

Purgatory Creek Channel Improvement Project

Public Meeting

April 23rd, 2019

SAN MARCOS



Lockwood, Andrews
& Newnam, Inc.

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Agenda



- Project Purpose & Overview
- Channel Design
- Property Acquisition/Drainage Easements
- Bridge/Utility Upgrades
- Children's Park
- Trail Connectivity
- Linear Park Features
- Permitting Requirements

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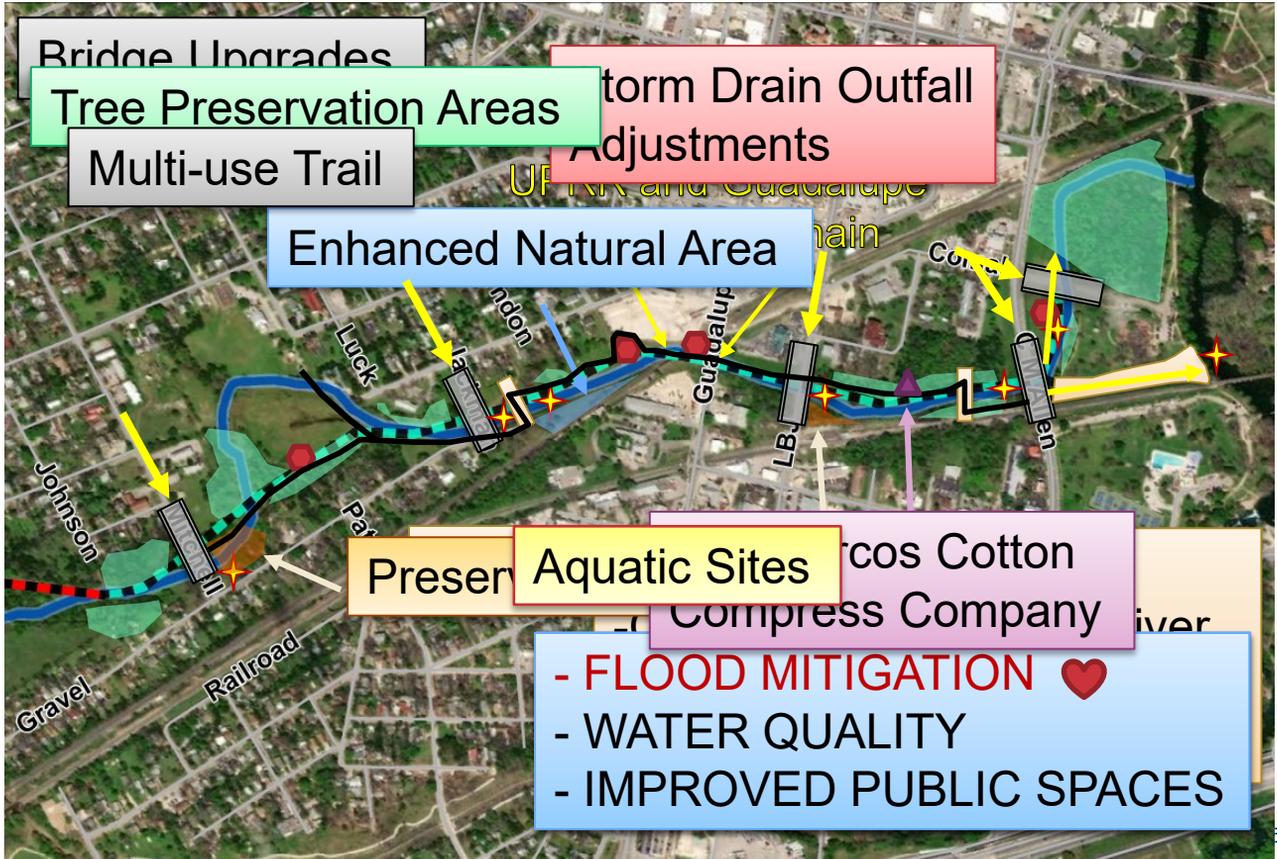
Project Purpose

- Primary Goal: Flood Mitigation
- Holistic approach to flood mitigation, water quality, and public space improvements
- Integrate City's Master Plans
 - Comprehensive Plan – A River Runs Through Us (2013)
 - Stormwater Master Plan (2018)
 - Wastewater Master Plan (2014)
 - Transportation Master Plan (2018)
 - Parks, Recreation, and Open Spaces Master Plan (2018)

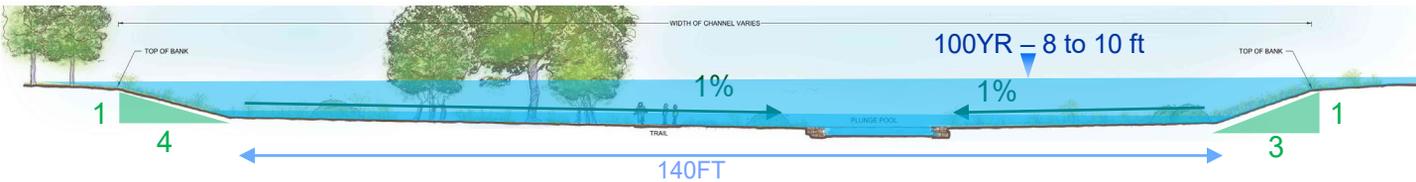
Phase 1 PER Overview

- PER Goals
- Natural Channel Design
- Hydrologic and Hydraulic Analysis
- Right of Way Evaluation
- Utility Conflict Evaluation
- Preliminary Environmental Review
- Preliminary Archeological Review
- Permitting Requirements Evaluation

Phase 1 Project Overview



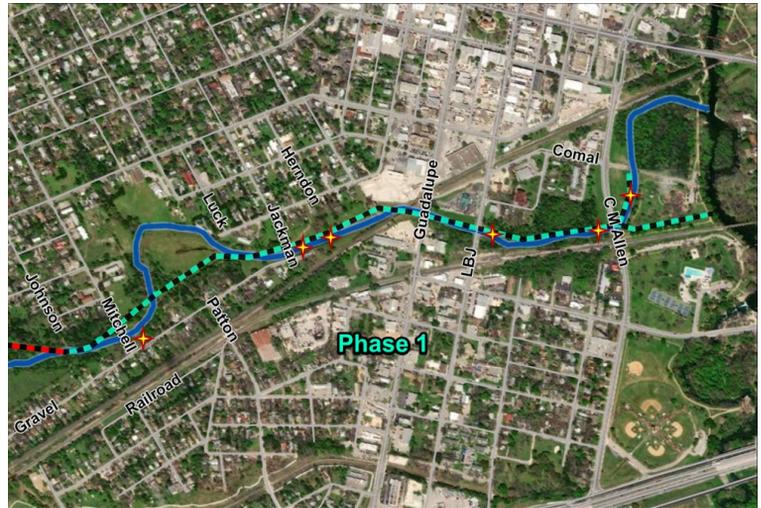
Channel Cross-Section



- 140 ft bottom width
- Channel side slopes varies (3:1 to 4:1)
- Limited vertical walls
- 1% Channel bottom cross slope
- Low and high-level flood benches

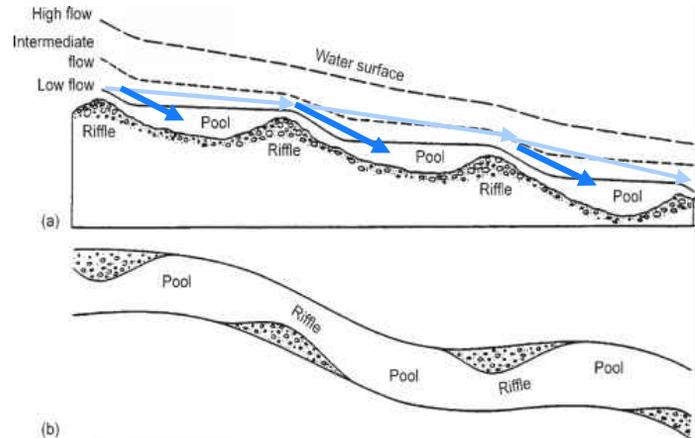
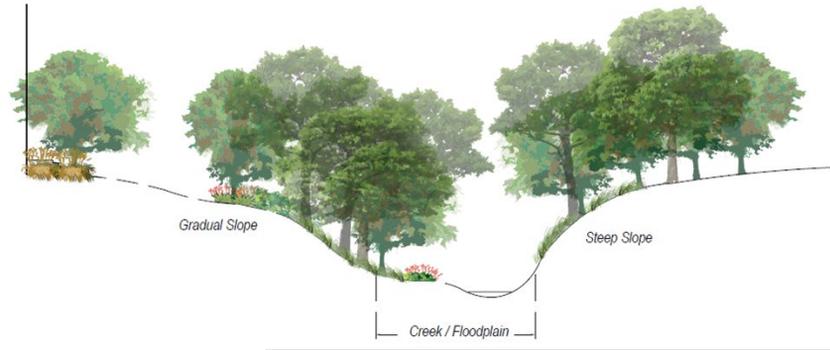
Natural Channel Design

- Urban creek corridor
- Reservoirs
- Stable meandering pilot channel
- Flood control overbanks



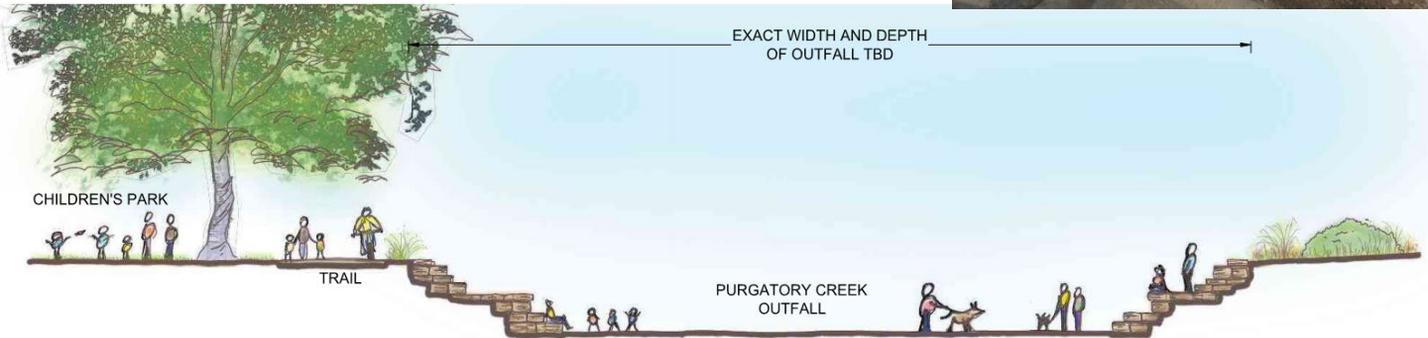
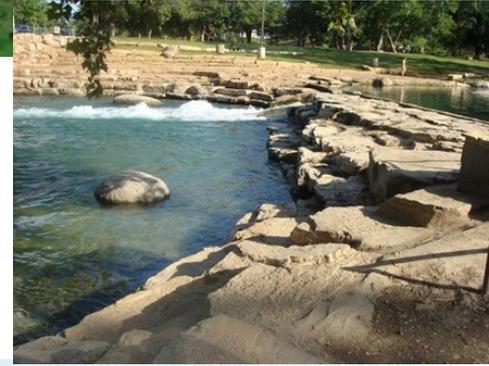
Natural Channel Design

- Riparian grow zones
- Pool Riffle Run Sequences



San Marcos River Outfall

- Transition back to Existing Channel at Comal into Bicentennial Park
- Spillway
 - High flows to be diverted downstream of CM Allen
 - Pedestrian-friendly access point to river
- Follow objectives outlined in the Habitat Conservation Plan



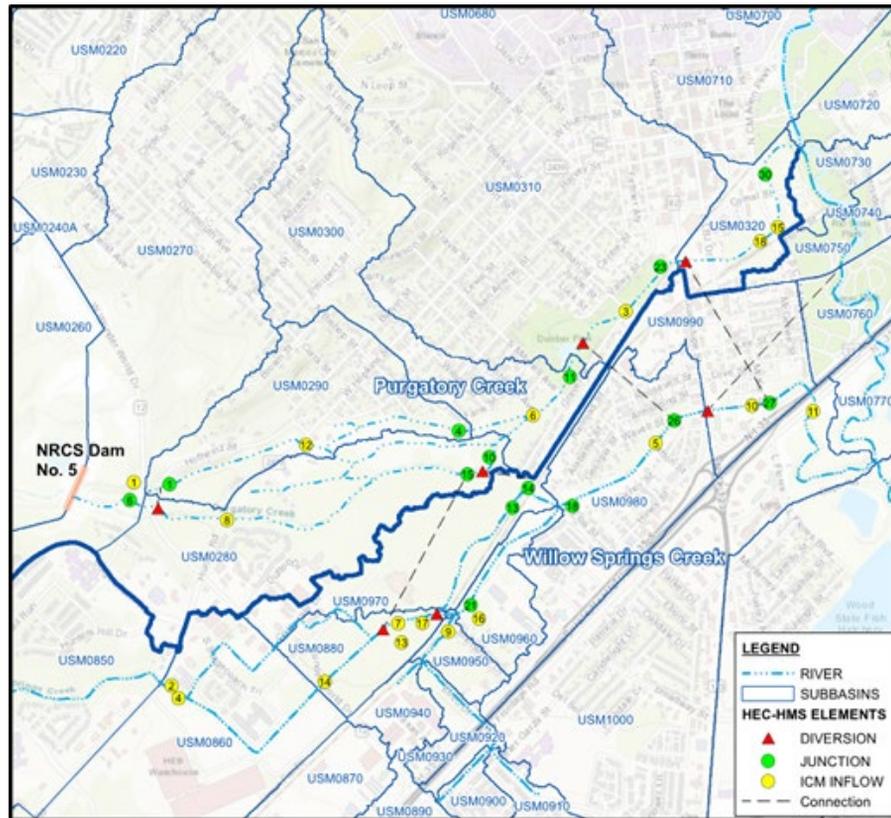
Hydrology & Hydraulics

Models Used

- HEC-RAS (1-D)
- Infoworks ICM (2-D)

References

- COSM, Comprehensive Watershed Master Plan, November 20, 2017
- Hays County, 2-Dimensional Modeling of Purgatory and Willow Springs Overflow, June 30, 2017



Bridge Upgrades

→ Guadalupe and RR to remain

→ Expected to convey 100-yr storm



Mitchell Avenue



Jackman Street



S LBJ Street



S CM Allen Parkway



Comal Street

Utility Upgrades

- Wastewater Line Upgrade (WWMP #4)
- Mitchell Avenue Area Drainage Improvements (DMP #15)
- S LBJ Dr/Cheatham Drainage Improvements (DMP#25)



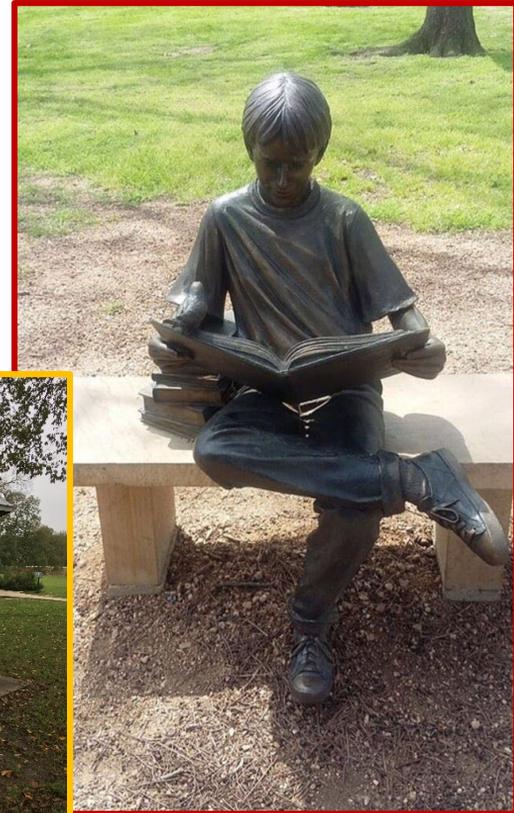
Property Acquisitions & Drainage Easements

- Minimum width of 220 feet to contain channel improvement
- Will require
 - Acquisition of some properties
 - Establishment of new easements



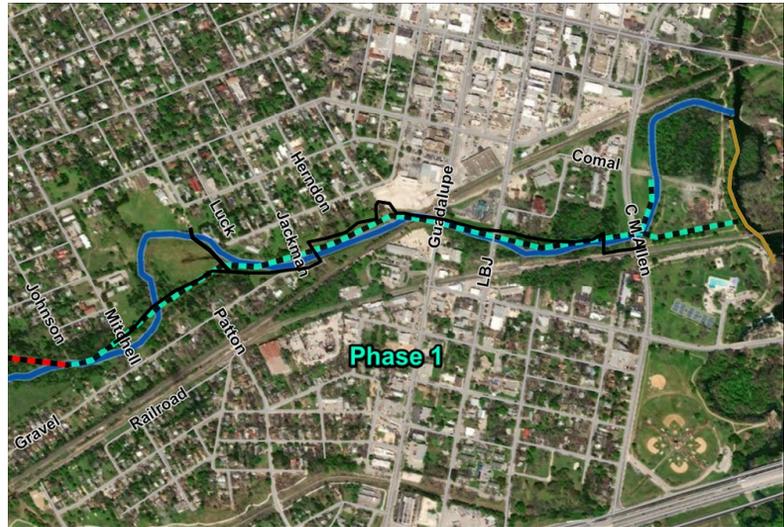
Children's Park

- Minimal impact to recently remodeled play space
- Buffer between picnic areas and outfall to San Marcos River
- On-going bank preservation project



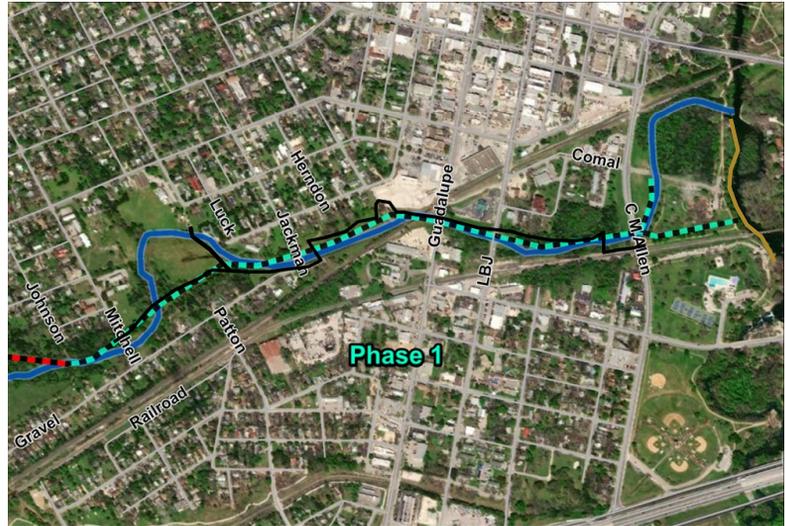
Trail Connectivity

- Multi-use Path from Mitchell Avenue to Children's Park
 - Connect to Dunbar Park, Children's Park, and San Marcos River Pathway
 - ADA compliant trail
 - Street access/exit points
 - Maintenance access
 - Crime Prevention through Environmental Design (CPTED)



Linear Park Features

- Park features of importance to San Marcos
 - River Access
 - Place to Swim in the River
 - Nature/Shared Use Trails
 - Green Spaces
 - Shade Trees
 - Canoe/Kayak Launch
- Points of Interest
- Wayfinding for Trail System and Points of Interest



Permitting Requirements



- **US Army Corps of Engineers**
 - Waters of the US
 - Historic Preservation Act
- **Texas Commission on Environmental Quality**
- **Texas Parks and Wildlife Commission**
- **Texas Historical Commission**
- **City of San Marcos**
 - Geologic Assessment
 - Tree Survey/Protection
- **Union Pacific Railroad**

Next Steps

Real Estate
Permitting
Final Design



Preliminary Conceptual Plan

