

Environmental Commission Briefing: Onion Creek Flood Mitigation Feasibility Study

December 6, 2017

(originally presented to neighborhood on 11/14/2017)

City of Austin
Watershed Protection Department

Presentation Topics

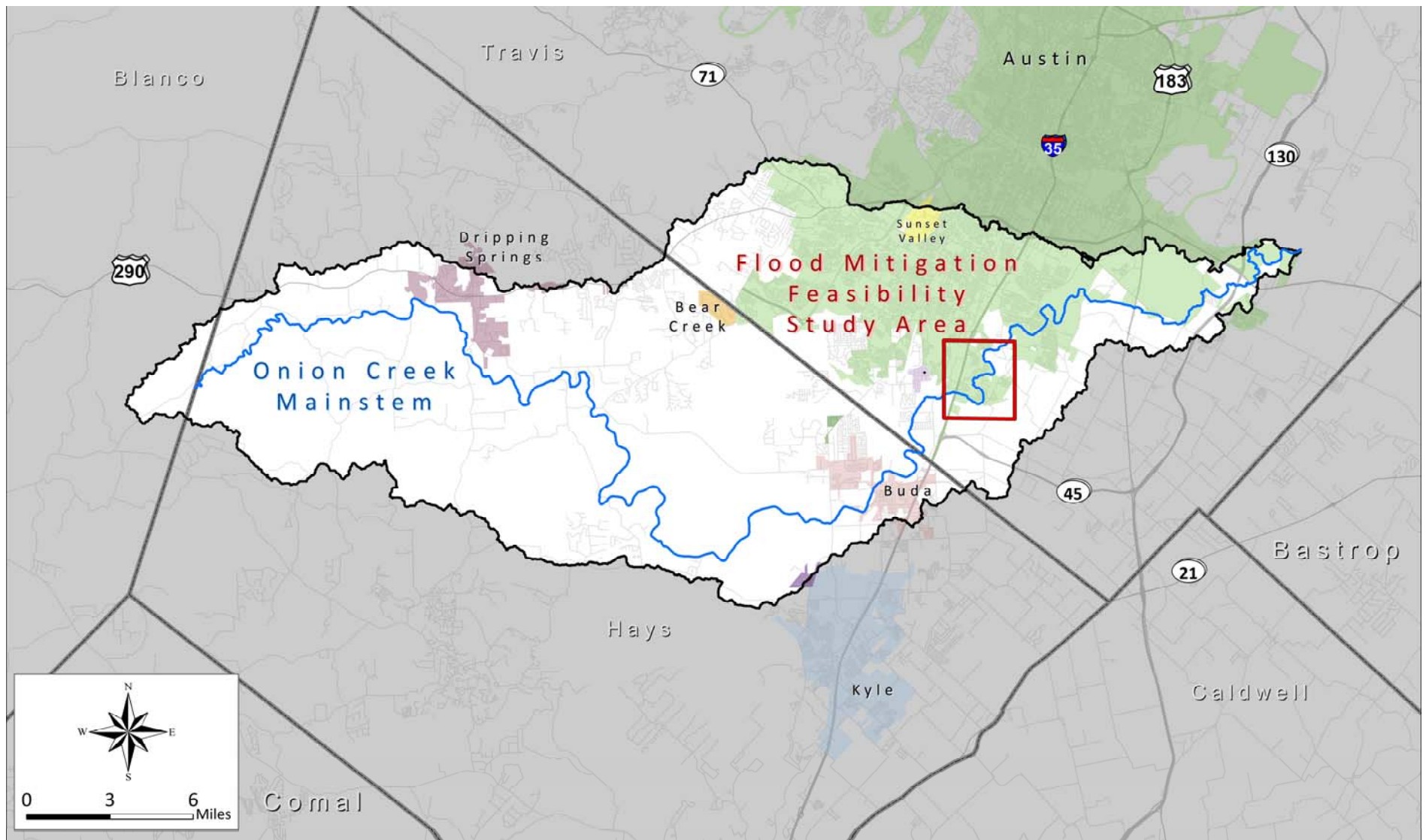
- Background & Flood Risk
- Engineering Study Results
 - Final Alternatives
 - Evaluation Criteria
 - Recommended Solution
- Next Steps



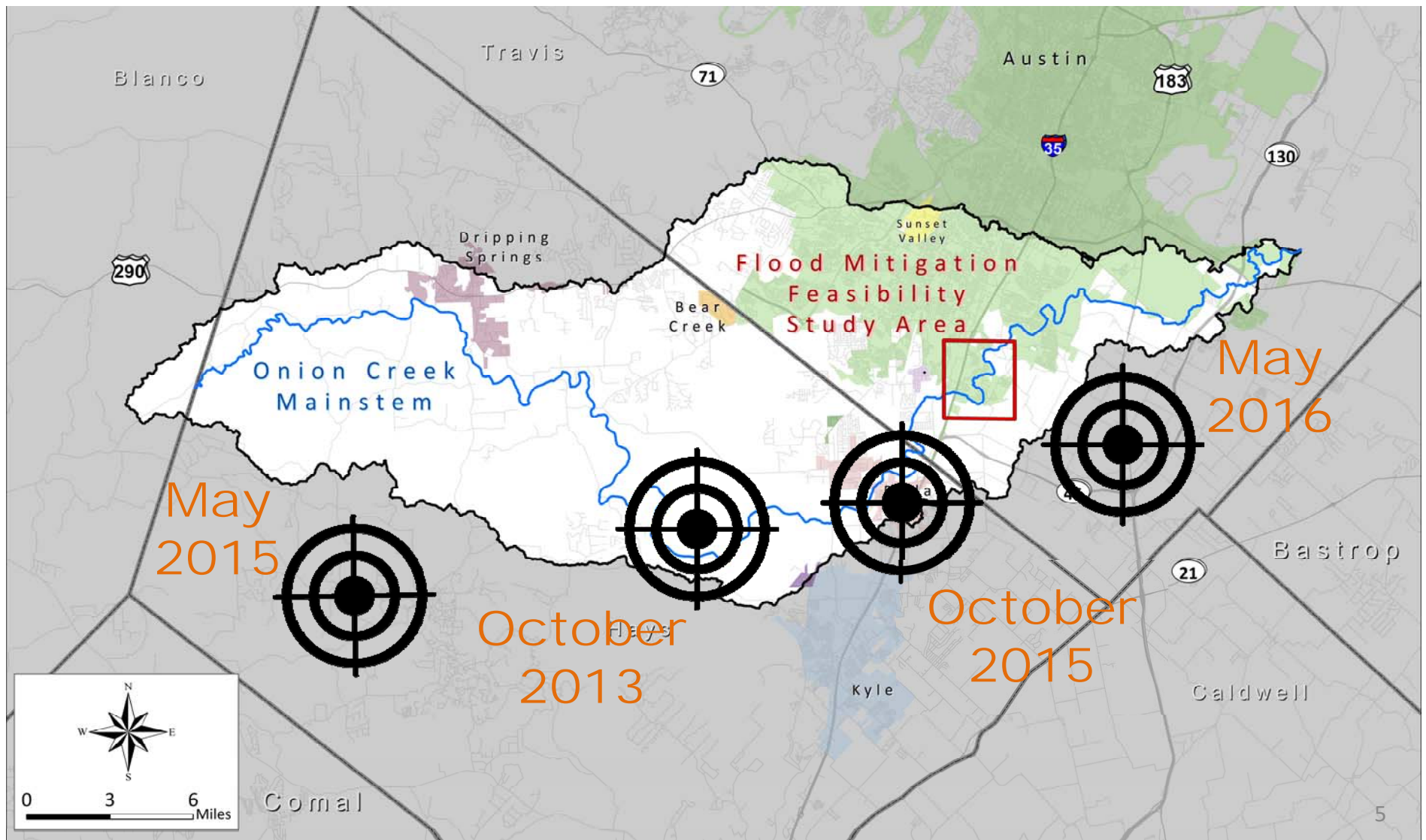


Background & Flood Risk

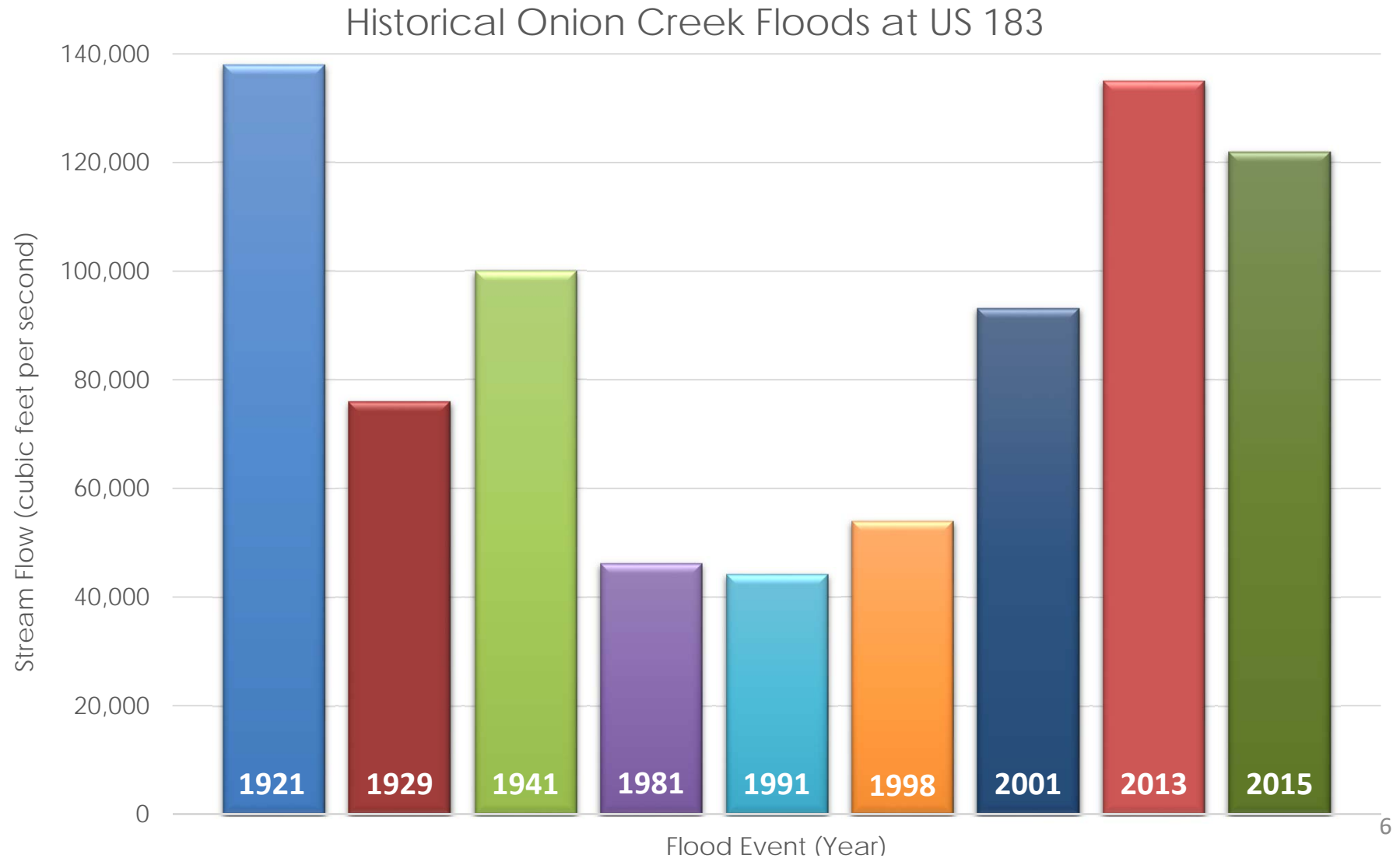
Onion Creek Watershed



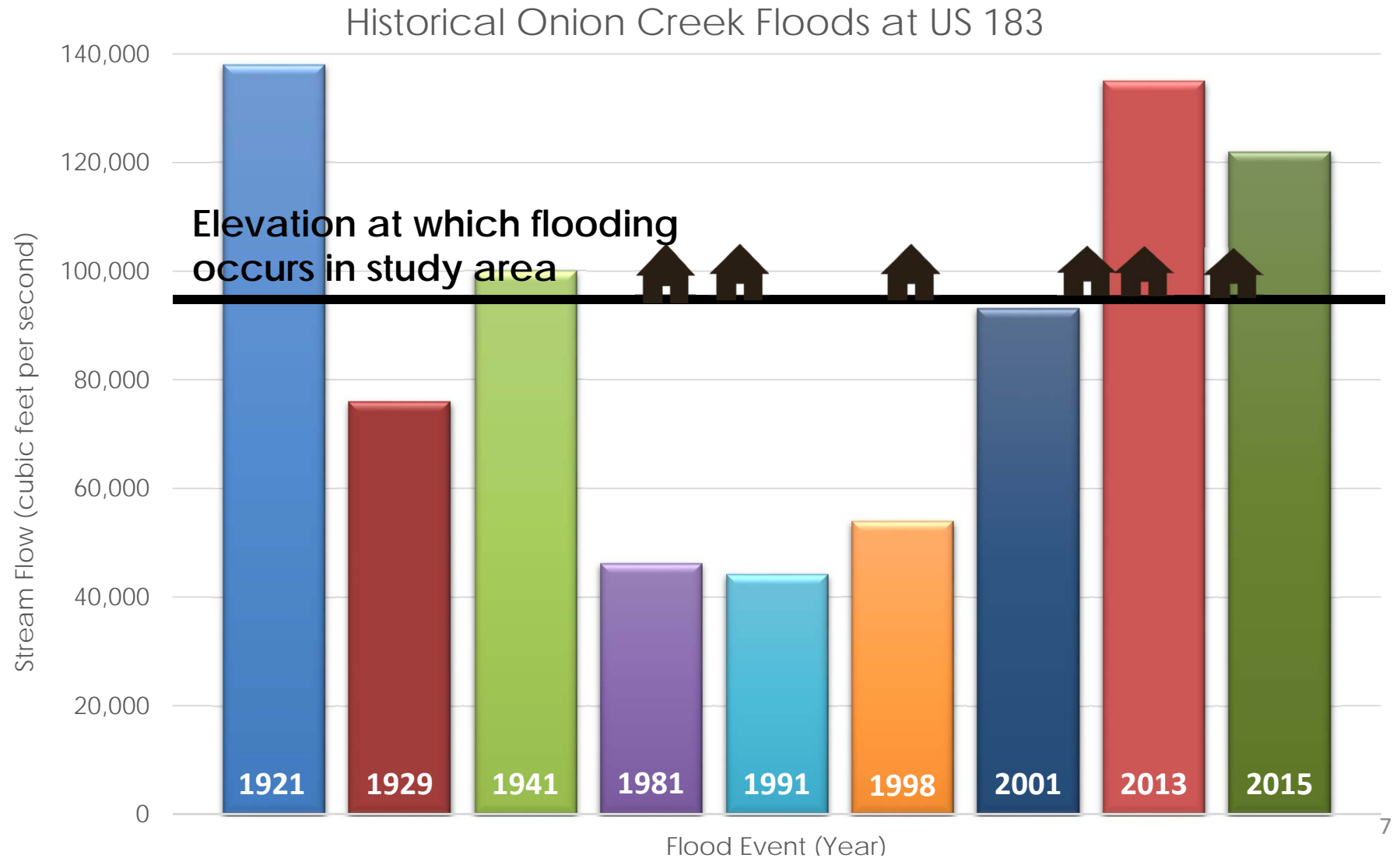
Flood Risk: Where the rain falls matters



Flood Risk: How much rain matters

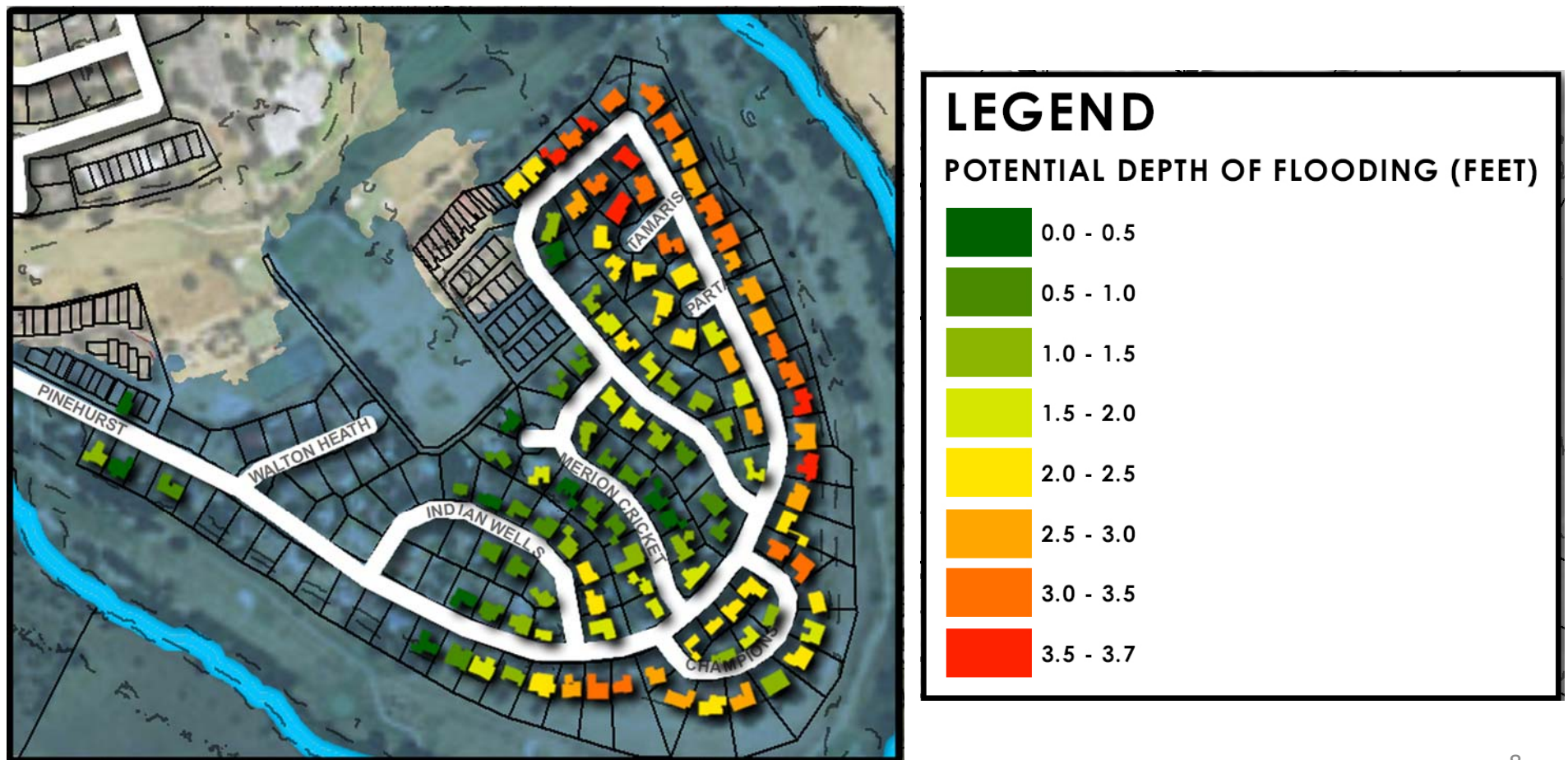


Flood Risk: How much rain matters



Existing Condition 100-year Flood Risk

Pinehurst Neighborhood (115 houses at risk of interior flooding)



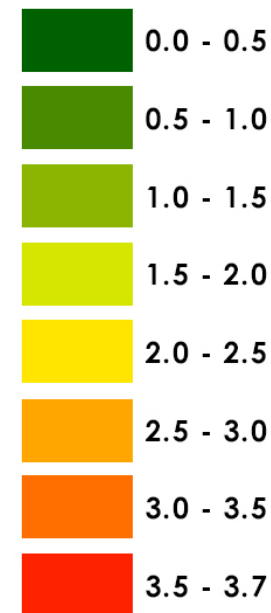
Existing Condition 100-year Flood Risk

Wild Dunes Neighborhood (23 houses at risk of interior flooding)



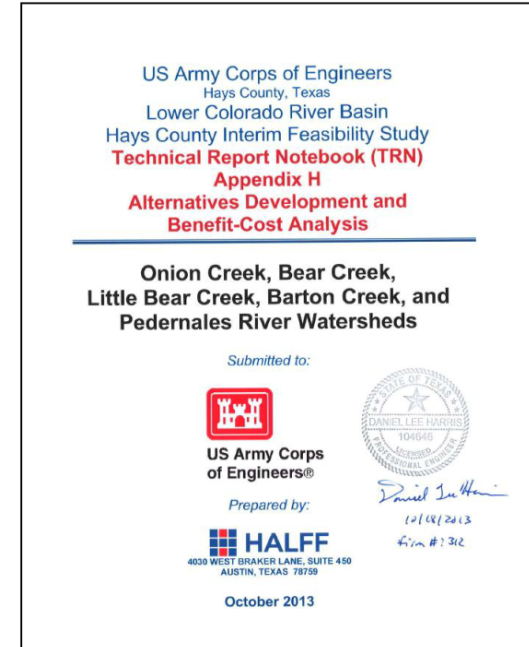
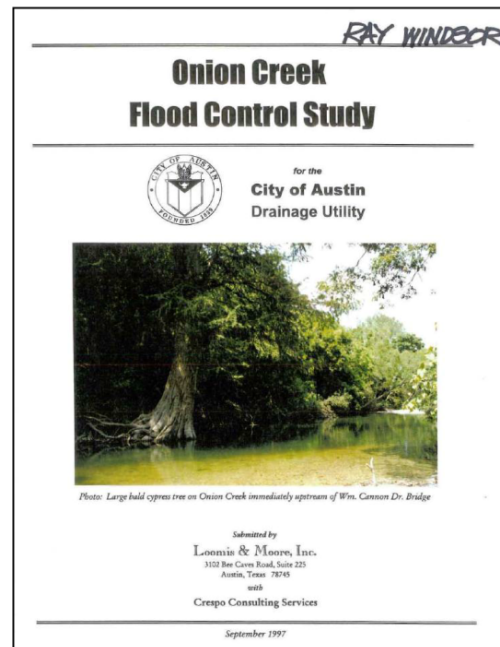
LEGEND

POTENTIAL DEPTH OF FLOODING (FEET)



Previous Studies

- 1997 – Loomis and Moore (City of Austin)
- 2006 – U.S. Army Corps of Engineers (Travis County, City of Austin)
- 2013 – U.S. Army Corps of Engineers (Hays County)





Engineering Study Results

Final Alternatives

- **Stand-Alone Options**

- Centex West Detention Pond
- Channel Clearing
- Buyouts
 - Pinehurst Neighborhood
 - Wild Dunes Neighborhood

- **Combined Options**

- Centex West Detention Pond with Channel Modifications
- Pinehurst Flood Protection Wall with Channel Modifications
- Pinehurst Flood Protection Wall with Wild Dunes Buyouts

Evaluation Criteria

- Flood Risk Reduction Benefits & Costs
- Time of Implementation
- Neighborhood Input
- Funding Constraints
- Environmental Impacts
- Land & Easement Acquisition Required
- Complexity of Permitting

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100-year Flood Risk Reduction

Buyouts	138 houses
Floodwall with Wild Dunes Buyouts	138 houses
Floodwall with Channel Modifications	138 houses
Centex Pond with Channel Modifications	Up to 110 houses*
Centex Pond	Up to 78 houses*
Channel Clearing	51 houses

* Dependent upon rainfall being located upstream of pond

Time of Completion Once Funded

Buyouts	2 years
Channel Clearing	2 to 5 years
Floodwall with Wild Dunes Buyouts	5 to 7 years
Floodwall with Channel Modifications	7 to 10 years
Centex Pond with Channel Modifications	Over 10 years
Centex Pond	Over 10 years

Final Evaluation Scores

Alternative	Score
Buyouts	455
Pinehurst Floodwall & Wild Dunes Buyouts	350
Channel Clearing	270
Pinehurst Floodwall & Wild Dunes Channel Modifications	245
Centex West Regional Pond	235
Centex West Pond & Wild Dunes Channel Modifications	180

Final Evaluation Scores

Alternative	Score
Buyouts	455
Pinehurst Floodwall & Wild Dunes Buyouts	350
Channel Clearing	270
Pinehurst Floodwall & Wild Dunes Channel Modifications	245
Centex West Regional Pond	235
Centex West Pond & Wild Dunes Channel Modifications	180

Recommended Solution – Buyouts

- 138 houses at risk of interior flooding in a 100-year event
 - 10 buyouts currently underway per Council direction
 - 128 houses remaining at risk
- Contingent upon Council approval of use of funding
- Funding is available to begin buyout process for 45-50 additional houses in 2018 (Phase 1)
- Prioritization based on flood risk

A black and white photograph of a residential street completely flooded with water. In the background, there are trees and a house with a stone chimney. A white car is partially submerged on the right. A blue rectangular overlay with a fine grid pattern is centered over the image, containing the text 'Next Steps' in white.

Next Steps

Next Steps

**Neighborhood
Meeting**

November 14

**Update to
Environmental
Commission**

December 6*

**City Council
Discussion &
Consideration**

TBD

* Date not yet confirmed

Questions?

City of Austin
Watershed Protection Department

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