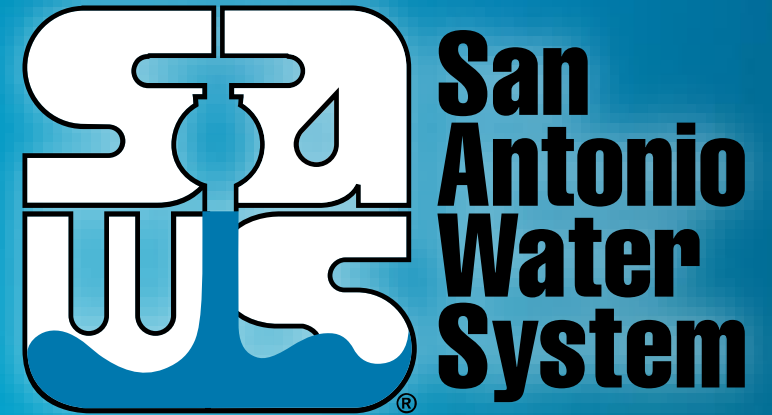


Water CIP Overview

Bob King Johnson, P.E., PMP
Manager, Master Planning



MAKING SAN ANTONIO
WATERFUL

Capital Improvements Advisory Committee
July 25, 2018

Water CIP Overview

- Evolution of Water System in San Antonio
- Types of Impact Fees
- Overview of Current Water System
- Water Delivery
 - Flow
 - System Development
- Water Supply

Evolution of San Antonio Water System

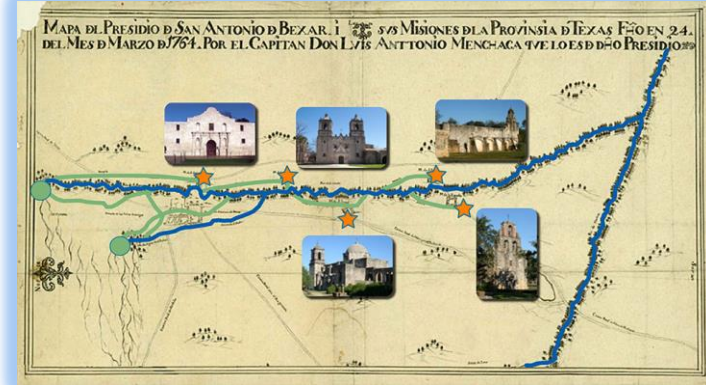
Early Years



The Blue Hole, + 11,000



Espada Aqueduct, 1745



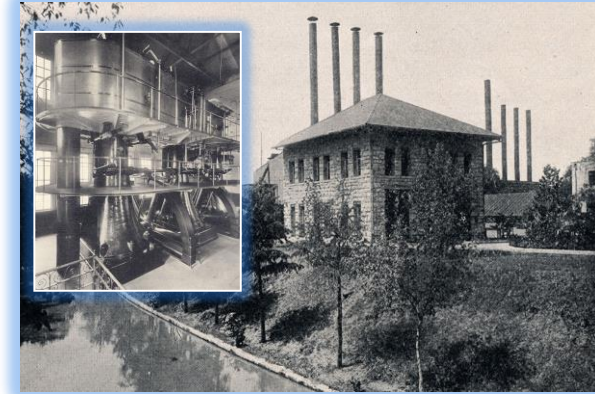
Presidio de Béxar, 1764



Brackenridge Pump House #1, 1877



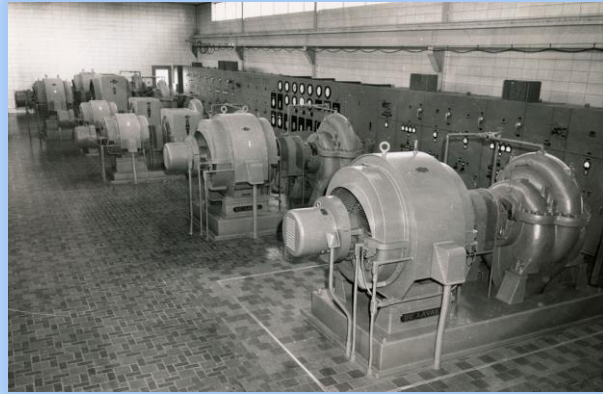
*Brackenridge Pump House #2, 1885
The Borglum House*



Market Pump Station, 1908

Evolution of San Antonio Water System

Later Years



Basin Pump Station, 1959



*Production Control Center, 1968
First in Nation Full Automation*



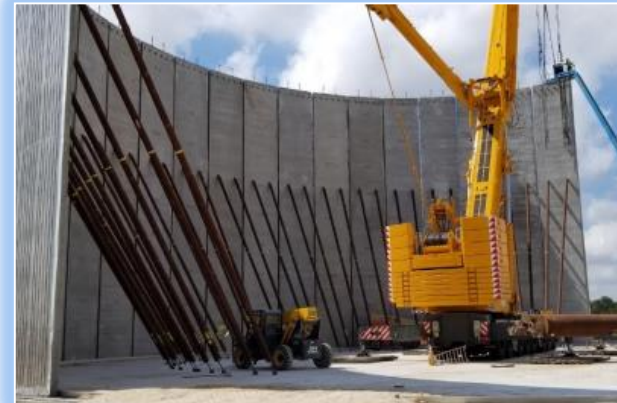
*Aquifer Storage and Recovery, 2004
Twin Oaks*



*BexarMet Merger, 2012
Medina River Ultrafiltration Plant (built 1999)*



*Desalination, 2016
Reverse Osmosis*



*Vista Ridge, 2020
Terminus Facility*

Types of Impact Fees

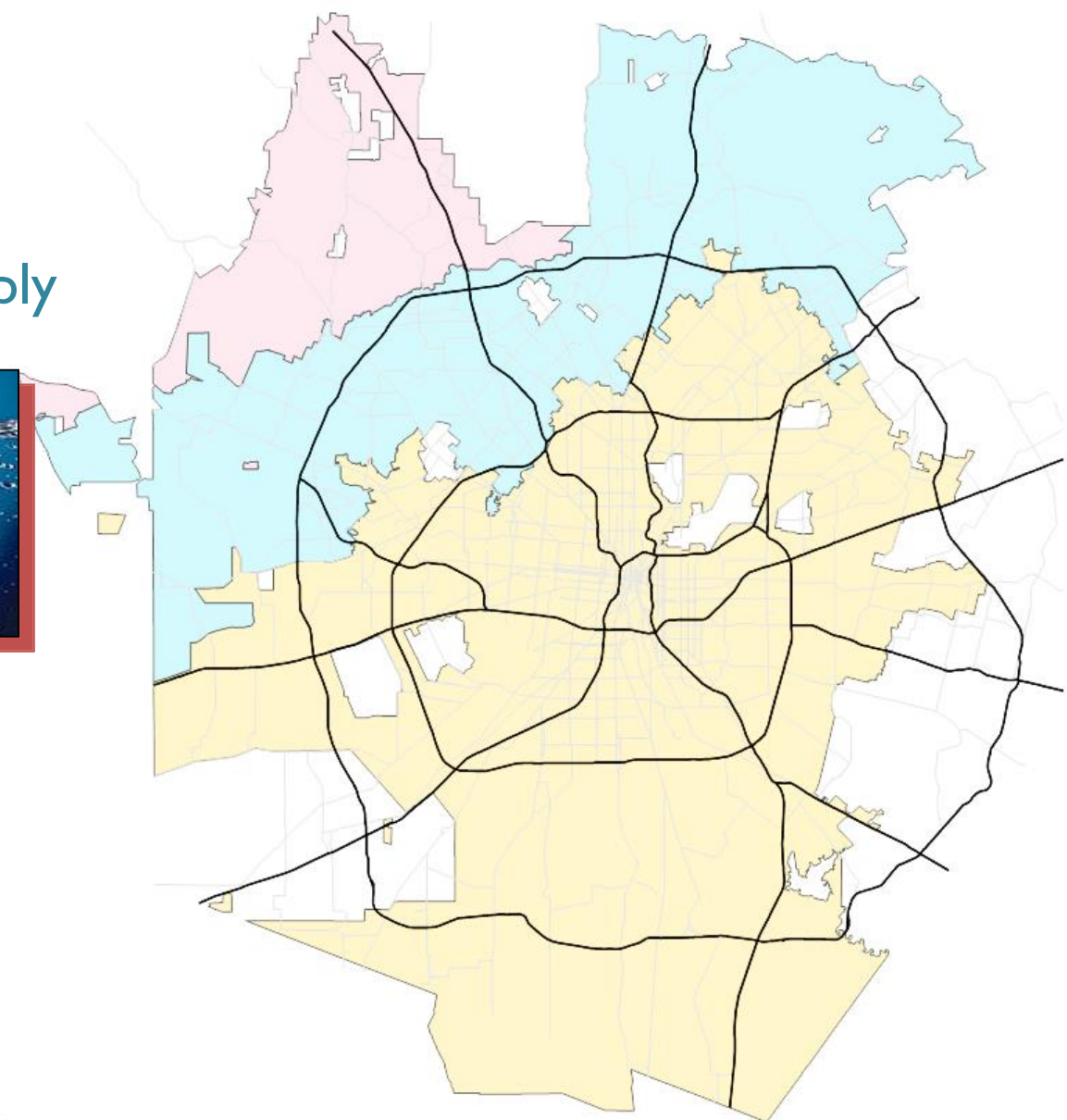
Water Delivery Flow



Water Delivery System Development



Water Supply



Wastewater Collection

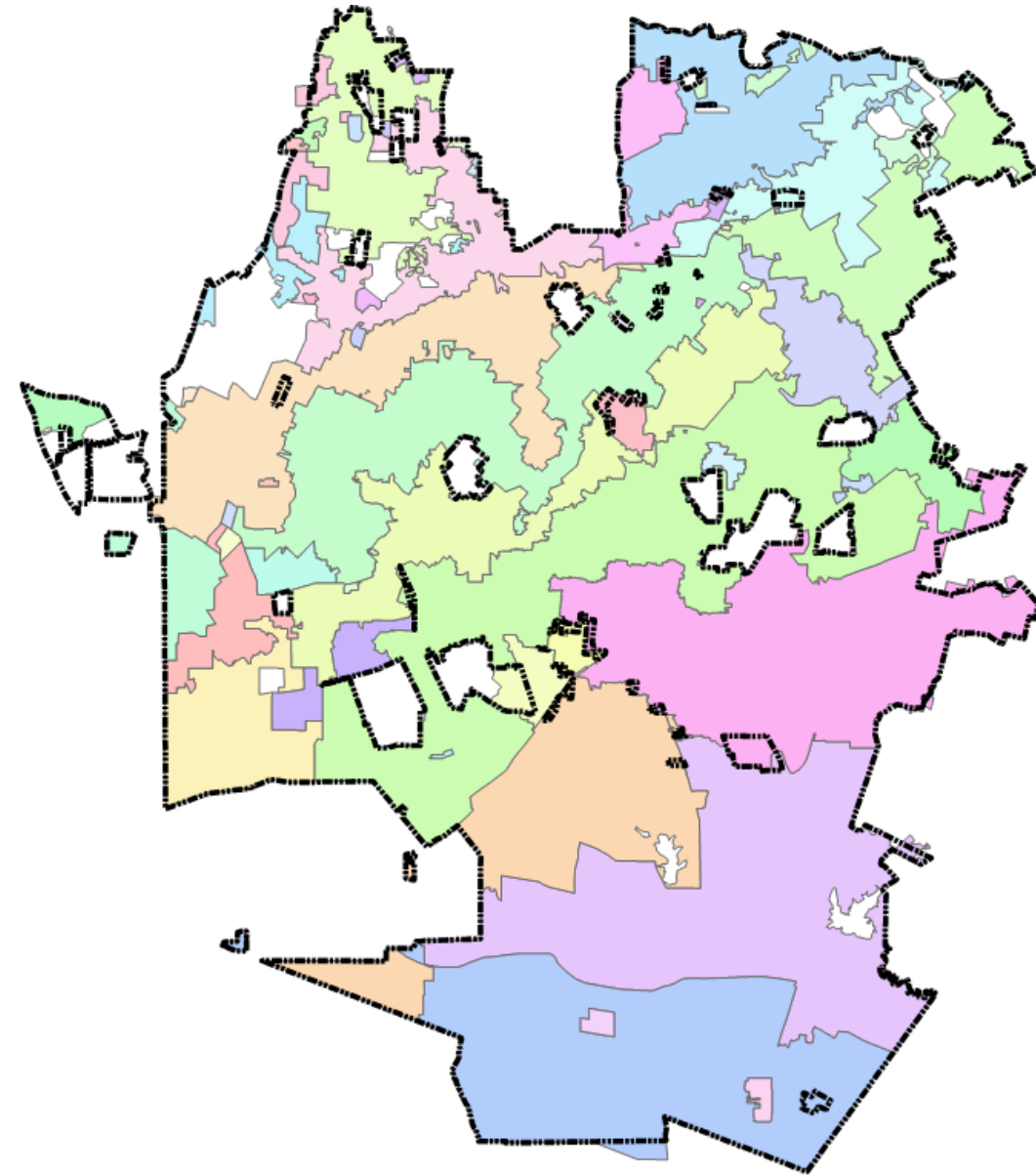


Wastewater Treatment



Current Water System

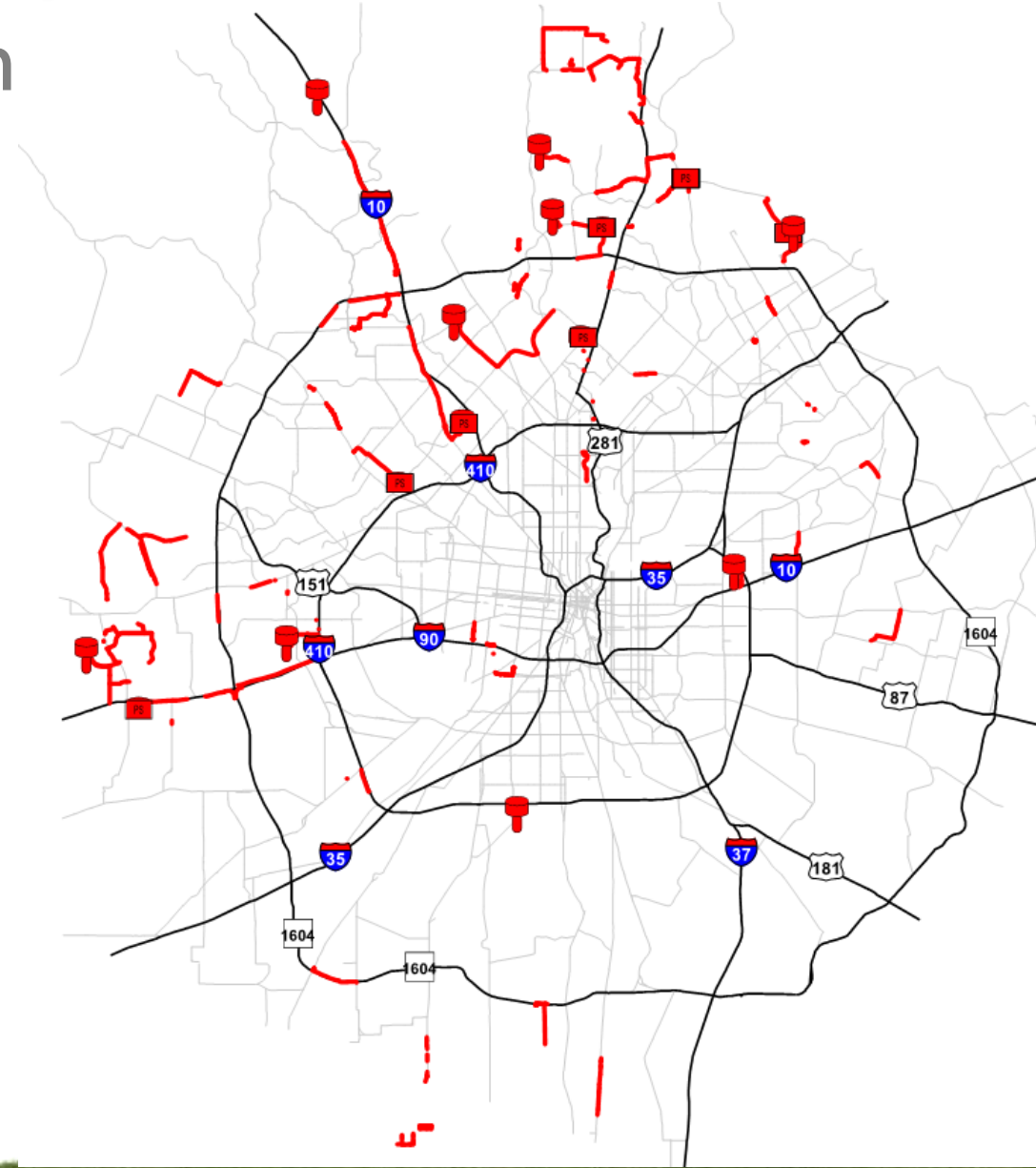
- 59 Pressure Zones
 - 7,100 miles of mains
 - 33 Primary
 - 30 Secondary
 - 35 Booster
 - 84 Ground Storage Tanks
 - 35 Elevated Tanks
- Distributed production facilities
- Complex operations



Water Delivery Capital Improvem

Additional capacity for 10 years of growth

- Ground and Elevated Storage
- Well and high service pumps
- Transmission mains
- Distribution mains



Types of Impact Fees

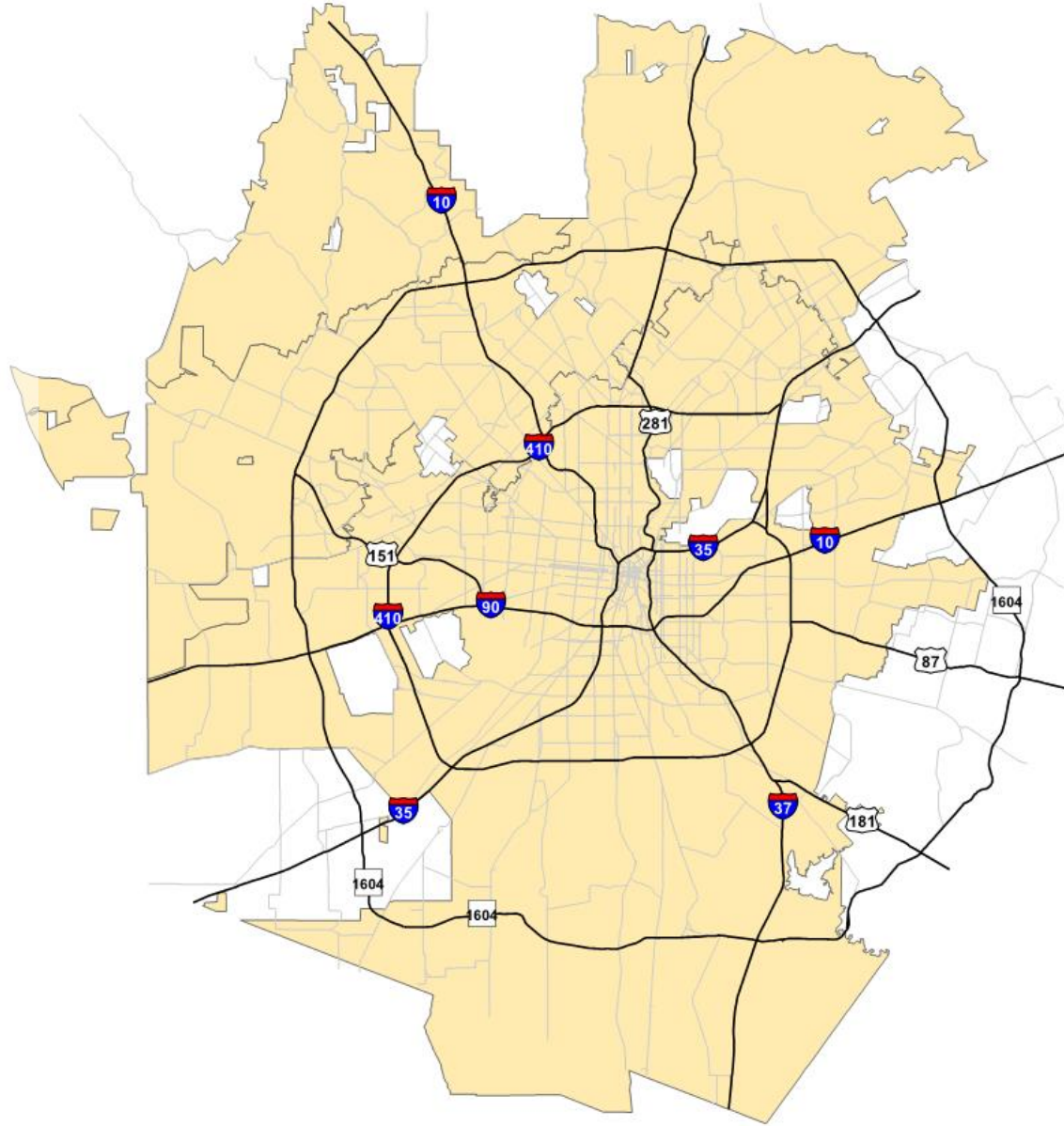
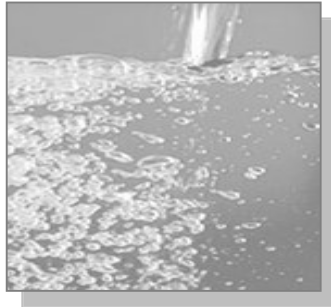
Water Delivery Flow



Water Delivery System Development



Water Supply



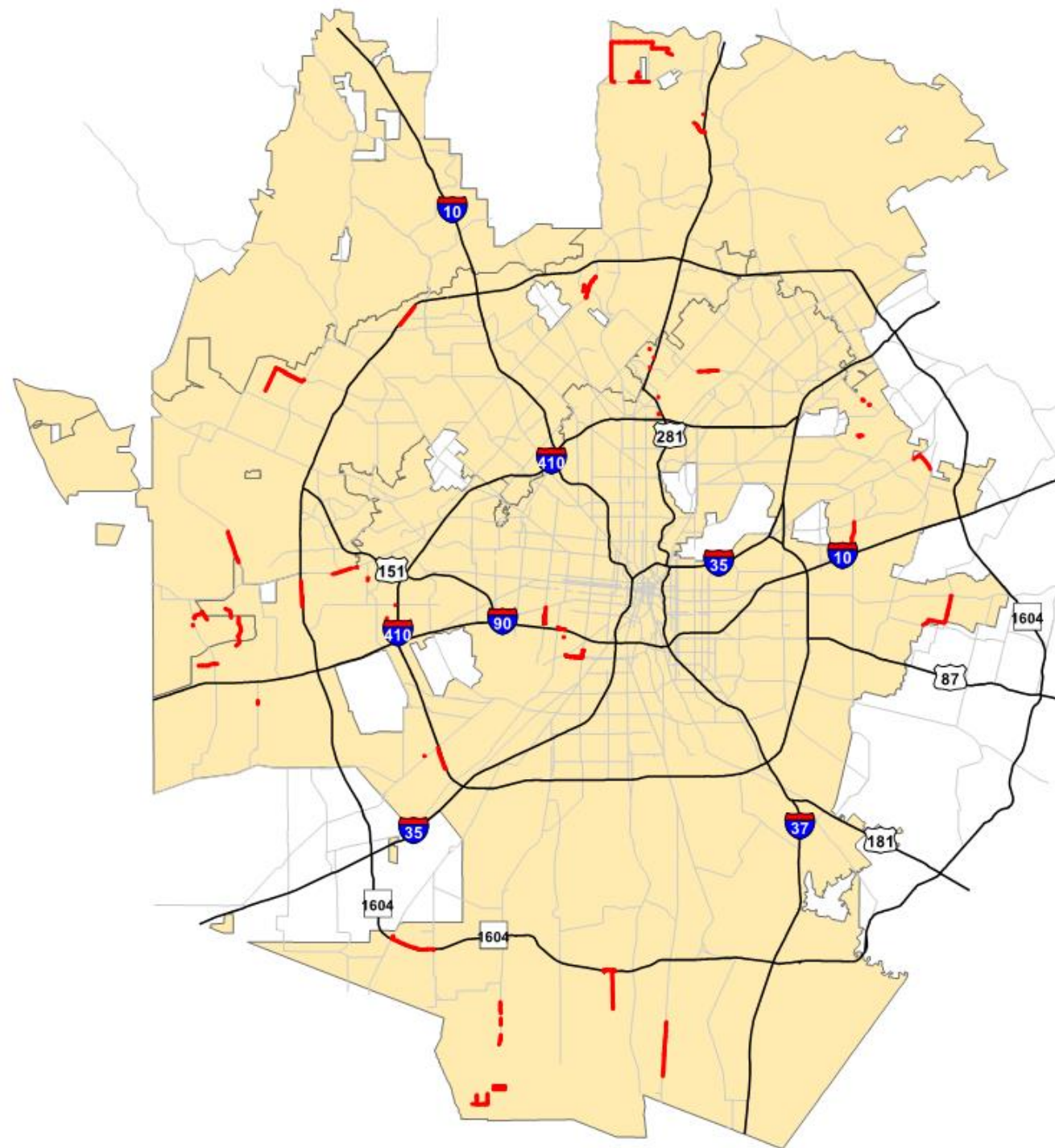
Wastewater Collection



Wastewater Treatment

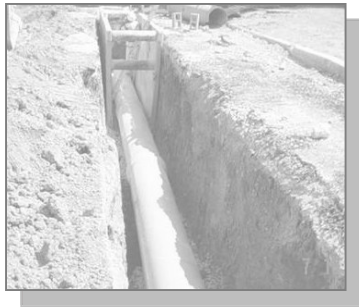


Flow - CIP



Types of Impact Fees

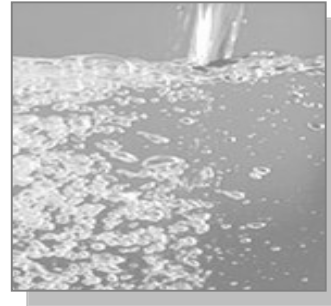
Water Delivery Flow



Water Delivery System Development



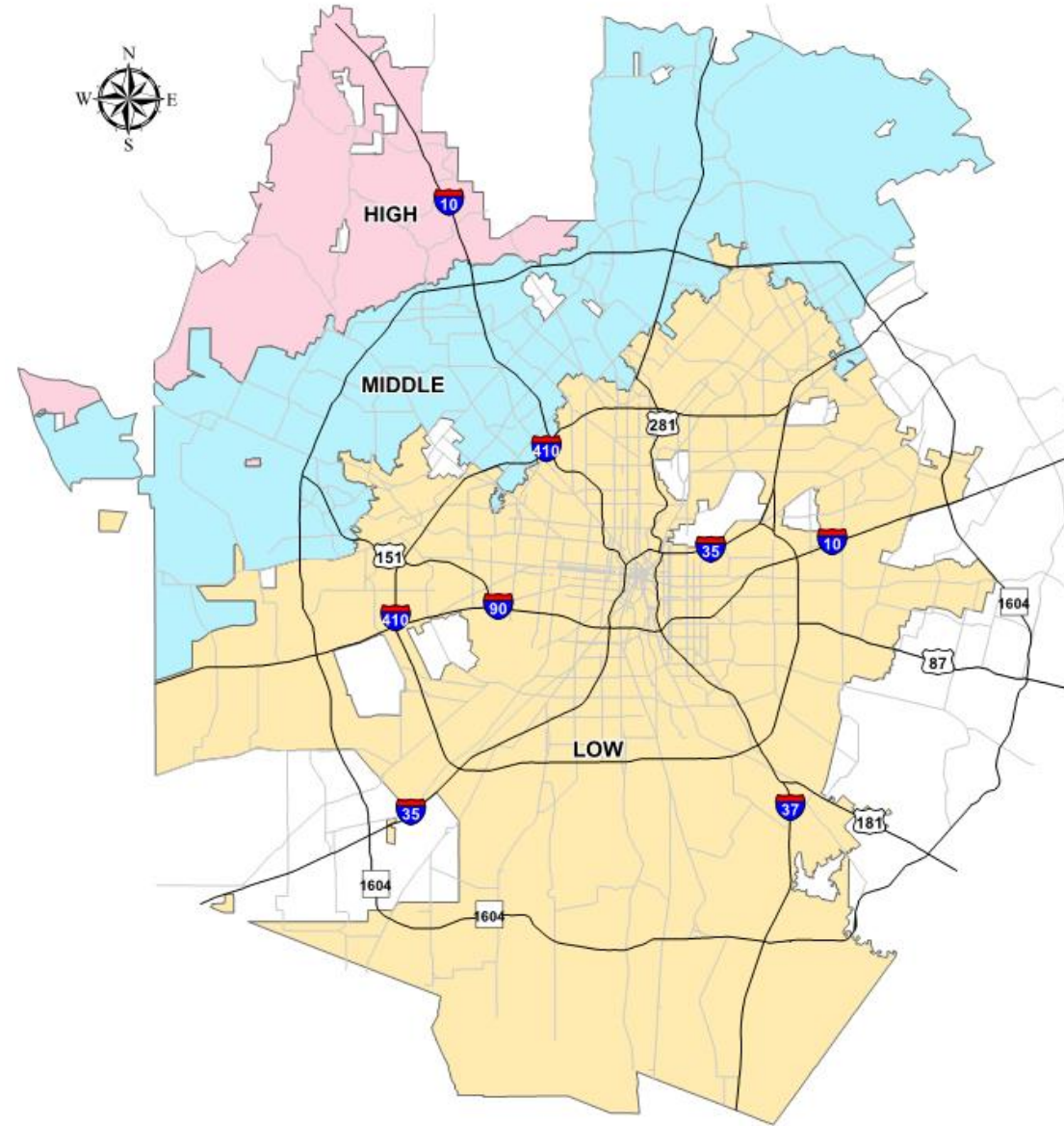
Water Supply



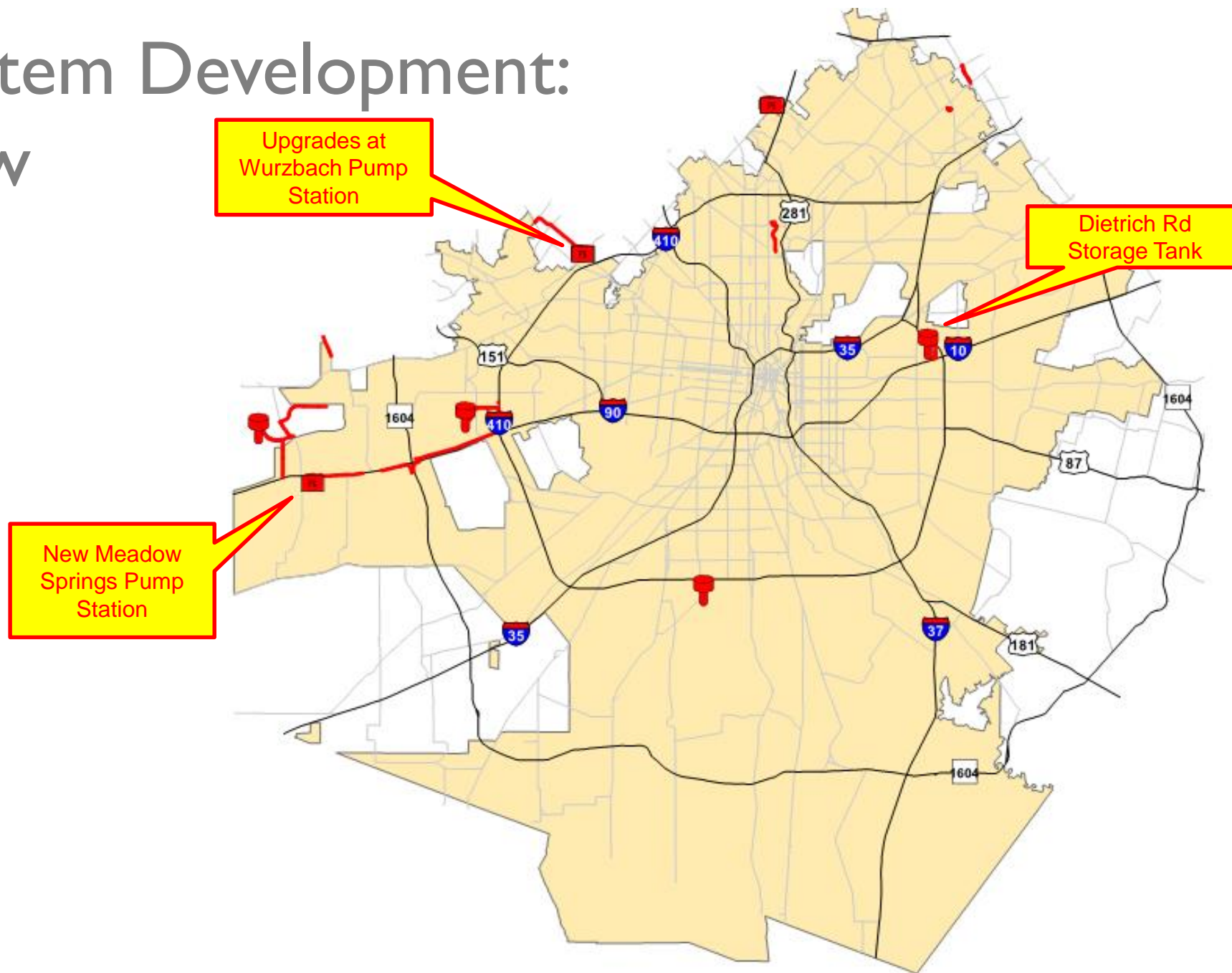
Wastewater Collection



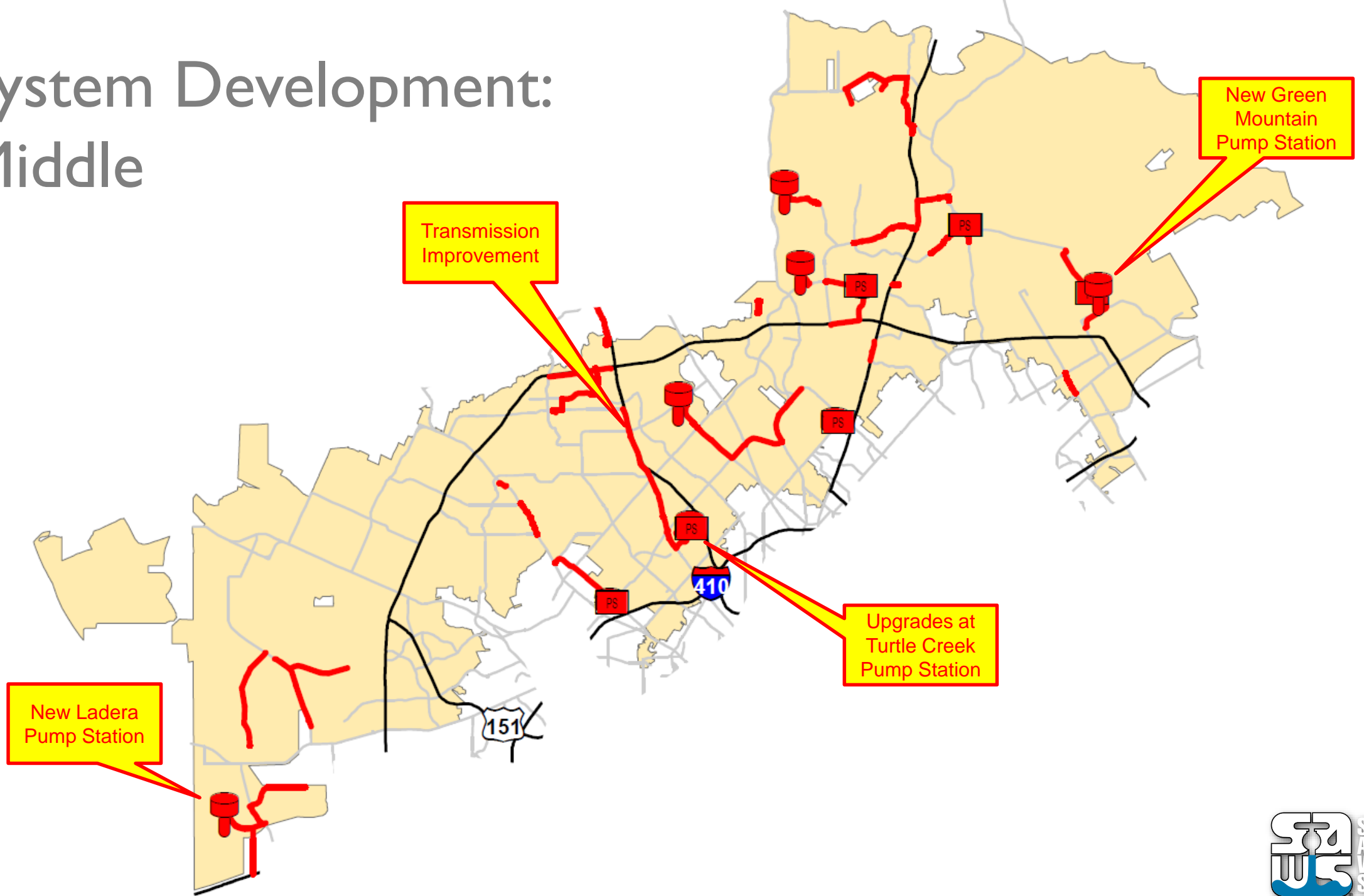
Wastewater Treatment



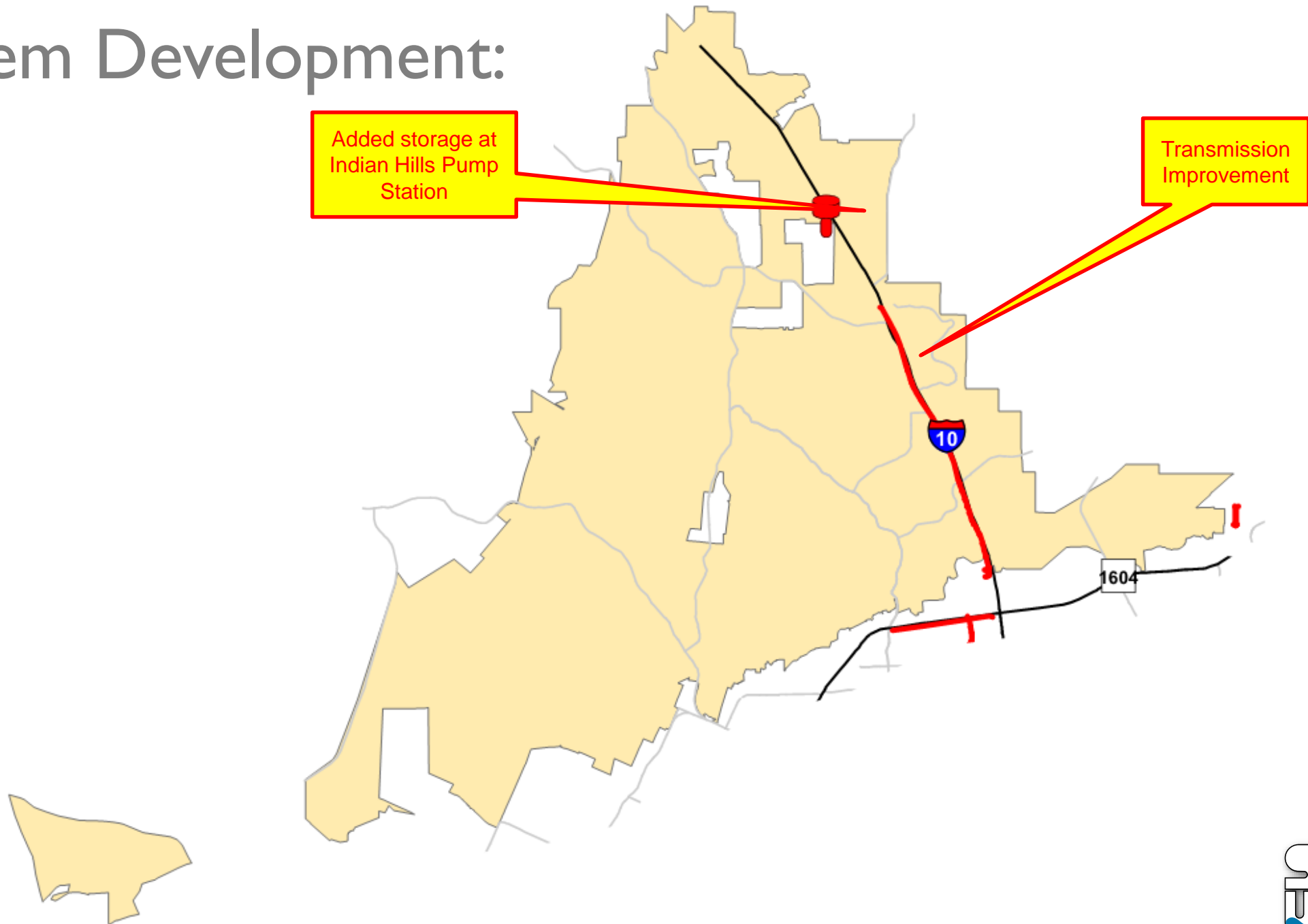
System Development: Low



System Development: Middle



System Development: High

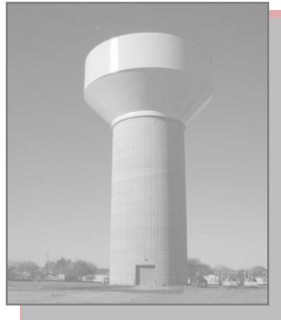


Types of Impact Fees

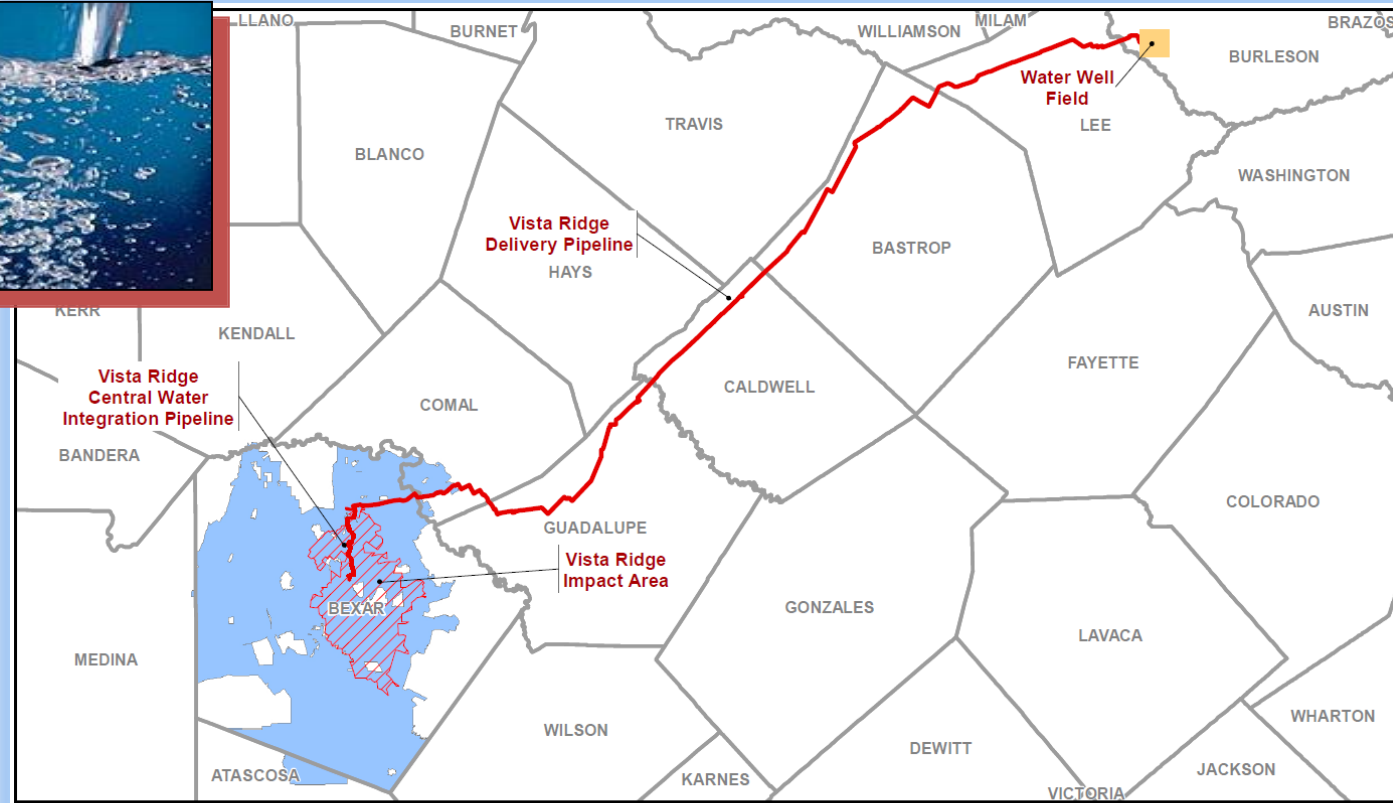
Water Delivery
Flow



Water Delivery
System Development



Water Supply



Wastewater
Collection



Wastewater
Treatment



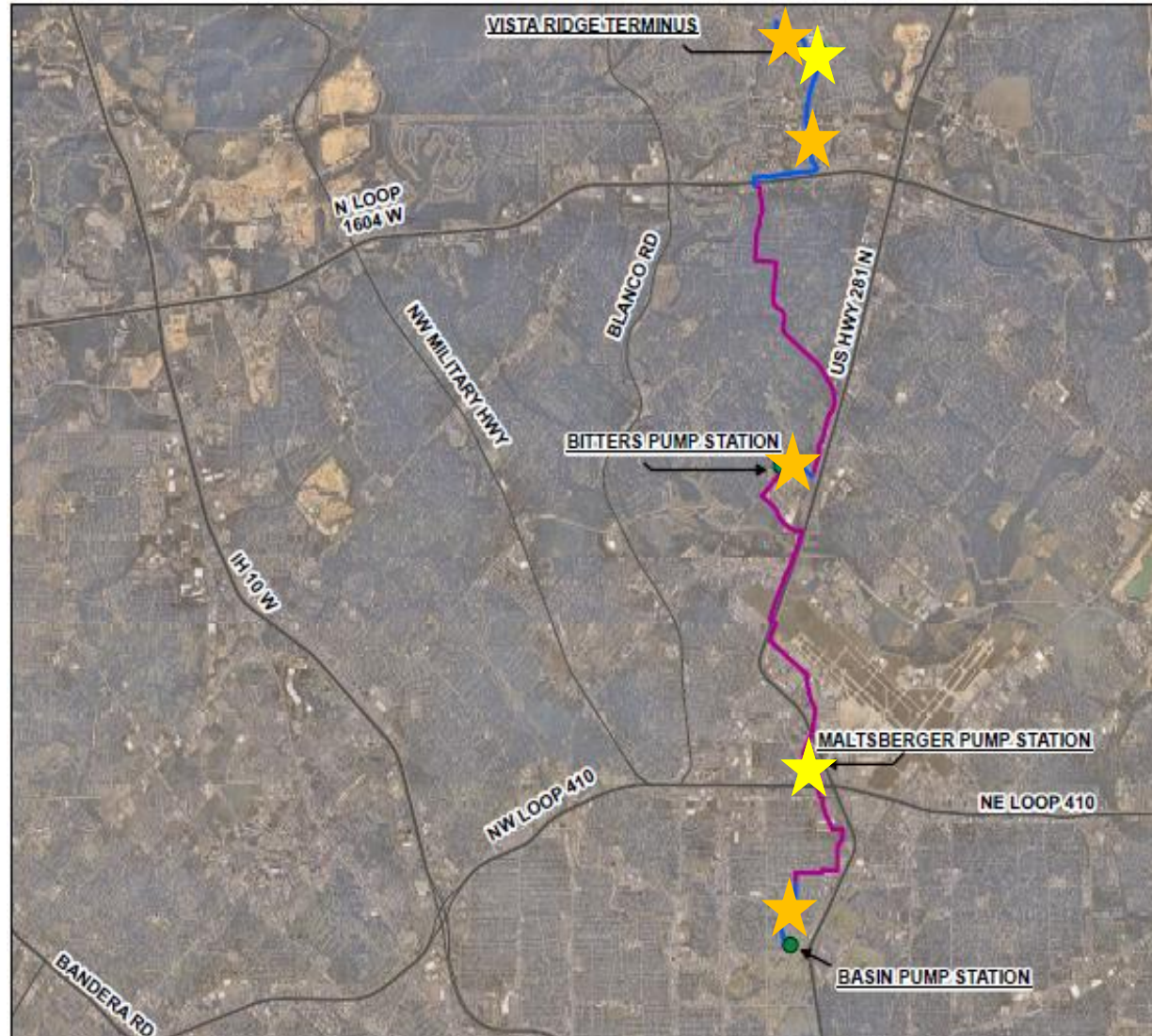
Water Supply CIP

Vista Ridge Water Supply Project



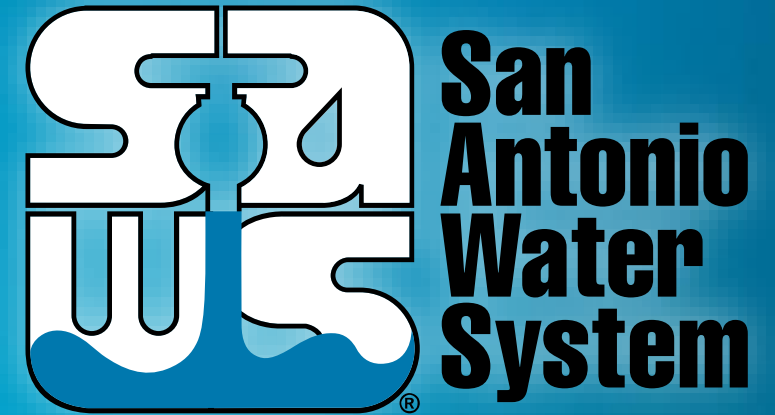
Water Supply CIP

Central Water Integration Pipeline Project



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