



North Acres Storm Drain Improvements Project

WELCOME

Personnel:
Stephanie Lott

Public Information Specialist, Sr., WPD

Rebeka McKay, PE, CFM
Team Lead, WPD

Shesh Koirala, PhD, PE, CFM
Project Sponsor, WPD



Mission Statement

Watershed Protection Department protects lives, property, and the environment of our community by reducing the impact of flooding, erosion, and water pollution.

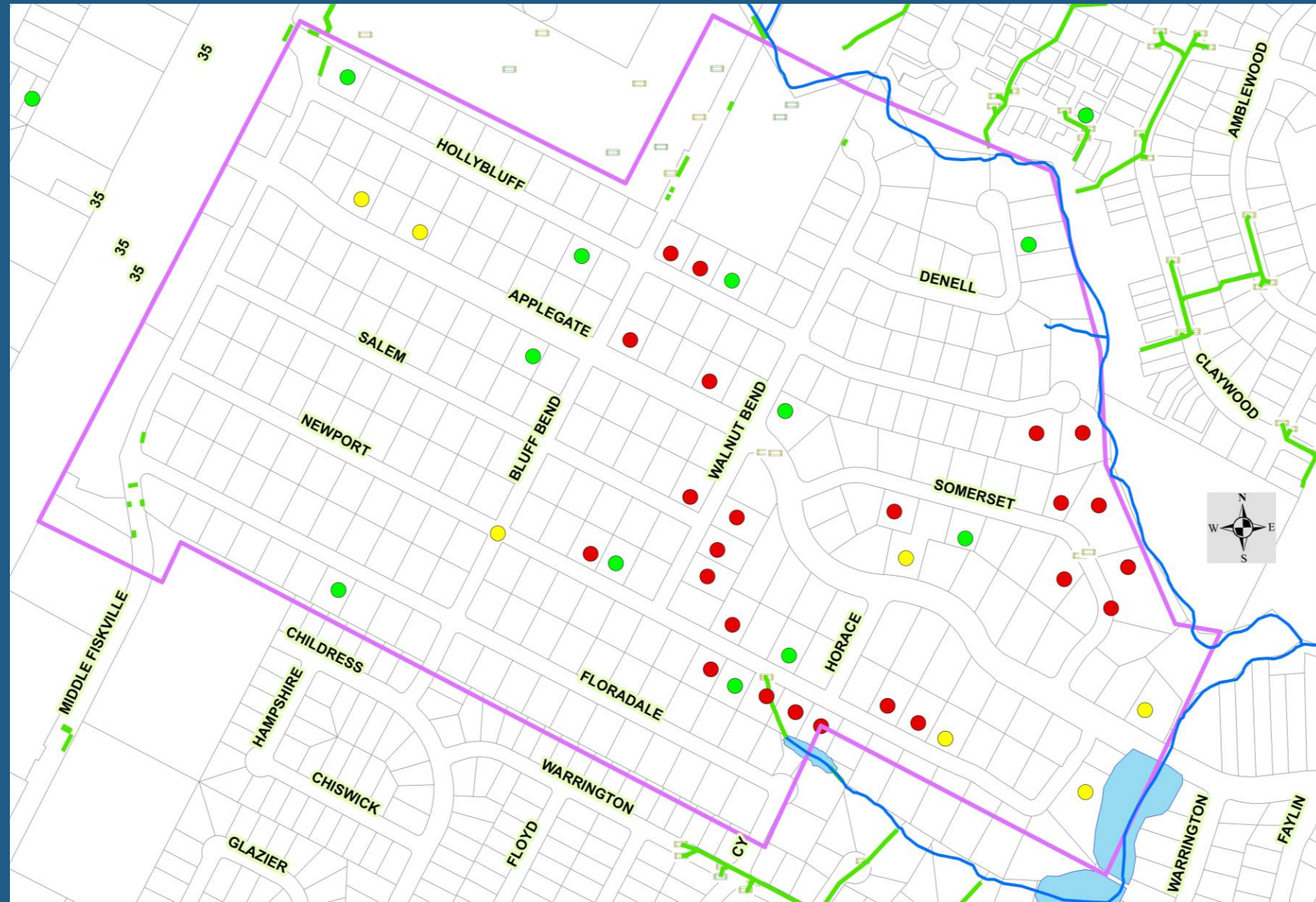
Newport Ave. 2015

Hollybluff St. 2015



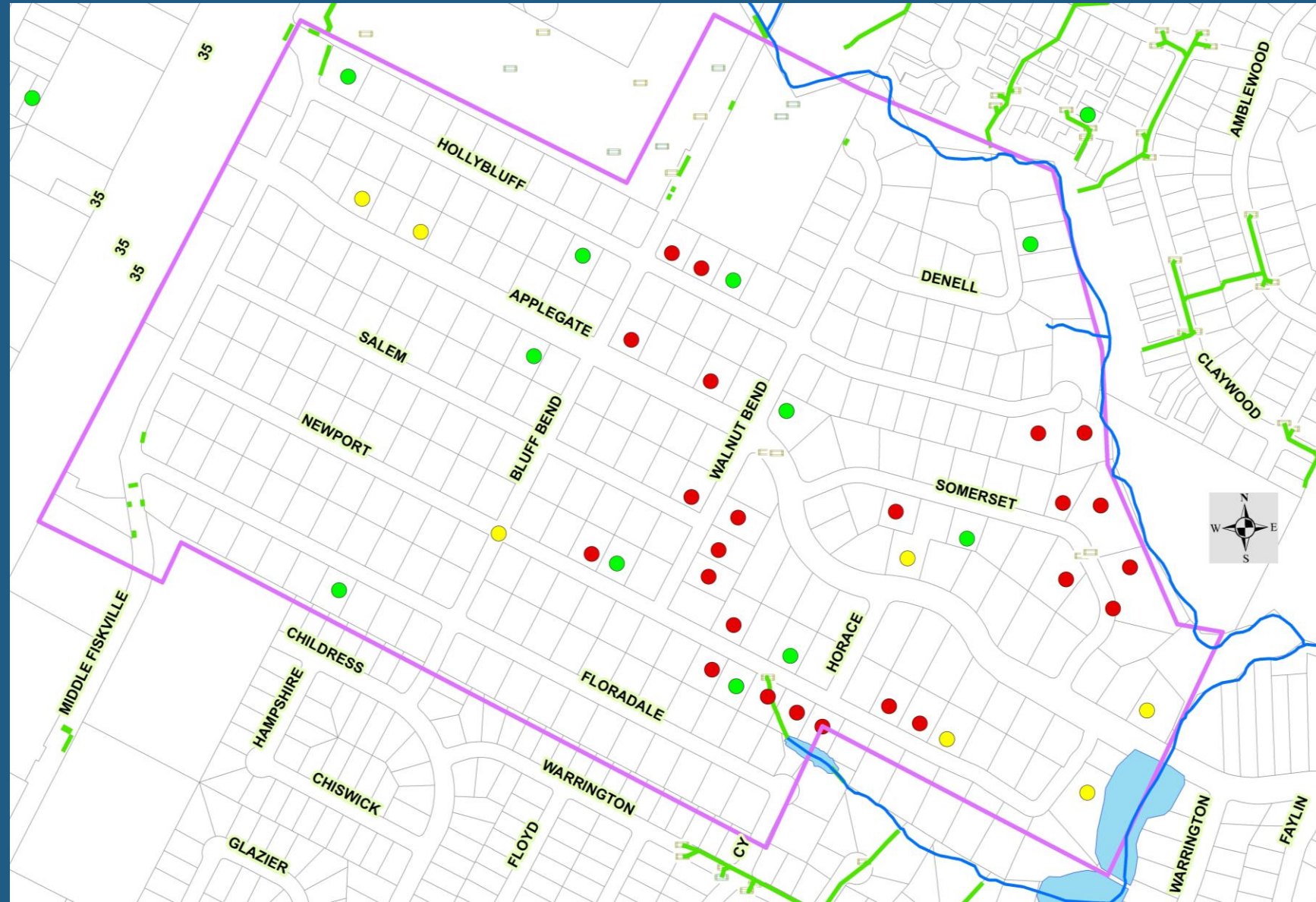
Recent Major Rainfall Events

- Memorial Day 2015
- Halloween 2015
- April 2019



North Acres Storm Drain Improvements Project

- Background
 - High priority local flood risk reduction area
 - Flooding Complaints
 - 24 Buildings
 - 11 Yards
 - 7 Street





← **Localized Flooding**
Occurs away from creeks.

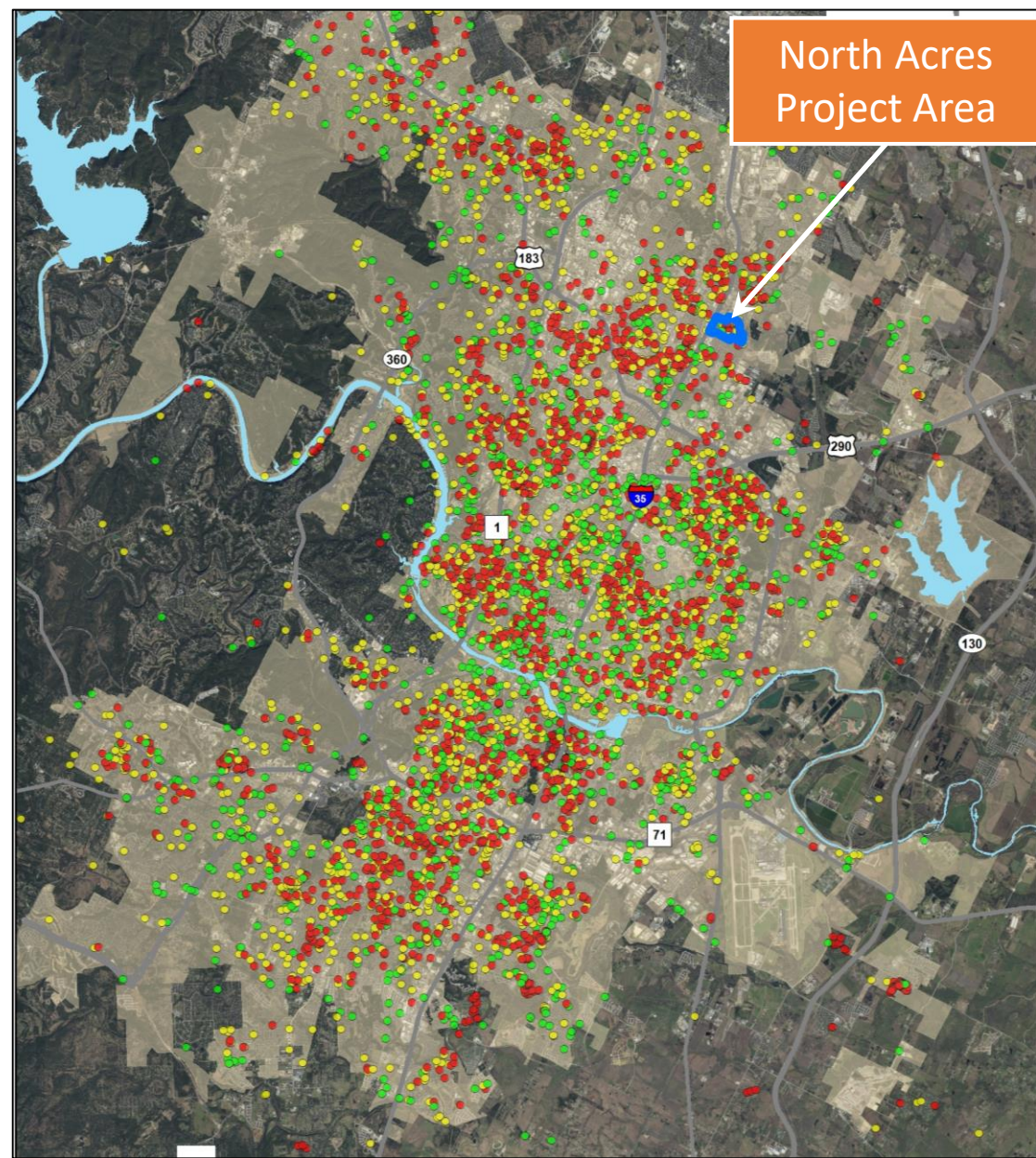
Creek Flooding →

Occurs when a creek rises over its banks.



Localized Flooding Citywide

- 6,004 Total Complaints
 - 2,020 Buildings
 - 2,447 Yards
 - 1,537 Streets
- Neighborhoods built before the 1980s tend to have more drainage problems
- No quick or easy solution



Components of a Storm Drain System

1. Inlets and curbs capture rain water.



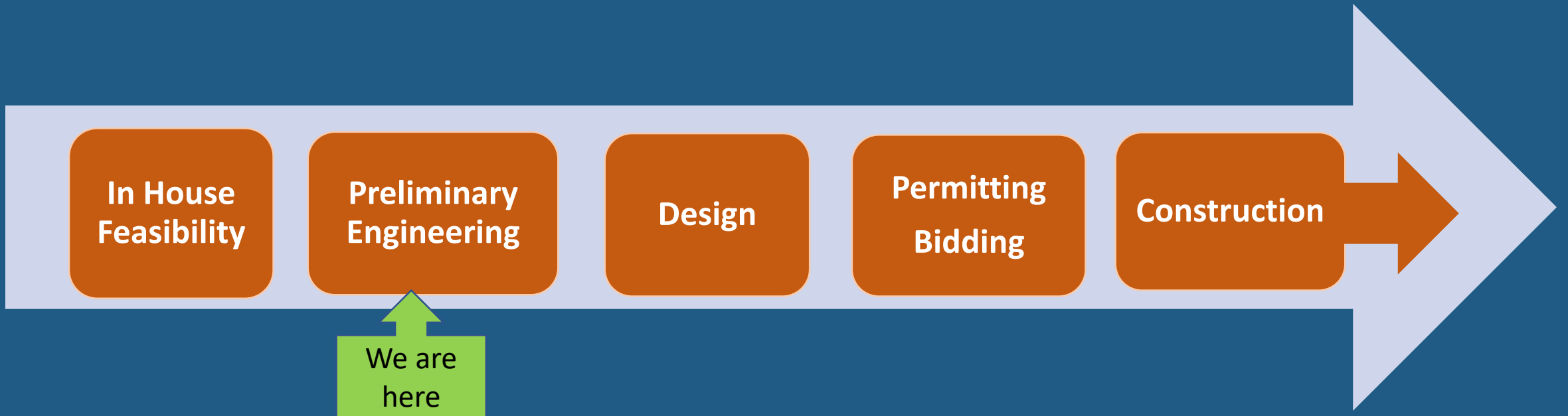
2. Underground pipes carry the water.



3. Rain water is released into a creek at the outfall. Sometimes it goes to a water quality or detention pond first.

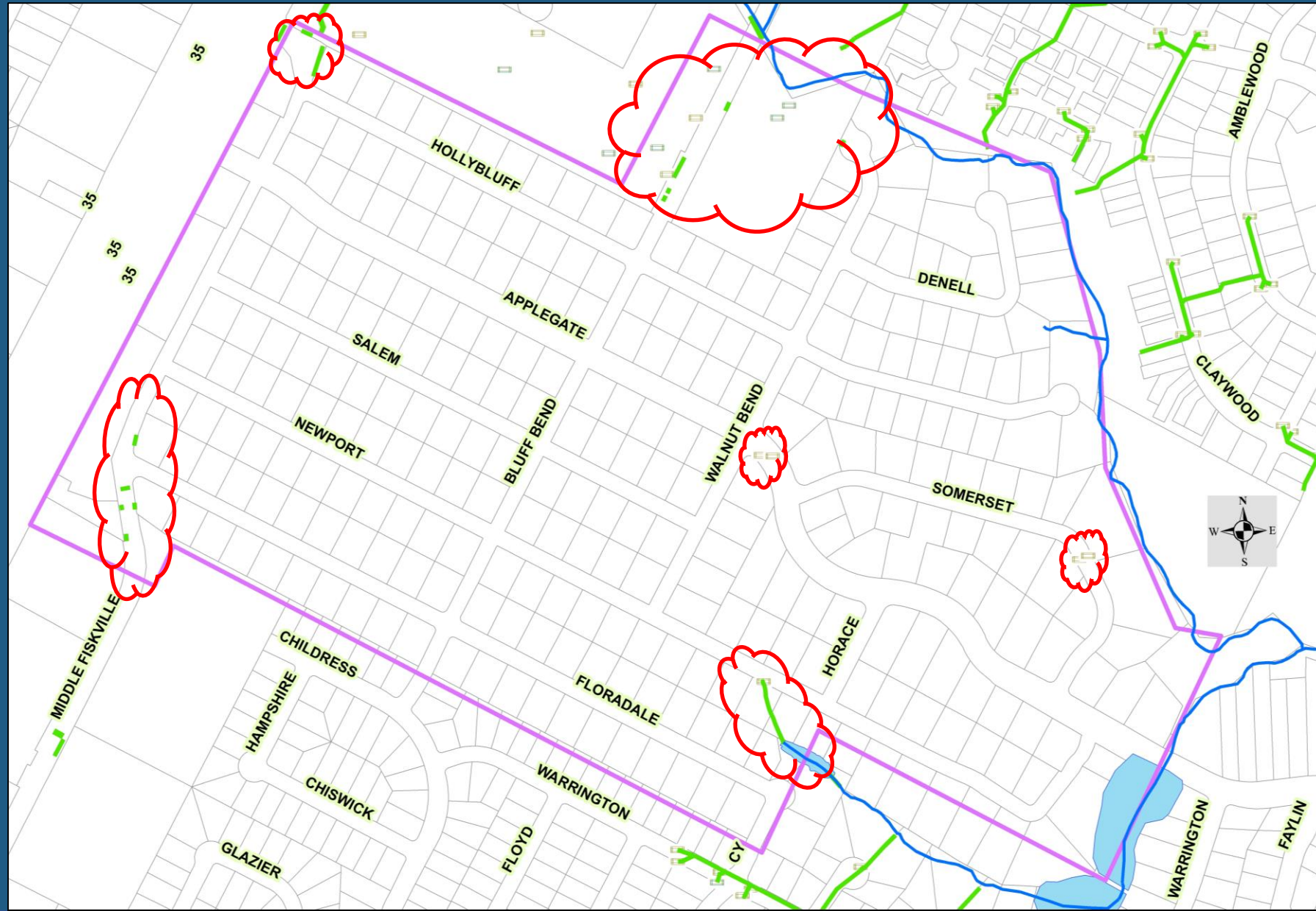


Storm Drain Capital Improvement Project Phases



Existing Storm Drain

- Very limited existing storm drain
- Mostly depend on street (curb/gutter) flow





Topography (houses are below street level)

Project Overview

- Collect Data
- Model Existing Conditions
- Develop Alternatives

<http://austintexas.gov/stormdrains>

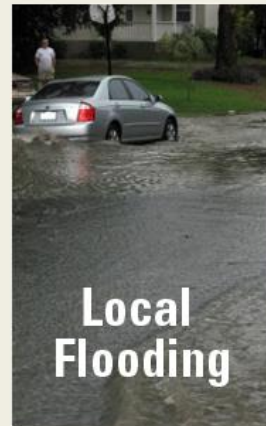
<http://austintexas.gov/department/north-acres-storm-drain-improvements>

- North Acres Storm Drain Improvements



Department » Watershed Protection » Projects » North Acres Storm Drain Improvements

- Home
- About
- Services
- Programs
- Divisions
- FAQ
- Education
- Projects
- Codes and Regulations



NORTH ACRES STORM DRAIN IMPROVEMENTS

This project will help protect the North Acres neighborhood from flooding.

Public Meeting

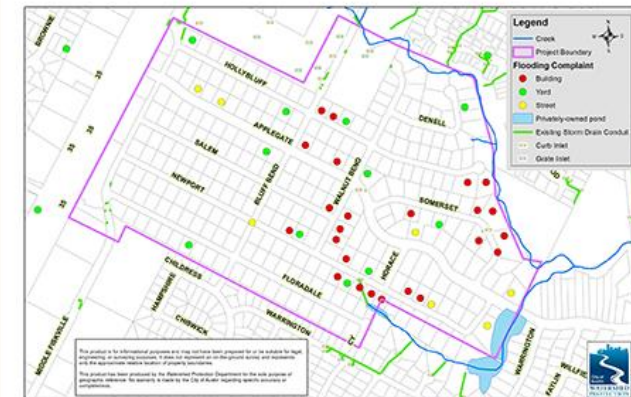
Please join us at the North Acres Homeowners Association meeting on Tuesday, December 3, 2019, to find out more about this project. The meeting starts at 7 p.m. at Holy Word Lutheran Church, 10601 Bluff Bend Drive.

Overview

The type of flooding occurring in North Acres is known as local flooding. It generally occurs away from creeks. It occurs when the drainage system of pipes and ditches is overwhelmed by heavy rainfall. In North Acres, the neighborhood's storm drain system is very limited. Stormwater is conveyed to the creek mostly through the streets.

This project is in preliminary engineering. We are looking at different options for installing a storm drain system of underground pipes. We will consider how well different options work, what issues might arise during construction and how much they are likely to cost. We must also confirm that the options do not cause or worsen flooding for someone else.

Project Map



TOP CONTENT

- ★ Grow Green
- ★ Flood Safety
- ★ Floodplain Management and Regulations
- ★ Scoop the Poop
- ★ Rain Gardens Keeping Water on the Land

CONTACT INFO

Phone: 512-974-9396
Email

ATXfloods

Road Closures due to Flooding

Warn Central Texas

Sign up for Flood Alerts

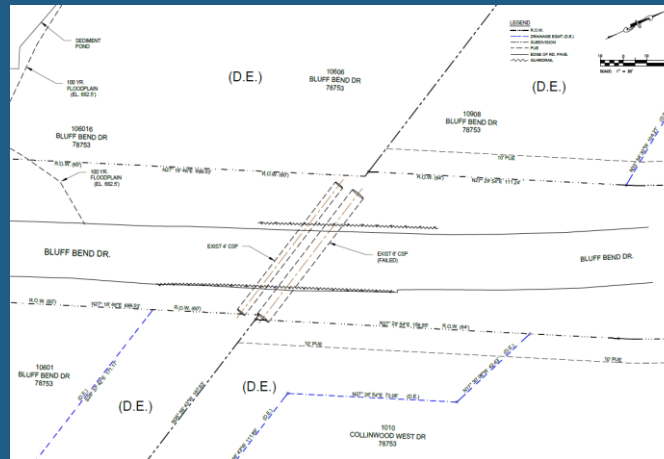
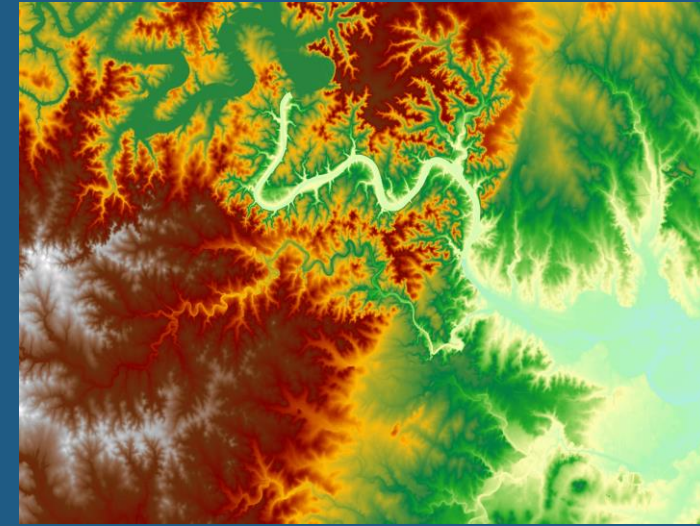
ATX Hydromet

Rainfall and Creek Level Data

North Acres Storm Drain Improvements Project

Collect Data

- Historical Rainfall
- LiDAR
- Existing Drainage Infrastructure - Details
- Field Visits and Survey



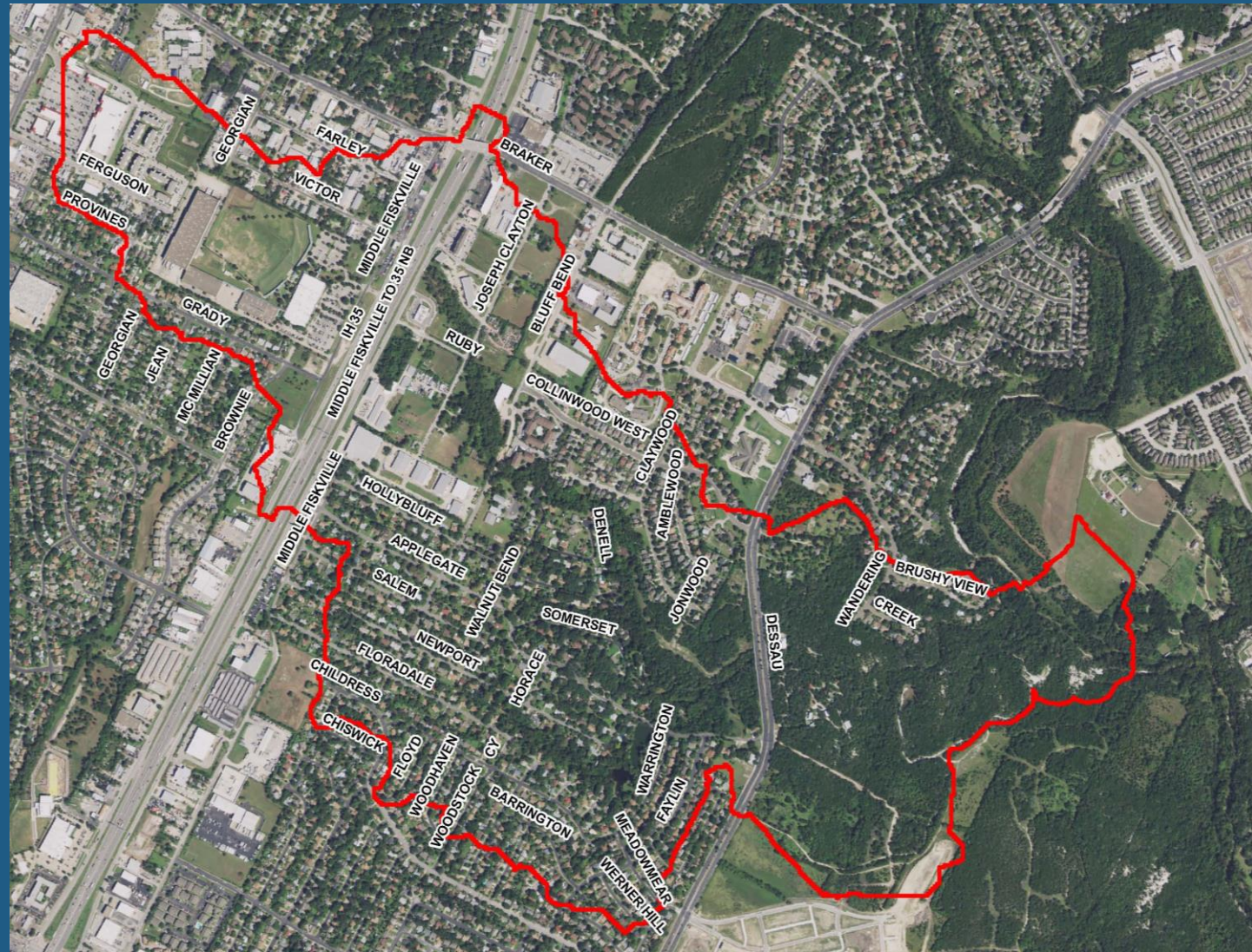
Collect Data

- Field Visits and Survey
 - ✓ Curb/Gutter Elevations
 - ✓ Roadway Crown Elevations
 - ✓ Finished Floor Elevations
 - ✓ Bridges/Channels
 - ✓ High Water Marks
 - ✓ Ponds

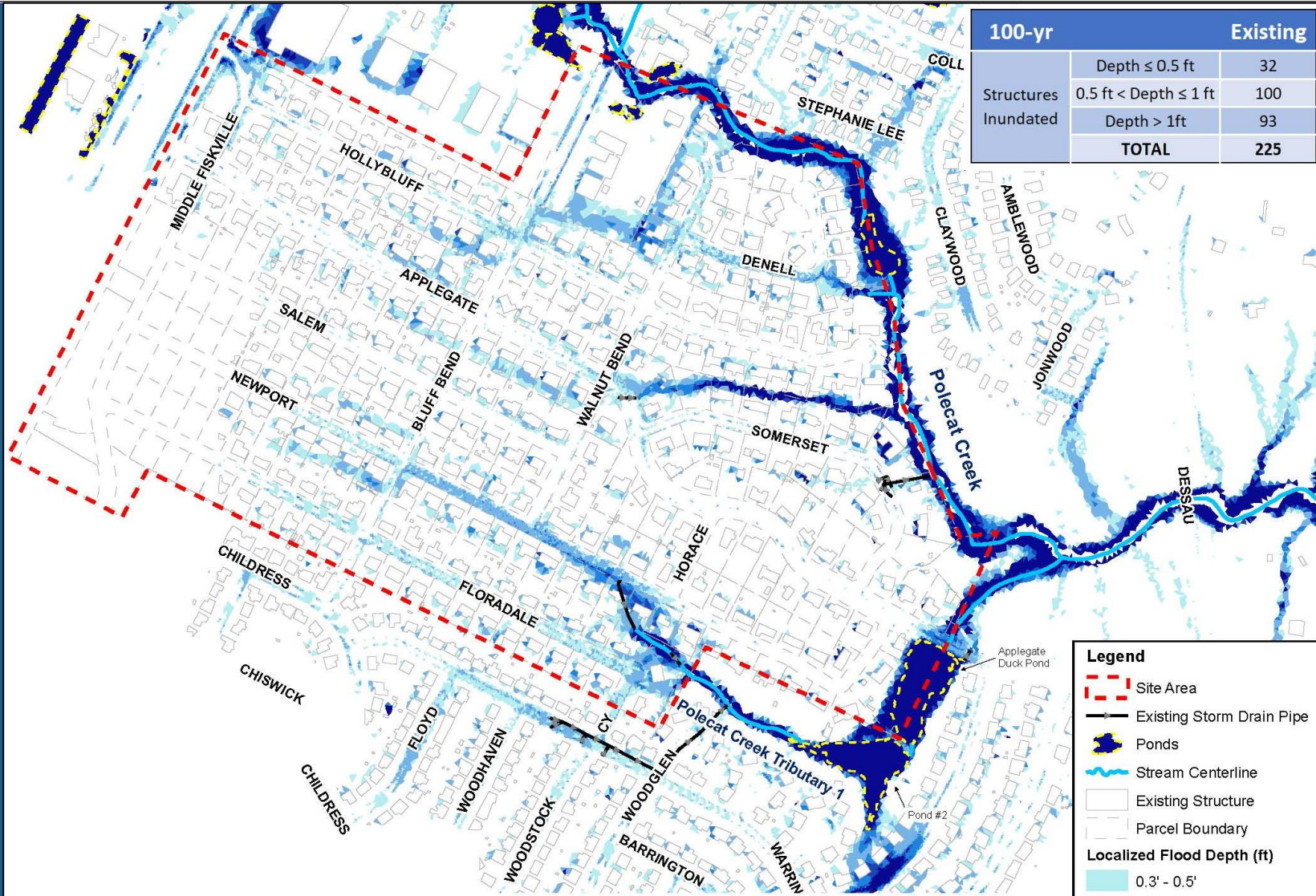


Model Existing Conditions

- How much water?
 - ✓ Hydrology
- How high does the water get?
 - ✓ 1D Model, 2D Model
- Where is it flooding?
 - ✓ Mapping Extent and Severity



ATX FLOOD SAFETY



	100-yr	Existing
Structures Inundated	Depth ≤ 0.5 ft	32
	0.5 ft < Depth ≤ 1 ft	100
	Depth > 1ft	93
	TOTAL	225

Existing 100-yr Ultimate Inundation

Develop Alternatives

- Where should the pipe go?
 - Numerous alignments to be considered
 - Utility locations to be identified
- How big the pipe should be?
- Where do the Outfalls go?
 - Downstream impact (property/environmental) to be considered
 - Drainage easement



Alternatives for Design

- New Storm Drain Systems
- Curb/Gutter Improvements
- Ditch and Outlet Improvements
- Potential New Drainage Easements

Recommended Alternative will be presented at the Next Public Meeting

Preliminary Engineering Goals

- **Alternative**
- **Total Estimated Cost**
- **Flood Risk Reduction Benefit Information**
- **No Downstream Impact**

Project Schedule

In House
Feasibility

Preliminary
Engineering

Design

Permitting
Bidding

Construction

Prior

Jul 2019 - 2020

2021 - 2023

2024

2024 -

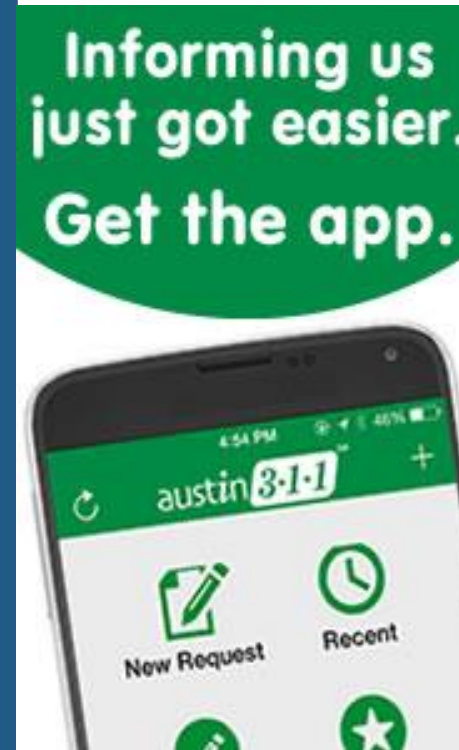
• <http://austintexas.gov/stormdrains>

✓ North Acres Storm Drain Improvements



Available Resources

- Consider purchasing flood insurance
- Report flooding and drainage concerns to 3-1-1
- Avoid building in drainage easements
- Email floodpro@austintexas.gov for information about flood-proofing
- Check ATXfloodsafety.com for additional resources



Public Input

- We Need Your Input
 - Flooding photos / videos
 - High water mark accounts
 - Stories of flooding
 - Areas, homes, yards, streets that flood
 - When?
 - How long does it stay flooded?
 - How much rain does it take?

www.austintexas.gov/online-form/flooding-information-form



Questions? Comments?

Shesh R Koirala, PhD, PE, CFM

Engineer C

Watershed Protection Department, City of Austin

(512) 974-9396

Shesh.Koirala@austintexas.gov

- <http://austintexas.gov/stormdrains>

- ✓ North Acres Storm Drain Improvements

