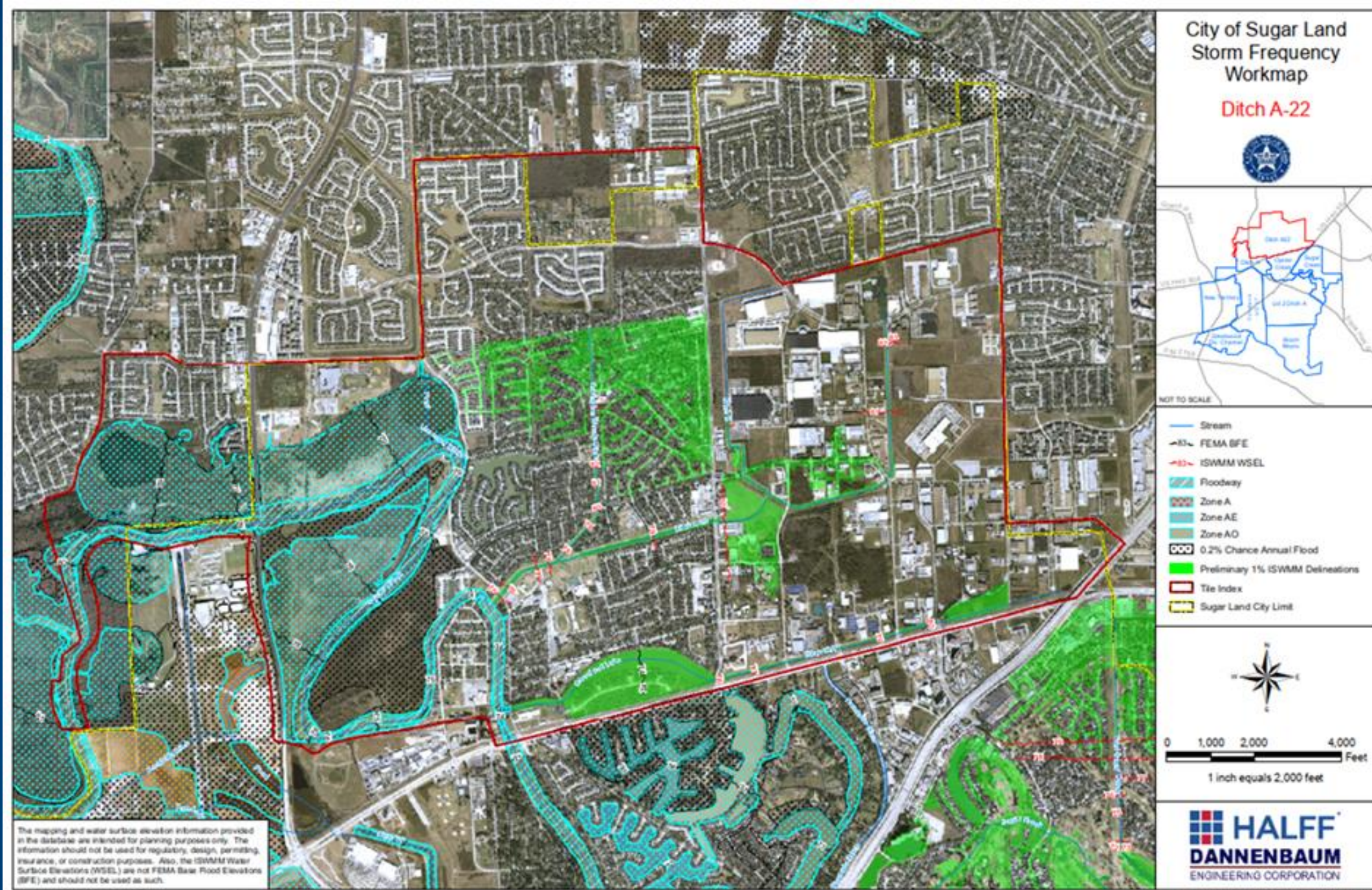


# Project Background

- **An Integrated Stormwater Management Model (ISWMM) created in 2008**
- **A comprehensive geo-database of the City's drainage infrastructure and incorporated:**
  - **Geo-referenced storm sewer infrastructure**
  - **Hydraulic models for the Brazos River and Oyster Creek**
  - **100-yr ponding maps**
  - **Geo-referenced photographs**







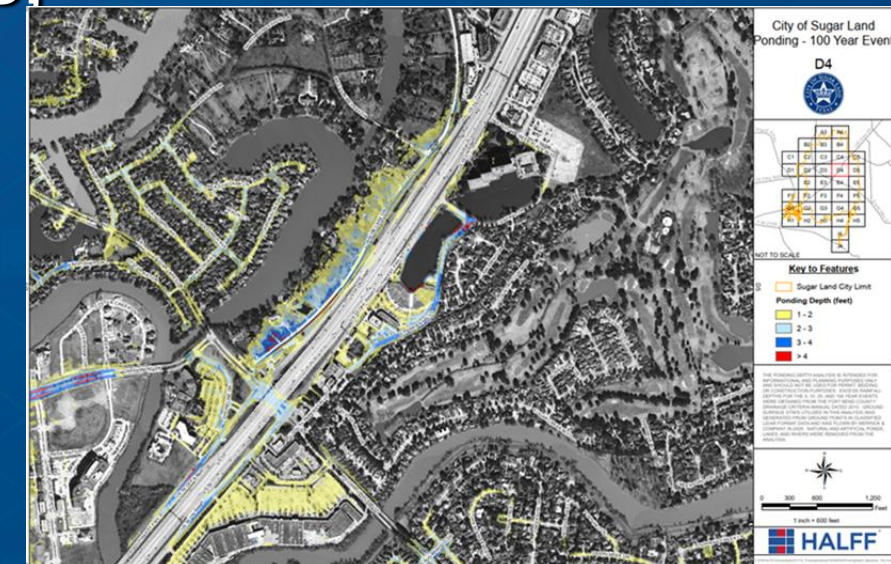
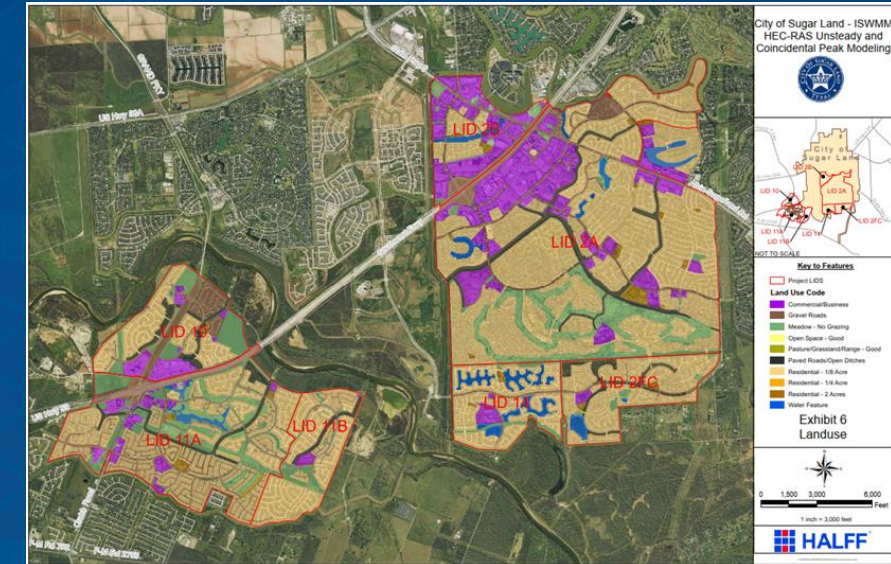
# 2012 ISWMM Model Update

## ➤ 2012 Update – Why?

- Incorporate new information
- Use updated topographic and flood ponding maps

## ➤ 2012 Update included:

- Geocoded Schools, Railroads, Levees, Subdivisions, & LIDS,
- Citywide land use
- Flood frequency ponding maps (5-, 10-, 25-, 100-yr)
- Coincident ponding maps in Levee protected areas (LIDS)

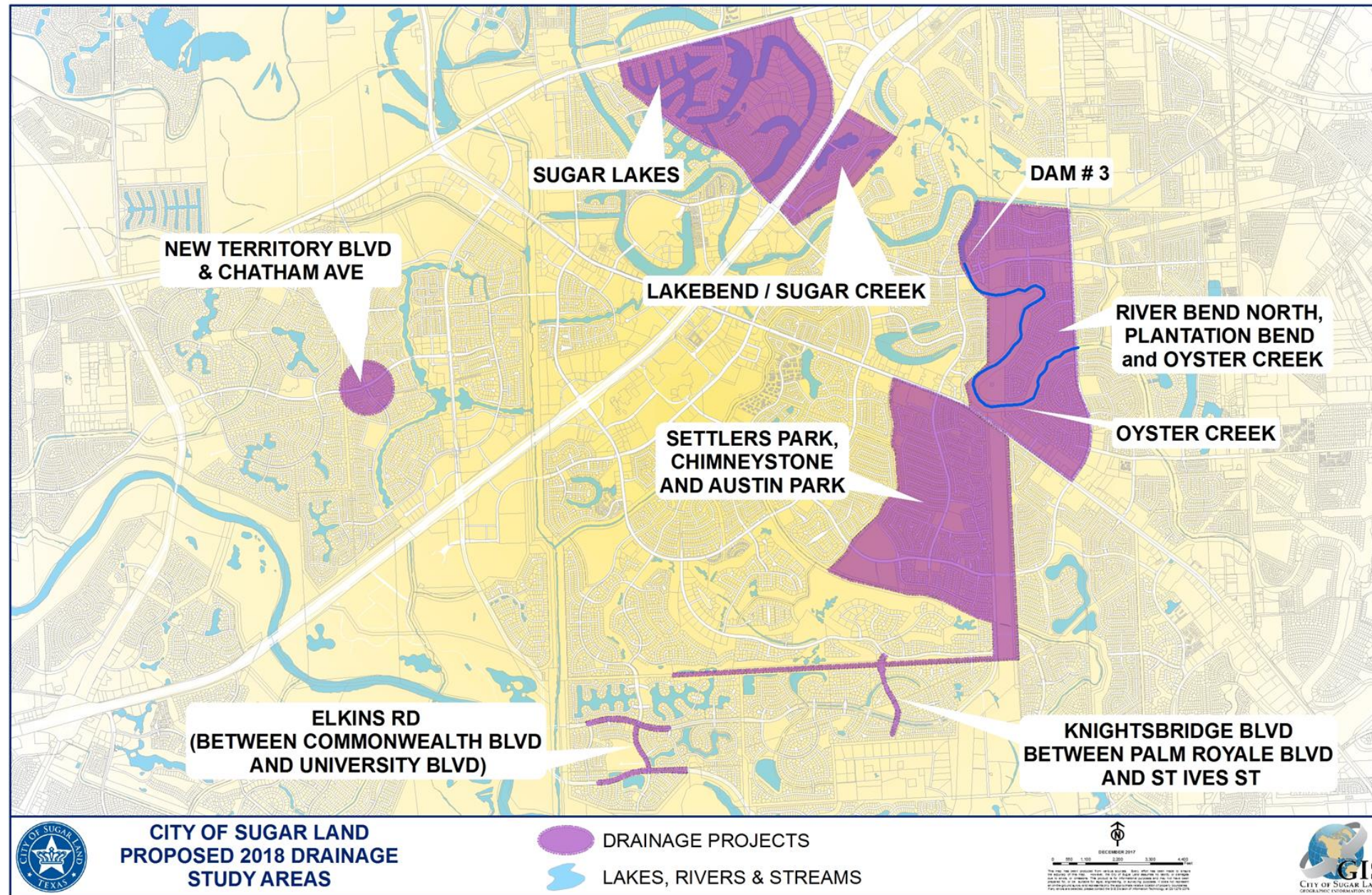




# 2018 ISWMM Model Update Phase I

- Why 2018 update?
  - Incorporate infrastructure improvement
  - Incorporate 2014 Lidar (Topographic) data
  - Set up web-base model application
- 2018 ISWMM model update Phase I:
  - updated ponding analysis:
    - ✓ updated storm sewer infrastructure to reflect new drainage improvements since 2012
    - ✓ incorporated 2018 drainage models developed after Hurricane Harvey
  - identified gaps in the City ponding maps







# ISWMM Model Update - Phase II

## ➤ Phase II of the ISWMM Update:

- Include flood models provided by Levee Improvement Districts in 2018:
  - ✓ FBC LID 2 (portion of First Colony)
  - ✓ FBC LID 7 (New Territory)
  - ✓ FBC LID 11 (Greatwood)

## ➤ Incorporate rainfall information from Atlas 14:

- update ponding maps for rainfall for 2-, 5-, 10-, 25-, 100- and 500-yr events
- update new hydrologic and hydraulic models
- incorporate updated Brazos River Model

# Benefits for City of Sugar Land

- Web-based ponding map
- Central location of all storm sewer infrastructures & models
- Evaluates drainage infrastructure improvements
- Plan and prioritize CIP drainage improvement projects
- Coordinate Hazard mitigation plans with the LIDs
- Plan Evacuation Routes
- Issue warnings on street ponding and road closings
- Residents will have access to information





Layers

Legend

Measure

Print

Search Locations



Layer Details

**Flood Event EOC Map**

Opacity

☐ WATER FLOW

☒ RAINFALL INUNDATION 10yr

☒ RAINFALL INUNDATION 25yr

☒ RAINFALL INUNDATION 100yr

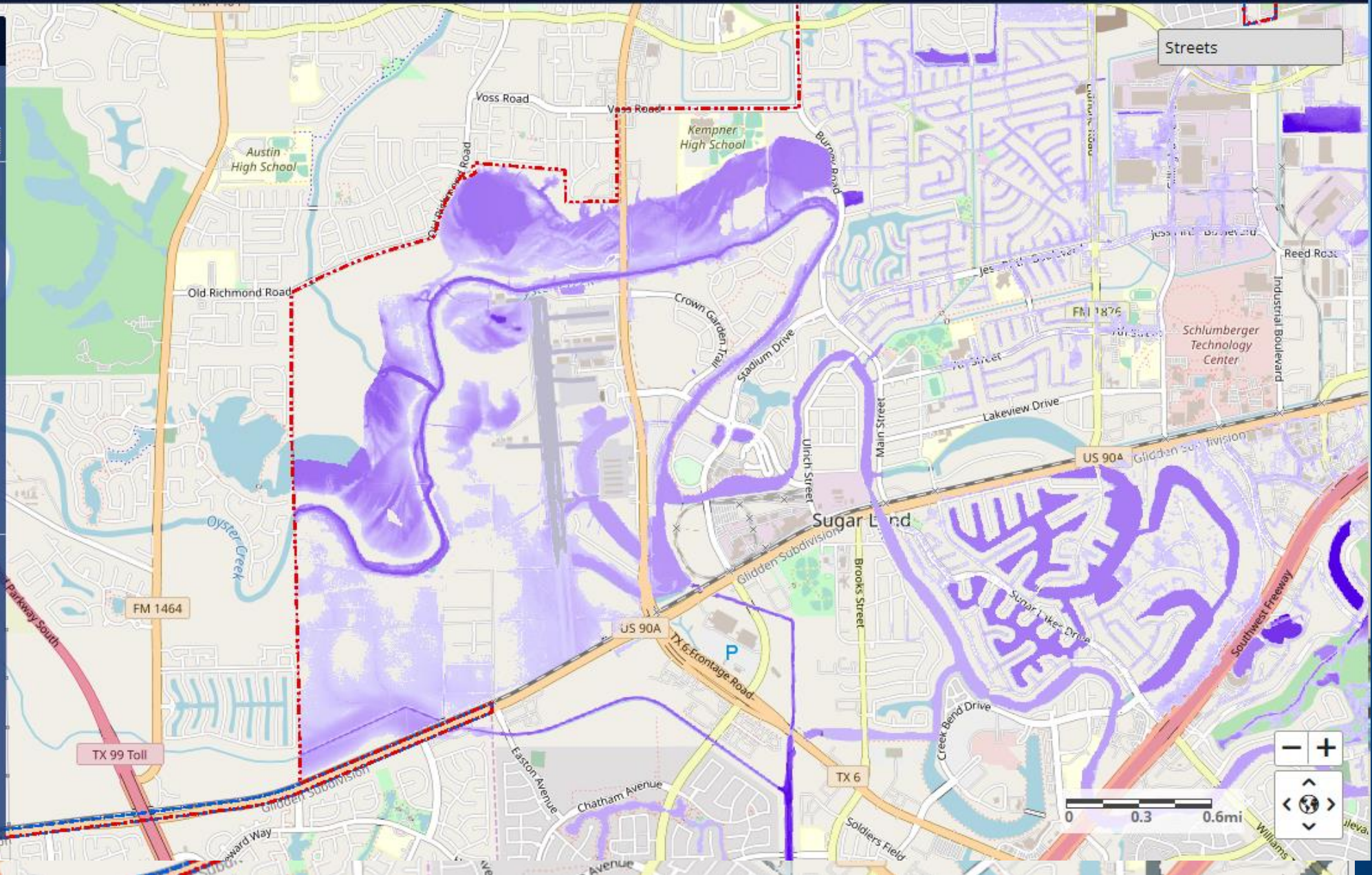
☐ DRAINAGE GRAVITY MAINS

☐ PUMP STATIONS

☐ LIDs

☐ SUBDIVISIONS

☒ PARCELS





## Request for Approval

Authorize the execution of a professional services contract with Halff Associates Inc., for the Integrated Stormwater Management Model (ISWMM) Update - Phase II, in the amount of \$91,780.



# Questions