



Onion Creek Floodplain and Flood Hazard Mitigation Study

*Bond Election Advisory Task Force
August 8, 2017*

Presentation Overview

- Initiation of Study
- Scope of Work
 - Floodplain Study
 - Flood Mitigation Alternatives
- Previous Studies
- Project Status and Schedule

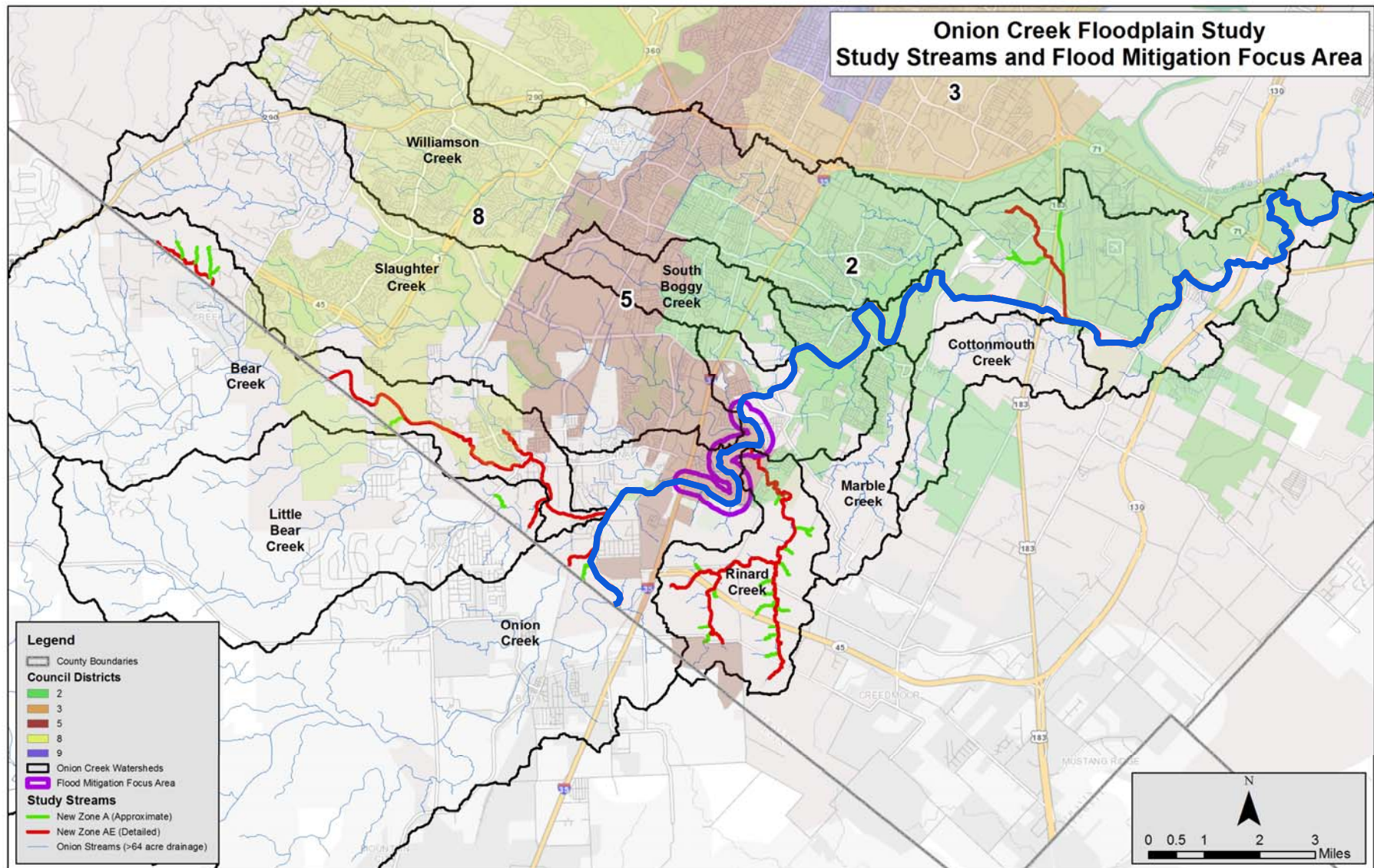
Project Initiation

- 2013 Halloween flood and previously identified high priority problem area
- Council Resolution 20140515-028 called for evaluation of funding required for flood mitigation study
- Notice to Proceed
 - Dec. 2014: Phase I - Survey of high water marks and finished floor elevations
 - Apr. 2015: Phase II – Floodplain study and flood mitigation alternatives analysis

Scope of Work – Floodplain Study

- Updated Hydrology – Onion Creek and Rinard Creek
- Updated Hydraulics and Mapping (64.3 miles)
 - Onion Creek and Tributaries (35.9 miles)
 - Bear Creek and Tributaries (11.7 miles)
 - Little Bear Creek and Tributaries (1.0 miles)
 - Rinard Creek and Tributaries (15.7 miles)
- 11 FEMA FIRM Panels Impacted
- Updated Regulatory Floodplains

Scope of Work – Floodplain Study

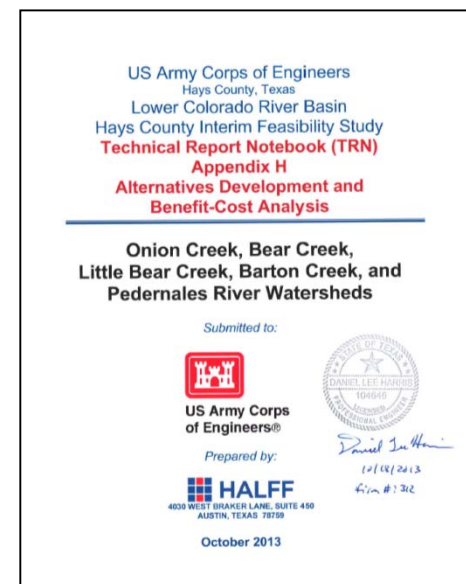
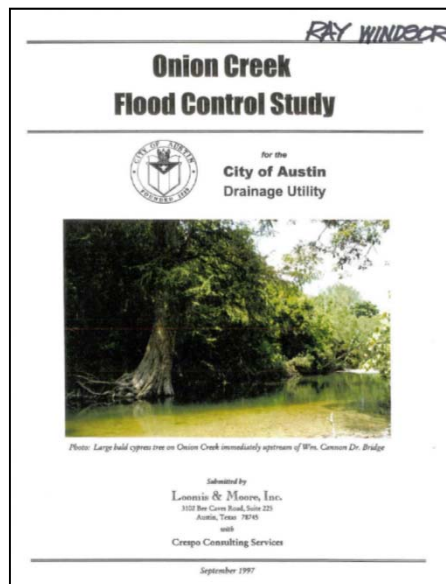


Scope of Work – Flood Hazard Mitigation

- Mitigation for Onion Creek between IH-35 and East Slaughter Lane
- Consider Broad Range of Potential Options
 - Regional Detention
 - Channel Modifications
 - Floodwalls / Levees
 - Property Acquisitions
- The most feasible alternative is likely to include a combination of two or more of these elements

Previous Studies

- Study referenced and built on previous work
- Previous Studies with Mitigation Evaluations
 - 1997 Onion Creek Flood Control Study
 - 2006 USACE Onion Creek Interim Feasibility Study
 - 2013 USACE Hays County Interim Feasibility Study



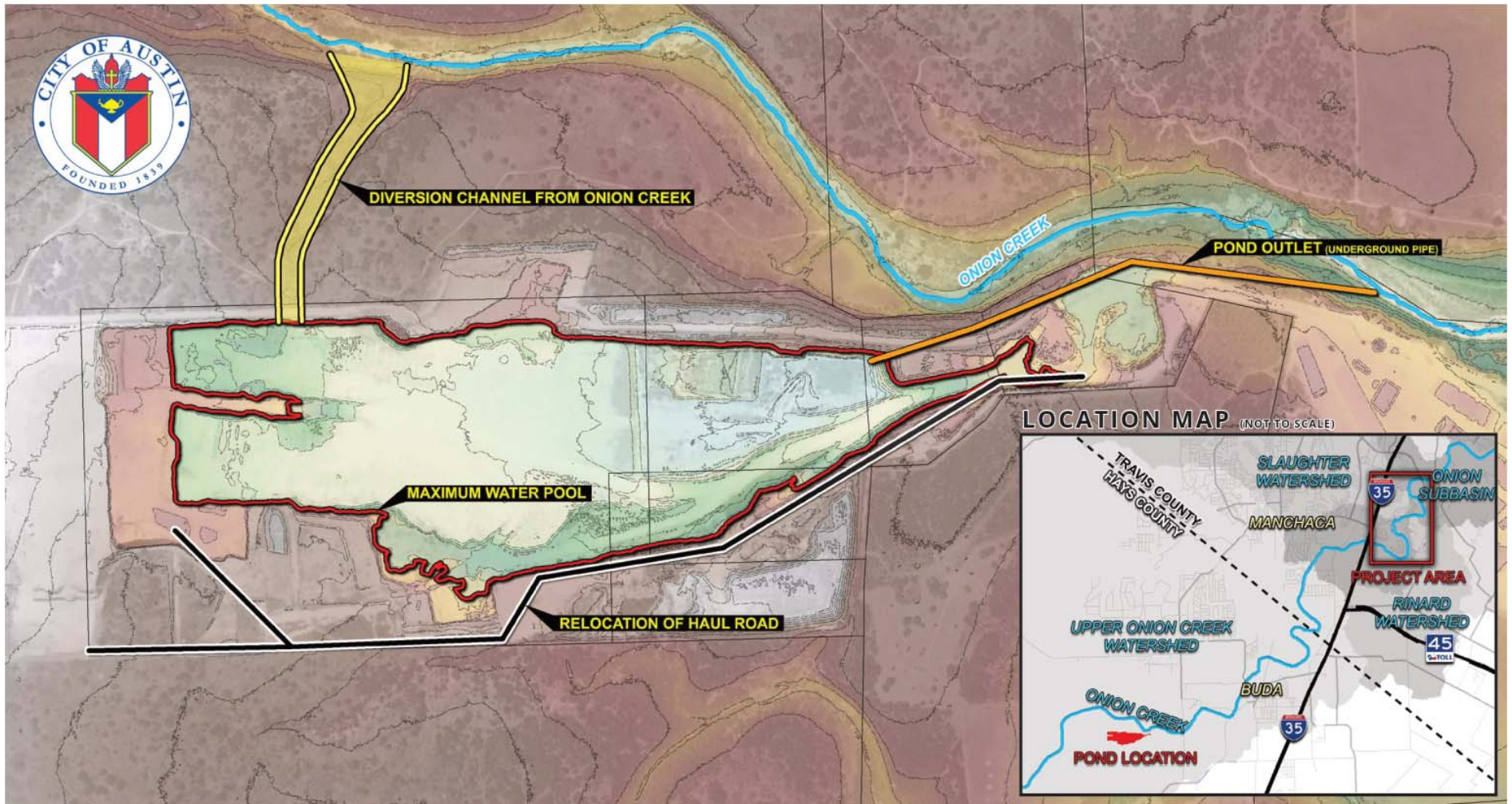
Project Schedule

- High-level Feasibility Evaluation Mar 2016
- Floodplain Models and Mapping
 - Models and Maps Completed Jun 2016
 - Preliminary FEMA Floodplain Maps Jan 2017
 - Effective FEMA Floodplain Maps Late 2018
- Detailed Feasibility Report Aug 2017

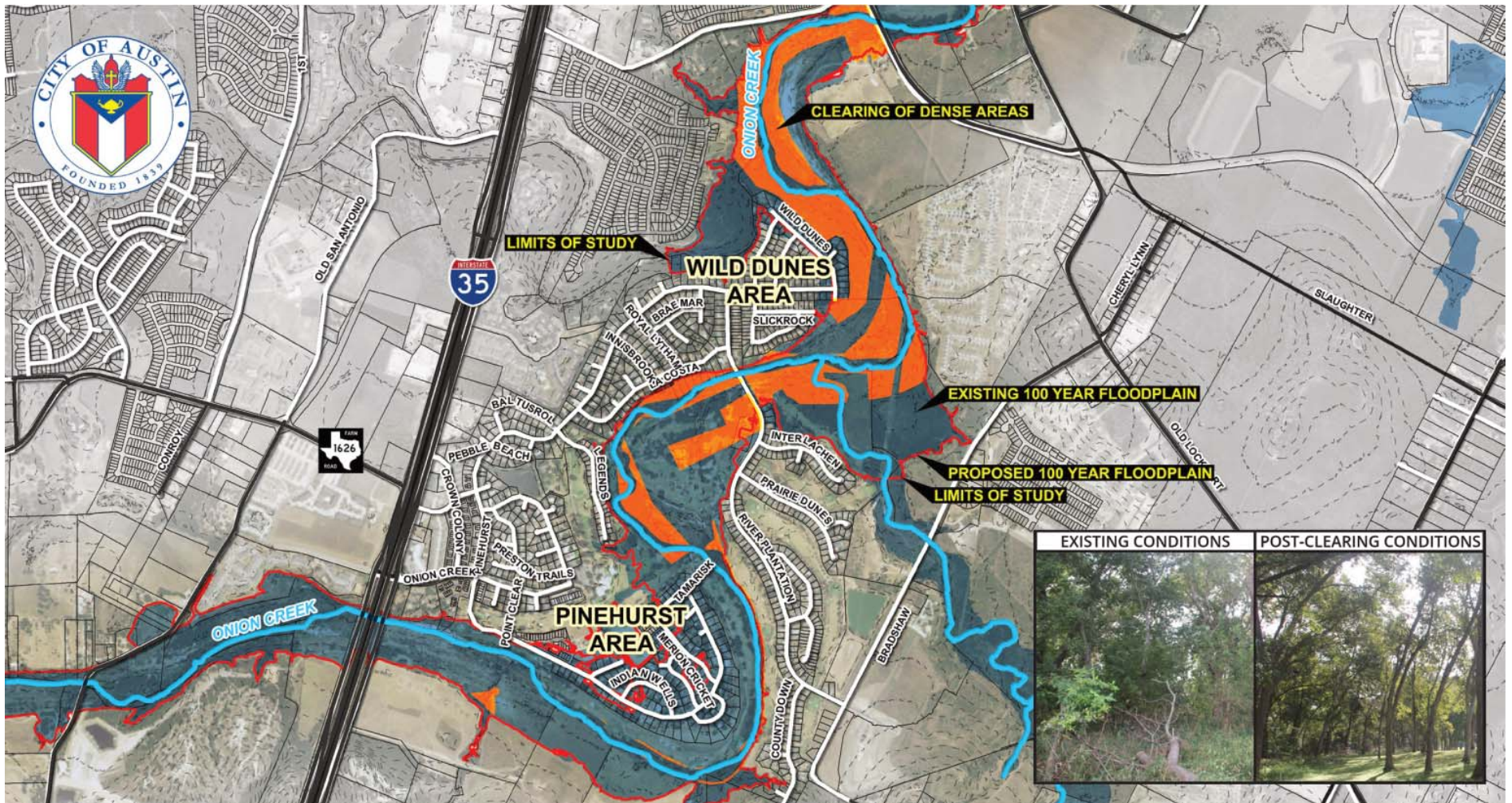
Current Status

- Floodplain modeling and mapping complete and in use for regulatory purposes
- Final technical documentation of floodplain study nearing completion
- Final Detailed Feasibility Report in review
- WPD working on department recommendation to City Council

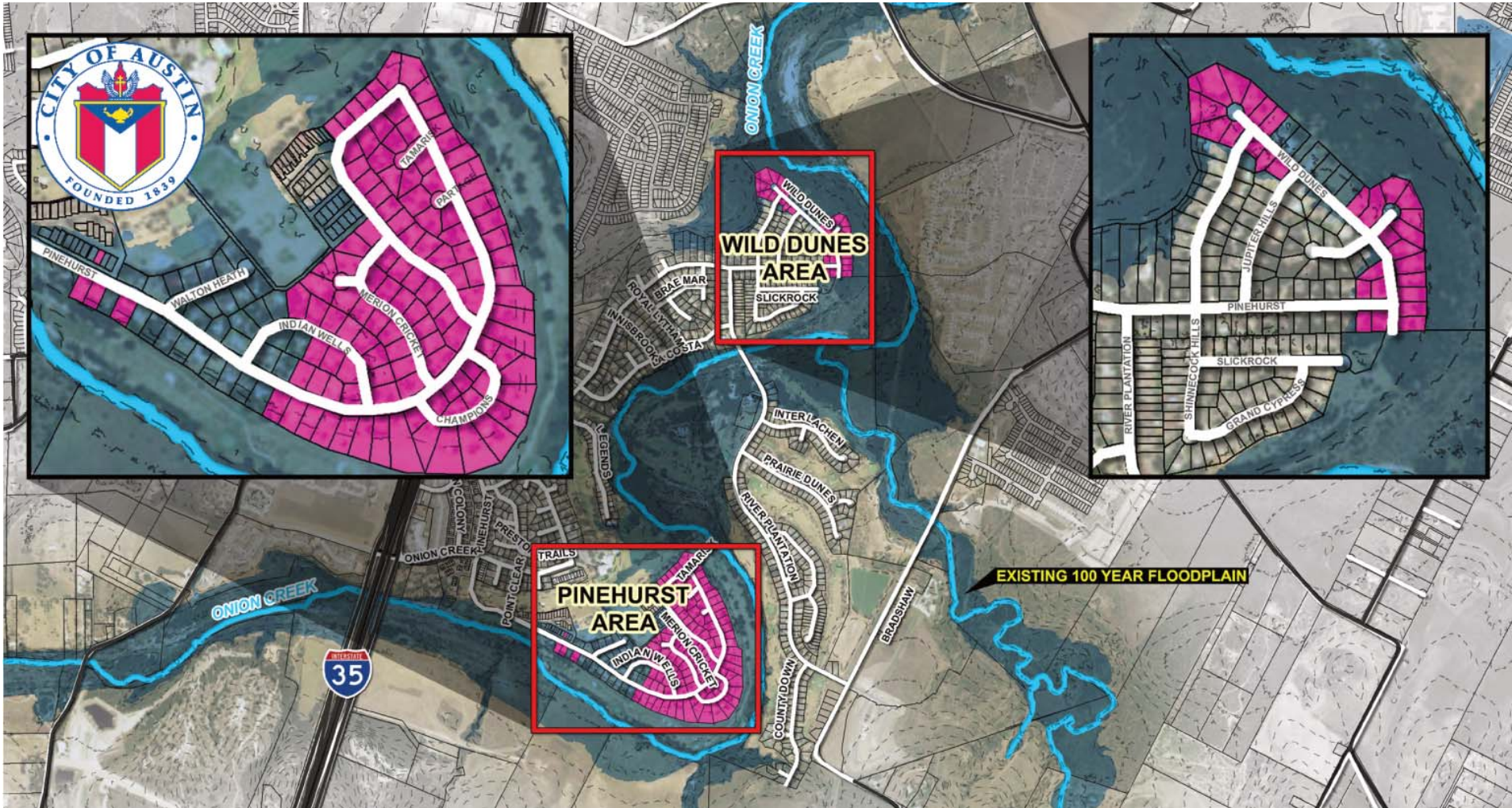
Centex West Regional Detention Pond



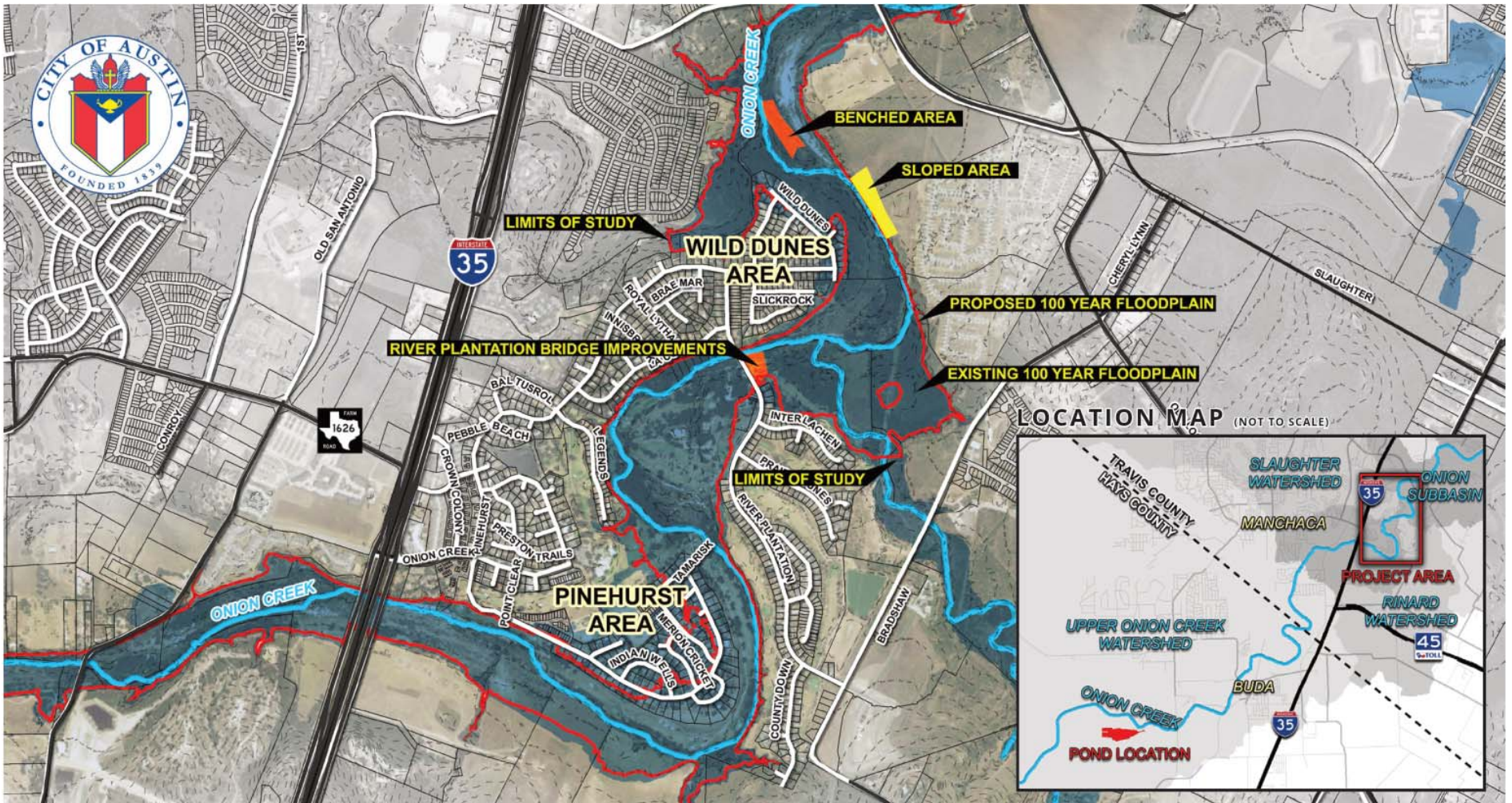
Channel Clearing



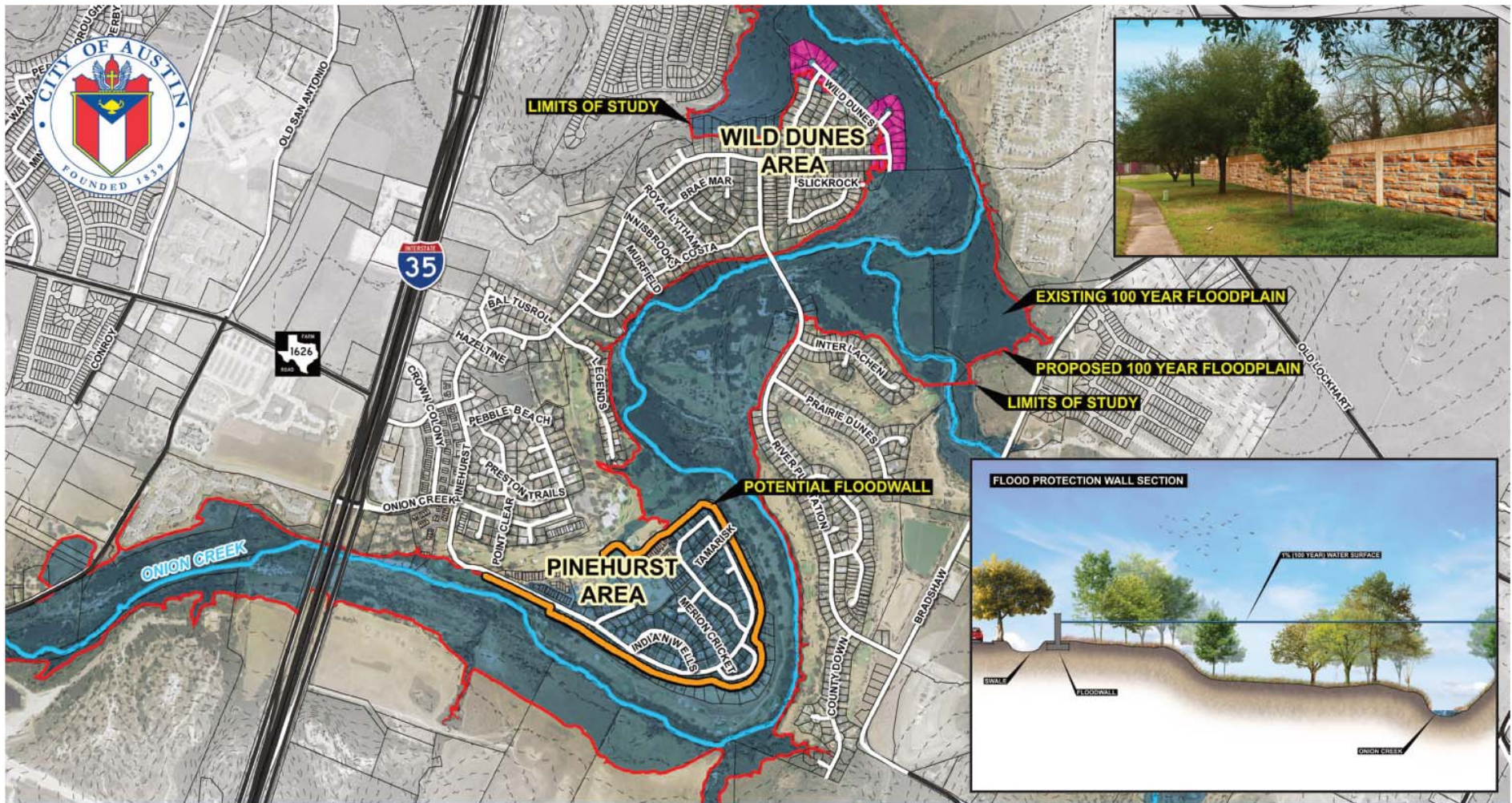
Voluntary Buyouts



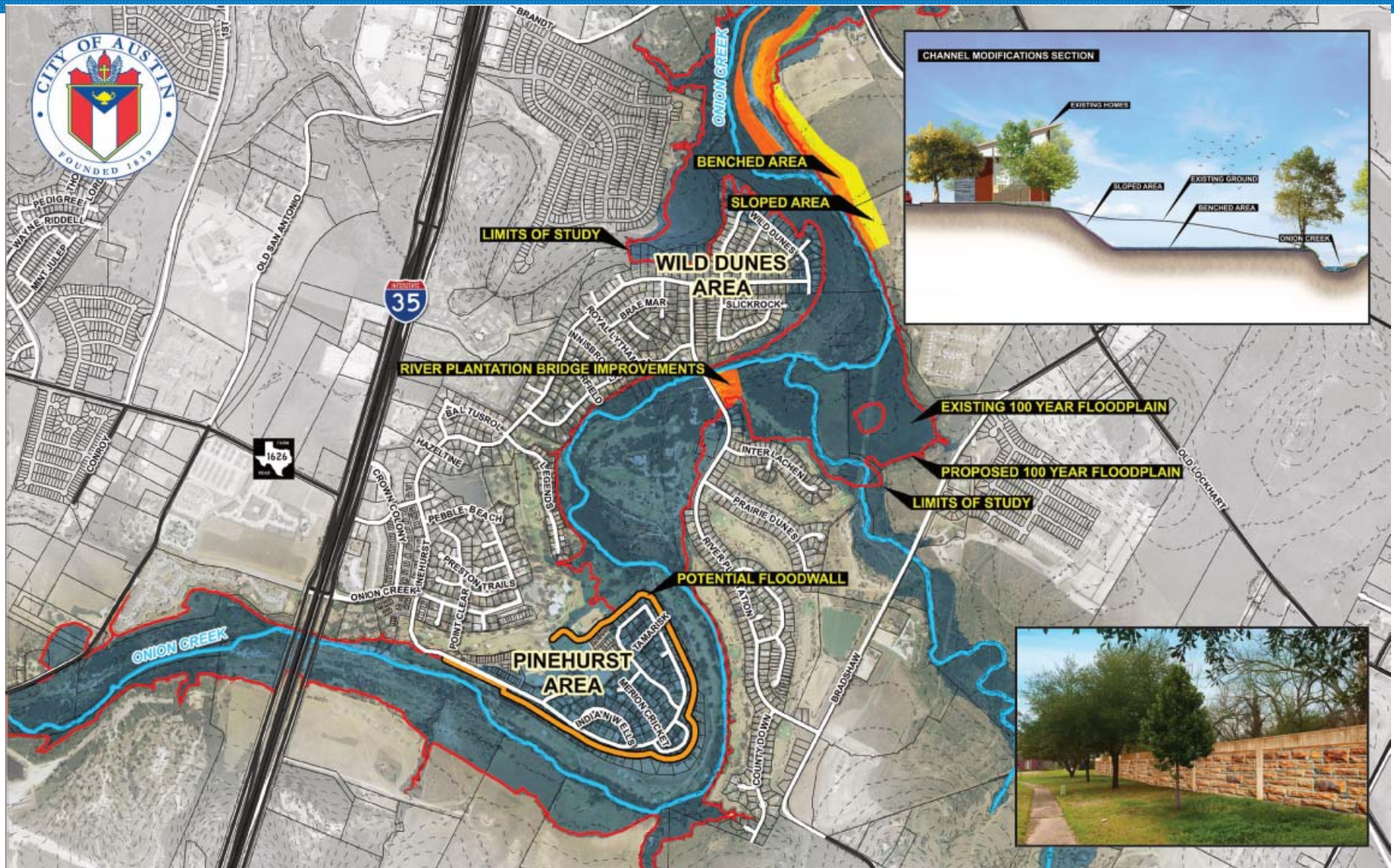
Centex West Detention Pond with Channel Modifications



Pinehurst Flood Protection Wall with Voluntary Buyouts



Pinehurst Flood Protection Wall with Channel Modifications



Criteria: Summary

Criteria	Best		Worst
Benefits and Costs	<ul style="list-style-type: none"> • Wall with Buyouts 	<ul style="list-style-type: none"> • Wall with Chl. Mods. • Voluntary Buyouts 	<ul style="list-style-type: none"> • Centex West Pond • Pond with Chl. Mods. • Channel Clearing
Environmental Impacts	<ul style="list-style-type: none"> • Voluntary Buyouts 	<ul style="list-style-type: none"> • Centex West Pond • Pond with Chl. Mods. • Wall with Buyouts 	<ul style="list-style-type: none"> • Wall with Chl. Mods. • Channel Clearing
Time of Implementation	<ul style="list-style-type: none"> • Voluntary Buyouts 	<ul style="list-style-type: none"> • Wall with Buyouts • Wall with Chl. Mods. • Channel Clearing 	<ul style="list-style-type: none"> • Centex West Pond • Pond with Chl. Mods.
Land Acquisition Required	<ul style="list-style-type: none"> • Voluntary Buyouts 	<ul style="list-style-type: none"> • Wall with Buyouts • Wall with Chl. Mods. 	<ul style="list-style-type: none"> • Centex West Pond • Pond with Chl. Mods. • Channel Clearing
Complexity of Permitting	<ul style="list-style-type: none"> • Voluntary Buyouts 	<ul style="list-style-type: none"> • Wall with Buyouts • Wall with Chl. Mods. • Channel Clearing 	<ul style="list-style-type: none"> • Centex West Pond • Pond with Chl. Mods.
Neighborhood Input	<ul style="list-style-type: none"> • Centex West Pond • Pond with Chl. Mods. • Channel Clearing 	<ul style="list-style-type: none"> • Wall with Chl. Mods. • Voluntary Buyouts 	<ul style="list-style-type: none"> • Wall with Buyouts
Funding Constraints	<ul style="list-style-type: none"> • Voluntary Buyouts 	<ul style="list-style-type: none"> • Pond with Chl. Mods. • Wall with Buyouts • Wall with Chl. Mods. • Channel Clearing 	<ul style="list-style-type: none"> • Centex West Pond

Coordination and Communication

- Submitted engineering information to FEMA
- Coordinated with other municipalities, counties and regional/state entities regarding regional approaches
- Communicate with Onion Creek neighborhood
- Provide update to City Council and Environmental Commission

Next Steps

- Develop department recommendation for flood mitigation
- Update City Council and Environmental Commission
- Proceed with selected mitigation option
- Currently working on 10 property acquisitions



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Questions

Contact Information

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