

# Oak Park and Oak Acres Neighborhoods - Drainage Problems

Neighborhood Meeting, September 19, 2013



# Introductions

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## Watershed Protection Department

- ❖ Pam Kearfott, Creek Flood Hazard Mitigation
- ❖ Stephanie Lott, Public Information Office
- ❖ Jorge Morales, Localized Flood Hazard Mitigation
- ❖ Angela Todd-Sheremet, Localized Flood Hazard Mitigation

# Public Meetings

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- ❖ Watershed Protection Department – August 2012
- ❖ Neighborhood Planning – 2008
- ❖ Annexation – 1985
- ❖ Travis County and TxDOT meetings

# Two Types of Flooding

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- ❖ **Creek Flooding:**  
Occurs when a creek rises over its banks.
- ❖ **Localized Flooding:**  
Occurs away from creeks.



Both types of flooding are occurring in this neighborhood.



# Drainage Patterns

Oak Park subdivision storm drain is almost 30 years old!

## OAK PARK SUBDIVISION LOTS 34-THRU-58

### PAVING AND DRAINAGE PLANS

revised 1/14/84  
RE-NOVATE  
permit  
with  
(L.A.) 5557 A1

Per to Final Acceptance of this Subdivision, please ensure that the following is submitted to the City of Austin:

Prior to final acceptance of this subdivision, the owner shall enter into a maintenance agreement with the City of Austin for maintenance of the drainage pond.

Prior to construction, the contractor is to meet on the site with the City of Austin Inspector assigned to the project.

All construction shall be in accordance with the City of Austin Standard Specifications for Public Works Construction.

Temporary barricades, built to City of Austin Standard Specifications, shall be installed at the limits of construction on all streets to maintain job safety.

If blasting is planned by the contractor, a blasting permit must be secured prior to commencement of any construction.

Any existing pavement, curbs, and/or sidewalks damaged or removed will be replaced by the contractor prior to final acceptance of the subdivision.

Manhole frames, covers, and sewer valves will be raised to finished ground grade at the owner's expense to a vertical clearance with City construction. All utility adjustments shall be completed prior to final paving construction.

All intersections which have vertical drainage, the crown of the intersecting street will be regraded to a clearance of 40 feet from the intersecting curb line unless otherwise noted.

The contractor shall give the City of Austin a minimum of 24 hours notice before beginning work on any of the above items. Telephone 477-4522 ext. 287 (Staff Contact Section).

The location of any sewer and/or waterline lines shown on these plans must be verified by the owner and Maintenance Department.

All storm sewer pipe to be Class III Reinforced Concrete Pipe unless otherwise noted.

See see call utility agency: Dial 477-1822 before you dig.

Design procedures are to comply with the City of Austin Drainage Criteria Manual.

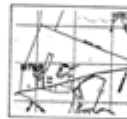
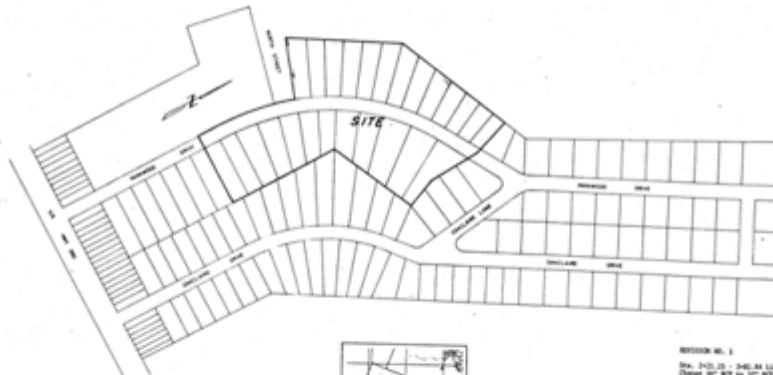
The signage material on Oak Park Subdivision was loaned from South Development, Inc. in February, 1984, and the street signage designed to City of Austin criteria. The street signage is to be constructed as follows:

Northwest Drive - 1/2" x 1/2" x 1/2" Aluminum Composite Plate (ACCP) Sign Material

Note: Sign locations are to be placed to the right of the street, in accordance with the Standard for Official Sign Locations.

Remarks:

1. 100' call to be both 100' and 4' stations 0+00 on north side of Northwest Drive. (Sheet 7232-02)
2. 100' call to be 100' and 4' stations 0+00 on north side of Northwest Drive. (Sheet 7232-02)



NOTION NO. 1  
Sta. 1+02.15 - 2+45.31 Line A  
Curve 30' R2 to 30' R2  
Sta. 0+02.12 - 0+45.31 Line B  
Curve 30' R2 to 30' R2

|                   |            |
|-------------------|------------|
| DATE              | Sheet No.  |
| FINAL PLAN        | 1          |
| DRAINAGE AREA MAP | 2          |
| DRAINAGE DITCH    | 3, 4, 5    |
| PERMITS CONTROL   | 6          |
| STORM DRAIN       | 7          |
| DETAILS           | 7A, 7B, 7C |
| RETAINING WALL    | 8          |

ALL INFORMATION ON THIS PERMIT IS THE PROPERTY OF THE CITY OF AUSTIN. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED ON THIS PERMIT. ANY OTHER USE IS PROHIBITED.

SUBMITTED FOR APPROVAL:

*Nathan D. Smith*  
NATHAN D. SMITH, P.E.  
DATE

RECOMMENDED FOR APPROVAL:

*Charles Knuth*  
FOR DEPT. OF PUBLIC WORKS  
DATE 4-23-84

WATERWAY DEVELOPMENT PERMIT NO.

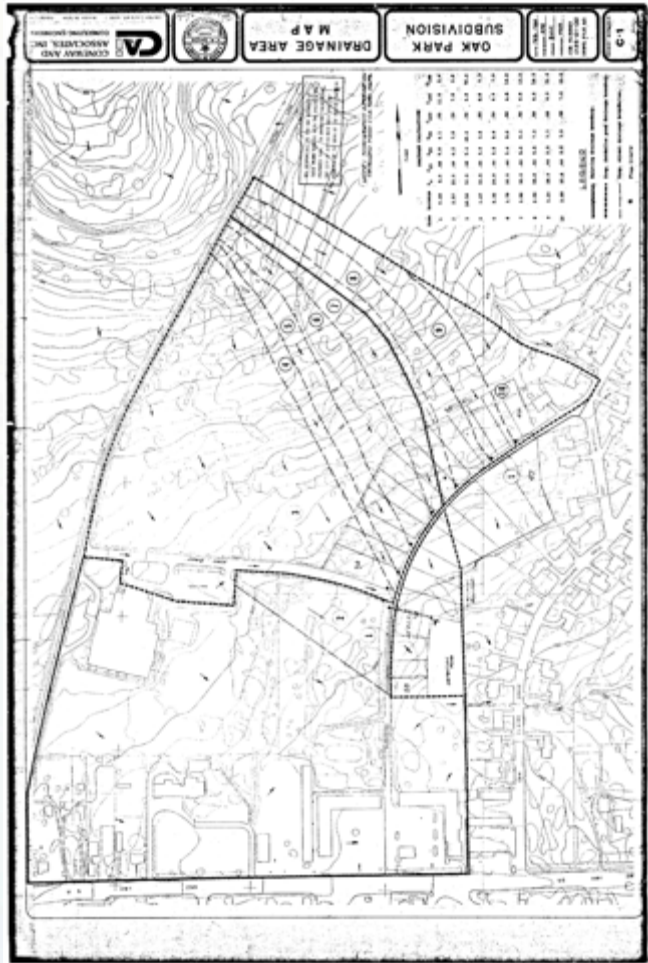
APPROVED:

*Nathan D. Smith*  
FOR TRAVIS COUNTY ENGINEER, DATE 4/18/84

TRAVIS COUNTY DEVELOPMENT PERMIT NO.

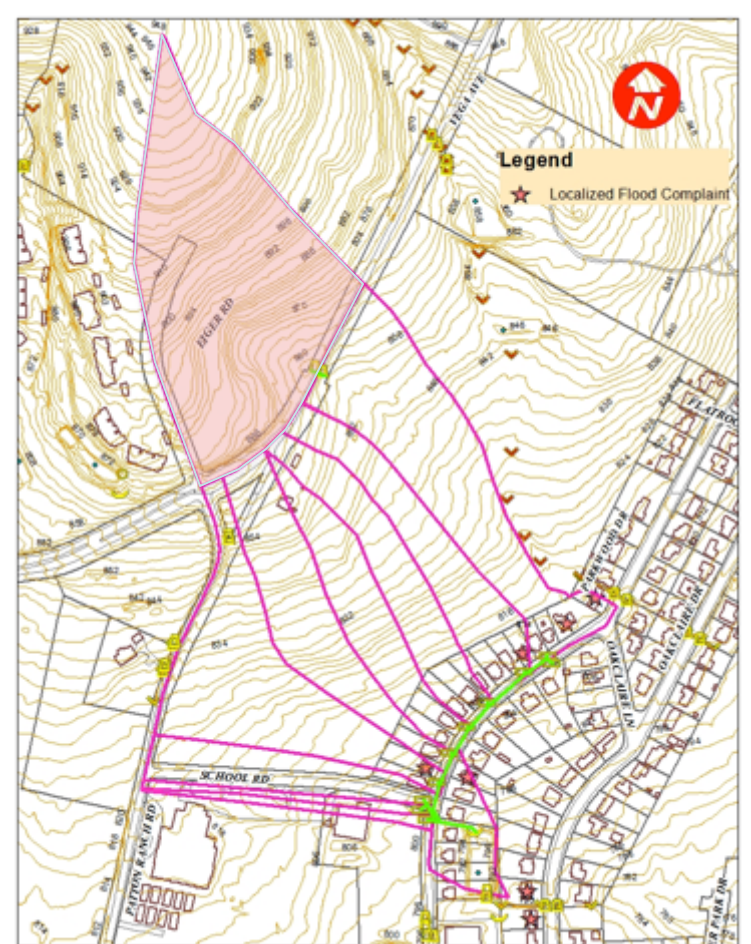


# Drainage Area was Underestimated

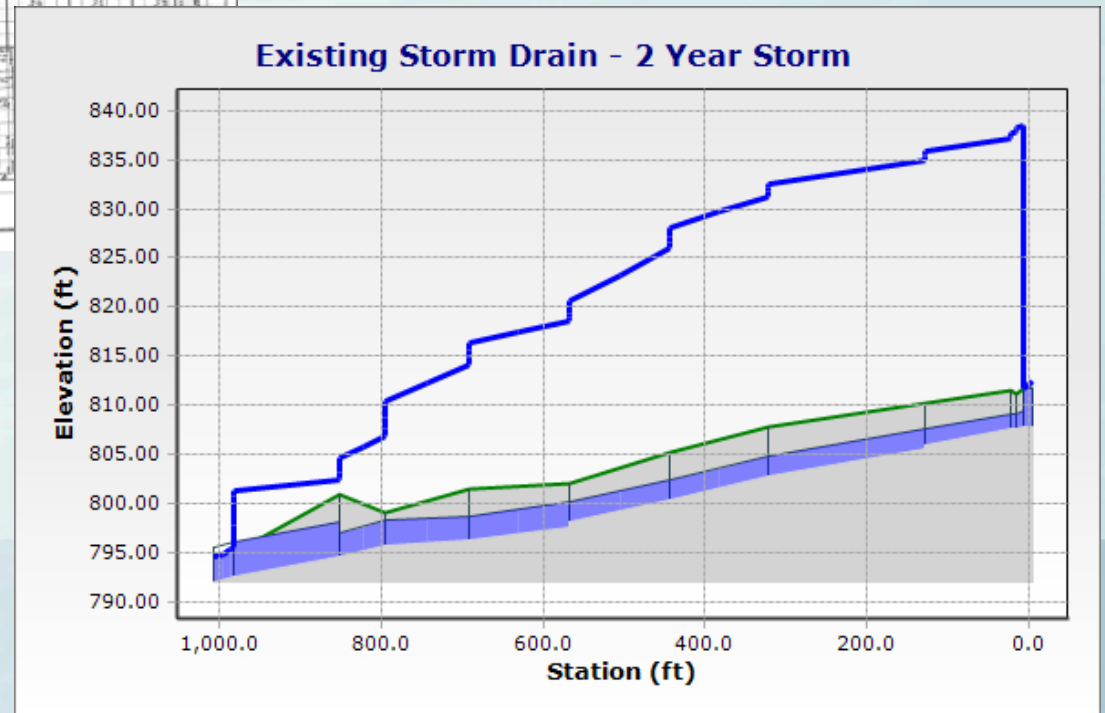
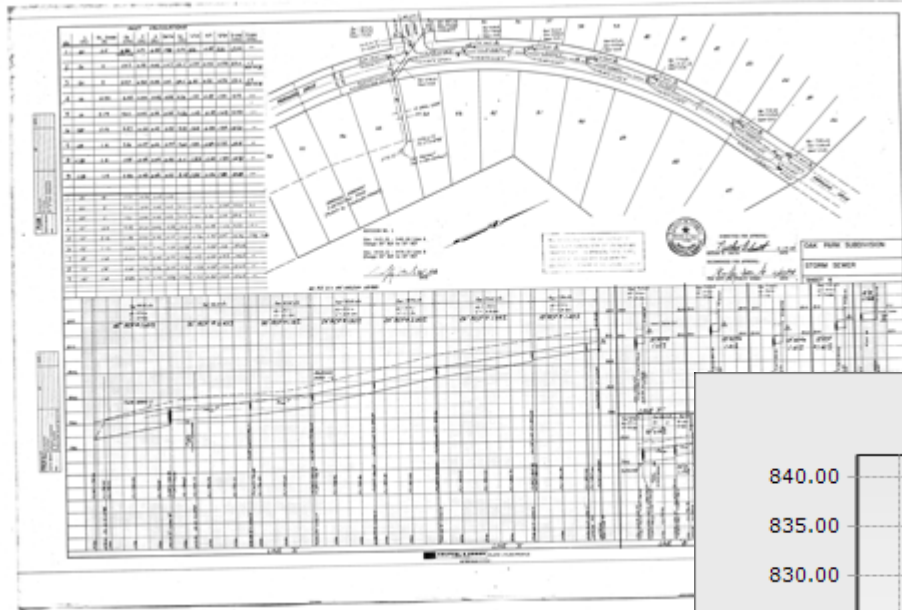


1984: Estimated Drainage Area = 42.3 Acres

2013: Drainage Area = 71.8 Acres



# Existing storm drain system is undersized and doesn't comply with the current requirements of the City of Austin





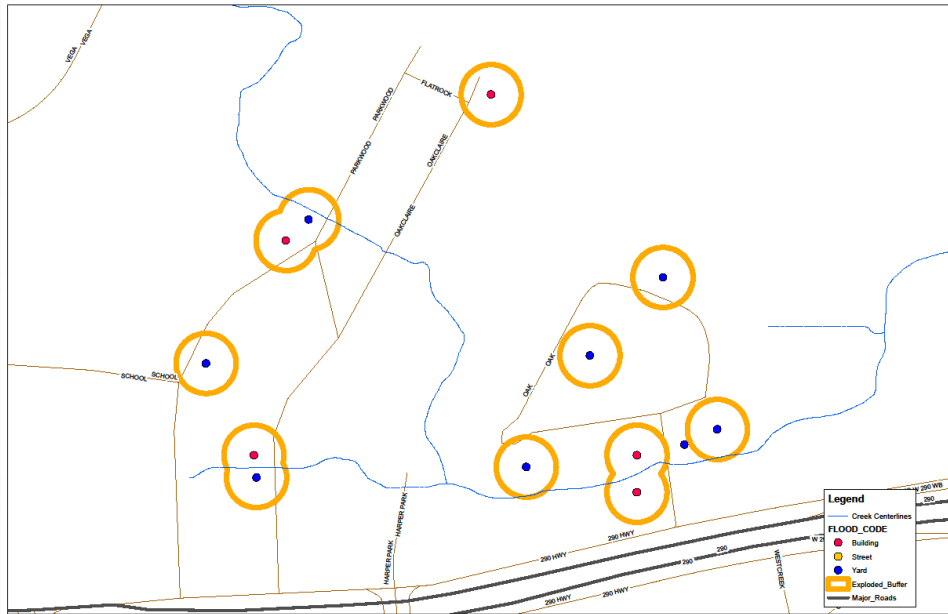
# Prioritization of Local Flood Projects

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- ❖ Rely on 3-1-1 calls to help identify problem areas
- ❖ Computer models help evaluate the problems
- ❖ Assess the scope of the problem
  - *Is there safe access in and out of a neighborhood?*
  - *What is flooding? (Houses, garages, yards, etc.)*
  - *Is there a cost-effective solution?*



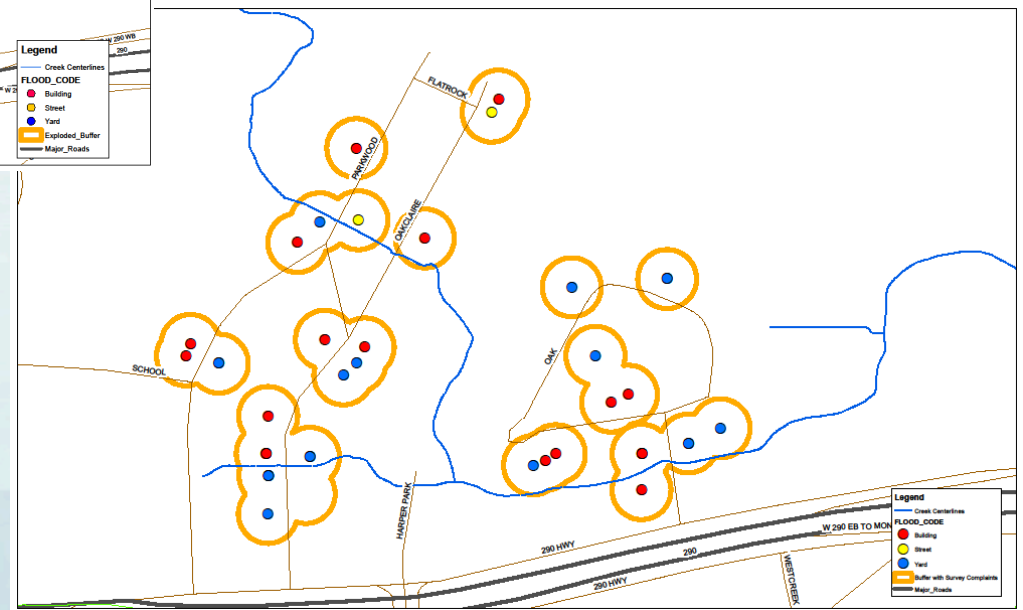
# Local Flood Complaints



Complaints Prior August 2012 Meeting

## Summary of Complaints

- 16 Building
- 12 Yard
- 2 Street



Complaints After August 2012 Meeting

# Local Flooding

## Conceptual Solution



# Gaines Tributary Watershed Study

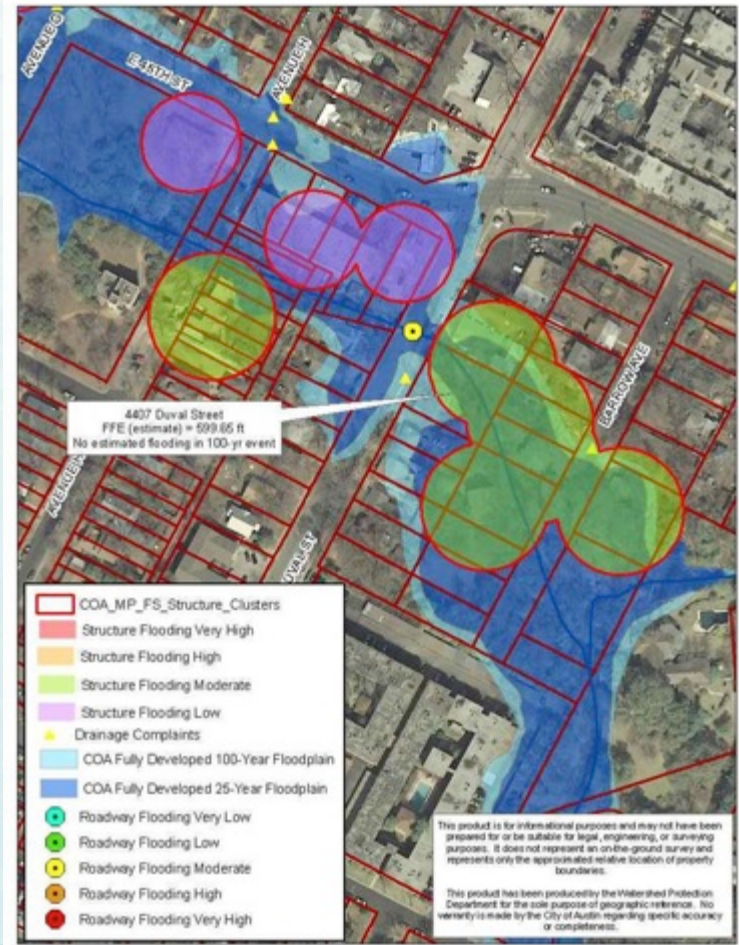
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- ❖ Better understand drainage patterns
- ❖ Quantify flow in creeks
- ❖ Determine magnitude of flooding in large storm events
- ❖ Study was first step in identifying need for creek flood control projects
- ❖ Prioritize problem areas for short-term and long-term project planning



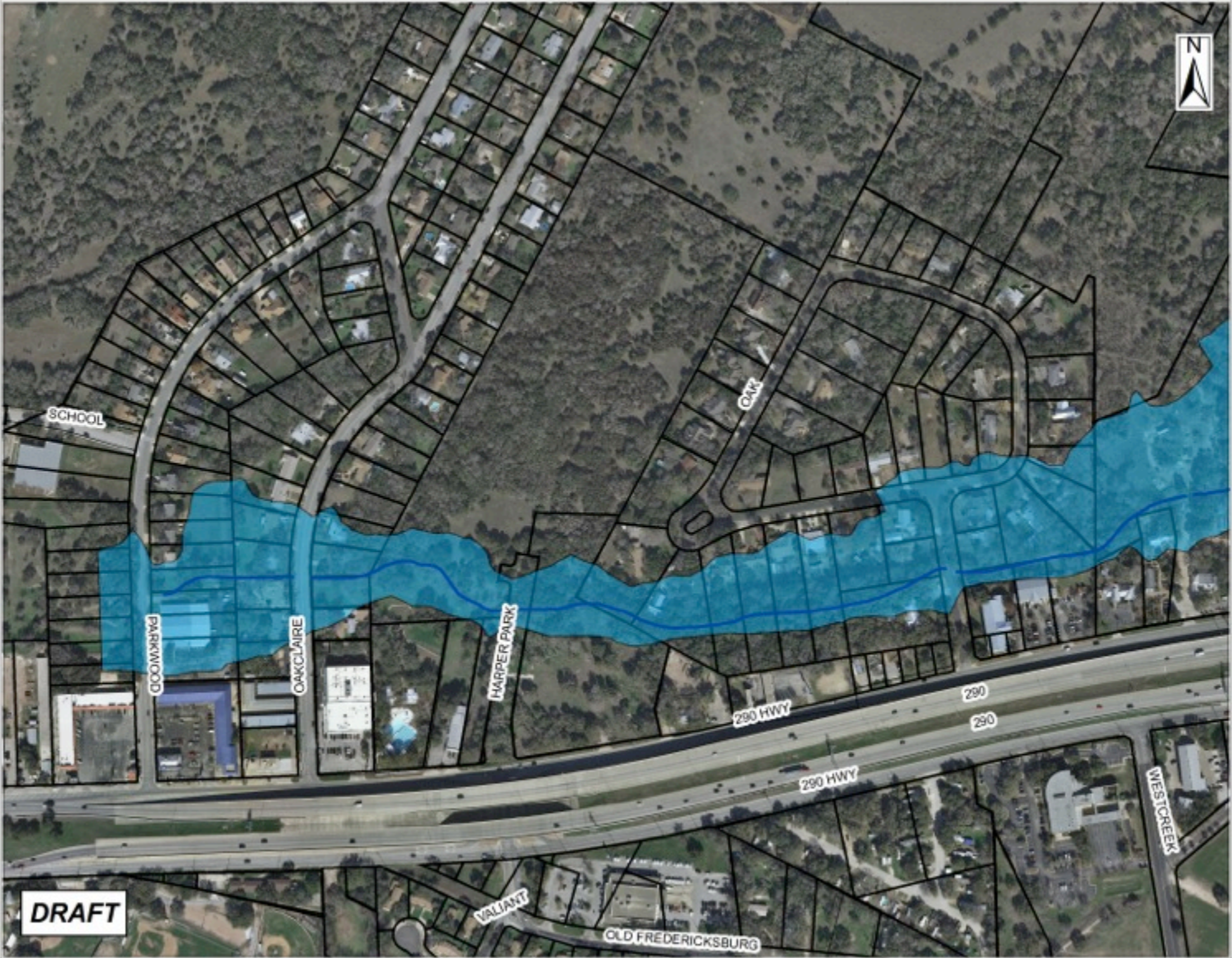
# Prioritization of Creek Flood Projects

- ❖ Extents and depth of floodplain
- ❖ Number of structures and roadways affected
- ❖ Velocity and depth of water over roadways
- ❖ Likelihood and depth of structure flooding
- ❖ Neighborhood access
- ❖ Flood Early Warning System



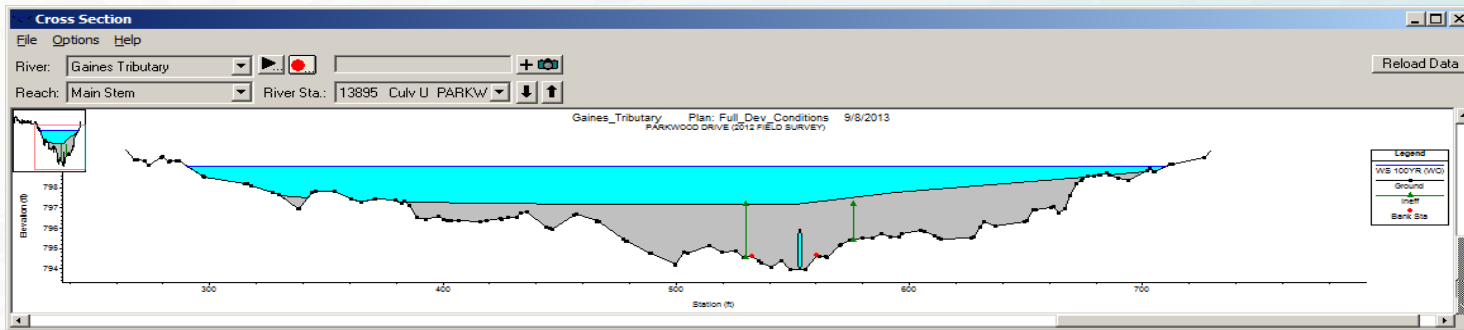


# Gaines Tributary Study – Preliminary Results

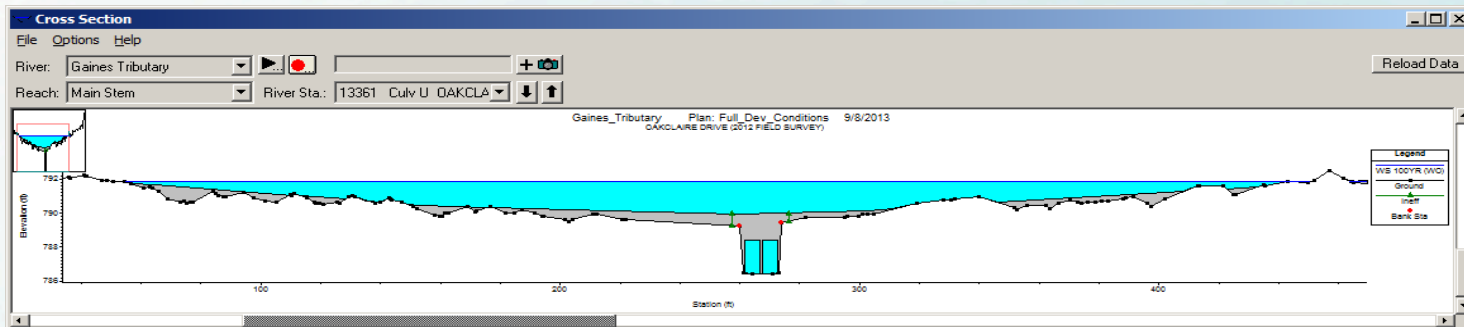


# Gaines Tributary Study – Preliminary Results

❖ Parkwood – overtopping depth = 2ft



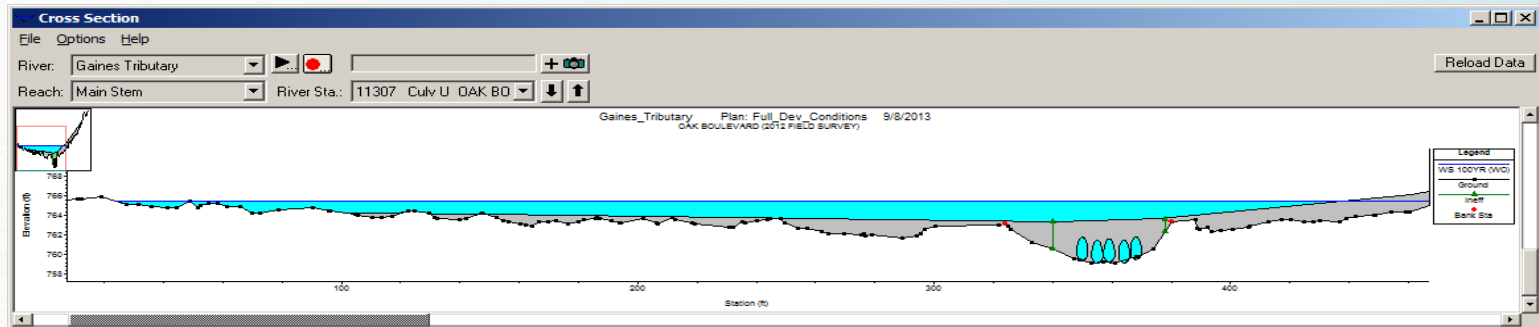
❖ Oakclaire – overtopping depth = 2.3ft





# Gaines Tributary Study – Preliminary Results

❖ Oak Blvd – overtopping depth = 2.2ft



# Creek Flooding – Conceptual Solutions

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- ❖ Culvert upgrades
- ❖ Channel widening/improvements
- ❖ Detention

# Proposed Flood Control Project

- ❖ Integrated flood mitigation project will be implemented
  - ❖ Capital Improvement Project
  - ❖ Project will combine local flood and creek flood
  - ❖ Possibility for public-private and public-public partnerships
  - ❖ Regulation controls in place to prevent exacerbating existing problems
- ❖ Scope being developed
- ❖ Study completion in Fiscal Year 2014
- ❖ Alternative evaluations/preliminary engineering to continue in Fiscal Year 2014



# Typical Project Schedule

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- ❖ Alternatives Evaluation/Preliminary Engineering – 2.5 years
- ❖ Design and Permitting – 2.5 years
- ❖ Construction – 1 year
- ❖ Cost – \$3 – \$10 million

# Questions?

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## Pam Kearfott

- *Pam.Kearfott@austintexas.gov*
- *512-974-3361*

## Jorge Morales

- *Jorge.Morales@austintexas.gov*
- *512-974-3345*

[www.austintexas.gov/watershed](http://www.austintexas.gov/watershed)

**Disclaimer:** The maps and figures contained within this presentation are for informational purposes and have not been prepared for and are not suitable for legal, engineering, or surveying purposes. They do not represent on-the-ground surveys and represent only the approximate relative locations of property and floodplain boundaries. No warranty is made by the City of Austin regarding specific accuracy or completeness.

