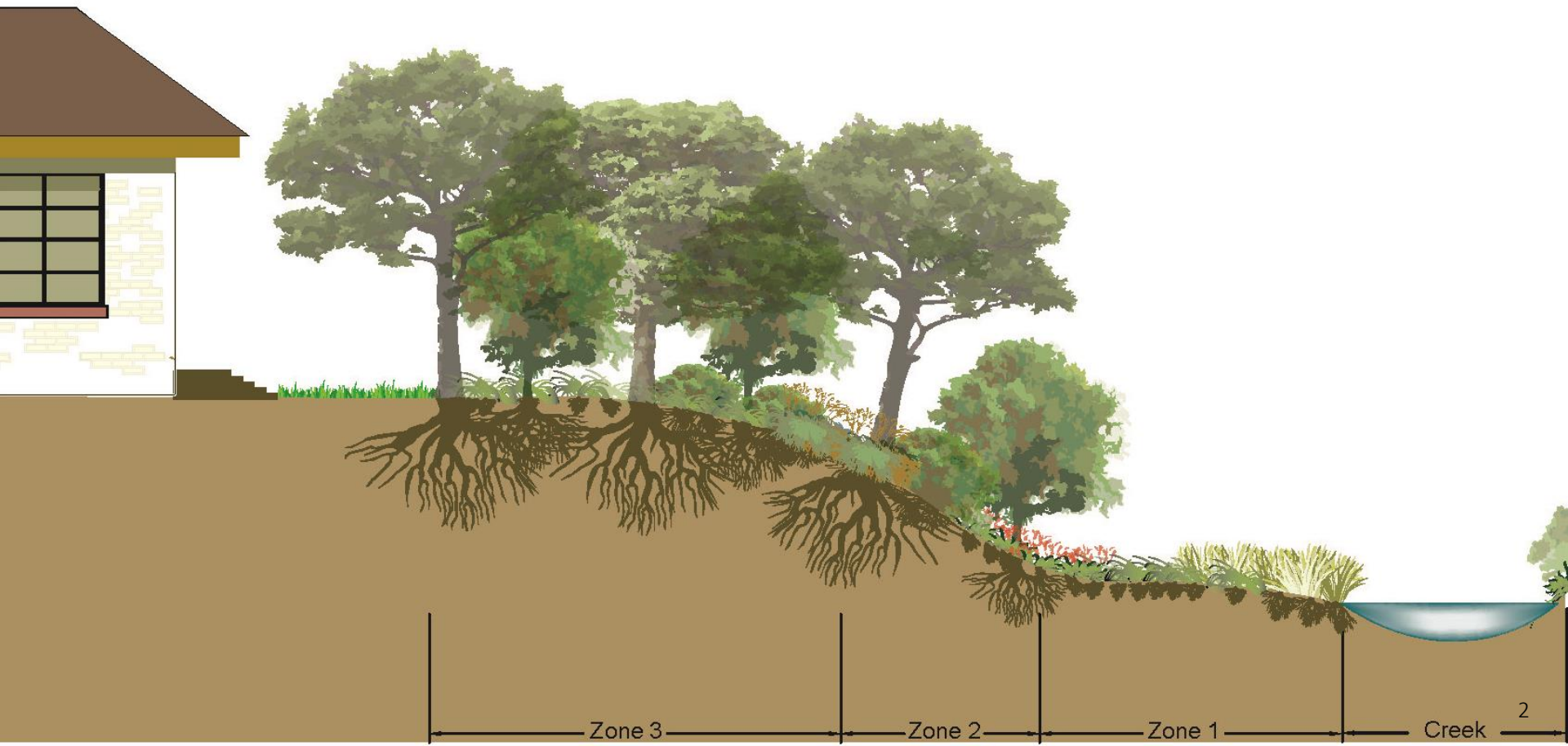




Stream Riparian Areas: Protection and Restoration

Chuck Lesniak, Environmental Officer
Mateo Scoggins, Environmental Scientist, Sr.

Riparian Zone: The transition between the aquatic and terrestrial



Urbanization creates watershed impacts



Erosion



Water Quantity

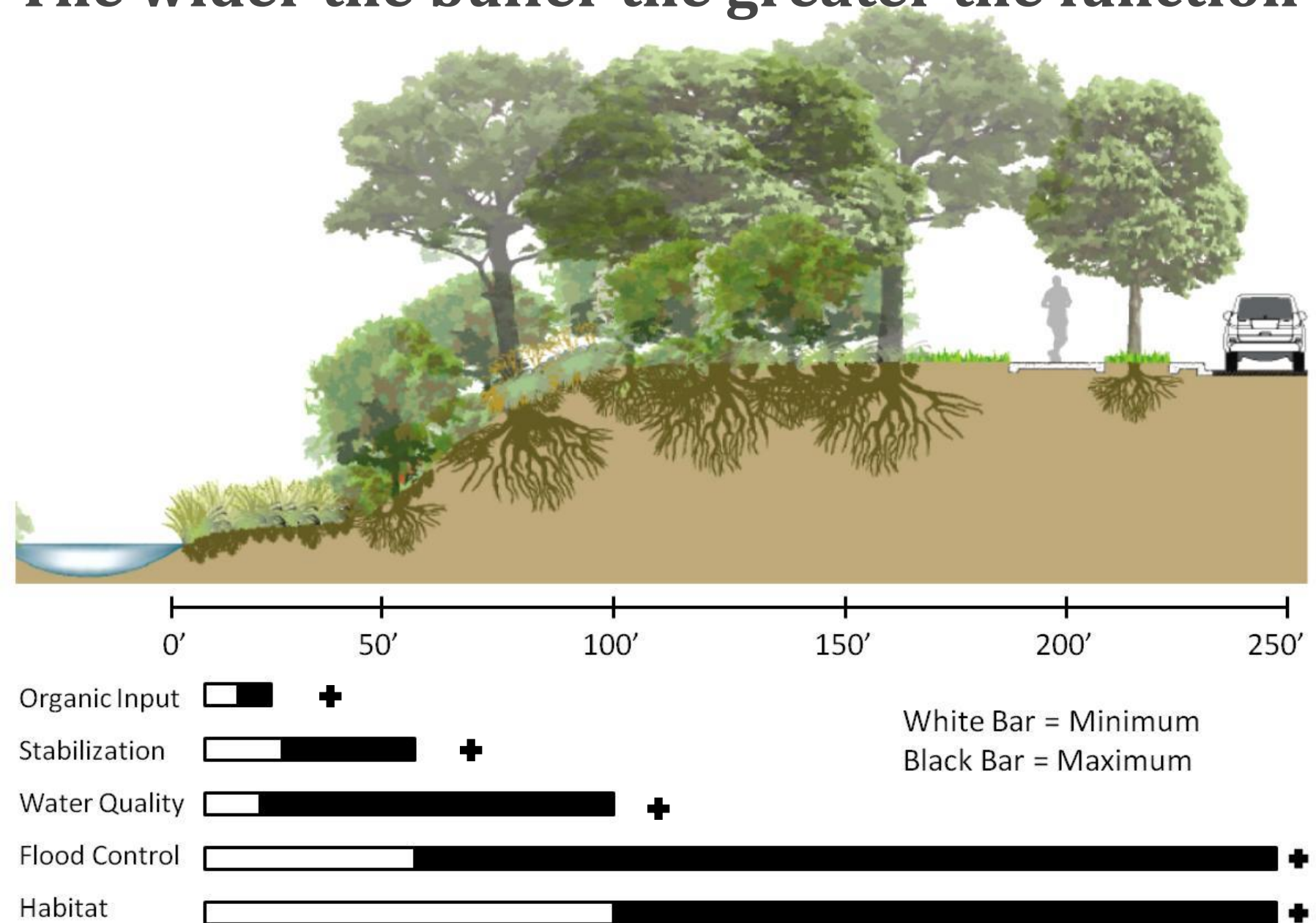


Water Quality

Healthy riparian areas are one solution



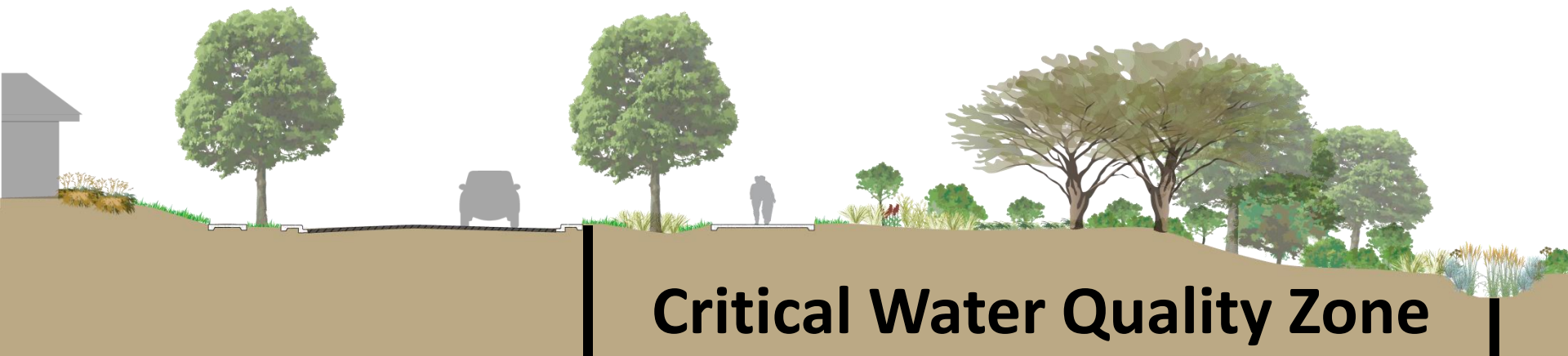
The wider the buffer the greater the function



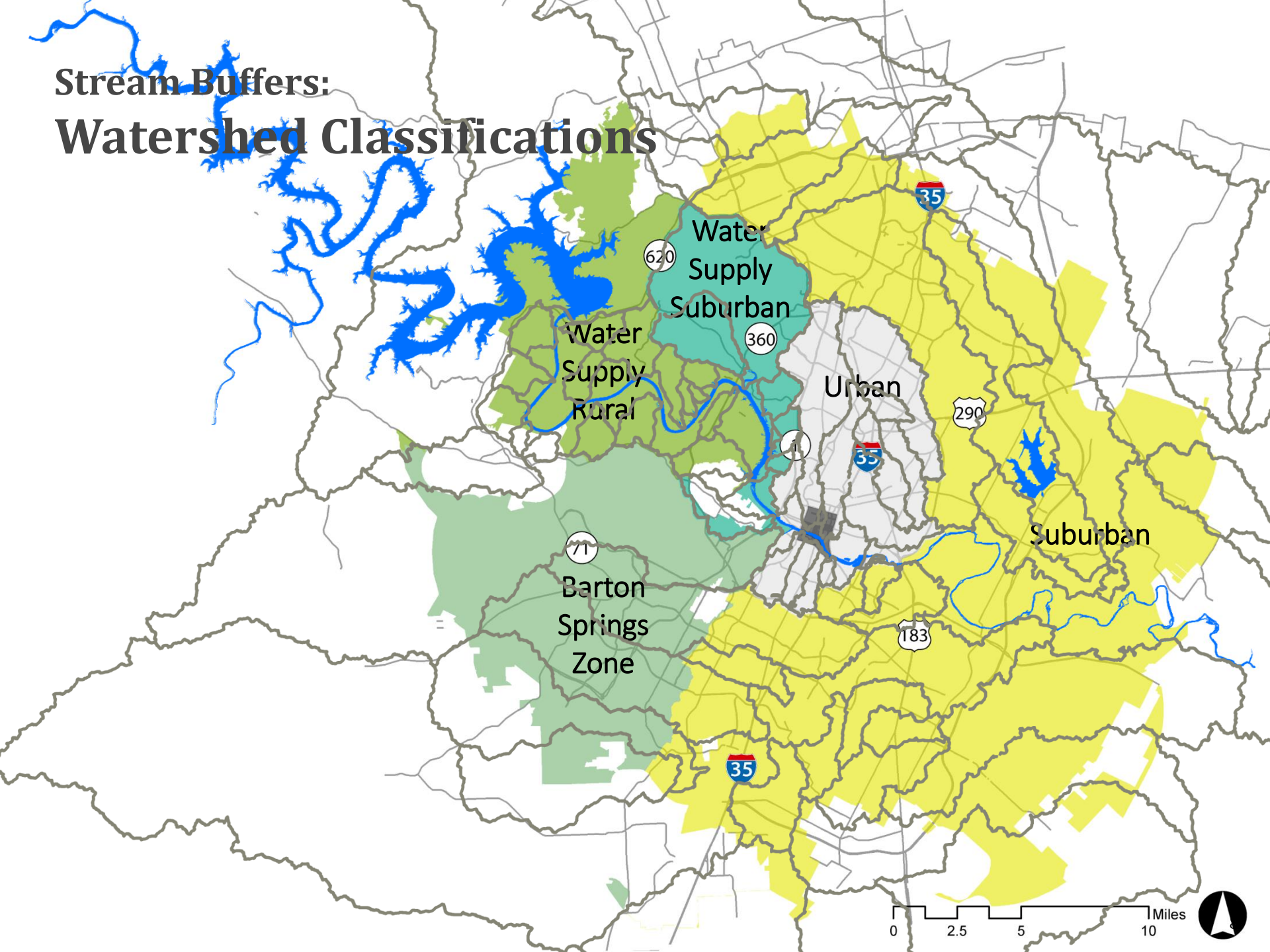
Riparian Zone Protection

Development in the CWQZ and WQTZ: Critical Water Quality Zone

- Low-impact uses allowed conditionally
- Disturbance must be revegetated and restored
- Width varies by watershed size and location
 - Minor (64-320 ac.) – 50-100' or floodplain
 - Intermediate (320-640 ac.) – 100-200' or floodplain
 - Major (>640 ac.) – 200-400' or floodplain
 - Urban (>64 ac.) – 50-400' or floodplain



Stream Buffers: Watershed Classifications



Stream Buffers: Critical Water Quality Zone



Development in the CWQZ and WQTZ: Water Quality Transition Zone

- Only in water supply watersheds and the Barton Springs Zone
- Development allowed in CWQZ
- Additional development allowed varies by watershed and location of recharge zone
 - Minor (64-320 ac.) – 50-100' or floodplain
 - Intermediate (320-640 ac.) – 100-200' or floodplain
 - Major (>640 ac.) – 200-400' or floodplain



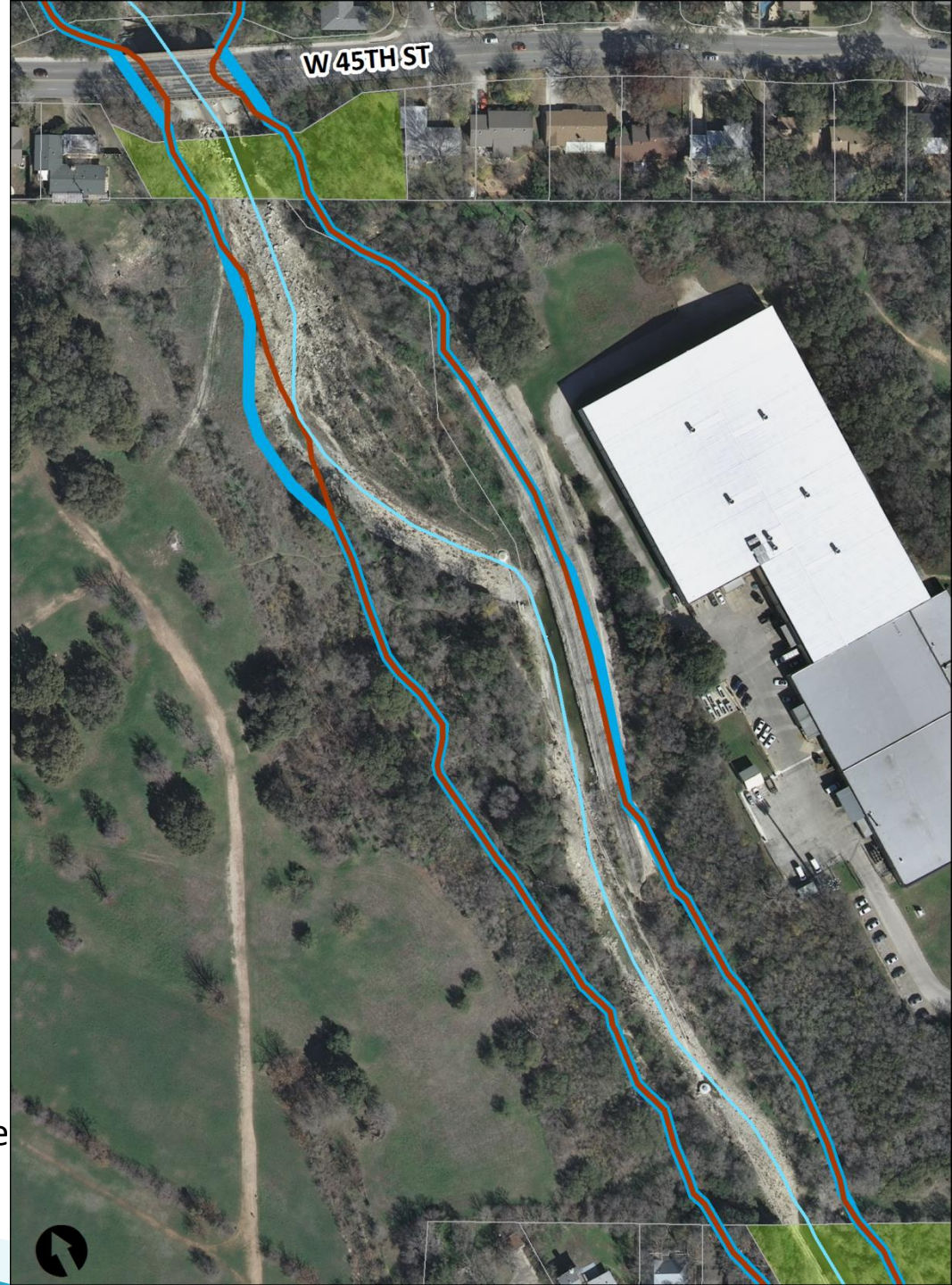
Stream Buffers: Water Quality Transition Zone



Grove at Shoal Creek PUD

- Project located along Shoal Creek (urban)
- CWQZ – 50-400' based on floodplain
- Existing riparian area is mature and in good condition
- High quality wetland along creek
- Working with applicant to preserve riparian area and wetland

- 100-Year Floodplain
- Critical Water Quality Zone
- City of Austin Parks



Riparian Restoration

Riparian Solutions

- Bank and Channel projects
- “Active” Riparian Restoration
- Grow Zone Program
- Invasive Species mgmt
- Small-scale Stormwater



 Sensitive Creekside Area

 **Grow Zone**
(No Mowing!)

Riparian Zones with tall grasses and plants :

- Improve water quality and quantity
- Stabilize streambanks from erosion
- Provide wildlife habitat and food
- Shade streams and lower temperatures

**Zona ribereña delicada
¡No corte las hierbas!**

Zona ribereña de pastos altos y plantas silvestres:

- Mejoran la cantidad y calidad del agua
- Estabilizan los causes de erosión
- Proporcionan un entorno de vida silvestre y de alimentos
- Hay mucha sombra para el suelo y para moderar las temperaturas del agua

www.austintexas.gov/watershed/creekside

Active Restoration

- Improve soil condition
- Improve structural and bio-diversity
 - Groundcover
 - Understory
 - Canopy
- Minor grading and drainage
- Invasive species management



Willowbrook Reach, 1997 - 2014



Grow Zones

- PARD and WPD
- Adopt-a-Creek
 - (Volunteer-driven)
- Non-profit partners
- Managed succession
- Climate resilience
- Highly expandable
- Excellent cost/benefit ratio



Austin Grow Zones



Improved Stormwater Management



Traditional methods pipe stormwater flow to streams

- Maintenance issues
- Bypass riparian area
- Increase flashiness

New techniques mimic natural process distributing stormwater more evenly through green space



Questions?

