Aquatics Division

City of Troy

CITY OF TROY

Annual Budget by Organization Report

Detail

	2010 Actual Amount	2011 Actual Amount	2012 Estimated Amount	2012 Amended Budget	2013 Proposed	% Change
Fund: 587 AQUATIC CENTER FUND						
Revenue						
Department: 000 Revenue						
CHG - CHARGES FOR SERVICES	$425,155.10	$466,499.38	$483,000.00	$467,000.00	$559,048.00	20%
INTR - INTEREST & RENT	$26,515.17	$37,184.98	$30,400.00	$30,400.00	$30,400.00	0%
OTHREV - OTHER REVENUE	$0.05	($0.15)	$0.00	$0.00	$0.00	
Department Total: Revenue	$451,670.32	$503,684.21	$513,400.00	$497,400.00	$589,448.00	19%
Expenditures						
Department: 787 Aquatic Center						
PERS - PERSONAL SERVICES	$263,226.35	$265,316.86	$278,070.00	$257,734.00	$288,440.00	12%
SUP - SUPPLIES	$38,427.28	$37,923.59	$33,100.00	$33,800.00	$33,200.00	-2%
OTH - OTHER SERVICE CHARGES	$266,190.96	$262,941.31	$280,060.00	$287,510.00	$289,060.00	1%
Department Total: Aquatic Center Expense	$567,844.59	$566,181.76	$591,230.00	$579,044.00	$610,700.00	5%
Revenue Totals:	$451,670.32	$503,684.21	$513,400.00	$497,400.00	$589,448.00	19%
Expenditure Totals	$567,844.59	$566,181.76	$591,230.00	$611,044.00	$610,700.00	0%
Fund Total: AQUATIC CENTER FUND	($116,174.27)	($62,497.55)	($77,830.00)	($113,644.00)	($21,252.00)	-81%

	Allocated legacy costs:	
Pension		-
Healthcare		1,638.00
Total legacy costs		1,638.00

SUMMARY OF BUDGET CHANGES

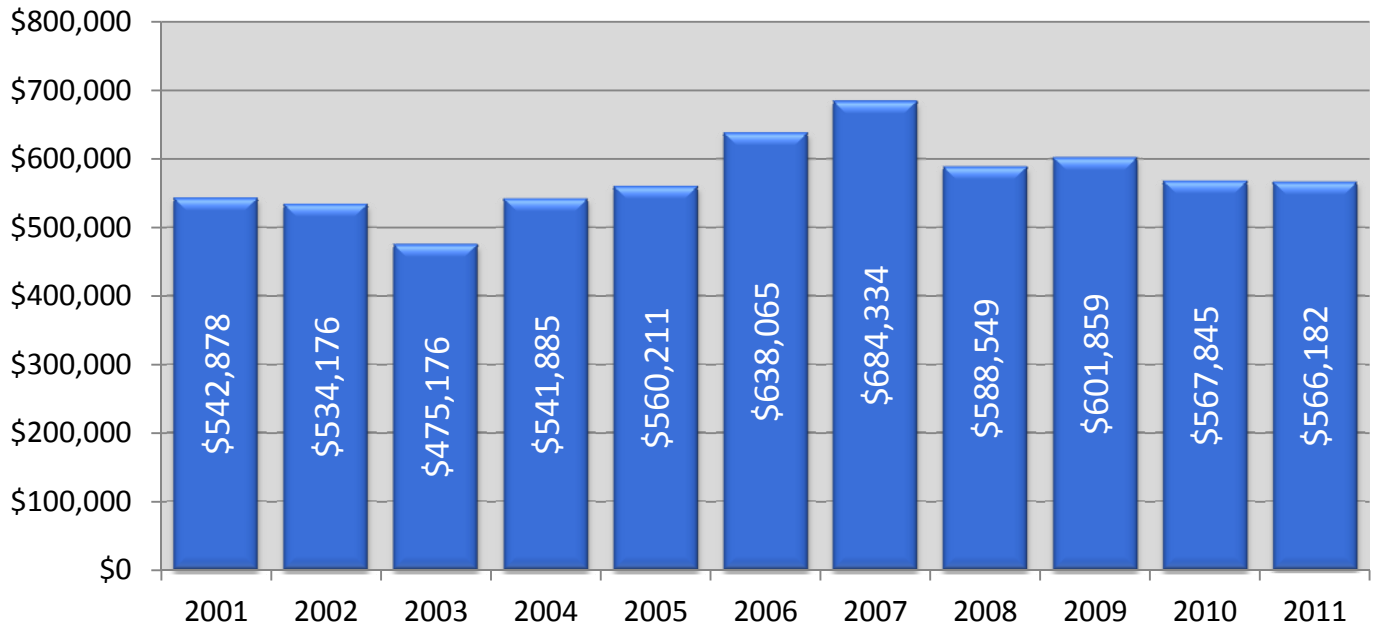
- ***Significant Notes – 2011/12 Budget Compared to 2010/11 Budget***

  Personal Services:

  There is a reduction of 3% in expenses due to personal service reduction.

Personnel Summary	2009/10		2010/11		2011/12		2012/13	
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Aquatic Center	N/A	N/A	0	11.6	0	10.9	0.4	10.4
Total Department	**N/A**	**N/A**	**0**	**11.6**	**0**	**10.9**	**0.4**	**10.4**

- ***Operating Budget History***



Golf Division

City of Troy

CITY OF TROY

Annual Budget by Organization Report

Detail

	2010 Actual Amount	2011 Actual Amount	2012 Estimated Amount	2012 Amended Budget	2013 Proposed	% Change
Fund: 583 Sanctuary Lake Golf Course						
Revenue						
Department: 000 Revenue						
CHG - CHARGES FOR SERVICES	$964,310.64	$934,489.75	$1,209,929.00	$1,297,421.00	$1,365,458.00	5%
INTR - INTEREST & RENT	$4,639.38	$6,284.50	$0.00	$0.00	$0.00	
OTHREV - OTHER REVENUE	$5,101.11	$0.00	$0.00	$0.00	$0.00	
Department Total: Revenue	$974,051.13	$940,774.25	$1,209,929.00	$1,297,421.00	$1,365,458.00	5%
Expenditures						
Department: 765 Sanctuary Lake Greens						
PERS - PERSONAL SERVICES	$245,324.70	$282,327.77	$387,737.00	$375,691.00	$439,954.00	17%
SUP - SUPPLIES	$89,048.49	$393,208.60	$465,626.00	$454,500.00	$461,450.00	2%
OTH - OTHER SERVICE CHARGES	$414,202.57	$330,237.24	$110,110.00	$416,229.00	$120,652.00	-71%
Department Total: Sanctuary Lake Greens	$748,575.76	$1,005,773.61	$963,473.00	$1,246,420.00	$1,022,056.00	-18%
Department: 766 Sanctuary Lake Pro Shop						
PERS - PERSONAL SERVICES	$143,976.33	$1,694.20	$0.00	$0.00	$0.00	
SUP - SUPPLIES	$36,010.33	$0.00	$0.00	$0.00	$0.00	
OTH - OTHER SERVICE CHARGES	$194,240.87	$16,539.31	$8,908.00	$1,934.00	$25,000.00	1,182%
DS - DEBT SERVICE	$515,475.00	$499,609.13	$885,446.00	$885,746.00	$868,596.00	-2%
Department Total: Sanctuary Lake Pro Shop	$889,702.53	$517,842.64	$894,354.00	$887,680.00	$893,596.00	1%
Department: 768 Sanctuary Lake Capital						
CAP - CAPITAL OUTLAY	$0.00	$0.00	$48,000.00	$48,000.00	$58,000.00	21%
Department Total: Sanctuary Lake Capital	$0.00	$0.00	$48,000.00	$48,000.00	$58,000.00	21%
Expenditure Totals	$1,638,278.29	$1,523,616.25	$1,905,827.00	$2,182,100.00	$1,973,652.00	-10%
Revenue Totals:	$974,051.13	$940,774.25	$1,209,929.00	$1,297,421.00	$1,365,458.00	5%
Expenditure Totals	$1,638,278.29	$1,523,616.25	$1,905,827.00	$2,182,100.00	$1,973,652.00	-10%
Fund Total: Sanctuary Lake Golf Course	($664,227.16)	($582,842.00)	($695,898.00)	($884,679.00)	($608,194.00)	-31%

CITY OF TROY

Annual Budget by Organization Report

Detail

	2010 Actual Amount	2011 Actual Amount	2012 Estimated Amount	2012 Amended Budget	2013 Proposed	% Change
Fund: 584 SYLVAN GLEN GOLF COURSE						
Revenue						
Department: 000 Revenue						
CHG - CHARGES FOR SERVICES	$949,292.66	$845,296.02	$997,818.00	$1,061,123.00	$1,068,853.00	1%
INTR - INTEREST & RENT	$195,739.69	$190,419.86	$168,500.00	$169,200.00	$168,400.00	0%
OTHREV - OTHER REVENUE	($20.65)	$0.00	$0.00	$0.00	$0.00	
OTHFIN - OTHER FINANCING SOURCES	$0.00	$0.00	$0.00	$651,657.00	$0.00	-100%
Department Total: Revenue	$1,145,011.70	$1,035,715.88	$1,166,318.00	$1,881,980.00	$1,237,253.00	-34%
Expenditures						
Department: 785 Sylvan Glen Greens						
PERS - PERSONAL SERVICES	$313,604.69	$406,957.49	$474,118.00	$491,861.00	$490,246.00	0%
SUP - SUPPLIES	$88,750.42	$365,139.19	$295,584.00	$304,029.00	$308,180.00	1%
OTH - OTHER SERVICE CHARGES	$276,957.79	$234,332.37	$105,553.00	$259,224.00	$113,531.00	-56%
Department Total: Sylvan Glen Greens	$679,312.90	$1,006,429.05	$875,255.00	$1,055,114.00	$911,957.00	-14%
Department: 786 Sylvan Glen Pro Shop						
PERS - PERSONAL SERVICES	$200,855.15	$5,177.66	$0.00	$0.00	$0.00	
SUP - SUPPLIES	$21,922.39	$908.58	$0.00	$0.00	$0.00	
OTH - OTHER SERVICE CHARGES	$192,534.22	$8,905.24	$51,827.00	$34,000.00	$60,000.00	76%
Department Total: Sylvan Glen Pro Shop	$415,311.76	$14,991.48	$51,827.00	$34,000.00	$60,000.00	76%
Department: 788 Sylvan Glen Capital						
CAP - CAPITAL OUTLAY	$0.00	$0.00	$57,858.00	$831,400.00	$44,700.00	-95%
Department Total: Sylvan Glen Capital	$0.00	$0.00	$57,858.00	$831,400.00	$44,700.00	-95%
Revenue Totals:	$1,145,011.70	$1,035,715.88	$1,166,318.00	$1,881,980.00	$1,237,253.00	-34%
Expenditure Totals	$1,094,624.66	$1,021,420.53	$984,940.00	$1,920,514.00	$1,016,657.00	-47%
Fund Total: SYLVAN GLEN GOLF COURSE	$50,387.04	$14,295.35	$181,378.00	($38,534.00)	$220,596.00	-672%

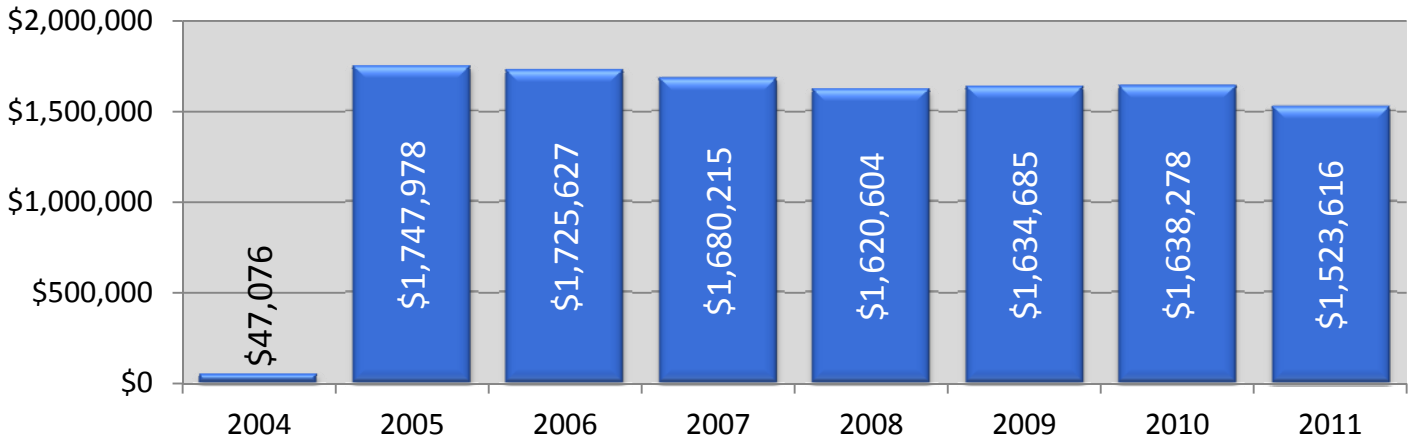
SUMMARY OF BUDGET CHANGES

- ***Significant Notes – 2011/12 Budget Compared to 2010/11***

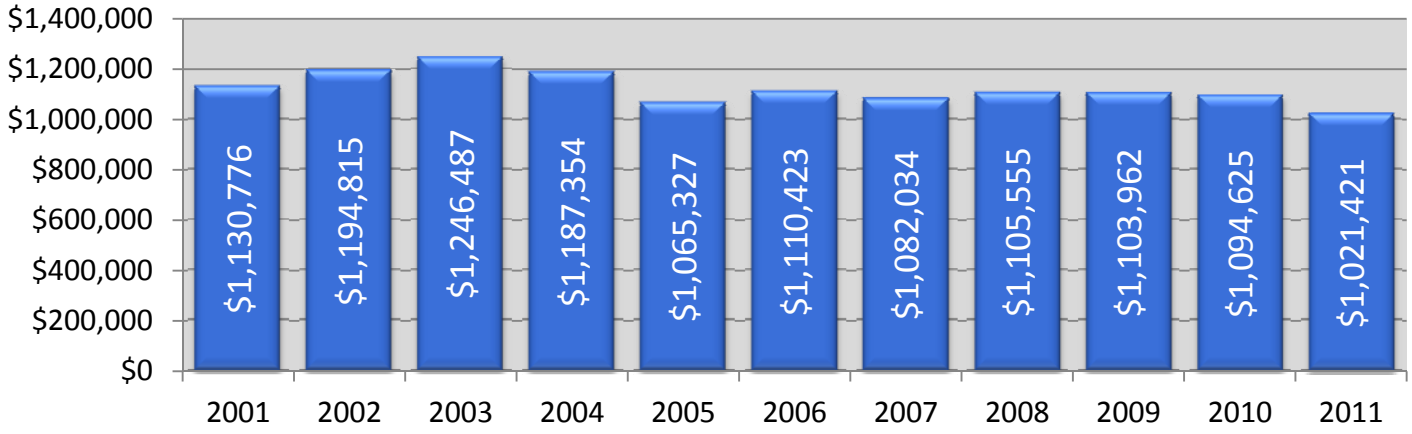
Personnel Summary	2009/10		2010/11		2011/12		2012/13	
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Pro Shop	N/A	N/A	0	0	0	0	0	0
Greens	N/A	N/A	0	0	0	0	0	0
Total Department	**N/A**	**N/A**	**0**	**0**	*** 0**	*** 0**	***0**	***0**

Billy Casper Golf

- ***Operating Budget History - Sanctuary Lake Golf Course***



- ***Operating Budget History - Sylvan Glen Golf Course***

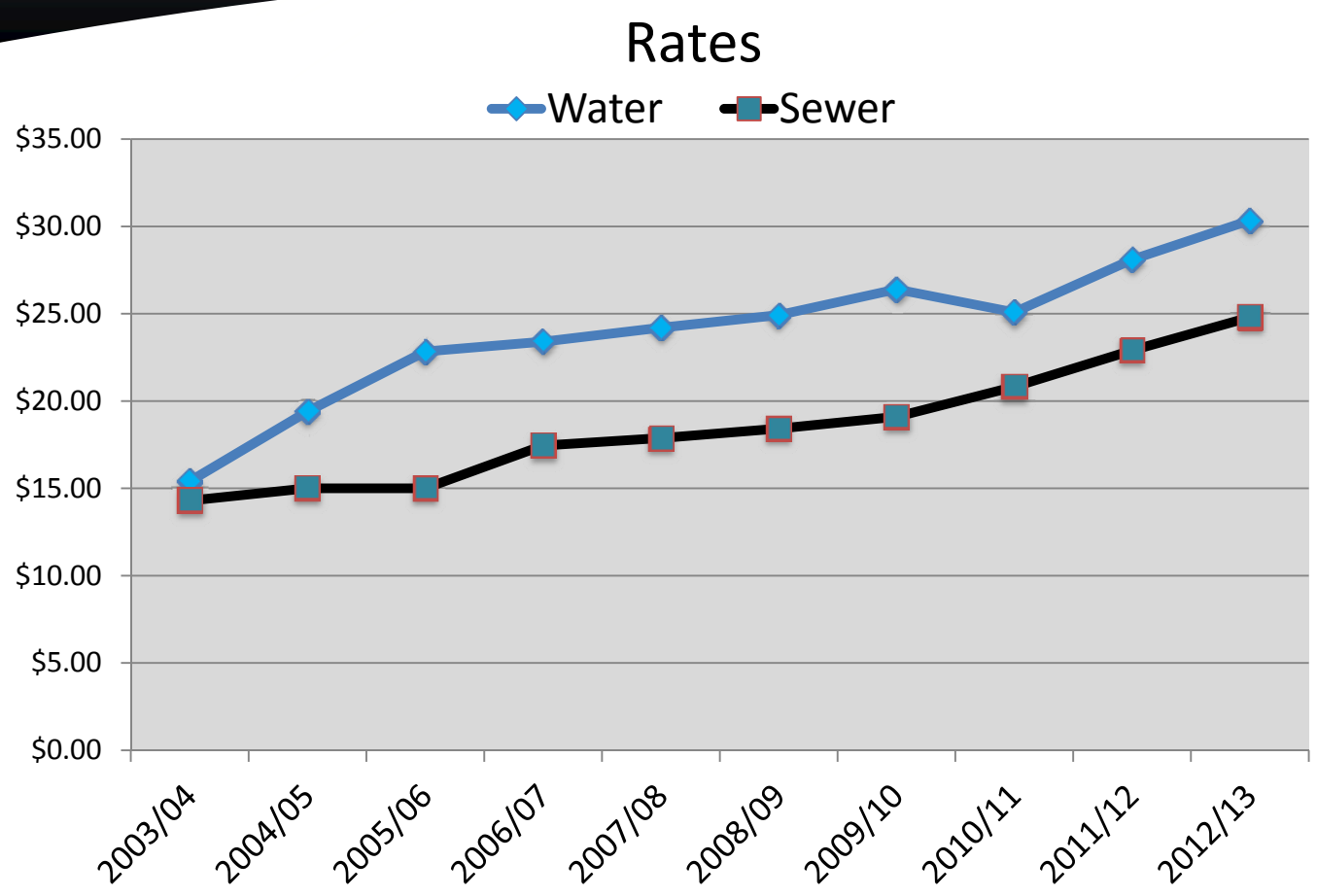


City of Troy

Water & Sewer Division

Public Works Director……..Timothy Richnak
Superintendent of Water and Sewer…….Richard Shepler

City of Troy



	2006/07 Rates	2007/08 Rates	2008/09 Rates	2009/10 Rates	2010/11 Rates	2011/12 Rates	Proposed 2012/13 Rates	Rate Adjustment
Water	$23.40	$24.20	$24.92	$26.40	$25.08	$28.10	$30.35	$2.25
Sewer	17.45	17.88	18.42	19.10	20.82	22.90	24.80	1.90
Total Rate	**$40.85**	**$42.08**	**$43.34**	**$45.50**	**$45.90**	**$51.00**	**$55.15**	**$4.15**

CITY OF TROY

Annual Budget by Organization Report

Detail

	2010 Actual Amount	2011 Actual Amount	2012 Estimated Amount	2012 Amended Budget	2013 Proposed	% Change
Fund: 591 WATER FUND						
Revenue						
Department: 000 Revenue						
CHG - CHARGES FOR SERVICES	$13,823,365.95	$14,137,273.03	$14,103,000.00	$14,452,600.00	$15,628,000.00	8%
INTR - INTEREST & RENT	$337,985.13	$166,631.61	$122,000.00	$123,000.00	$122,000.00	-1%
OTHREV - OTHER REVENUE	$156,178.57	$81,066.90	$0.00	$0.00	$0.00	
Department Total: Revenue	$14,317,529.65	$14,384,971.54	$14,225,000.00	$14,575,600.00	$15,750,000.00	8%
Expenditures						
Department: 537 Water Transmission and Distrib						
Business Unit: 537 Water Trans & Distrib						
PERS - PERSONAL SERVICES	$124,879.85	$56,899.73	$179,554.00	$239,187.00	$237,750.00	-1%
SUP - SUPPLIES	$5,912.70	$15,741.13	$28,000.00	$28,000.00	$28,000.00	0%
OTH - OTHER SERVICE CHARGES	$73,764.13	$70,630.94	$95,000.00	$98,500.00	$89,100.00	-10%
Business Unit Total: Water Trans & Distrib	$204,556.68	$143,271.80	$302,554.00	$365,687.00	$354,850.00	-3%
Business Unit: 538 Water Customer Cross Connection						
PERS - PERSONAL SERVICES	$95,552.30	$88,850.59	$100,272.00	$95,105.00	$92,481.00	-3%
SUP - SUPPLIES	$0.00	$0.00	$0.00	$0.00	$0.00	
OTH - OTHER SERVICE CHARGES	$8,058.00	$8,244.80	$9,200.00	$9,200.00	$9,700.00	5%
Business Unit Total: WaterCross Connection	$103,610.30	$97,095.39	$109,472.00	$104,305.00	$102,181.00	-2%
Business Unit: 539 Water Contractors Service						
PERS - PERSONAL SERVICES	$131,809.26	$140,052.52	$166,419.00	$186,422.00	$182,000.00	-2%
SUP - SUPPLIES	$592.88	$147.00	$2,000.00	$2,000.00	$2,000.00	0%
OTH - OTHER SERVICE CHARGES	$8,994.09	$9,571.37	$11,000.00	$13,000.00	$13,650.00	5%
Business Unit Total: Water Contractors Service	$141,396.23	$149,770.89	$179,419.00	$201,422.00	$197,650.00	-2%
Business Unit: 540 Water Main Testing						
PERS - PERSONAL SERVICES	$22,227.60	$17,706.86	$45,600.00	$67,441.00	$66,092.00	-2%
SUP - SUPPLIES	$302.58	$810.28	$500.00	$500.00	$500.00	0%
OTH - OTHER SERVICE CHARGES	$793.68	$770.81	$1,000.00	$1,000.00	$1,050.00	5%
Business Unit Total: Water Main Testing	$23,323.86	$19,287.95	$47,100.00	$68,941.00	$67,642.00	-2%
Business Unit: 541 Maintenance of Mains						
PERS - PERSONAL SERVICES	$286,709.13	$272,843.54	$285,700.00	$378,984.00	$350,576.00	-7%
SUP - SUPPLIES	$34,209.74	$27,613.27	$25,000.00	$35,000.00	$35,000.00	0%
OTH - OTHER SERVICE CHARGES	$97,020.13	$89,497.90	$61,000.00	$103,000.00	$107,400.00	4%
Business Unit Total: Maintenance of Mains	$417,939.00	$389,954.71	$371,700.00	$516,984.00	$492,976.00	-5%
Business Unit: 542 Maintenance of Services						
PERS - PERSONAL SERVICES	$184,469.63	$144,240.97	$214,300.00	$240,732.00	$228,924.00	-5%
SUP - SUPPLIES	$36,658.48	$15,627.61	$10,000.00	$10,000.00	$10,000.00	0%
OTH - OTHER SERVICE CHARGES	$55,049.04	$33,999.81	$52,000.00	$50,000.00	$52,500.00	5%
Business Unit Total: Maintenance of Services	$276,177.15	$193,868.39	$276,300.00	$300,732.00	$291,424.00	-3%

CITY OF TROY

Annual Budget by Organization Report

Detail

	2010 Actual Amount	2011 Actual Amount	2012 Estimated Amount	2012 Amended Budget	2013 Proposed	% Change
Business Unit: 543 Maintenance of Meters						
PERS - PERSONAL SERVICES	$233,606.55	$345,937.96	$376,760.00	$344,464.00	$369,486.00	7%
SUP - SUPPLIES	$257,717.07	$291,884.54	$150,000.00	$350,000.00	$200,000.00	-43%
OTH - OTHER SERVICE CHARGES	$14,161.14	$19,173.33	$12,000.00	$17,000.00	$18,000.00	6%
Business Unit Total: Maintenance of Meters	$505,484.76	$656,995.83	$538,760.00	$711,464.00	$587,486.00	-17%
Business Unit: 544 Maintenance of Hydrants						
PERS - PERSONAL SERVICES	$178,175.57	$163,129.82	$234,100.00	$284,176.00	$283,626.00	0%
SUP - SUPPLIES	$37,338.01	$19,288.29	$20,000.00	$35,000.00	$35,000.00	0%
OTH - OTHER SERVICE CHARGES	$53,202.84	$39,710.04	$65,000.00	$55,000.00	$57,750.00	5%
Business Unit Total: Maintenance of Hydrants	$268,716.42	$222,128.15	$319,100.00	$374,176.00	$376,376.00	1%
Business Unit: 545 Water Meters & Tap-Ins						
PERS - PERSONAL SERVICES	$98,267.69	$81,796.22	$85,300.00	$165,533.00	$149,109.00	-10%
SUP - SUPPLIES	$199,386.34	$137,319.56	$50,000.00	$150,000.00	$150,000.00	0%
OTH - OTHER SERVICE CHARGES	$27,684.14	$35,011.13	$40,000.00	$37,000.00	$38,350.00	4%
Business Unit Total: Water Meters & Tap-Ins	$325,338.17	$254,126.91	$175,300.00	$352,533.00	$337,459.00	-4%
Business Unit: 548 Water Administration						
PERS - PERSONAL SERVICES	$393,988.67	$361,268.32	$585,100.00	$182,809.00	$164,778.00	-10%
SUP - SUPPLIES	$19,018.73	$20,771.76	$19,140.00	$19,140.00	$19,140.00	0%
OTH - OTHER SERVICE CHARGES	$9,679,465.39	$9,769,407.60	$8,504,910.00	$10,733,010.00	$9,648,210.00	-10%
DS - DEBT SERVICE	$0.00	$0.00	$0.00	$0.00	$0.00	
Business Unit Total: Water Administration	$10,092,472.79	$10,151,447.68	$9,109,150.00	$10,934,959.00	$9,832,128.00	-10%
Business Unit: 555 Water Fund Capital						
CAP - CAPITAL OUTLAY	$0.00	$0.00	$4,300,000.00	$5,110,000.00	$5,125,000.00	0%
Business Unit Total: Water Fund Capital	$0.00	$0.00	$4,300,000.00	$5,110,000.00	$5,125,000.00	0%
Department Total: Water Transmission and Distrib	$12,359,015.36	$12,277,947.70	$15,728,855.00	$19,041,203.00	$17,765,172.00	-7%
Department: 546 Water Accounting						
Business Unit: 546 Water Meter Reading						
PERS - PERSONAL SERVICES	$51,748.31	$42,274.91	$70,485.00	$68,623.00	$60,128.00	-12%
SUP - SUPPLIES	$34.49	$0.00	$0.00	$0.00	$0.00	
OTH - OTHER SERVICE CHARGES	$4,089.57	$2,459.22	$5,000.00	$5,500.00	$5,800.00	5%
Business Unit Total: Water Meter Reading	$55,872.37	$44,734.13	$75,485.00	$74,123.00	$65,928.00	-11%
Business Unit: 547 Water Accounting & Collection						
PERS - PERSONAL SERVICES	$31,225.48	$47,030.83	$107,525.00	$54,878.00	$105,740.00	93%
SUP - SUPPLIES	$19,866.16	$19,059.93	$43,000.00	$18,250.00	$41,250.00	126%
OTH - OTHER SERVICE CHARGES	$25,662.60	$20,926.47	$24,600.00	$22,600.00	$24,600.00	9%
Business Unit Total: Water Accounting & Collection	$76,754.24	$87,017.23	$175,125.00	$95,728.00	$171,590.00	79%
Department Total: Water Accounting	$132,626.61	$131,751.36	$250,610.00	$169,851.00	$237,518.00	40%
Revenue Totals:	$14,317,529.65	$14,384,971.54	$14,225,000.00	$14,575,600.00	$15,750,000.00	8%
Expenditure Totals	$12,491,641.97	$12,409,699.06	$15,979,465.00	$19,211,054.00	$18,002,690.00	-6%
Fund Total: WATER FUND	$1,825,887.68	$1,975,272.48	($1,754,465.00)	($4,635,454.00)	($2,252,690.00)	-51%

	Allocated legacy costs:	
Pension		80,631.00
Healthcare		86,232.00
Total legacy costs		166,863.00

CITY OF TROY

Annual Budget by Organization Report

Detail

	2010 Actual Amount	2011 Actual Amount	2012 Estimated Amount	2012 Amended Budget	2013 Proposed	% Change
Fund: 590 SEWER FUND						
Revenue						
Department: 000 Revenue						
GRANTS - GRANTS	$0.00	$0.00	$0.00	$0.00	$0.00	
CHG - CHARGES FOR SERVICES	$10,372,640.49	$11,917,175.92	$12,219,000.00	$12,000,000.00	$13,030,000.00	9%
INTR - INTEREST & RENT	$277,778.01	$208,430.41	$165,000.00	$175,000.00	$165,000.00	-6%
OTHREV - OTHER REVENUE	$1,946,408.51	$140,494.00	$0.00	$0.00	$0.00	
Department Total: Revenue	$12,596,827.01	$12,266,100.33	$12,384,000.00	$12,175,000.00	$13,195,000.00	8%
Expenditures						
Department: 527 Sewer						
Business Unit: 527 Sewer Administration						
PERS - PERSONAL SERVICES	$191,170.86	$233,123.04	$270,063.00	$268,759.00	$270,493.00	1%
SUP - SUPPLIES	$1.44	$0.00	$0.00	$0.00	$0.00	
OTH - OTHER SERVICE CHARGES	$8,299,383.89	$9,528,323.07	$9,270,758.00	$9,546,938.00	$9,950,238.00	4%
DS - DEBT SERVICE	$0.00	$0.00	$0.00	$0.00	$0.00	
Business Unit Total: Sewer Administration	$8,490,556.19	$9,761,446.11	$9,540,821.00	$9,815,697.00	$10,220,731.00	4%
Business Unit: 535 Sewer Fund Capital						
PERS - PERSONAL SERVICES	$0.00	$0.00	$0.00	$0.00	$0.00	
CAP - CAPITAL OUTLAY	$0.00	$0.05	$975,000.00	$1,788,000.00	$1,800,000.00	1%
Business Unit Total: Sewer Fund Capital	$0.00	$0.05	$975,000.00	$1,788,000.00	$1,800,000.00	1%
Business Unit: 536 Sewer Maintenance						
PERS - PERSONAL SERVICES	$420,550.17	$422,923.97	$637,949.00	$701,817.00	$722,797.00	3%
SUP - SUPPLIES	$18,695.73	$10,005.49	$24,340.00	$24,340.00	$24,340.00	0%
OTH - OTHER SERVICE CHARGES	$218,077.17	$191,129.55	$268,700.00	$261,680.00	$271,680.00	4%
OTHF - OTHER FINANCING USES	$627,159.78	$492,020.00	$652,820.00	$652,820.00	$542,310.00	-17%
Business Unit Total: Sewer Maintenance	$1,284,482.85	$1,116,079.01	$1,583,809.00	$1,640,657.00	$1,561,127.00	-5%
Department Total: Sewer Expense	$9,775,039.04	$10,877,525.17	$12,099,630.00	$13,244,354.00	$13,581,858.00	3%
Revenue Totals:	$12,596,827.01	$12,266,100.33	$12,384,000.00	$12,175,000.00	$13,195,000.00	8%
Expenditure Totals	$9,775,039.04	$10,877,525.17	$12,099,630.00	$13,244,354.00	$13,581,858.00	8%
Fund Total: SEWER FUND	$2,821,787.97	$1,388,575.16	$284,370.00	($1,069,354.00)	($386,858.00)	-64%

	Allocated legacy costs:	
Pension		22,727.00
Healthcare		34,446.00
Total legacy costs		57,173.00

Personnel Summary	2009/10		2010/11		2011/12		2012/13	
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Water Division	N/A	N/A	18.16	2	19.06	.9	19.06	.4
Total Department	**N/A**	**N/A**	**18.16**	**2**	**19.06**	**.9**	**19.06**	**.4**

Personnel Summary	2009/10		2010/11		2011/12		2012/13	
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Sewer Division	N/A	N/A	16	0	16	0	16	0
Total Department	**N/A**	**N/A**	**16**	**0**	**16**	**0**	**16**	**0**

SUMMARY OF BUDGET CHANGES

- ***Significant Notes – 2011/12 Budget Compared to 2010/11 Budget***
  Detroit Water reflects an 8.4% increase. 2011/12 rate had a 10.2% increase. The overall sewage rate increase is estimated at 8%.

- ***City of Detroit Water Rate:***

2006/07	$14.92
2007/08	$15.39
2008/09	$15.70
2009/10	$16.26
2010/11	$14.75
2011/12	$16.26
2012/13	$17.62 estimate

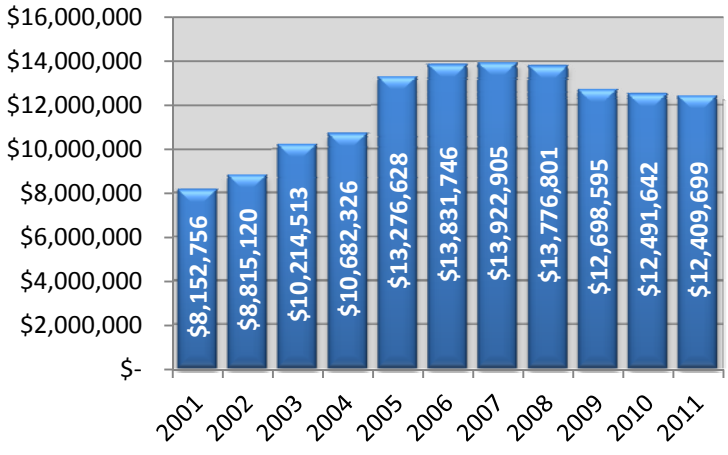
- ***Southeast Oakland County Sewerage Rate:***

2006/07	$10.49
2007/08	$10.76
2008/09	$11.62
2009/10	$11.87
2010/11	$12.82
2011/12	$14.47
2012/13	$15.50 estimate

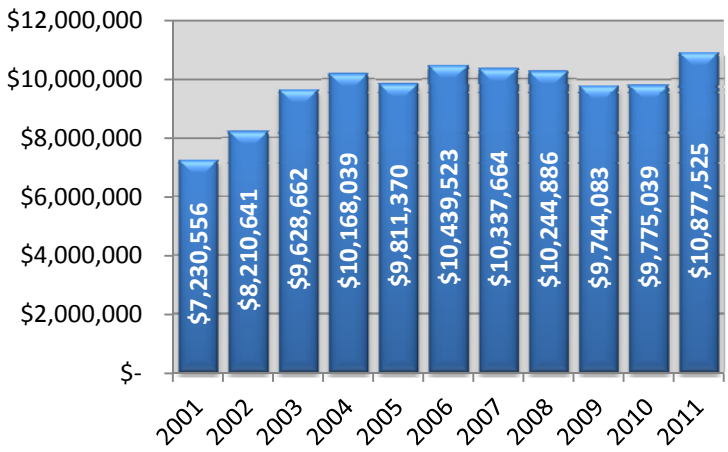
- ***Evergreen-Farmington Sewerage Rate:***

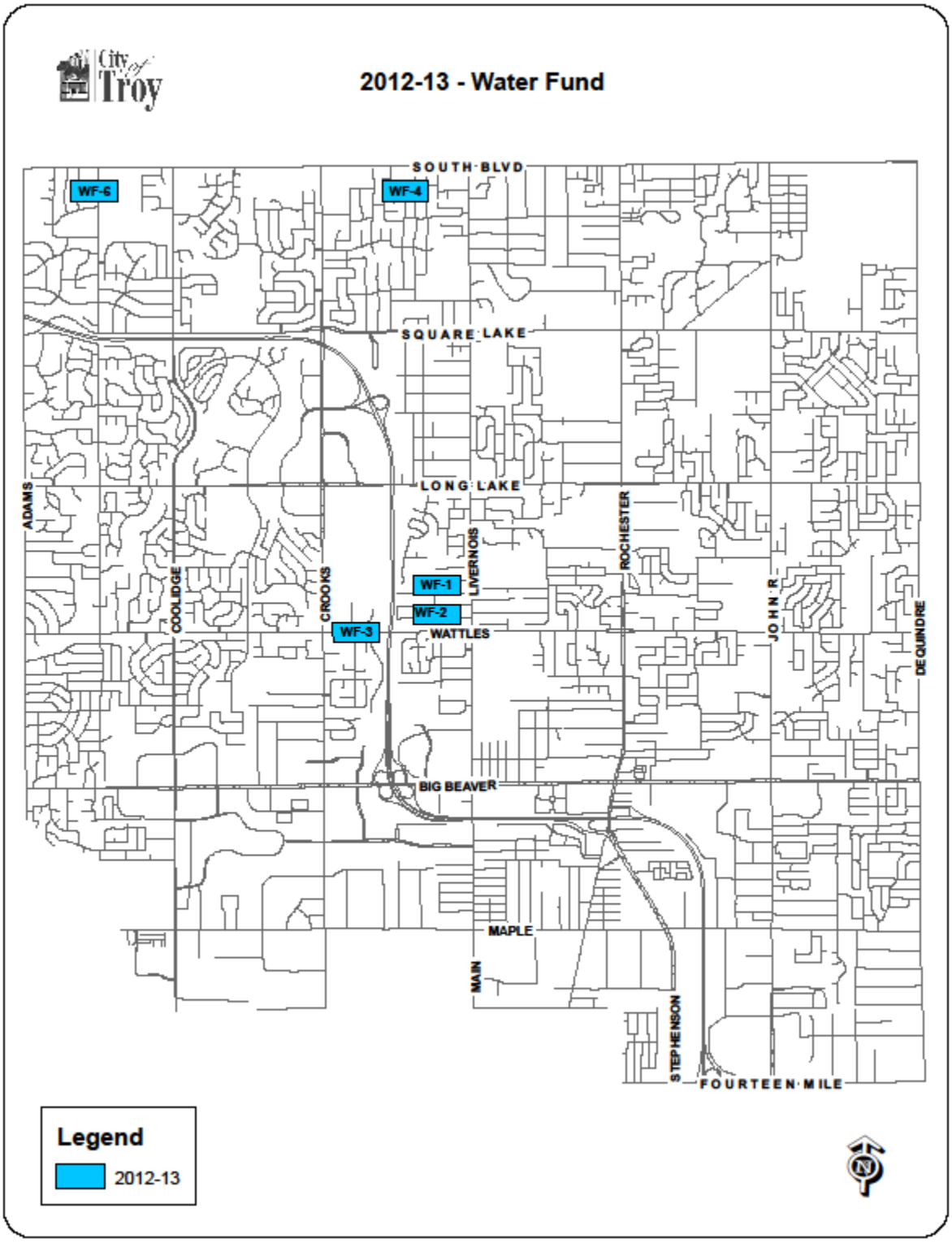
2006/07	$14.03
2007/08	$14.61
2008/09	$14.79
2009/10	$15.54
2010/11	$16.83
2011/12	$17.27
2012/13	$19.00 estimate

Operating Budget History – Water



Operating Budget History – Sewer




2012-13 - Water Fund
SOUTH BLVD
WF-6
WF-4
SQUARE LAKE
LONG LAKE
ADAMS
COOLIDGE
CROOKS
LIVERNOIS
ROCHESTER
JOHN R
DEQUINDRE
WF-1
WF-2
WF-3
WATTLES
BIG BEAVER
MAPLE
MAIN
STEPHENSON
FOURTEEN MILE
Legend
2012-13

WATER FUND 2012/13 BUDGET (591.537.555.7972)

Map Number	Project Name	Total Project Cost	Total City Cost	Other Sources	11/12 Amended Budget	11/12 Expenditure to 6/30/12	11/12 Balance at 6/30/12	11/12 Re-Approp. 12/13	New Approp. 12/13	Proposed 12/13 Budget	Comments
	NE 1/4 of Section 9	2,900,000	2,900,000	0	0	500,000	(500,000)	0	0	0	Houghten, Blanche, Habrand, McKinley, Wright, Florence, Deinmore
	Rochester, Torpey to Barclay	1,100,000	1,100,000	0	100,000	0	100,000	0	0	0	Part of Rochester/Wattles Reconstruction
	Square Lake, Rochester to Livernois	650,000	650,000	0	0	140,000	(140,000)	0	0	0	
	SCADA Upgrades	400,000	400,000	0	0	150,000	(150,000)	0	0	0	System Monitoring
	Livernois, Elmwood to Maple	500,000	500,000	0	25,000	0	25,000	0	0	0	Part of Clawson LJT Livernois/Main St. Project
	PRV # 9	400,000	400,000	0	100,000	450,000	(350,000)	0	0	0	Rochester at South Blvd., West Side
	SW 1/4 Sec. 35	1,800,000	1,800,000	0	100,000	140,000	(40,000)	0	0	0	Panhandle Area
	SW 1/4 Sec. 35	1,500,000	1,500,000	0	1,500,000	1,300,000	200,000	0	0	0	Road Repair Due to Water Main Construction
	Wattles, East & West of Rochester	500,000	500,000	0	100,000	0	100,000	0	0	0	Part of Rochester/Wattles Reconstruction
	John Arbor Subdivision	350,000	350,000	0	50,000	45,000	5,000	0	0	0	Road Repair Due to Water Main Construction
	Tallman & Eckford	1,000,000	1,000,000	0	500,000	300,000	200,000	0	0	0	Tallman & Eckford
WF-1	SE 1/4 of Section 16	2,100,000	2,100,000	0	1,500,000	400,000	1,100,000	810,000	890,000	1,700,000	Hart, Webb, Paragon, Carter, Lange, Pierce, Virgilia
WF-2	SE 1/4 of Section 16	325,000	325,000	0	0	0	0	0	325,000	325,000	Road Repair Due to Water Main Construction
WF-3	Wattles, Crooks to Livernois	1,000,000	1,000,000	0	1,000,000	800,000	200,000	0	200,000	200,000	
WF-4	Section 4 North 1/2	2,300,000	2,300,000	0	0	0	0	0	2,300,000	2,300,000	Houghten, Vernmoor, Fredmoor, Hurst, Lovell, Scone

WATER FUND 2012/13 BUDGET (591.537.555.7972)

Map Number	Project Name	Total Project Cost	Total City Cost	Other Sources	11/12 Amended Budget	11/12 Expenditure to 6/30/12	11/12 Balance at 6/30/12	11/12 Re-Approp. 12/13	New Approp. 12/13	Proposed 12/13 Budget	Comments
WF-6	Clock Gate & Meath Hunt Circle	450,000	450,000	0	0	0	0	0	450,000	450,000	Clock Gate & Meath Hunt
WF-49	Various Projects & Locations	100,000	100,000	0	100,000	50,000	50,000	0	100,000	100,000	Various Projects
	Water System Engineering Services	10,000	10,000	0	10,000	0	10,000	0	0	0	
WF-50	General Equipment	50,000	50,000	0	25,000	25,000	0	0	50,000	50,000	DPW
TOTALS:		17,435,000	17,435,000	0	5,110,000	4,300,000	810,000	810,000	4,315,000	5,125,000	

The City of Troy receives its water from the City of Detroit through large diameter transmission mains, ranging in size from 54-inch to 84-inch, that flow into the city through six (6) Detroit Water and Sewerage Department (DWSD) metered locations located along the perimeter of the city. There are two (2) of these meter vaults located along Adams, two (2) along South Boulevard and two (2) along Dequindre. The water flows from these entrance points through approximately 536 miles of city water mains consisting of 6-inch to 36-inch mains. Pressures are increased or reduced, as needed, within the five (5) pressure districts within the city to maintain proper fire flows and pressures in response to water demands.

The city water system is managed by the use of a Supervisory Control and Data Acquisition (SCADA) system. SCADA allows the collection of real-time operations data and the ability to monitor locations to optimize the overall water system. The SCADA system is comprised of twenty-two remote data collection sites, the central computer location at the DPW yard and six DWSD meter vaults.

Proposed projects in the Water Fund are selected primarily based on the following factors:

- Age of the water main
- History of water main breaks
- Size of the water main
- Flow requirements based on the Water System Master Plan
- Redundancy or the looping of the water system
- Coordination with other capital improvement projects

The proposed water system projects are flexible, allowing for the addition of new improvements to address specific needs without deferring other projects along the way. Studies and analysis of the existing system is an on-going endeavor that, coupled with new technologies, provides for improved system capabilities and reliability.

WF-1. Southeast ¼ of Section 16 (Water Main Replacement)

This project will replace the existing 6” water mains on Lange, Pierce and Hart with new 8” and 12” water mains. The existing 8” water mains on Webb, Paragon, Carter and Virgilia will be replaced with new 8” to 12” water mains. Also included in the project will be the construction of storm sewer for drainage where required. The water main replacement is due to the mains substandard size, age and/or history of breaks.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-2. Southeast ¼ of Section 16 (Road Repair due to Water Main Construction)

After the water main replacement project has been completed the existing asphalt roads in the project area will receive a mill and overlay due to damage caused by the water main and storm sewer construction.

This project will be paid for entirely by City funds. Operation and maintenance costs are expected to decrease by $2,000 per year due to road rehabilitation.

WF-3. Wattles Road, Crooks to Livernois

This project will replace the existing 8" water main along Wattles road with a new 12" water main. This water main crosses under I-75 and will require this section to be bored or directionally drilled to avoid impacting I-75. The water main is scheduled to be replaced due to its age and history of breaks.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-4. Section 4 North ½ (Water Main Replacement)

This project will replace the existing 6" water mains on Houghten and Vernmoor with new 8" water mains. The existing 8" water mains on Fredmoor, Hurst, Lovell and Scone will be replaced with new 8" to 12" water mains. Also included in the project will be the construction of storm sewer for drainage where required. The water main replacement is due to the mains substandard size, age and/or history of breaks.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-6. Clock Gate & Meath Hunt (Section 6)(Water Main Replacement)

This project will replace the existing 6" water mains on Clock Gate and Meath Hunt with new 8" water mains. The water main replacement is due to the mains substandard size, age and/or history of breaks. After the water main replacement project has been completed, the existing asphalt roads will receive a mill and overlay due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-49. Various Projects and Locations

This item is used by the Water Department for small projects that are encountered throughout the year that do not fit within a traditional water fund project. Examples are maintenance items and expenditures for materials for the water system.

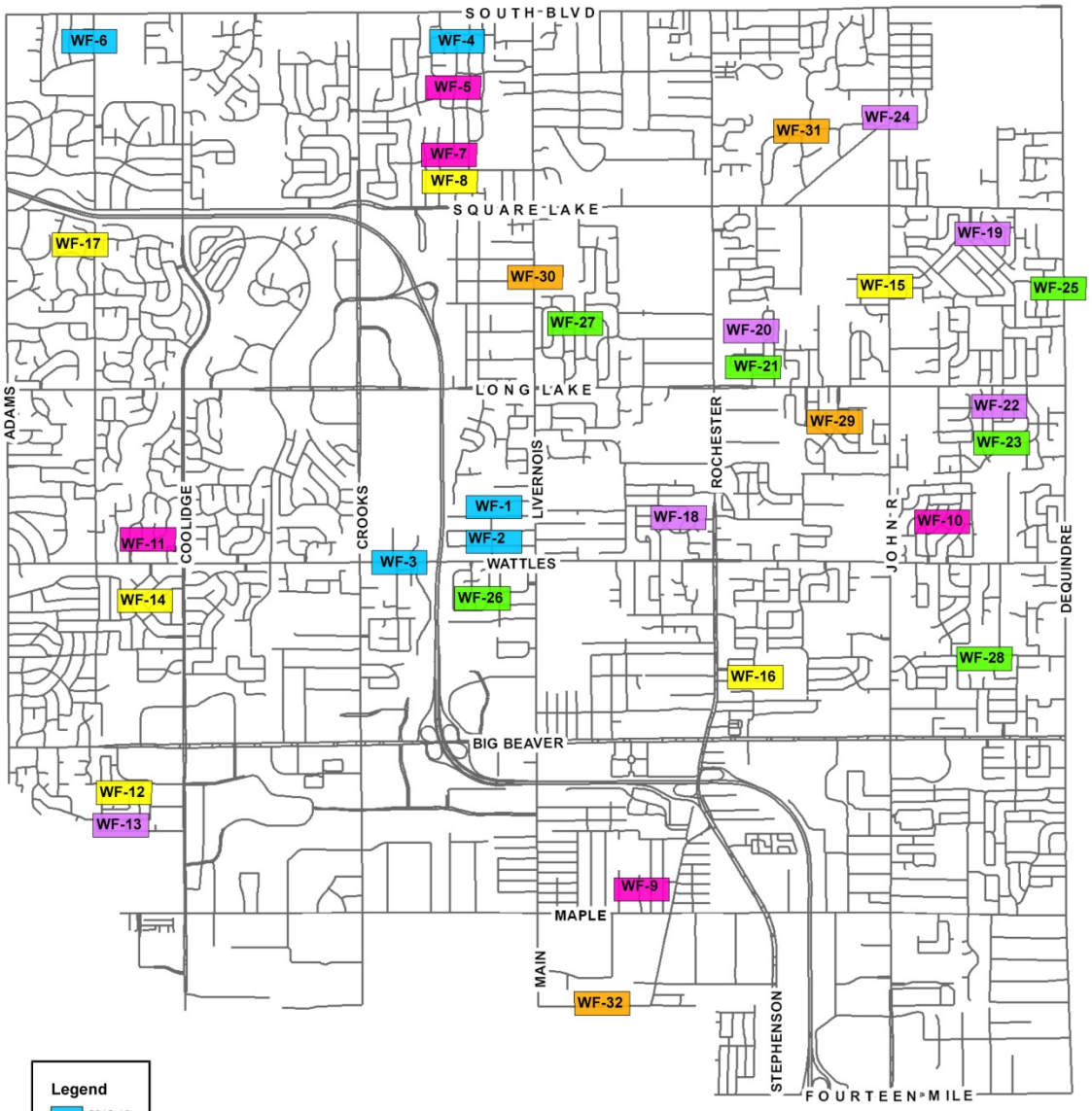
An annual amount is included in the budget which is on-going and is paid for entirely by City funds. Operation and maintenance costs will not be impacted.

WF-50. General Equipment

This is an annual budget amount in the Water Fund for miscellaneous equipment required by the Public Works or Engineering Department for work associated with the Water Fund that are otherwise not specifically noted in the capital improvement plan.

The budget amount is established annually based on anticipated needs, is on-going and is paid for entirely by City funds. Operation and maintenance costs are not expected to be impacted.

6 Year CIP- Water Fund



6-Year Capital Improvement Plan
Water Fund

6 Year CIP - Water Fund

Map Number	Project Name	Total Project Cost	Total City Cost	Proposed 2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	Comments
WF-1	SE 1/4 of Section 16	2,100,000	2,100,000	1,700,000	0	0	0	0	0	Hart, Webb, Paragon, Carter, Lange, Pierce, Virgilia
WF-2	SE 1/4 of Section 16	325,000	325,000	325,000	0	0	0	0	0	Road Repair Due to Water Main Const.
WF-3	Wattles, Crooks to Livernois	1,000,000	1,000,000	200,000	0	0	0	0	0	
WF-4	Sec. 4 North 1/2	2,300,000	2,300,000	2,300,000	0	0	0	0	0	Houghten, Vernmoor, Fredmoor, Hurst, Lovell, Scone
WF-5	Sec. 4 North 1/2	350,000	350,000	0	350,000	0	0	0	0	Road Repair Due to Water Main Const.
WF-6	Clock Gate & Meath Hunt	450,000	450,000	450,000	0	0	0	0	0	Clock Gate & Meath Hunt
WF-7	Sec. 4 South 1/2	2,400,000	2,400,000	0	2,400,000	0	0	0	0	Troyvalley, Aspinwall, Canmoor, Herbmoor, Elmoor, Blackwall, Niles
WF-8	Sec. 4 South 1/2	400,000	400,000	0	0	400,000	0	0	0	Road Repair Due to Water Main Const.
WF-9	Westwood	250,000	250,000	0	250,000	0	0	0	0	Westwood
WF-10	Sec. 13 South 1/2	950,000	950,000	0	950,000	0	0	0	0	Lancashire, Hillcrescent, Washington, Crescent, Ramblewood, Middlebury
WF-11	Sec. 18 SE 1/4	425,000	425,000	0	425,000	0	0	0	0	Brandywyne Ct. , Stonehenge Ct., Briargrove Ct., Cherrywood Ct.
WF-12	Sec. 30 NE 1/4	1,600,000	1,600,000	0	0	1,600,000	0	0	0	Waterloo, York, Mayfair, Dartmoor, Essex, Warwick
WF-13	Sec. 30 NE 1/4	600,000	600,000	0	0	0	600,000	0	0	Road Repair Due to Water Main Const.
WF-14	Sec. 19 NE 1/4 & SW 1/4	950,000	950,000	0	0	950,000	0	0	0	Myddleton, Wendover, Scott, Estates Ct., Sunset, Ledge
WF-15	John R, Long Lake to Square Lake	1,000,000	1,000,000	0	0	1,000,000	0	0	0	Part of John R Widening
WF-16	Winthrop	300,000	300,000	0	0	300,000	0	0	0	Winthrop
WF-17	Sec. 7 NW 1/4	400,000	400,000	0	0	400,000	0	0	0	Fox Chase, Haverford, Hunters Gate
WF-18	Sec. 15 South 1/2	900,000	900,000	0	0	0	900,000	0	0	Randall Ct., Holly, Cypress, Leetonia

6-Year Capital Improvement Plan
Water Fund

6 Year CIP - Water Fund

Map Number	Project Name	Total Project Cost	Total City Cost	Proposed 2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	Comments
WF-19	Sec. 12 NE 1/4	300,000	300,000	0	0	0	300,000	0	0	Willard, Pearl Ct., Marble Ct.
WF-20	Sec. 11 South 1/2	1,400,000	1,400,000	0	0	0	1,400,000	0	0	Carnaby, Babbit, Abington, Mayberry, Ashley, Churchill
WF-21	Sec. 11 South 1/2	500,000	500,000	0	0	0	0	500,000	0	Road Repair Due to Water Main Const.
WF-22	Sec. 13 North 1/2	1,200,000	1,200,000	0	0	0	1,200,000	0	0	Dewulf, Waltham, Timmer, Foxcroft, Danbury, Windsor, London
WF-23	Sec. 13 North 1/2	500,000	500,000	0	0	0	0	500,000	0	Road Repair Due to Water Main Const.
WF-24	John R, Square Lake to South Boulevard	300,000	300,000	0	0	0	300,000	0	0	Part of John R Widening
WF-25	Dequindre, Long Lake to South Boulevard	250,000	250,000	0	0	0	0	250,000	0	Part of Dequindre Widening
WF-26	Sec. 21 NE 1/4 & NW 1/4	800,000	800,000	0	0	0	0	800,000	0	Lawson Ct., Barbara Ct., Darlene Ct., Huntsford Ct., Dunham Ct., Finch
WF-27	Sec. 10 SW 1/4	1,100,000	1,100,000	0	0	0	0	1,100,000	0	Hampshire, Winchester, Folkstone Ct., Shrewsbury
WF-28	Sec. 24	1,600,000	1,600,000	0	0	0	0	1,600,000	0	Genick, Horseshoe, Bellows, Eagle, Academy, Pasadena, Rowland, etc.
WF-29	Sec. 14 NE 1/4	1,000,000	1,000,000	0	0	0	0	0	1,000,000	Calvert Ct., Alton Ct., Gambler
WF-30	Livernios, Long Lake to Square Lake	1,200,000	1,200,000	0	0	0	0	0	1,200,000	Part of Livernois Widening
WF-31	Sec. 2 East 1/2	1,100,000	1,100,000	0	0	0	0	0	1,100,000	Sandshores, Sandy Pt., Pebble Pt., Lyster Ct., Northpoint
WF-32	Elmwood, Livernois to Rochester	1,400,000	1,400,000	0	0	0	0	0	1,400,000	Clawson/Troy - 16" WM
WF-49	Various Projects & Locations	600,000	600,000	100,000	100,000	100,000	100,000	100,000	100,000	Various Projects
WF-50	General Equipment	300,000	300,000	50,000	50,000	50,000	50,000	50,000	50,000	DPW
TOTALS:		30,250,000	30,250,000	5,125,000	4,525,000	4,800,000	4,850,000	4,900,000	4,850,000	

The City of Troy receives its water from the City of Detroit through large diameter transmission mains, ranging in size from 54-inch to 84-inch, that flow into the city through six (6) Detroit Water and Sewerage Department (DWSD) metered locations located along the perimeter of the city. There are two (2) of these meter vaults located along Adams, two (2) along South Boulevard and two (2) along Dequindre. The water flows from these entrance points through approximately 536 miles of city water mains consisting of 6-inch to 36-inch mains. Pressures are increased or reduced, as needed, within the five (5) pressure districts within the city to maintain proper fire flows and pressures in response to water demands.

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- Age of the water main
- History of water main breaks
- Size of the water main
- Flow requirements based on the Water System Master Plan
- Redundancy or the looping of the water system
- Coordination with other capital improvement projects

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WF-1. Southeast ¼ of Section 16 (Water Main Replacement)

This project will replace the existing 6” water mains on Lange, Pierce and Hart with new 8” and 12” water mains. The existing 8” water mains on Webb, Paragon, Carter and Virgilia will be replaced with new 8” to 12” water mains. Also included in the project will be the construction of storm sewer for drainage where required. The water main replacement is due to the mains substandard size, age and/or history of breaks.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-2. Southeast ¼ of Section 16 (Road Repair due to Water Main Construction)

After the water main replacement project has been completed the existing asphalt roads in the project area will receive a mill and overlay due to damage caused by the water main and storm sewer construction.

This project will be paid for entirely by City funds. Operation and maintenance costs are expected to decrease by $2,000 per year due to road rehabilitation.

WF-3. Wattles Road, Crooks to Livernois

This project will replace the existing 8" water main along Wattles road with a new 12" water main. This water main crosses under I-75 and will require this section to be bored or directionally drilled to avoid impacting I-75. The water main is scheduled to be replaced due to its age and history of breaks.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-4. Section 4 North ½ (Water Main Replacement)

This project will replace the existing 6" water mains on Houghten and Vernmoor with new 8" water mains. The existing 8" water mains on Fredmoor, Hurst, Lovell and Scone will be replaced with new 8" to 12" water mains. Also included in the project will be the construction of storm sewer for drainage where required. The water main replacement is due to the mains substandard size, age and/or history of breaks.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-5. Section 4 North ½ (Road Repair due to Water Main Construction)

After the water main replacement project has been completed the existing asphalt roads in the project area will receive a mill and overlay due to damage caused by the water main and storm sewer construction.

This project will be paid for entirely by City funds. Operation and maintenance costs are expected to decrease by $2,000 per year due to road rehabilitation.

WF-6. Clock Gate & Meath Hunt (Section 6)(Water Main Replacement)

This project will replace the existing 6" water mains on Clock Gate and Meath Hunt with new 8" water mains. The water main replacement is due to the mains substandard size, age and/or history of breaks. After the water main replacement project has been completed, the existing asphalt roads will receive a mill and overlay due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-7. Section 4 South ½ (Water Main Replacement)

This project will replace the existing 6" water mains on Canmoor, Elmoor and Niles with new 8" water mains. The existing 8" water mains on Herbmoor, Troyvalley, Aspinwall and Blackwell will be replaced with new 8" to 12" water mains. Also included in the project will be the construction of storm sewer for drainage where required. The water main replacement is due to the mains substandard size, age and/or history of breaks.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-8. Section 4 South ½ (Road Repair due to Water Main Construction)

After the water main replacement project has been completed the existing asphalt roads in the project area will receive a mill and overlay due to damage caused by the water main and storm sewer construction.

This project will be paid for entirely by City funds. Operation and maintenance costs are expected to decrease by $2,000 per year due to road rehabilitation.

WF-9. Westwood (Section 27) (Water Main Replacement)

This project will replace the existing 6" water main on Westwood with a new 8" water main. The water main replacement is due to the mains substandard size, age and/or history of breaks. After the water main replacement project has been completed, the existing asphalt road will receive a mill and overlay due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-10. Section 13 South ½ (Water Main Replacement)

This project will replace the existing 6" water mains on Lancashire, Hillcrescent, Washington Crescent, Ramblewoodd and Middlebury with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-11. Section 18 Southeast ¼ (Water Main Replacement)

This project will replace the existing 6" water mains on Brandywyne Court, Stonehenge Court, Briargrove Court and Cherrywood Court with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-12. Section 30 Northeast ¼ (Water Main Replacement)

This project will replace the existing 6" water mains on Waterloo, York, Mayfair, Dartmoor, Essex and Warwick with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-13. Section 30 Northeast ¼ (Road Repair due to Water Main Construction)

After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs are expected to decrease by $2,000 per year due to road rehabilitation.

WF-14. Section 19 Northeast ¼ and Southwest ¼ (Water Main Replacement)

This project will replace the existing 6" water mains on Myddleton, Wendover, Scott, Estates Court, Sunset and Ledge with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-15. John R, Long Lake to Square Lake (Water Main Replacement)

The existing water main on John R, from Long Lake to Square Lake will be replaced with a new 12" water main to accommodate the reconstruction and widening of John R to a new 5-lane concrete pavement.
Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-16. Winthrop (Section 23) (Water Main Replacement)

This project will replace the existing 6" water main on Winthrop, from Charrington to Ardmore with a new 8" water main. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-17. Section 7 Northwest ¼ (Water Main Replacement)

This project will replace the existing 6" water mains on Fox Chase, Haverford, Hunters Gate and Lenox with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-18. Section 15 South ½ (Water Main Replacement)

This project will replace the existing 6" water mains on Randall Court, Holly, Cypress and the west end of Leetonia with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main replacement project has been completed the existing concrete and asphalt roads in the project area will receive concrete slab replacements and/or mill and overlay due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-19. Section 12 Northeast ¼ (Water Main Replacement)

This project will replace the existing 6" water mains on Willard, Pearl Court and Marble Court with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of

breaks. After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-20. Section 11 South ½ (Water Main Replacement)

This project will replace the existing 6" water mains on Carnaby, Babbit, Abington, Mayberry, Ashley and Churchill with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-21. Section 11 South ½ (Road Repair due to Water Main Construction)

After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs are expected to decrease by $2,000 per year due to road rehabilitation.

WF-22. Section 13 North ½ (Water Main Replacement)

This project will replace the existing 6" water mains on Foxcroft, Timmer, DeWulf, Waltham, Windsor and Danbury with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-23. Section 13 North ½ (Road Repair due to Water Main Construction)

After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs are expected to decrease by $2,000 per year due to road rehabilitation.

WF-24. John R, Long Lake to Square Lake (Water Main Replacement)

Portions of the existing water main on John R, from Long Lake to Square Lake will be replaced with a new 12" water main to accommodate the reconstruction and widening of John R to a new 5-lane concrete pavement.

Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-25. Dequindre, Long Lake to South Boulevard (Water Main Replacement)

Portions of the existing water main on Dequindre, from Long Lake to South Boulevard will be replaced with a new 12" water main to accommodate the reconstruction and widening of Dequindre to a new 5-lane concrete pavement.

Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-26. Section 21 Northeast ¼ and Northwest ¼ (Water Main Replacement)

This project will replace the existing 6" water mains on Lawson Court, Barbara Court, Darlene Court, Huntsford Court, Dunham Court and Finch with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-27. Section 10 Southwest ¼ (Water Main Replacement)

This project will replace the existing 6" water mains on Hampshire, Winchester, Folkstone Court and Shrewsbury with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-28. Section 24 (Water Main Replacement)

This project will replace the existing 6" water mains on Genick, Horshoe, Bellows, Eagle, Academy, Pasadena, Rowland, Jasper Court, Wolverine and Auburn with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main

replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-29. Section 14 Northeast ¼ (Water Main Replacement)

This project will replace the existing 6" water mains on Calvert Court, Alton Court and Gambler with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-30. Livernois, Long Lake to Square Lake (Water Main Replacement)

Portions of the existing water main on Livernois, from Long Lake to Square Lake will be replaced with a new 12" water main to accommodate the reconstruction and widening of Livernois to a new 5-lane concrete pavement.

Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-31. Section 2 East ½ (Water Main Replacement)

This project will replace the existing 6" water mains on Sandshores, Sandy Point, Pebble Point, Lyster Court and Northpoint with new 8" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. After the water main replacement project has been completed the existing concrete roads in the project area will receive concrete slab replacements due to damage caused by the water main construction.

This project will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile and $2,000 per year for the road rehabilitation. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-32. Elmwood, Livernois to Rochester (Water Main Replacement)

The existing 12" water main will be replaced with a new 16" water main as part of the reconstruction of Elmwood, from Livernois to Rochester so that the proposed water main is outside of the new pavement.

This project would not move forward until such a time as the Elwood road project is approved for federal funds for the reconstruction and widening. The City of Clawson is the lead agency and is working on securing federal funds for the road project.

This water main replacement, on the Troy side of Elmwood, will be paid for entirely by City funds. Operation and maintenance costs for water main are estimated at $900 per mile. Replacement of older water mains reduces the number of water main breaks that occur, reducing costs for repairs.

WF-49. Various Projects and Locations

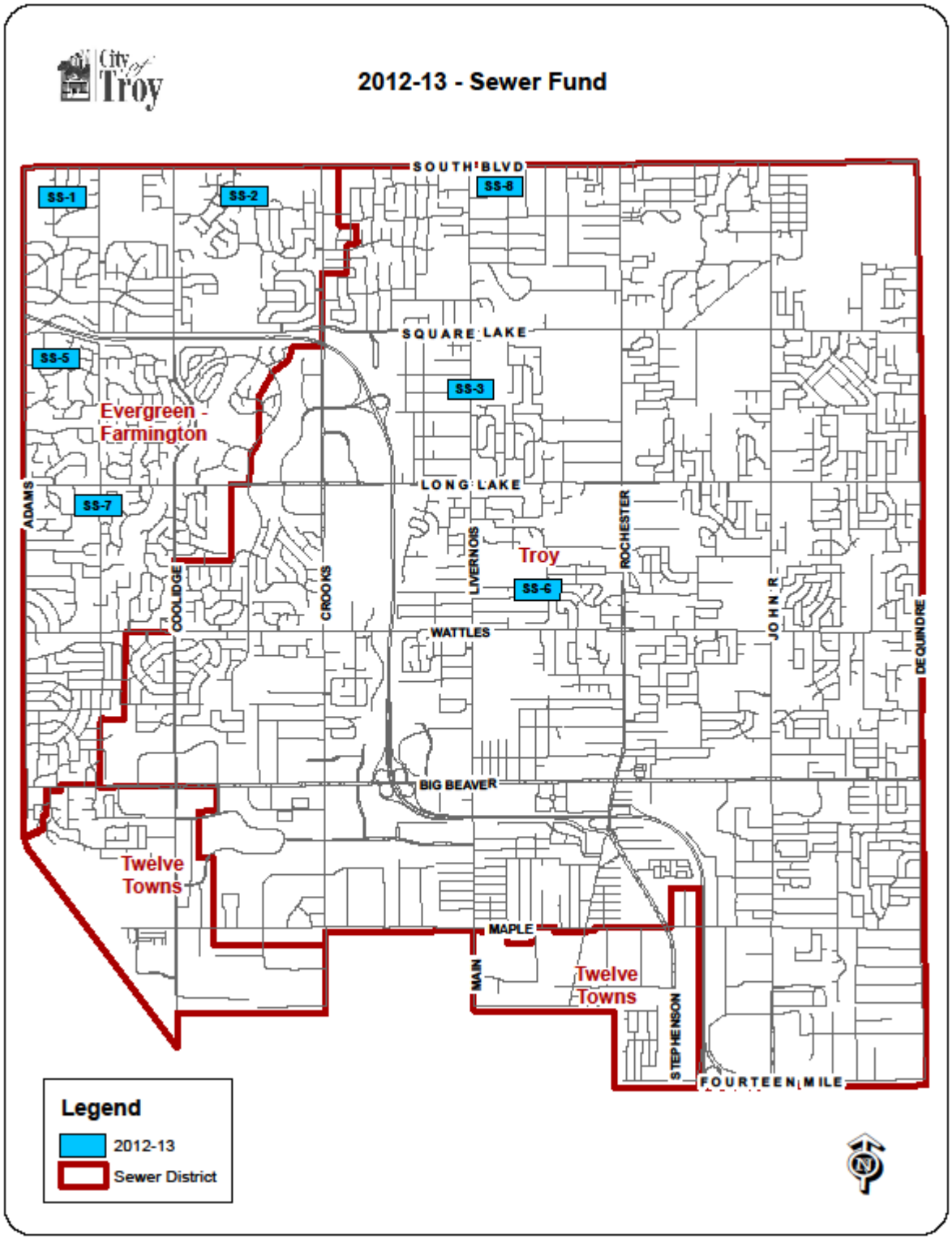
This item is used by the Water Department for small projects that are encountered throughout the year that do not fit within a traditional water fund project. Examples are maintenance items and expenditures for materials for the water system.

An annual amount is included in the budget which is on-going and is paid for entirely by City funds. Operation and maintenance costs will not be impacted.

WF-50. General Equipment

This is an annual budget amount in the Water Fund for miscellaneous equipment required by the Public Works or Engineering Department for work associated with the Water Fund that are otherwise not specifically noted in the capital improvement plan.

The budget amount is established annually based on anticipated needs, is on-going and is paid for entirely by City funds. Operation and maintenance costs are not expected to be impacted.


2012-13 - Sewer Fund
SOUTH BLVD
SS-1
SS-2
SS-8
SQUARE LAKE
SS-5
SS-3
Evergreen - Farmington
LONG LAKE
ADAMS
SS-7
COOLIDGE
CROOKS
LIVERNOIS
Troy
SS-6
ROCHESTER
JOHN R
DEQUINDRE
WATTLES
BIG BEAVER
Twelve Towns
MAPLE
MAIN
Twelve Towns
STEPHENSON
FOURTEEN MILE
Legend
2012-13
Sewer District

SEWER FUND 2012/13 BUDGET (590.527.535.7973)

Map Number	Project Name	Total Project Cost	Total City Cost	Other Sources	11/12 Amended Budget	11/12 Expenditure to 6/30/12	11/12 Balance at 6/30/12	11/12 Re-Approp. to 12/13	New Approp. 12/13	Proposed 12/13 Budget	Comments
SS-1	Evergreen - Farmington SSO Program	13,300,000	480,000	12,820,000	100,000	0	100,000	100,000	0	100,000	Eliminate sewage in Ev-Frm District/ OCWRC Projects
SS-2	Sanitary Sewer Overflow - Ev.Frm. District	3,500,000	3,500,000	0	500,000	0	500,000	0	500,000	500,000	Beach/Rouge Pump Station - MDEQ ACO Contingency
SS-3	SCADA Upgrade	350,000	350,000	0	0	300,000	(300,000)	0	50,000	50,000	
SS-4	Miscellaneous Sanitary Sewer Locations	2,500,000	2,500,000	0	500,000	75,000	425,000	425,000	75,000	500,000	City Wide Sanitary Sewer Extension Program
SS-5	Flow Metering in Evergreen-Farmington	200,000	200,000	0	250,000	50,000	200,000	200,000	0	200,000	Inflow and Infiltration Removal - Evergreen-Farmington
SS-6	Flow Metering in Troy District	200,000	200,000	0	250,000	50,000	200,000	88,000	112,000	200,000	Inflow & Infiltration Removal - Troy District
SS-7	Evergreen - Farmington I&I Removal	505,000	258,000	247,000	28,000	350,000	(322,000)	0	150,000	150,000	OCWRC Grant - $247k
SS-8	Fieldstone Sanitary Sewer	125,000	125,000	0	125,000	100,000	25,000	0	25,000	25,000	Sanitary sewer repair under DWSD 84" WM
SS-49	Various Projects & Locations	25,000	25,000	0	0	25,000	(25,000)	0	25,000	25,000	Various Projects
SS-50	General Equipment	50,000	50,000	0	25,000	25,000	0	0	50,000	50,000	DPW
	Office Equipment Computers	10,000	10,000	0	10,000	0	10,000	0	0	0	
TOTALS:		20,765,000	7,698,000	13,067,000	1,788,000	975,000	813,000	813,000	987,000	1,800,000	

The City of Troy is divided into 3 sanitary sewer districts: the Twelve Towns Relief Drains; Evergreen-Farmington Sewage Disposal District; and the Troy Sewage Disposal District. Wastewater from all 3 districts is carried through large diameter interceptor pipes to the Detroit Wastewater Treatment Plant for treatment before discharge to the Detroit River.

Following is a description of the specific functions of each district:

- ***Twelve Towns Relief District***

This district includes the area in the southwest portion of the city that is within the Twelve Towns Drains plus, some area south of Maple Road, west of Crooks Road and west of I-75. The Twelve Towns system is a combined sewer system carrying both storm water and sanitary waste water flow. Sanitary waste water flow drains into the Twelve Towns system and storm water flow drains to the Henry-Graham Drain system. The sanitary flows discharge to the Dequindre Interceptor in Dequindre Road.

- ***Evergreen-Farmington Sewage Disposal District***

This district is in the northwest portion of the city in the Rouge River Drainage Basin. This interceptor was constructed by the Oakland County Department of Public Works in 1959 and serves the City of Troy and surrounding communities. The County contracted with each community for their share of the interceptor based on population.

- ***Troy Sewage Disposal District***

The interceptor sewers in this district were constructed for the City of Troy by the Oakland County Department of Public Works. The sanitary flow from this district discharges to the Dequindre Interceptor at 14 Mile and Dequindre. The city contracted for capacity in the Southeastern Oakland County Sewage Disposal System. Troy's capacity was computed on the basis of population in the Twelve Towns Drain District and the Troy Sewage Disposal District.

Sewer Fund projects typically are initiated to address one of 3 issues:

1. To provide for the City of Troy's share towards major sewer projects that may be mandated by state or federal laws or permit requirements.
2. Sewer system studies that identify projects to address state and federal requirements.
3. Elimination of septic systems in Troy.

SS-1. Evergreen-Farmington Sanitary Sewer Overflow Program
SS-2. Sanitary Sewer Overflow – Evergreen-Farmington District

These items are intimately connected and linked to the same mandates, but are budgeted separately to allow for annual changes as required in each program.

Sanitary sewers are designed to carry sewage (and only sewage) to the wastewater treatment plant. In practice, however, storm water enters the collection system during rain events causing the system to

exceed the design capacity. To prevent basement flooding, this excess water is discharged to the nearby waterways. These sanitary sewer overflows violate the Clean Water Act and must be prevented.

The Evergreen Farmington sanitary sewer overflow control project was initiated to keep sewage out of our rivers and to avoid litigation.

The Oakland County Water Resources Commissioner's Office, formerly the Oakland County Drain Commission, and the communities within the Evergreen-Farmington Sewage Disposal System are required to comply with the federal and state sanitary sewer overflow policies. Unfortunately, compliance is very costly and care must be taken to assure that the funding committed to sanitary sewer overflow control is sufficient to fulfill the requirements of the law while minimizing the costs to our rate payers.

The City of Troy entered into an Administrative Consent Order for the Evergreen-Farmington Sewage Disposal System, as negotiated by the Oakland County Water Resources Commissioner's Office, with the Michigan Department of Environmental Quality. This agreement resolved some significant technical and legal issues relative to sewer system overflows in the district. As part of the Administrative Consent Order, all Evergreen-Farmington communities with sanitary sewer overflows and/or outlet capacity problems had to submit a short-term corrective action plan for resolution of these problems by 2009.

For Troy, since we are below our town outlet capacity, this means our corrective action plan must address one sanitary sewer overflow that we have in the district. The resulting program has been underway with the purpose of reducing sewer inflow and infiltration. These corrective actions must be implemented and their effectiveness determined by flow monitoring and engineering analysis. The ultimate goal is to continue implementing improvements to the sanitary sewer system in the Evergreen-Farmington Sewage Disposal System to eliminate the sanitary sewer overflows.

The program requirements include potential projects totaling $13,300,000. The annual budget amount is for Troy's share of project's that are carried out by the city to meet the requirements of the Administrative Consent Order and/or project's completed within the district that are spread to all member communities. Penalties for non-compliance range from $500 to $2,500 per day depending on the violation. This project will be paid for entirely by City funds. Operation and maintenance costs will not be impacted.

SS-3. Supervisory Control and Data Acquisition Upgrades (SCADA) (City-wide)

Due to the age and obsolescence of the existing remote site hardware, the existing Supervisory Control and Data Acquisition (SCADA) system was replaced with a wireless system. By upgrading the SCADA system, the City will be able to remotely collect real-time operations data on our sewer system and expand as needed. The new system allows control of the upgraded locations remotely using handheld or portable computer based devices.

There are 7 pump stations; 3 monitoring manholes; and the central computer location at the Department of Public Works facility in the Troy system that were affected by the upgrades. This project replaced the obsolete hardware to meet the requirements of Homeland Security for securing sewer system data as set forth by the National Infrastructure Protection Plan of 2006.
Operation and maintenance costs are expected to decrease by $66,000 per year due to the upgrade.

SS-4. Miscellaneous Sanitary Sewer Locations

This project will provide for new sanitary sewer throughout the city. Locations that are currently serviced by septic systems have been identified. A continuation of this program will require that right-of-way and/or easements be acquired in order to construct additional sanitary sewer. Specific locations are not delineated on the map due to the small size of most locations.

This project will be paid for entirely by City funds. Operation and maintenance costs will not be impacted due to design and property acquisition. Future construction of sanitary sewer would increase operation and maintenance costs by $4,000 per year.

SS-5. Flow Metering in the Evergreen-Farmington District

In accordance with the Administrative Consent Order, the City performs flow metering throughout the Evergreen-Farmington Sewage Disposal System on an annual basis. The data acquired is analyzed and recommended projects are developed. Typically, these projects involve manhole rehabilitation and sanitary sewer lining projects. The intent of these projects is to eliminate storm water infiltration into the sanitary sewer system.

Funds are budgeted annually for monitoring, reporting and construction. This project will be paid for entirely by City funds. Operation and maintenance costs will not be impacted.

SS-6. Flow Metering in the Troy District

The City recently completed flow metering throughout the Troy District on, similar to what was done in the Evergreen-Farmington Sewage Disposal System. The data acquired was analyzed and additional testing and analysis is underway in areas found to have significant inflow and infiltration. Additional projects will follow this analysis. Typically these projects involve manhole rehabilitation and sanitary sewer lining projects. The intent of these projects is to eliminate storm water infiltration into the sanitary sewer system and stay within our contract capacity.

Funds are budgeted annually for monitoring, reporting and construction. This project will be paid for entirely by City funds. Operation and maintenance costs will not be impacted.

SS-7. Evergreen – Farmington Inflow & Infiltration Removal – OCWRC Grant

The Oakland County Water Resources Commissioner (OCWRC) secured a $3.8 million dollar grant through the United States Environmental Protection Agency for sanitary sewer projects in two Oakland County sewer districts. Troy was awarded $247,000 for sanitary sewer work within its part of the Evergreen-Farmington district.

The primary purpose of this grant will be to continue our efforts to identify and reduce excess flows into the EFSDS. Identifying excess flows will be accomplished through field investigations such as manhole inspections, smoke testing and sanitary sewer televising. Reducing excess flows will be accomplished through manhole and sewer rehabilitation projects including manhole structure repairs and lining sewers. Before and after flow studies will be used to determine the effectiveness of the repairs made to the system.

This project will be paid for with grant funds through OCWRC with matching City funds. Operation and maintenance costs will not be impacted by the work other than excess flows into our system will be reduced.

SS-8. Fieldstone Sanitary Sewer Repair

The existing sanitary sewer on Fieldstone has been identified as a sewer main that has the potential to become clogged with debris. The DPW has been cleaning the line and has televised the inside of the pipe to investigate the cause of this intermittent blockage.

The sewer crosses under an 84" Detroit water main over 20 feet deep. This project will remove and replace the existing sanitary sewer with a new main within the influence of the 84" water main.

This project will be paid for entirely by City funds. Operation and maintenance costs will be reduced as this line is currently cleaned weekly.

SS-49. Various Projects and Locations

This item is used for small projects that are encountered throughout the year that do not fit within a traditional sewer fund project. Examples are maintenance items and expenditures for materials for the sewer system.

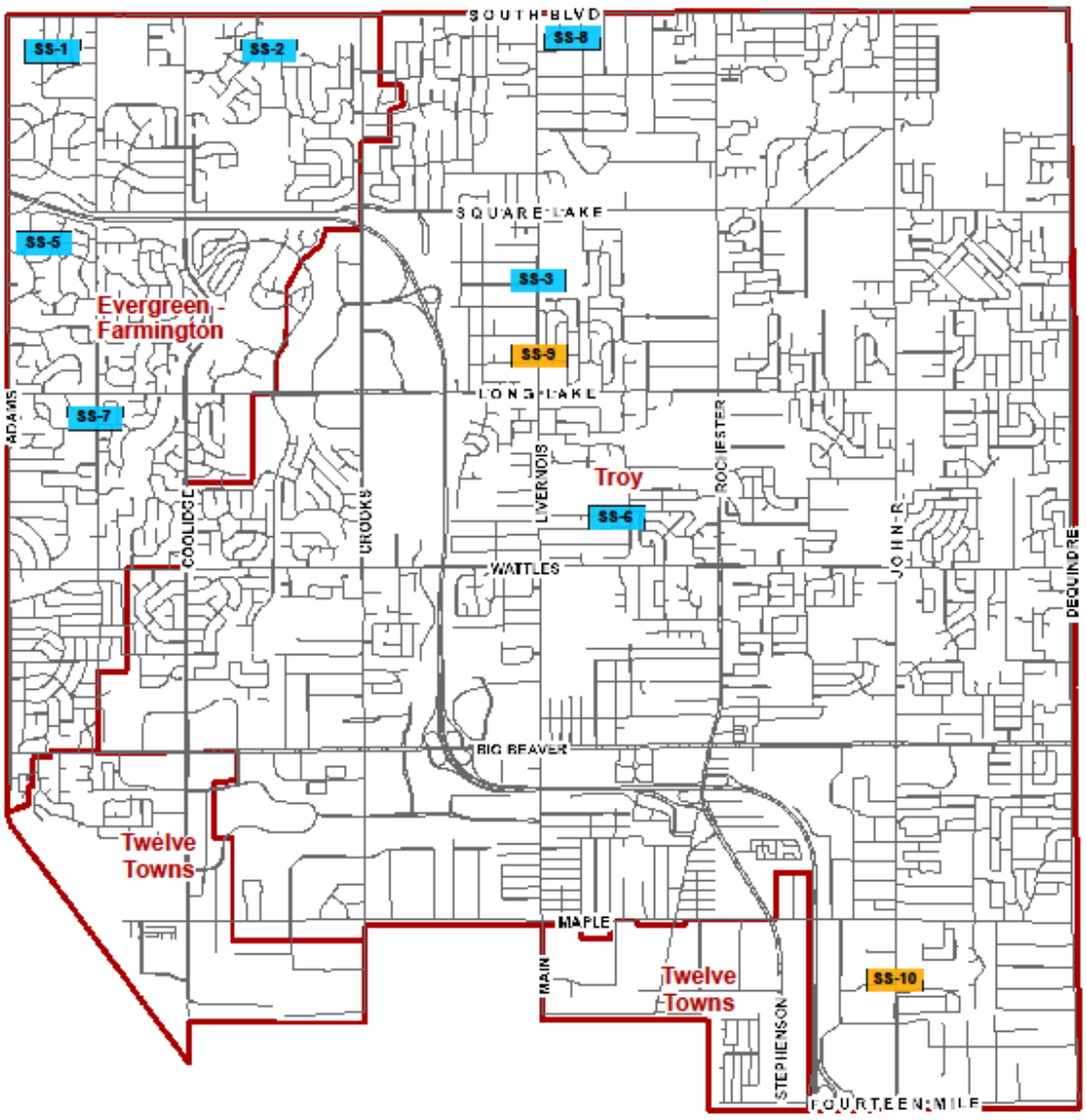
An annual amount is included in the budget which is on-going and is paid for entirely by City funds. Operation and maintenance costs will not be impacted.

SS-50. General Equipment

This is an annual budget amount in the Sewer Fund for miscellaneous equipment required by the Public Works or Engineering Department for work associated with the Sewer Fund that are otherwise not specifically noted in the capital improvement plan.

The budget amount is established annually based on anticipated needs and is on-going.
This project will be paid for entirely by City funds. Operation and maintenance costs are not expected to be impacted.

6 Year CIP- Sewer Fund



6-Year Capital Improvement Plan
Sewer Fund

6 Year CIP - Sewer Fund

Map Number	Project Name	Total Project Cost	Total City Cost	Proposed 2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	Comments
SS-1	Evergreen-Farmington SSO Program	13,300,000	600,000	100,000	100,000	100,000	100,000	100,000	100,000	Eliminate Sewage in Rouge/OCDC Projects
SS-2	Sanitary Sewer Overflow - Ev. Frm. District	3,000,000	3,000,000	500,000	500,000	500,000	500,000	500,000	500,000	MDEQ ACO Contingency
SS-3	SCADA Upgrade	350,000	350,000	50,000	0	0	0	0	0	System Monitoring
SS-4	Miscellaneous Sanitary Sewer Locations	2,500,000	2,500,000	500,000	500,000	500,000	500,000	500,000	0	City wide sanitary sewer extension program
SS-5	Flow Metering in Evergreen-Farmington	1,200,000	1,200,000	200,000	200,000	200,000	200,000	200,000	200,000	Inflow & Infiltration
SS-6	Flow Metering in Troy District	1,200,000	1,200,000	200,000	200,000	200,000	200,000	200,000	200,000	Inflow & Infiltration
SS-7	Evergreen-Farmington I&I Removal	505,000	505,000	150,000	0	0	0	0	0	OCWRC Grant - $247k
SS-8	Fieldstone Sanitary Sewer	125,000	125,000	25,000	0	0	0	0	0	Sanitary sewer repair under DWSD 84" WM
SS-9	E. Side Livernois, North of Long Lake - San.	200,000	200,000	0	0	0	0	0	200,000	Part of Livenrois Widening
SS-10	Big Beaver Relief Sewer	6,000,000	6,000,000	0	0	0	0	0	300,000	Big Beaver-14 Mile to Dequindre Interceptor
SS-49	Various Projects & Locations	150,000	150,000	25,000	25,000	25,000	25,000	25,000	25,000	Various Projects
SS-50	General Equipment	300,000	300,000	50,000	50,000	50,000	50,000	50,000	50,000	DPW
TOTALS:		28,830,000	16,130,000	1,800,000	1,575,000	1,575,000	1,575,000	1,575,000	1,575,000	

The City of Troy is divided into 3 sanitary sewer districts: The Twelve Towns Relief Drains District; the Evergreen-Farmington Sewage Disposal District; and the Troy Sewage Disposal District. The wastewater from all 3 districts is carried through large diameter interceptor pipes to the Detroit Wastewater Treatment Plant for treatment before discharge to the Detroit River.

- ***Twelve Towns Relief District***

This district includes the area in the southwest portion of the city that is within the Twelve Towns Drains plus some area south of Maple Road, west of Crooks Road and west of I-75. The Twelve Towns System is a combined sewer system carrying both storm water and sanitary waste water flow. Sanitary waste water flow drains into the Twelve Towns system and storm water flow drains to the Henry-Graham Drain system. The sanitary flows discharge to the Dequindre Interceptor in Dequindre Road.

- ***Evergreen-Farmington Sewage Disposal District***

The Evergreen-Farmington Sewage Disposal District is in the northwest portion of the city in the Rouge River Drainage Basin. This interceptor was constructed by the Oakland County Department of Public Works in 1959 and serves the City of Troy and surrounding communities. The County contracted with each community for their share of the interceptor based on population.

- ***Troy Sewage Disposal District***

The interceptor sewers in this district were constructed for the City of Troy by the Oakland County Department of Public Works. The sanitary flow from this district discharges to the Dequindre Interceptor at 14 Mile and Dequindre. The city contracted for capacity in the Southeastern Oakland County Sewage Disposal System. Troy's capacity was computed on the basis of population in the Twelve Towns Drain District and the Troy Sewage Disposal District.

Sewer Fund projects typically are initiated to address one of three issues:

1. To provide for the City of Troy's share towards major sewer projects that may be mandated by State or Federal laws or permit requirements.
2. Sewer system studies to identify projects that would address Federal and State requirements.
3. Elimination of septic systems within the City of Troy.

SS-1. Evergreen-Farmington Sanitary Sewer Overflow Program
SS-2. Sanitary Sewer Overflow – Evergreen-Farmington District

These items are intimately connected and linked to the same mandates, but are budgeted separately to allow for annual changes as required in each program.

Sanitary sewers are designed to carry sewage (and only sewage) to the wastewater treatment plant. In practice, however, storm water enters the collection system during rain events causing the system to exceed the design capacity. To prevent basement flooding, this excess water is discharged to the nearby waterways. These sanitary sewer overflows violate the Clean Water Act and must be prevented.

The Evergreen Farmington sanitary sewer overflow control project was initiated to keep sewage out of our rivers and to avoid litigation.

The Oakland County Water Resources Commissioner's Office, formerly the Oakland County Drain Commission, and the communities within the Evergreen-Farmington Sewage Disposal System are required to comply with the federal and state sanitary sewer overflow policies. Unfortunately, compliance is very costly and care must be taken to assure that the funding committed to sanitary sewer overflow control is sufficient to fulfill the requirements of the law while minimizing the costs to our rate payers.

The City of Troy entered into an Administrative Consent Order for the Evergreen-Farmington Sewage Disposal System, as negotiated by the Oakland County Water Resources Commissioner's Office, with the Michigan Department of Environmental Quality. This agreement resolved some significant technical and legal issues relative to sewer system overflows in the district. As part of the Administrative Consent Order, all Evergreen-Farmington communities with sanitary sewer overflows and/or outlet capacity problems had to submit a short-term corrective action plan for resolution of these problems by 2009.

For Troy, since we are below our town outlet capacity, this means our corrective action plan must address one sanitary sewer overflow that we have in the district. The resulting program has been underway with the purpose of reducing sewer inflow and infiltration. These corrective actions must be implemented and their effectiveness determined by flow monitoring and engineering analysis. The ultimate goal is to continue implementing improvements to the sanitary sewer system in the Evergreen-Farmington Sewage Disposal System to eliminate the sanitary sewer overflows.

The program requirements include potential projects totaling $13,300,000. The annual budget amount is for Troy's share of project's that are carried out by the city to meet the requirements of the Administrative Consent Order and/or project's completed within the district that are spread to all member communities. Penalties for non-compliance range from $500 to $2,500 per day depending on the violation. This project will be paid for entirely by City funds. Operation and maintenance costs will not be impacted.

SS-3. Supervisory Control and Data Acquisition Upgrades (SCADA) (City-wide)

Due to the age and obsolescence of the existing remote site hardware, the existing Supervisory Control and Data Acquisition (SCADA) system was replaced with a wireless system. By upgrading the SCADA system, the City will be able to remotely collect real-time operations data on our sewer system and expand as needed. The new system allows control of the upgraded locations remotely using handheld or portable computer based devices.

There are 7 pump stations; 3 monitoring manholes; and the central computer location at the Department of Public Works facility in the Troy system that were affected by the upgrades. This project replaced the obsolete hardware to meet the requirements of Homeland Security for securing sewer system data as set forth by the National Infrastructure Protection Plan of 2006.
Operation and maintenance costs are expected to decrease by $66,000 per year due to the upgrade.

SS-4. Miscellaneous Sanitary Sewer Locations

This project will provide for new sanitary sewer throughout the city. Locations that are currently serviced by septic systems have been identified. A continuation of this program will require that right-of-way and/or easements be acquired in order to construct additional sanitary sewer. Specific locations are not delineated on the map due to the small size of most locations.

This project will be paid for entirely by City funds. Operation and maintenance costs will not be impacted due to design and property acquisition. Future construction of sanitary sewer would increase operation and maintenance costs by $4,000 per year.

SS-5. Flow Metering in the Evergreen-Farmington District

In accordance with the Administrative Consent Order, the City performs flow metering throughout the Evergreen-Farmington Sewage Disposal System on an annual basis. The data acquired is analyzed and recommended projects are developed. Typically, these projects involve manhole rehabilitation and sanitary sewer lining projects. The intent of these projects is to eliminate storm water infiltration into the sanitary sewer system.

Funds are budgeted annually for monitoring, reporting and construction. This project will be paid for entirely by City funds. Operation and maintenance costs will not be impacted.

SS-6. Flow Metering in the Troy District

The City recently completed flow metering throughout the Troy District on, similar to what was done in the Evergreen-Farmington Sewage Disposal System. The data acquired was analyzed and additional testing and analysis is underway in areas found to have significant inflow and infiltration. Additional projects will follow this analysis. Typically these projects involve manhole rehabilitation and sanitary sewer lining projects. The intent of these projects is to eliminate storm water infiltration into the sanitary sewer system and stay within our contract capacity.

Funds are budgeted annually for monitoring, reporting and construction. This project will be paid for entirely by City funds. Operation and maintenance costs will not be impacted.

SS-7. Evergreen – Farmington Inflow & Infiltration Removal – OCWRC Grant

The Oakland County Water Resources Commissioner (OCWRC) secured a $3.8 million dollar grant through the United States Environmental Protection Agency for sanitary sewer projects in two Oakland County sewer districts. Troy was awarded $247,000 for sanitary sewer work within its part of the Evergreen-Farmington district.

The primary purpose of this grant will be to continue our efforts to identify and reduce excess flows into the EFSDS. Identifying excess flows will be accomplished through field investigations such as manhole inspections, smoke testing and sanitary sewer televising. Reducing excess flows will be accomplished through manhole and sewer rehabilitation projects including manhole structure repairs and lining sewers.

Before and after flow studies will be used to determine the effectiveness of the repairs made to the system.

This project will be paid for with grant funds through OCWRC with matching City funds. Operation and maintenance costs will not be impacted by the work other than excess flows into our system will be reduced.

SS-8. Fieldstone Sanitary Sewer Repair

The existing sanitary sewer on Fieldstone has been identified as a sewer main that has the potential to become clogged with debris. The DPW has been cleaning the line and has televised the inside of the pipe to investigate the cause of this intermittent blockage.

The sewer crosses under an 84" Detroit water main over 20 feet deep. This project will remove and replace the existing sanitary sewer with a new main within the influence of the 84" water main.

This project will be paid for entirely by City funds. Operation and maintenance costs will be reduced as this line is currently cleaned weekly.

SS-9. East Side of Livernois, North of Long Lake Road (Sanitary Sewer)

A new sanitary sewer would be constructed on the east side of Livernois as part of the future widening and reconstruction of Livernois, Long Lake Road to Square Lake Road. It is the City's policy to construct underground utilities when a road is reconstructed to avoid having to remove a new or newer pavement sometime after the road has been completed. The construction of this sewer would also provide an outlet for residents along Livernois who are currently on septic systems.

This project would not move forward until such a time as the Livernois road project is approved for federal funds for the reconstruction and widening. The sanitary sewer portion of the project will be paid for entirely by City funds. Operation and maintenance costs are expected to increase by $4,000 per year due to a new sanitary sewer being constructed.

SS-10. Big Beaver Relief Sewer

This is a future project to construct a large diameter relief sewer to provide for additional capacity to serve the area adjacent to Big Beaver Road, south of I-75. This would also involve a future large diameter relief sewer between Big Beaver Road and Fourteen Mile Road that ultimately outlets to the Dequindre interceptor.

Flow monitoring of the affected areas was recently completed which show a relief sewer is currently not needed, but population changes and redevelopment of the Big Beaver corridor are major items that impact the current and proposed flows within this project area in the future.

Funds are budgeted to begin the design effort with the assumption that redevelopment of the Big Beaver corridor in the future would necessitate the relief sewer.

This project will be paid for entirely by City funds. Operation and maintenance costs will not be impacted by the study and design. Future construction of sanitary sewer would increase operation and maintenance costs by $4,000 per year.

SS-49. Various Projects and Locations

This item is used for small projects that are encountered throughout the year that do not fit within a traditional sewer fund project. Examples are maintenance items and expenditures for materials for the sewer system.

An annual amount is included in the budget which is on-going and is paid for entirely by City funds. Operation and maintenance costs will not be impacted.

SS-50. General Equipment

This is an annual budget amount in the Sewer Fund for miscellaneous equipment required by the Public Works or Engineering Department for work associated with the Sewer Fund that are otherwise not specifically noted in the capital improvement plan.

The budget amount is established annually based on anticipated needs and is on-going.
This project will be paid for entirely by City funds. Operation and maintenance costs are not expected to be impacted.