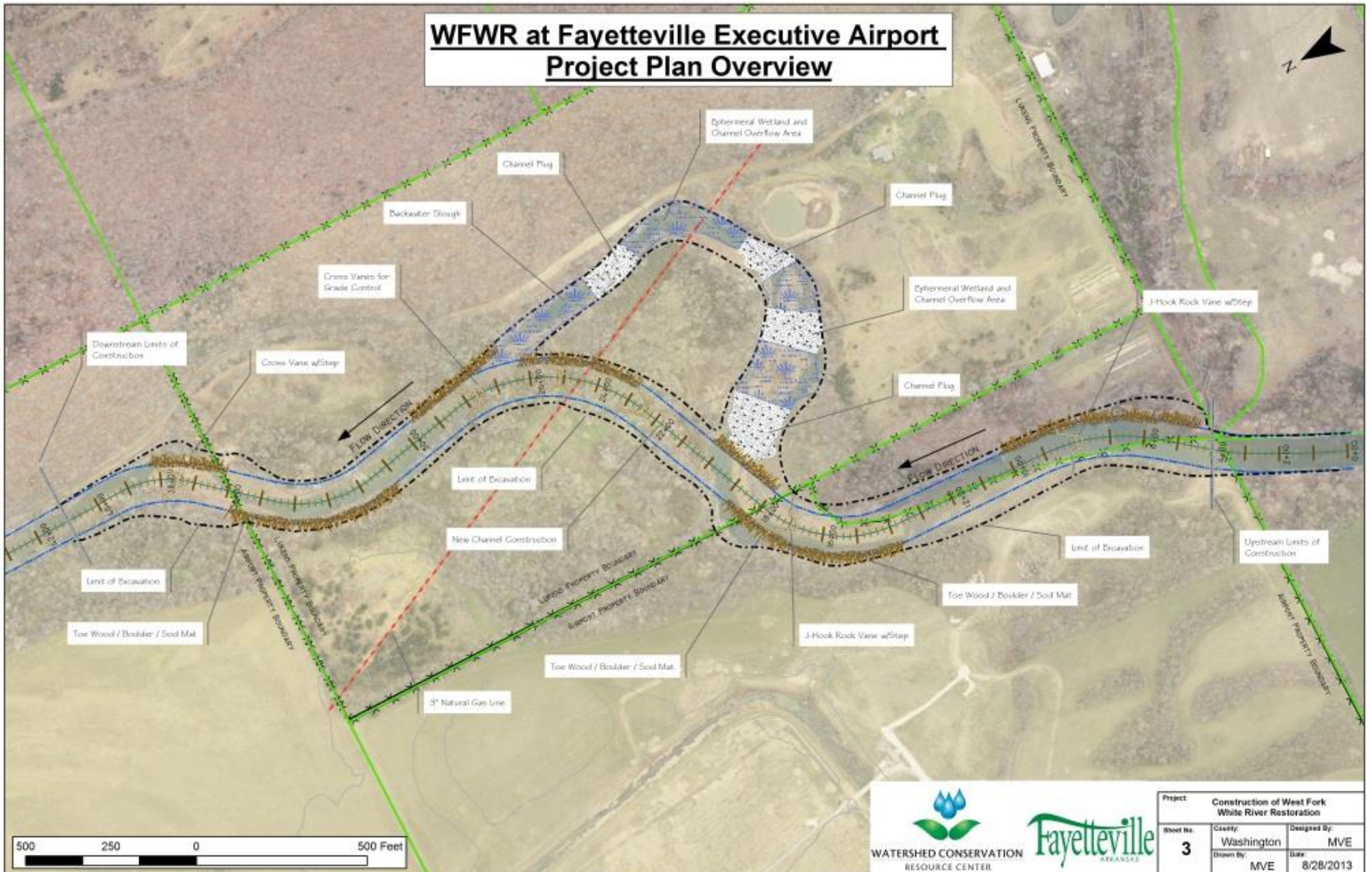
West Fork White River Restoration

Background: History

- ADEQ conducted an assessment in 2004 as part of a 319 grant
- Areas of significant channel instability and bank erosion were identified.
- WCRC prioritized potential restoration areas in 2010
- #2 Priority in Watershed
- Phase I – Assessment and Design
- Phase II – Design Implementation



West Fork White River Restoration Restoration Design



West Fork White River Restoration

Load Reductions

- Before restoration streambank erosion generated 4,130 ton/yr of sediment
- Measurements indicate as much as 3x during years with significant floods
- Anticipate at least 80% reduction or 3,300 ton/yr



Constraints and Hurdles: Scope and Scale

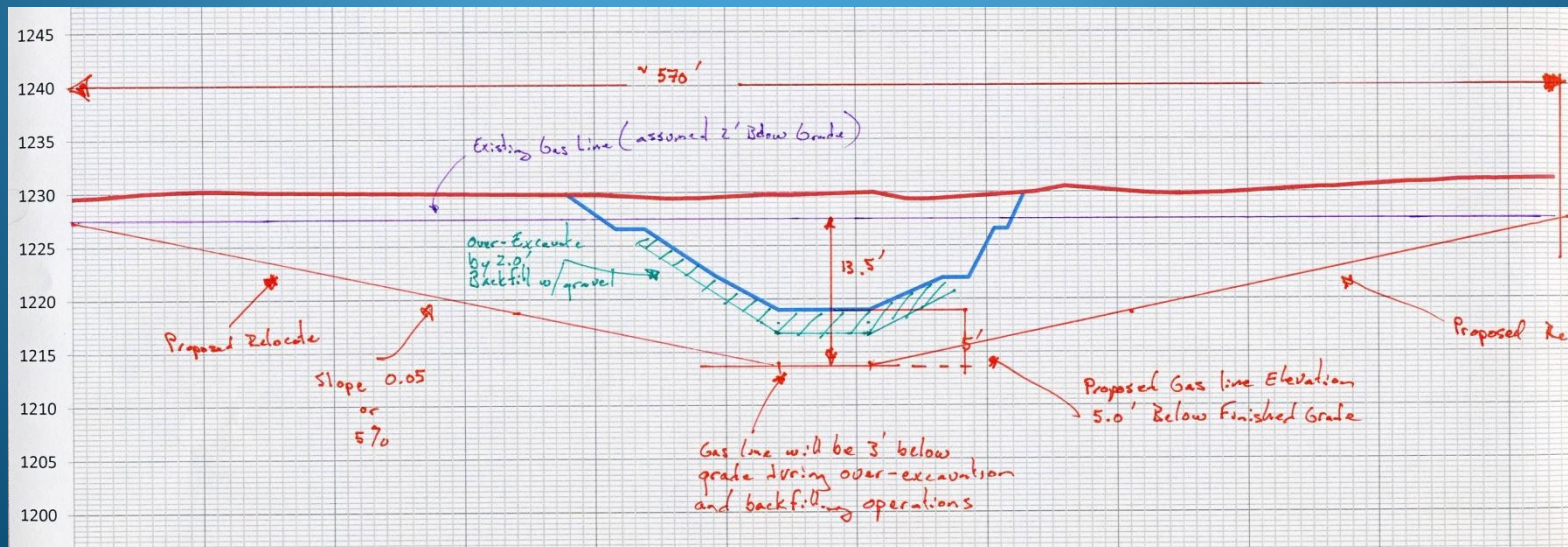
- This project is not stream restoration!
- **We're talking River Restoration!**
 - Impacts all phases of design and implementation
 - Huge effort to acquire ample construction materials
 - Construction costs are much harder to estimate



West Fork White River Restoration

Constraints and Hurdles: Gas Line

- 3" Natural Gas Pipeline
- 200 psi
- Steel Pipe
- Needs to Be Lowered +12'
- Only 5% slope allowed
- 570' of new gas line



West Fork White River Restoration Construction Materials

- 4,000 Ton Rock/Boulders
- Several “Donated” Sources
 - Washington County/AGFC
 - Landowner/AGFC
 - Harps/Sweetser
- 1,500 tons donated



West Fork White River Restoration Construction Materials

- 800 Tree Stems
- Several “Donated” Sources
 - Harps/Sweetser Construction
 - City of Fayetteville
 - Garland Avenue Project
 - Water Tank Project
 - Apartment Complex Development
- 200 donated



West Fork White River Restoration Construction Materials

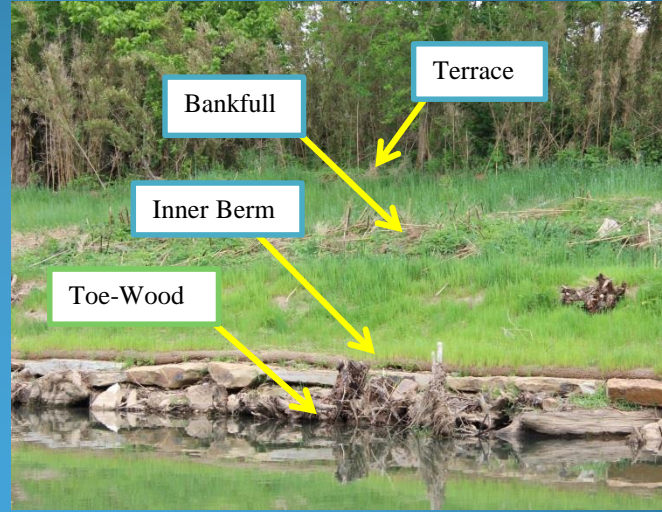
- 15,000 Bare Root Seedlings
- 5,000 Live Stakes
- 3,000 Grass Plugs
- 2,000 lb. Nursery Crop Seed
- 200 lb. Native Seed



West Fork White River Restoration Implementation



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West Fork White River Restoration Implementation



West Fork White River Restoration Before and After



West Fork White River Restoration Before and After



West Fork White River Restoration Before and After



West Fork White River Restoration Before and After



West Fork White River Restoration Before and After



West Fork White River Restoration Post - Implementation



West Fork White River Restoration Post - Implementation



West Fork White River Restoration Post - Implementation



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West Fork White River Restoration Post - Implementation



West Fork White River Restoration Post - Implementation



WCRC River and Streambank Restoration since 2008

Project	Area mile ²	Length ft	Age yr	Cost	Sediment Reduced* Ton/yr	T. Phos. Reduced* Lb/yr
West Fork White River Brentwood Beaver Lake Watershed	18	1,800	4.0	\$406,000	1,880	640
White River Stabilization Beaver Lake Watershed	400	1,000	2.5	\$352,000	3,600	3,500
Mullins Branch Restoration Beaver Lake Watershed	1	1,000	2.5	\$425,000	69	32
West Fork White River Fayetteville Airport Beaver Lake Watershed	83	4,600	0.5	\$1,300,000	4,000	1,800
*Preliminary Results					9,549	5,972

West Fork White River Restoration Questions?



Thank You
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