



2011/12
Budget

AQUATICS DIVISION

- *Recreation Director*.....Stuart J. Alderman



City of
Troy

Annual Budget by Organization Report

Detail

	2009 Actual Amount	2010 Actual Amount	2011 Estimated Amount	2011 Amended Budget	2012 Final	% Change
Fund: 587 AQUATIC CENTER FUND						
Revenue						
Department: 000 Revenue						
CHG - CHARGES FOR SERVICES	\$457,265.10	\$425,155.10	\$465,000.00	\$457,000.00	\$467,000.00	2%
INTR - INTEREST & RENT	29,404.56	\$26,515.17	\$35,400.00	\$29,900.00	\$30,400.00	2%
OTHREV - OTHER REVENUE	0.00	\$0.05	\$0.00	\$0.00	\$0.00	
Department Total: Revenue	\$486,669.66	\$451,670.32	\$500,400.00	\$486,900.00	\$497,400.00	2%
Expenditures						
Department: 787 Aquatic Center						
PERS - PERSONAL SERVICES	\$289,660.38	\$263,226.35	\$269,600.00	\$271,595.99	\$257,734.00	-5%
SUP - SUPPLIES	\$33,260.62	\$38,427.28	\$30,800.00	\$31,300.00	\$33,800.00	8%
OTH - OTHER SERVICE CHARGES	\$278,937.88	\$266,190.96	\$275,710.00	\$297,100.00	\$287,510.00	-3%
Department Total: Aquatic Center	\$601,858.88	\$567,844.59	\$576,110.00	\$599,995.99	\$579,044.00	-3%
Department: 789 Aquatic Center Capital						
CAP - CAPITAL OUTLAY	\$0.00	\$0.00	\$37,750.00	\$61,000.00	\$32,000.00	-48%
Department Total: Aquatic Center Capital	\$0.00	\$0.00	\$37,750.00	\$61,000.00	\$32,000.00	-48%
Revenue Totals:	\$486,669.66	\$451,670.32	\$500,400.00	\$486,900.00	\$497,400.00	2%
Expenditure Totals	\$601,858.88	\$567,844.59	\$613,860.00	\$660,995.99	\$611,044.00	-8%
Fund Total: AQUATIC CENTER FUND	(\$115,189.22)	(\$116,174.27)	(\$113,460.00)	(\$174,095.99)	(\$113,644.00)	-



2011/12
Budget

AQUATICS DIVISION

SUMMARY OF BUDGET CHANGES

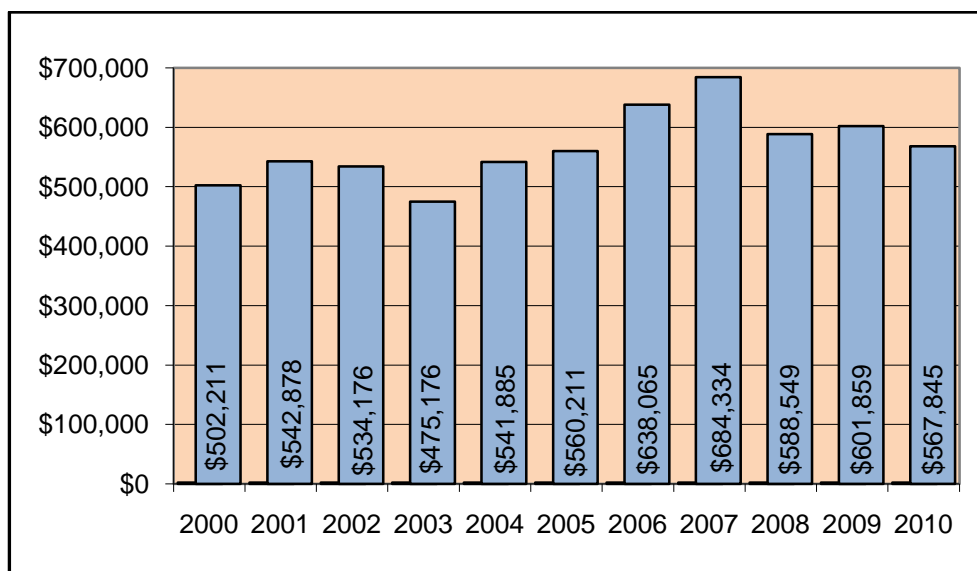
• **Significant Notes – 2011/12 Budget Compared to 2010/11 Budget**

Personal Services:

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

Personnel								
Summary	2008/09		2009/10		2010/11		2011/12	
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Aquatic Center	1/3	88	1/3	88	0	88	0	88
Total Department	1/3	88	1/3	88	0	88	0	88

• **Operating Budget History**





2011/12
Budget

GOLF DIVISION

- *Recreation Director*.....**Stuart J. Alderman**



City of
Troy

Annual Budget by Organization Report

Detail

	2009 Actual Amount	2010 Actual Amount	2011 Estimated Amount	2011 Amended Budget	2012 Final	% Change
Fund: 583 Sanctuary Lake Golf Course						
Revenue						
Department: 000 Revenue						
CHG - CHARGES FOR SERVICES	\$918,251.77	\$964,310.64	\$1,068,751.00	\$995,050.00	\$1,297,421.00	30%
INTR - INTEREST & RENT	\$5,441.00	\$4,639.38	\$5,000.00	\$6,500.00	\$0.00	-100%
OTHREV - OTHER REVENUE	\$216.16	\$5,101.11	\$0.00	\$0.00	\$0.00	
Department Total: Revenue	\$923,908.93	\$974,051.13	\$1,073,751.00	\$1,001,550.00	\$1,297,421.00	30%
Expenditures						
Department: 765 Sanctuary Lake Greens						
PERS - PERSONAL SERVICES	\$221,523.85	\$245,324.70	\$0.00	\$279,677.00	\$0.00	-100%
SUP - SUPPLIES	\$109,703.21	\$89,048.49	\$0.00	\$75,350.00	\$0.00	-100%
OTH - OTHER SERVICE CHARGES	\$468,410.75	\$414,202.57	\$298,198.00	\$380,420.00	\$298,905.00	-21%
Department Total: Sanctuary Lake Greens	\$799,637.81	\$748,575.76	\$298,198.00	\$735,447.00	\$298,905.00	-59%
Department: 766 Sanctuary Lake Pro Shop						
PERS - PERSONAL SERVICES	\$185,711.59	\$143,976.33	\$0.00	\$142,415.00	\$0.00	-100%
SUP - SUPPLIES	\$23,694.13	\$36,010.33	\$0.00	\$26,200.00	\$0.00	-100%
OTH - OTHER SERVICE CHARGES	\$95,508.24	\$194,240.87	\$808,571.00	\$95,490.00	\$925,510.00	869%
DS - DEBT SERVICE	\$530,133.21	\$515,475.00	\$902,250.00	\$902,350.00	\$885,746.00	-2%
Department Total: Sanctuary Lake Pro Shop	\$835,047.17	\$889,702.53	\$1,710,821.00	\$1,166,455.00	\$1,811,256.00	55%
Revenue Totals:	\$923,908.93	\$974,051.13	\$1,073,751.00	\$1,001,550.00	\$1,297,421.00	30%
Expenditure Totals	\$1,634,684.98	\$1,638,278.29	\$2,009,019.00	\$1,901,902.00	\$2,110,161.00	11%
Fund Total: Sanctuary Lake Golf Course	(\$710,776.05)	(\$664,227.16)	(\$935,268.00)	(\$900,352.00)	(\$812,740.00)	

Annual Budget by Organization Report

Detail

	2009 Actual Amount	2010 Actual Amount	2011 Estimated Amount	2011 Amended Budget	2012 Final	% Change
Fund: 584 SYLVAN GLEN GOLF COURSE						
Revenue						
Department: 000 Revenue						
CHG - CHARGES FOR SERVICES	\$975,070.28	\$949,292.66	\$1,057,660.00	\$1,020,070.00	\$1,061,123.00	4%
INTR - INTEREST & RENT	\$233,910.16	\$195,719.04	\$187,720.00	\$193,920.00	\$169,200.00	-13%
OTHREV - OTHER REVENUE	\$362.85	0.00	\$0.00	\$0.00	\$0.00	
OTHFIN - OTHER FINANCING SOURCES	\$0.00	\$0.00	\$0.00	\$383,110.00	\$651,657.00	70%
Department Total: Revenue	\$1,209,343.29	\$1,145,011.70	\$1,245,380.00	\$1,597,100.00	\$1,881,980.00	18%
Expenditures						
Department: 785 Sylvan Glen Greens						
PERS - PERSONAL SERVICES	\$311,072.93	\$313,604.69	\$0.00	\$297,810.00	\$0.00	-100%
SUP - SUPPLIES	\$156,113.02	\$88,750.42	\$0.00	\$108,220.00	\$0.00	-100%
OTH - OTHER SERVICE CHARGES	\$311,338.30	\$276,957.79	\$150,046.00	\$285,400.00	\$147,000.00	-48%
Department Total: Sylvan Glen Greens	\$778,524.25	\$679,312.90	\$150,046.00	\$691,430.00	\$147,000.00	-79%
Department: 786 Sylvan Glen Pro Shop						
PERS - PERSONAL SERVICES	\$205,472.88	\$200,855.15	\$1,582.00	\$140,746.00	\$0.00	-100%
SUP - SUPPLIES	\$25,729.92	\$21,922.39	\$909.00	\$24,600.00	\$0.00	-100%
OTH - OTHER SERVICE CHARGES	\$94,235.04	\$192,534.22	\$924,315.00	\$94,220.00	\$951,580.00	910%
Department Total: Sylvan Glen Pro Shop	\$325,437.84	\$415,311.76	\$926,806.00	\$259,566.00	\$951,580.00	267%
Department: 788 Sylvan Glen Capital						
CAP - CAPITAL OUTLAY	\$0.00	\$0.00	\$46,100.00	\$646,100.00	\$783,400.00	21%
Department Total: Sylvan Glen Capital	\$0.00	\$0.00	\$46,100.00	\$646,100.00	\$783,400.00	21%
Revenue Totals:						
	\$1,209,343.29	\$1,145,011.70	\$1,245,380.00	\$1,597,100.00	\$1,881,980.00	18%
Expenditure Totals						
	\$1,103,962.09	\$1,094,624.66	\$1,122,952.00	\$1,597,096.00	\$1,881,980.00	18%
Fund Total: SYLVAN GLEN GOLF COURSE	\$105,381.20	\$50,387.04	\$122,428.00	\$4.00	\$0.00	



2011/12
Budget

GOLF DIVISION

SUMMARY OF BUDGET CHANGES

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

Personal Services:

There is a reduction in 100% or \$860,648 due to the elimination of all staff and privatizing the Golf Courses.

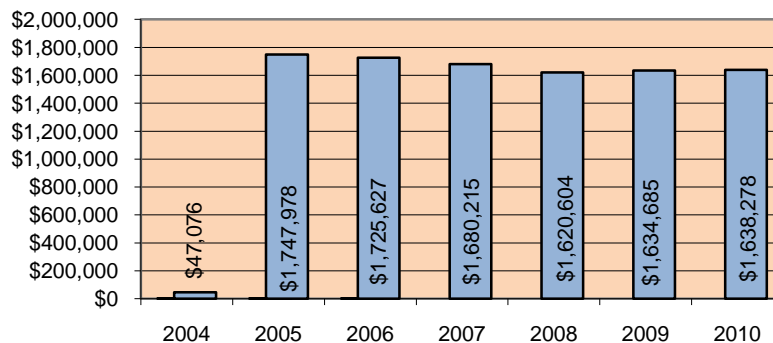
Other Service Charges:

There is an increase due to the agreement with Billy Casper Golf to operate and maintain both courses.

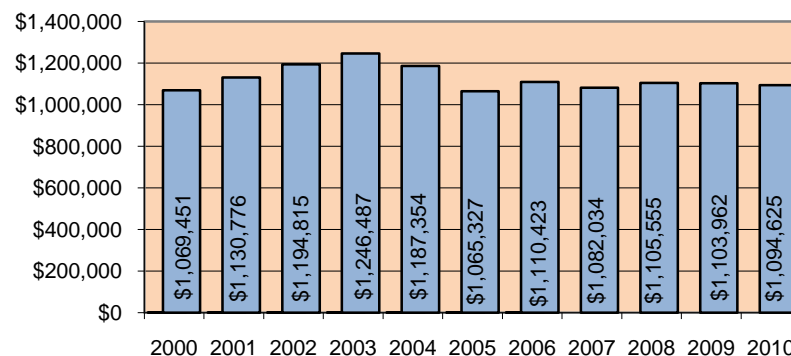
Personnel								
Summary	2008/09		2009/10		2010/11		2011/12	
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Pro Shop	1	39	1	31	1	29	0	0
Greens	4	32	4	23	4	19	0	0
Total Department	5	71	5	54	5	48	* 0	* 0

**Billy Casper Golf*

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

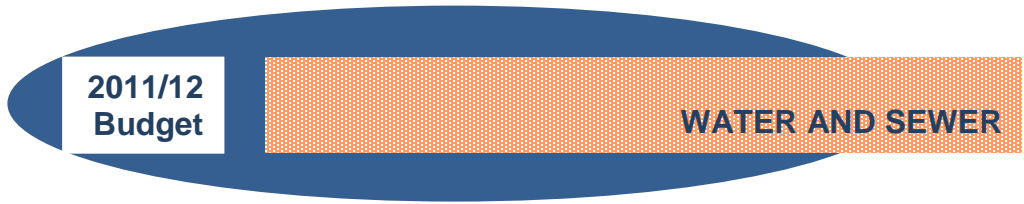


• **Operating Budget History - Sylvan Glen Golf Course**





City of
Troy



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

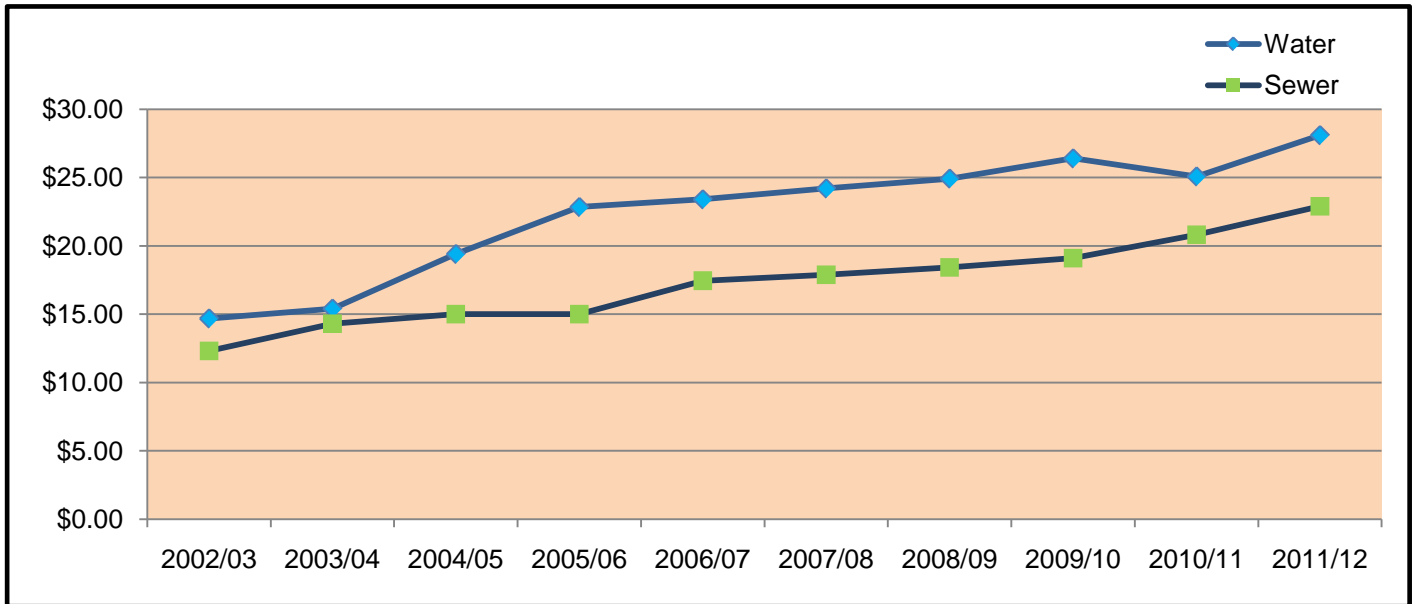


| City of
Troy



2011/12
Budget

WATER AND SEWER



	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	Proposed 2011/12	Rate Adjustment
Water	\$22.84	\$23.40	\$24.20	\$24.92	\$26.40	\$25.08	\$28.10	\$3.02
Sewer	15.00	17.45	17.88	18.42	19.10	20.82	22.90	2.08
Total Rate	\$37.84	\$40.85	\$42.08	\$43.34	\$45.50	\$45.90	\$51.00	\$ 5.10

Annual Budget by Organization Report

Detail

	2009 Actual Amount	2010 Actual Amount	2011 Estimated Amount	2011 Amended Budget	2012 Final	% Change
Fund: 591 WATER FUND						
Revenue						
Department: 000 Revenue						
CHG - CHARGES FOR SERVICES	\$13,078,125.53	\$13,823,365.95	\$13,488,000.00	\$14,991,600.00	\$14,452,600.00	-4%
INTR - INTEREST & RENT	\$611,657.14	\$337,985.13	\$126,000.00	\$160,000.00	\$123,000.00	-23%
OTHREV - OTHER REVENUE	\$1,009,593.90	\$156,178.57	\$0.00	\$0.00	\$0.00	
Department Total: Revenue	\$14,699,376.57	\$14,317,529.65	\$13,614,000.00	\$15,151,600.00	\$14,575,600.00	-4%
Expenditures						
Department: 537 Water Transmission and Distrib						
Business Unit: 537 Water Trans & Distrib						
PERS - PERSONAL SERVICES	\$88,406.43	\$124,879.85	\$140,140.00	\$226,633.60	\$239,187.00	6%
SUP - SUPPLIES	\$22,964.81	\$5,912.70	\$25,000.00	\$24,000.00	\$28,000.00	17%
OTH - OTHER SERVICE CHARGES	\$51,878.24	\$73,764.13	\$73,500.00	\$67,000.00	\$98,500.00	47%
Business Unit Total: Water Trans & Distrib	\$163,249.48	\$204,556.68	\$238,640.00	\$317,633.60	\$365,687.00	15%
Business Unit: 538 Water Customer Cross Connection						
PERS - PERSONAL SERVICES	\$88,634.58	\$95,552.30	\$87,100.00	\$96,180.00	\$95,105.00	-1%
SUP - SUPPLIES	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
OTH - OTHER SERVICE CHARGES	\$7,709.04	\$8,058.00	\$8,400.00	\$8,000.00	\$9,200.00	15%
Business Unit Total: Water Customer Cross Connection	\$96,343.62	\$103,610.30	\$95,500.00	\$104,180.00	\$104,305.00	0%
Business Unit: 539 Water Contractors Service						
PERS - PERSONAL SERVICES	\$106,491.22	\$131,809.26	\$150,870.00	\$200,007.16	\$186,422.00	-7%
SUP - SUPPLIES	\$436.84	\$592.88	\$2,000.00	\$2,000.00	\$2,000.00	0%
OTH - OTHER SERVICE CHARGES	\$9,237.43	\$8,994.09	\$12,000.00	\$11,000.00	\$13,000.00	18%
Business Unit Total: Water Contractors Service	\$116,165.49	\$141,396.23	\$164,870.00	\$213,007.16	\$201,422.00	-5%
Business Unit: 540 Water Main Testing						
PERS - PERSONAL SERVICES	\$31,715.03	\$22,227.60	\$28,170.00	\$48,296.78	\$67,441.00	40%
SUP - SUPPLIES	\$730.36	\$302.58	\$500.00	\$500.00	\$500.00	0%
OTH - OTHER SERVICE CHARGES	\$1,951.60	\$793.68	\$800.00	\$2,000.00	\$1,000.00	-50%
Business Unit Total: Water Main Testing	\$34,396.99	\$23,323.86	\$29,470.00	\$50,796.78	\$68,941.00	36%
Business Unit: 541 Maintenance of Mains						
PERS - PERSONAL SERVICES	\$198,470.10	\$286,709.13	\$318,430.00	\$389,031.13	\$378,984.00	-3%
SUP - SUPPLIES	\$46,291.40	\$34,209.74	\$35,000.00	\$35,000.00	\$35,000.00	0%
OTH - OTHER SERVICE CHARGES	\$87,626.44	\$97,020.13	\$95,000.00	\$77,000.00	\$103,000.00	34%
Business Unit Total: Maintenance of Mains	\$332,387.94	\$417,939.00	\$448,430.00	\$501,031.13	\$516,984.00	3%
Business Unit: 542 Maintenance of Services						
PERS - PERSONAL SERVICES	\$137,119.80	\$184,469.63	\$183,110.00	\$224,441.66	\$240,732.00	7%
SUP - SUPPLIES	\$114,658.11	\$36,658.48	\$10,000.00	\$10,000.00	\$10,000.00	0%
OTH - OTHER SERVICE CHARGES	\$48,863.01	\$55,049.04	\$45,000.00	\$45,000.00	\$50,000.00	11%
Business Unit Total: Maintenance of Services	\$300,640.92	\$276,177.15	\$238,110.00	\$279,441.66	\$300,732.00	8%

Annual Budget by Organization Report

Detail

	2009 Actual Amount	2010 Actual Amount	2011 Estimated Amount	2011 Amended Budget	2012 Final	% Change
Business Unit: 543 Maintenance of Meters						
PERS - PERSONAL SERVICES	\$138,432.52	\$233,606.55	\$329,280.00	\$245,790.19	\$344,464.00	40%
SUP - SUPPLIES	\$322,552.95	\$257,717.07	\$350,000.00	\$400,000.00	\$350,000.00	-13%
OTH - OTHER SERVICE CHARGES	\$11,438.38	\$14,161.14	\$15,000.00	\$11,500.00	\$17,000.00	48%
Business Unit Total: Maintenance of Meters	\$472,423.85	\$505,484.76	\$694,280.00	\$657,290.19	\$711,464.00	8%
Business Unit: 544 Maintenance of Hydrants						
PERS - PERSONAL SERVICES	\$184,393.94	\$178,175.57	\$201,610.00	\$274,343.39	\$284,176.00	4%
SUP - SUPPLIES	\$43,013.94	\$37,338.01	\$35,000.00	\$35,000.00	\$35,000.00	0%
OTH - OTHER SERVICE CHARGES	\$56,064.92	\$53,202.84	\$50,000.00	\$60,000.00	\$55,000.00	-8%
Business Unit Total: Maintenance of Hydrants	\$283,472.80	\$268,716.42	\$286,610.00	\$369,343.39	\$374,176.00	1%
Business Unit: 545 Water Meters & Tap-Ins						
PERS - PERSONAL SERVICES	\$77,073.21	\$98,267.69	\$119,720.00	\$163,637.91	\$165,533.00	1%
SUP - SUPPLIES	\$224,846.43	\$199,386.34	\$150,000.00	\$150,000.00	\$150,000.00	0%
OTH - OTHER SERVICE CHARGES	\$24,309.60	\$27,684.14	\$35,000.00	\$30,000.00	\$37,000.00	23%
Business Unit Total: Water Meters & Tap-Ins	\$326,229.24	\$325,338.17	\$304,720.00	\$343,637.91	\$352,533.00	3%
Business Unit: 548 Water Administration						
PERS - PERSONAL SERVICES	\$802,887.78	\$393,988.67	\$318,150.00	\$208,368.00	\$182,809.00	-12%
SUP - SUPPLIES	\$20,324.54	\$19,018.73	\$19,140.00	\$19,140.00	\$19,140.00	0%
OTH - OTHER SERVICE CHARGES	\$9,622,390.09	\$9,679,465.39	\$9,907,380.00	\$10,769,780.00	\$10,733,010.00	0%
Business Unit Total: Water Administration	\$10,445,602.41	\$10,092,472.79	\$10,244,670.00	\$10,997,288.00	\$10,934,959.00	-1%
Business Unit: 555 Water Fund Capital						
CAP - CAPITAL OUTLAY	\$0.00	\$0.00	\$4,490,000.00	\$6,430,000.00	\$5,110,000.00	-21%
Business Unit Total: Water Fund Capital	\$0.00	\$0.00	\$4,490,000.00	\$6,430,000.00	\$5,110,000.00	-21%
Department Total: Water Transmission and Distrib	\$12,570,912.74	\$12,359,015.36	\$17,235,300.00	\$20,263,649.82	\$19,041,203.00	-6%
Department: 546 Water Accounting						
Business Unit: 546 Water Meter Reading						
PERS - PERSONAL SERVICES	\$45,496.15	\$51,748.31	\$85,660.00	\$80,007.00	\$68,623.00	-14%
SUP - SUPPLIES	\$0.00	\$34.49	\$0.00	\$0.00	\$0.00	
OTH - OTHER SERVICE CHARGES	\$5,337.12	\$4,089.57	\$5,000.00	\$5,000.00	\$5,500.00	10%
Business Unit Total: Water Meter Reading	\$50,833.27	\$55,872.37	\$90,660.00	\$85,007.00	\$74,123.00	-13%
Business Unit: 547 Water Accounting & Collection						
PERS - PERSONAL SERVICES	\$28,222.68	\$31,225.48	\$48,870.00	\$67,833.00	\$54,878.00	-19%
SUP - SUPPLIES	\$19,283.16	\$19,866.16	\$18,300.00	\$25,500.00	\$18,250.00	-28%
OTH - OTHER SERVICE CHARGES	\$29,344.01	\$25,662.60	\$21,570.00	\$37,570.00	\$22,600.00	-40%
Business Unit Total: Water Accounting & Collection	\$76,849.85	\$76,754.24	\$88,740.00	\$130,903.00	\$95,728.00	-27%
Department Total: Water Accounting	\$127,683.12	\$132,626.61	\$179,400.00	\$215,910.00	\$169,851.00	-21%
Revenue Totals:	\$14,699,376.57	\$14,317,529.65	\$13,614,000.00	\$15,151,600.00	\$14,575,600.00	-4%
Expenditure Totals	\$12,698,595.86	\$12,491,641.97	\$17,414,700.00	\$20,479,559.82	\$19,211,054.00	-6%
Fund Total: WATER FUND	\$2,000,780.71	\$1,825,887.68	(\$3,800,700.00)	(\$5,327,959.82)	(\$4,635,454.00)	

Annual Budget by Organization Report

Detail

	2009 Actual Amount	2010 Actual Amount	2011 Estimated Amount	2011 Amended Budget	2012 Final	% Change
Fund: 590 SEWER FUND						
Revenue						
Department: 000 Revenue						
CHG - CHARGES FOR SERVICES	\$9,750,201.32	\$10,372,640.49	\$11,320,000.00	\$12,683,000.00	\$12,000,000.00	-5%
INTR - INTEREST & RENT	\$567,889.62	\$277,778.01	\$185,000.00	\$250,000.00	\$175,000.00	-30%
OTHREV - OTHER REVENUE	\$662,597.00	\$1,946,408.51	\$0.00	\$0.00	\$0.00	
Department Total: Revenue	\$10,980,687.94	\$12,596,827.01	\$11,505,000.00	\$12,933,000.00	\$12,175,000.00	-6%
Expenditures						
Department: 527 Sewer						
Business Unit: 527 Sewer Administration						
PERS - PERSONAL SERVICES	\$128,457.02	\$191,170.86	\$229,430.00	\$228,772.00	\$268,759.00	17%
SUP - SUPPLIES	\$0.00	\$1.44	\$0.00	\$0.00	\$0.00	
OTH - OTHER SERVICE CHARGES	\$8,273,688.53	\$8,299,383.89	\$9,050,370.00	\$9,062,630.00	\$9,546,938.00	5%
Business Unit Total: Sewer Administration	\$8,402,145.55	\$8,490,556.19	\$9,279,800.00	\$9,291,402.00	\$9,815,697.00	6%
Business Unit: 535 Sewer Fund Capital						
CAP - CAPITAL OUTLAY	\$0.00	\$0.00	\$1,285,000.00	\$2,910,000.00	\$1,788,000.00	-39%
Business Unit Total: Sewer Fund Capital	\$0.00	\$0.00	\$1,285,000.00	\$2,910,000.00	\$1,788,000.00	-39%
Business Unit: 536 Sewer Maintenance						
PERS - PERSONAL SERVICES	\$389,908.22	\$420,550.17	\$500,740.00	\$825,976.00	\$701,817.00	-15%
SUP - SUPPLIES	\$16,954.80	\$18,695.73	\$24,340.00	\$24,340.00	\$24,340.00	0%
OTH - OTHER SERVICE CHARGES	\$230,873.95	\$218,077.17	\$228,180.00	\$265,180.00	\$261,680.00	-1%
OTHF - OTHER FINANCING USES	\$704,200.00	\$627,159.78	\$631,270.00	\$666,350.00	\$652,820.00	-2%
Business Unit Total: Sewer Maintenance	\$1,341,936.97	\$1,284,482.85	\$1,384,530.00	\$1,781,846.00	\$1,640,657.00	-8%
Department Total: Sewer	\$9,744,082.52	\$9,775,039.04	\$11,949,330.00	\$13,983,248.00	\$13,244,354.00	-5%
Revenue Totals:	\$10,980,687.94	\$12,596,827.01	\$11,505,000.00	\$12,933,000.00	\$12,175,000.00	-6%
Expenditure Totals	\$9,744,082.52	\$9,775,039.04	\$11,949,330.00	\$13,983,248.00	\$13,244,354.00	-5%
Fund Total: SEWER FUND	\$1,236,605.42	\$2,821,787.97	(\$444,330.00)	(\$1,050,248.00)	(\$1,069,354.00)	



Personnel								
Summary	2008/09		2009/10		2010/11		2011/12	
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Water Division	18	7	18	7	18.3	7	18.3	6
Total Department	18	7	18	7	18.3	7	18.3	6

Personnel								
Summary	2008/09		2009/10		2010/11		2011/12	
	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Sewer Division	16	0	16	0	16	0	16	0
Total Department	16	0	16	0	16	0	16	0



2011/12
Budget

WATER AND SEWER

SUMMARY OF BUDGET CHANGES

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

Detroit Water reflects a 15.7% increase. 2010/11 rate had a 9.3% decrease. The overall sewage rate increase is estimated at 10%.

• **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	\$17.07 estimate

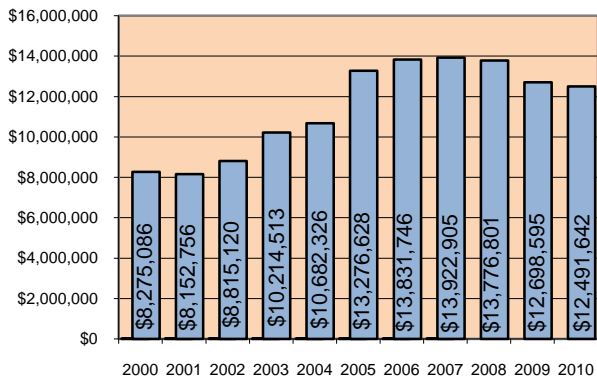
• **Southeast Oakland County Sewerage Rate:**

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

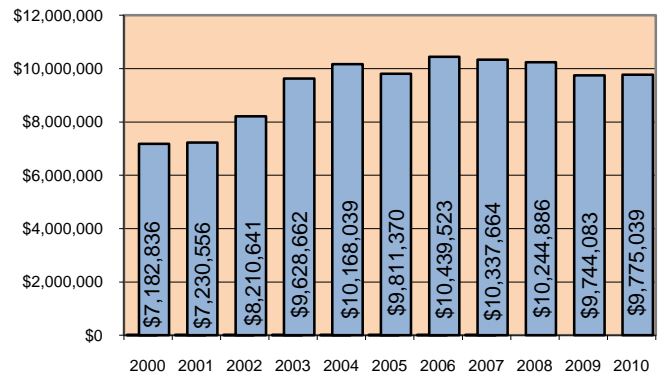
• **Evergreen-Farmington Sewerage Rate:**

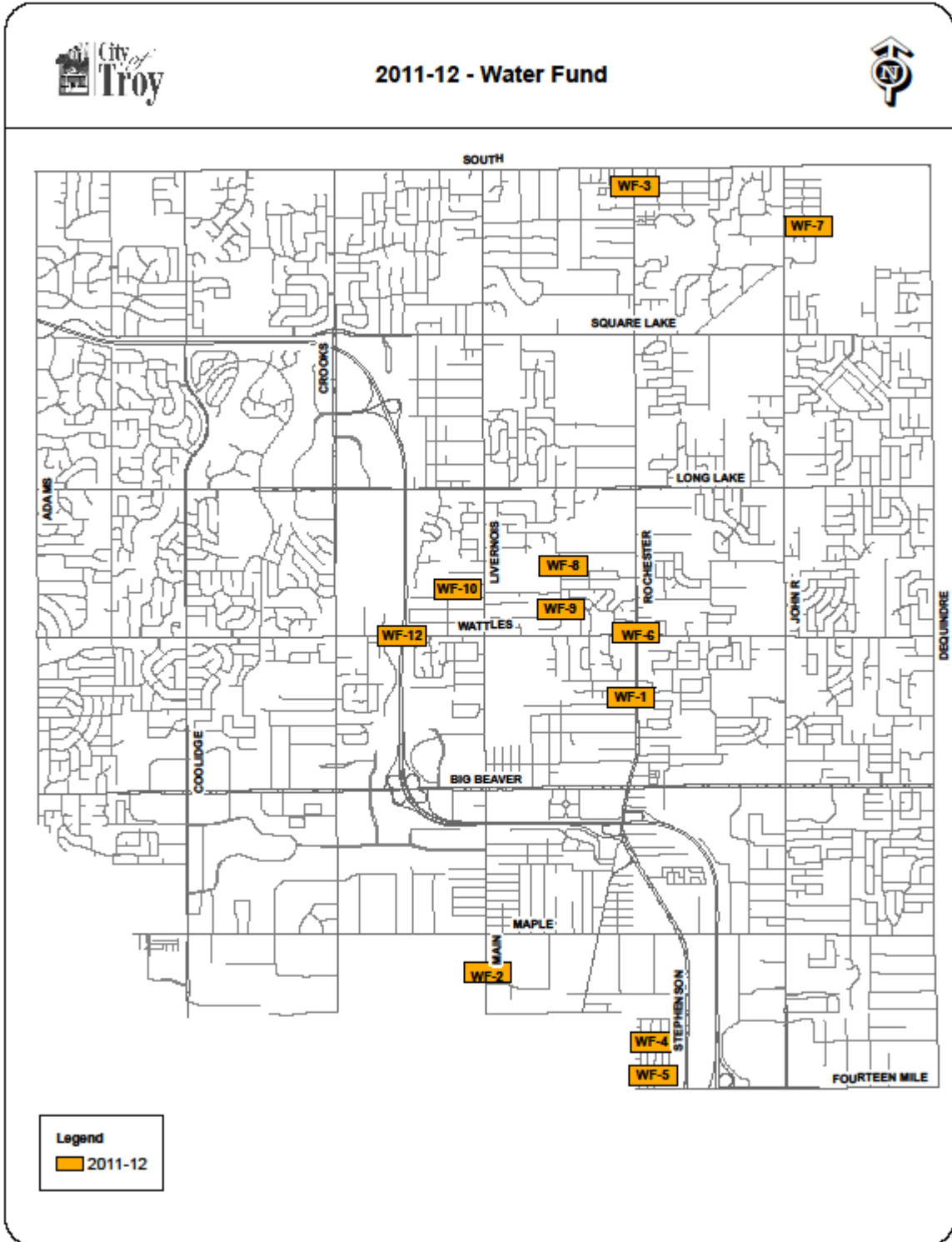
2006/07	\$14.03
2007/08	\$14.61
2008/09	\$14.79
2009/10	\$15.54
2010/11	\$16.83
2011/12	\$17.27 estimate

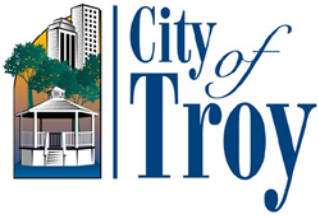
Operating Budget History – Water



Operating Budget History – Sewer







2011/12
Budget

WATER FUND

WATER FUND 2011/12 BUDGET (591.537.555.7972)

Map Number	Project Name	Total Project Cost	Total City Cost	Other Sources	10/11 Amended Budget	10/11 Expenditure to 6/30/11	10/11 Balance at 6/30/11	10/11 Re-Approp. 11/12	New Approp. 11/12	Proposed 11/12 Budget	Comments
	NE 1/4 of Section 9	2,900,000	2,900,000	0	0	100,000	(100,000)	0	0	0	Houghten, Blanche, Habrand, McKinley, Wright, Florence, Deinmore
	NE 1/4 of Section 9	400,000	400,000	0	100,000	0	100,000	0	0	0	Road Repair Due to Water Main Construction
WF-1	Rochester, Torpey to Barclay	1,100,000	1,100,000	0	0	250,000	(250,000)	0	100,000	100,000	Part of Rochester/Wattles Reconstruction
	Square Lake, Rochester to Livernois	650,000	650,000	0	0	100,000	(100,000)	0	0	0	
	Park, Livernois to Combermere	900,000	900,000	0	0	2,000	(2,000)	0	0	0	16" WM - Incl. CPR
	SCADA Upgrades	400,000	400,000	0	300,000	300,000	0	0	0	0	
WF-2	Livernois, Elmwood to Maple	500,000	500,000	0	25,000	33,000	(8,000)	0	25,000	25,000	Part of Clawson LJT Livernois/Main St. Project
WF-3	PRV # 9	400,000	400,000	0	650,000	300,000	350,000	100,000	0	100,000	Rochester at South Blvd., West Side
	Combermere, Park to Maple	775,000	775,000	0	0	20,000	(20,000)	0	0	0	16" WM - Incl. CPR
	Heide, Maple to Oliver	1,120,000	1,120,000	0	0	5,000	(5,000)	0	0	0	16" WM - Incl. CPR
	Thunderbird, Maple to Oliver	700,000	700,000	0	0	5,000	(5,000)	0	0	0	16" WM - Incl. CPR
	Oliver, Heide to East End	430,000	430,000	0	0	5,000	(5,000)	0	0	0	16" WM - Incl. CPR
WF-4	SW 1/4 Sec. 35	1,800,000	1,800,000	0	2,700,000	1,700,000	1,000,000	100,000	0	100,000	
WF-5	SW 1/4 Sec. 35	1,500,000	1,500,000	0	400,000	0	400,000	400,000	1,100,000	1,500,000	Road Repair Due to Water Main Construction
WF-6	Wattles, East & West of Rochester	500,000	500,000	0	0	360,000	(360,000)	0	100,000	100,000	Part of Rochester/Wattles Reconstruction
	John Arbor Subdivision	600,000	600,000	0	125,000	150,000	(25,000)	0	0	0	Jarman, Chancery, Gulliver & Ravenna - 6" to 8"



2011/12
Budget

WATER FUND

WATER FUND 2011/12 BUDGET (591.537.555.7972)

Map Number	Project Name	Total Project Cost	Total City Cost	Other Sources	10/11 Amended Budget	10/11 Expenditure to 6/30/11	10/11 Balance at 6/30/11	10/11 Re-Approp. 11/12	New Approp. 11/12	Proposed 11/12 Budget	Comments
WF-7	John Arbor Subdivision	350,000	350,000	0	300,000	300,000	0	0	50,000	50,000	Road Repair Due to Water Main Construction
WF-8	Tallman & Eckford	1,000,000	1,000,000	0	1,000,000	600,000	400,000	200,000	0	200,000	
WF-9	Tallman & Eckford	700,000	700,000	0	700,000	0	700,000	300,000		300,000	Road Repair Due to Water Main Construction
WF-10	SE 1/4 of Section 16	2,100,000	2,100,000	0	0	0	0	0	1,500,000	1,500,000	
WF-12	Wattles, Crooks to Livernois	1,000,000	1,000,000	0	0	0	0	0	1,000,000	1,000,000	
WF-25	Various Projects & Locations	100,000	100,000	0	100,000	100,000	0	0	100,000	100,000	
WF-26	Water System Engineering Services	10,000	10,000	0	10,000	0	10,000	10,000	0	10,000	
WF-27	General Equipment	20,000	20,000	0	20,000	25,000	(5,000)	0	25,000	25,000	
	Office Equipment Computers	135,000	135,000	0	0	135,000	(135,000)	0	0	0	BS&A / Woolpert
TOTALS:		19,955,000	20,090,000	0	6,430,000	4,490,000	1,940,000	1,110,000	4,000,000	5,110,000	
PROPOSED 2011/12 minus 2010/11 BALANCE:										3,170,000	



2011/12
Budget

WATER FUND

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. The water flows into the city through six (6) Detroit Water and Sewerage Department (DWSD) metered locations located along the perimeter of the city. Two (2) of these meter vaults are 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 ranging from 6-inches to 36-inches. In order to maintain proper fire flows and pressures in response to water demands, pressures can be increased or decreased at the five (5) pressure districts.

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 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. Rochester, Torpey to Barclay (Water Main Replacement)

The existing water main on Rochester Road was replaced with a new 12" water main as part of the reconstruction and widening of Rochester Road. Construction was completed in 2010. 2011/12 budgeted funds are for final contractor payments.

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 Livernois, Elmwood to Maple (Water Main Replacement)

The existing water main on the west side of Livernois Road was replaced with a new 16" water main as part of the reconstruction and widening of Livernois Road. Construction was completed in 2009. 2011/12 budgeted funds are for final contractor payments.

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.



2011/12
Budget

WATER FUND

WF-3. Pressure Reducing Vault #9 (Replacement)

A Pressure Reducing Valve (PRV) is used to reduce or increase water pressure from Detroit's water supply line to Troy's water supply line. The existing PRV #9, located on Rochester Road, south of South Boulevard, is obsolete and will be replaced with a new facility to assure performance and reliability. This pressure reducing vault is proposed to be taken off-line and a new valve vault constructed just south of its current location.

Replacement with a new facility will assure performance and reliability and will provide for an OSHA compliant site. Operation and maintenance costs will not be impacted.

WF-4. Southwest ¼ of Section 35 (Water Main Replacement)

This project replaced the existing 6" water mains on Sheffield, Kenyon, Lyons, Redwood, Burtman, Grant, Wacon, Jamaica, Key West and Hendrickson with new 8" water mains. Construction was completed in 2010. 2011/12 budgeted funds are for final contractor payments.

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. Southwest ¼ of Section 35 (Road Repair due to Water Main Construction)

The water mains in this area were replaced in 2010. The existing asphalt over concrete 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. Wattles, East and West of Rochester (Water Main Replacement)

The existing water main on Wattles Road was replaced with a new 12" water main as part of the reconstruction and widening of Wattles Road. Construction was completed in 2010. 2011/12 budgeted funds are for final contractor payments.

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-7. John Arbor Subdivision (Road Repair due to Water Main Construction)

The water mains in the John Arbor subdivision were replaced. The existing asphalt roads: Harned, Jarman, Burdic, Chancery, Stirling, Gulliver, Alfred, Edith and Ravenna 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.



2011/12
Budget

WATER FUND

WF-8. Tallman and Eckford (Water Main Replacement)

This project will replace the existing 8" water mains on Tallman and sections of Eckford, Evaline and Leetonia with new 12" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. A section of existing 12" water main on the north side of Wattles Road will also be replaced as part of this project to provide for a looped system.

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-9. Tallman and Eckford (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 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-10. 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-12. 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-25. Water Fund (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 and parts for the water system.



2011/12
Budget

WATER FUND

WF-25. Water Fund, continued

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-26. Water System Engineering Services

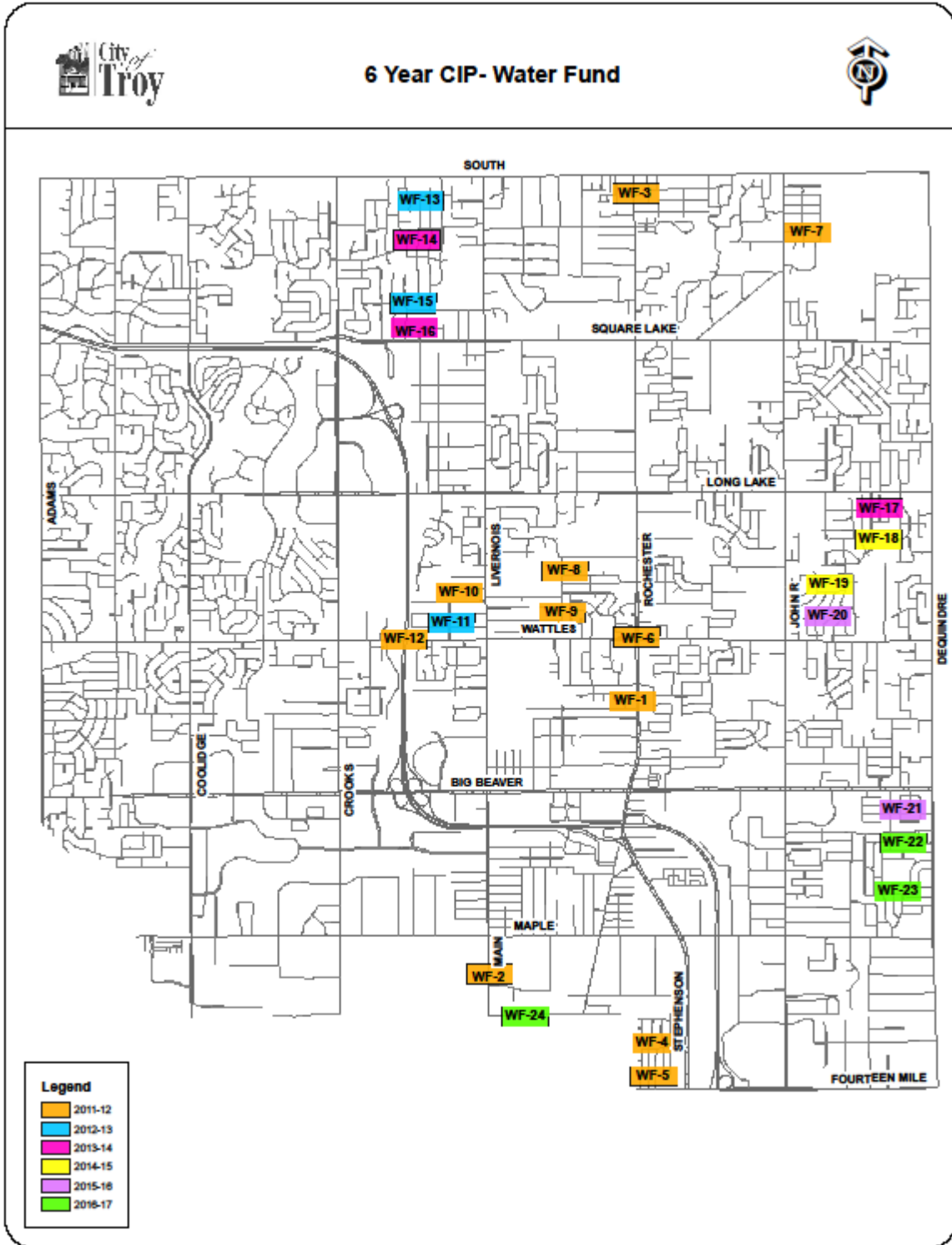
This is an annual budget amount in the Water Fund for as-needed engineering services required by the Public Works Department for work associated with the Water Fund that is not otherwise provided by the Engineering Department.

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.

WF-27. 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.





2011/12
Budget

6-YEAR CAPITAL IMPROVEMENTS PLAN
WATER FUND

6 Year CIP - Water Fund										
Map Number	Project Name	Total Project Cost	Total City Cost	Proposed						Comments
				2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	
WF-1	Rochester, Torpey to Barclay	1,100,000	1,100,000	100,000	0	0	0	0	0	Part of Rochester/Wattles Reconstruction
WF-2	Livernois, Elmwood to Maple	500,000	500,000	25,000	0	0	0	0	0	Part of Clawson LJT Livernois/Main St. Project
WF-3	PRV # 9	400,000	400,000	100,000	0	0	0	0	0	Rochester at South Blvd., West Side
WF-4	SW 1/4 Sec. 35	1,800,000	1,800,000	100,000	0	0	0	0	0	
WF-5	SW 1/4 Sec. 35	1,500,000	1,500,000	1,500,000	0	0	0	0	0	Road Repair Due to Water Main Const.
WF-6	Wattles, East and West of Rochester	500,000	500,000	100,000	0	0	0	0	0	Part of Rochester/Wattles Reconstruction
WF-7	John Arbor Subdivision	350,000	350,000	50,000	0	0	0	0	0	Road Repair Due to Water Main Const.
WF-8	Tallman & Eckford	1,000,000	1,000,000	200,000	0	0	0	0	0	
WF-9	Tallman & Eckford	700,000	700,000	300,000	0	0	0	0	0	Road Repair Due to Water Main Const.
WF-10	SE 1/4 of Section 16	2,100,000	2,100,000	1,500,000	500,000	0	0	0	0	
WF-11	SE 1/4 of Section 16	325,000	325,000	0	325,000	0	0	0	0	Road Repair Due to Water Main Const.
WF-12	Wattles, Crooks to Livernois	1,000,000	1,000,000	1,000,000	0	0	0	0	0	
WF-13	Sec. 4 SW 1/4 (North 1/2)	2,300,000	2,300,000	0	2,300,000	0	0	0	0	
WF-14	Sec. 4 SW 1/4 (North 1/2)	350,000	350,000	0	0	350,000	0	0	0	Road Repair Due to Water Main Const.
WF-15	Sec. 4 SW 1/4 (South 1/2)	2,400,000	2,400,000	0	2,400,000	0	0	0	0	



2011/12
Budget

6-YEAR CAPITAL IMPROVEMENTS PLAN
WATER FUND

6 Year CIP - Water Fund										
Map Number	Project Name	Total Project Cost	Total City Cost	Proposed						Comments
				2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	
WF-16	Sec. 4 SW 1/4 (South 1/2)	350,000	350,000	0	0	350,000	0	0	0	Road Repair Due to Water Main Const.
WF-17	Sec. 13 North 1/2	4,300,000	4,300,000	0	0	4,300,000	0	0	0	
WF-18	Sec. 13 North 1/2	1,600,000	1,600,000	0	0	0	1,600,000	0	0	Road Repair Due to Water Main Const.
WF-19	Sec. 13 South 1/2	3,700,000	3,700,000	0	0	0	3,700,000	0	0	
WF-20	Sec. 13 South 1/2	1,300,000	1,300,000	0	0	0	0	1,300,000	0	Road Repair Due to Water Main Const.
WF-21	Sec. 25 NE 1/4	3,800,000	3,800,000	0	0	0	0	3,800,000	0	
WF-22	Sec. 25 NE 1/4	1,400,000	1,400,000	0	0	0	0	0	1,400,000	Road Repair Due to Water Main Const.
WF-23	Sec. 25 SE 1/4	3,300,000	3,300,000	0	0	0	0	0	3,300,000	
WF-24	Elmwood, Livernois to Rochester	850,000	850,000	0	0	0	0	0	850,000	Clawson/Troy - 16" WM
WF-25	Various Projects & Locations	600,000	600,000	100,000	100,000	100,000	100,000	100,000	100,000	As-Needed Maint. Repairs by DPW
WF-26	Water System Engineering Services	60,000	60,000	10,000	10,000	10,000	10,000	10,000	10,000	
WF-27	General Equipment	150,000	150,000	25,000	25,000	25,000	25,000	25,000	25,000	
TOTALS:		37,735,000	37,735,000	5,110,000	5,660,000	5,135,000	5,435,000	5,235,000	5,685,000	



2011/12
Budget

6-YEAR CAPITAL IMPROVEMENTS PLAN
WATER FUND

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. The water flows into the city through six (6) Detroit Water and Sewerage Department (DWSD) metered locations located along the perimeter of the city. Two (2) of these meter vaults are 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 ranging from 6-inches to 36-inches. In order to maintain proper fire flows and pressures in response to water demands, pressures can be increased or decreased at the five (5) pressure districts.

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 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. Rochester, Torpey to Barclay (Water Main Replacement)

The existing water main on Rochester Road was replaced with a new 12" water main as part of the reconstruction and widening of Rochester Road. Construction was completed in 2010. 2011/12 budgeted funds are for final contractor payments.

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 Livernois, Elmwood to Maple (Water Main Replacement)

The existing water main on the west side of Livernois Road was replaced with a new 16" water main as part of the reconstruction and widening of Livernois Road. Construction was completed in 2009. 2011/12 budgeted funds are for final contractor payments.

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.



2011/12
Budget

6-YEAR CAPITAL IMPROVEMENTS PLAN
WATER FUND

WF-3. Pressure Reducing Vault #9 (Replacement)

A Pressure Reducing Valve (PRV) is used to reduce or increase water pressure from Detroit's water supply line to Troy's water supply line. The existing PRV #9, located on Rochester Road, south of South Boulevard, is obsolete and will be replaced with a new facility to assure performance and reliability. This pressure reducing vault is proposed to be taken off-line and a new valve vault constructed just south of its current location.

Replacement with a new facility will assure performance and reliability and will provide for an OSHA compliant site. Operation and maintenance costs will not be impacted.

WF-4. Southwest ¼ of Section 35 (Water Main Replacement)

This project replaced the existing 6" water mains on Sheffield, Kenyon, Lyons, Redwood, Burtman, Grant, Wacon, Jamaica, Key West and Hendrickson with new 8" water mains. Construction was completed in 2010. 2011/12 budgeted funds are for final contractor payments.

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. Southwest ¼ of Section 35 (Road Repair due to Water Main Construction)

The water mains in this area were replaced in 2010. The existing asphalt over concrete 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. Wattles, East and West of Rochester (Water Main Replacement)

The existing water main on Wattles Road was replaced with a new 12" water main as part of the reconstruction and widening of Wattles Road. Construction was completed in 2010. 2011/12 budgeted funds are for final contractor payments.

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-7. John Arbor Subdivision (Road Repair due to Water Main Construction)

The water mains in the John Arbor subdivision were replaced. The existing asphalt roads: Harned, Jarman, Burdic, Chancery, Stirling, Gulliver, Alfred, Edith and Ravenna 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.



2011/12
Budget

6-YEAR CAPITAL IMPROVEMENTS PLAN
WATER FUND

WF-8. Tallman and Eckford (Water Main Replacement)

This project will replace the existing 8" water mains on Tallman and sections of Eckford, Evaline and Leetonia with new 12" water mains. The water main replacement is due to the mains current size, age and/or history of breaks. A section of existing 12" water main on the north side of Wattles Road will also be replaced as part of this project to provide for a looped system.

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-9. Tallman and Eckford (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 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-10. 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-11. 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-12. 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.



2011/12
Budget

6-YEAR CAPITAL IMPROVEMENTS PLAN
WATER FUND

WF-12. Wattles Road, continued

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. Southwest ¼ , North ½ of Section 4 (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-14. Southwest ¼, North ½ of Section 4 (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-15. Southwest ¼ , South ½ of Section 4 (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-16. Southwest ¼, South ½ of Section 4 (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.



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WF-17. 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 existing 8" water mains on London, Post, Terova, Bramford, Stoddard, Avery, Butler, Hyde Park, Kenwyck, Carol, Vernier, Rehshaw, Thales, Argyle, Mill Pond, Quincy and Hill with new 8" and 12" 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-18. 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 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-19. Section 13 South ½ (Water Main Replacement)

This project will replace the existing 6" water mains on Lancahire, Hillcrescent, Washington Crescent, Ramblewoodd and Middlebury with new 8" water mains. The existing 8" water mains on Marywood, Fairfield, Allegheny, Sycamore, Cumberland, Post, Forest Trail, Greensboro, Woodingham, Gatesfield Circle, Newbedford and Bankle with new 8" and 12" 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-20. Section 13 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 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-21. Section 25 NE ¼ (Water Main Replacement)

This project will replace the existing 6" water mains on Dover, Isabell, Camilla, Rhodes and Samuel with new 8" water mains. The existing 8" water mains on Clayton, Borden, Downey, Athena,



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Budget

6-YEAR CAPITAL IMPROVEMENTS PLAN
WATER FUND

WF-21. Section 25 NE ¼, continued

Alexander, Atlas, Paris, Miverton and Garry will be replaced with new 8" and 12" 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-22. Section 25 NE 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 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-23. Section 25 SE ¼ (Water Main Replacement)

This project will replace the existing 6" water mains on Berkshire, Stratford, Northampton, Chesterfield, Coventry and Sherbourne with new 8" water mains. The existing 8" water mains on Saratoga, Castleton, Teasdale and Hempstead will be replaced with new 8" and 12" 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-24. 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 so that the proposed water main is outside of the new pavement.

This project would not move forward until such a time as the Elmwood road project is approved for federal funds for the reconstruction and widening, which is currently anticipated no earlier than 2016. The City of Clawson is the lead agency and is working on securing federal funds for the road project.

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-25. Water Fund (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 and parts for the water system.



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WF-25. Water Fund, continued

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-26. Water System Engineering Services

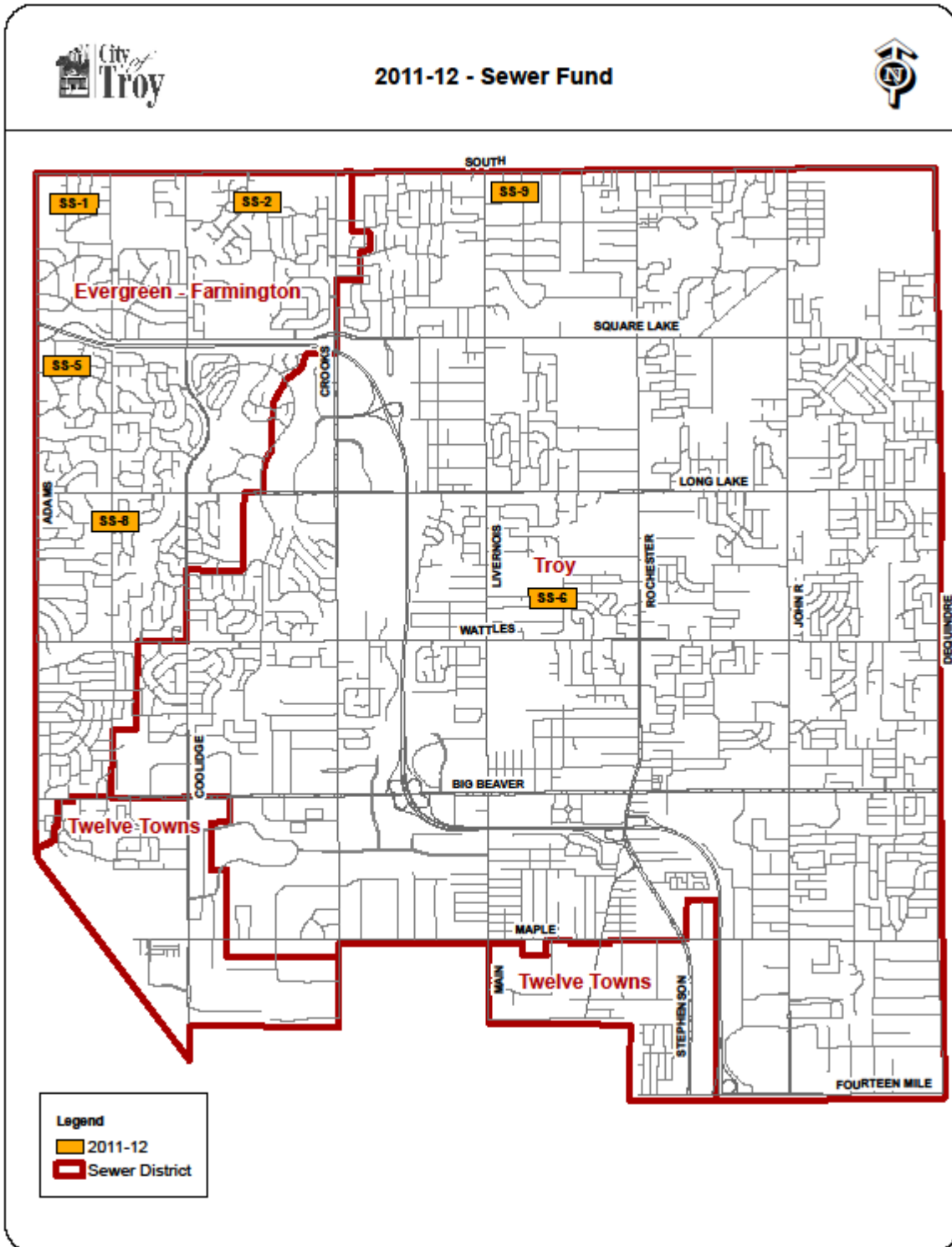
This is an annual budget amount in the Water Fund for as-needed engineering services required by the Public Works Department for work associated with the Water Fund that is not otherwise provided by the Engineering Department.

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.

WF-27. 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.





2011/12
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SEWER FUND

SEWER FUND 2011/12 BUDGET (590.527.535.7973)

Map Number	Project Name	Total Project Cost	Total City Cost	Other Sources	10/11 Amended Budget	10/11 Expenditure to 6/30/11	10/11 Balance at 6/30/11	10/11 Re-Approp. to 11/12	New Approp. 11/12	Proposed 11/12 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	500,000	0	500,000	Beach/Rouge Pump Station - MDEQ ACO Contingency
	Sanitary Sewer Extension Program	1,000,000	1,000,000	0	0	5,000	(5,000)	0	0	0	
	SCADA Upgrade	350,000	350,000	0	280,000	280,000	0	0	0	0	
SS-4	Miscellaneous Sanitary Sewer Locations	3,000,000	3,000,000	0	1,000,000	250,000	750,000	500,000	0	500,000	City Wide Sanitary Sewer Extension
	Wattles Road Sanitary Sewer	140,000	140,000	0	0	133,000	(133,000)	0	0	0	
SS-5	Flow Metering in Evergreen-Farmington	500,000	500,000	0	250,000	5,000	245,000	245,000	5,000	250,000	Inflow and Infiltration Removal - Evergreen-Farmington
SS-6	Flow Metering in Troy District	500,000	500,000	0	750,000	100,000	650,000	250,000	0	250,000	Inflow & Infiltration Removal - Troy District
SS-8	Evergreen - Farmington I&I Removal	505,000	258,000	247,000	0	477,000	(477,000)	0	28,000	28,000	OCWRC Grant - \$247k
SS-9	Fieldstone Sanitary Sewer	125,000	125,000	0	0	0	0	0	125,000	125,000	Sanitary sewer repair under DWSD 84" WM
SS-10	General Equipment	25,000	25,000	0	20,000	25,000	(5,000)	0	25,000	25,000	General Equipment
SS-11	Office Equipment Computers	10,000	10,000	0	10,000	10,000	0	0	10,000	10,000	Office Equipment
TOTALS:		22,955,000	9,888,000	13,067,000	2,910,000	1,285,000	1,625,000	1,595,000	193,000	1,788,000	
PROPOSED 2011/12 minus 2010/11 BALANCE:										163,000	



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Budget

SEWER FUND

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 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 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.



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SEWER FUND

SANITARY SEWER PROJECTS, CONTINUED

To prevent basement flooding, this excess water is discharged to the nearby waterways. Sanitary sewer overflows violate the Clean Water Act and must be prevented. To keep sewage out of our rivers, and to avoid litigation, the Evergreen-Farmington sanitary sewer overflow control project was initiated.

The Oakland County Water Resources Commissioner's Office (formerly the Oakland County Drain Commission) and the communities within the Evergreen-Farmington Sewage Disposal District are required to comply with the state and federal 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 Sanitary Sewerage District as negotiated by the Oakland County Water Resources Commission, 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 communities in the Evergreen-Farmington Sewage Disposal District with sanitary sewer overflows and/or town outlet capacity problems had to submit a short-term corrective action plan for resolution of these problems by 2009.

Since Troy is 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 District to eliminate the sanitary sewer overflows.

The overall project requirements include potential projects totaling \$13,300,000. The budgeted amount is for Troy's share of projects. 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. There is no impact on operation and maintenance costs.

SS-4. Miscellaneous Sanitary Sewer Locations

This project will provide new sanitary sewers throughout the City over the next 5 years. Locations that are currently serviced by septic systems have been identified. The first phase of this City-wide effort to eliminate septic systems was constructed in 2009/10. A continuation of this program will require that right-of-way and/or easements be acquired in order to construct additional sanitary sewer.

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 Sewage Disposal District

In accordance with the administrative consent order, the City performs flow metering throughout the Evergreen-Farmington Sewage Disposal District on an annual basis. The data acquired is analyzed and



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Budget

SEWER FUND

SS-5. Flow Metering, continued

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. There will be no impact on operation and maintenance costs.

SS-6. Flow Metering in the Troy Sewage Disposal District

The City recently completed flow metering throughout the Troy Sewage Disposal District, similar to what was done in the Evergreen-Farmington Sewage Disposal District. 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. The intent 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. There will be no impact on operation and maintenance costs.

SS-8. 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 except excess flows into our system will be reduced.

SS-9. Fieldstone Sanitary Sewer Repair

The existing sanitary sewer on Fieldstone has been identified as a sewer main that easily becomes 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.



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SEWER FUND

SS-10. General Equipment

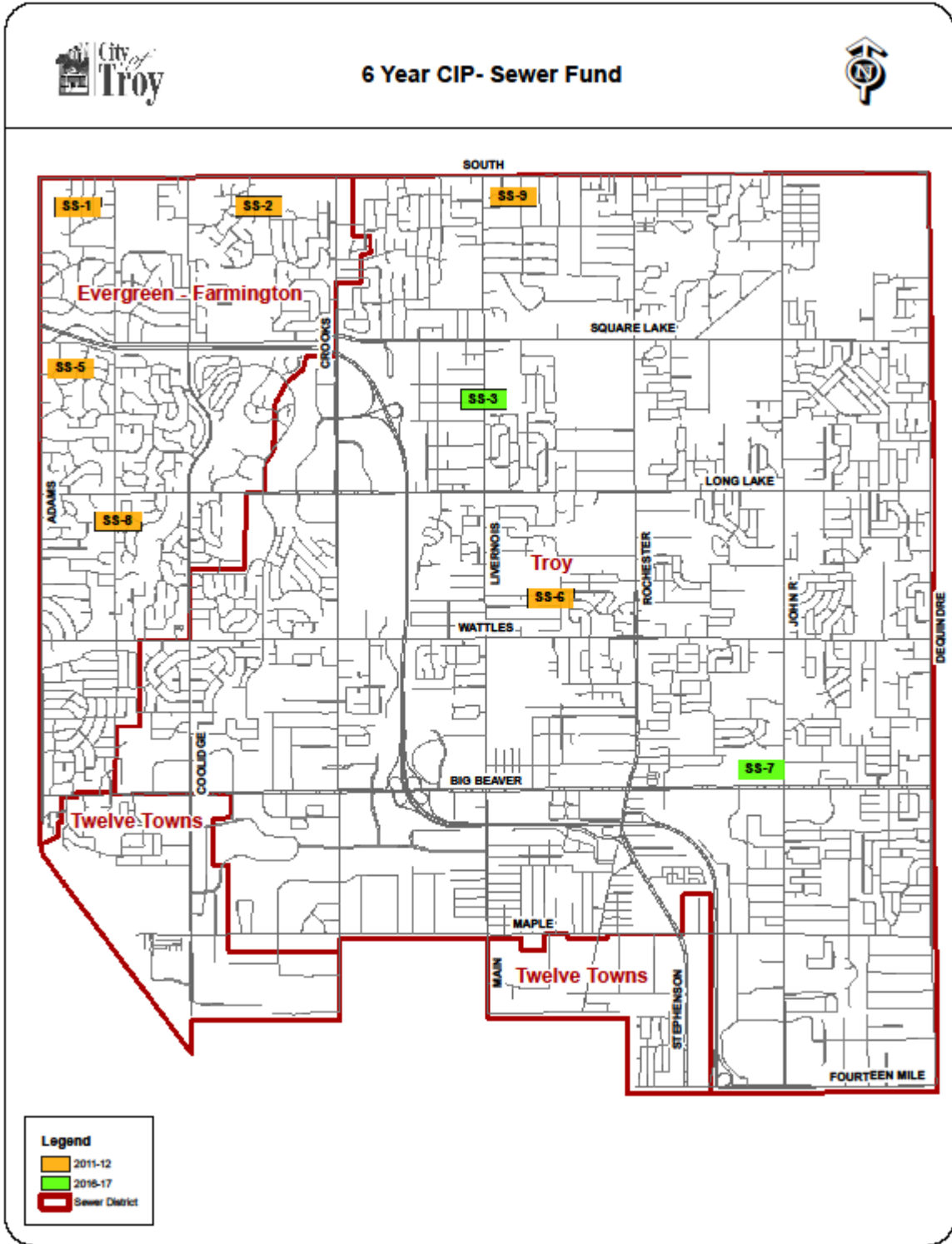
This is an annual budget amount in the Sewer Fund for miscellaneous equipment required by the Public Works or Engineering Department for work associated with the Sewer Fund that are otherwise not specifically noted in the capital improvement plan.

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.

SS-11. Office Equipment Computers

This is an annual budget amount in the Sewer Fund for computer 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.





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6-YEAR CAPITAL IMPROVEMENTS PLAN
SEWER FUND

6 Year CIP - Sewer Fund										
Map Number	Project Name	Total Project Cost	Total City Cost	Proposed						Comments
				2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	
SS-1	Evergreen-Farmington SSO Program	13,300,000	480,000	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	3,500,000	3,500,000	500,000	500,000	500,000	500,000	500,000	500,000	MDEQ ACO Contingency
SS-3	E. Side Livernois, North of Long Lake - San.	600,000	600,000	0	0	0	0	0	300,000	TROY - Livernois - 2014+
SS-4	Miscellaneous Sanitary Sewer Locations	3,000,000	3,000,000	500,000	500,000	500,000	500,000	500,000	0	City wide sanitary sewer extension program
SS-5	Flow Metering in Evergreen-Farmington	3,000,000	3,000,000	250,000	250,000	250,000	250,000	250,000	250,000	ID of Inflow & Infiltration - Implementation
SS-6	Flow Metering in Troy District	3,000,000	3,000,000	250,000	250,000	250,000	250,000	250,000	250,000	ID of Inflow & Infiltration - Implementation
SS-7	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-8	Evergreen-Farmington I&I Removal	505,000	505,000	28,000	0	0	0	0	0	OCWRC Grant - \$247k
SS-9	Fieldstone Sanitary Sewer	125,000	125,000	125,000	0	0	0	0	0	Sanitary sewer repair under DWSD 84" WM
SS-10	General Equipment	120,000	120,000	25,000	25,000	25,000	25,000	25,000	25,000	General Equipment
SS-11	Office Equipment Computers	60,000	60,000	10,000	10,000	10,000	10,000	10,000	10,000	Office Equipment
TOTALS:		33,210,000	20,390,000	1,788,000	1,635,000	1,635,000	1,635,000	1,635,000	1,735,000	



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6-YEAR CAPITAL IMPROVEMENTS PLAN
SEWER FUND

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 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 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. Sanitary sewer overflows violate the Clean Water Act and must be prevented. To keep sewage out of our



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6-YEAR CAPITAL IMPROVEMENTS PLAN
SEWER FUND

SS-1. Evergreen-Farmington Sanitary Sewer Overflow Program

SS-2. Sanitary Sewer Overflow – Evergreen-Farmington District, continued

rivers, and to avoid litigation, the Evergreen-Farmington sanitary sewer overflow control project was initiated.

The Oakland County Water Resources Commissioner's Office (formerly the Oakland County Drain Commission) and the communities within the Evergreen-Farmington Sewage Disposal District are required to comply with the state and federal 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 Sanitary Sewerage District as negotiated by the Oakland County Water Resources Commission, 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 communities in the Evergreen-Farmington Sewage Disposal District with sanitary sewer overflows and/or town outlet capacity problems had to submit a short-term corrective action plan for resolution of these problems by 2009.

Since Troy is 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 District 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. 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, which is currently anticipated no earlier than 2014.



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6-YEAR CAPITAL IMPROVEMENTS PLAN
SEWER FUND

SS-3. East Side of Livernois, North of Long Lake Road (Sanitary Sewer), continued

This 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-4. Miscellaneous Sanitary Sewer Locations

This project will provide for new sanitary sewer throughout the city over the next 5 years. Locations that are currently serviced by septic systems have been identified. The first phase of this City-wide effort to eliminate septic systems was constructed in 2009/10. 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. 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.



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6-YEAR CAPITAL IMPROVEMENTS PLAN
SEWER FUND

SS-7. Big Beaver Relief Sewer, continued

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-8. 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-9. 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.



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SEWER FUND

SS-10. 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.

SS-11. Office Equipment Computers

This is an annual budget amount in the Sewer Fund for computer 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.