Calendar Year 2005

capital improvement Projects

San Antonio Water System

San Antonio Water System
CY 05 Capital Improvement Program

Introduction

The San Antonio Water System (SAWS) serves approximately 292,424 customers in the San Antonio area. SAWS delivers potable groundwater from the Edwards Aquifer to domestic, commercial, industrial, governmental and agricultural customers. SAWS also collects, conveys and processes recycled water and wastewater generated in the service area. Heating and cooling plants owned and operated by SAWS generate steam and chilled water for customers in the Central Business District, Brooks City Base and Kelly USA.

The Capital Improvement Program (CIP) is the multi-year plan for implementing projects that support water supply and delivery, wastewater collection and treatment and heating and cooling requirements in the SAWS service area. The CIP is a financial planning and management tool that identifies facility and equipment requirements and schedules them for funding and implementation.

The Capital Improvement Program is comprised of four core businesses: Heating and Cooling, Water Delivery, Wastewater and Water Supply.

The Water Delivery and Wastewater components of the 2005 program are funded at $110 million. The Water Supply Core Business is funded for $128.7 million and the Heating and Cooling Core Business program totals approximately $1.2 million. The CY05 CIP program totals $239.9 million.

The Heating and Cooling Program is self-funded through revenues generated from customers. The Water Supply Program funds the development of long term water supplies from surface and alternative groundwater sources through a fee assessed to ratepayers. The Water Delivery and Wastewater CIP funds the expansion, improvement and replacement of infrastructure required to generate, deliver, collect and treat water and wastewater in the SAWS service area. The water and wastewater components of the annual CIP are funded for 110 million through bonds, revenues and impact fees. Funding for the CY05 water delivery and wastewater collection and treatment program is 52% repairs and replacements and 48% additional capacity to support new growth and development. The CY05 program provides more spending on growth projects than previous programs due to funding for construction of the Medio Water Recycling Center expansion.

CIP projects were generated by Treatment, Planning, Programming and Quality Control and Operations. The Executive Group, consisting of the submitting Vice Presidents, reviewed and prioritized all known requirements for the budget year to insure that the highest priority problems are addressed in a timely manner given funding limitations. Criteria used to prioritize projects also included project coordination, savings to the annual Maintenance and Operations budget, improved customer service, regulatory mandates, criticality, priority in relation to other projects and availability of funds.

CY05 Capital Improvement Program Summary

Heating and Cooling Program

The San Antonio Water System operates and maintains nine heating & cooling facilities located at various locations within the City of San Antonio (COSA). The Central heating & cooling plant located on East Commerce was constructed in 1967. This plant provides chilled water and steam to facilities owned by the City of San Antonio, other governmental agencies and commercial businesses.

In December 2000, SAWS' Heating and Cooling Department acquired six additional heating and cooling facilities at Kelly USA as a result of the base closure/realignment decision made in 1995. In 2001, the construction of a new 4,000-ton plant was completed at South Cherry Street. This plant was connected to the chilled water distribution system to handle any additional loads as a result of the convention center expansion project. In February 2002 an interim agreement was reached between Brooks Development Authority and SAWS to operate the central heating and cooling plants and two other small cooling facilities at Brooks City Base.

Due to the age and condition of the newly acquired plants at the Kelly USA site and the Central Plant on Commerce Street, projects have been initiated to insure safe, dependable and efficient operation of critical equipment. These projects are required to keep equipment operating at optimum performance, to maintain operational efficiency and to insure reliable service to SAWS' heating and cooling customers.

Wastewater Collection and Treatment Program

The SAWS Wastewater Collection and Treatment system consists of approximately 4,790 miles of sanitary sewer mains, 107 lift stations and 4 major wastewater treatment plants. The Wastewater CIP consists of programs and projects which upgrade and rehabilitate the wastewater collection and treatment system and increase capacity to allow for the future growth of the system.

The wastewater collection component of the CIP focuses on the efforts needed to sustain aging collection systems while complying with wet weather regulations and operational demands. Two priority outfall improvements identified in the 1998 Wastewater Master Plan are funded for design. These outfalls in the Central and Eastern sewersheds are in poor condition due to deterioration and lack the capacity to handle the future needs of the sewersheds. These projects will parallel or replace deteriorated sewer outfall main. Flow metering equipment for the Eastern sewershed will be purchased to prioritize repairs and replacements. Projects that accommodate growth and add capacity in the rapidly growing Far West area are also funded.

The sewer main replacement and repair program includes the inspection and repair of any defects in the piping or structures of the SAWS wastewater system located within the Edwards Aquifer Recharge Zone. The current project includes the repair and replacement of over 56 miles of sewer mains and 1,000 manholes. Projects to replace deteriorated sewer mains in the Culebra Park, Los Angeles Heights and San Fernando neighborhoods are also funded.

The wastewater treatment component of the 2005 CIP consists of projects which will replace or upgrade aging components and processes at the treatment plants. The construction of the Medio Water Recycling Center expansion from 8.5 to 16 MGD is the major component of the 2005 Treatment program. The expansion is necessary to accommodate increased flows and handle future needs of the sewershed.

Water Delivery Program

The Water Delivery system delivers ground water to customers through elevated and ground storage tanks, pump stations and transmission and distribution mains. The system consists of approximately 4,000 miles of transmission and distribution mains, 14 primary and 21 secondary pump stations, 25 booster stations and 56 elevated and ground storage tanks.

The Water Delivery CIP includes programs and projects designed to expand and improve water production, storage and transmission facilities in the SAWS service area. The 2005 CIP funds Water Master Plan projects to ensure that potable water is delivered in a timely manner to meet growth within the SAWS service area.

The 2005 CIP Water Delivery program includes the design and construction of projects to address critical low pressure and low flow areas that could potentially lead to loss of property and human life in the event of a fire. Funds are provided to construct two water transmission main projects that will correct low pressure and provide service to pressure zone 2 and the Toyota plant. It also includes the repair and replacement of deteriorated water mains. The 2005 CIP has scheduled the rehabilitation of water mains in the Culebra Park, Los Angeles Heights and San Fernando neighborhoods.

The upgrade, replacement and rehabilitation of production facilities to maintain system integrity and meet TCEQ requirements are also programmed. The focus of the 2005 Production CIP is to address regulatory and code deficiencies within the water production systems. The program is broken out into three major components; water production repair and replacement, waste water lift stations and pump station upgrades and water production growth. The growth portion addresses primarily TCEQ mandates related to lack of sufficient elevated storage capacity in the respective pressure zones. Design is funded for the Applewhite Industrial Park Tank, the Culebra Tank and Pump Station and the Faith Tank.

Water Supply Program

An initiative to develop long term water supplies from surface and alternative groundwater sources began in 1998 and has been programmed into a twenty year plan. The Water Supply Core Business includes water supply development, water treatment and water transmission projects. In 2005, funding is provided to continue purchasing or leasing Edwards groundwater rights and water rights from residents in Gonzales County where production facilities will be constructed to take water from the Carrizo Aquifer and integrate it into the SAWS system. Funding from the water supply fee will also be used to construct projects to deliver recycled water to customers in the SAWS service area. Additionally, SAWS will continue to purchase land over the Edwards Aquifer Recharge Zone to preserve geologically sensitive areas.

Corporate Program
The 2005 CIP is funding the acquisition of an enterprise resource planning program which will provide an integrated data base for SAWS and the promotion of best industry practices.

Funding

Several sources are used to finance SAWS capital improvements; these sources include: revenues, revenue bonds, tax –exempt commercial paper (TECP), and capital recovery fees (impact fees and others). Funds from these sources are accounted for in the Renewal and Replacement Fund and the Project Fund, two SAWS funds that are described below. In addition, SAWS is actively pursuing grant funds from State and Federal sources.

Renewal and Replacement Fund:

Rate-based revenues and capital recovery fees collected from customers and developers are recorded in the Renewal and Replacement Fund. This fund is primarily used to finance property, plant and equipment construction, and system improvements.

Revenues:

All revenues of the System are used to meet requirements according to a specific schedule of priorities as dictated by Ordinance No. 75686, which created the San Antonio Water System. After covering maintenance and operations expenses and debt service, revenues are available for distribution to the City of San Antonio's General Fund and the SAWS Renewal and Replacement Fund. Any revenues in excess of those obligated to the City of San Antonio are available for SAWS Renewal and Replacement Fund.

Capital Recovery Fees**:**

The System fees are designed to recoup the costs of capital expenditures to meet the needs of new customers. These include impact fees that are collected in accordance with Chapter 395 of the Local Government Code and connection fees. Expenditure of impact fees can only fund projects attributable to development.

Project Fund:

This fund accounts for proceeds from the System's capital debt of both tax-exempt commercial paper and revenue bonds.

Revenue Bonds and Tax-Exempt Commercial Paper (TECP):

Revenue bonds and TECP are primarily used to finance construction projects. SAWS established a tax-exempt commercial paper program in November 1996 at an authorized amount of $175 million. SAWS expects to expand the TECP program during 2002-2005 utilizing up to approximately 350 million to finance capital projects.

Table 1 shows the CY05 CIP budget and sources of funding for the CY05 program.

Table 1.

San Antonio Water System
CY05 Funding Sources

2005 CIP	***Water Supply***	***Water Delivery***	***Wastewater***	***Heating/Cooling***	***Total***
Revenue	$5,988,111	$5,000,000	$7,000,000	$0	$17,988,111
Impact Fees	$0	$5,586,743	$20,022,588	$0	$25,609,331
Bonds	$88,372,517	$25,671,726	$46,718,943	$1,206,150	$161,969,336
TECP	$34,392,172	$0	$0	$0	$34,392,172
TWDB	$0	$0	$0	$0	$0
Total	$128,752,800	$36,258,469	$73,741,531	$1,206,150	$239,958,950

San Antonio Water System
2005 Capital Improvement Program

Project Title	Cost Element		Cost Estimate
HEATING AND COOLING CORE BUSINESS			
Central Plant - Data Acquisition System	Construction	$	50,490
Central Plant - Steam and Condensation Line Replacement	Construction	$	224,400
Central Plant- Install Meters for Data Acquisition System	Construction	$	84,150
Central Plant- Replace Variable Frequency Drives	Construction	$	140,250
Central Plant -Tower Piping and Fill Up-grade	Construction	$	168,300
Kelly USA - Replace Variable Frequency Drives	Construction	$	213,180
Kelly USA - Boiler Controls Upgrade	Construction	$	11,220
Kelly USA - Install Meters for Data Acquisition System	Construction	$	50,490
Kelly USA - Replace Fill Material in Cooling Tower # 3 Building 356	Construction	$	196,350
Kelly USA -Install Variable Frequency Drive on 3 Cooling Towers Bldg 356	Construction	$	67,320
Total		**$**	**1,206,150**
WASTEWATER CORE BUSINESS			
Corporate			
Enterprise Resource Plan	Acquisition	**$**	**3,333,333**
Collection System			
Central Watershed Sewer Relief Line Project (C-02)	Design	$	471,240
Eastern Watershed Sewer Relief Line Project (E-03)	Design	$	2,187,900
Far West Lift Station Upgrade #187	Design	$	56,100
Long Term Flow Monitoring Network Phase 1	Construction	$	214,302
Oversize Sewer Mains	Construction	$	2,192,949
Total		**$**	**5,122,491**
Main Replacements-Sewer			
Culebra Park Sewer Replacement	Design	$	258,060
EARZ Televising, Testing & Repairs Program	Construction	$	112,200
EARZ Televising, Testing & Repairs Program	Design	$	11,220
East Hart Junction Box Replacement	Construction	$	858,330
Emergency Replacements and Repairs- Sewer	Construction	$	7,560,696
Governmental Relocations/Replacements - Sewer	Construction	$	16,830,000
Lift Stations Rehabilitation Phase 1	Design	$	112,200
Los Angeles Heights Sewer Main Replacement Phase I	Design	$	56,100
Main Replacements Sewer - Operations	Construction	$	2,244,000
Olmos Dam Sewer Replacement	Construction	$	295,131
San Fernando Sewer Replacement Phase III	Design	$	93,070
Total		**$**	**28,431,007**
Treatment			
Dos Rios Water Recycling Center Wastehauler Dump Station	Construction	$	953,700
Emergency Treatment Plant Repairs	Construction	$	1,680,000
Medio Creek Water Recycling Center Phase II (16 MGD)	Construction	$	33,660,000
WRC Large Equipment Monitoring and Replacement Program	Construction	$	561,000
Total		**$**	**36,854,700**
TOTAL WASTEWATER		**$**	**73,741,531**

Project Title	Cost Element		Cost Estimate
WATER DELIVERY CORE BUSINESS			
Corporate			
Enterprise Resource Plan	Acquisition	**$**	**3,333,333**
Distribution System			
FM 1937 Water Main Extension	Construction	$	6,002,700
Lincoln Heights Main Improvements and Pressure Zone Change	Construction	$	2,805,000
Oversize Water Mains	Construction	$	1,631,949
Total		**$**	**10,439,649**
Main Replacements - Water			
Brooks 16" Water Main Relocation	Construction	$	1,446,328
Culebra Park Water Main Replacement	Design	$	213,180
Emergency Replacements and Repairs- Water	Construction	$	280,500
Governmental Relocations/Replacements - Water	Construction	$	16,830,000
Los Angeles Heights Water Main Replacement Phase I	Design	$	39,270
Main Replacements Water - Operations	Construction	$	2,244,000
San Fernando Water Main Replacement Phase III	Design	$	93,070
Total			**$21,146,347**
Production (Repair-Replacement)			
Emergency Production Replacements	Construction	$	561,000
Real Estate Easement Acquisition	Acquisition	$	168,300
Water Facilities Upgrades -Pump Station Rehabilitation Phase 1	Design	$	224,400
Total		**$**	**953,700**
Production (Growth)			
Applewhite Industrial Park Elevated Storage Tank	Design	$	138,600
Culebra Tank and Pump Station (Permanent)	Design	$	134,640
Faith Tank	Design	$	112,200
Total		**$**	**385,440**
TOTAL WATER DELIVERY		**$**	**36,258,469**
GRAND TOTAL WATER and WASTEWATER INFRASTRUCTURE		**$**	**110,000,000**
WATER SUPPLY CORE BUSINESS			
Edwards Groundwater Purchase	Acquisitions	$	3,300,000
Lower Guadalupe Water Supply Project (GBRA)	Construction	$	1,936,000
Recycle Program	Construction	$	6,380,000
Regional Carrizo Phase I	Construction	$	114,936,800
Watershed Protection Sensitive Land	Acquisitions	$	2,200,000
Total		**$**	**128,752,800**
Grand Total 2005 Capital Improvement Program		**$**	**239,958,950**