Updated Master Plan for Water Recycling Centers

June 30, 2010

Steve Clouse
Chief Operating Officer
Historic sewerage systems

1894 collection system

1901: Mitchell Lake

1933: Rilling Road
Major and Minor Facilities of the 1990s

**Major Facilities**
- Dos Rios
- Leon
- Salado
- Medio

**Minor Facilities**
- Culebra
- SA Ranch
- NSISD
- SSISD

---

Map showing the locations of Medio Creek WRC, Leon Creek WRC, Dos Rios WRC, and Salado Creek WRC with major and minor facilities indicated on the map.
Facility Consolidations and Eliminations

- All minor facilities eliminated
- Salado/Dos Rios sewersheds consolidated and Salado facility eliminated
- Biosolids transfers from Medio/Leon consolidate all solids processing at Dos Rios

Salado transfer line

Medio Creek WRC
Leon Creek WRC
Dos Rios WRC
Salado Creek WRC

San Antonio River

Medio Creek
Leon Creek
Helotes Creek
Olmos Creek

SA Ranch
Culebra
NSISD

Medina River

Biosolids Transfers

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Updated Master Plan for Water Recycling Centers

San Antonio
North

MILES
Future Service Areas

Area to be added by MRSO

Project includes diversion of some flow from Leon service area to Dos Rios
SAWS' Total Effluent Volumes

Effluent Volumes by Year, 1935 - 2009

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Updated Master Plan for Water Recycling Centers
How far can conservation take us?

![Graph showing projected water customers](graph.png)

- Water customers population
- Projected water customers (2.5% growth rate)

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Updated Master Plan for Water Recycling Centers
How far can conservation take us?

Actual gpcd shows a downward trend from 1980 to 2010. Projected water customers, with a 2.5% growth rate, are expected to increase from the current population of water customers. The projected growth is illustrated from 2010 to 2025.
How far can conservation take us?

- Actual gpcd: gpcd decline to 116 in 2016
- Projected water customers (2.5% growth rate)

June 30, 2010

Updated Master Plan for Water Recycling Centers
How far can conservation take us?

Actual gpcd decline to 116 in 2016

Projected water customers (2.5% growth rate)

June 30, 2010

Updated Master Plan for Water Recycling Centers
How far can conservation take us?

- Actual gpcd decline to 116 in 2016
- Projected water customers (2.5% growth rate)

June 30, 2010

Updated Master Plan for Water Recycling Centers
How far can conservation take us?

- Actual gpcd
- Gpcd decline to 116 in 2016
- "No WW growth" gpcd
- Projected water customers (2.5% growth rate)

June 30, 2010

Updated Master Plan for Water Recycling Centers
WRC Capacities and Flows (mgd) 2007 - 2009

- Medio Creek: 6.4 million gallons per day (3 year average)
- Leon Creek: 36.6 million gallons per day (permit limit 46)
- Dos Rios: 81.4 million gallons per day (3 year average, permit limit 125)

June 30, 2010
Updated Master Plan for Water Recycling Centers
WRC Capacities and Flows (mgd)

2007 - 2009

Planning required 93.75

Medio Creek: permit limit (16) planning required 6.4

Planning required 34.5

Leon Creek: 3 year average 36.6

Planning required 12

Dos Rios: 3 year average 81.4

permit limit (46)

permit limit (125)

June 30, 2010

Updated Master Plan for Water Recycling Centers
WRC Capacities and Flows (mgd)

2007 - 2009

Medio Creek

Leon Creek

Dos Rios

Construction required

3 year average

Permit limit

6.4

36.6

81.4

14.4

41.4

112.5

60 80

million gallons per day

June 30, 2010

Updated Master Plan for Water Recycling Centers
WRC Capacities and Flows (mgd)

October 2009 thru March 2010

Medio Creek: 7.6 million gallons per day
Leon Creek: 39.39 million gallons per day
Dos Rios: 87.46 million gallons per day

Construction required: 14.4, 41.4, 112.5 million gallons per day
Permit limit: 16, 46, 125 million gallons per day

June 30, 2010

Updated Master Plan for Water Recycling Centers
WRC Capacities and Flows
2016 - With 20 mgd transferred to Dos Rios

flows transferred to Dos Rios

permit limit (125)

transferred from Leon and MRSO

permit limit (46)

permit limit (16)

Medio Creek

Leon Creek

Dos Rios

June 30, 2010

Updated Master Plan for Water Recycling Centers
Why add to Dos Rios service area?

• Provides capacity for future flows from the new Medina River sewershed
• Eliminates current need for expansion at Leon Creek WRC
• Defers need for planned future expansion at Medio Creek WRC
• Lowest cost option
Goals for Dos Rios WRC Re-rating

• Maximize use of existing plant capacity
• Provide additional capacity when needed
• Be prepared for peak wet-weather events
• Minimize rate impacts through sequencing re-rating projects

June 30, 2010
Updated Master Plan for Water Recycling Centers
Dos Rios WRC Average Flows

- At 124 gallons per person per day, permit capacity reached in 2023
- At 116 gallons per person per day, permit capacity reached in 2028

![Graph showing flows over time with permit capacity and increase due to Leon and Medio diversions]
Dos Rios WRC Re-rating Timeline

- Dos Rios WRC “re-rating” is a series of phased improvements
- Will result in 217 mgd capacity at Dos Rios
- Will also address some deficiencies in current infrastructure
- Total cost $163 million: includes design and construction (in 2010 dollars)

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Comparative Costs for Recent Wastewater Treatment Plant Projects (in 2010 dollars)

$ / gallon of capacity

- Dos Rios WRC Re-rating: $1.77
- South Austin Regional Re-rating: $2.39
- Medio Creek WRC Expansion: $3.75
- North Texas Municipal Water District: $4.32
- San Antonio River Authority: $4.33
- City of Corpus Christi: $6.44
- City of Boerne: $14.29

June 30, 2010
Updated Master Plan for Water Recycling Centers
Other Improvements at Dos Rios

- Total cost: $61,034,600 (in 2010 dollars)

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June 30, 2010

Updated Master Plan for Water Recycling Centers
Dos Rios WRC Re-rating

separate existing Stages 1 and 2 to operate in parallel
Treatment in the 1980s

That was then.....
Wastewater Treatment Today

This is now....

mexican stoneroller
longear perch
logperch

"Best in Texas"
"Best in Nation"
Permit Compliance
Environmental Stewardship

Tiny fish makes big splash
Finding means San Antonio River improving
by Mike Hensley

The discovery last month of a pollution-sensitive fish species in the Upper San Antonio River, which is monitored as part of the 'Best in Texas' program, has raised concerns about the quality of the water, according to officials.

"I don't know what it was or why," he said. "I had to do a thesis with your university.""...

"Best in Nation" Permit Compliance

Environmental Stewardship

Wastewater Treatment Plant Of The Year

United States Environmental Protection Agency 2004 National Clean Water Act Recognition Award

Platinum Award
The Association of Metropolitan Sewerage Agencies is pleased to present this award to

Dos Rios Water Recycling Center
In Recognition of Five Consecutive Years of Complete and Consistent National Pollutant Discharge Elimination System Permit Compliance

Water Environment Federation Outstanding Achievement in Water Quality Improvement Award
Presented to The San Antonio Water System Recycled Water Program 2003

SA Express-News
June 13, 2002
Conclusions and Recommendations

• Conservation will not continue to limit wastewater flow growth
• Dos Rios WRC is upgradable and has available biological capacity
• Proceed with Dos Rios WRC re-rating, headworks improvements and process enhancements project as planned
• Leon Creek capacity achieved by transferring flow to MRSO and Dos Rios
• Delay future Medio Creek expansions with flow transfers to Dos Rios
• Continually re-evaluate growth in flows in all three sewersheds and adjust Dos Rios WRC re-rating schedule as needed
Updated Master Plan for Water Recycling Centers

June 30, 2010

Steve Clouse
Chief Operating Officer