



Onion Creek Floodplain and Flood Hazard Mitigation Study

Open Space, Environment, and Sustainability Committee

May 26, 2016

Presentation Overview

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

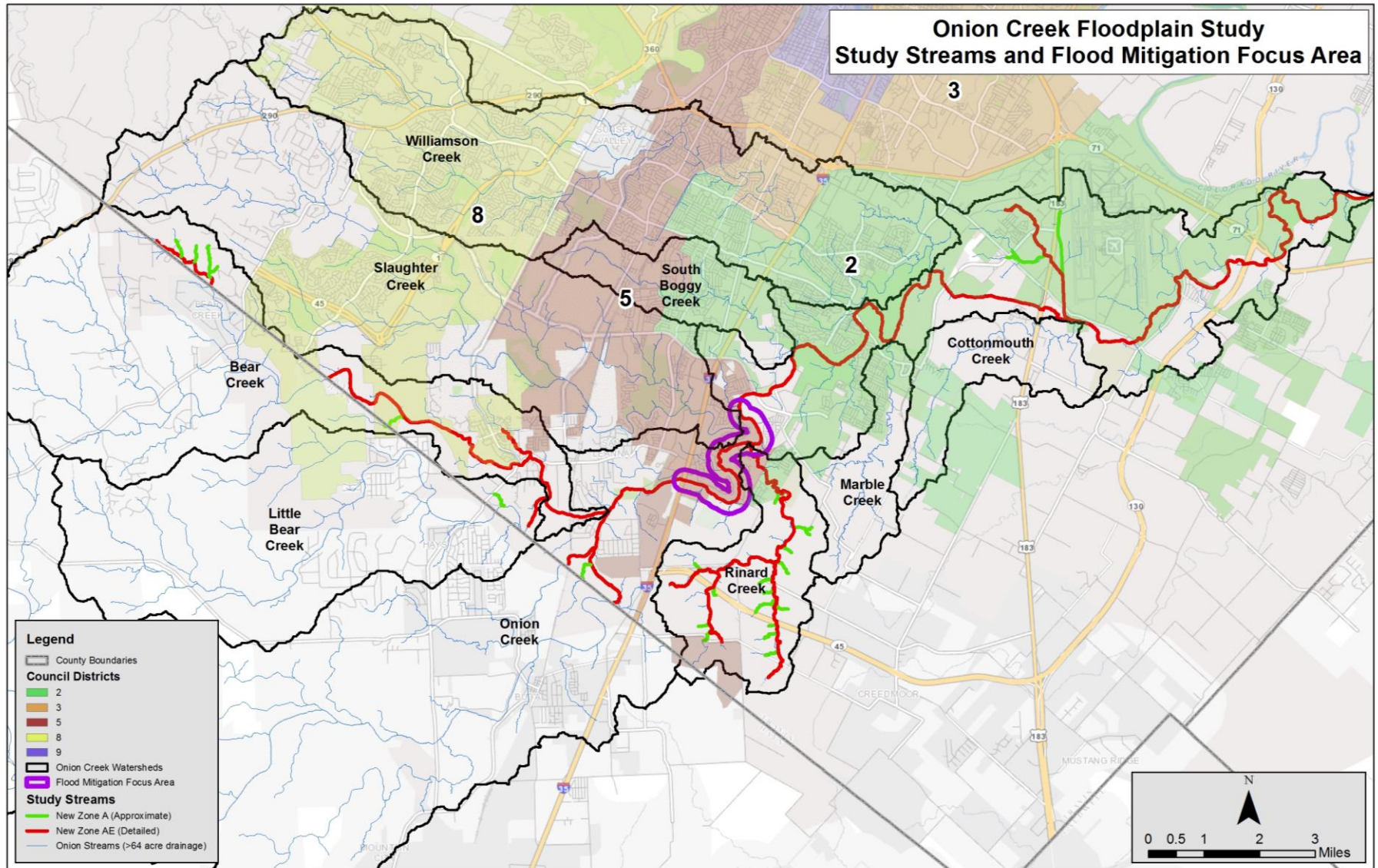
Project Initiation

- 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

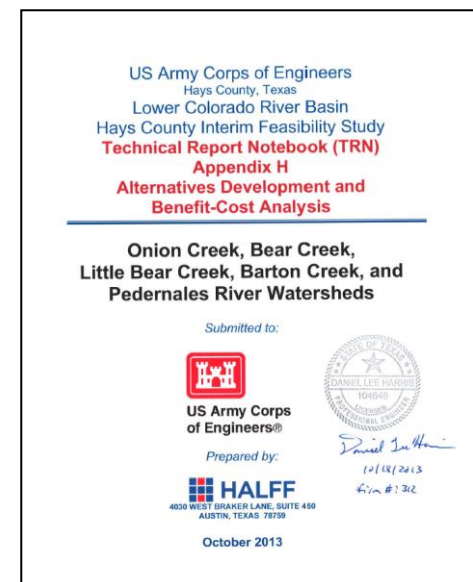
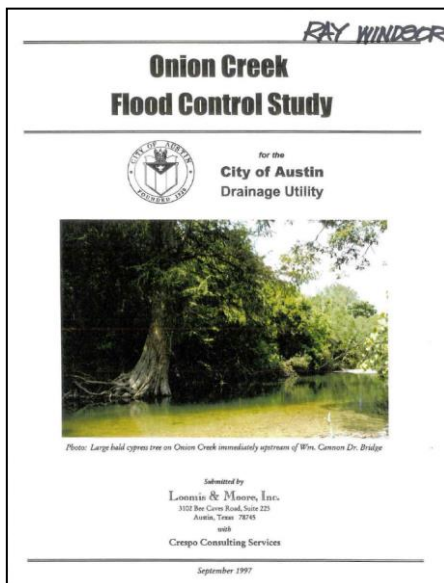


Scope of Work – Flood Hazard Mitigation

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

Previous Studies

- Study will build 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

- Feasibility Level Evaluation Mar 2016
- Floodplain Models and Mapping Jun 2016
- Preliminary Engineering Evaluation Sep 2016
- FEMA Letter of Map Revision
submittal Sep 2016
 - anticipated FEMA approval date Sep 2017

Project Schedule

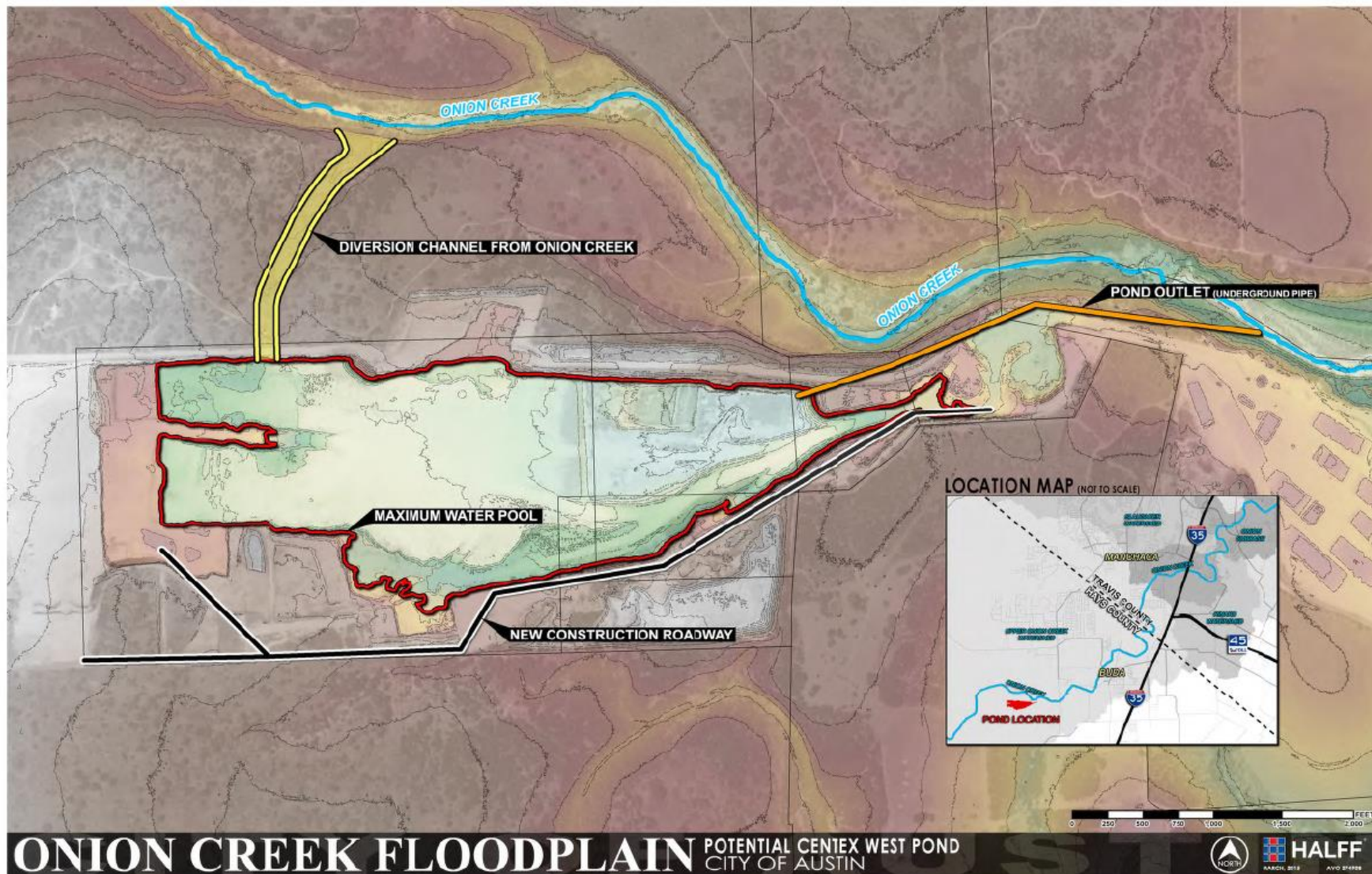
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Schedule adjustments expected

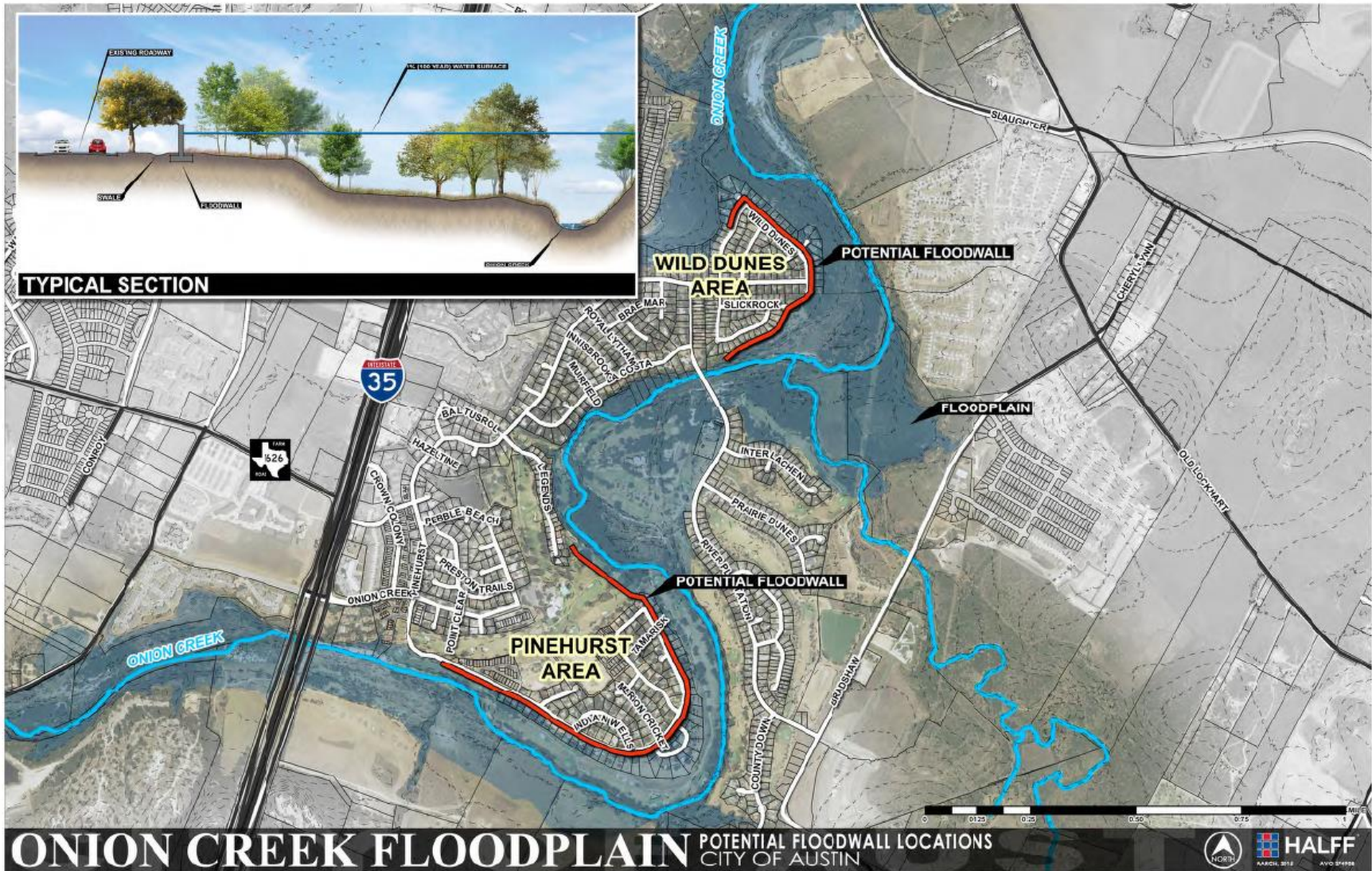
Current Status

- Field survey complete
 - Finished floor elevations (Phase I)
 - High water marks (Phase I)
 - Hydraulic structures and cross sections (Phase II)
- Hydrology update nearing completion
- Draft hydraulic models reviewed and final models in preparation
- Feasibility-level flood mitigation alternatives analysis complete

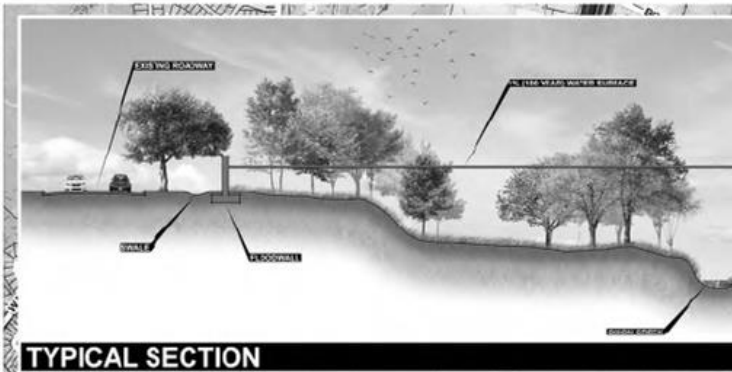
Regional Detention – Centex West



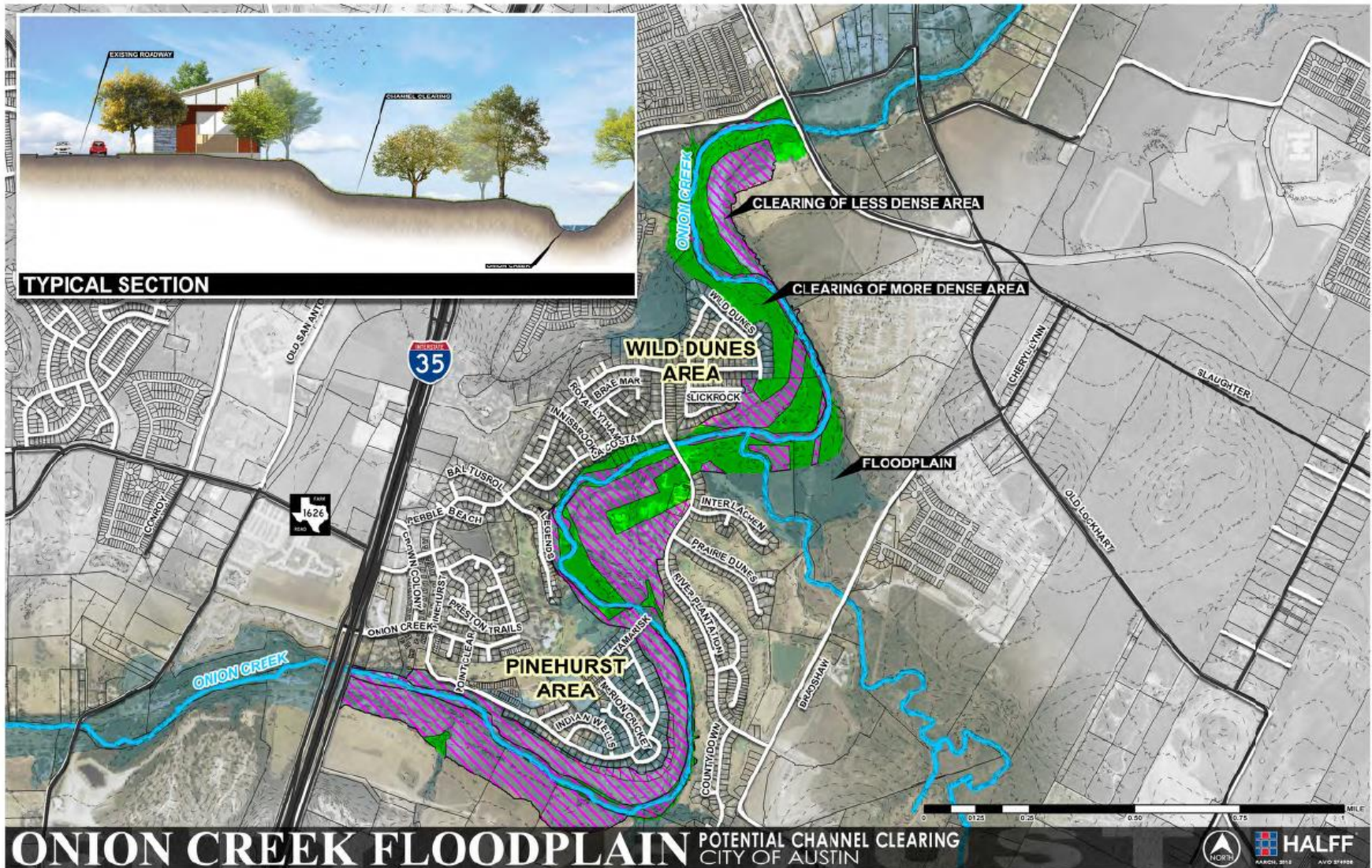
Floodwalls



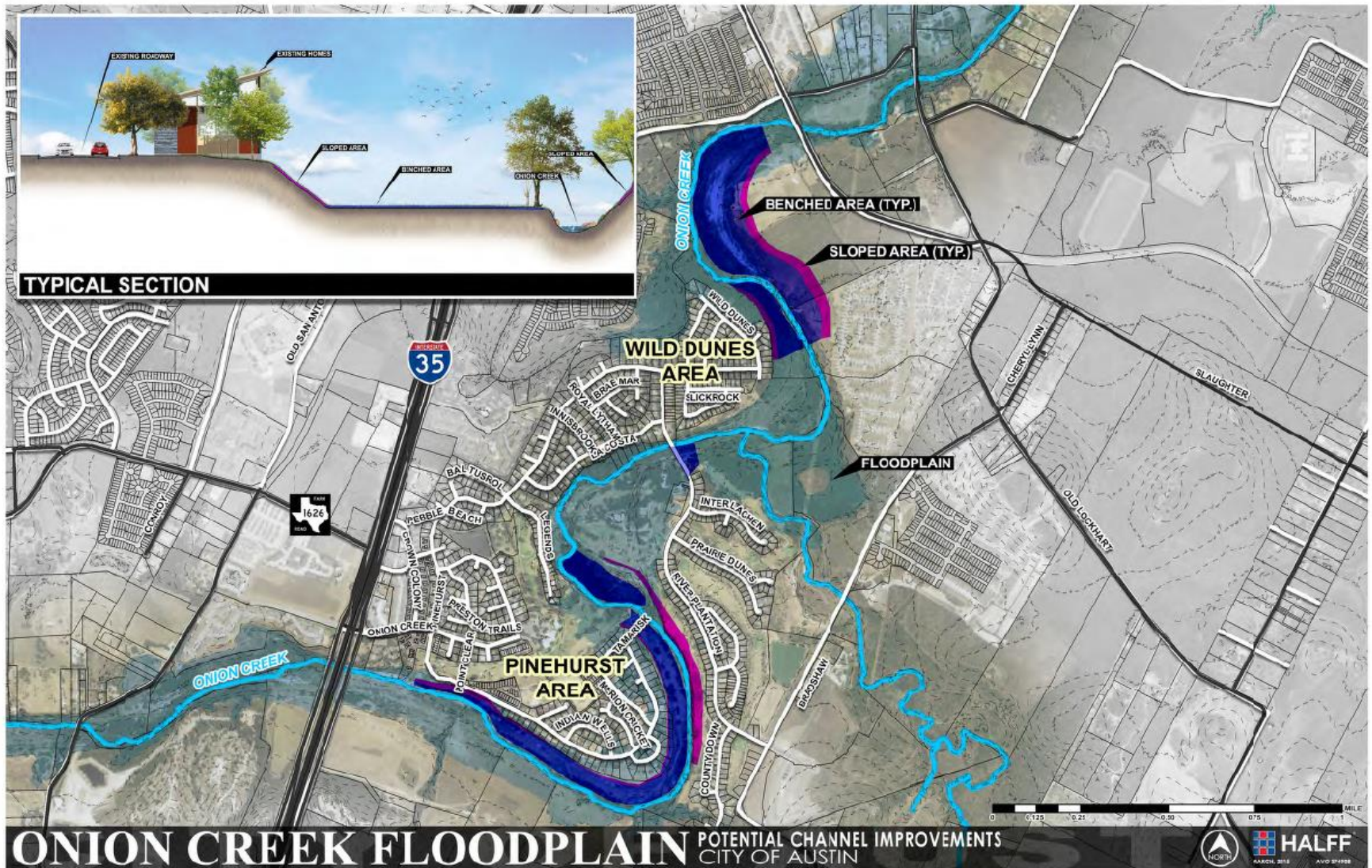
Floodwalls



Channel Clearing



Channel Benching



Next Steps

- Complete floodplain study
- Coordinate with other municipalities, counties and regional/state entities regarding regional approaches
- Coordinate with Onion Creek neighborhood
- Refine potential mitigation alternatives
- Develop recommendations for flood mitigation



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Questions