



City of Austin  
Water Reclamation  
Program

# City of Austin Water Reclamation Initiative

## ***Water Reclamation in Austin Grow Green Landscape Professional Training***

January 23, 2013



# *Overview*

- Introduction
- System History
- System Future
- Bulk Water Fill Stations
- Connection Requirements
- Mandatory Connections



# ***What is Reclaimed Water ?***

- Highly treated wastewater effluent
- Quality – akin to river water
- Demand management tool
- Major uses
  - Irrigation
  - Cooling
  - Manufacturing
  - Toilet flushing



# How it Works



# ***Why Reclaimed Water ?***



# *Typical Rates*

Rate Class	Off-Peak Rate (per kgal)	Summer Rate (per kgal)
Single Family	\$1.17 to \$12.19	
Multifamily	\$3.93	\$4.32
Commercial	\$4.69	\$5.15
Reclaimed	\$1.50	\$1.50



# ***Subsidization***

According to a 2008 AWWA study, only 25% of reclaimed water systems cover their operating costs.

<b>Utility</b>	<b>Rate</b>
Amarillo	\$0.15
Austin	\$1.50
Bourne	\$4.50
El Paso	\$1.28
Fort Worth	\$2.69 / \$4.61
Kerrville	\$0.75
McAllen	\$0.20
San Antonio	\$1.18
San Marcos	\$1.31
Seguin	\$1.70

# ***Benchmarks***

- Israel – reclaims 70% of wastewater
- Spain – reclaims 12% of wastewater
- US – reclaims 5-6%, eventually 30-40%
- San Antonio – reclaims 4% of wastewater
- Austin – reclaims 4% of wastewater





# ***Benchmarks (cont.)***

## **Austin**

1<sup>st</sup> customer: 1974

No cross-connections

Capacity: 25,596 af/yr

Driver: deferred plant construction

Rate: \$1.50/kgal

Cost: \$180 million

Time frame: 25 yrs

Length: 43.5 → 162 miles

## **San Antonio**

1<sup>st</sup> customer: 1999

1 cross-connection

Capacity: 35,000 af/yr

Driver: limited raw water supply

Rate: \$1.18/kgal

Cost: \$125 million

Time frame: 5 yrs

Length: 75 → 110 miles



# The Current System

Miles of trans. main – 47.2

Customers – 44

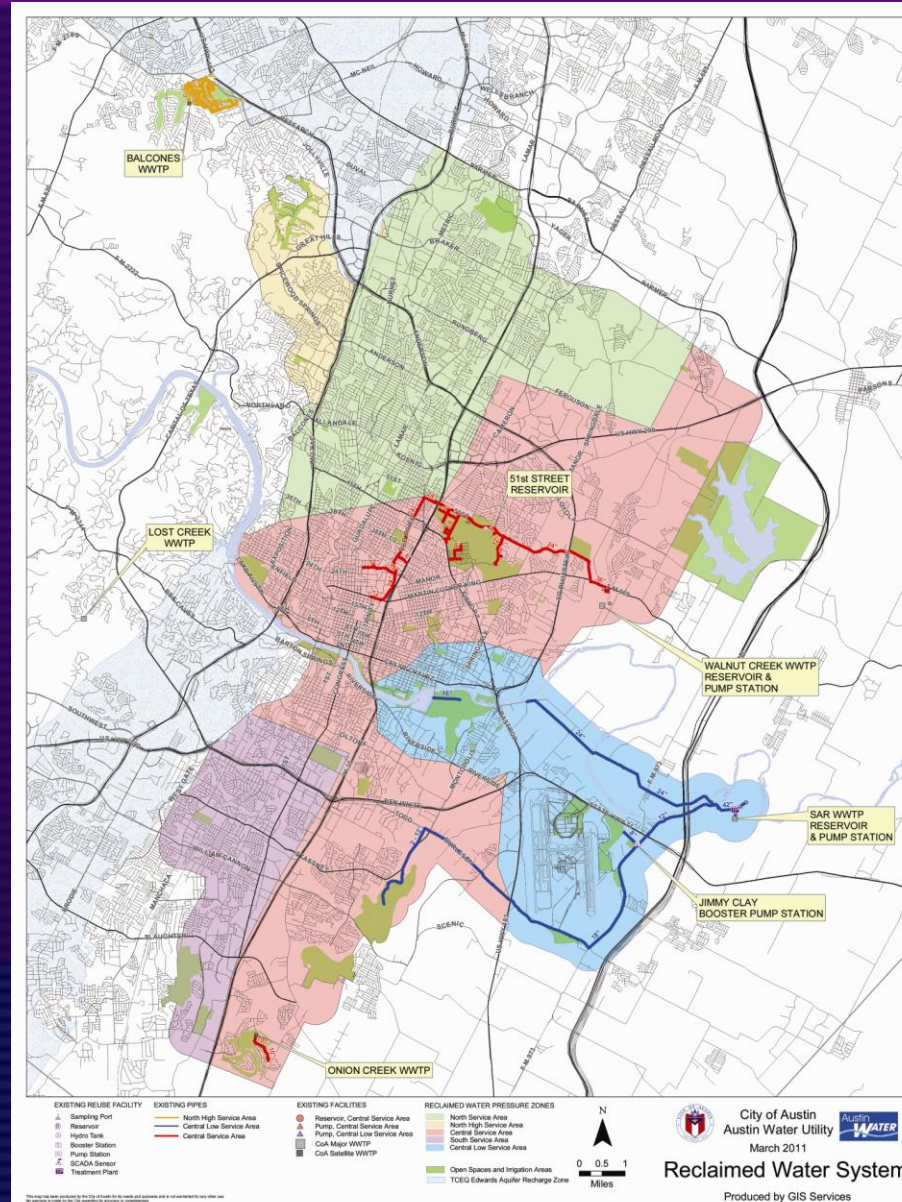
Annual use – 1.5 billion gallons

How much water is that?

2,230 olympic-sized swimming pools

30 million car washes

0.9 billion toilet flushes



# ***Reclaimed Water Customers***

## Existing (44)

- Clay/Kizer Golf Course
- Sand Hill Energy Center
- Hornsby Bend
- First Tee
- Morris Williams GC
- Onion Creek GC
- Lost Creek GC
- Balcones CC
- Frost Bank
- Home Depot (Mueller)

## Planned (310)

- University of Texas
- Saint Paul's Church
- Hancock Golf Course
- Bartholomew Park
- Mueller Parks
- East Avenue
- Capital Complex
- Downtown
- Guerrero Park
- ACC Riverside

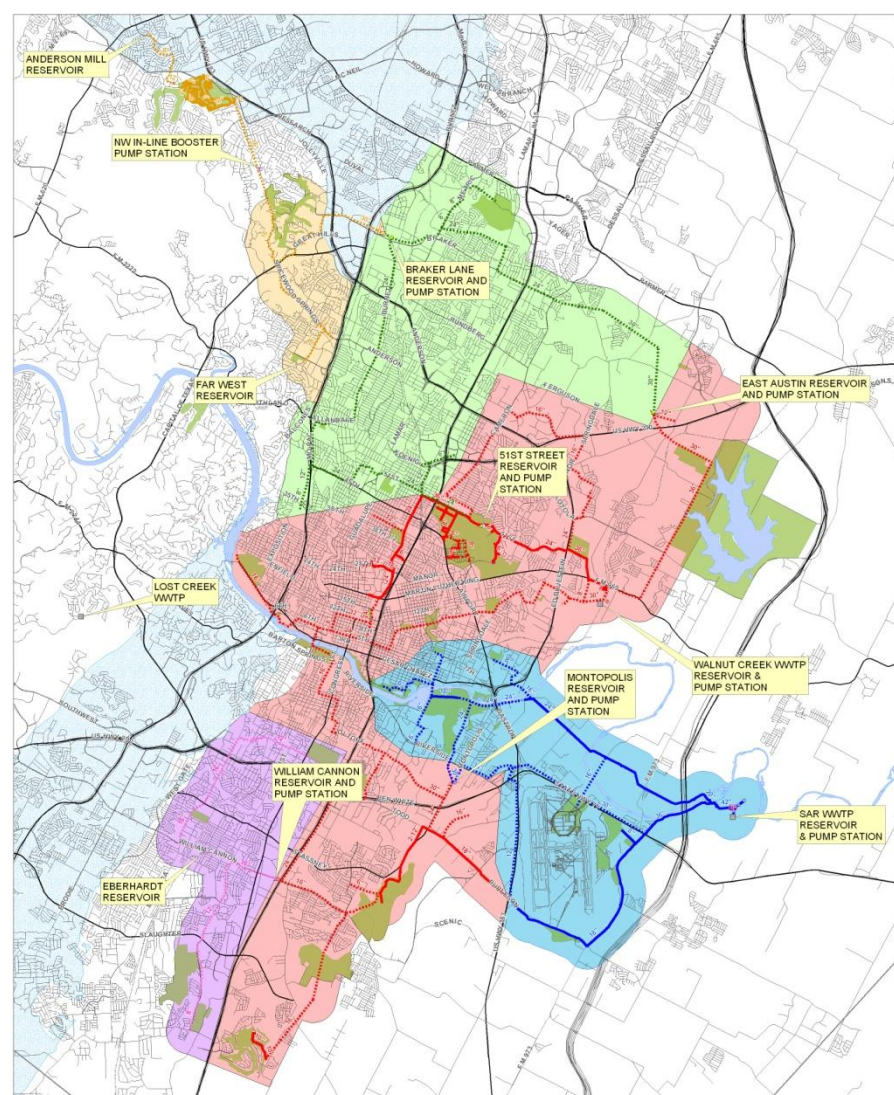


# Plans and Opportunities

Miles of trans. main – 162  
Annual use – 8.34 billion gallons

How much water is that?

- 12,350 olympic-sized swimming pools
- 167 million car washes
- 5.21 billion toilet flushes



**EXISTING REUSE FACILITY**

- Sampling Port
- Reservoir
- Hydro Tank
- Booster Station
- Pump Station
- SCADA Sensor
- Treatment Plant

**PROPOSED AND EXISTING PIPES**

- North High Service Area
- North Central Service Area (Existing)
- Central Low Service Area (Existing)
- South Service Area
- North Service Area
- Central Service Area (Existing)

**PROPOSED & EXISTING FACILITIES**

- Tank, North Service Area
- Tank, North High Service Area
- Tank, North Central Service Area
- Tank, South Service Area
- Tank, Central Low Service Area
- Pump, North Service Area
- Pump, North High Service Area
- Pump, Central Service Area
- Pump, Central Low Service Area
- Coil Major WWTP
- Coil Satellite WWTP

**RECLAIMED WATER PRESSURE ZONES**

- North Service Area
- North High Service Area
- Central Service Area
- South Service Area
- Central Low Service Area

**Other Spaces and Irrigation Zones**

- TCEQ Edwards Aquifer Recharge Zone

City of Austin  
Austin Water Utility  
March 2011  
Reclaimed Water System  
At Build Out  
Produced by GIS Services

# Active Construction

- BAE Systems Main – 5,600’
- Montopolis Main – 15,300’
- Guerrero Park 1&2 – 3,500’
- Morris Williams ARV & PSV
- Walnut Tank



# ***Under Design***

- Montopolis Tank and Pump Station
- Capitol Complex / AISD – 9,000’
- Smith Road Extension – 13,500’
- Rte 973 Relocations
- Seaholm Mains



# ***Bulk Water Station***

- For water hauling trucks
  - Road construction
  - Dust control
  - Irrigation ?
- Two under construction
- Two active
- Locations



# Marking and Identification





# Connection Considerations

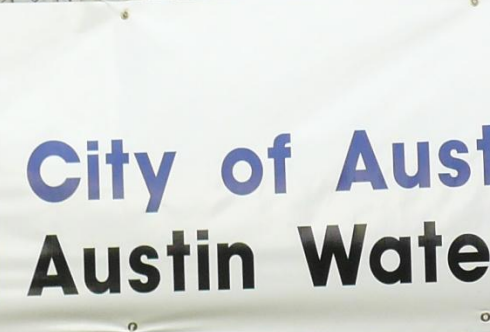
- Backflow prevention
  - CIS / Initial Test
  - Annual test
  - RPZ on potable service lines
  - RPZ on hose bibs
  - Double check valve on fire lines
  - Single check valve on the reclaimed service line



# ***Connection Considerations (cont.)***

- Drinking fountains
- Purple sprinkler heads
- Purple valve boxes
- Purple pipe
- Signs
- 10' Separation
- Sleeves
- Consultant Study





# ***Mandatory Connections***

- Commercial Properties
  - New
  - Renovations that increase water use
- 250' from existing main
- Health and Safety Exemption
- Excessive Cost Exemption
- Schedule
  - Adopted August 2012
  - Implemented after Auxiliary Water Study



***THANK YOU***

***Q&A***

