



Water Conservation Program FY 06-07 Activities

Quality of Life Committee
March 26, 2007





Briefing Purpose

- Provide water conservation program update
 - Highlight 2006 activities
 - Highlight 2007 planned activities



Background



The Need for Aggressive Water Conservation

- Integral part of Dallas' long-range water supply strategy
 - Operational tool used to reduce peak requirements
 - Delays the need to develop expensive future water supplies
 - Lowers capital and operating costs of existing system
 - Required by state law
 - Required to protect current water rights and to secure future water rights



Five Year Strategic Plan Goal

- **Goal to achieve an average 1% per year reduction in overall water consumption over five years by:**
 - Reducing seasonal peak demands;
 - Reducing water loss and waste;
 - Decreasing gallons per capital per day;
- **While:**
 - Maintaining quality of life; and
 - Allowing for continued growth and economic development



Five-year Strategic Plan Approach

- City Leadership & Commitment
 - “Lead by example” by reducing the amount of water consumed by City operations
- Enhanced Education & Outreach
 - Impact customer attitudes and behaviors through public education efforts
- Rebate & Incentive Programs
 - Motivate customers to replace and/or retrofit high water use fixtures and devices



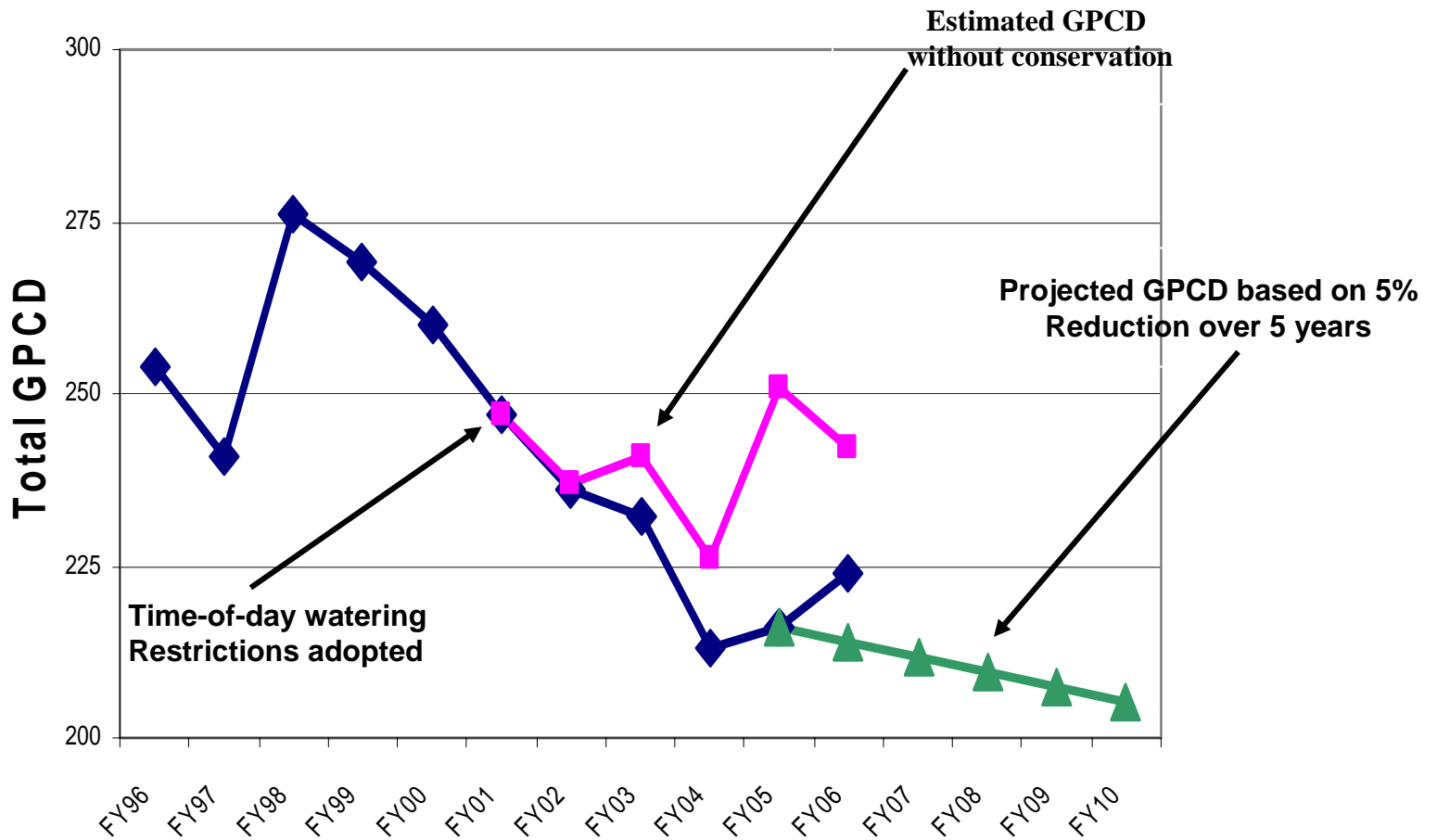
How Success is Measured

- Total gallons saved based on system-wide measures and direct programs and services
- Gallons per capita (GPCD) trends compared to annual rainfall
- Positive changes in public attitudes and behaviors based on annual surveys

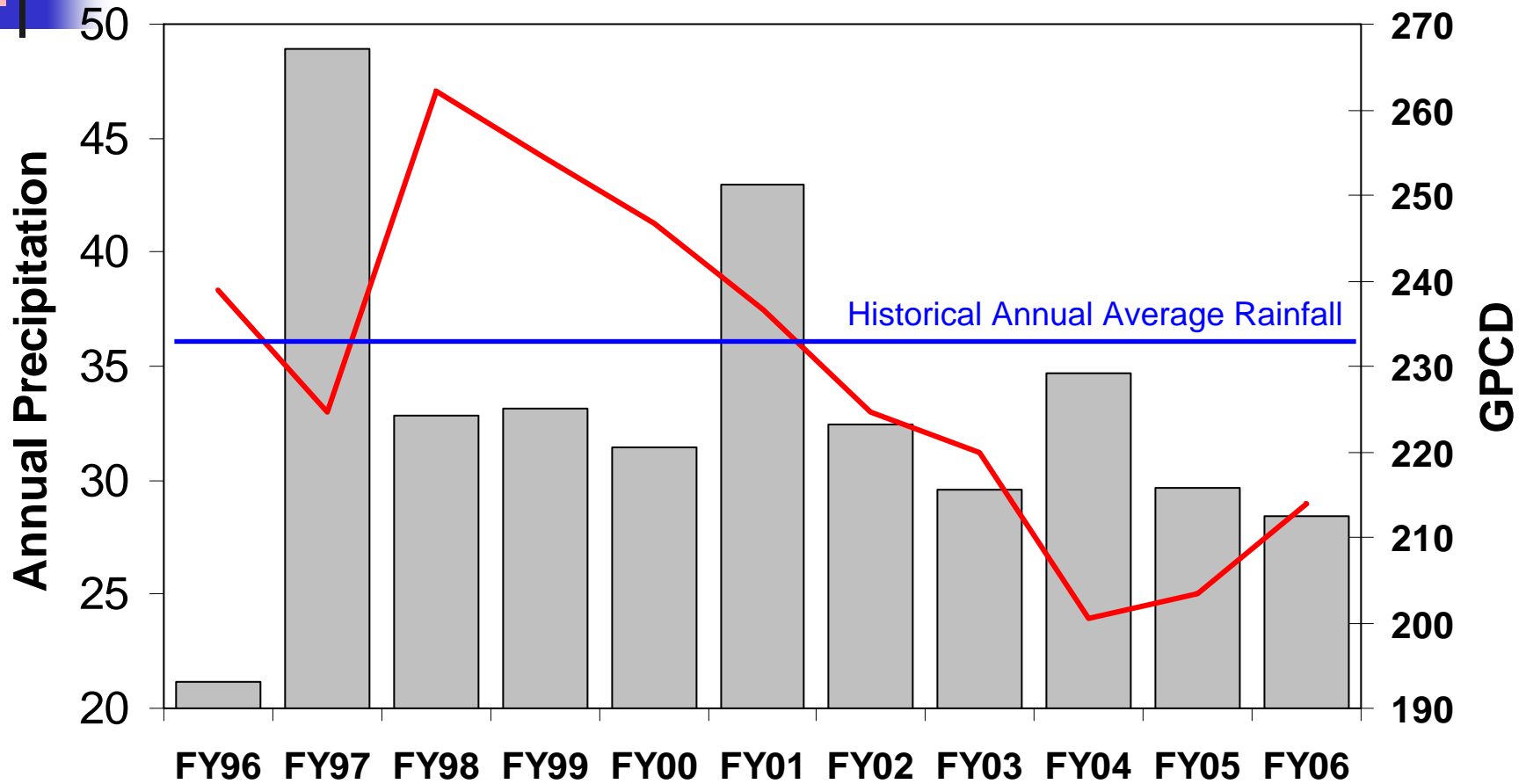


How We're Doing

Gallons Per Capita Trends



City of Dallas Consumption (GPCD) vs Annual Precipitation





Activities Completed in FY 05/06

City Leadership & Commitment

Landscape Irrigation Maintenance & Design Strategies

- Performed detailed irrigation system audits on 3 high traffic city facilities
 - Skyline Branch Library
 - Fire Station #10
 - Kiest Park
 - Landscape upgrade installations for Skyline Library and Kiest Park targeted for Spring 2007
 - Facility upgrades for Fire Station #10 coordinated with capital bond programs (Project scheduled to commence in late Fall 2007)



City Leadership & Commitment

Indoor Plumbing/Fixture Replacement Strategies

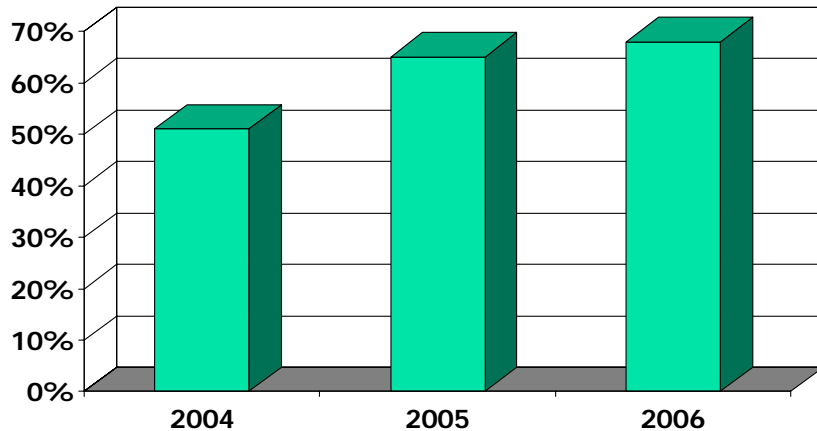
- Surveyed indoor plumbing fixtures at 25 city facilities
 - A total of 152 plumbing fixtures replaced yielding an estimated annual water savings of 2.7 MG
 - Details on pages A-1 and A-2



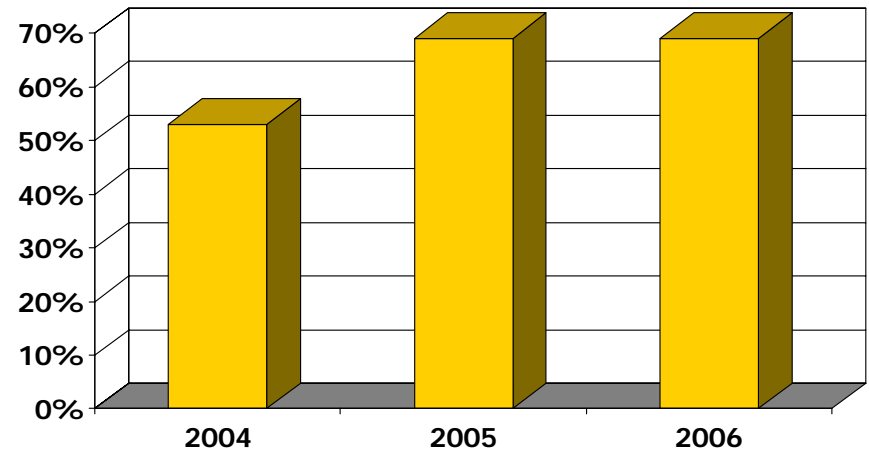
Enhanced Education & Outreach

Public Education Strategies

- 2006 Public Awareness Campaign Highlights
 - Momentum remains high



***Citizen Recall of Advertising About Water Conservation Ordinance**



***Self Reported Change in Behavior After Exposure to Advertising**

*Source: Random survey conducted by Hill Research Consultants

Enhanced Education & Outreach

Public Education Strategies continued



**Too Good to
Throw Away**

**Demasiado
Bueno Para
Tirar**

- Developed Environmental Educational Initiative (EEI) in collaboration with Department of Sanitation
 - Hamline University and University of North Texas hired to assist staff in program development and administration
 - Over 1,300 children participated in program in 2006
 - Details on page A-3

Enhanced Education & Outreach

Public Education Strategies continued

- EEI program augments city's relationship with Dallas and Richardson ISDs
 - Water Conservation component of program to receive *Water Mark Award for Communications Excellence in April 2007



*Water Mark Award issued by Texas American Water Works Association & Water Environment Association of Texas

Enhanced Education & Outreach

Public Education Strategies continued

- Other School Activities
 - “Dew” elected as water conservation mascot by local school children
 - Mascot program received Water Mark Award in April 2006





Rebates & Incentives

Single/Multi Family Strategies

- Phase I
 - Launched Minor Repair Fixture Replacement Program (formerly VIP)
 - Program designed to serve low income and elderly customers
 - 834 fixtures installed or replaced
 - 116 leaks repaired
 - 454 households served
 - 335 toilets replaced
 - 286 faucets repaired/replaced
 - 203 showerheads replaced
 - 10 water heaters replaced
 - **An estimated 3.1 MG saved annually**



FY 06-07 Planned Activities



City Leadership & Commitment

Landscape Irrigation Maintenance & Design and Indoor Plumbing/Fixture Replacements

- Continue landscape audit program
 - 3 additional designs planned in 2007
- Continue and expand plumbing fixture replacements
- Current Progress
 - 24 new facilities selected and scheduled for audits
 - Details on page A-4
 - Landscape architect developing design plans for May installation

Enhanced Education & Outreach Public Education Strategies

- Expand EEI program to include grades 6-8
 - Increase participation in teacher training component of program
- Current Progress
 - Middle school program unveiled at press event on March 13, 2007





Enhanced Education & Outreach

Grass Roots Outreach Strategies

- Landscape Irrigation Audit Program
 - Provide on-site consultation for ornamental horticulture and irrigation needs for single family and multi family Dallas water customers
 - Conduct site inspection to determine condition of each zone
 - Measure zones to determine precipitation rates, distribution and uniformity and determine estimate of irrigation efficiency
 - Provide detailed results of audit and recommendations
 - Estimated annual costs of \$101,512 (in current budget)
- Current Progress
 - Two internal positions for landscape auditors targeted to be filled by Summer 2007



Enhanced Education & Outreach Industrial, Commercial & Institutional (ICI) Educational Strategies

- Commercial Cooling Tower Audit Program
 - Purpose
 - Increase cooling tower efficiency
 - Reduce water consumption
 - Lower water/wastewater bills
 - Increase customer involvement in conservation
 - Process
 - Inspect cooling tower system
 - Inspect other equipment to improve water savings
 - Collect water samples
 - Complete lab analysis on samples collected
 - Provide findings and recommendations to customer
 - Estimated Costs & Water Savings
 - 2006/2007
 - \$22,860 for approximately 25 audits (in current budget)
 - SAWS estimated annual savings of 12.5 MG per audit
 - Current Progress
 - First audit conducted on March 22, 2007



Enhanced Education & Outreach ICI Educational Strategies

- Expand outreach for ICI customers by developing and implementing a comprehensive water audit program using Austin and San Antonio models. For example:
 - Lawn conversion rebate programs
 - Rainwater harvesting/ condensate reuse
 - Commercial laundries rebate programs



Rebates & Incentives Residential Strategies

- Phase I (Implemented in Fall 2005)
 - Initiation of Minor Plumbing Repair Program for senior and low-income customers (formerly the VIP program)
 - Previously mentioned on slide 18
- Phase II (April 11th agenda item)
 - Toilet Voucher Program
 - Single and multi family customers
 - Qualified customers will redeem a voucher for up to \$90 of the cost of a low-flow toilet at identified retailers
 - Goal to distribute 4,253 toilets per year (21,265 toilets over five years)
 - Sample approved toilet list on page A-5
 - Sample voucher on page A-6



Rebates & Incentives

ICI Strategies

- Commercial Food Services Program (April 11th agenda item)
 - Provide free low-volume pre-rinse spray nozzle and faucet aerator installations to commercial food establishments including schools and hospitals
 - Goal to install 2,000 spray nozzles and 500 faucet aerators per year for first four years and 1,000 nozzles and 500 aerators for fifth year (9,000 nozzles and 2,500 aerators over five years)
 - Samples of existing pre-rinse spray nozzle programs on pages A-7 and A-8



Rebates & Incentives

Residential & ICI Programs

- Overview
 - Both programs adopted in Water Conservation Five-year Strategic Plan
 - Both programs recommended in Texas Water Development Board's Best Management Practices Guide for Water Conservation
 - Both programs to be administered by outside contractor
 - Estimated water savings for both programs at end of five years is 600MG per year



Rebates & Incentives

Residential & ICI Programs continued

- Toilet Voucher Program
 - Customer will have choice of pre-approved toilets
 - Customer will be responsible for installation
 - Customer will be responsible for any costs that exceed face amount of voucher
- Commercial Food Services Program
 - Supplies, installation and training will be provided to customer

Rebates & Incentives

Residential & ICI Programs

Customer Qualifications

■ Toilet Voucher Program

- Customer of DWU
- Residence must have been built before 1995
- Will not replace existing low flow toilets
- SF residence can receive maximum of two toilets
- Owners/managers of multifamily residential units may apply for up to 200 toilets per year

■ Commercial Food Services Program

- Food service providers that are DWU customers
- Established for two years or more and do not have existing high efficiency spray nozzles
- Focus on establishments that use tableware

Rebates & Incentives

Residential & ICI Programs

Contractor Services

- Request for Proposals

- Bids submitted by:

- WaterWise Consulting, Inc. – Pasadena, CA
 - Proposal for Toilet Voucher Program
- SBW Consulting, Inc. – Bellevue, WA
 - Proposal for Commercial Food Services Program
- Niagara Conservation – Cedar Knolls, NJ
 - Proposal for both Toilet Voucher and Commercial Food Services Program

Contractors Bid to perform these tasks

Contractor Responsibility	Toilet Voucher Program	Commercial Food Services Program
Develop Database	✓	✓
Create Marketing/Outreach Strategy	✓	✓
Establish Relationship with Retailers	✓	N/A
Issue Voucher that customer can redeem	✓	N/A
Maintain bilingual customer service call center	✓	✓
Make appointments with customer through call center and field canvassing	N/A	✓
Install fixtures	N/A	✓
Train facility staff on proper use of nozzle	N/A	✓
Audit facility for additional water saving opportunities	N/A	✓
Conduct quality control inspections	✓ *	✓
Respond to customer complaints by phone/site visit	✓	✓
Monthly and annual reports including program overview, production report, program funding, accomplishments	✓	✓

*City staff will handle this process

Rebates & Incentives

Residential & ICI Programs

Contractor Selection

- Niagara offered the best proposal including the lowest price for both programs
 - Established in 1977 to manufacture products that save natural resources
 - Provide audits, installation services and program management services to water and electric utility industry
 - Have 20+ years of experience administering conservation programs
 - Recommend two-year contracts with three optional one-year renewal terms
 - Client list on page A-9



Toilet Voucher Program Costs

	Unit	Annual	5 year
Program Admin	\$39.50	\$168,000	\$840,000
Voucher Cost	\$90.00	\$382,770	\$1,913,850
<hr/>			
Total	\$129.00	\$550,770	\$2,753,850



Commercial Food Services Program Costs

	Unit	Annual	5 year
Spray Nozzle	\$145.00	\$290,000	\$1,305,000
Faucet Aerator	\$.50	\$250	\$1,250
<hr/>			
Total	\$145.50	\$290,250	\$1,306,250

Cost includes administration, installation and materials.



Agenda Items Scheduled for April 11th

- Residential & ICI Rebates & Incentives
 - Toilet Voucher Program
 - Services Contract for program administration
 - Authorize vouchers for fixture replacements
 - Commercial Food Services Program
 - Services Contract for program administration, installation and training



Summary

- Water Conservation program plays an integral role in city's long range water supply strategy
- Conservation strategies have helped to reduce GPCD and peak demand since 2001
 - 34BG saved since 2001
- **Conservation efforts are not a “quick fix”**
 - **We use long-term trends to project long-term savings and water supply needs**
- Seeking committee input and support for agenda items for furtherance of conservation efforts



Next Steps

- Receive committee feedback
- Council briefing scheduled for April 4th
- Council actions scheduled for April 11th



APPENDIX

**Dallas Water Utilities City Leadership and Commitment Initiative
EBS Indoor Plumbing Facility Upgrades**

For facilities listed and fixtures identified with flow amounts greater than recommended, fixtures being replaced include:

- 46 Toilets**
- 14 Urinals**
- 27 Faucets**
- 52 Showerheads**

Estimated cost for these upgrades is \$10,200 for labor and \$11,200 for materials.

Facility Name	Total Toilets	Toilets >1.6 gpf	Total Urinals	Urinals >1.0 gpf	Total Faucets	Faucets >2.0 gpm	Total Shwrhds	Shwrhds >2.5 gpm
MLK Community Center	47	23	14	6	53	0	2	2
Skyline Library	5	0	1	0	4	2	0	0
Dallas Central Library	73	0	21	0	78	0	7	7
SE Police Operations	12	0	5	0	13	0	6	6
Fire Station No. 10	3	3	0	0	4	0	2	2
Fire Station No. 18	7	0	2	0	8	7	5	5
Fire Station No. 28	5	0	2	0	7	0	2	2
Fire Station No. 30	3	0	2	0	5	0	3	3
Dallas City Hall	78	21	27	8	61	0	0	0
Walnut Hill Rec Center	14	0	4	0	9	5	2	2
Thurgood Marshall Rec Cntr	7	0	4	0	10	10	2	0
Marcus Rec Center	7	0	2	0	8	0	2	2
Dallas Theater Center	25	0	7	0	18	0	6	6
Stores Warehouse	9	0	2	0	7	0	2	2
NE Water Building	12	0	10	0	16	1	7	7
A.G.Strauss Family Gateway	4	0	1	0	4	0	6	6
M.H.Meyerson Symphony	134	0	45	0	140	2	0	0
Dallas Museum of Arts	51	2	14	0	30	0	0	0
Total	496	46	163	14	475	27	54	52

Water Conservation Program EBS Proposed Work Schedule

	Sept. 2006	Oct. 2006	Nov. 2006	Dec. 2006	Jan. 2006	Feb. 2006	Mar. 2006
Fire Stations 10,18, 28, 30 (completed 10-3-06)							
Police : Southeast, (completed 9-26-06)							
Libraries : (completed 12-22-06) Skyline, Lakewood, Central							
Park Dept. - Dallas Zoo							
Recreation Centers: Marcus,M.L.K., Craft, Walnut Hill, T.Marshal, Jaycee Zaragosa							
CBD; (completed 01-01-07) OCMC, City Hall, Family Gateway,							
OCA; (In-progress) Meyerson,Mus. Nat. History, Dallas Theater ctr, D.M.A.							
Water Dept. (completed 10-12-06) Stores Warehouse, N.E. Water Bldg.,							
Dallas Convention Center (Undergoing LEEDS certification that includes plumbing upgrades).							



Dallas Environmental Education Initiative

2005/2006 Scheduling Calendar

Grade Level Statistics

Grade	Number of Lessons	Number of Students	Water Lessons	Recycling Lessons
Kindergarten	12	261	10	2
First Grade	20	388	11	9
Second Grade	13	348	5	8
Third Grade	2	27	2	0
Fourth Grade	11	192	5	6
Fifth Grade	6	165	3	3
Totals	64	1381	36	28

**Water Conservation City Leadership Initiative
Indoor Plumbing Audits
Year Two**

Proposed Facilities:

Executive Airport	5303 Challenger
Love Field	8008 Cedar Springs
Union Station	Houston St.
Central Garage	3111 Dawson Rd
West Dallas Multipurpose Center	2828 Fish Trap Rd
Fire Training Admin Bldg	5000 Dolphin Rd
Fire Station Number 31	9365 Garland Rd
Fire Station Number 49	4901 S. Hampton Rd
Fire Station Number 54	6238 Bonnie View Rd
Casa View Library	10355 Ferguson Rd
Fretz Park Library	6990 Beltline Rd
Mountain Creek Library	6102 Mountain Creek Pkwy
Polk Wisdom Library	7151 Library Ln
Renner-Frankford Library	6400 Frankford Rd
Central Headquarters	3112 Canton
Science Place 2/Planetarium	1620 First Ave
Science Place 1/Omni	1318 Second Ave
Trammel Crow Visitor Education Pavilion	8525 Garland Rd
Winfrey Point Club	950 E. Lawther Dr
Park and Recreation Service Center	8740 Elam Rd
Bachman Recreation Center	2750 Bachman
Campbell Green Recreation Center	16600 Park Hill Dr
Pleasant Oak Recreation Center	8701 Greenmound Ave
Singing Hills Recreation Center	1909 Crouch

Additional Facilities may be added as budget permits.

Approved Toilet Sample List

Make	Model	Model Number (B=Bowl, T=Tank)	MaP Flush Performance (HIGHER IS BETTER)
American Standard	Cadet 3	3011 B 4021 T	1000
American Standard	Cadet	2333: 3099/B, 4098/T	750
American Standard	Cadet 3 RF (10" rough-in)	2384.010: 3011/B, 4019/T	1000
American Standard	Cadet 3 EL (12" rough-in)	2383.012: 3014/B, 4021/T (unlined)	1000
American Standard	Cadet 3 RF (14" rough-in)	2384.014: 3011/B, 4027/T	1000
American Standard	Cadet 3 EL (14" rough-in)	2384.014: 3014/B, 4027/T	1000
American Standard	Cadet 3 EL (10" rough-in)	2384.010: 3014/B, 4019/T	800
American Standard	Cadet 3 RF (12" rough-in)	2384.012: 3011/B, 4021/T	1000
American Standard	Cadet 3 Right Height RF (12" rough-in)	2386.012: 3016/B, 4021/T (unlined)	1000
American Standard	Cadet 3 Right Height EL (14" rough-in)	2386.014: 3016/B, 4027/T	1000
American Standard	Cadet 3 Right Height EL (10" rough-in)	2386.010: 3011/B, 4019/T	800
American Standard	Cadet 3 RF (12" rough-in)	3011/B, 4021.500/T (lined)	1000
American Standard	Cadet 3 EL (12" rough-in)	3014/B, 4021.500/T (lined)	800
American Standard	Cadet 3 Right Height EL (12" rough-in)	3016/B, 4021.500/T (lined)	1000
American Standard	Champion Right Height	2002: 3225/B, 4260/T	1000*
American Standard	Champion Round Front	2023: 3110/B, 4260/T	800
American Standard	Skyline Champion RF	3110/B, 4077/T	1,000*
American Standard	Skyline Champion EL	3225/B, 4077/T	1,000*
Eljen	Titan	091-0777: 131-0777/B, 141-0777/T	900
Jacuzzi	Perfecta	Kit: 211146 BN31959/B, BN30-BN31/T	350
Kohler	Cimarron Comfort Height	K-3489	800
Kohler	Bancroft Comfort Height	K-3487: 4281/B, 4633/T	800
Kohler	Cimarron	K-3496: 4286-0/B, 4634-0/T	800
Kohler	Cimarron	K11465 (PB TTG)	600
Kohler	Memoirs	K-3451 (Classic tank lid)	800
Kohler	Memoirs	K-3453 (Stately tank lid)	800
Kohler	Santa Rosa	K-3323	500
Kohler	Wellworth	4277/B, 4620/T	300

TOILET MUST MATCH MODEL NUMBERS EXACTLY

* Tested 1,000 or better



[Free CCWD Conservation Programs](#)

[Commercial Water Use Survey](#)

[Visit Our Demo Garden](#)

[Landscape Videos](#)

[Speakers' Bureau](#)

[Helpful Links](#)



Restaurant Owners!

Let CCWD help your restaurant save up to \$1,000 per year in energy and water costs.

CCWD, in conjunction with a California Public Utility Commission grant, is offering FREE Pre-rinse spray valves and FREE installation for restaurants

These spray nozzles have a high velocity spray pattern, which increases their ability to remove food from dishes.

The devices use 1.6 gallons per minute compared to the standard nozzles which use up to 6 gpm. The solid bronze handle won't soften, bend or break. The solid brass fitting means there is no 'O' ring to break.

Program Summary

The program is administered by a Honeywell Demand Management Company through December of 2006.

Call the number below and a representative will schedule a time to visit your site and install a free nozzle. It's as simple as that!

Call today: (800) 423-9896 or visit the [California Urban Water Conservation Council Web Site](#).


[HOME](#) : [CONSERVATION](#) : [COMMERCIAL](#) : [RESTAURANTS](#) : [MAIN](#)

IN THIS SECTION:

[Main](#)
[Certified WaterSaver
Restaurants](#)


Restaurant Certified WaterSaver Program

Stop rinsing money down the drain with FREE water-saving upgrades

Is your restaurant rinsing money down the drain?

Retrofitting your business with water-conserving products can lower your operating costs, as well as helping conserve one of San Antonio's most precious natural resources...water. As a Certified WaterSaver, your restaurant will notice measurable cost savings, as well as enhanced performance.

Three simple requirements:

- All pre-rinse spray valves must be 1.6 gallons per minute.
- All toilets must be 1.6 gallons per flush.
- All ice machines must be air-cooled.

If you require upgrades in order to become a Certified WaterSaver and want to realize measurable savings NOW, we are offering these benefits AT NO CHARGE TO YOU! Enroll now, start saving today!

Certified WaterSaver Program Benefits:

- As a Certified WaterSaver, your restaurant will gain **FREE PUBLICITY** for its efforts in water conservation
- **FREE Pre-Rinse Kitchen Spray Valve & FREE INSTALLATION**
High velocity spray pattern increases performance and efficiency over older, inefficient models. The new stainless steel valve uses less hot water - only 1.6 gallons of water per minute, compared to 2 - 6 gallons per minute with standard valves and comes with a five-year warranty. **Water and waste-water savings estimated at 100 - 300 gallons of HOT water per day.**
- **FREE Ultra-Low Flow Toilets & FREE INSTALLATION**
If you still have old toilets, using 3.5 to 7 gallons of water per flush, you are wasting as much as 80 gallons of water per toilet, per day! Replace your water-guzzling toilets with 1.6 gallon toilets and save on water and sewage costs. **Water savings estimated at 80 gallons of water per toilet, per day.**
- **UPGRADE to an air-cooled ICE MACHINE and receive a REBATE of up to 50% of the purchase cost**
Water-cooled ice machines use nearly 150 gallons of condenser water to produce 100 pounds of ice, plus 20 gallons of water to make the ice. Air-cooled ice machines use only the 20 gallons necessary to make 100 pounds of ice. **Water savings estimated at 150 gallons per every 100 pounds of ice produced daily.**



Download and Send Us Your Application:

[Restaurant Certified WaterSaver Program Application](#) 167 KB
Adobe Acrobat PDF

Complete the simple application and send it to:

SAWS Conservation Certified WaterSaver Restaurant Program
P. O. Box 2449,



Niagara Conservation Corp. Client List

Water Utilities

City of Austin
San Antonio Water System
City of El Paso
Los Angeles Department of Water and Power
New York City DEP
City of Sacramento
San Francisco Public Utilities Commission
American Water
United Water*
Miami-Dade Water & Sewer
City of Tampa
Orange County Utilities Water Division*
Golden State Water*
City of Toronto*

Energy Utilities

PSE&G*
Duke Energy*
Tennessee Valley Authority (TVA)*
Baltimore Gas & Electric*
Reliant Energy
TXU
Entergy
CLECO
Florida Power and Light
Progress Energy
Alagasco
CenterPoint Energy*
PacifiCorp

State/Provincial Governments

State of Colorado*
State of Kansas
North Carolina Cooperative Extension
State of Illinois
State of Indiana
Province of Nova Scotia, Canada

National Governments

Kingdom of Saudi Arabia*

*Niagara Conservation provides program administration for these utilities.