



Wastewater Utilities

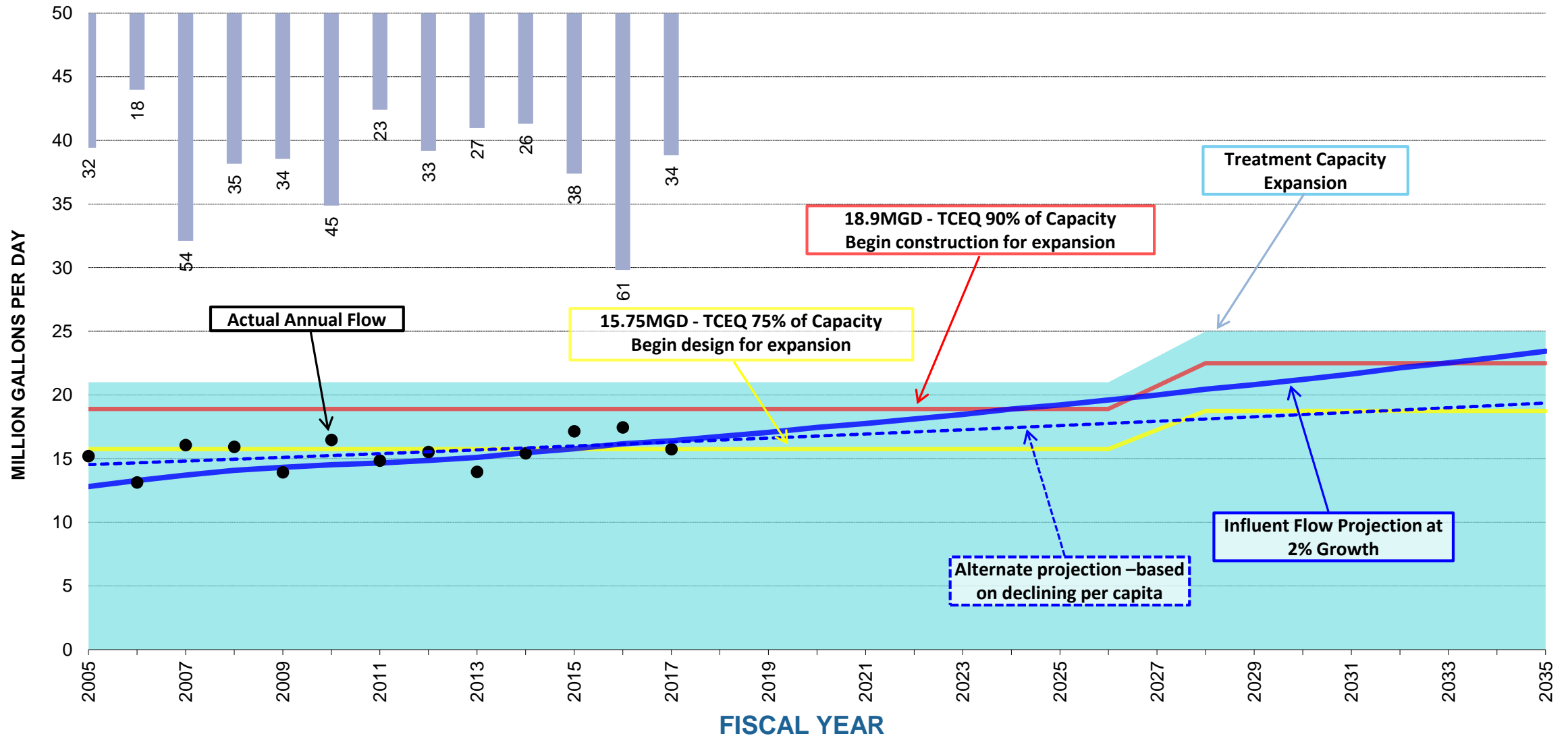
FY 2018-19 Budget Presentation

Wastewater Volume Forecast

Wastewater Customers by Class							
Fiscal Year	Residential		Commercial		Wholesale	Total	Growth
2013	26,995	1.1%	3,091	0.8%	4	30,090	1.1%
2014	27,548	2.0%	3,148	1.8%	4	30,700	2.0%
2015	28,048	1.8%	3,178	1.0%	4	31,230	1.7%
2016	28,851	2.9%	3,211	1.0%	4	32,066	2.7%
2017	29,393	1.9%	3,210	0.0%	4	32,607	1.7%
2018	30,040	2.2%	3,252	1.3%	4	33,295	2.1%
2019	30,701	2.2%	3,294	1.3%	4	33,999	2.1%
2020	31,376	2.2%	3,337	1.3%	4	34,717	2.1%
2021	32,066	2.2%	3,380	1.3%	4	35,450	2.1%
2022	32,772	2.2%	3,424	1.3%	4	36,200	2.1%
2023	33,493	2.2%	3,469	1.3%	4	36,965	2.1%

Wastewater Volume Forecast

Pecan Creek Plant Flows Versus Treatment Capacity – 21 MGD/Day



Wastewater Assumptions

- All rates based on cost of service
- Maintains debt coverage ratio of 1.25 or higher
- Annual revenue funded capital based on asset management program.
- Collection system replacement funding target is 100% revenue funded
- Treatment plant infrastructure funding target is 25% revenue funded, 75% debt funded
- Reserves maintained within 100-140 day range(28% to 39% of budgeted expenses)
- Use multi-year financial planning to minimize rate increases
- Rate revenue forecast based on 128 GPCD
- Removed Drainage from Wastewater budget to better reflect actual operating days of reserves for fund
- \$1 Million Drainage reserve reflected in Drainage proforma

Wastewater Cost Containment Strategies

- Improved debt service efficiency by balancing CIP projects and cash flow schedules (incur debt closer to project start).
- Budgeted salary savings of \$124,000 (vacancies)
- Reduced revenue funded capital in FY19 by \$1.5 million to level out the 5 year contributions

Wastewater

Future Risks and Mitigation

- Growth will require construction of a new plant in the Hickory Creek Basin, costs around \$80 million for the first 8 MGD module – 10 year window
 - Created options to manage future rate increases which includes using eligible impact fee funds on the project
- Contractor costs for CIP projects
 - Costs continue to increase – mitigating with internal crews
- O&M costs
 - Mitigating by refining forecasts and asset management program
- Additional regulatory requirements
 - Reviewing new regulations and planning future responses

Wastewater Options

Option 1: 5% Rate Decrease

- \$8.2 million reduction in reserves from FY 2019 to FY 2023

Option 2: 2% Rate Decrease (reduces future debt issues)

- \$7.5 million reduction in reserves from FY 2019 to FY 2023
- Funds an additional \$2 million in FY19 & \$1.5 million in FY20 of capital projects with revenue funding
- Reduces debt by \$968,639 from FY 2019 to FY 2023

Wastewater

5 Year Forecast – Option 1 – 5% Rate Decrease

	Actual FY 2017	Budget FY 2018	Estimate FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Revenues (x 1,000)								
Rate Revenue	\$24,558	\$24,088	\$24,235	\$23,589	\$23,540	\$23,866	\$24,253	\$24,568
Non Rate Revenue	2,416	2,001	1,912	2,060	2,045	1,894	1,919	1,931
Impact Fee from Reserves	3,520	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Subtotal	\$30,495	\$28,089	\$28,147	\$27,649	\$27,586	\$27,760	\$28,173	\$28,499
Planned Use of Reserves	0	793	0	0	0	0	0	0
TOTAL REVENUES	\$30,495	\$28,882	\$28,147	\$27,649	\$27,586	\$27,760	\$28,173	\$28,499
Expenditures (x 1,000)								
O&M	\$11,571	\$12,575	\$11,921	\$12,847	\$13,285	\$13,609	\$13,942	\$14,294
Revenue Funded Capital	\$8,093	4,937	4,980	8,406	3,942	2,915	2,911	2,906
Transfers (Internal and External)	2,639	2,689	2,673	2,761	2,841	2,938	3,013	3,093
ROI/Franchise Fee	2,155	2,191	2,192	2,144	2,141	2,158	2,192	2,221
Debt Service	6,179	6,489	6,489	6,329	7,071	6,561	7,350	5,377
TOTAL EXPENSES	\$30,638	\$28,882	\$28,256	\$32,488	\$29,280	\$28,181	\$29,408	\$27,890
Net Income	(\$143)	\$0	(\$110)	(\$4,839)	(\$1,695)	(\$421)	(\$1,235)	\$609
Rate Increases	2.0%	2.0%	0.0%	-5.0%	0.0%	0.0%	0.0%	0.0%
<i>FY 2017 Rate Increases</i>	<i>2.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>2.0%</i>	<i>2.0%</i>	<i>2.0%</i>	<i>--</i>
Impact Fee SFE's	Hickory/Pecan - \$2,200							
	1,095	972	1,120	984	960	975	932	1,007
RESERVE BALANCES	Actual FY 2017	Budget FY 2018	Estimate FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Working Capital	\$2,451	\$2,311	\$2,261	\$2,599	\$2,342	\$2,254	\$2,353	\$2,231
Operating Reserve	\$15,611	\$10,877	\$15,492	\$10,114	\$8,476	\$7,943	\$6,544	\$7,275
Wrkng Cptl + Op Reserve	\$18,062	\$13,187	\$17,752	\$12,713	\$10,818	\$10,197	\$8,897	\$9,506
Number of Working Days	215	167	229	143	135	132	110	124
Development Plan Lines	\$135	\$335	\$335	\$535	\$735	\$935	\$1,000	\$1,000
Impact Fee Reserve	\$2,195	\$1,675	\$2,378	\$2,510	\$2,676	\$2,750	\$2,990	\$3,271
Debt Coverage Ratio - 1.25	2.64	2.09	2.09	1.90	1.62	1.71	1.53	2.07
Wrkng Cptl / Op Reserve Target - 100 Days (28%)	\$8,579	\$8,087	\$7,912	\$9,097	\$8,199	\$7,891	\$8,234	\$7,809
Wrkng Cptl / Op Reserve Target - 140 Days (39%)	\$11,949	\$11,264	\$11,020	\$12,670	\$11,419	\$10,991	\$11,469	\$10,877
Net Revenue w/Rate Increase	1%		\$215	\$209	\$208	\$211	\$215	\$217

Wastewater

5 Year Forecast – Option 2 – 2% Rate Decrease (Reduce Future Debt)

	Actual FY 2017	Budget FY 2018	Estimate FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Revenues (x 1,000)								
Rate Revenue	\$24,558	\$24,088	\$24,235	\$24,311	\$24,261	\$24,597	\$24,996	\$25,323
Non Rate Revenue	2,416	2,001	1,912	2,060	2,021	1,858	1,898	1,927
Impact Fee from Reserves	3,520	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Subtotal	\$30,495	\$28,089	\$28,147	\$28,371	\$28,282	\$28,455	\$28,894	\$29,249
Planned Use of Reserves	0	793	0	0	0	0	0	0
TOTAL REVENUES	\$30,495	\$28,882	\$28,147	\$28,371	\$28,282	\$28,455	\$28,894	\$29,249
Expenditures (x 1,000)								
O&M	\$11,571	\$12,575	\$11,921	\$12,849	\$13,287	\$13,611	\$13,944	\$14,296
Revenue Funded Capital	\$8,093	4,937	4,980	10,406	5,442	2,915	2,911	2,906
Transfers(Internal and External)	2,639	2,689	2,673	2,761	2,841	2,934	3,009	3,088
ROI/Franchise Fee	2,155	2,191	2,192	2,205	2,203	2,220	2,255	2,285
Debt Service	6,179	6,489	6,489	6,329	6,932	6,285	7,073	5,100
TOTAL EXPENSES	\$30,638	\$28,882	\$28,256	\$34,551	\$30,705	\$27,964	\$29,192	\$27,674
Net Income	(\$143)	\$0	(\$110)	(\$6,180)	(\$2,423)	\$491	(\$298)	\$1,575
Rate Increases	2.0%	2.0%	0.0%	-2.0%	0.0%	0.0%	0.0%	0.0%
<i>FY 2017 Rate Increases</i>	<i>2.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>2.0%</i>	<i>2.0%</i>	<i>2.0%</i>	<i>--</i>
Impact Fee SFE's	Hickory/Pecan - \$2,200							
	1,095	972	1,120	984	960	975	932	1,007
RESERVE BALANCES								
Working Capital	\$2,451	\$2,311	\$2,261	\$2,764	\$2,456	\$2,237	\$2,335	\$2,214
Operating Reserve	\$15,611	\$10,877	\$15,492	\$8,608	\$6,292	\$6,802	\$6,341	\$8,037
Wrkng Cptl + Op Reserve	\$18,062	\$13,187	\$17,752	\$11,372	\$8,749	\$9,039	\$8,676	\$10,251
Number of Working Days	215	167	229	120	104	118	108	135
Development Plan Lines	\$135	\$335	\$335	\$535	\$735	\$935	\$1,000	\$1,000
Impact Fee Reserve	\$2,195	\$1,675	\$2,378	\$2,510	\$2,676	\$2,750	\$2,990	\$3,271
Debt Coverage Ratio - 1.25	2.64	2.09	2.09	2.02	1.75	1.90	1.69	2.33
Wrkng Cptl / Op Reserve Target - 100 Days (28%)	\$8,579	\$8,087	\$7,912	\$9,674	\$8,597	\$7,830	\$8,174	\$7,749
Wrkng Cptl / Op Reserve Target - 140 Days (39%)	\$11,949	\$11,264	\$11,020	\$13,475	\$11,975	\$10,906	\$11,385	\$10,793
Net Revenue w/Rate Increase	1%		\$215	\$215	\$215	\$218	\$221	\$224

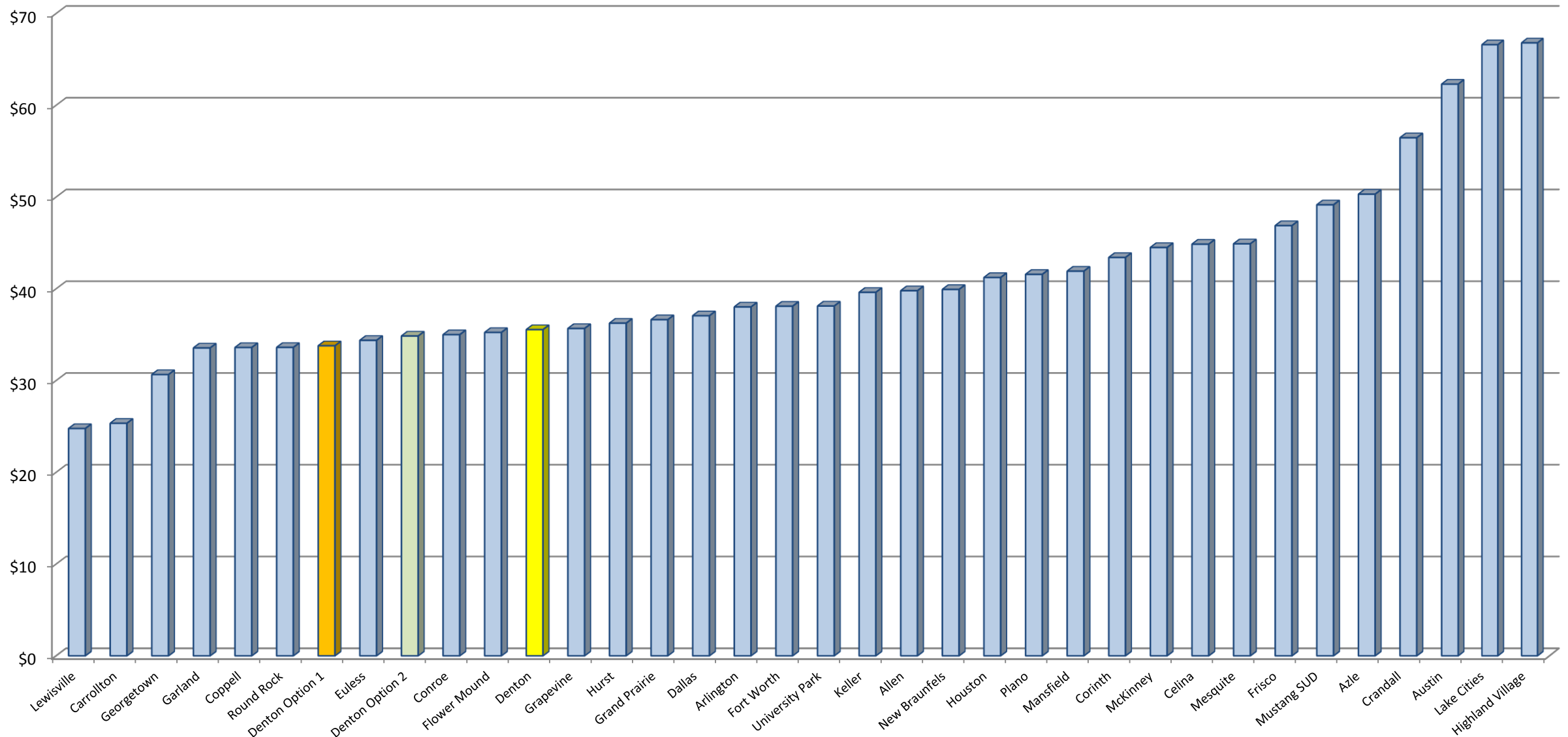
Wastewater Budget Highlights

Revenues	FY 2014-15 Actuals	FY 2015-16 Actuals	FY 2016-17 Actuals	FY 2017-18 Budget	FY 2017-18 Estimate	FY 2018-19 Proposed
Interest Income	52,124	88,309	170,898	117,500	117,500	194,000
Wastewater Residential	10,580,535	10,888,886	11,655,664	11,103,223	11,030,267	10,657,173
Wastewater Commercial	10,876,760	11,893,034	12,166,754	12,256,031	12,450,498	12,168,689
Wastewater Effluent Irrigation	114,453	101,029	88,706	61,530	67,076	68,576
Wastewater Wholesale	585,668	653,474	631,996	667,670	686,659	694,234
Other Wastewater	1,632,045	3,075,418	1,841,004	1,648,482	1,559,542	1,630,878
Transfer In	366,476	4,816,418	419,483	235,000	235,000	235,000
Impact Fee Revenue Utilization	1,800,000	2,000,000	3,520,000	2,000,000	2,000,000	2,000,000
Total	26,008,061	33,516,568	30,494,505	28,089,436	28,146,542	27,648,550

Wastewater Budget Highlights

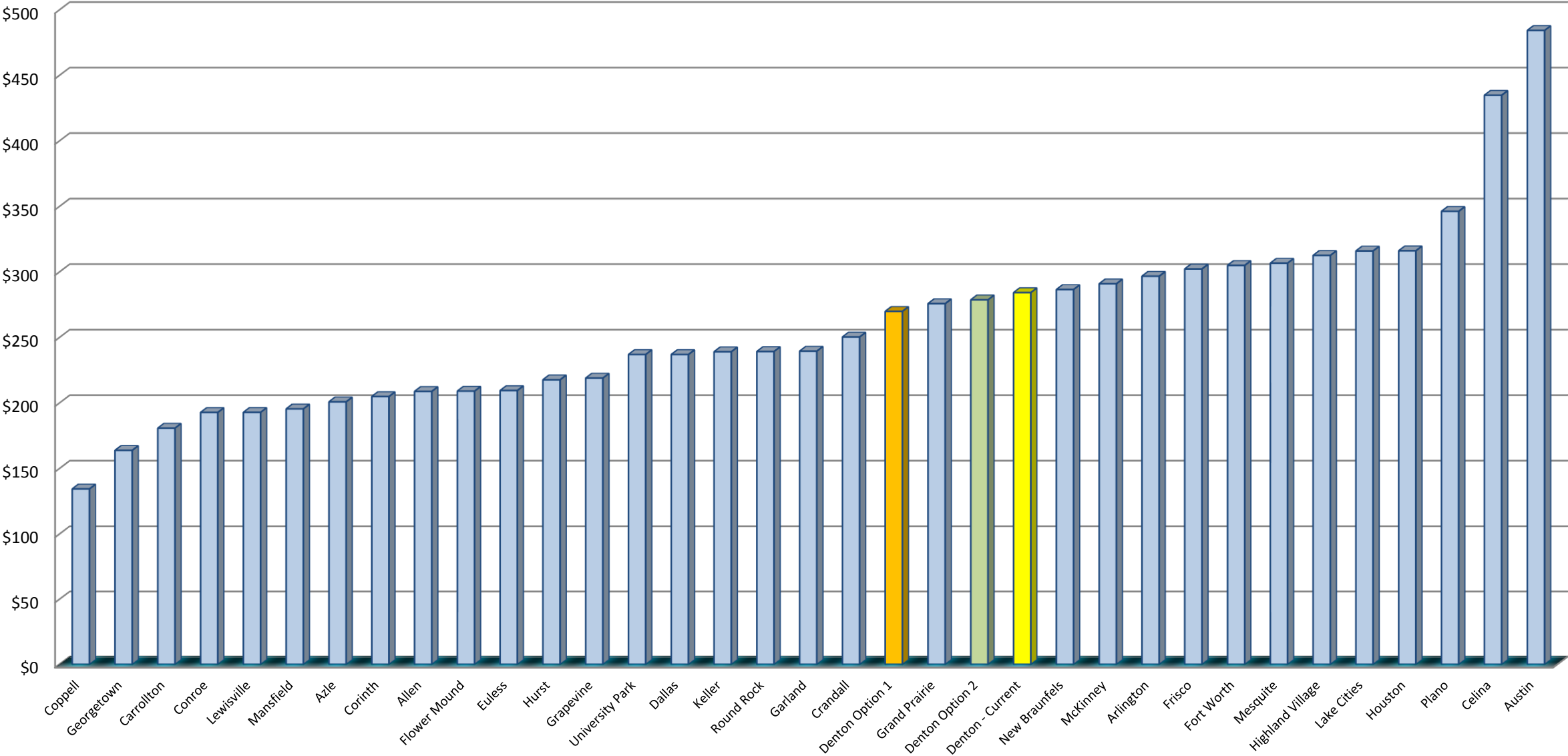
Expenses	FY 2014-15 Actuals	FY 2015-16 Actuals	FY 2016-17 Actuals	FY 2017-18 Budget	FY 2017-18 Estimate	FY 2018-19 Proposed
Purchased Power	987,428	1,192,928	987,482	1,221,000	1,020,000	1,221,000
Personal Services	5,657,467	5,753,742	5,784,562	6,329,964	6,084,119	6,615,941
Materials & Supplies	549,859	865,140	1,031,210	1,177,884	1,152,991	1,178,000
Maintenance & Repair	1,088,318	1,157,929	1,098,311	1,333,609	1,310,929	1,310,219
Insurance	226,087	223,577	25,320	155,031	155,031	196,253
Miscellaneous	30,605	30,534	33,678	41,131	37,551	41,518
Operations	1,400,478	1,367,261	1,580,907	1,738,816	1,592,751	1,689,906
Return on Investment	801,347	852,911	887,541	902,326	902,791	882,684
Franchise Fee	1,144,782	1,218,444	1,267,915	1,289,037	1,289,702	1,260,978
Debt Service	5,977,975	6,690,069	6,178,867	6,489,490	6,489,490	6,328,898
Cost of Service - General Fund	818,706	777,993	766,941	751,039	751,039	773,570
Other Transfers	1,670,571	1,911,170	1,872,067	1,938,178	1,921,553	1,987,546
Transfer to Other Capital Projects	764,556	696,846	1,029,565	574,940	568,100	594,590
Transfer for Capital Projects	3,164,997	4,498,331	8,093,277	4,936,560	4,980,260	8,406,495
Total	24,283,176	27,236,875	30,637,643	28,882,005	28,256,307	32,487,598

Residential Wastewater 6,000 Gallons

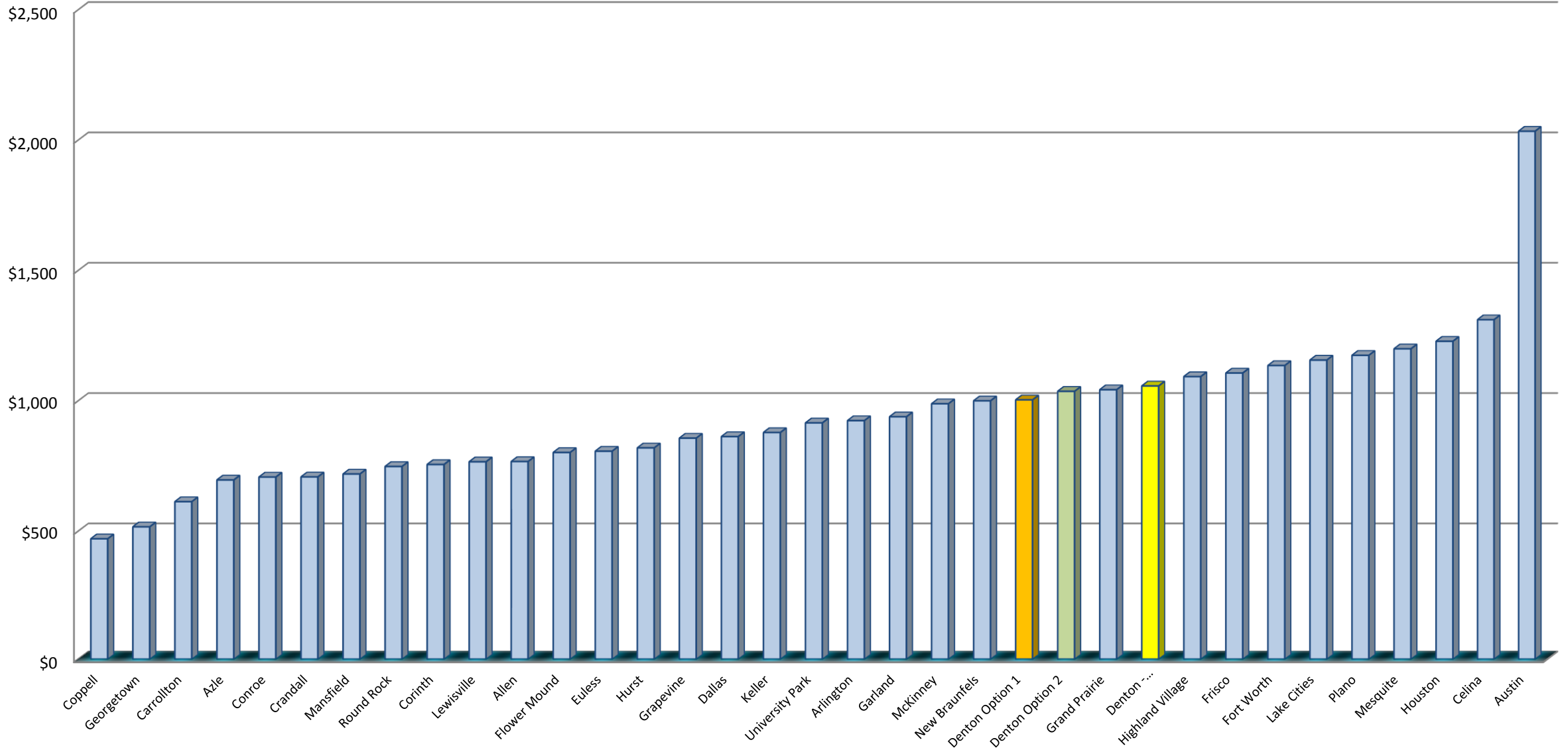


*Denton 10 year average – 5,405

Commercial Wastewater 50,000 Gallons



Commercial Wastewater 200,000 Gallons



Wastewater

Departmental Presentation

Wastewater Accomplishments

Accomplishments for 17-18

- Completed design of Hickory Creek Lift Station replacement project
- Completed the Pecan Creek Interceptor Phase 4 project construction
- Construction contract awarded for Cooper Creek Interceptor Phase 1 and Phase 2 project
- Completed the update of Wastewater Master Plan computer model
- Completed the 5-year update of the Water/Wastewater impact fees
- In-house construction and preventative maintenance costs lower than contracted costs

Wastewater Goals

Goals for 18-19

- Begin construction of Hickory Creek and West Peak Flow Detention Facility Project
- Begin construction of the Hickory Creek Pump Station replacement project
- Meet and complete all EPA Administrative Order requirements
- Continue to have In-house construction and preventative maintenance costs lower than contracted costs
- Complete design and construction of sludge handling project at PCWRP

Wastewater Budget Emphasis

- Deliver cost-effective sustainable infrastructure solutions that lower asset life cycle costs while reducing our impact on the environment
- Leverage technology and proven work processes to enable our employees to be proactive and service oriented
- Translate proactive operations and maintenance processes into improved customer service reducing our main line service calls, sewer chokes and SSO's

Wastewater Process Improvements

Completed Process Improvement

- Asset Management Plan for the collection system continues to drive efficiencies and cost reduction in O&M and CIP in house construction

Future Process Improvement

- Design and installation of combined preliminary and secondary sludge dewatering equipment to improve solids handling and digester loading

Wastewater Position Summary

Personnel (FTE)	FY 2014-15 Actuals	FY 2015-16 Actuals	FY 2016-17 Actuals	FY 2017-18 Budget	FY 2017-18 Estimate	FY 2018-19 Proposed
Regular	86.25	88.25	88.25	87.25	87.50	88.50
Temporary/Seasonal	0.00	0.50	0.50	0.00	0.00	1.00
Total	86.25	88.75	88.75	87.25	87.50	89.50

Transferred FTE's from Water

Department	Position	FTE	Position Description
New – Field Services	Engineering Tech IV	1	Positions moved from water but water will make a transfer to wastewater for the positions salary
New – Field Services	Engineering Tech Intern	1	

Wastewater 5 Year Capital Plan

Group	Assignment Categories	2019	2020	2021	2022	2023	Total
003	003-BUILDING CONSTRUCTION	\$950,000					\$950,000
005	005-COLLECTION SYSTEM UPGRADE	\$8,295,000	\$8,585,000	\$2,535,000	\$2,065,000	\$25,000	\$21,505,000
020	020-FIELD SERVICES REPLCE	\$3,640,616	\$2,919,112	\$2,298,999	\$2,307,969	\$2,328,354	\$13,495,050
021	021-INFILTRATION / INFLOW	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
022	022-LIFTSTATION IMPROVEMENTS	\$2,258,000	\$2,113,000	\$13,008,000	\$8,000	\$8,000	\$17,395,000
024	024-MISC	\$430,000	\$260,000	\$285,000	\$260,000	\$260,000	\$1,495,000
029	029-OVERSIZ E LINES	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000
036	036-REPLACE LINES	\$977,000	\$350,000	\$25,000	\$25,000	\$25,000	\$1,402,000
042	042-TAPS,FIRE HYDS, METERS	\$82,279	\$84,748	\$87,291	\$89,910	\$94,408	\$438,636
043	043-TOOLS & EQUIPMENT	\$40,000	\$45,000	\$41,000	\$40,000	\$10,000	\$176,000
047	047-WASTEWATER EFFLUENT REUSE	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$125,000
048	048-PLANT IMPROVEMENTS	\$3,280,000	\$130,000	\$130,000	\$130,000	\$130,000	\$3,800,000
050	050-VEHICLES	\$982,000	\$964,000	\$710,500	\$630,000	\$1,603,000	\$4,889,500
Grand Totals		\$21,209,895	\$15,725,860	\$19,395,790	\$5,830,879	\$4,758,762	\$66,921,186
	Aid in Construction	\$82,279	\$84,748	\$87,291	\$89,910	\$94,408	\$438,636
	Utility Bonds - 5 year					\$650,000	\$650,000
	Revenue	\$10,626,216	\$4,831,112	\$3,544,800	\$3,450,969	\$3,764,354	\$26,217,451
	Utility Bonds - 20 year	\$10,501,400	\$10,810,000	\$15,760,000	\$2,290,000	\$250,000	\$39,611,400
Grand Totals		\$21,209,895	\$15,725,860	\$19,392,091	\$5,830,879	\$4,758,762	\$66,917,487

Wastewater Required Bond Sale - 20 year

9,800,000

10,800,000

15,250,000

2,000,000

-

37,850,000

Wastewater Required Bond Sale - 5 year

-

-

-

-

650,000

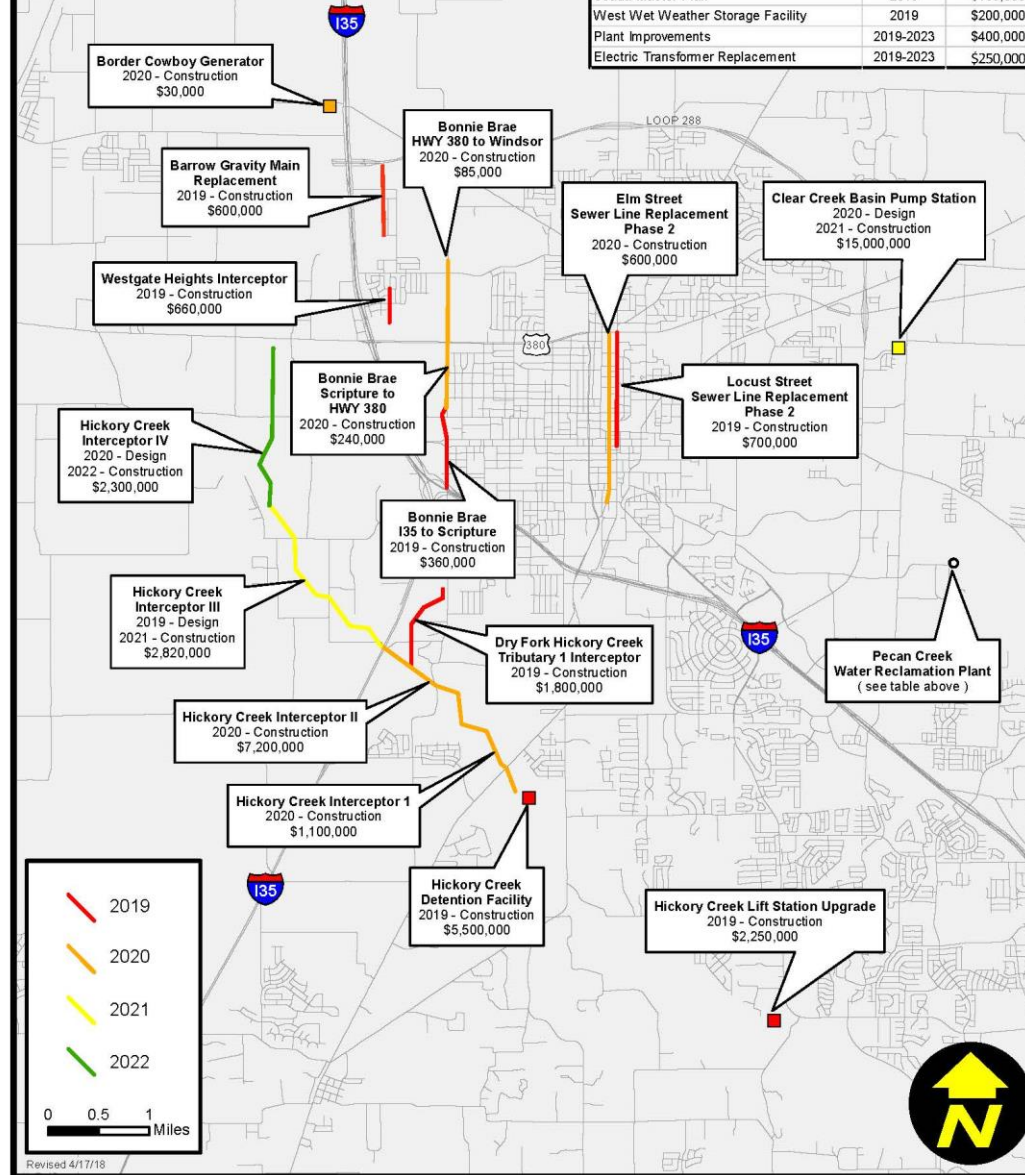
650,000

Major CIP projects

G-005 Hickory Creek Detention Facility – FY19	\$5,500,000
G-022 Hickory Creek Lift Station Upgrade – FY19	\$2,250,000
G-048 PCWRP Solids Handling – FY19	\$1,200,000
G-048 West Wet Weather Peak Flow Basin & Pump Station – FY19	\$1,500,000
G-005 Hickory Creek Interceptor I – FY20	\$1,100,000
G-005 Hickory Creek Interceptor II – FY20	\$7,200,000
G-022 Clear Creek Basin Pump Station – FY20 & FY21	\$15,000,000
G-005 Hickory Creek Interceptor III – FY19 & FY21	\$2,820,000
G-005 Hickory Creek Interceptor IV – FY20 & FY22	\$2,300,000

Capital Improvements Projects 2019 - 2023 Wastewater

Pecan Creek Water Reclamation Plant		
Pecan Creek SCADA Upgrade	2019	\$100,000
PCWRP Solids Handling	2019	\$1,200,000
Scada Master Plan	2019	\$165,000
West Wet Weather Storage Facility	2019	\$200,000
Plant Improvements	2019-2023	\$400,000
Electric Transformer Replacement	2019-2023	\$250,000





Wastewater

Questions / Comments

Environmental Services & Sustainability Department

Departmental Presentation

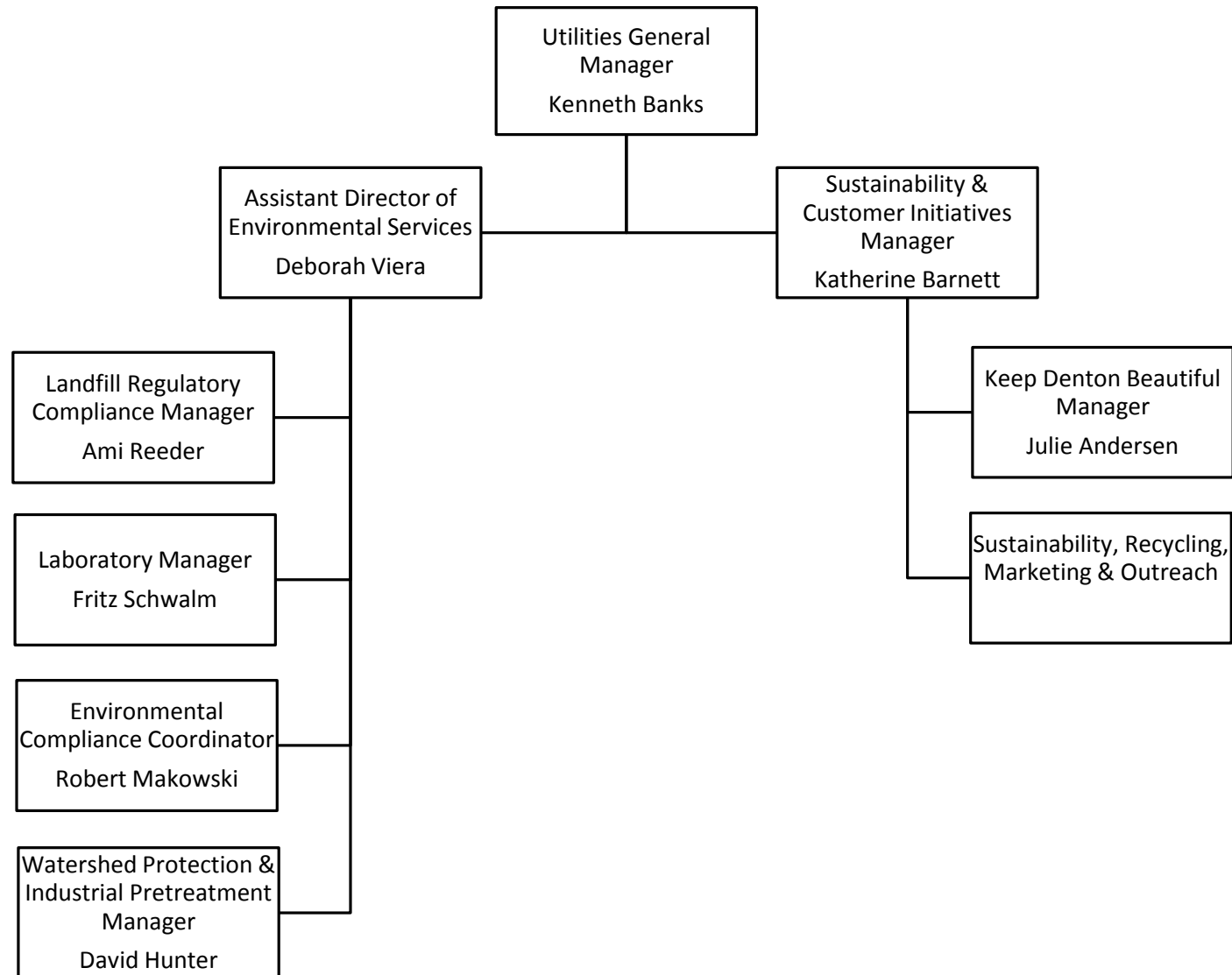
Environmental Services & Sustainability Department

FTE's By Functional Area

FTE's By Functional Area ¹	FY 2015-16 Actuals	FY 2016-17 Actuals	FY 2017-18 Budget	FY 2018-19 Proposed
Landfill Regulatory Compliance	3.0	4.0	4.0	2.0 ²
Sustainability	4.0	7.0 ³	10.5 ³	10.5
Water Laboratory	5.0	5.0	5.0	5.0
Wastewater Laboratory	4.0	4.0	4.0	4.0
Industrial Pretreatment	7.5	7.5	7.5	7.5
Watershed Protection	6.0	7.0	7.0	8.0
Total FTE's	29.5	34.5	38	37

1. All FTE's represented are part of Water, Wastewater, and Solid Waste fund FTE counts.
2. Reduction of FTE's is a result from ending landfill mining program.
3. Increases in FTE's were the result of departments reorganization.

Environmental Services & Sustainability Department



Environmental Services & Sustainability Department Accomplishments

Accomplishments for 17-18:

1. Achieved Three STAR certification from STAR communities for sustainability planning and programs.
2. Completed review and final approval of the new Subchapter 17 of the Denton Development Code regarding environmentally sensitive areas (ESAs).
3. Met or exceeded all requirements to retain the TCEQ designation of a high-performing pretreatment program.
4. The landfill received a Zero compliance history score (the highest rating possible) from TCEQ.
5. Implemented the Energy Star Portfolio Manager to track municipal building energy use.
6. Coordinated with the Texas State Energy Conservation Office to conduct energy audits of ten higher usage municipal buildings

Environmental Services & Sustainability Department Goals

Goals for 18-19:

1. Revise Air Quality Action Plan based on recommendations from the City of Denton Committee on the Environment.
2. Draft a stormwater ordinance for industrial sites and franchise utility stormwater inspections to address new requirements of the City's Municipal Separate Storm Sewer system (MS4) permit.
3. Draft and approval of a technical criteria manual for managing environmentally sensitive areas (ESAs).
4. Complete updates to the Sustainability Plan, adopt, and implement
5. Expand the sustainability education series to include youth programs
6. Incorporate the "Roots and Shoots" program into Sustainable Schools curricula
7. Complete the gas well inspection contract, evaluate, and make a recommendation to City Council
8. Continue to improve public information for gas well inspections

Environmental Services & Sustainability Department Performance Measures

Current Performance Measures:

1. Number of sustainability-related workshops hosted by the City
2. Percentage of GreenSense rebate funding expended
3. Number of participants in energy rebate program
4. Number of participants in energy audit program
5. Percentage of inspections compliant prior to notice of violation
6. Ratio of illicit discharges reported per number resolved
7. Average turn-around time for results to residents with Drinking Water complaints
8. Number of effluent discharge violations at regulated industrial sites
9. Number of OSSF complaints abated per number received

Environmental Services & Sustainability Department Cost Containment Strategies

Summary of Department efforts:

1. Reviewed water sample collection and analysis and eliminated redundancies across division; \$19,000 cost savings achieved without compromising quality control and pollution prevention.
2. Reduced 2 FTE's under the Landfill Regulatory Compliance division due to eliminating the landfill mining program. This saves the City approximately \$90,985.

Environmental Services & Sustainability Department Process Improvements

Completed Projects:

1. Finished the 301 East McKinney street property remediation through TCEQ's Voluntary Cleanup Program
2. Restructured the rates for private waste haulers to provide equity with other municipalities and to increased opportunities for smaller local businesses.
3. Consolidated Recycling Education and Outreach and Keep Denton Beautiful under Sustainability to more efficiently manage community initiatives
4. Renovated a building at the wastewater treatment plant complex into a field laboratory for improving analytical efficiency.
5. Installed a permanent odor control vapor system along the south and east perimeters of the landfill.

Future Projects:

1. Evaluate Mosquito Surveillance and Response Plan with regards to new disease concerns and revise if needed.
2. Continue to develop LIMS to transition from producing data to producing information and to streamline the transfer of information.
3. Insure compliance with new monitoring and reporting requirements for the permit amendment that will replace the current landfill municipal solid waste (MSW) Permit.

Environmental Services & Sustainability Department

Questions / Comments