

City of Grand Rapids, Michigan

Water/Sewer Rate Study



2016

Final

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: December 8, 2016

TO: Eric R. DeLong, Deputy City Manager
Members of the Utility Advisory Board

FROM: Molly J. Eastman
Utility Financial Officer

SUBJECT: 2016 WATER/SEWER RATE STUDY – FINAL REPORT

The final study, setting water and sewer rates effective January 1, 2017, for Grand Rapids and the retail and wholesale partner communities it serves, is submitted herein for reference and/or retention. A table of contents immediately precedes the report's three sections and lists the respective tasks performed in reviewing the operating and financial performance of the Water Supply System and Sewage Disposal System. The annual study consists of a comprehensive review of the operating and capital costs by community, in conjunction with customer base variation and usage, and calculates recommended commodity and service rates based upon adherence to: (a) the uniform rate-setting methodology established in 1976-77 for customer communities not party to the uniform water and sewer service agreements; and (b) rate methodology changes contractually agreed in the uniform water and sewer service agreements for Utility Advisory Board (UAB) member customer communities. The methodology yields consistent performance in providing for the long-term needs of the water and sewage systems and assuring adequate debt service coverage pursuant to the systems' master bond ordinance covenants.

The City's 2016 review marked the 40th annual water/sewer rate study report and resulted in modest utility rate increases as follows:

1. Water Supply System revenue requirements increased \$1,442,874, or 3.63% more than revenue generated by existing rates and charges and includes a supplemental revenue requirement to help ensure satisfactory debt coverage.
2. Sewage Disposal System revenue requirements increased \$179,666, or 0.36% more than revenue generated by existing rates and charges and is consistently aligned with sewer's average performance within a narrow band of fluctuation over the last five years.

The final rate study continues to provide funding from the penalty fees to support both of the City's circuit breaker programs. A contribution of \$231,828 will support the Individual Circuit Breaker program aimed to help eligible retail customers pay their water/sewer bills. Sufficient

funding was also available to apply the City and Customer Community Circuit Breaker relief to the water and sewer utility rates in the City of Grand Rapids, City of Walker, Wright Township, and Grand Rapids Township to limit each retail service area's revenue requirement change to a level in line with the overall systems' average change.

Five schedules supplement and immediately follow this memo. The first schedule summarizes the revenue requirement changes by customer community. The second and third schedules show water and sewer rate adjustment impacts to typical domestic and commercial customers with the system average quarterly consumption in each retail community. They also include a comparison of the approximate monthly charge for Wright Township's residential equivalent unit (REU) rate structure. The final two schedules show comparative water and sewer monthly service and commodity rate adjustments for the City's retail and wholesale customer communities.

Announcement of the proposed 2017 water and sewer rates to the UAB partners and other customer communities was made November 17, 2016, and the City Commission approved the customer community rates by resolution on December 13, 2016.

Pursuant to Section 2.33 and 2.94 of the City Code, on November 15, 2016, the preliminary rate study with explanatory materials were filed with the City Clerk, made available online at www.grcity.us/watersewerratestudy, and notice of availability of such information was published in the newspaper at least twenty (20) days prior to adoption of the resolution to provide for opportunities for public comment. The City Commission approved the final water and sewer rates by resolution on December 13, 2016.

Attachments as named

MJE: mje

**CITY OF GRAND RAPIDS, MICHIGAN
2016 FINAL WATER/SEWER RATE STUDY
SUMMARY OF REVENUE REQUIREMENT CHANGES
FOR RATES EFFECTIVE JANUARY 1, 2017
December 6, 2016**

	<u>WATER (1)</u>		<u>SEWER (1)</u>	
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>
GRAND RAPIDS	\$ 902,749	3.83%	\$ 684,129	2.01%
WALKER	57,295	1.81%	(429,249)	-8.90%
NET OF CONTRIBUTION OF:	87,800			
KENTWOOD	146,279	3.50%	(99,104)	-2.52%
CASCADE TWP	107,799	3.43%	10,745	0.46%
GRAND RAPIDS TWP	94,422	4.59%	(100,001)	-4.12%
TALLMADGE TWP	2,501	1.49%	2,533	0.67%
NET OF CONTRIBUTION OF:	2,500			
WRIGHT TWP	N/A	N/A	17,204	6.97%
EAST GRAND RAPIDS	(31,401)	-3.92%	17,584	3.17%
ADA TWP	129,263	11.88%	49,743	4.20%
OTTAWA COUNTY	(56,332)	-3.51%	NA	NA
GAINES TWP	N/A	N/A	10,481	5.67%
CALEDONIA TWP	N/A	N/A	15,601	16.04%
SYSTEM	\$ 1,442,874	3.63%	\$ 179,666	0.36%

(1) Change in revenue requirements based on revenues currently generated from rates, customer base and volumes reported in the preliminary rate study (Includes consideration for relief from CCCCB).

DISCLOSE RELIEF PROVIDED BY CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER (CCCCB)

	<u>WATER</u>		<u>SEWER</u>	
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>
SYSTEM CHANGE- ABOVE	\$ 41,187,517	3.63%	\$ 50,400,344	0.36%
ADD: CCCCB RELIEF	380,488	0.96%	614,492	1.22%
LESS: CAPITAL INVESTMENT REIMBURSEMENT			(108,205)	-0.22%
SYSTEM CHANGE- WITHOUT RELIEF	\$ 41,568,005	4.59%	\$ 50,906,631	1.37%

CITY OF GRAND RAPIDS, MICHIGAN
2016 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON DOMESTIC USERS
BY CUSTOMER COMMUNITY *
December 2, 2016

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2016</u>	<u>2017</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 74.92	\$ 77.31	\$ 2.39	3.19%
SEWER	105.75	107.16	1.41	1.33%
	<u>\$ 180.67</u>	<u>\$ 184.47</u>	<u>\$ 3.80</u>	2.10%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 77.54	\$ 78.44	\$ 0.90	1.16%
SEWER	137.58	125.10	(12.48)	-9.07%
	<u>\$ 215.12</u>	<u>\$ 203.54</u>	<u>\$ (11.58)</u>	-5.38%
RATIO TO GR	1.19	1.10		
KENTWOOD				
WATER	\$ 82.89	\$ 85.04	\$ 2.15	2.59%
SEWER	66.27	63.81	(2.46)	-3.71%
	<u>\$ 149.16</u>	<u>\$ 148.85</u>	<u>\$ (0.31)</u>	-0.21%
RATIO TO GR	0.83	0.81		
CASCADE TWP				
WATER	\$ 116.63	\$ 120.03	\$ 3.40	2.92%
SEWER	143.01	142.89	(0.12)	-0.08%
	<u>\$ 259.64</u>	<u>\$ 262.92</u>	<u>\$ 3.28</u>	1.26%
RATIO TO GR	1.44	1.43		
GRAND RAPIDS TWP				
WATER	\$ 87.15	\$ 90.65	\$ 3.50	4.02%
SEWER	123.87	118.44	(5.43)	-4.38%
	<u>\$ 211.02</u>	<u>\$ 209.09</u>	<u>\$ (1.93)</u>	-0.91%
RATIO TO GR	1.17	1.13		
TALLMADGE TWP				
WATER	\$ 109.28	\$ 110.59	\$ 1.31	1.20%
SEWER	295.17	296.04	0.87	0.29%
	<u>\$ 404.45</u>	<u>\$ 406.63</u>	<u>\$ 2.18</u>	0.54%
RATIO TO GR	2.24	2.20		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER
QUARTERLY CONSUMPTION OF: WATER- 25.00 UNITS OR 18,700 GALLONS
SEWER - 18.00 UNITS OR 13,464 GALLONS
NO. OF MONTHS: 3

Note: The average water and sewer consumption depicted no change in usage from last year's rate study.

REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL

WRIGHT TWP-

SEWER (No. of REU 1.00)	<u>\$ 146.10</u>	<u>\$ 156.27</u>	<u>\$ 10.17</u>	6.96%
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CITY OF GRAND RAPIDS, MICHIGAN
2016 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON COMMERCIAL USERS
BY CUSTOMER COMMUNITY
December 2, 2016

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2016</u>	<u>2017</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 428.30	\$ 452.52	\$ 24.22	5.65%
SEWER	746.26	773.21	26.95	3.61%
	<u>\$ 1,174.56</u>	<u>\$ 1,225.73</u>	<u>\$ 51.17</u>	4.36%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 399.46	\$ 407.62	\$ 8.16	2.04%
SEWER	706.05	643.20	(62.85)	-8.90%
	<u>\$ 1,105.51</u>	<u>\$ 1,050.82</u>	<u>\$ (54.69)</u>	-4.95%
RATIO TO GR	0.94	0.86		
KENTWOOD				
WATER	\$ 400.59	\$ 414.31	\$ 13.72	3.42%
SEWER	542.34	528.96	(13.38)	-2.47%
	<u>\$ 942.93</u>	<u>\$ 943.27</u>	<u>\$ 0.34</u>	0.04%
RATIO TO GR	0.80	0.77		
CASCADE TWP				
WATER	\$ 564.46	\$ 583.77	\$ 19.31	3.42%
SEWER	706.93	710.03	3.10	0.44%
	<u>\$ 1,271.39</u>	<u>\$ 1,293.80</u>	<u>\$ 22.41</u>	1.76%
RATIO TO GR	1.08	1.06		
GRAND RAPIDS TWP				
WATER	\$ 433.11	\$ 454.45	\$ 21.34	4.93%
SEWER	621.86	596.17	(25.69)	-4.13%
	<u>\$ 1,054.97</u>	<u>\$ 1,050.62</u>	<u>\$ (4.35)</u>	-0.41%
RATIO TO GR	0.90	0.86		
TALLMADGE TWP				
WATER	\$ 777.58	\$ 789.83	\$ 12.25	1.58%
SEWER	2,403.01	2,418.44	15.43	0.64%
	<u>\$ 3,180.59</u>	<u>\$ 3,208.27</u>	<u>\$ 27.68</u>	0.87%
RATIO TO GR	2.71	2.62		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE COMMERCIAL CUSTOMER
QUARTERLY CONSUMPTION OF : WATER- 212.00 UNITS OR 158,576 GALLONS
SEWER - 208.00 UNITS OR 155,584 GALLONS
NO. OF MONTHS: 3

REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL

WRIGHT TWP				
SEWER (No. of REU 1.00)	<u>\$ 146.10</u>	<u>\$ 156.27</u>	<u>\$ 10.17</u>	6.96%

CITY OF GRAND RAPIDS, MICHIGAN
2016 FINAL WATER/SEWER RATE STUDY
WATER & SEWER RATES FOR GRAND RAPIDS & RETAIL CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2017
December 2, 2016

WATER RATES

COMMODITY	METER CODE	GRAND RAPIDS	WALKER	KENTWOOD	CASCADE	GR. RAPIDS TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP
CHARGE (HCF)		\$ 1.92	\$ 1.64	\$ 1.61	\$ 2.25	\$ 1.79	\$ 3.58	NA
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 9.77	\$ 12.48	\$ 14.93	\$ 21.26	\$ 15.30	\$ 7.03	NA
1"	B	\$ 15.16	\$ 19.98	\$ 24.33	\$ 35.59	\$ 24.99	\$ 10.29	NA
1-1/4"	C	\$ 22.09	\$ 29.62	\$ 36.42	\$ 54.01	\$ 37.45	\$ 14.48	NA
1-1/2"	D	\$ 30.56	\$ 41.40	\$ 51.20	\$ 76.52	\$ 52.68	\$ 19.60	NA
2"	E	\$ 52.12	\$ 71.39	\$ 88.81	\$ 133.83	\$ 91.44	\$ 32.64	NA
3"	F	\$ 113.72	\$ 157.08	\$ 196.28	\$ 297.56	\$ 202.20	\$ 69.88	NA
4"	G	\$ 199.96	\$ 277.04	\$ 346.73	\$ 526.79	\$ 357.26	\$ 122.02	NA
6" & Over	H	\$ 446.36	\$ 619.80	\$ 776.60	\$ 1,181.72	\$ 800.28	\$ 271.00	NA

SEWER RATES

COMMODITY	METER CODE	GRAND RAPIDS	WALKER	KENTWOOD	CASCADE	GR. RAPIDS TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP
CHARGE (HCF)		\$ 3.35	\$ 2.43	\$ 2.40	\$ 2.63	\$ 2.23	\$ 10.79	NA
REU Charge (Monthly) *		NA	NA	NA	NA	NA	NA	\$ 52.09
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 15.62	\$ 27.12	\$ 6.87	\$ 31.85	\$ 26.10	\$ 33.94	NA
1"	B	\$ 25.47	\$ 45.92	\$ 9.92	\$ 54.33	\$ 44.11	\$ 58.04	NA
1-1/4"	C	\$ 38.14	\$ 70.09	\$ 13.84	\$ 83.23	\$ 67.26	\$ 89.03	NA
1-1/2"	D	\$ 53.63	\$ 99.63	\$ 18.63	\$ 118.55	\$ 95.55	\$ 126.91	NA
2"	E	\$ 93.05	\$ 174.83	\$ 30.83	\$ 208.46	\$ 167.57	\$ 223.32	NA
3"	F	\$ 205.67	\$ 389.67	\$ 65.67	\$ 465.35	\$ 373.35	\$ 498.79	NA
4"	G	\$ 363.34	\$ 690.45	\$ 114.45	\$ 824.99	\$ 661.44	\$ 884.44	NA
6" & Over	H	\$ 813.83	\$ 1,549.83	\$ 253.83	\$ 1,852.55	\$ 1,484.55	\$ 1,986.31	NA

* REU - Residential Equivalent Unit (Wright Township Only)

FIRE PROTECTION RATES- ALL GOVERNMENTAL UNITS

6"	H	\$ 16.40	10"	J	\$ 45.59
8"	I	\$ 29.11	12"	K	\$ 65.60

NOTE: Monthly defined as 1/12th of 365 days.

CITY OF GRAND RAPIDS, MICHIGAN
2016 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON WHOLESALE CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2017
December 2, 2016

	<u>2016</u>	<u>2017</u>	<u>PERCENTAGE CHANGE</u>
EAST GRAND RAPIDS			
WATER - SERVICE (MONTHLY)	\$ 15,936.00	\$15,291.00	-4.05%
- COMMODITY (100 CF)	1.03	\$0.99	-3.88%
SEWER - SERVICE (MONTHLY)	1,306.00	\$1,818.00	39.20%
- COMMODITY (MG)	1,649.00	1,684.00	2.12%
ADA TWP			
WATER - SERVICE	\$ 31,083.00	\$44,400.00	42.84%
- COMMODITY	1.17	\$1.12	-4.27%
SEWER - SERVICE	42,300.00	\$45,939.00	8.60%
- COMMODITY	2,005.00	2,023.00	0.90%
OTTAWA COUNTY			
WATER - SERVICE	\$ -	\$ -	N/A
- COMMODITY	1.16	\$1.12	-3.45%
GAINES TWP			
SEWER - SERVICE	\$ 1,093.00	\$ 1,620.00	48.22%
- COMMODITY	1,447.00	1,482.00	2.42%
CALEDONIA TWP			
SEWER - SERVICE	\$ 523.00	\$755	44.36%
- COMMODITY	3,541.00	4,040.00	14.09%

NOTE: Monthly defined as 1/12th of 365 days.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ANNUAL RATE REVIEW**

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**CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 SYSTEM ADDITIONS AND IMPROVEMENTS
 FOR THE YEAR ENDED JUNE 30, 2016
 TASKS NO. 1, 2, & 3**

COMMUNITY	LOCAL		INTERMEDIATE		PRIMARY		TOTALS	
	FEET	MILES	FEET	MILES	FEET	MILES	FEET	MILES
Grand Rapids								
Construction	16,272	3.08	5,442	1.03	7,532	1.43	29,246	5.54
Abandonment	(15,188)	(2.88)	(3,718)	(0.70)	0	0.00	(18,906)	(3.58)
CSO Construction	10,837	2.05	1,490	0.28	0	0.00	12,327	2.33
CSO Abandonment	(9,678)	(1.83)	0	0.00	0	0.00	(9,678)	(1.83)
	<u>2,243</u>	<u>0.42</u>	<u>3,214</u>	<u>0.61</u>	<u>7,532</u>	<u>1.43</u>	<u>12,989</u>	<u>2.46</u>
Kentwood								
Construction	889	0.17	920	0.17	0	0.00	1,809	0.34
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>889</u>	<u>0.17</u>	<u>920</u>	<u>0.17</u>	<u>0</u>	<u>0.00</u>	<u>1,809</u>	<u>0.34</u>
Cascade Twp.								
Construction	1,610	0.30	4,008	0.76	0	0.00	5,618	1.06
Abandonment	(44)	(0.01)	(1,427)	(0.27)	0	0.00	(1,471)	(0.28)
	<u>1,566</u>	<u>0.29</u>	<u>2,581</u>	<u>0.49</u>	<u>0</u>	<u>0.00</u>	<u>4,147</u>	<u>0.78</u>
G.R. Twp.								
Construction	2,564	0.49	689	0.13	0	0.00	3,253	0.62
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>2,564</u>	<u>0.49</u>	<u>689</u>	<u>0.13</u>	<u>0</u>	<u>0.00</u>	<u>3,253</u>	<u>0.62</u>
Tallmadge Twp.								
Construction	351	0.07	1,849	0.35	0	0.00	2,200	0.42
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>351</u>	<u>0.07</u>	<u>1,849</u>	<u>0.35</u>	<u>0</u>	<u>0.00</u>	<u>2,200</u>	<u>0.42</u>
Walker								
Construction	763	0.14	5,200	0.98	0	0.00	5,963	1.12
Abandonment	(23)	0.00	(1,012)	(0.19)	0	0.00	(1,035)	(0.19)
	<u>740</u>	<u>0.14</u>	<u>4,188</u>	<u>0.79</u>	<u>0</u>	<u>0.00</u>	<u>4,928</u>	<u>0.93</u>
TOTAL	<u><u>8,353</u></u>	<u><u>1.58</u></u>	<u><u>13,441</u></u>	<u><u>2.54</u></u>	<u><u>7,532</u></u>	<u><u>1.43</u></u>	<u><u>29,326</u></u>	<u><u>5.55</u></u>

	CONTRIBUTIONS		
	COMM	OTHER	TOTAL
Integrated	\$ -	\$ -	\$ -
Grand Rapids	680,739	-	680,739
Walker	981,162	-	981,162
Kentwood	175,374	-	175,374
Cascade Twp.	934,795	-	934,795
Grand Rapids Twp.	277,610	-	277,610
Tallmadge Twp.	256,903	-	256,903
TOTAL	<u><u>\$ 3,306,583</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 3,306,583</u></u>

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #4, PART 1
 FISCAL YEAR ENDED JUNE 30, 2016

METHOD OF DISTRIBUTION	ACTIVITY	EXPENSE BY ACTIVITY	PUMPING STATIONS		WATERMAINS		RETAIL CUSTOMER METERING	ENGIN. SERVICES	ADMIN. EXPENSE
			FILTRATION PLANT	PRIMARY	INTERM.	PRIMARY TRANSPORT			
253 (4010) 5910	TREASURER-CUSTOMER SERVICE	\$ 498,604					\$ 498,604		
536 (2110) 2700 5910	WATER-CUSTOMER SERVICE *	1,835,889					1,835,889		
536 (3010:70) 5910	ENGINEERING	1,095,563						1,095,563	
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	2,340,520		665,056	1,675,464				
536 (6010) 6370 5910	FIELD OPERATIONS	7,172,077		364,270	1,858,572	4,949,235			
536 (6500:90) 5910	FILTRATION	6,388,436	6,388,436						
536 (1000:10) 8000 5910	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	19,331,090	6,388,436	665,056	1,675,464	4,949,235	2,334,494	1,095,563	-
	TOTAL	\$ 22,917,744	\$ 6,388,436	\$ 665,056	\$ 1,675,464	\$ 4,949,235	\$ 2,334,494	\$ 1,095,563	\$ 3,586,654

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

253 (4010) 5910	TREASURER-CUSTOMER SERVICE	100.000%					100.000%		
536 (2110) 2700 5910	WATER-CUSTOMER SERVICE	100.000%					100.000%		
536 (3010:70) 5910	ENGINEERING	100.000%						100.000%	
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	100.000%		28.410%	71.590%				
536 (6010) 6370 5910	FIELD OPERATIONS	100.000%		5.079%	25.914%	69.007%			
536 (6500:90) 5910	TOTAL MILES OF MAIN	1,174.69		59.66	304.41	810.62			
536 (1000:10) 8000 5910	FILTRATION	100.000%	100.000%						
	ADMINISTRATION	100.000%							100.000%

CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #4, PART 2
FISCAL YEAR ENDED JUNE 30, 2016

COST CENTER	EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE					
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP			
FILTRATION PLANT	\$ 6,388,436	\$ 6,388,436												
PUMPING STATIONS:														
A. PRIMARY TRANSPORT	665,056	665,056												
B. INTERMEDIATE TRANSPORT	1,675,464		1,331,880	37,347	306,237									
WATERMAINS:														
A. PRIMARY TRANSPORT	364,270		300,708	19,660	27,965		10,258	5,679						
B. INTERMEDIATE TRANSPORT	1,858,572		710,922	387,940	332,870		248,064	151,604		27,172				
C. LOCAL DISTRIBUTION	4,949,235		3,628,779	387,327	336,845		273,891	307,298		15,095				
RETAIL CUSTOMER METERING	2,334,494		1,756,006	189,304	153,400		105,893	123,658		6,233				
SUBTOTAL OPERATING EXPENSE	18,235,526	7,053,492	7,728,295	1,021,578	1,157,317		638,106	588,239		48,500				
ENGINEERING SERVICES	1,095,563	423,775	464,300	61,373	69,524		38,334	35,343		2,914				
ADMINISTRATIVE EXPENSE	3,586,654	1,364,851	1,553,544	197,665	223,917		123,462	113,829		9,386				
TOTAL	\$ 22,917,744	\$ 8,842,118	\$ 9,746,139	\$ 1,280,616	\$ 1,450,758		\$ 799,902	\$ 737,411		\$ 60,800				\$ -
METHOD OF DISTRIBUTION														
FILTRATION PLANTS	100.00%	100.00%												
PUMPING STATIONS														
A. PRIMARY TRANSPORT	100.00%	100.00%												
B. INTERMEDIATE TRANSPORT	100.00%		79.493%	2.229%	18.278%									
MEMO														
WATERMAINS														
TOTAL MILES:	1,174.69													
A. PRIMARY TRANSPORT			82.551%	5.397%	7.677%		2.816%	1.559%						
MILES	59.66		49.25	3.22	4.58		1.68	0.93						
B. INTERMEDIATE TRANSPORT			38.251%	20.873%	17.910%		13.347%	8.157%		1.462%				
MILES	304.41		116.44	63.54	54.52		40.63	24.83		4.45				
C. LOCAL DISTRIBUTION			73.320%	7.826%	6.806%		5.534%	6.209%		0.305%				
MILES	810.62		594.35	63.44	55.17		44.86	50.33		2.47				
RETAIL CUSTOMER METERING (1)			75.220%	8.109%	6.571%		4.536%	5.297%		0.267%				
NUMBER OF METERS	83,915.00		63,121.00	6,805.00	5,514.00		3,806.00	4,445.00		224.00				
ENGINEERING SERVICES (2)			42.380%	5.602%	6.346%		3.499%	3.226%		0.266%				
ADMINISTRATIVE EXPENSE (3)			43.315%	5.511%	6.243%		3.442%	3.174%		0.262%				

NOTES:
 (1) ALLOCATION BASED ON NUMBER OF METERS.
 (2) ALLOCATION BASED ON DIRECT OPERATING EXPENSE.
 (3) ALLOCATION BASED ON COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #5, PART 1
 FISCAL YEAR ENDED JUNE 30, 2016

	ACTIVITY	ADJUSTED EXPENSE BY ACTIVITY	PUMPING STATIONS		WATERMAINS		RETAIL CUSTOMER METERING	ENGIN. SERVICES	ADMIN. EXPENSE
			FILTRATION PLANT	PRIMARY	INTERM.	PRIMARY TRANSPORT			
253 (4010) 5910	TREASURER-CUSTOMER SERVICE	\$ 492,196					\$ 492,196		
536 (2110 / 2700) 5910	WATER-CUSTOMER SERVICE *	2,276,479					2,276,479		
536 (3010:70) 5910	ENGINEERING	1,169,607					1,169,607		
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	1,767,310		502,179	1,265,131				
536 (6010 / 6370) 5910	FIELD OPERATIONS	7,290,176				370,268	1,889,176		
536 (6500:90) 5910	FILTRATION	6,473,232	6,473,232						
536 (1000:10 / 8000) 5910	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	19,469,001	6,473,232	502,179	1,265,131	370,268	1,889,176	1,169,607	-
	TOTAL	\$ 25,249,452	\$ 6,473,232	\$ 502,179	\$ 1,265,131	\$ 370,268	\$ 1,889,176	\$ 1,169,607	\$ 5,780,451

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

253 (4010) 5910	TREASURER-CUSTOMER SERVICE	100.000%					100.000%		
536 (2110 / 2700) 5910	WATER-CUSTOMER SERVICE	100.000%					100.000%		
536 (3010:70) 5910	ENGINEERING	100.000%						100.000%	
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	100.000%		28.410%	71.590%				
536 (6010 / 6370) 5910	FIELD OPERATIONS	100.000%				5.079%	25.914%	69.007%	
536 (6500:90) 5910	TOTAL MILES OF MAIN	1,174.69				59.66	304.41	810.62	
536 (1000:10 / 8000) 5910	FILTRATION	100.000%	100.000%						
	ADMINISTRATION	100.000%							100.000%

CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #5, PART 2
FISCAL YEAR ENDED JUNE 30, 2016

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE					
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP			
FILTRATION PLANT	\$ 6,473,232	\$ 6,473,232												
PUMPING STATIONS:														
A. PRIMARY TRANSPORT	502,179	502,179												
B. INTERMEDIATE TRANSPORT	1,265,131		1,005,694	28,200	231,237									
WATERMAINS:														
A. PRIMARY TRANSPORT	370,268		305,661	19,983	28,425		10,427	5,772						
B. INTERMEDIATE TRANSPORT	1,889,176		722,629	394,328	338,351		252,148	154,100		27,620				
C. LOCAL DISTRIBUTION	5,030,732		3,688,532	393,705	342,392		278,401	312,358		15,344				
RETAIL CUSTOMER METERING	2,768,675		2,082,597	224,512	181,930		125,587	146,657		7,392				
SUBTOTAL OPERATING EXPENSE	18,299,394	6,975,411	7,805,113	1,060,728	1,122,335		666,563	618,887		50,356				
ENGINEERING SERVICES	1,169,607	445,831	498,861	67,802	71,732		42,609	39,556		3,216				
ADMINISTRATIVE EXPENSE	5,780,451	2,181,218	2,498,840	331,720	350,947		208,463	193,527		15,736				
TOTAL	\$ 25,249,452	\$ 9,602,460	\$ 10,802,814	\$ 1,460,250	\$ 1,545,014		\$ 917,635	\$ 851,970		\$ 69,308				\$ -

METHOD OF DISTRIBUTION

FILTRATION PLANTS	100.00%													
PUMPING STATIONS														
A. PRIMARY TRANSPORT	100.00%													
B. INTERMEDIATE TRANSPORT	100.00%		79.493%	2.229%	18.278%									
MEMO														
WATERMAINS														
TOTAL MILES:		1,174.69												
A. PRIMARY TRANSPORT	100.0000%		82.551%	5.397%	7.677%		2.816%	1.559%						
MILES		59.66	49.25	3.22	4.58		1.68	0.93						
B. INTERMEDIATE TRANSPORT	100.0000%		38.251%	20.873%	17.910%		13.347%	8.157%		1.462%				
MILES		304.41	116.44	63.54	54.52		40.63	24.83		4.45				
C. LOCAL DISTRIBUTION	100.0000%		73.320%	7.826%	6.806%		5.534%	6.209%		0.305%				
MILES		810.62	594.35	63.44	55.17		44.86	50.33		2.47				
RETAIL CUSTOMER METERING (1)	100.0000%		75.220%	8.109%	6.571%		4.536%	5.297%		0.267%				
NUMBER OF METERS		83,915.00	63,121.00	6,805.00	5,514.00		3,806.00	4,445.00		224.00				
ENGINEERING SERVICES (2)	100.0000%		42.652%	5.797%	6.133%		3.643%	3.382%		0.275%				
ADMINISTRATIVE EXPENSE (3)	100.0000%		43.229%	5.739%	6.071%		3.606%	3.348%		0.272%				

NOTES:
 (1) ALLOCATION BASED ON NUMBER OF METERS.
 (2) ALLOCATION BASED ON DIRECT OPERATING EXPENSE.
 (3) ALLOCATION BASED ON COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED ACTUAL EXPENSE
 YEAR ENDED JUNE 30, 2016
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: ADMINISTRATION		OPERATING	ADJUSTED	ADJUSTED
OBJ	EXPENDITURE SUB-OBJECT DESCRIPTION	EXPENSES	COST FACTORS	CURRENT ANNUAL EXPENSES
7020	PERMANENT EMPLOYEES	\$ 577,400.55	\$ 22,691.84	\$ 600,092.39
7040	TEMPORARY EMPLOYEES	4,175.20	164.09	4,339.29
7055	TIME & ONE-HALF	1,034.03	40.64	1,074.67
7105	EMPLOYERS SOCIAL SECURITY	43,986.13	1,728.65	45,714.78
7110	HOSPITALIZATION INSURANCE	94,724.30	(2,974.34)	91,749.96
7115	RETIREE HEALTH CARE	74,212.15	(2,218.94)	71,993.21
7120	RETIREMENT FUND CONTRIBUTION	126,808.17	5,186.45	131,994.62
7135	UNEMPLOYMENT COMPENSATION	1,010.66	-	1,010.66
	TOTAL PERSONAL SERVICES	<u>923,351.19</u>	<u>24,618.39</u>	<u>947,969.58</u>
7520	SUPPLIES	7,059.86	-	7,059.86
	TOTAL SUPPLIES	<u>7,059.86</u>	<u>-</u>	<u>7,059.86</u>
9480	COMPUTER SERVICES	56,384.00	(18,427.00)	37,957.00
9460	ENGINEERING SERVICES	20,040.25	-	20,040.25
8010	CONTRACTUAL SERVICES	580,029.91	75,000.00	655,029.91
8450	GENERAL LIABILITY INSURANCE/CLAIMS	299,577.00	(40,583.00)	258,994.00
8400	INSURANCE PREMIUMS	148,316.00	-	148,316.00
8500	TELEPHONE	2,906.83	-	2,906.83
8800	COMMUNITY PROMOTION	458.45	-	458.45
9000	PRINTING & PUBLISHING	3,258.84	-	3,258.84
9340	MAINTENANCE SERVICE	2,777.06	-	2,777.06
9410	EQUIPMENT RENTALS OR LEASE	1,410.97	-	1,410.97
9400	LAND RENTAL OR LEASE	2,858.32	-	2,858.32
9470	VEHICLE USAGE/CAR MILEAGE	4,404.72	-	4,404.72
9100	PROFESSIONAL DEVELOPMENT	7,574.63	-	7,574.63
9110	OTHER TRAVEL & TRAINING	13,322.85	-	13,322.85
9130	LOCAL BUSINESS EXPENSE	161.60	-	161.60
9150	MEMBERSHIPS	26,742.92	-	26,742.92
7910	SUBSCRIPTIONS AND PUBLICATIONS	2,153.10	-	2,153.10
8240	FEES	829.03	-	829.03
8030	ADMINISTRATIVE SERVICES (ICB)	116,514.00	(116,514.00)	-
9650	BAD DEBT WRITE-OFFS	10,388.86	-	10,388.86
6931	GAIN-LOSS ON SALE OF ASSETS-FA	624,442.39	-	624,442.39
8011	CONTRACT EMPLOYEES - TEMP SERVICES	2,361.18	-	2,361.18
xxxx	SENIOR DEBT COVERAGE RATIO ADJ		2,200,000.00	2,200,000.00
	TOTAL OTHER SERVICES & CHARGES	<u>1,926,912.91</u>	<u>2,099,476.00</u>	<u>4,026,388.91</u>
9760	EQUIPMENT	5,646.35	-	5,646.35
9840	SOFTWARE	244.06	-	244.06
9880	CONSTRUCTION IN PROGRESS	87,345.73	-	87,345.73
	TOTAL CAPITAL	<u>93,236.14</u>	<u>-</u>	<u>93,236.14</u>
9952	OPERATING TRANSFERS-A87 COST	636,094.00	69,703.00	705,797.00
	TOTAL TRANSFERS/FEES	<u>636,094.00</u>	<u>69,703.00</u>	<u>705,797.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 3,586,654.10</u>	<u>\$ 2,193,797.39</u>	<u>\$ 5,780,451.49</u>

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED ACTUAL EXPENSE
 YEAR ENDED JUNE 30, 2016
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: CUSTOMER SERVICES

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,263,449.26	\$ 49,653.56	\$ 1,313,102.82
7025	ACT.ASSIGNMENT	1,140.59	44.83	1,185.42
7055	TIME & ONE-HALF	76,404.79	3,002.71	79,407.50
7105	EMPLOYERS SOCIAL SECURITY	96,507.01	3,792.73	100,299.74
7110	HOSPITALIZATION INSURANCE	342,895.99	(10,766.93)	332,129.06
7115	RETIREE HEALTH CARE	154,942.64	(4,632.78)	150,309.86
7120	RETIREMENT FUND CONTRIBUTION	273,430.56	11,183.31	284,613.87
7135	UNEMPLOYMENT COMPENSATION	1,780.97	-	1,780.97
7165	SHIFT DIFFERENTIAL	1,244.27	-	1,244.27
	TOTAL PERSONAL SERVICES	<u>2,211,796.08</u>	<u>52,277.43</u>	<u>2,264,073.51</u>
7520	SUPPLIES	558,266.30	-	558,266.30
8510	POSTAGE	3,563.40	-	3,563.40
7670	CLOTHING/CLEANING ALLOWANCE	3,712.28	-	3,712.28
	TOTAL SUPPLIES	<u>565,541.98</u>	<u>-</u>	<u>565,541.98</u>
9480	COMPUTER SERVICES	221,858.00	(44,533.00)	177,325.00
9480	COMPUTER SERVICES (CIS-DEPR & ROI)		446,475.00	446,475.00
8010	CONTRACTUAL SERVICES	751,871.74	-	751,871.74
8500	TELEPHONE	10,603.85	-	10,603.85
9340	MAINTENANCE SERVICE	14,360.38	-	14,360.38
9410	EQUIPMENT RENTALS OR LEASE	1,839.05	-	1,839.05
9470	VEHICLE RENTAL/CAR MILEAGE	11,371.58	-	11,371.58
9100	PROFESSIONAL DEVELOPMENT	499.00	-	499.00
9130	LOCAL BUSINESS EXPENSE	99.39	-	99.39
8240	FEES	1,140.22	-	1,140.22
9650	BAD DEBT WRITE-OFFS	(805.97)	-	(805.97)
8011	CONTRACT EMPLOYEES - TEMP SERVICES	21,256.32	-	21,256.32
9450	311 CALL CENTER SERVICES	522,488.00	-	522,488.00
9440	FLEET MANAGEMENT EQUIPMENT	113,353.44	-	113,353.44
	TOTAL OTHER SERVICES & CHARGES	<u>1,669,935.00</u>	<u>401,942.00</u>	<u>2,071,877.00</u>
9760	EQUIPMENT	20,765.45	-	20,765.45
9840	SOFTWARE	1,576.92	-	1,576.92
	TOTAL CAPITAL	<u>22,342.37</u>	<u>-</u>	<u>22,342.37</u>
	ORGANIZATIONAL UNIT TOTAL (GROSS)	\$ 4,469,615.43	\$ 454,219.43	\$ 4,923,834.86
	LESS: SDSF CONTRIBUTION *	(2,633,726.00)	(13,629.88)	(2,647,355.88)
	ORGANIZATIONAL UNIT TOTAL (NET)	<u>\$ 1,835,889.43</u>	<u>\$ 440,589.55</u>	<u>\$ 2,276,478.98</u>

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED ACTUAL EXPENSE
 YEAR ENDED JUNE 30, 2016
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: ENGINEERING

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 548,265.99	\$ 21,546.85	\$ 569,812.84
7025	ACT.ASSIGNMENT	3,282.40	129.00	3,411.40
7040	TEMPORARY EMPLOYEES	4,425.86	40,173.94	44,599.80
7055	TIME & ONE-HALF	1,542.57	60.62	1,603.19
7105	EMPLOYERS SOCIAL SECURITY	40,789.50	1,603.03	42,392.53
7110	HOSPITALIZATION INSURANCE	118,356.02	(3,716.38)	114,639.64
7115	RETIREE HEALTH CARE	68,899.27	(2,060.09)	66,839.18
7120	RETIREMENT FUND CONTRIBUTION	118,941.62	4,864.71	123,806.33
7135	UNEMPLOYMENT COMPENSATION	929.87	-	929.87
	TOTAL PERSONAL SERVICES	<u>905,433.10</u>	<u>62,601.68</u>	<u>968,034.78</u>
7520	SUPPLIES	2,083.81	-	2,083.81
	TOTAL SUPPLIES	<u>2,083.81</u>	<u>-</u>	<u>2,083.81</u>
9480	COMPUTER SERVICES	58,147.00	11,442.00	69,589.00
8010	CONTRACTUAL SERVICES	56,931.75	-	56,931.75
8500	TELEPHONE	4,189.98	-	4,189.98
9410	EQUIPMENT RENTALS OR LEASE	2,514.97	-	2,514.97
9470	VEHICLE RENTAL/CAR MILEAGE	500.00	-	500.00
9440	FLEET MANAGEMENT EQUIPMENT	29,659.42	-	29,659.42
	TOTAL OTHER SERVICES & CHARGES	<u>151,943.12</u>	<u>11,442.00</u>	<u>163,385.12</u>
9760	EQUIPMENT	9,264.17	-	9,264.17
9840	SOFTWARE	3,825.00	-	3,825.00
	TOTAL CAPITAL	<u>13,089.17</u>	<u>-</u>	<u>13,089.17</u>
9954	OPERATING TRANS-DEV CENTER	23,014.00	-	23,014.00
	TOTAL TRANSFERS/FEES	<u>23,014.00</u>	<u>-</u>	<u>23,014.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 1,095,563.20</u>	<u>\$ 74,043.68</u>	<u>\$ 1,169,606.88</u>

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED ACTUAL EXPENSE
 YEAR ENDED JUNE 30, 2016
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: COLDBROOK DISTRIBUTION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 352,719.43	\$ 13,861.87	\$ 366,581.30
7055	TIME & ONE-HALF	3,968.53	155.96	4,124.49
7105	EMPLOYERS SOCIAL SECURITY	26,446.90	1,039.36	27,486.26
7110	HOSPITALIZATION INSURANCE	82,711.44	(2,597.14)	80,114.30
7115	RETIREE HEALTH CARE	42,917.20	(1,283.22)	41,633.98
7120	RETIREMENT FUND CONTRIBUTION	72,227.44	2,954.10	75,181.54
7135	UNEMPLOYMENT COMPENSATION	516.86	-	516.86
7165	SHIFT DIFFERENTIAL	433.90	-	433.90
	TOTAL PERSONAL SERVICES	<u>581,941.70</u>	<u>14,130.93</u>	<u>596,072.63</u>
7520	SUPPLIES	39,040.76	-	39,040.76
	TOTAL SUPPLIES	<u>39,040.76</u>	<u>-</u>	<u>39,040.76</u>
9480	COMPUTER SERVICES	31,325.00	(12,346.00)	18,979.00
8010	CONTRACTUAL SERVICES	243,719.89	-	243,719.89
8500	TELEPHONE	587.15	-	587.15
9200	ELECTRICITY	1,277,714.55	-	1,277,714.55
9180	WATER	5,218.68	-	5,218.68
9210	NATURAL GAS	39,135.59	-	39,135.59
9340	MAINTENANCE SERVICE	38,726.42	-	38,726.42
9410	EQUIPMENT RENTALS OR LEASE	704.29	-	704.29
8240	FEES	652.54	-	652.54
9440	FLEET MANAGEMENT EQUIPMENT	81,738.10	-	81,738.10
xxxx	FACILITY RENTALS		(624,994.11)	(624,994.11)
	TOTAL OTHER SERVICES & CHARGES	<u>1,719,522.21</u>	<u>(637,340.11)</u>	<u>1,082,182.10</u>
9760	EQUIPMENT	14.99	-	14.99
9840	SOFTWARE		50,000.00	50,000.00
	TOTAL CAPITAL	<u>14.99</u>	<u>50,000.00</u>	<u>50,014.99</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,340,519.66</u>	<u>\$ (573,209.18)</u>	<u>\$ 1,767,310.48</u>

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED ACTUAL EXPENSE
 YEAR ENDED JUNE 30, 2016
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: FIELD OPERATIONS

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,725,669.62	\$ 67,818.82	\$ 1,793,488.44
7025	ACT.ASSIGNMENT	9,000.14	353.71	9,353.85
7040	TEMPORARY EMPLOYEES	12,439.87	488.89	12,928.76
7055	TIME & ONE-HALF	216,348.17	8,502.48	224,850.65
7105	EMPLOYERS SOCIAL SECURITY	140,487.35	5,521.15	146,008.50
7110	HOSPITALIZATION INSURANCE	423,214.77	(13,288.94)	409,925.83
7115	RETIREE HEALTH CARE	219,222.73	(6,554.76)	212,667.97
7120	RETIREMENT FUND CONTRIBUTION	371,025.66	15,174.95	386,200.61
7135	UNEMPLOYMENT COMPENSATION	2,861.12	-	2,861.12
7165	SHIFT DIFFERENTIAL	1,502.15	-	1,502.15
	TOTAL PERSONAL SERVICES	<u>3,121,771.58</u>	<u>78,016.30</u>	<u>3,199,787.88</u>
7520	SUPPLIES	558,928.62	-	558,928.62
7670	CLOTHING/CLEANING ALLOWANCE	7,509.50	-	7,509.50
7710	INVENTORY	3,172.91	-	3,172.91
	TOTAL SUPPLIES	<u>569,611.03</u>	<u>-</u>	<u>569,611.03</u>
9480	COMPUTER SERVICES	155,842.00	40,082.00	195,924.00
8010	CONTRACTUAL SERVICES	283,629.18	-	283,629.18
8500	TELEPHONE	18,008.96	-	18,008.96
9200	ELECTRICITY	51,466.56	-	51,466.56
9180	WATER	3,142.19	-	3,142.19
9210	NATURAL GAS	22,811.62	-	22,811.62
9340	MAINTENANCE SERVICE	42,129.08	-	42,129.08
8080	PAVEMENT REPAIR	1,639,146.09	-	1,639,146.09
9410	EQUIPMENT RENTALS OR LEASE	7,492.61	-	7,492.61
9470	VEHICLE USAGE/CAR MILEAGE	795.00	-	795.00
9100	PROFESSIONAL DEVELOPMENT	499.00	-	499.00
9110	OTHER TRAVEL & TRAINING	1,985.28	-	1,985.28
9130	LOCAL BUSINESS EXPENSE	191.01	-	191.01
9150	MEMBERSHIPS	4,138.47	-	4,138.47
8011	CONTRACT EMPLOYEES - TEMP SERVICES	24,756.75	-	24,756.75
9440	FLEET MANAGEMENT EQUIPMENT	1,129,557.55	-	1,129,557.55
	TOTAL OTHER SERVICES & CHARGES	<u>3,385,591.35</u>	<u>40,082.00</u>	<u>3,425,673.35</u>
9800	FURNITURE	2,600.00	-	2,600.00
9760	EQUIPMENT	92,503.45	-	92,503.45
	TOTAL CAPITAL	<u>95,103.45</u>	<u>-</u>	<u>95,103.45</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 7,172,077.41</u>	<u>\$ 118,098.30</u>	<u>\$ 7,290,175.71</u>

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED ACTUAL EXPENSE
 YEAR ENDED JUNE 30, 2016
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: LAKE MI. FILTRATION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST FACTORS	CURRENT ANNUAL EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,644,572.90	\$ 64,631.71	\$ 1,709,204.61
7025	ACT.ASSIGNMENT	2,505.83	98.48	2,604.31
7050	REGULAR HOURLY RATE	3,144.82	123.59	3,268.41
7055	TIME & ONE-HALF	117,700.28	4,625.62	122,325.90
7105	EMPLOYERS SOCIAL SECURITY	130,641.17	5,134.20	135,775.37
7110	HOSPITALIZATION INSURANCE	387,666.58	(12,172.73)	375,493.85
7115	RETIREE HEALTH CARE	203,373.57	(6,080.87)	197,292.70
7120	RETIREMENT FUND CONTRIBUTION	349,436.36	14,291.95	363,728.31
7135	UNEMPLOYMENT COMPENSATION	2,370.30	-	2,370.30
7165	SHIFT DIFFERENTIAL	8,735.73	-	8,735.73
	TOTAL PERSONAL SERVICES	<u>2,850,147.54</u>	<u>70,651.95</u>	<u>2,920,799.49</u>
7520	SUPPLIES	435,839.24	-	435,839.24
8510	POSTAGE	46.39	-	46.39
7530	PROCESS CHEMICALS	525,021.36	-	525,021.36
	TOTAL SUPPLIES	<u>960,906.99</u>	<u>-</u>	<u>960,906.99</u>
9480	COMPUTER SERVICES	180,120.00	22,320.00	202,440.00
8010	CONTRACTUAL SERVICES	202,888.28	-	202,888.28
8500	TELEPHONE	12,652.91	-	12,652.91
9200	ELECTRICITY	1,622,388.80	(58,175.00)	1,564,213.80
9210	NATURAL GAS	105,986.12	-	105,986.12
9340	MAINTENANCE SERVICE	371,266.82	-	371,266.82
9410	EQUIPMENT RENTALS OR LEASE	402.91	-	402.91
9100	PROFESSIONAL DEVELOPMENT	998.00	-	998.00
8240	FEES	4,023.29	-	4,023.29
9190	REFUSE COLLECTION CHARGES	1,105.60	-	1,105.60
8011	CONTRACT EMPLOYEES - TEMP SERVICES	6,326.18	-	6,326.18
9440	FLEET MANAGEMENT EQUIPMENT	60,176.99	-	60,176.99
	TOTAL OTHER SERVICES & CHARGES	<u>2,568,335.90</u>	<u>(35,855.00)</u>	<u>2,532,480.90</u>
9760	EQUIPMENT	857.95	-	857.95
9840	SOFTWARE	8,187.14	50,000.00	58,187.14
	TOTAL CAPITAL	<u>9,045.09</u>	<u>50,000.00</u>	<u>59,045.09</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 6,388,435.52</u>	<u>\$ 84,796.95</u>	<u>\$ 6,473,232.47</u>

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED ACTUAL EXPENSE
 YEAR ENDED JUNE 30, 2016
 RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: TREASURER - CUSTOMER SERV'S

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
NO.	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 147,892.68	\$ 5,812.18	\$ 153,704.86
7040	TEMPORARY EMPLOYEES	334.77	13.16	347.93
7105	EMPLOYERS SOCIAL SECURITY	10,190.17	400.47	10,590.64
7110	HOSPITALIZATION INSURANCE	39,054.98	(1,226.33)	37,828.65
7115	RETIREE HEALTH CARE	18,505.49	(553.31)	17,952.18
7120	RETIREMENT FUND CONTRIBUTION	31,722.29	1,297.44	33,019.73
7135	UNEMPLOYMENT COMPENSATION	216.26	-	216.26
	TOTAL PERSONAL SERVICES	<u>247,916.64</u>	<u>5,743.61</u>	<u>253,660.25</u>
7520	SUPPLIES	3,410.29	-	3,410.29
	TOTAL SUPPLIES	<u>3,410.29</u>	<u>-</u>	<u>3,410.29</u>
9480	COMPUTER SERVICES	19,145.00	702.00	19,847.00
8010	CONTRACTUAL SERVICES	5,862.23	-	5,862.23
8450	GENERAL LIABILITY INSURANCE/CLAIMS	15,787.00	(12,854.00)	2,933.00
8500	TELEPHONE	70.82	-	70.82
9340	MAINTENANCE SERVICE	327.68	-	327.68
9430	BUILDINGS RENTALS OR LEASE	8,565.12	-	8,565.12
9470	VEHICLE USAGE/CAR MILEAGE	19,458.16	-	19,458.16
8240	FEES	177,654.24	-	177,654.24
	TOTAL OTHER SERVICES & CHARGES	<u>246,870.25</u>	<u>(12,152.00)</u>	<u>234,718.25</u>
9760	EQUIPMENT	407.21	-	407.21
	TOTAL CAPITAL	<u>407.21</u>	<u>-</u>	<u>407.21</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 498,604.39</u>	<u>\$ (6,408.39)</u>	<u>\$ 492,196.00</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2016
RATE STUDY- TASKS NO. 4 & 5**

ORGANIZATIONAL SUMMARY

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				CURRENT
7020	PERMANENT EMPLOYEES	\$ 6,259,970.43	\$ 246,016.83	\$ 6,505,987.26
7025	ACT.ASSIGNMENT	15,928.96	626.02	16,554.98
7040	TEMPORARY EMPLOYEES	21,375.70	40,840.08	62,215.78
7050	REGULAR HOURLY RATE	3,144.82	123.59	3,268.41
7055	TIME & ONE-HALF	416,998.37	16,388.03	433,386.40
7105	EMPLOYERS SOCIAL SECURITY	489,048.23	19,219.59	508,267.82
7110	HOSPITALIZATION INSURANCE	1,488,624.08	(46,742.79)	1,441,881.29
7115	RETIREE HEALTH CARE	782,073.05	(23,383.97)	758,689.08
7120	RETIREMENT FUND CONTRIBUTION	1,343,592.10	54,952.91	1,398,545.01
7135	UNEMPLOYMENT COMPENSATION	9,686.04	-	9,686.04
7165	SHIFT DIFFERENTIAL	11,916.05	-	11,916.05
	TOTAL PERSONAL SERVICES	<u>10,842,357.83</u>	<u>308,040.29</u>	<u>11,150,398.12</u>
7520	SUPPLIES	1,604,628.88	-	1,604,628.88
8510	POSTAGE	3,609.79	-	3,609.79
7670	CLOTHING/CLEANING ALLOWANCE	11,221.78	-	11,221.78
7710	INVENTORY	3,172.91	-	3,172.91
7530	PROCESS CHEMICALS	525,021.36	-	525,021.36
	TOTAL SUPPLIES	<u>2,147,654.72</u>	<u>-</u>	<u>2,147,654.72</u>
9480	COMPUTER SERVICES	722,821.00	(760.00)	722,061.00
9480	COMPUTER SERVICES (CIS-DEPR & ROI)	-	446,475.00	446,475.00
9460	ENGINEERING SERVICES	20,040.25	-	20,040.25
8010	CONTRACTUAL SERVICES	2,124,932.98	75,000.00	2,199,932.98
8450	GENERAL LIABILITY INSURANCE / CLAIMS	315,364.00	(53,437.00)	261,927.00
8400	INSURANCE PREMIUMS	148,316.00	-	148,316.00
8500	TELEPHONE	49,020.50	-	49,020.50
8800	COMMUNITY PROMOTION	458.45	-	458.45
9000	PRINTING & PUBLISHING	3,258.84	-	3,258.84
9200	ELECTRICITY	2,951,569.91	(58,175.00)	2,893,394.91
9180	WATER	8,360.87	-	8,360.87
9210	NATURAL GAS	167,933.33	-	167,933.33
9340	MAINTENANCE SERVICE	469,587.44	-	469,587.44
8080	PAVEMENT REPAIR	1,639,146.09	-	1,639,146.09
9430	BUILDINGS RENTALS OR LEASE	8,565.12	-	8,565.12
9410	EQUIPMENT RENTALS OR LEASE	14,364.80	-	14,364.80
9400	LAND RENTAL OR LEASE	2,858.32	-	2,858.32
9470	VEHICLE RENTAL/CAR MILEAGE	36,529.46	-	36,529.46
9100	PROFESSIONAL DEVELOPMENT	9,570.63	-	9,570.63
9110	OTHER TRAVEL AND TRAINING	15,308.13	-	15,308.13
9130	LOCAL BUSINESS EXPENSE	452.00	-	452.00
9150	MEMBERSHIPS	30,881.39	-	30,881.39
7910	PUBLICATIONS AND SUBSCRIPTIONS	2,153.10	-	2,153.10
8240	FEES	184,299.32	-	184,299.32
8030	ADMINISTRATIVE SERVICES	116,514.00	(116,514.00)	-
9650	BAD DEBT WRITE-OFFS	9,582.89	-	9,582.89
9190	REFUSE COLLECTION CHARGES	1,105.60	-	1,105.60
6931	GAIN-LOSS ON SALE OF ASSETS-FA	624,442.39	-	624,442.39
8011	CONTRACT EMPLOYEES - TEMP SERVICES	54,700.43	-	54,700.43
9450	311 CALL CENTER SERVICES	522,488.00	-	522,488.00
9440	FLEET MANAGEMENT EQUIPMENT	1,414,485.50	-	1,414,485.50
xxxx	SENIOR DEBT COVERAGE RATIO ADJ	-	2,200,000.00	2,200,000.00
xxxx	FACILITY RENTALS	-	(624,994.11)	(624,994.11)
	TOTAL OTHER SERVICES & CHARGES	<u>11,669,110.74</u>	<u>1,867,594.89</u>	<u>13,536,705.63</u>
9800	FURNITURE	2,600.00	-	2,600.00
9760	EQUIPMENT	129,459.57	-	129,459.57
9840	SOFTWARE	13,833.12	100,000.00	113,833.12
9880	CONSTRUCTION IN PROGRESS	87,345.73	-	87,345.73
	TOTAL CAPITAL	<u>233,238.42</u>	<u>100,000.00</u>	<u>333,238.42</u>
9954	OPERATING TRANS-DEV CENTER	23,014.00	-	23,014.00
9952	OPERATING TRANSFERS-A87 COST	636,094.00	69,703.00	705,797.00
	TOTAL TRANSFERS/FEES	<u>659,108.00</u>	<u>69,703.00</u>	<u>728,811.00</u>
	GRAND TOTAL- EXPENDITURES	\$ 25,551,469.71	\$ 2,345,338.18	\$ 27,896,807.89
	LESS: SDSF CONTRIBUTION	(2,633,726.00)	(13,629.88)	(2,647,355.88)
	NET TOTAL- EXPENDITURES	<u>\$ 22,917,743.71</u>	<u>\$ 2,331,708.30</u>	<u>\$ 25,249,452.01</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 1, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Jenessa B. Carter
Financial Analyst

**SUBJECT: 2016 WATER RATE STUDY TASK #4
FY16 OPERATING EXPENSES - WATER PUMPING FACILITIES**

The attached schedule allocates the integrated and non-integrated adjusted expenses for operating and maintaining Coldbrook Distribution to the system pumping stations based on electricity costs. The operating expenses consist of direct labor, utilities, operating and maintenance supplies, repairs and maintenance, and equipment rental.

Attachment

JBC:jbc

ALLOCATION OF COLDBROOK PUMPING TO WATER PUMPING FACILITIES

<u>STATION</u>	<u>ENERGY COST</u>	<u>PERCENT</u>	<u>EXPENDITURE ALLOCATION</u>	
			<u>ACTUAL</u>	<u>ADJUSTED</u>
ALGER	\$ 60,282	4.72%	\$ 110,424	\$ 83,380
BOOSTER A	4,946	0.39%	9,060	6,841
BOOSTER D	21,269	1.66%	38,961	29,419
BRISTOL	20,388	1.60%	37,347	28,200
COLDBROOK	238,794	18.69%	437,423	330,297
COVELL	33,314	2.61%	61,025	46,079
EAST PARIS	167,178	13.08%	306,237	231,237
FRANKLIN	339,413	26.56%	621,737	469,469
LEFFINGWELL	981	0.08%	1,797	1,357
LIVINGSTON	202,343	15.84%	370,652	279,877
WILSON	105,842	8.28%	193,882	146,399
BURTON	18,425	1.44%	33,751	25,485
DEAN LAKE	64,540	5.05%	118,224	89,270
TOTAL	\$ 1,277,715	100.00%	\$ 2,340,520	\$ 1,767,310

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 7, 2016

TO: Molly Eastman
Utility Financial Officer

FROM: Scott Buhrer *SB*
Chief Financial Officer

**SUBJECT: 2016 WATER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY16 operating costs are listed below.

Expense Object – 7060, 7020, 7040, 7055, 7025, 7045, 7050, 7030, 7035, 7190

GREIU wages were increased by 2.00% and 2.25% in FY2017 and FY2018, respectively. APA wages were increased by 2.00% and 2.25% in FY2017 and FY2018. After converting these increases from a 2016 fiscal year to a 2017 calendar year basis as well as factoring in the lump sum payments, the result is a 3.93% factor for GREIU employees and a 3.93% factor for APA employees. A blended rate was then computed by weighting the calendar year percentages according to the percentage of Water Fund employees in each union (83% GREIU and 17% APA). Executive and non-reps amounted to less than 2.2% of the population and were therefore excluded. **The wage increase factor to translate FY2016 actual costs to estimated calendar 2017 will be 3.93% [3.93 X 83% + 3.93 X 17%].**

Expense Object – 9480/8450/9952

Adjust FY2016 actual cost to reflect adjustments in charges for central services rendered by the Information Technology Fund (data charges), the Insurance Payment Fund (property and general liability) and the General Operating Fund (A-87 cost allocation). The “Exhibit” workbook (inclusive of cost center allocations) maintained by the Budget Office has been utilized to blend FY2017 and FY2018 budget amounts thus arriving at an estimated 2017 calendar year rate as follows:

9480-Data Charges			
Cost Center	FY2017 Request	FY2018 Forecast	Calendar 2017 Est.
253-4010-5910	\$19,617	\$20,077	\$19,847
536-1000-5910	\$37,517	\$38,397	\$37,957
536-2110-5910	\$175,269	\$179,380	\$177,325
536-3010-5910	\$68,782	\$70,395	\$69,589
536-4510-5910	\$18,759	\$19,199	\$18,979
536-6010-5910	\$193,652	\$198,195	\$195,924
536-6510-5910	\$200,093	\$204,786	\$202,440
Total	\$713,689	\$730,429	\$722,061

2016 Water Rate Study Task #5
 Known Cost Adjustments

8450-General Liability Insurance			
Cost Center	FY2017 Request	FY2018 Forecast	Calendar 2017 Estimate
253-4010-5910	\$2,798	\$3,067	\$2,933
536-1000-5910	\$247,132	\$270,856	\$258,994
Total	\$249,930	\$273,923	\$261,927

9952-Contributions to Other Funds (A-87 Allocation)			
Cost Center	FY2017 Request	FY2018 Forecast	Calendar 2017 Estimate
536-1000-5910	\$695,366	\$716,227	\$705,797

Expense Object - 7105

Increase FY2016 actual FICA expense by 3.93% consistent with the known wage impacts detailed above.

Expense Object - 7110

The FY2017 Trend Report is not completed at this time. However, slightly more favorable plan enrollment and health insurance premium rates were anticipated in the FY2016 Trend Report. The three-year smoothing is also more favorable for calendar 2017 rates than it was for calendar 2016 rates which has contributed to the projected decrease in health insurance to -3.14%. However, one factor did increase upward pressure on rates after FY2014 when dollars from the Early Retiree Reinsurance Program (ERRP) ended. **Decrease FY2016 health insurance actual by -3.14% to reflect these anticipated rate changes.**

The projected FY17 (\$12,293) and FY18 (\$13,678) health insurance rates were blended into a 2017 calendar year rate and divided by the FY2016 base amount (\$13,406) to arrive at the decrease factor [(((((\$12,293 + \$13,678) / 2)) / \$13,406) - 1) * 100].

Expense Object - 7115

Retiree health care (“RHC”) rates are projected to trend down in FY2017 (to 12.17%) and FY2018 (to 11.79%) from a base year rate of 13.75% in FY2016. This decrease is partially offset by the projected wage adjustments discussed above. Additionally, the Water Fund had a negative OPEB adjustment in the amount of \$62,245 for FY2016.

The RHC factor after consideration of the above rate and wage adjustments is 89.85% (or a decrease of 10.15%) for both GREIU and APA members. These factors are then applied to the FY2016 RHC balance before the OPEB adjustment (\$844,318). This result is compared to the FY2016 RHC balance after the OPEB adjustment and the revised factor is weighted in accordance with union membership within the Water Fund.

GREIU: Step 1>> [(\$844,318 * 89.85%) = \$758,620]
 Step 2>> [(((\$758,620 – (\$844,318 - \$62,245)) / (\$844,318 - \$62,245)) *
 100)]
 Step 3>> [-2.99% * 83%]

APA: Step 1>> [(\$844,318 * 89.85%) = \$758,620]
 Step 2>> [(((\$758,620 – (\$844,318 - \$62,245)) / (\$844,318 - \$62,245)) *
 100)]
 Step 3>> [-2.99% * 17%]
 Step 4>> [-2.48% + -0.51%]

The factor to establish calendar year 2017's retiree health care cost is -2.99%.
Decrease the total of fiscal year 2016's retiree health care by this percent to establish the cost for calendar year 2017.

Expense Object - 7120

The pension expense factor to translate FY2016 actual costs to estimated calendar 2017 will be 4.09%. **Increase the total of fiscal year 2016's pension expense by this percent to establish the cost for calendar year 2017.** This reflects the effect of a General Pension rate change increase from FY16 of 21.82% to a calendar 2017 rate of 22.02% and an estimated wage increase of 3.93%. The calendar 2017 rate is a blend of the FY2017 rate (23.03%) and the FY2018 rate (21.03%).

The pension factor after consideration of the above rate and wage adjustments is 104.09% (or an increase of 4.09%) for GREIU and APA members. These factors are then weighted in accordance with union membership within the Water Fund [(4.09 * 83%) + (4.09 * 17%)].

Supplemental Revenue Requirement: Debt Coverage Ratio (DCR) Adjustment

Preliminary rate calculations in the test period indicate insufficient revenue requirements to comply with rating agency standards for debt coverage. Prior to this year, rating agencies desired senior debt coverage to be above 1.20 when judging the financial health of a municipality. The new standard rolled out in February 2016 changed the coverage ratio standard to include junior debt in the calculation. This all-in coverage ratio is now recommended to be at a minimum 1.20. While all-in coverage exceeded 1.20 for the fiscal year ended June 30, 2016, the projected revenue requirement in the test period should be increased to provide an all-in coverage of at least 1.23. **Operating and maintenance expenditures will be adjusted through the DCR by \$2,200,000 to satisfy the projected revenue requirement for fiscal year 2017.** The DCR should be recorded as integrated system cost.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 24, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Joellen C. Thompson, P.E.
Water System Manager

**SUBJECT: 2016 WATER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY16 operating costs are listed below:

<u>ACCOUNT</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
User Code		
536-1000-5910-8180	Competitive Assessment Phase 2	\$50,000.00
536-1000-5910-8180	MDEQ Asset Management submittal	\$25,000.00
536-3010-5910-7040	Lead service line project – staffing	\$40,000.00
536-4510-5910-9840	Cityworks – software licensing and development	\$50,000.00
536-6510-5910-9840	Cityworks – software licensing and development at LMFP	\$50,000.00
536-6510-5910-9200	Consumers Energy Green Generation Participation	(\$58,175.00)

JCT

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 15, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Jenessa B. Carter
Financial Analyst

SUBJECT: 2016 WATER RATE STUDY TASK #6

The Water Supply System Fund's revenue and volumes by governmental unit for the year ending June 30, 2016, are disclosed on the attached page. In addition, actual volume comparisons for the past five (5) years by governmental unit are included herein.

Attachments

JBC:jbc

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
2016 RATE STUDY TASK NO. 6**

VOLUME COMPARISONS FOR FIVE (5) YEARS BY GOVERNMENTAL UNIT *
VOLUME = 1,000 GALLONS

MUNICIPALITY	FY12		FY13		FY14		FY15		FY16		FY12 - FY16
	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	% CHANGE
GRAND RAPIDS	6,354,409	7.61%	6,838,225	-9.79%	6,168,995	-6.03%	5,992,342	-2.86%	6,102,682	1.84%	-3.96%
WALKER	866,427	11.07%	962,373	-6.03%	904,358	-8.48%	850,477	-4.79%	853,911	0.40%	-1.44%
KENTWOOD	1,284,088	10.47%	1,418,559	17.91%	1,298,223	-12.69%	1,236,055	-0.96%	1,274,046	3.07%	-0.78%
CASCADE TWP	599,311	17.91%	706,642	21.78%	616,971	-20.03%	597,335	-1.56%	633,446	6.05%	5.70%
GRAND RAPIDS TWP	493,252	21.07%	600,669	21.78%	480,353	-1.45%	475,723	0.52%	473,584	-0.45%	-3.99%
TALLMADGE TWP	18,149	11.07%	20,159	11.07%	21,621	7.25%	21,283	-2.13%	24,635	15.75%	35.74%
EAST GRAND RAPIDS**	454,722	1.40%	461,100	1.40%	454,401	8.44%	456,742	0.26%	416,499	-8.81%	-8.41%
OTTAWA COUNTY	763,172	8.53%	828,241	8.53%	898,135	8.44%	900,454	0.26%	1,033,701	14.80%	35.45%
ADA TWP	495,797	-1.81%	486,804	-1.81%	454,141	-6.71%	444,487	-2.13%	472,046	6.20%	-4.79%
TOTAL	11,329,327	8.77%	12,322,772	8.77%	11,297,198	-8.32%	10,974,896	-2.85%	11,284,549	2.82%	-0.40%

VOLUME PUMPED % BILLED TO PUMPED	FY12		FY13		FY14		FY15		FY16	
	VOL BILLED	% OF TOTAL								
GRAND RAPIDS	13,176,000	86.0%	13,438,000	91.7%	12,997,000	86.9%	12,362,000	88.8%	12,684,000	89.0%
CUSTOMER COMMUNITIES	2,153,327	14.0%	984,772	8.0%	2,300,198	20.3%	2,612,896	23.7%	1,600,549	14.2%
TOTAL	15,329,327	100.0%	14,422,772	100.0%	15,297,198	100.0%	15,000,000	100.0%	14,284,549	100.0%

* Volumes were restated from previous Rate Studies to reflect actual billings without adjustment for accrued revenues.
** Volume billed for FY15 & FY16 is estimated based on three year average due to a faulty meter.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 7**

OPERATING REVENUES OTHER THAN FROM SALES OF WATER:

536-1000-5910			
4788	CONTRACTOR UNDERGROUND LICENSE	\$	7,740.00
4916	TAPPING PERMITS		24,600.00
6260	SERVICE FEES-GENERAL		380,525.00
6265	SERVICES FOR CONTRACTORS		21,980.25
6140	INSPECTION FEES - UTILITIES		50,540.00
6151	METER SETTING FEES		33,105.00
6423	SALE OF SCRAP MATERIAL		24,575.50
6461	INVENTORY WITHDRAWALS		1,069.75
6434	UNMETERED WATER		144,205.84
6723	PENALTIES ON SPECIAL ASSESSMENTS		8,365.83
			<u>8,365.83</u>
		\$	<u>696,707.17</u>

CREDIT: UNDERUTILIZATION OF PENALTY CREDIT FROM PREVIOUS YEAR	\$	<u>11,531.38</u>
---	----	------------------

OTHER OPERATING REVENUES NOT INCLUDED:

CAPITAL CONTRIBUTION & INTEGRATED SYSTEM (LAKELINE CREDIT)

536-1000-5910			
6150	WATER FRONT FOOTAGE	\$	391,825.00
6152	INTEGRATED WATER CONNECTION		1,081,378.00
			<u>1,473,203.00</u>
		\$	<u>1,473,203.00</u>

OFFSETTING CREDIT TO CUSTOMER ACCOUNTING ACTIVITY EXPENSES:

536-1000-5910			
6991	BILLABLE EXPENSE - SEWAGE DISPOSAL SYSTEM *	\$	2,633,726.00
			<u>2,633,726.00</u>

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 7, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Joellen C. Thompson, PE
Water System Manager 

SUBJECT: 2016 WATER RATE STUDY – TASK #8

No significant changes in operating levels are anticipated to take effect by January 1, 2017, which would require adjustments to operating costs for the test period.

JCT

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 7, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Joellen C. Thompson, PE
Water System Manager 

SUBJECT: 2016 WATER RATE STUDY – TASK #9

No significant changes in water revenues are anticipated to take effect by January 1, 2017, which would require adjustments to operating revenue estimates as a whole.

JCT

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 25, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Wayne Jernberg, P.E.
Assistant Water System Manager

SUBJECT: 2016 WATER RATE STUDY- TASK #10

The following are water system projects that for rate study purposes should be considered operative as of January 1, 2017.

<u>Description</u>	<u>Location</u>	<u>Proj. Code</u>	<u>Cost</u>
Wilson Pump Station	Integrated	591115169	\$16,117
Wilson Pump Station	Integrated	591215169	\$125,472
		591217099	
CSO 27-DWRF	Grand Rapids	591215154	\$1,163,088
CSO 27	Grand Rapids	591115154	\$97,622
CSO 28A	Grand Rapids	591415198	\$1,750,000
Crescent Ave – Barclay to Lafayette	Grand Rapids	591115157	\$306,800
Taylor Howland Sweet Queen	Grand Rapids	591115139	\$812,200
Taylor Howland Sweet Queen	Grand Rapids	591417025	\$300,000
National & Straight	Grand Rapids	591116039	\$450,000
Clancy Ave – Cedar to Creston Plaza Dr.	Grand Rapids	591116067	\$475,000
Oakdale – Eastern to Kalamazoo	Grand Rapids	591416085	\$1,216,505
Jefferson Ave Reconstruction	Grand Rapids	591115140	\$387,078
Bostwick Ave NE	Grand Rapids	591115151	\$245,672
Aspen Lakes	Grand Rapids	Contribution	\$160,000
ETO Magnetic	Kentwood	Contribution	\$240,670
Woodburry Center	Kentwood	Contribution	\$142,244
North Walker Tank	Walker	591116025	\$143,405
North Walker Tank - DWRF	Walker	591215185	\$2,854,284
		591216060	
Sydney Dr., Macy Dr.	Walker	Contribution	\$162,795
Northridge Drive & Shippers Ave	Walker	Contribution	\$704,700
Lake Michigan Dr. & Hampton	Walker	Contribution	\$48,500
Winchester Woods 2	Walker	Contribution	\$98,497
		Total	<u>\$11,900,649</u>

WJ\wj

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
TASK NO. 11**

COMPUTE ACCUMULATED COST, DEPRECIATION AND DEPRECIATION EXPENSE AS OF JUNE 30, 2016

INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 2,507,974	\$ -	\$ -
LAND IMPROVEMENTS	1,987,789	1,452,982	52,200
BUILDINGS & STRUCTURES	47,806,632	23,861,569	340,689
STORAGE	7,584,993	5,928,285	190,222
PROCESS EQUIPMENT	60,730,423	36,933,565	1,795,323
AUXILIARY EQUIPMENT	16,362,436	13,269,480	368,114
METERS	7,375,481	7,375,481	-
MACHINERY & EQUIPMENT	3,217,047	2,913,097	111,925
OFFICE EQUIPMENT & FURNITURE	622,184	622,184	-
WATERMAINS	55,592,968	19,431,567	711,094
	<u>\$ 203,787,927</u>	<u>\$ 111,788,210</u>	<u>\$ 3,569,567</u>

NON-INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 2,242,021	\$ -	\$ -
LAND IMPROVEMENTS	1,204,988	944,576	40,712
BUILDINGS & STRUCTURES	11,381,293	3,921,706	245,847
STORAGE	12,706,875	5,787,445	288,483
PROCESS EQUIPMENT	6,607,938	3,118,627	167,711
AUXILIARY EQUIPMENT	5,438,160	3,663,699	452,851
MACHINERY & EQUIPMENT	2,257,526	2,214,914	13,863
OFFICE EQUIPMENT & FURNITURE	533,805	502,677	9,149
WATERMAINS - GRAND RAPIDS	146,278,768	33,776,661	1,826,546
WATERMAINS - WALKER	23,191,414	7,251,534	301,119
WATERMAINS - KENTWOOD	29,355,962	8,094,306	391,004
WATERMAINS - CASCADE TWP	22,384,512	5,980,742	295,618
WATERMAINS - GRAND RAPIDS TWP	18,242,837	4,504,896	240,390
WATERMAINS - TALLMADGE TWP	2,271,640	388,937	28,520
	<u>\$ 284,097,739</u>	<u>\$ 80,150,720</u>	<u>\$ 4,301,813</u>
TOTAL	<u>\$ 487,885,666</u>	<u>\$ 191,938,930</u>	<u>\$ 7,871,380</u>

SOURCE: GENERAL LEDGER, AS ADJUSTED, FOR JUNE 30, 2016.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 12**

TASK 12A DETERMINE WORKING CAPITAL NEEDS FOR MATERIALS AND SUPPLIES ON HAND.

MATERIALS AND SUPPLIES INVENTORY AS OF JUNE 30, 2016: \$ 1,434,354

TASK 12B DETERMINE WORKING CAPITAL NEEDS FOR PREPAYMENT OF OPERATING COSTS.

NO REQUIREMENT FOR PREPAYMENT OF OPERATING COSTS IS CALLED FOR IN THE ORDINARY CYCLE OF BUSINESS.

TASK 12C DETERMINE CASH WORKING CAPITAL NEEDS & DETERMINE TOTAL WORKING CAPITAL NEEDS.

MINIMUM CASH WORKING CAPITAL IS DEFINED AS THE SUM OF 90 DAYS ADJUSTED OPERATING EXPENSES.

ADJUSTED CURRENT ANNUAL EXPENSES = \$ 25,249,452 @ 90/365 = \$ 6,225,892

TOTAL WORKING CAPITAL NEEDS CONSIST OF THE FOLLOWING:

12A INVESTMENT IN INVENTORY	\$ 1,434,354
12B PREPAYMENT OF OPERATING EXPENSES	-
12C 90 DAY OPERATING EXPENSES	<u>6,225,892</u>
	<u>\$ 7,660,246</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 28, 2016

TO: Eric R. DeLong
Deputy City Manager

FROM: Molly J. Eastman
Utility Financial Officer

**SUBJECT: 2016 WATER RATE STUDY TASK #13
ZONEGATING & JOINT USE ALLOCATION METHODS**

Lengths and costs of all zoned primary and intermediate transmission mains as well as jointly used storage tanks and pumping stations are allocated to customer communities based on the 2016 Comprehensive Master Plan update performed by Fishbeck, Thompson, Carr, and Huber, Inc.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 28, 2016

TO: Molly Eastman
Utility Financial Officer

FROM: Wayne Jernberg, P.E.
Assistant Water System Manager

SUBJECT: 2016 WATER RATE STUDY- TASK #14

Zonegating maps for the water system are included in the 2016 Comprehensive Master Plan update from Fishbeck, Thompson, Carr, and Huber, Inc. The report contains comprehensive information with respect to the basis for zonegating service mains and other system components, such as storage tanks and pumping stations, that service more than one community. All zonegating work papers are on file at the Water Administration Building located at 1900 Oak Industrial Dr. NE, Grand Rapids, MI 49505.

WJ

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER RATE STUDY
 WATER SUPPLY SYSTEM FUND
 TASK NO. 15**

COMPUTE CONSTRUCTION COST RATE BASE (DEPRECIATED PLANT, PLUS WORKING CAPITAL, LESS CONTRIBUTIONS BY OTHERS).

ORIGINAL CONSTRUCTION COST	- TASK #10	\$ 11,900,649	
	- TASK #11	487,885,666	
		<hr/>	\$ 499,786,315
LESS: ACCUMULATED DEPRECIATION	- TASK #11	\$ 191,938,930	
		<hr/>	(191,938,930)
			<hr/>
			307,847,385
WORKING CAPITAL REQUIREMENT	- TASK #12	\$ 7,660,246	
		<hr/>	7,660,246
			<hr/>
			315,507,631
CONTRIBUTIONS BY OTHERS	- TASK #21	\$ 92,145,117	
LESS: AMORTIZATION		(31,056,399)	
		<hr/>	(61,088,718)
CONSTRUCTION COST RATE BASE			<hr/> <hr/>
			\$ 254,418,913

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 3, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Jenessa B. Carter
Financial Analyst

**SUBJECT: 2016 WATER RATE STUDY TASK #15A
INTEGRATED WATER CONNECTION FEES**

Attached is the Integrated Water Connection Fee Schedule as currently provided for in Chapter 26 of the City Code, with the addition of rates to be effective on January 1, 2017. The City Commission on June 27, 2000 established fees through calendar year 2004. Beginning January 1, 2005, the integrated water connection fees are to be calculated on a yearly basis as part of the annual Water/Sewer Rate Study. The Consumer Price Index used to determine rates effective January 1, 2017 is as follows:

August, 2015 Index	238.316
August, 2016 Index	240.853
Increase (decrease)	2.537
Percentage increase (decrease)	1.07%

JBC\jbc

Attachment

Section 2.35 Integrated Water Connection Fee Schedule

When a property owner or user is requested or required to connect to the System and has not previously paid or been assessed a connection fee, the following connection fee schedule shall apply:

Integrated Connection Base Fee Schedule

Water Meter Size (inches)	<u>1/01/16</u>	<u>1/01/17</u>
3/4 or less	\$ 2,928	\$ 2,959
1	4,890	4,942
1 ½	9,750	9,853
2	15,606	15,771
3	34,170	34,532
4	61,488	62,139
6 and over	136,650	138,097

Except as otherwise provided in the immediately succeeding paragraph, the foregoing integrated water connection base fee schedule for single-family and multi-family residential dwelling units shall be adjusted upward and downward as follows: A single-family residential dwelling unit located on a parcel containing twenty thousand (20,000) square feet shall pay the applicable integrated connection fee in accordance with the foregoing schedule. When determining the square footage of a residential parcel for the purposes of determining the appropriate integrated connection fee, parcel size may be adjusted downward to take into consideration such things as wetlands, lakes, streams and other unusual characteristics of the parcel in accordance with policies approved from time to time by the Utility Advisory Board. To the extent the size of a parcel, as adjusted, is greater than or less than twenty thousand (20,000) square feet, one-half the applicable integrated connection fee will increase or decrease by the same percentage increase or decrease in the parcel above or below twenty thousand (20,000) square feet. In the case of multi-family residential dwellings, in order to determine the size of the parcel assigned to each dwelling unit for purposes of calculating the integrated connection fee to be paid by each multi-family residential dwelling unit, the total square footage of the parcel, as adjusted, on which the multi-family residential dwelling is located shall be divided by the total number of residential units. Notwithstanding any other provision in this subsection, the integrated connection fee for a single-family residential dwelling unit or multi-family residential dwelling unit shall not exceed four and one-half times the applicable base integrated connection fee set forth in foregoing schedule.

There shall be no upward adjustment in the integrated water service connection fee payable for a single-family residential dwelling unit connecting to the Water System if (a) each of the following conditions are met (1) a building permit shall have been obtained, (2) the dwelling unit shall have been constructed, and (3) a certificate of occupancy shall have been issued prior to January 1, 2000 or (b) local building permit fees have been paid to the local governmental unit prior to January 1, 2000 for a single-family residential dwelling unit to be

constructed on or after January 1, 2000. When connecting to the Water System, Users living in or owning such single-family residential dwelling units shall pay the applicable base integrated connection fee set forth in the Integrated Connection Base Fee Schedule adjusted downward, if applicable, in accordance with the immediate preceding paragraph.

Effective January 1, 2005 and January 1st of every year thereafter, the Integrated Water Connection Base Fees shall be adjusted by a percentage, which is determined by the annual change in the Consumer Price Index (the "index") calculated as follows:

- (1) The Consumer Price Index shall be that Index referred to as the Consumer Price Index, US City Average, All Urban Consumers, published by the U.S. Department of Labor-Bureau of Statistics ((1982-84)=100). In the event the method of determining the Index is substantially altered, the basis for determining the annual change thereafter shall be the Index which is most comparable to the Index described above.
- (2) For the purpose of computing the percentage change each calendar year, the Index for the month of August for the prior calendar year shall be subtracted from the Index for the immediately-preceding August. The result so obtained (if positive) shall be divided by the Index for the month of August for the prior calendar year to obtain the percentage increase which shall be applied to the then current Integrated Water Connection Base Fee Schedule to determine the new calendar year schedule.

The foregoing Integrated Connection fee is due and payable at the time a User receives a permit to connect to the Water System. A permit issued by the City to connect to the Water System shall expire one hundred eighty (180) days from the date the permit was issued.

The user receiving services who applies for a larger water meter than the one presently in service shall pay an Integrated Connection Fee which is the difference in cost between the meter size in service and the one applied for in accordance with the Integrated Connection Fee in effect at the time of application. No credit or rebate shall be made in the case of application for a smaller meter size.

Existing commercial and industrial customers may request the installation of an additional meter to measure water used solely for irrigation purposes. There shall be no Integrated Connection Fee for the additional meter provided combined maximum capacity as defined by the American Water Works Association Standards C700-90 and C702-92, as amended, does not exceed the maximum capacity of the original meter. If the original maximum capacity is exceeded, the customer shall pay as an Integrated Connection Fee the difference between the fee for the original meter and what the fee would be if the maximum capacities of all meters were totaled. The additional Integrated Connection Fee shall be based upon the fees in effect at the time of installation of the additional meter.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 16**

INCLUDE MAJOR PROJECT COST FOR SYSTEM IMPROVEMENTS (NON-INTEGRATED)

THE ESTIMATED TOTAL PROJECT COST FOR RECOMMENDED WATER SYSTEM IMPROVEMENTS ARE SUMMARIZED IN THE FOLLOWING TABLE.

ITEM NO.	DESCRIPTION	ESTIMATED COST	BUDGET YEAR
1	SCADA IMPROVEMENTS	2,200,000	2014
2	OAKLAND WATERMAIN REPLACEMENTS	1,137,000	2016
3	EAST PARIS TANK IMPROVEMENTS	1,500,000	2017
4	BRISTOL BOOSTER STATION IMPROVEMENTS	600,000	2017
5	EAST PARIS TANK IMPROVEMENTS	1,000,000	2017
6	LIVINGSTON DISCHARGE LINE PHASES 2 & 3	6,324,000	2017
7	LEFFINGWELL PUMP STATION DECOMMISSION	500,000	2018
8	FULTON, NASON AND WEALTHY WATERMAIN REPLACEMENT	884,000	2018
9	MAYNARD WATERMAIN PHASE 2	600,000	2018
10	ADAMS/ALGER PRESSURE DISTRICT MODIFICATIONS	3,600,000	2019
11	METER SYSTEM UPGRADES	2,500,000	2019
12	ESCSO #28B	2,643,000	2019
13	CAMBRIDGE TANK IMPROVEMENTS	500,000	2019
14	BERKSHIRE, KENDALL, KENT RIDGE, ROSEWOOD WM REPL.	2,854,000	2019
15	SHELDON, EMERALD AND DIVISION WM REPL.	2,679,000	2019
16	LAKE MICHIGAN, GODFREY, LANE AND HOVEY WM REPL.	950,000	2019
17	COLDBROOK PUMP STATION DECOMMISSION	4,000,000	2020
18	CASCADE NORTH RIVER CROSSING	4,200,000	2020
19	SOUTH WALKER WATERMAIN PHASE 3	2,000,000	2020
20	BOOSTER D IMPROVEMENTS	500,000	2020
21	EMERALD, LAKE EASTBROOK, LYON & GRIGGS WM REPL.	2,377,000	2020
22	TREMONT, VALLEY, GODFREY, ALLERTON & FRANKLIN	3,047,000	2020
23	BOOSTER A PUMP STATION IMPROVEMENTS	500,000	2021
24	KNAPP TANK IMPROVEMENTS	500,000	2021
25	FULTON, OMENA, SUNNYBROOK & WOODWARD WM REPL.	2,212,000	2021
		<u>\$ 49,807,000</u>	

NOTE: NONE OF THE PROJECTS ABOVE ARE INCLUDED IN RECOMMENDED REVENUE REQUIREMENTS FOR CALENDAR YEAR 2017. COSTS SHOWN ARE IN 2016 DOLLARS AND ARE TAKEN FROM THE FISCAL YEARS 2017-2021 CAPITAL PROJECT PLAN.

SOURCE: WAYNE JERNBERG, ASSISTANT WATER SYSTEM MANAGER, OCTOBER 2016

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 17**

BONDS - PRINCIPAL & INTEREST PAYMENTS (SENIOR)

FISCAL YEAR ENDING JUNE 30,	PRINCIPAL	INTEREST	PRIN & INT
2017	\$10,040,000	\$3,535,114	\$13,575,114
2018	10,375,000	3,241,469	13,616,469
2019	5,620,000	3,485,419	9,105,419
2020	5,820,000	3,240,769	9,060,769
2021	2,230,000	2,983,869	5,213,869
2022	2,335,000	2,887,169	5,222,169
2023	2,455,000	2,775,231	5,230,231
2024	2,590,000	2,657,231	5,247,231
2025	2,720,000	2,532,600	5,252,600
2026	2,865,000	2,401,550	5,266,550
2027	3,010,000	2,263,100	5,273,100
2028	3,175,000	2,117,700	5,292,700
2029	3,040,000	1,961,750	5,001,750
2030	3,190,000	1,809,750	4,999,750
2031	3,345,000	1,650,250	4,995,250
2032	3,520,000	1,483,000	5,003,000
2033	3,695,000	1,307,000	5,002,000
2034	3,875,000	1,122,250	4,997,250
2035	4,075,000	928,500	5,003,500
2036	2,025,000	724,750	2,749,750
2037	2,125,000	623,500	2,748,500
2038	2,235,000	517,250	2,752,250
2039	2,345,000	405,500	2,750,500
2040	705,000	288,250	993,250
2041	745,000	253,000	998,000
2042	780,000	215,750	995,750
2043	820,000	176,750	996,750
2044	860,000	135,750	995,750
2045	905,000	92,750	997,750
2046	950,000	47,500	997,500
	\$ 92,470,000	\$ 47,864,471	\$ 140,334,471

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 18**

DETERMINE WATER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE BY
SUBTRACTING DEBT OUTSTANDING FROM THE TOTAL RATE BASE.

CONSTRUCTION COST RATE BASE - TASK NO. 15	\$ 254,418,913
LESS: BONDED INDEBTEDNESS in CCRB (CASH BASIS) - TASK NO. 20	(102,215,016)
NET WATER SYSTEM EQUITY	<u>\$ 152,203,896</u>

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER RATE STUDY
 WATER SUPPLY SYSTEM FUND
 RATE OF RETURN ON EQUITY - TASK NO. 19**

AT THE APRIL 5, 1977, COMMITTEE OF THE WHOLE MEETING, THE CITY COMMISSION DECIDED THE LEVEL OF RETURN ON WATER SYSTEM EQUITY. THE LEVEL DECIDED UPON WAS ONE PERCENT MORE THAN THE AVERAGE BOND BUYER'S INDEX OF MUNICIPAL BONDS FOR THE PREVIOUS TWELVE MONTH PERIOD.

BOND BUYER'S INDEX OF 20 MUNICIPAL BONDS

<u>DATE</u>	<u>RATE</u>	<u>DATE</u>	<u>RATE</u>
24-Sep-15	3.710%	24-Mar-16	3.380%
01-Oct-15	3.670%	31-Mar-16	3.380%
08-Oct-15	3.680%	07-Apr-16	3.280%
15-Oct-15	3.680%	14-Apr-16	3.300%
22-Oct-15	3.670%	21-Apr-16	3.280%
29-Oct-15	3.660%	28-Apr-16	3.320%
05-Nov-15	3.690%	05-May-16	3.320%
12-Nov-15	3.740%	12-May-16	3.320%
19-Nov-15	3.650%	19-May-16	3.260%
26-Nov-15	3.630%	26-May-16	3.260%
03-Dec-15	3.570%	02-Jun-16	3.260%
10-Dec-15	3.570%	09-Jun-16	3.030%
17-Dec-15	3.570%	16-Jun-16	2.990%
24-Dec-15	3.570%	23-Jun-16	2.900%
31-Dec-15	3.570%	30-Jun-16	2.850%
07-Jan-16	3.450%	07-Jul-16	2.800%
14-Jan-16	3.450%	14-Jul-16	2.800%
21-Jan-16	3.370%	21-Jul-16	2.870%
28-Jan-16	3.380%	28-Jul-16	2.850%
04-Feb-16	3.300%	04-Aug-16	2.850%
11-Feb-16	3.270%	11-Aug-16	2.850%
18-Feb-16	3.270%	18-Aug-16	2.840%
25-Feb-16	3.340%	25-Aug-16	2.840%
03-Mar-16	3.340%	01-Sep-16	2.840%
10-Mar-16	3.420%	08-Sep-16	2.830%
17-Mar-16	3.400%	15-Sep-16	2.960%
		<u>52 WEEKS</u>	<u>3.290%</u>

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER RATE STUDY
 WATER SUPPLY SYSTEM FUND
 TASK NO. 20**

DETERMINE COMPOSITE RATE OF RETURN ON A CONSTRUCTION COST RATE BASE

	RATE BASE	RATE OF RETURN	RETURN ON INVESTMENT
WATER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE (CCRB)	\$ 152,203,896	@ 4.290%	= \$ 6,529,547
WATER SYSTEM INDEBTEDNESS IN THE CCRB			
1993 BONDS (<i>Fixed Rate Conversion</i>)	13,600,000	@ 5.86%	= 796,960
2009 BONDS	715,000	@ 4.98%	= 35,607
2010 BONDS (refunded 2000 Bonds)	13,545,000	@ 4.59%	= 621,716
2011 DWRF BONDS	1,386,301	@ 2.50%	= 34,658
2011 DWRF BONDS	2,421,024	@ 2.50%	= 60,526
2012 DWRF BONDS	3,270,000	@ 2.50%	= 81,750
2012 DWRF BONDS	593,514	@ 2.00%	= 11,870
2013 BONDS	2,500,000	@ 2.76%	= 69,000
2014 DWRF BONDS (amount in CCRB)	2,780,000	@ 2.50%	= 69,500
2014 QECB BONDS (amount in CCRB)	1,601,334	@ 2.54%	= 40,674
2015 BONDS (refunded 2009)	25,370,000	@ 5.00%	= 1,268,500
2015 DWRF BONDS	5,830,300	@ 2.50%	= 145,758
2016 DWRF BONDS	2,330,000	@ 2.50%	= 58,250
2016 BONDS (refunded 2009 & amt in CCRB)	26,272,544	@ 5.00%	= 1,313,627
LESS INTEREST ON BOND RESERVE ACCOUNTS			(13,055)
	\$ 254,418,913		\$ 11,124,888
COMPOSITE RATE OF RETURN ON INVESTMENT		\$ 11,124,888 \$254,418,913 =	4.373%
<u>Noted Disclosure:</u>			
TOTAL BONDED INDEBTEDNESS IN CCRB (from above)	\$ 102,215,016	TASK NO. 18	

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 CONSTRUCTION COST RATE BASE & RETURN ON INVESTMENT- TASK NO. 21- PART 1
 FISCAL YEAR ENDED JUNE 30, 2016

PHYSICAL LOCATION

DESCRIPTION	RETAIL										WHOLESALE			TOTAL
	INTEGRATED SYSTEM	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP				
COST	\$ 203,929,516	\$ 170,071,831	\$ 27,823,597	\$ 35,045,837	\$ 22,380,964	\$ 16,679,191	\$ 2,271,640	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 478,202,577	
LESS: ACCUMULATED DEPRECIATION	111,788,210	47,894,456	7,514,131	9,271,688	5,979,653	4,078,079	388,937	-	-	-	-	-	186,915,154	
NET BOOK VALUE	\$ 92,141,306	\$ 122,177,375	\$ 20,309,466	\$ 25,774,149	\$ 16,401,311	\$ 12,601,112	\$ 1,882,703	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 291,287,423	
WORKING CAPITAL REQUIREMENT	2,920,010	3,046,327	448,124	491,405	356,431	301,124	23,287	20,836	52,702	52,702	-	-	7,660,246	
CONTRIBUTIONS	\$ 95,061,316	\$ 125,223,702	\$ 20,757,590	\$ 26,265,554	\$ 16,757,742	\$ 12,902,236	\$ 1,905,990	\$ 20,836	\$ -	\$ -	\$ -	\$ -	\$ 298,947,669	
LESS AMORTIZATION	242,824	21,939,771	18,556,861	17,093,459	19,013,683	12,981,153	2,271,640	-	-	-	-	-	92,099,391	
	(32,376)	(11,167,449)	(5,726,751)	(5,149,819)	(5,109,561)	(3,432,061)	(393,545)	-	-	-	-	-	(31,011,562)	
CONSTRUCTION COST RATE BASE	\$ (210,448)	\$ (10,772,322)	\$ (12,830,110)	\$ (11,943,640)	\$ (13,904,122)	\$ (9,549,092)	\$ (1,878,095)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (61,087,829)	
	\$ 94,850,868	\$ 114,451,380	\$ 7,927,480	\$ 14,321,914	\$ 2,853,620	\$ 3,353,144	\$ 27,895	\$ 20,836	\$ 52,702	\$ 52,702	\$ -	\$ -	\$ 237,859,840	
RETURN ON INVESTMENT- TASK 4/5		47,971											\$ 47,971	
RETURN ON INVESTMENT- TASK 20	\$ 4,147,828	\$ 4,956,988	\$ 346,669	\$ 626,297	\$ 124,789	\$ 146,633	\$ 1,220	\$ 911	\$ -	\$ -	\$ -	\$ 2,305	\$ 10,353,640	
	4.373%													

ZONEGATED

COST	\$ -	\$ (4,727,389)	\$ 593,624	\$ 3,560,961	\$ 10,386,538	\$ 4,991,027	\$ 206,406	\$ 1,557,340	\$ -	\$ 5,015,231	\$ -	\$ -	\$ 21,583,738
LESS: ACCUMULATED DEPRECIATION	-	(3,470,460)	442,714	1,630,630	2,679,496	1,555,871	98,171	488,127	-	1,599,227	-	-	5,023,776
NET BOOK VALUE	-	\$ (1,256,929)	\$ 150,910	\$ 1,930,331	\$ 7,707,042	\$ 3,435,156	\$ 108,235	\$ 1,069,213	\$ -	\$ 3,416,004	\$ -	\$ -	\$ 16,559,962
WORKING CAPITAL REQUIREMENT	-	-	-	-	-	-	-	-	-	-	-	-	-
CONTRIBUTIONS	\$ -	\$ (1,256,929)	\$ 150,910	\$ 1,930,331	\$ 7,707,042	\$ 3,435,156	\$ 108,235	\$ 1,069,213	\$ -	\$ 3,416,004	\$ -	\$ -	\$ 16,559,962
LESS AMORTIZATION	-	-	-	8,080	4,366	17,445	-	20	-	15,815	-	-	45,726
	-	-	-	(7,923)	(4,281)	(17,106)	-	(19)	-	(15,508)	-	-	(44,837)
CONSTRUCTION COST RATE BASE	\$ -	\$ -	\$ -	\$ (157)	\$ (85)	\$ (339)	\$ -	\$ (1)	\$ -	\$ (307)	\$ -	\$ -	\$ (889)
	\$ -	\$ (1,256,929)	\$ 150,910	\$ 1,930,174	\$ 7,706,957	\$ 3,434,817	\$ 108,235	\$ 1,069,212	\$ -	\$ 3,415,697	\$ -	\$ -	\$ 16,559,073
RETURN ON INVESTMENT- TASK 19/20	\$ -	\$ (97,915)	\$ 11,756	\$ 150,361	\$ 600,372	\$ 267,572	\$ 8,432	\$ 83,292	\$ -	\$ 266,083	\$ -	\$ -	\$ 1,289,953
RETURN ON INVESTMENT- TASK 19/20	7.790%	7.900%	7.900%	7.790%	7.790%	7.790%	7.790%	7.900%	-	7.790%	-	-	7.790%
TOTAL RETURN ON INVESTMENT	\$ 4,147,828	\$ 4,859,073	\$ 358,425	\$ 776,658	\$ 725,161	\$ 414,205	\$ 9,652	\$ 84,203	\$ -	\$ 268,388	\$ -	\$ -	\$ 11,643,593

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 CONSTRUCTION COST & ACCUMULATED DEPRECIATION- TASK NO. 21- PART 2
 FISCAL YEAR ENDED JUNE 30, 2016

CONSTRUCTION COST

COST CENTER	AMOUNT	RETAIL										WHOLESALE			TOTAL					
		INTEGRATED SYSTEM		CITY OF WALKER		CITY OF KENTWOOD		CASCADE TOWNSHIP		GR TOWNSHIP		TALLMADGE TOWNSHIP		CITY OF EAST GR		COUNTY OF OTTAWA	ADA TOWNSHIP			
		\$		\$		\$		\$		\$		\$		\$			\$		\$	
BY PHYSICAL LOCATION- TASK 11		\$ 203,787,927	\$ 178,775,796	\$ 24,024,006	\$ 38,398,948	\$ 22,384,512	\$ 18,242,837	\$ 2,271,640												
IN SERVICE- TASK 10		141,589	7,363,965	4,012,180	382,914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11,900,649
PUMPING STATIONS:																				
KNAPP SERVICE CENTER	\$ 3,379,233	(2,038,945)	-	92,156	-	1,045,699	-	-	-	-	-	-	-	-	-	-	-	-	-	901,090
LIVINGSTON	2,090,217	(1,012,524)	-	44,746	-	507,513	-	-	-	-	-	-	-	-	-	-	-	-	-	460,265
FRANKLIN	6,949,487	(4,000,551)	-	2,122,190	-	1,080,197	-	-	-	-	-	-	-	727,151	-	-	-	-	-	2,908
LEFFINGWELL	141,009	(55,920)	-	9,881	-	5,340	-	-	-	-	-	-	-	24	-	-	-	-	-	19,341
BRISTOL	612,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EAST PARIS	5,103,995	482,162	-	(2,205,193)	-	1,645,718	-	-	-	-	-	-	-	-	-	-	-	-	-	4,179
BURTON	219,892	(2,210)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COLDBROOK PS PUMP 2	389,279	-	-	-	-	2,210	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STORAGE TANKS:																				
ELKS	236,335	(143,759)	142,651	-	-	-	-	1,108	-	-	-	-	-	-	-	-	-	-	-	-
KNAPP	118,570	(71,036)	-	5,309	-	2,094	-	34,708	-	3	-	-	-	28,922	-	-	-	-	-	-
CAMBRIDGE	116,070	(20,385)	-	18,016	-	634	-	1,560	-	174	-	-	-	1	-	-	-	-	-	-
PATTERSON	3,938,991	478,189	-	(2,929,165)	-	1,903,605	-	215,302	-	-	-	-	-	332,069	-	-	-	-	-	-
WATERMANS		(14,410,340)	238,384	2,666,996	-	5,745,402	-	1,457,816	-	205,298	-	-	-	3,266,456	-	-	-	-	-	-
ADJUSTED BY ZONEGATING		\$ 203,929,516	\$ 165,344,442	\$ 28,417,221	\$ 38,606,798	\$ 32,767,502	\$ 21,670,218	\$ 2,478,046	\$ 1,557,340	\$ 5,015,231	\$ 499,786,315									
LESS: ZONEGATING ADJUSTMENT		-	\$ (4,727,389)	\$ 593,624	\$ 3,560,961	\$ 10,386,538	\$ 4,991,027	\$ 206,406	\$ 1,557,340	\$ 5,015,231	\$ 21,583,738									
PHYSICAL LOCATION		\$ 203,929,516	\$ 170,071,831	\$ 27,823,597	\$ 35,045,837	\$ 22,380,964	\$ 16,679,191	\$ 2,271,640	\$ -	\$ -	\$ 478,202,577									

ACCUMULATED DEPRECIATION

BY PHYSICAL LOCATION- TASK 11		\$ 111,788,210	\$ 51,449,371	\$ 7,615,288	\$ 10,211,486	\$ 5,980,742	\$ 4,504,896	\$ 388,937	\$ -	\$ -	\$ 191,938,930
IN SERVICE- TASK 10		-	-	-	-	-	-	-	-	-	-
PUMPING STATIONS:											
KNAPP SERVICE CENTER	\$ 2,175,895	(1,312,881)	-	59,339	-	673,328	-	-	-	-	580,214
LIVINGSTON	951,157	(460,751)	-	20,362	-	230,945	-	-	-	-	209,444
FRANKLIN	3,281,346	(1,888,943)	-	1,002,036	-	510,037	-	343,340	-	-	1,373
LEFFINGWELL	138,285	(54,839)	-	9,690	-	5,236	-	23	-	-	18,968
BRISTOL	301,520	-	-	-	-	-	-	-	-	-	-
EAST PARIS	1,812,696	171,241	-	(783,180)	-	584,481	-	25,974	-	-	1,484
BURTON	62,234	(221)	-	-	-	-	-	-	-	-	-
COLDBROOK PS PUMP 2	38,928	-	-	-	-	-	-	221	-	-	-
WILSON		-	-	-	-	-	-	-	-	-	-
STORAGE TANKS:											
ELKS	236,335	(143,759)	142,651	-	-	-	-	1,108	-	-	-
KNAPP	116,070	(69,539)	-	5,197	-	2,050	-	33,977	-	3	28,312
CAMBRIDGE	116,070	(20,385)	-	18,016	-	634	-	1,560	-	174	1
PATTERSON	304,484	36,964	-	(226,425)	-	147,149	-	16,643	-	-	25,669
WATERMANS		(3,282,262)	198,906	585,797	-	1,428,820	-	93,327	-	144,587	733,762
ADJUSTED BY ZONEGATING		\$ 111,788,210	\$ 44,423,996	\$ 7,956,845	\$ 10,902,318	\$ 8,659,149	\$ 5,633,950	\$ 487,108	\$ 488,127	\$ 1,599,227	\$ 191,938,930
LESS: ZONEGATING ADJUSTMENT		-	\$ (3,470,460)	\$ 442,714	\$ 1,630,630	\$ 2,679,496	\$ 1,555,871	\$ 98,171	\$ 488,127	\$ 1,599,227	\$ 5,023,776
PHYSICAL LOCATION		\$ 111,788,210	\$ 47,894,456	\$ 7,514,131	\$ 9,271,688	\$ 5,979,653	\$ 4,078,079	\$ 388,937	\$ -	\$ -	\$ 186,915,154

CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING
FISCAL YEAR ENDED JUNE 30, 2016

COST CENTER	AMOUNT	CONSTRUCTION COST - BY PHYSICAL LOCATION										TOTAL	
		RETAIL					WHOLESALE						
COST BY PHYSICAL LOCATION- TASK 11		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP			
IN SERVICE- TASK 10		\$ 141,589	\$ 7,363,965	\$ 4,012,180	\$ 382,914	\$ 23,191,414	\$ 29,355,962	\$ 22,384,512	\$ 18,242,837	\$ 2,271,640	\$ -	\$ -	\$ 487,885,666
BRISTOL													11,900,649
EAST PARIS													-
BURTON													-
PATERSON TANK													-
WATERMANS													-
LESS: WATERMANS-TOTAL SUBS-HOME COMM													(40,813,452)
ADD: WATERMANS-TOTAL ADDS-HOME COMM													19,229,712
TOTAL-PHYSICAL LOCATION COST		\$ 203,929,516	\$ 170,071,829	\$ 27,823,597	\$ 35,045,837	\$ 22,380,964	\$ 16,679,191	\$ 2,271,640	\$ -	\$ -	\$ -	\$ -	\$ 478,202,575
CONSTRUCTION COST-ZONEGATING													
PUMPING STATIONS:													
KNAPP SERVICE CENTER	\$ 3,379,233												\$ 901,090
LIVINGSTON	2,090,217												460,265
FRANKLIN	6,949,487												2,908
LEFFINGWELL	141,009												19,341
BRISTOL	612,700												-
EAST PARIS	5,103,995												-
BURTON	219,892												4,179
COLDBROOK PS PUMP 2	389,279												-
STORAGE TANKS:													
ELKS	236,335												-
KNAPP	118,570												28,922
CAMBRIDGE	116,070												1
PATERSON	3,938,991												332,069
WATERMANS- ZONEGATED COST													21,583,738
TOTAL- ZONEGATED COST													\$ 5,015,231
GRAND TOTAL- COST		\$ 203,929,516	\$ 165,344,440	\$ 28,417,221	\$ 38,606,798	\$ 21,670,218	\$ 2,418,046	\$ 1,557,340	\$ -	\$ 5,015,231	\$ -	\$ -	\$ 497,786,313
ACCUMULATED DEPRECIATION-BY PHYSICAL LOCATION													
ACC DEPREC BY PHYSICAL LOCATION- TASK 11													\$ 191,938,930
BRISTOL													-
EAST PARIS													-
BURTON													-
PATERSON													-
WATERMANS													-
LESS: WATERMANS-TOTAL SUBS-HOME COMM													(9,073,994)
ADD: WATERMANS-TOTAL ADDS-HOME COMM													4,050,216
TOTAL-PHYSICAL LOCATION ACC DEP		\$ 111,788,210	\$ 47,894,453	\$ 7,514,131	\$ 9,271,688	\$ 5,979,654	\$ 4,078,079	\$ 388,937	\$ -	\$ -	\$ -	\$ -	\$ 186,915,152
ACCUMULATED DEPRECIATION-ZONEGATING													
PUMPING STATIONS:													
KNAPP SERVICE CENTER	\$ 2,175,895												\$ 580,214
LIVINGSTON	951,157												209,444
FRANKLIN	3,281,346												1,373
LEFFINGWELL	138,285												18,968
BRISTOL	301,520												-
EAST PARIS	1,812,696												-
BURTON	62,234												1,484
COLDBROOK PS PUMP 2	38,928												-
STORAGE TANKS:													
ELKS	236,335												-
KNAPP	116,070												28,312
CAMBRIDGE	116,070												1
PATERSON	3,044,884												25,669
WATERMANS- ZONEGATED ACC DEP													733,762
TOTAL- ZONEGATED ACC DEP													5,023,776
GRAND TOTAL- ACC DEP		\$ 111,788,210	\$ 44,423,993	\$ 7,956,845	\$ 10,902,318	\$ 8,659,150	\$ 5,635,950	\$ 488,127	\$ -	\$ 1,599,227	\$ -	\$ -	\$ 191,938,928

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ADJUSTED OPERATING EXPENSE ZONEGATED BY GOVERNMENTAL UNIT - TASK #22
 FISCAL YEAR ENDED JUNE 30, 2016

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE					
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP			
FILTRATION PLANT	\$ 6,473,232	\$ 6,473,232												
PUMPING STATIONS:														
A. PRIMARY TRANSPORT	502,179	502,179	588,173	24,645	274,036	142,909	103,402					45,975		85,991
B. INTERMEDIATE TRANSPORT	1,265,131													
WATERMAINS:														
A. PRIMARY TRANSPORT	370,268		210,704	37,797	50,208	35,809	17,566	807				3,847		13,530
B. INTERMEDIATE TRANSPORT	1,889,176		707,250	389,926	325,373	268,849	139,383	32,022						26,373
C. LOCAL DISTRIBUTION	5,030,732		3,688,532	393,705	342,392	278,401	312,358	15,344						-
RETAIL CUSTOMER METERING *	2,768,675		2,082,597	224,512	181,930	125,587	146,657	7,392						-
SUBTOTAL OPERATING EXPENSE	18,299,393	6,975,411	7,277,256	1,070,585	1,173,939	851,555	719,366	55,565				49,822		125,894
ENGINEERING SERVICES	1,169,607	445,843	465,129	68,422	75,030	54,422	45,977	3,556				3,181		8,047
ADMINISTRATIVE EXPENSE	5,780,451	2,181,274	2,333,809	334,753	367,084	266,258	224,943	17,396				15,565		39,369
TOTAL	\$ 25,249,451	\$ 9,602,528	\$ 10,076,194	\$ 1,473,760	\$ 1,616,053	\$ 1,172,235	\$ 990,286	\$ 76,517				\$ 68,568		\$ 173,310

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

FILTRATION PLANTS	100.00%	100.00%													
PUMPING STATIONS															
A. PRIMARY TRANSPORT	100.00%	100.00%													
B. INTERMEDIATE TRANSPORT	100.00%	100.00%	46.491%	1.948%	21.661%	11.296%	8.173%					3.634%		6.797%	
MEMO															
WATERMAINS															
TOTAL MILES:	1,174.69														
A. PRIMARY TRANSPORT	59.66	100.000%	56.906%	10.208%	13.560%	9.671%	4.744%	0.218%				1.039%		3.654%	
MILES	304.41	100.000%	37.437%	20.640%	17.223%	14.231%	7.378%	1.695%				0.62		2.18	
B. INTERMEDIATE TRANSPORT	810.62	100.000%	113.96	62.83	52.43	43.32	22.46	5.16						1.396%	
MILES	83,915.00	100.000%	73.320%	7.826%	6.806%	5.534%	6.209%	0.305%						4.25	
C. LOCAL DISTRIBUTION		100.000%	594.35	63.44	55.17	44.86	50.33	2.47							
MILES		100.000%	75.220%	8.109%	6.571%	4.536%	5.297%	0.267%							
RETAIL CUSTOMER METERING (1)		100.000%	63,121.00	6,805.00	5,514.00	3,806.00	4,445.00	224.00							
NUMBER OF METERS		100.000%	39,768%	5,850%	6,415%	4,653%	3,931%	0.304%				0.272%		0.688%	
ENGINEERING SERVICES (2)		100.000%	40.374%	5.791%	6.350%	4.606%	3.891%	0.301%				0.269%		0.681%	
ADMINISTRATIVE EXPENSE (3)		100.000%													

NOTES:

- (1) ALLOCATION BASED ON NUMBER OF METERS.
- (2) ALLOCATION BASED ON DIRECT OPERATING EXPENSE.
- (3) ALLOCATION BASED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER RATE STUDY
 WATER SUPPLY SYSTEM FUND
 TASK NO. 23**

ASSIGN OTHER OPERATING REVENUES TO EACH GOVERNMENTAL ENTITY. *

BASIS OF ALLOCATION: RETAIL BILLINGS BY GOVERNMENTAL ENTITY - TASK NO. 6 & 7

	<u>RETAIL BILLINGS</u>	<u>PERCENTAGE OF TOTAL</u>	<u>ALLOCATION</u>
CITY OF GRAND RAPIDS	\$ 22,641,279	65.2433%	\$ 462,078
CITY OF WALKER	2,956,754	8.5202%	60,343
CITY OF KENTWOOD	4,039,282	11.6396%	82,436
CASCADE TOWNSHIP	2,979,378	8.5854%	60,805
GRAND RAPIDS TOWNSHIP	1,949,374	5.6173%	39,784
TALLMADGE TOWNSHIP	<u>136,792</u>	<u>0.3942%</u>	<u>2,792</u>
	<u><u>\$ 34,702,859</u></u>	<u><u>100.0000%</u></u>	<u><u>\$ 708,238</u></u>

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ASSIGN DEPRECIATION EXPENSE TO CUSTOMER COMMUNITIES- TASK NO. 24
 FISCAL YEAR ENDED JUNE 30, 2016

COST CENTER	DEPRECIATION EXPENSE	INTEGRATED SYSTEM	RETAIL						WHOLESALE			TOTAL												
			CITY OF GR		CITY OF WALKER		CITY OF KENTWOOD		CASCADE TOWNSHIP		GR TOWNSHIP		TALLMADGE TOWNSHIP		CITY OF EAST GR		COUNTY OF OTTAWA		ADA TOWNSHIP					
			\$		\$		\$		\$		\$			\$		\$		\$		\$		\$		
BY PHYSICAL LOCATION- TASK 11		\$ 3,569,567		\$ 2,915,758		\$ 329,436		\$ 492,091		\$ 295,618		\$ 240,390		\$ 28,520		\$ -		\$ -		\$ -		\$ -		\$ 7,871,380
IN SERVICE- TASK 10		4,719		98,186		106,161		5,106		-		-		-		-		-		-		-		214,172
PUMPING STATIONS:																								
KNAPP SERVICE CENTER	\$ 92,899			(56,052)		-		2,533		-		28,747		-		-		-		-		24,772		-
LIVINGSTON	51,792			(25,089)		-		1,109		-		12,575		-		-		-		-		11,405		-
FRANKLIN	208,505			(120,028)		-		63,672		32,409		2,043		-		21,817		-		-		87		-
LEFFINGWELL	908			(360)		-		64		34		137		-		-		-		-		125		-
BRISTOL	15,870					-																		-
EAST PARIS	120,457			11,379		-		(52,044)		38,840		1,726		-		-		-		-		99		-
BURTON	12,447					-																		-
COLDBROOK PS PUMP 2	12,976			(74)		-		-		-		74		-		-		-		-		-		-
STORAGE TANKS:																								
ELKS	-			-		-		-		-		-		-		-		-		-		-		-
KNAPP	-			-		-		-		-		-		-		-		-		-		-		-
CAMBRIDGE	-			-		-		-		-		-		-		-		-		-		-		-
PATTERSON	101,837			12,363		-		(75,729)		49,215		5,566		-		-		-		-		8,585		-
WATERMANS				(188,165)		3,178		33,442		75,547		19,356		2,737		10,355		-		-		43,550		-
ADJUSTED BY ZONEGATING		3,574,286		2,647,918		438,775		470,244		491,663		310,614		31,257		32,172		-		-		88,623		8,085,552
LESS DEPR ON CIS (TASK 4/5)		(398,504)																						(398,504)
LESS CONTRIBUTIONS AMORTIZED		(8,094)		(290,008)		(244,750)		(229,226)		(248,568)		(173,249)		(28,576)		-		-		-		-		(1,222,471)
TASK NO. 21		\$ 1,959,406		\$ 194,025		\$ 241,018		\$ 243,095		\$ 137,365		\$ 32,172		\$ 2,681		\$ 88,623		\$ -		\$ -		\$ -		\$ 6,464,577
TOTAL		\$ 3,566,192		\$ 3,566,192		\$ 194,025		\$ 241,018		\$ 243,095		\$ 137,365		\$ 2,681		\$ 32,172		\$ -		\$ -		\$ -		\$ 6,464,577

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CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 ACCUMULATE REVENUE REQUIREMENTS BY CUSTOMER COMMUNITIES- TASK NO. 25
 FISCAL YEAR ENDED JUNE 30, 2016

COST CENTER	INTEGRATED SYSTEM	RETAIL						WHOLESALE				TOTAL		
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	CITY OF EAST GR	COUNTY OF OTTAWA	ADA TOWNSHIP				
OPERATION & MAINTENANCE														
EXPENSE- TASK NO. 22	\$ 9,602,528	\$ 10,076,194	\$ 1,473,760	\$ 1,616,053	\$ 1,172,235	\$ 990,286	\$ 76,517	\$ 68,568	\$ -	\$ 173,310	\$ 25,249,451			
DEPRECIATION EXPENSE	3,566,192	1,959,406	194,025	241,018	243,095	137,365	2,681	32,172	-	88,623	6,464,577			
TASK NO. 24	4,147,828	4,859,073	358,425	776,658	725,161	414,205	9,652	84,203	-	268,388	11,643,593			
RETURN ON SYSTEM INVESTMENT	-	(462,078)	(60,343)	(82,436)	(60,805)	(39,784)	(2,792)	-	-	-	(708,238)			
REVENUE CREDITS- TASK NO. 23														
ALLOCATE:														
INTEG CONN. FEE CREDIT (A)	-	(590,104)	(115,976)	(130,637)	(86,220)	(58,528)	(6,350)	(43,015)	-	(50,548)	(1,081,378)			
INTEGRATED SYSTEM (A)	(17,316,548)	8,605,526	1,691,281	1,905,088	1,257,358	853,526	92,601	627,292	1,546,733	737,143	-			
LESS: CIRCUIT BREAKER (B)			(234,972)	-	-	(145,516)	-	-	-	-	(380,488)			
	\$ -	\$ 24,448,017	\$ 3,306,200	\$ 4,325,744	\$ 3,250,824	\$ 2,151,554	\$ 172,309	\$ 769,220	\$ 1,546,733	\$ 1,216,916	\$ 41,187,517			

(A) ALLOCATED ON THE BASIS OF RELATIVE BILLED VOLUME & LAND AREA TO UAB PARTNERS. OTTAWA'S ALLOCATION IS BASED ON OLD CONTRACT AND EXCLUDES ANY COST OF COLDBROOK PUMPING.

(B) PURSUANT TO CITY AND CUSTOMER COMMUNITY CIRCUIT BREAKER, AS PROVIDED FOR BY THE THIRD AMENDMENT TO THE UNIFORM SERVICE AGREEMENTS.

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 25a**

REVIEW THE REVENUE REQUIREMENTS TO ASSURE COMPLIANCE WITH THE APPLICABLE BOND ORDINANCE PROVISIONS.

	<u>YEAR ENDED 6/30/16</u>	<u>PRO FORMA *</u>
REVENUES:		
RETAIL/WHOLESALE WATER SALES	\$ 38,477,778	\$ 39,351,246
CONNECTION FEES/FRONT FOOT FEES	1,473,203	976,000
BILLABLE TO SDS FUND	1,931,449	2,201,742
OTHER OPERATING REVENUES	2,017,433	1,887,552
INTEREST ON INVESTMENTS	164,860	214,733
MISCELLANEOUS	826,672	685,036
TOTAL REVENUES	<u><u>\$ 44,891,394</u></u>	<u><u>\$ 45,316,309</u></u>
OPERATING EXPENSES:		
OPERATIONS & MAINTENANCE	\$ 25,551,470	\$ 27,060,467
DEPRECIATION	8,425,252	8,425,252
TOTAL EXPENSES	<u><u>\$ 33,976,722</u></u>	<u><u>\$ 35,485,719</u></u>
ADDITIONS: DEPRECIATION	<u>8,425,252</u>	<u>8,425,252</u>
NET EARNINGS OF THE SYSTEM	<u><u>\$ 19,339,924</u></u>	<u><u>\$ 18,255,842</u></u>
DEBT SERVICE		
SERIES 2016 BONDS	\$ -	\$ 297,138
SERIES 2015 BONDS	1,078,225	1,268,500
SERIES 2013 BONDS	360,669	389,869
SERIES 2010 BONDS	7,318,500	7,292,250
SERIES 2009 BONDS	1,257,015	642,808
SERIES 1993 BONDS	3,596,200	3,684,550
SENIOR LIEN	13,610,609	13,575,114
JUNIOR LIEN **	1,519,757	1,376,028
TOTAL	<u><u>15,130,366</u></u>	<u><u>14,951,142</u></u>
COVERAGE RATIO - SENIOR DEBT	<u>1.42</u>	<u>1.34</u>
COVERAGE RATIO - ALL DEBT	<u><u>1.28</u></u>	<u><u>1.22</u></u>

* WATER SALES ADJUSTED FOR RATE REVISIONS OF 1.00% AND 3.63% EFFECTIVE 1/1/16 AND 1/1/17, RESPECTIVELY; OTHER REVENUES AND OPERATIONS & MAINTENANCE EXPENSE PER 2017 FISCAL PLAN, ADJUSTED FOR CARRYFORWARDS.

** AMOUNTS IN PRO FORMA ARE BASED ON MAXIMUM PRINCIPAL AND DO NOT INCLUDE PRINCIPAL FORGIVENESS IF NOT YET FINALIZED.

SUMMARY

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

INITIAL SYSTEM REVENUE REQUIREMENTS		\$ 41,568,005
REVENUES FROM CURRENT RATES		
MONTHLY METER CHARGE	\$ 10,434,220	
MONTHLY BILLING CHARGE	3,412,584	
COMMODITY CHARGE	25,168,720	
MONTHLY FIRE PROTECTION	695,933	
ANNUAL HYDRANT CHARGE	<u>33,185</u>	<u>(39,744,643)</u>
INITIAL REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 1,823,362</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>4.59%</u>
INITIAL SYSTEM REVENUE REQUIREMENTS FROM ABOVE		\$ 41,568,005
LESS: AMOUNT OF CIRCUIT BREAKER RELIEF TO REDUCE RR's TO RETAIL		(380,488)
SYSTEM REVENUE REQUIREMENTS		<u>\$ 41,187,517</u>
ACTUAL REQUIRED AMOUNT OF REVENUE INCREASE (DECREASE)		<u>\$ 1,442,874</u>
ACTUAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>3.63%</u>

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 26**

METER SIZE	EQUIV. FACTOR	CITY OF GR		CITY OF WALKER		CITY OF KENTWOOD		CASCADE TWP		GR TWP		TALLMADGE TWP	
		METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.	METERS	EQUIV.
A 3/4" or less	1.0000	56,986	56,986	5,656	5,656	3,654	3,654	2,766	2,766	3,830	3,830	165	165
B 1"	1.7778	2,563	4,557	475	844	651	1,157	365	649	323	574	21	37
C 1 1/4"	2.7778	-	-	-	-	-	-	-	-	-	-	-	-
D 1 1/2"	4.0000	1,194	4,776	225	900	424	1,696	258	1,032	123	492	8	32
E 2"	7.1111	844	6,002	102	725	207	1,472	97	690	39	277	3	21
F 3"	16.0000	98	1,568	10	160	20	320	9	144	7	112	2	32
G 4"	28.4444	84	2,389	9	256	11	313	3	85	2	57	1	28
H 6" and over	64.0000	9	576	2	128	2	128	-	-	4	256	-	-
		61,778	76,854	6,479	8,669	4,969	8,740	3,498	5,366	4,328	5,598	200	315
		(5)											
FIRE PROTECTION SERVICE													
H 6"		1,024		227		306		168		95		20	
I 8"		281		75		205		114		21		2	
J 10"		16		6		11		2		-		-	
K 12"		22		18		23		24		1		2	
		1,343		326		545		308		117		24	
TOTAL		63,121		6,805		5,514		3,806		4,445		224	
TOTAL													83,915

Source: City of Grand Rapids, Michigan, Water/Sewer Customer Accounts/Meters Report, dated October 30, 2016

CITY OF GRAND RAPIDS, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \$ 24,448,017

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

76,854 meter equivalents x \$ 6.39 x 12 = \$ 5,893,165

MONTHLY BILLING CHARGE

61,778 meters x \$ 3.50 x 12 = 2,594,676

COMMODITY CHARGE

8,139,046 units (100 CF) x \$ 1.81 = 14,731,673

MONTHLY FIRE PROTECTION

325,754

ANNUAL HYDRANT CHARGE

- (23,545,268)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 902,749

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

3.83%

CITY OF GRAND RAPIDS, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

$$\frac{\text{COMMODITY CHARGE @ 64\%}}{\text{BILLED UNITS}} = \frac{\$15,646,731}{8,139,046} = \underline{\underline{\$ 1.92 /100 CF *}}$$

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS	\$ 24,448,017
NEW COMMODITY CHARGE 8,139,046 x \$ 1.92	\$ 15,626,968
NEW MONTHLY BILLING CHARGE 61,778 x \$ 2.84 x 12	2,105,394
MONTHLY FIRE PROTECTION CHARGE	325,754
ANNUAL HYDRANT CHARGE	-
	<u>(18,058,116)</u>
	<u><u>\$ 6,389,901</u></u>

$$\text{MONTHLY METER CHARGE} = \frac{\$6,389,901}{76,854 \times 12} = \underline{\underline{\$ 6.93 \text{ MONTHLY}}}$$

<u>METER SIZE</u>	<u>EQUIVALENT</u>	<u>MONTHLY SERVICE CHARGE</u>			<u>PRESENT</u>
		<u>METER</u>	<u>BILLING</u>	<u>TOTAL</u>	
3/4" or less	1.0000	\$ 6.93	\$ 2.84	\$ 9.77	\$ 9.89
1"	1.7778	12.32	2.84	15.16	14.86
1 1/4"	2.7778	19.25	2.84	22.09	21.25
1 1/2"	4.0000	27.72	2.84	30.56	29.06
2"	7.1111	49.28	2.84	52.12	48.94
3"	16.0000	110.88	2.84	113.72	105.74
4"	28.4444	197.12	2.84	199.96	185.26
6" and over	64.0000	443.52	2.84	446.36	412.46

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2017

CITY OF WALKER, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.64 /100 CF *
\$ 1.61 x 101.81%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS ** \$ 3,218,400

NEW COMMODITY CHARGE
1,162,542 x \$ 1.64 \$ 1,906,569

NEW MONTHLY BILLING CHARGE
6,479 x \$ 2.84 x 12 220,804

MONTHLY FIRE PROTECTION CHARGE 88,325

ANNUAL HYDRANT CHARGE - (2,215,698)

\$ 1,002,703

MONTHLY METER CHARGE = $\frac{\$1,002,703}{8,669 \times 12}$ = \$ 9.64 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 9.64	\$ 2.84	\$ 12.48	\$ 12.43
1"	1.7778	17.14	2.84	19.98	19.38
1 1/4"	2.7778	26.78	2.84	29.62	28.31
1 1/2"	4.0000	38.56	2.84	41.40	39.22
2"	7.1111	68.55	2.84	71.39	67.00
3"	16.0000	154.24	2.84	157.08	146.38
4"	28.4444	274.20	2.84	277.04	257.51
6" and over	64.0000	616.96	2.84	619.80	575.02

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2017
 ** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 234,972
 AND CAPITAL CONTRIBUTION, IN THE AMOUNT OF 87,800

CITY OF KENTWOOD, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS \$ 4,325,744

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

8,740 meter equivalents x \$ 11.13 x 12 = \$ 1,167,314

MONTHLY BILLING CHARGE

4,969 meters x \$ 3.50 x 12 = 208,698

COMMODITY CHARGE

1,697,114 units (100 CF) x \$ 1.56 = 2,647,498

MONTHLY FIRE PROTECTION

155,955

ANNUAL HYDRANT CHARGE

- (4,179,465)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 146,279

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

3.50%

CITY OF KENTWOOD, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.61 /100 CF *
 \$ 1.56 x 103.50%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS		\$ 4,325,744
NEW COMMODITY CHARGE		
1,697,114 x \$ 1.61	\$ 2,732,354	
NEW MONTHLY BILLING CHARGE		
4,969 x \$ 2.84 x 12	169,344	
MONTHLY FIRE PROTECTION CHARGE	155,955	
ANNUAL HYDRANT CHARGE	-	<u>(3,057,653)</u>
		<u>\$ 1,268,091</u>

MONTHLY METER CHARGE = $\frac{\$1,268,091}{8,740 \times 12} = \underline{\underline{\$ 12.09 \text{ MONTHLY}}}$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 12.09	\$ 2.84	\$ 14.93	\$ 14.63
1"	1.7778	21.49	2.84	24.33	23.29
1 1/4"	2.7778	33.58	2.84	36.42	34.42
1 1/2"	4.0000	48.36	2.84	51.20	48.02
2"	7.1111	85.97	2.84	88.81	82.65
3"	16.0000	193.44	2.84	196.28	181.58
4"	28.4444	343.89	2.84	346.73	320.09
6" and over	64.0000	773.76	2.84	776.60	715.82

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2017

CASCADE TOWNSHIP
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS \$ 3,250,824

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
5,366 meter equivalents	x	\$ 17.21	x 12 = \$ 1,108,186
MONTHLY BILLING CHARGE			
3,498 meters	x	\$ 3.50	x 12 = 146,916
COMMODITY CHARGE			
823,418 units (100 CF)	x	\$ 2.18	= 1,795,051
MONTHLY FIRE PROTECTION			92,872
ANNUAL HYDRANT CHARGE			- <u>(3,143,025)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ 107,799</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>3.43%</u>

CASCADE TOWNSHIP

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.25 /100 CF *
 \$ 2.18 x 103.43%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS		\$ 3,250,824
NEW COMMODITY CHARGE		
823,418 x \$ 2.25	\$ 1,852,691	
NEW MONTHLY BILLING CHARGE		
3,498 x \$ 2.84 x 12	119,212	
MONTHLY FIRE PROTECTION CHARGE	92,872	
ANNUAL HYDRANT CHARGE	-	<u>(2,064,775)</u>
		<u>\$ 1,186,049</u>

MONTHLY METER CHARGE = $\frac{\$1,186,049}{5,366 \times 12}$ = \$ 18.42 MONTHLY

<u>METER SIZE</u>	<u>EQUIVALENT</u>	<u>MONTHLY SERVICE CHARGE</u>			<u>PRESENT</u>
		<u>METER</u>	<u>BILLING</u>	<u>TOTAL</u>	
3/4" or less	1.0000	\$ 18.42	\$ 2.84	\$ 21.26	\$ 20.71
1"	1.7778	32.75	2.84	35.59	34.10
1 1/4"	2.7778	51.17	2.84	54.01	51.31
1 1/2"	4.0000	73.68	2.84	76.52	72.34
2"	7.1111	130.99	2.84	133.83	125.88
3"	16.0000	294.72	2.84	297.56	278.86
4"	28.4444	523.95	2.84	526.79	493.03
6" and over	64.0000	1,178.88	2.84	1,181.72	1,104.94

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2017

GRAND RAPIDS TOWNSHIP
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS \$ 2,151,554

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
5,598 meter equivalents	x	\$ 11.30	x 12 = \$ 759,089
MONTHLY BILLING CHARGE			
4,328 meters	x	\$ 3.50	x 12 = 181,776
COMMODITY CHARGE			
637,104 units (100 CF)	x	\$ 1.71	= 1,089,448
MONTHLY FIRE PROTECTION			26,819
ANNUAL HYDRANT CHARGE			-
			<u>(2,057,132)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ 94,422</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>4.59%</u>

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 145,516

GRAND RAPIDS TOWNSHIP
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.79 /100 CF *
 \$ 1.71 x 104.59%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **	\$ 2,151,554
NEW COMMODITY CHARGE 637,104 x \$ 1.79	\$ 1,140,416
NEW MONTHLY BILLING CHARGE 4,328 x \$ 2.84 x 12	147,498
MONTHLY FIRE PROTECTION CHARGE	26,819
ANNUAL HYDRANT CHARGE	<u>-</u> (1,314,733)
	<u><u>\$ 836,821</u></u>

MONTHLY METER CHARGE = $\frac{\$836,821}{5,598 \times 12} = \underline{\underline{\$ 12.46 \text{ MONTHLY}}}$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 12.46	\$ 2.84	\$ 15.30	\$ 14.80
1"	1.7778	22.15	2.84	24.99	23.59
1 1/4"	2.7778	34.61	2.84	37.45	34.89
1 1/2"	4.0000	49.84	2.84	52.68	48.70
2"	7.1111	88.60	2.84	91.44	83.86
3"	16.0000	199.36	2.84	202.20	184.30
4"	28.4444	354.42	2.84	357.26	324.92
6" and over	64.0000	797.44	2.84	800.28	726.70

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2017
 ** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 145,516

TALLMADGE TOWNSHIP
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS	\$	172,309
LESS: CASH CONTRIBUTION		(2,500)
SYSTEM REVENUE REQUIREMENTS	\$	169,809

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE		
315 meter equivalents	x \$ 3.51	x 12 = \$ 13,268
MONTHLY BILLING CHARGE		
200 meters	x \$ 3.50	x 12 = 8,400
COMMODITY CHARGE		
30,098 units (100 CF)	x \$ 3.53	= 106,246
MONTHLY FIRE PROTECTION		
		6,209
ANNUAL HYDRANT CHARGE		
	33,185	(167,308)
REQUIRED REVENUE INCREASE (DECREASE)		\$ 2,501

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		1.49%
--	--	-------

CITY OF EAST GRAND RAPIDS, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS *		\$	584,277
COMMODITY CHARGE			
(100CF) 591,640 units	x	\$ 1.03	609,389
			<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$	<u>(25,112)</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$	184,943
MONTHLY SERVICE CHARGE			
\$15,936	x	12 MONTHS	191,232
			<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$	<u>(6,289)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>-3.92%</u>

* NET OF INTEGRATED CONNECTION FEE CREDIT.

CITY OF EAST GRAND RAPIDS, MICHIGAN

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$	769,220
NEW COMMODITY CHARGE *		
591,640 x \$0.99 =		(585,724)
		<hr/>
	\$	<u>183,496</u>

MONTHLY SERVICE CHARGE * = \$ 183,496 / 12 = \$15,291

* NEW RATES EFFECTIVE ON JANUARY 1, 2017

ADA TOWNSHIP
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

INTEGRATED SYSTEM REVENUE REQUIREMENTS *	\$	686,595
COMMODITY CHARGE		
(100CF) 610,818 units x \$ 1.17		714,657
		714,657
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)	\$	(28,062)
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$	530,321
MONTHLY SERVICE CHARGE		
\$31,083 x 12 MONTHS		372,996
		372,996
REQUIRED SERVICE REVENUE INCREASE (DECREASE)	\$	157,325
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		11.88%

* NET OF INTEGRATED CONNECTION FEE CREDIT.

ADA TOWNSHIP
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

SYSTEM REVENUE REQUIREMENTS	\$ 1,216,916
NEW COMMODITY CHARGE *	
610,818 x \$1.12 =	(684,116)
	<hr/>
	<u>\$ 532,800</u>

MONTHLY SERVICE CHARGE * = \$ 532,800 / 12 = \$44,400

* NEW RATES EFFECTIVE ON JANUARY 1, 2017

OTTAWA COUNTY
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$ 1,546,733
COMMODITY CHARGE	
(100CF) 1,381,953 units x \$ 1.16	1,603,065
	<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)	<u>\$ (56,332)</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$ -
MONTHLY SERVICE CHARGE	
\$0 x 12 MONTHS	-
	<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)	<u>\$ -</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES	<u>-3.51%</u>

OTTAWA COUNTY

**WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$ 1,546,733
NEW COMMODITY CHARGE *	
1,381,953 x \$1.12 =	(1,547,787)
	<hr/>
	<u>\$ (1,054)</u>

MONTHLY SERVICE CHARGE * = \$ - / 12 = \$0

* NEW RATES EFFECTIVE ON JANUARY 1, 2017

WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RE-EVALUATE FRONT FOOT CHARGES
TASK NO. 28

The City Engineer's Office has reviewed current construction costs for water facilities and recommends the following front foot assessment rates:

	<u>2016</u>	<u>2017</u>	<u>% Increase</u>
Domestic Water User	\$ 82.00	\$ 81.00	-1.22%
Commercial - Industrial User (Watermain over 8 in. diameter)	\$ 122.00	\$ 132.00	8.20%

The rates are based on an average of prices quoted in bid proposals which have been received by the City Engineer's Office during the period July, 2015 through June, 2016. Calculations of the rates are on file in the City Engineer's Office.

WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
EVALUATE WATER SERVICE CHARGES
TASK NO. 29

The City Engineer's Office has evaluated the cost for water services and recommends the following water service charges:

		<u>50 Ft. R.O.W.</u>	<u>60 Ft. R.O.W.</u>	<u>66 Ft. R.O.W.</u>	<u>80 Ft. R.O.W.</u>	<u>100 Ft. R.O.W.</u>
Cost for 1" Water Service	2016	\$ 2,250	\$ 2,550	\$ 2,750	\$ 3,200	\$ 3,800
	2017	\$ 2,350	\$ 2,700	\$ 2,850	\$ 3,300	\$ 3,950
Cost for 1-1/2" Water Service	2016	\$ 3,300	\$ 3,700	\$ 4,000	\$ 4,500	\$ 5,300
	2017	\$ 3,700	\$ 4,100	\$ 4,400	\$ 5,000	\$ 5,800
Cost for 2" Water Service	2016	\$ 4,300	\$ 4,800	\$ 5,000	\$ 5,600	\$ 6,600
	2017	\$ 4,300	\$ 4,800	\$ 5,000	\$ 5,600	\$ 6,600

The percent increases of the water service pipe charges are as shown below:

	<u>50 Ft. R.O.W.</u>	<u>60 Ft. R.O.W.</u>	<u>66 Ft. R.O.W.</u>	<u>80 Ft. R.O.W.</u>	<u>100 Ft. R.O.W.</u>
Increase for 1" Water Service	4.44%	5.88%	3.64%	3.13%	3.95%
Increase for 1-1/2" Water Service	12.12%	10.81%	10.00%	11.11%	9.43%
Increase for 2" Water Service	0.00%	0.00%	0.00%	0.00%	0.00%

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 10, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: LaToya Black, Administrative Services Officer

SUBJECT: 2016 WATER RATE STUDY TASK #30
FEES, CHARGES, and PENALTIES

Miscellaneous fees and penalties contained within the Water System Rules and Regulations have been reviewed with staff.

Minor wording changes were made for clarification and enforcement purposes, which resulted in some fees being separated out and included in a more comprehensive format.

The following are recommended changes in fee amounts:

Fire Protection Monthly Charges

- All sizes remain the same, consistent with water rate commodity increase in 2016

Hydrant Use

- Hydrant Use Permit and Connection Use Fees for Pool Filling Only is consolidated with Non-Metered Hydrant Connection Fees
- Hydrant Use Permit Fee for Non-Metered Hydrant Connection is reduced to \$50, accommodating residential pool filling needs
- Hydrant Connection Refundable Deposit Fees were updated/added
 - Non-Metered Connection is \$100, Metered Connection is \$500, and Non-Account Holder is \$2,000
- Other fees remained the same

Tapping Permits

- All tap fees were changed to \$375, based on average cost of new taps

Meter Installation and Service On/Off Requests

- Meter Installation cost for 1 ½" and 2" meters increased to \$75, due to resource requirements
- Other fees remained the same

Meter Replacement (Non-System Planned/Scheduled Replacement)

- Fees remain the same, in alignment with current meter bid prices

Miscellaneous

- Delinquent Commercial Backflow Test Fee (Per Device) was introduced for \$25
- All Permit Fees increased by varying percentages, due to an increase of cost recovery of inspection expenses
- Cross Connection Re-inspection Fee remained the same

Penalties

- Updated wording and consolidated fees. The fee was updated for the item listed below to Cost +10%, accounting for the equipment cost and administrative charge
 - Failure to return or return of damaged beyond repair/ repairable hydrant connection equipment
- Introduced Repair/Replace damage to a fire hydrant at Cost +10%

LB

Cc: Joellen Thompson, Water System Manager
Mike Lunn, Environmental Services Manager
Wayne Jernberg, Assistant Water System Manager
Arden Postma, Hydraulic Engineer
Dave Harran, Utility Field Operations Superintendent

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
FEES, CHARGES, AND PENALTIES
TASK NO. 30**

<u>Fees, Charges, and Penalties</u>	2016 Fee (\$)	2017 Fee (\$)	% Change
Fire Protection Monthly (based on pipe size)			
6"	\$16.40	\$16.40	0%
8"	\$29.11	\$29.11	0%
10"	\$45.59	\$45.59	0%
12"	\$65.60	\$65.60	0%
Hydrant Use Per Season			
Hydrant Use Permit Fee (Non-Metered Hydrant Connection - Residential Customers)	\$300	\$50	-83%
Hydrant Use Permit Fee (Metered Hydrant Connection)	\$300	\$300	0%
Non-Metered Hydrant Connection Use Fee (pool filling per connection)- City of Grand Rapids Water/Sewer Account Holder	\$75/week	\$100 (Refundable Deposit) + \$75/week	0%
Metered Hydrant Connection Use Fee (per connection)- City of Grand Rapids Water/Sewer Account Holder	\$25/week+ metered volume*	\$500 (Refundable Deposit) + \$25/week+ metered volume*	0%
Non-Account Holder	NA	\$2,000 (Refundable Deposit) + Applicable	0%
Hydrant Flow Test	\$200	\$200	0%
* Plus metered volume (Commodity Charges at City of Grand Rapids Rate)			
Tapping Permits			
All sizes	\$300	\$375	25%
Meter Installation and Service On/Off Requests			
<i>Normal Service Hours 8am - 7pm M-F all non-emergency service requests must be scheduled</i>			
¾" and Smaller	\$45	\$45	0%
1"	\$50	\$50	0%
1 ½"	\$60	\$75	25%
2"	\$65	\$75	15%
3"	\$110	\$110	0%
4" or larger	\$220	\$220	0%
Seasonal Off Request Scheduled Meter Pull	\$50	\$50	0%
Unscheduled On/Off Request Normal Service Hours	\$25	\$25	0%
Unscheduled On/Off Request After Service Hours	\$60	\$60	0%
Inspection/ Repair Scheduled On & Off Request (may also need meter install)	\$110	\$110	0%
Meter Replacement (Non-System Planned/Scheduled Replacement)			
<i>Meter Replacement Fee: Charged to customer at time of discovery of a system known meter that requires replacement outside of Water System planned replacement program scheduling as a result of infrastructure loss (Frozen/Missing/Stolen/Damaged), unnecessary replacement, and/or customer request. Customer requested meter replacement requires meter testing prior to approval.</i>			
¾" and Smaller	\$175	\$175	0%
1"	\$250	\$250	0%
1 ½"	\$800	\$800	0%
2"	\$900	\$900	0%
3"	\$1,100	\$1,100	0%
4" or larger	Cost	Cost	0%
Meter Reading			
Final or Actual Reading	\$35	\$35	0%
Meter Interface Unit Replacement	\$150	\$150	0%
Meter Testing			
<i>Meter Testing Fee: Charged and paid by customer prior to test, if test results find the meter to read in error beyond AWWA acceptance and in the <u>benefit</u> of the Water System, the fee will be refunded and a new meter will be set.</i>			
¾" and Smaller	\$100	\$100	0%
1"	\$200	\$200	0%
1 ½ "	\$200	\$200	0%
2"	\$300	\$300	0%
3"	\$400	\$400	0%
4"	Cost	Cost	0%
Security Deposit			
Minimum Deposit Amount	\$500	\$500	0%
Miscellaneous			
Street Opening Permit	\$30	\$50	67%
Water Inspection Permit (Within City Limits)	\$50	\$55	10%
Water Inspection Permit (Outside City Limits)	\$65	\$70	8%

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
FEES, CHARGES, AND PENALTIES
TASK NO. 30**

Fees, Charges, and Penalties	2016 Fee (\$)	2017 Fee (\$)	% Change
Sanitary Service Line Inspection Permit (Within City Limits)	\$50	\$55	10%
Sanitary Service Line Inspection Permit (Outside City Limits)	\$65	\$70	8%
Storm Service Line Inspection Permit (Within City Limits)	\$50	\$55	10%
Storm Service Line Inspection Permit (Outside City Limits)	\$65	\$70	8%
Footing Drain Lateral Inspection Permit (Within City Limits)	\$50	\$55	10%
Footing Drain Lateral Inspection Permit (Outside City Limits)	\$65	\$70	8%
Sewer Lateral Service Demolition/Cap off Inspection Fee (Within City Limits)	\$50	\$55	10%
Sewer Later Service Demolition/Cap off Inspection Fee (Outside City Limits)	\$65	\$70	8%
Plumbing Service Re-inspection Fee	\$50	\$55	10%
Cross Connection Re-inspection Fee	\$75	\$75	0%
Irrigation Service Cut/Cap Administrative Fee	\$50	\$55	10%
Delinquent Commercial Backflow Test Fee (Per Device)	NA	\$25	
Services			
Customer requested on-site service (Customer Issue)	\$100	\$100	0%
Research Fee for document creation of account or location information (FOIA request may still be required)	\$55	\$55	0%
Penalties			
Late Payment Penalty	10% of Net	10% of Net	0%
Administrative Fee for review or processing of account for non-payment, returned payment, shut-off, posting of property, and/or backflow non-compliance	\$55	\$55	0%
Missed Appointment	\$35	\$35	0%
Repeat Missed Appointment (each time related to same service)	\$50	\$50	0%
Unauthorized operation, tampering, or removal of any Water or Sanitary Sewer System owned or maintained, valve, asset, infrastructure, or equipment (for example, but not limited to, bypass valves, distribution valves, service valves, meters, meter reading equipment, hydrants, and curb stops) ** & ***	\$500	\$500	0%
Unauthorized or Illegal connection to any Water or Sanitary Sewer System owned pipe, property, and/or private plumbing system served by the Water and/or Sanitary Sewer System ** & ***	\$500	\$500	0%
Failure to return or return of damaged beyond repair/ repairable hydrant connection equipment	\$550	Cost + 10%	
Repair/Replace damage to a fire hydrant	NA	Cost + 10%	
Return check or payment charge (City Treasurer processing fee)	\$30	\$30	0%
Permit infractions/violations ** & ***	\$100	\$100	0%
Unauthorized service tap of Water or Sewer main** & ***	\$500	\$500	0%
** Plus double the commodity rate for estimated volume and any unbilled readiness to serve charges that may apply			
*** Penalties shall double with each subsequent infraction			
Miscellaneous Damage or Loss			
Any cost recovery due to damage caused or undue oversight of any location, account, or infrastructure of the Water and/or Sanitary Sewer System will be charged in accordance with cost recovery methodology for time and materials, including a 10% administrative charge for processing	Cost + 10%	Cost + 10%	0%

**CITY OF GRAND RAPIDS, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
TASK NO. 31**

THERE IS NO TASK 31 FOR THE WATER RATE STUDY.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 30, 2016

TO: Molly Eastman
Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: **2016 WATER RATE STUDY- TASK #32, WATER MAIN OVERSIZING RATES**

Water main oversizing rates are established for this year as noted below:

<u>Pipe Size</u>	<u>2016 Rate</u>	<u>2017 Rate</u>	<u>% Change</u>
8"-12"	\$21.45/ft	\$18.85/ft	-12.1%
12"-16"	\$24.85/ft	\$23.59/ft	-5.1%
8"-16"	\$46.30/ft	\$42.44/ft	-8.3%

These rates have been determined in accordance with the Water System Rules and Regulations, and are approved for use from January 1, 2017 through December 31, 2017. Background information and calculations to establish these rates are on file in the Utility Engineering, Distribution and Collection Office.

These costs will be reviewed and may be adjusted again next year. If you have any questions regarding this matter, please call me at 456-4201.

AP
Cc: Joellen Thompson
Wayne Jernberg
Rick DeVries
Mark DeClercq

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER RATE STUDY
 WATER SUPPLY SYSTEM FUND
 TASK NO. 33**

SERVICE AREA MAPS AND SERVICE AREA LAND MASS SUMMARIES

The following summarizes Utility Services Districts (USD) land mass square miles for UAB partner communities, per information on file as of October 5, 2016:

UAB Partners	Sq. Miles of USD by CC	Percent
Grand Rapids	45.36	35.068%
Walker	25.43	19.660%
Kentwood	14.00	10.823%
Cascade	20.45	15.810%
Grand Rapids Township	10.93	8.450%
Tallmadge Township	2.66	2.056%
East Grand Rapids	3.37	2.605%
Ada	7.15	5.528%
Total	129.35	100.000%

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER RATE STUDY
 WATER SUPPLY SYSTEM FUND
 TASK NO. 34**

INDIVIDUAL CIRCUIT BREAKER AND CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER

The Third Amendment to the Water and Sanitary Sewer Agreements stipulates penalty fees shall be used to fund the circuit breaker provisions noted above.

The following summarizes those values:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
Individual Circuit Breaker (ICB)	\$ 144,043	24.32%
City & Customer Community Circuit Breaker (CCCCB)	448,276	75.68%
Total	<u>\$ 592,319</u>	<u>100.00%</u>

The following tables summarize the amount, if any, of the Circuit Breaker to be applied as a revenue credit in next year's Rate Study:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
City & Customer Community Circuit Breaker Amount- Above	\$ 448,276	100.00%
Less: Amount Applied in Current Rate Study	(380,488)	-84.88%
Total CCCCCB Revenue Credit- Next Year's Rate Study	<u>\$ 67,788</u>	<u>15.12%</u>

*Futhermore, per City Commission Resolution 84923 adopted on September 8, 2015, the Water and Sanitary Sewer Systems are authorized to utilize non-operating revenue to provide supplemental funding to the ICB. In fiscal year 2016, the Water System identified \$80,004 of facility rental revenue to supplement the ICB.

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**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ANNUAL RATE REVIEW**

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**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
SYSTEM ADDITIONS AND IMPROVEMENTS
FOR THE YEAR ENDED JUNE 30, 2016
TASKS NO. 1, 2, & 3**

COMMUNITY	LOCAL		TRUNK		INTERCEPTOR		TOTALS	
	FEET	MILES	FEET	MILES	FEET	MILES	FEET	MILES
Grand Rapids								
Construction	8,474	1.60	1,870	0.35	1,537	0.29	11,881	2.24
Abandonment	(8,218)	(1.56)	(510)	(0.10)	(1,563)	(0.30)	(10,291)	(1.96)
CSO Construction	4,413	0.84	547	0.10	1,257	0.24	6,217	1.18
CSO Abandonment	(1,204)	(0.23)	(334)	(0.06)	(1,341)	(0.25)	(2,879)	(0.54)
	<u>3,465</u>	<u>0.65</u>	<u>1,573</u>	<u>0.29</u>	<u>(110)</u>	<u>(0.02)</u>	<u>4,928</u>	<u>0.92</u>
Kentwood								
Construction	752	0.14	0	0.00	0	0.00	752	0.14
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>752</u>	<u>0.14</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>752</u>	<u>0.14</u>
Cascade Twp.								
Construction	1,026	0.19	1,052	0.20	522	0.10	2,600	0.49
Abandonment	(281)	(0.05)	(607)	(0.11)	0	0.00	(888)	(0.16)
	<u>745</u>	<u>0.14</u>	<u>445</u>	<u>0.09</u>	<u>522</u>	<u>0.10</u>	<u>1,712</u>	<u>0.33</u>
G.R. Twp.								
Construction	1,920	0.36	0	0.00	0	0.00	1,920	0.36
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>1,920</u>	<u>0.36</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>1,920</u>	<u>0.36</u>
Tallmadge Twp.								
Construction	1,095	0.21	585	0.11	0	0.00	1,680	0.32
Abandonment	0	0.00	(600)	(0.11)	0	0.00	(600)	(0.11)
	<u>1,095</u>	<u>0.21</u>	<u>(15)</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>1,080</u>	<u>0.21</u>
Walker								
Construction	1,710	0.32	0	0.00	0	0.00	1,710	0.32
Abandonment	(647)	(0.12)	0	0.00	0	0.00	(647)	(0.12)
	<u>1,063</u>	<u>0.20</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>1,063</u>	<u>0.20</u>
Wright Twp								
Construction	0	0.00	0	0.00	0	0.00	0	0.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>
TOTAL	<u>9,040</u>	<u>1.70</u>	<u>2,003</u>	<u>0.38</u>	<u>412</u>	<u>0.08</u>	<u>11,455</u>	<u>2.16</u>

	CONTRIBUTIONS		
	COMM	OTHER	TOTAL
Integrated	\$ 2,169,932	\$ -	\$ 2,169,932
Grand Rapids	908,650	-	908,650
Kentwood	87,732	-	87,732
Cascade Twp.	279,274	-	279,274
Grand Rapids Twp.	188,775	-	188,775
Tallmadge Twp.	187,873	-	187,873
Walker	87,092	-	87,092
Wright Twp.	-	-	-
TOTAL	<u>\$ 3,909,328</u>	<u>\$ -</u>	<u>\$ 3,909,328</u>

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #4, PART 1
FISCAL YEAR ENDED JUNE 30, 2016

Dept-Unit-Fund	ACTIVITY	WASTEWATER TREATMENT PLANT		WASTEWATER LIFT STATIONS			SEWER LINES			BULK METERING STATIONS	CUSTOMER ACCOUNTING	INDUSTRIAL PRETREAT.	ADMIN. EXPENSE
		EXPENSE BY ACTIVITY	WASTEWATER TREATMENT PLANT	INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK	LOCAL COLLECTOR				
527 (3000:70) 5900	WASTEWATER TREATMENT (LESS 527 - 3040 - 5900)	\$ 15,879,533	\$ 14,945,339	\$ 229,621	\$ 176,324	\$ 525,072			\$ 3,178				
527 (4000 / 4290) 5900	SEWER MAINTENANCE	4,857,588											
527 (2000) 5900	CUSTOMER SERVICE *	2,633,192		259,007	561,197		4,037,384			2,633,192			
527 (3040) 5900	INDUSTRIAL PRETREATMENT	618,945									618,945		
527 (1000:10 / 8000) 5900	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	23,989,258	14,945,339	229,621	176,324	525,072	4,037,384		3,178	2,633,192	618,945		
	TOTAL	\$ 28,251,304	\$ 14,945,339	\$ 229,621	\$ 176,324	\$ 525,072	\$ 4,037,384		\$ 3,178	\$ 2,633,192	\$ 618,945	\$ 4,262,046	

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

Dept-Unit-Fund	ACTIVITY	WASTEWATER TREATMENT PLANT	WASTEWATER LIFT STATIONS	SEWER LINES	BULK METERING STATIONS	CUSTOMER ACCOUNTING	INDUSTRIAL PRETREAT.	ADMIN. EXPENSE
527 (3000:70) 5900	WASTEWATER TREATMENT	100.000%						
	A. TREATMENT PLANT	94.117%						
527 (4000 / 4290) 5900	B. LIFT & METER STATIONS	5.883%						
	NO. OF STATIONS	(57)	(1)	(7)	(45)			(4)
	SEWER MAINTENANCE							
	TOTAL MILES	913.18						
	A. INTERCEPTOR MILES	48.69						
	B. TRUNK LINES MILES	105.50						
	C. LOCAL COLLECTOR MILES	758.99						
527 (2000) 5900	CUSTOMER SERVICE	100.000%						
527 (3040) 5900	INDUSTRIAL PRETREATMENT	100.000%					100.000%	
527 (1000:10 / 8000) 5900	ADMINISTRATION	100.000%						100.000%

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #4, PART 2
FISCAL YEAR ENDED JUNE 30, 2016

COST CENTER	EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL					WHOLESALE						
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	
WASTEWATER TREATMENT	\$ 14,945,339	\$ 14,945,339												
LIFT STATIONS:														
A. INTERCEPTOR	229,621													
B. TRUNK	176,324		61,241				58,919							
C. LOCAL COLLECTOR	525,072		80,462				163,148	151,017	41,279	5,562			6,548	
SEWER LINES:														
A. INTERCEPTOR	259,007		36,758		64,951		7,128							
B. TRUNK	561,197		141,977		131,763		49,526	29,468	15,051	640				
C. LOCAL COLLECTOR	4,037,384		499,061		392,313		245,190	308,779	45,703	23,942				
BULK METERING STATIONS	3,178				2,104								207	279
CUSTOMER ACCOUNTING	2,633,192		199,412		162,995		67,831	132,028	6,688	8,137				
INDUSTRIAL PRETREATMENT	618,945													
SUBTOTAL OPERATING EXPENSE	23,989,258	15,564,284	5,284,279	1,018,911	754,126	591,742	621,292	108,721	38,281	588		6,754	279	
ADMINISTRATIVE EXPENSE	4,262,046	2,727,480	984,190	178,554	132,153	103,697	108,875	19,052	6,709	103		1,184	49	
TOTAL	\$ 28,251,304	\$ 18,291,764	\$ 6,268,469	\$ 1,197,465	\$ 886,279	\$ 695,439	\$ 730,167	\$ 127,773	\$ 44,990	\$ 691	\$ -	\$ 7,938	\$ 328	
METHOD OF DISTRIBUTION														
WASTEWATER TREATMENT														
A. TREATMENT PLANT	100.000%	100.00%												
B. LIFT & METER STATIONS (1)	100.000%		(13)	(6)	(1)	(10)	(17)	(5)	(1)	(1)		(2)	(1)	
SEWER LINES:														
TOTAL MILES:	913.18													
A. INTERCEPTOR	100.000%	57.979%	14.192%	25.077%	2.752%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
MILES	48.69	28.23	6.91	12.21	1.34									
B. TRUNK LINES	100.000%	34.350%	25.299%	23.479%	8.825%	5.251%	2.682%	2.682%	0.114%	0.000%	0.000%	0.000%	0.000%	0.000%
MILES	105.50	36.24	26.69	24.77	9.31	5.54	2.83	2.83	0.12					
C. LOCAL COLLECTOR	100.000%	62.476%	12.361%	9.717%	6.073%	7.648%	1.132%	1.132%	0.593%	0.000%	0.000%	0.000%	0.000%	0.000%
MILES	758.99	474.19	93.82	73.75	46.09	58.05	8.59	8.59	4.50					
CUSTOMER ACCTG (2)	100.000%	78.393%	7.573%	6.190%	2.576%	5.014%	0.254%	0.254%	0.309%	0.000%	0.000%	0.000%	0.000%	0.001%
NO. OF METERS	74,685.00	58,316.00	5,656.00	4,623.00	1,924.00	3,745.00	190.00	190.00	231.00					
INDUSTRIAL PRETREATMENT	100.000%	100.00%												
ADMINISTRATIVE EXPENSE (3)	100.000%	63.995%	23.092%	3.101%	2.433%	2.555%	0.447%	0.447%	0.157%	0.002%	0.000%	0.028%	0.001%	

NOTES:

- (1) DIRECT COSTS PER SCHEDULE.
- (2) ALLOCATION BASED ON NUMBER OF METERS, INCLUSIVE OF USERS FOR WRIGHT TWP.
- (3) ALLOCATED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #5, PART 1
FISCAL YEAR ENDED JUNE 30, 2016

Dept-Unit-Fund	ACTIVITY	WASTEWATER TREATMENT PLANT			WASTEWATER LIFT STATIONS			SEWER LINES			BULK METERING STATIONS	CUSTOMER ACCOUNTING	INDUSTRIAL PRETREAT	ADMIN. EXPENSE
		ADJUSTED EXPENSE BY ACTIVITY	INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK				
527 (3000:70) 5900	WASTEWATER TREATMENT (LESS 527 - 3040 - 5900)	\$ 15,501,533	\$ 234,671	\$ 180,201	\$ 536,616						\$ 3,248			
527 (4000 / 4290) 5900	SEWER MAINTENANCE	4,922,784												
527 (2000) 5900	CUSTOMER SERVICE *	2,646,822					262,483	568,729	4,091,572		2,646,822			
527 (3040) 5900	INDUSTRIAL PRETREATMENT	633,875										633,875		
527 (1000:10 / 8000) 5900	SUBTOTAL OPERATING EXPENSE ADMINISTRATION	23,705,014	234,671	180,201	536,616		262,483	568,729	4,091,572		2,646,822	633,875	4,096,756	
	TOTAL	\$ 27,801,770	\$ 234,671	\$ 180,201	\$ 536,616		\$ 262,483	\$ 568,729	\$ 4,091,572		\$ 2,646,822	\$ 633,875	\$ 4,096,756	

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

Dept-Unit-Fund	ACTIVITY	ADJUSTED EXPENSE BY ACTIVITY	WASTEWATER TREATMENT PLANT	WASTEWATER LIFT STATIONS	SEWER LINES	BULK METERING STATIONS	CUSTOMER ACCOUNTING	INDUSTRIAL PRETREAT	ADMIN. EXPENSE
527 (3000:70) 5900	WASTEWATER TREATMENT	100.000%	93.841%						
	A. TREATMENT PLANT								
527 (4000 / 4290) 5900	B. LIFT & METER STATIONS NO. OF STATIONS	(57)	6.159%	(7)	(45)	(4)			
	SEWER MAINTENANCE TOTAL MILES	913.18							
	A. INTERCEPTOR MILES	48.69							
	B. TRUNK LINES MILES	105.50							
	C. LOCAL COLLECTOR MILES	758.99							
527 (2000) 5900	CUSTOMER SERVICE	100.000%					100.000%		
527 (3040) 5900	INDUSTRIAL PRETREATMENT	100.000%						100.000%	
527 (1000:10 / 8000) 5900	ADMINISTRATION	100.000%							100.000%

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #5, PART 2
FISCAL YEAR ENDED JUNE 30, 2016

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	CITY OF				RETAIL				WHOLESALE					
			GR	WALKER	KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP			
WASTEWATER TREATMENT	\$ 14,546,797	\$ 14,546,797														
LIFT STATIONS:																
A. INTERCEPTOR	234,671															
B. TRUNK	180,201		62,588				60,215									
C. LOCAL COLLECTOR	536,616		82,231				166,735		42,188							6,692
SEWER LINES:																
A. INTERCEPTOR	262,483		37,252		65,823		7,224									
B. TRUNK	568,729		143,883		133,532		50,190		15,253		648					
C. LOCAL COLLECTOR	4,091,572		505,759		397,578		248,481		46,317		24,263					
BULK METERING STATIONS	3,248				2,150											286
CUSTOMER ACCOUNTING	2,646,822		200,444		163,838		68,182		132,712		8,179					
INDUSTRIAL PRETREATMENT	633,875	633,875														
SUBTOTAL OPERATING EXPENSE	23,705,014	15,180,672	5,341,357	1,032,157	762,921	601,027	629,835	110,481	18,823	38,774	601	6,903	286			
ADMINISTRATIVE EXPENSE	4,096,756	2,586,302	968,172	175,847	129,978	102,396	107,304	18,823	6,606	103	103	1,176	49			
TOTAL	\$ 27,801,770	\$ 17,766,974	\$ 6,309,529	\$ 1,208,004	\$ 892,899	\$ 703,423	\$ 737,139	\$ 129,304	\$ 45,380	\$ 704	\$ 8,079	\$ 335	\$ 286			

METHOD OF DISTRIBUTION

WASTEWATER TREATMENT																
A. TREATMENT PLANT	100.000%	100.000%														
B. LIFT & METER STATIONS (1)	100.000%															
NO. OF STATIONS	(57)	(13)	(6)	(1)	(10)	(17)	(5)	(1)	(1)	(2)	(1)					
SEWER LINES:																
TOTAL MILES:	913.18															
A. INTERCEPTOR	100.000%	57.979%	14.192%	25.077%	2.752%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
MILES	48.69	28.23	6.91	12.21	1.34											
B. TRUNK LINES	100.000%	34.350%	25.299%	23.479%	8.825%	5.251%	2.682%	0.114%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
MILES	105.50	36.24	26.69	24.77	9.31	5.54	2.83	0.12	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
C. LOCAL COLLECTOR	100.000%	62.476%	12.361%	9.717%	6.073%	7.648%	1.132%	0.593%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
MILES	758.99	474.19	93.82	73.75	46.09	58.05	8.59	4.50	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
CUSTOMER ACCTG (2)	100.000%	78.084%	7.573%	6.190%	2.576%	5.014%	0.254%	0.309%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%
NO. OF METERS	74,685.00	58,316.00	5,656.00	4,623.00	1,924.00	3,745.00	190.00	231.00	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%
INDUSTRIAL PRETREATMENT	100.000%															
ADMINISTRATIVE EXPENSE (3)	100.000%	63.131%	4.292%	3.173%	2.499%	2.619%	0.459%	0.161%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%

NOTES:

- (1) ADJUSTED DIRECT COSTS PER SCHEDULE.
- (2) ALLOCATION BASED ON NUMBER OF METERS, INCLUSIVE OF USERS FOR WRIGHT TWP.
- (3) ALLOCATED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2016
RATE STUDY- TASKS NO. 4 & 5 SUPPORT

ORGANIZATIONAL UNIT: ADMINISTRATION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 285,873.32	\$ 11,234.82	\$ 297,108.14
7055	TIME & ONE-HALF	301.78	11.86	313.64
7105	EMPLOYERS SOCIAL SECURITY	20,254.84	796.02	21,050.86
7110	HOSPITALIZATION INSURANCE	49,053.28	(1,540.27)	47,513.01
7115	RETIREE HEALTH CARE	35,707.53	(474.91)	35,232.62
7120	RETIREMENT FUND CONTRIBUTION	61,365.62	2,509.85	63,875.47
7135	UNEMPLOYMENT COMPENSATION	390.86	-	390.86
7165	SHIFT DIFFERENTIAL	1.76	-	1.76
	TOTAL PERSONAL SERVICES	<u>452,948.99</u>	<u>12,537.37</u>	<u>465,486.36</u>
7520	SUPPLIES	4,986.23	-	4,986.23
	TOTAL SUPPLIES	<u>4,986.23</u>	<u>-</u>	<u>4,986.23</u>
9480	COMPUTER SERVICES	7,269.00	7,178.00	14,447.00
9460	ENGINEERING SERVICES	10,641.76	-	10,641.76
8010	CONTRACTUAL SERVICES	477,707.17	-	477,707.17
8011	CONTRACT EMPLOYEES - TEMP SERVICES	3,060.17	-	3,060.17
8450	GENERAL LIABILITY INSURANCE/CLAIMS	348,468.00	(32,351.00)	316,117.00
8400	INSURANCE PREMIUMS	179,591.00	-	179,591.00
8500	TELEPHONE	3,972.87	-	3,972.87
9000	PRINTING & PUBLISHING	842.49	-	842.49
7175	FOOD/CLEAN/CAR ALLOW	7,800.00	-	7,800.00
9430	BUILDINGS RENTALS OR LEASE	24,312.24	-	24,312.24
9410	EQUIPMENT RENTALS OR LEASE	1,435.67	-	1,435.67
9470	VEHICLE USAGE/CAR MILAGE	6,585.00	-	6,585.00
9100	PROFESSIONAL DEVELOPMENT	882.31	-	882.31
9110	OTHER TRAVEL & TRAINING	6,489.17	-	6,489.17
9130	LOCAL BUSINESS EXPENSE	4,812.68	-	4,812.68
9150	MEMBERSHIPS	12,391.60	-	12,391.60
8240	FEES	9.89	-	9.89
8030	ADMINISTRATIVE SERVICES	45,529.00	-	45,529.00
9650	BAD DEBT WRITE-OFFS	7,574.07	-	7,574.07
6931	GAIN-LOSS ON SALE OF ASSETS-FA	1,826,158.46	-	1,826,158.46
9450	311 CALL CENTER SERVICES	1,117.00	-	1,117.00
	TOTAL OTHER SERVICES & CHARGES	<u>2,976,649.55</u>	<u>(25,173.00)</u>	<u>2,951,476.55</u>
9760	EQUIPMENT	6,551.25	-	6,551.25
9840	SOFTWARE	1,687.51	-	1,687.51
9880	CONSTRUCTION IN PROGRESS	63,528.80	-	63,528.80
	TOTAL CAPITAL	<u>71,767.56</u>	<u>-</u>	<u>71,767.56</u>
9952	OPERATING TRANSFERS-A87 COST	755,694.00	(152,655.00)	603,039.00
	TOTAL TRANSFERS/FEES	<u>755,694.00</u>	<u>(152,655.00)</u>	<u>603,039.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 4,262,046.33</u>	<u>\$ (165,290.63)</u>	<u>\$ 4,096,755.70</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2016
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: SDFS - CUST.SERV'S

<u>EXPENDITURE SUB-OBJECT</u>		<u>OPERATING</u>	<u>ADJUSTED</u>	<u>ADJUSTED</u>
<u>OBJ</u>	<u>DESCRIPTION</u>	<u>EXPENSES</u>	<u>COST</u>	<u>CURRENT</u>
			<u>FACTORS</u>	<u>ANNUAL</u>
				<u>EXPENSES</u>
9100	PROFESSIONAL DEVELOPMENT	(267.00)	-	(267.00)
9110	OTHER TRAVEL & TRAINING	(267.00)	-	(267.00)
	TOTAL OTHER SERVICES & CHARGES	(534.00)	-	(534.00)
9951	OPERATING TRANS OUT-SUBSIDIES	\$ 2,633,726.00	\$ 13,629.88	\$ 2,647,355.88
	TOTAL TRANSFERS/FEES	2,633,726.00	13,629.88	2,647,355.88
	ORGANIZATIONAL UNIT TOTAL	\$ 2,633,192.00	\$ 13,629.88	\$ 2,646,821.88

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2016
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: WASTEWATER

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST FACTORS	CURRENT ANNUAL EXPENSES
7020	PERMANENT EMPLOYEES	\$ 3,357,838.14	\$ 131,963.04	\$ 3,489,801.18
7025	ACT.ASSIGNMENT	2,573.19	101.13	2,674.32
7040	TEMPORARY EMPLOYEES	11,162.54	438.69	11,601.23
7050	REGULAR HOURLY RATE	5,112.48	200.92	5,313.40
7055	TIME & ONE-HALF	76,735.90	3,015.72	79,751.62
7105	EMPLOYERS SOCIAL SECURITY	245,821.87	9,660.80	255,482.67
7110	HOSPITALIZATION INSURANCE	761,900.42	(23,923.67)	737,976.75
7115	RETIREE HEALTH CARE	409,325.02	(5,444.02)	403,881.00
7120	RETIREMENT FUND CONTRIBUTION	718,396.63	29,382.42	747,779.05
7135	UNEMPLOYMENT COMPENSATION	5,105.54	-	5,105.54
7165	SHIFT DIFFERENTIAL	12,659.54	-	12,659.54
	TOTAL PERSONAL SERVICES	<u>5,606,631.27</u>	<u>145,395.03</u>	<u>5,752,026.30</u>
7520	SUPPLIES	938,369.08	-	938,369.08
8510	POSTAGE	225.00	-	225.00
7670	CLOTHING/CLEANING ALLOWANCE	3,522.17	-	3,522.17
7710	INVENTORY	8,040.22	-	8,040.22
7800	INVENTORY - COST OF GOODS SOLD	33,529.49	-	33,529.49
7530	PROCESS CHEMICALS	371,238.76	-	371,238.76
	TOTAL SUPPLIES	<u>1,354,924.72</u>	<u>-</u>	<u>1,354,924.72</u>
9480	COMPUTER SERVICES	282,424.00	(42,391.00)	240,033.00
8010	CONTRACTUAL SERVICES	5,966,393.59	(596,002.26)	5,370,391.33
8011	CONTRACT EMPLOYEES - TEMP SERVICES	155.60	-	155.60
8500	TELEPHONE	29,815.14	-	29,815.14
9000	PRINTING & PUBLISHING	2,153.20	-	2,153.20
9200	ELECTRICITY	1,948,608.33	114,998.72	2,063,607.05
9180	WATER	67,744.82	-	67,744.82
9210	NATURAL GAS	138,652.19	-	138,652.19
9340	MAINTENANCE SERVICE	59,380.05	-	59,380.05
9410	EQUIPMENT RENTALS OR LEASE	3,363.07	-	3,363.07
9470	VEHICLE USAGE/CAR MILAGE	2,711.00	-	2,711.00
9100	PROFESSIONAL DEVELOPMENT	24,057.24	-	24,057.24
9110	OTHER TRAVEL & TRAINING	28,009.21	-	28,009.21
9150	MEMBERSHIPS	4,321.00	-	4,321.00
8240	FEES	20,915.32	-	20,915.32
9440	FLEET MANAGEMENT EQUIPMENT	247,665.38	-	247,665.38
9550	MISCELLANEOUS	4,629.83	-	4,629.83
	TOTAL OTHER SERVICES & CHARGES	<u>8,830,998.97</u>	<u>(523,394.54)</u>	<u>8,307,604.43</u>
9760	EQUIPMENT	16,915.93	-	16,915.93
9840	SOFTWARE	70,061.95	-	70,061.95
	TOTAL CAPITAL	<u>86,977.88</u>	<u>-</u>	<u>86,977.88</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 15,879,532.84</u>	<u>\$ (377,999.51)</u>	<u>\$ 15,501,533.33</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2016
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: IND. PRETREATMENT

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 349,872.48	\$ 13,749.99	\$ 363,622.47
7025	ACT.ASSIGNMENT	256.52	10.08	266.60
7055	TIME & ONE-HALF	462.86	18.19	481.05
7105	EMPLOYERS SOCIAL SECURITY	24,945.71	980.37	25,926.08
7110	HOSPITALIZATION INSURANCE	68,796.58	(2,160.21)	66,636.37
7115	RETIREE HEALTH CARE	41,808.68	(556.06)	41,252.62
7120	RETIREMENT FUND CONTRIBUTION	70,600.73	2,887.57	73,488.30
7135	UNEMPLOYMENT COMPENSATION	484.61	-	484.61
	TOTAL PERSONAL SERVICES	<u>557,228.17</u>	<u>14,929.93</u>	<u>572,158.10</u>
7520	SUPPLIES	11,104.47	-	11,104.47
8510	POSTAGE	3,878.72	-	3,878.72
	TOTAL SUPPLIES	<u>14,983.19</u>	<u>-</u>	<u>14,983.19</u>
8010	CONTRACTUAL SERVICES	14,219.02	-	14,219.02
8500	TELEPHONE	(240.00)	-	(240.00)
9000	PRINTING & PUBLISHING	447.30	-	447.30
9410	EQUIPMENT RENTALS OR LEASE	331.89	-	331.89
9100	PROFESSIONAL DEVELOPMENT	4,390.74	-	4,390.74
9150	MEMBERSHIPS	160.00	-	160.00
9440	FLEET MANAGEMENT EQUIPMENT	27,171.48	-	27,171.48
9450	311 CALL CENTER SERVICES	253.00	-	253.00
	TOTAL OTHER SERVICES & CHARGES	<u>46,733.43</u>	<u>-</u>	<u>46,733.43</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 618,944.79</u>	<u>\$ 14,929.93</u>	<u>\$ 633,874.72</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2016
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: REPAIR & MAINTENANCE

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 1,322,537.49	\$ 51,975.72	\$ 1,374,513.21
7025	ACT.ASSIGNMENT	12,187.50	478.97	12,666.47
7055	TIME & ONE-HALF	104,926.89	4,123.63	109,050.52
7105	EMPLOYERS SOCIAL SECURITY	102,963.44	4,046.46	107,009.90
7110	HOSPITALIZATION INSURANCE	340,594.51	(10,694.67)	329,899.84
7115	RETIREE HEALTH CARE	165,306.89	(2,198.58)	163,108.31
7120	RETIREMENT FUND CONTRIBUTION	289,299.16	11,832.34	301,131.50
7135	UNEMPLOYMENT COMPENSATION	1,867.50	-	1,867.50
7165	SHIFT DIFFERENTIAL	353.56	-	353.56
	TOTAL PERSONAL SERVICES	<u>2,340,036.94</u>	<u>59,563.87</u>	<u>2,399,600.81</u>
7520	SUPPLIES	240,187.71	-	240,187.71
7670	CLOTHING/CLEANING ALLOWANCE	7,212.79	-	7,212.79
7710	INVENTORY	547.07	-	547.07
	TOTAL SUPPLIES	<u>247,947.57</u>	<u>-</u>	<u>247,947.57</u>
9480	COMPUTER SERVICES	92,552.00	5,632.00	98,184.00
8010	CONTRACTUAL SERVICES	715,066.96	-	715,066.96
8500	TELEPHONE	37,122.95	-	37,122.95
9200	ELECTRICITY	9,224.91	-	9,224.91
9180	WATER	6,688.53	-	6,688.53
9210	NATURAL GAS	5,504.67	-	5,504.67
9340	MAINTENANCE SERVICE	5,041.44	-	5,041.44
8040	HOME REPAIR	64,046.25	-	64,046.25
8080	PAVEMENT REPAIR	34,235.64	-	34,235.64
9410	EQUIPMENT RENTALS OR LEASE	2,202.14	-	2,202.14
9400	LAND RENTAL OR LEASE	6,861.96	-	6,861.96
9470	VEHICLE USAGE/CAR MILAGE	615.00	-	615.00
9150	MEMBERSHIPS	4,105.43	-	4,105.43
8240	FEES	30.00	-	30.00
9440	FLEET MANAGEMENT EQUIPMENT	1,258,784.92	-	1,258,784.92
9450	311 CALL CENTER SERVICES	6,984.00	-	6,984.00
	TOTAL OTHER SERVICES & CHARGES	<u>2,249,066.80</u>	<u>5,632.00</u>	<u>2,254,698.80</u>
9760	EQUIPMENT	20,222.11	-	20,222.11
9840	SOFTWARE	315.00	-	315.00
	TOTAL CAPITAL	<u>20,537.11</u>	<u>-</u>	<u>20,537.11</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 4,857,588.42</u>	<u>\$ 65,195.87</u>	<u>\$ 4,922,784.29</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2016
RATE STUDY- TASKS NO. 4 & 5**

ORGANIZATIONAL SUMMARY

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
NO.	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				CURRENT
7020	PERMANENT EMPLOYEES	\$ 5,316,121.43	\$ 208,923.57	\$ 5,525,045.00
7025	ACT.ASSIGNMENT	15,017.21	590.18	15,607.39
7040	TEMPORARY EMPLOYEES	11,162.54	438.69	11,601.23
7050	REGULAR HOURLY RATE	5,112.48	200.92	5,313.40
7055	TIME & ONE-HALF	182,427.43	7,169.40	189,596.83
7105	EMPLOYERS SOCIAL SECURITY	393,985.86	15,483.65	409,469.51
7110	HOSPITALIZATION INSURANCE	1,220,344.79	(38,318.82)	1,182,025.97
7115	RETIREE HEALTH CARE	652,148.12	(8,673.57)	643,474.55
7120	RETIREMENT FUND CONTRIBUTION	1,139,662.14	46,612.18	1,186,274.32
7135	UNEMPLOYMENT COMPENSATION	7,848.51	-	7,848.51
7165	SHIFT DIFFERENTIAL	13,014.86	-	13,014.86
	TOTAL PERSONAL SERVICES	<u>8,956,845.37</u>	<u>232,426.20</u>	<u>9,189,271.57</u>
7520	SUPPLIES	1,194,647.49	-	1,194,647.49
8510	POSTAGE	4,103.72	-	4,103.72
7670	CLOTHING/CLEANING ALLOWANCE	10,734.96	-	10,734.96
7710	INVENTORY	8,587.29	-	8,587.29
7800	INVENTORY - COST OF GOODS SOLD	33,529.49	-	33,529.49
7530	PROCESS CHEMICALS	371,238.76	-	371,238.76
	TOTAL SUPPLIES	<u>1,622,841.71</u>	<u>-</u>	<u>1,622,841.71</u>
9480	COMPUTER SERVICES	382,245.00	(29,581.00)	352,664.00
9460	ENGINEERING SERVICES	10,641.76	-	10,641.76
8010	CONTRACTUAL SERVICES	7,173,386.74	(596,002.26)	6,577,384.48
8011	CONTRACT EMPLOYEES - TEMP SERVICES	3,215.77	-	3,215.77
8450	GENERAL LIABILITY INSURANCE/CLAIMS	348,468.00	(32,351.00)	316,117.00
8400	INSURANCE PREMIUMS	179,591.00	-	179,591.00
8500	TELEPHONE	70,670.96	-	70,670.96
9000	PRINTING & PUBLISHING	3,442.99	-	3,442.99
9200	ELECTRICITY	1,957,833.24	114,998.72	2,072,831.96
9180	WATER	74,433.35	-	74,433.35
9210	NATURAL GAS	144,156.86	-	144,156.86
9340	MAINTENANCE SERVICE	64,421.49	-	64,421.49
8040	HOME REPAIR	64,046.25	-	64,046.25
8080	PAVEMENT REPAIR	34,235.64	-	34,235.64
7175	FOOD/CLEAN/CAR ALLOW	7,800.00	-	7,800.00
9430	BUILDINGS RENTALS OR LEASE	24,312.24	-	24,312.24
9410	EQUIPMENT RENTALS OR LEASE	7,332.77	-	7,332.77
9400	LAND RENTAL OR LEASE	6,861.96	-	6,861.96
9470	VEHICLE USAGE/CAR MILAGE	9,911.00	-	9,911.00
9100	PROFESSIONAL DEVELOPMENT	29,063.29	-	29,063.29
9110	OTHER TRAVEL & TRAINING	34,231.38	-	34,231.38
9130	LOCAL BUSINESS EXPENSE	4,812.68	-	4,812.68
9150	MEMBERSHIPS	20,978.03	-	20,978.03
8240	FEES	20,955.21	-	20,955.21
8030	ADMINISTRATIVE SERVICES	45,529.00	-	45,529.00
9650	BAD DEBT WRITE-OFFS	7,574.07	-	7,574.07
6931	GAIN-LOSS ON SALE OF ASSETS-FA	1,826,158.46	-	1,826,158.46
9440	FLEET MANAGEMENT EQUIPMENT	1,533,621.78	-	1,533,621.78
9450	311 CALL CENTER SERVICES	8,354.00	-	8,354.00
9550	MISCELLANEOUS	4,629.83	-	4,629.83
	TOTAL OTHER SERVICES & CHARGES	<u>14,102,914.75</u>	<u>(542,935.54)</u>	<u>13,559,979.21</u>
9760	EQUIPMENT	43,689.29	-	43,689.29
9840	SOFTWARE	72,064.46	-	72,064.46
9880	CONSTRUCTION IN PROGRESS	63,528.80	-	63,528.80
	TOTAL CAPITAL	<u>179,282.55</u>	<u>-</u>	<u>179,282.55</u>
9952	OPERATING TRANSFERS-A87 COST	755,694.00	(152,655.00)	603,039.00
9951	OPERATING TRANS OUT-SUBSIDIES	2,633,726.00	13,629.88	2,647,355.88
	TOTAL TRANSFERS/FEES	<u>3,389,420.00</u>	<u>(139,025.12)</u>	<u>3,250,394.88</u>
	GRAND TOTAL- EXPENDITURES	<u>\$ 28,251,304.38</u>	<u>\$ (449,534.46)</u>	<u>\$ 27,801,769.92</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 8, 2016

TO: Eric R. DeLong
Deputy City Manager

FROM: Molly J. Eastman
Utility Financial Officer

**SUBJECT: 2016 SEWER RATE STUDY TASK #4
FY16 OPERATING EXPENSES - SEWAGE PUMPING STATIONS**

The attached schedule allocates the direct cost for operating and maintaining system lifting and metering stations. The operating expense consists of direct labor, utilities, operating and maintenance supplies, repairs and maintenance, and equipment rental.

The overflow regulators are components of the integrated system and subsequently not included herein.

Attachment

MJE:mje

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE PUMPING STATIONS OPERATING COSTS
FOR THE YEAR ENDED JUNE 30, 2016**

<u>Station</u>	<u>Physical Location</u>	<u>Type</u>	<u>FY2016 5900 Expenses</u>
Market Avenue Pump Station	Grand Rapids	Interceptor	\$229,620.92
Millbank Lift Station	Grand Rapids	Local	\$3,948.40
Eastlake Lift Station	Grand Rapids	Local	\$10,356.52
Eastern Lift Station	Grand Rapids	Trunk	\$10,914.33
Oak Hollow Lift Station	Grand Rapids Twmsp	Local	\$11,905.29
Kingsbury Lift Station	Walker	Trunk	\$11,934.81
Bona Vista Lift Station	Grand Rapids	Trunk	\$23,872.30
Aberdeen Lift Station	Grand Rapids	Local	\$17,411.30
O'Brien Lift Station	Walker	Trunk	\$38,544.10
Leonard Heights Lift Station	Walker	Trunk	\$10,762.46
Guild Lift Station	Grand Rapids	Local	\$6,251.62
Orchard Vista Lift Station	Cascade Twmsp	Local	\$14,157.12
Brookview Lift Station	Grand Rapids	Trunk	\$21,376.55
Remembrance Road Lift Station	Walker	Local	\$56,402.93
Kraft Avenue Lift Station	Cascade Twmsp	Local	\$10,546.28
Thornapple Lift Station	Cascade Twmsp	Trunk	\$58,919.11
Thornhills Lift Station	Cascade Twmsp	Local	\$49,737.77
Greenbrier Lift Station	Grand Rapids Twmsp	Local	\$7,966.91
Shore Haven Lift Station	Grand Rapids Twmsp	Local	\$11,047.57
Ada Lift Station	Ada	Local	\$6,547.71
Robinhood Lift Station	Grand Rapids Twmsp	Local	\$7,100.34
Lincoln School Lift Station	Grand Rapids Twmsp	Local	\$5,214.55
Reeds Lake Blvd. Lift Station	Grand Rapids Twmsp	Local	\$9,923.24
6000 28th Street Lift Station	Cascade Twmsp	Local	\$6,688.06
Ada Meter Station	Ada	Meter	\$206.54
East Grand Rapids Meter Station	East Grand Rapids	Meter	\$587.76
Rickman Avenue Lift Station	Grand Rapids	Local	\$4,654.31
Michigan Street Lift Station	Grand Rapids	Local	\$5,508.73
Eagle Crest Lift Station	Grand Rapids Twmsp	Local	\$13,032.02
East Paris Lift Station	Grand Rapids Twmsp	Local	\$11,567.91
Alpine Estates Lift Station	Walker	Local	\$17,905.17
Elmdale Lift Station	Grand Rapids	Local	\$6,046.99
Collindale Lift Station	Walker	Local	\$6,153.96
Bird Avenue Lift Station	Grand Rapids Twmsp	Local	\$28,413.04
Monroe & Howland Regulator Station	Grand Rapids	Local	\$174.96
Division & Weston Regulator Station	Grand Rapids	Trunk	\$406.39
Front & Wealthy Regulator Station	Grand Rapids	Interceptor	\$229.26
Butterworth Regulator Station	Grand Rapids	Trunk	\$967.48
Valentine Lift Station	Grand Rapids Twmsp	Local	\$2,622.78
Cascade Springs Lift Station	Cascade Twmsp	Local	\$10,832.17
Churchill Downs Lift Station	Grand Rapids	Local	\$14,561.94
Woodsboro Court Lift Station	Grand Rapids Twmsp	Local	\$4,127.32
Meadowood Trails Lift Station	Cascade Twmsp	Local	\$4,290.15
Gaines Township Meter Station	Gaines Township	Meter	\$279.42
Kentwood Meter Station	Kentwood	Meter	\$2,104.10
Stonebridge Lift Station	Grand Rapids Twmsp	Local	\$5,647.07
Burton/Cacade Lift Station	Cascade Twmsp	Local	\$52,331.13
Crahen Lift Station	Grand Rapids Twmsp	Local	\$6,447.36
Jonathan Woods Lift Station	Cascade Twmsp	Local	\$6,324.59
Watermark Lift Station	Cascade Twmsp	Local	\$8,241.00
Mountain Ash Lift Station	Tallmadge Twmsp	Local	\$6,649.30
Reeds Hollow Lift Station	Grand Rapids Twmsp	Local	\$5,625.22
Celebration Village Lift Station	Grand Rapids Twmsp	Trunk	\$10,396.60
Saddleback Lift Station	Grand Rapids Twmsp	Local	\$5,180.16
Arbor Hills Lift Station	Grand Rapids Twmsp	Local	\$9,085.68
16th Avenue Lift Station	Marne	Local	\$5,561.92
Hayes West Lift Station	Wright TWP	Local	\$19,666.53
Hayes East Lift Station	Wright TWP	Local	\$4,563.46
Cypress Trails Lift Station	Grand Rapids Twmsp	Local	\$6,110.45
8th & Leonard Lift Station	Tallmadge Twmsp	Local	\$5,520.15
Summit Ridge Lift Station	Grand Rapids	Local	\$8,316.00
Lake Michigan Estates	Tallmadge Twmsp	Local	\$4,879.69
			<u>\$946,368.90</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 7, 2016

TO: Molly Eastman
Utility Financial Officer

FROM: Scott Buhrer *SB*
Chief Financial Officer

**SUBJECT: 2016 SEWER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY16 operating costs are listed below.

Expense Object – 7060, 7020, 7040, 7055, 7025, 7045, 7050, 7030, 7035, 7190

GREIU wages were increased by 2.00% and 2.25% in FY2017 and FY2018, respectively. APA wages were increased by 2.00% and 2.25% in FY2017 and FY2018. After converting these increases from a 2016 fiscal year to a 2017 calendar year basis as well as factoring in the lump sum payments, the result is a 3.93% factor for GREIU employees and a 3.93% factor for APA employees. A blended rate was then computed by weighting the calendar year percentages according to the percentage of Sewer Fund employees in each union (79% GREIU and 21% APA). Executive and non-reps amounted to less than 2.4% of the population and were therefore excluded. **The wage increase factor to translate FY2016 actual costs to estimated calendar 2017 will be 3.93% [3.93 X 79% + 3.93 X 21%].**

Expense Object – 9480/8450/9952

Adjust FY2016 actual cost to reflect adjustments in charges for central services rendered by the Information Technology Fund (data charges), the Insurance Payment Fund (property and general liability) and the General Operating Fund (A-87 cost allocation). The “Exhibit” workbook (inclusive of cost center allocations) maintained by the Budget Office has been utilized to blend FY2017 and FY2018 budget amounts thus arriving at an estimated 2017 calendar year rate as follows:

9480-Data Charges			
Dept.-Unit-Fund	FY2017 Request	FY2018 Forecast	Calendar 2017 Estimate
527-1000-5900	\$14,279	\$14,614	\$14,447
527-3000-5900	\$237,250	\$242,815	\$240,033
527-4010-5900	\$49,219	\$50,374	\$49,797
527-4290-5900	\$47,826	\$48,948	\$48,387
Total	\$348,574	\$356,751	\$352,664

8450-General Liability Insurance			
Cost Center	FY2017 Request	FY2018 Forecast	Calendar 2017 Estimate
527-1000-5900	\$301,638	\$330,595	\$316,117

9952-Contributions to Other Funds (A-87 Allocation)			
Cost Center	FY2017 Request	FY2018 Forecast	Calendar 2017 Estimate
527-1000-5900	\$594,127	\$611,951	\$603,039

Expense Object - 7105

Increase FY2016 actual FICA expense by 3.93% consistent with the known wage impacts detailed above.

Expense Object - 7110

The FY2017 Trend Report is not completed at this time. However, slightly more favorable plan enrollment and health insurance premium rates were anticipated in the FY2016 Trend Report. The three-year smoothing is also more favorable for calendar 2017 rates than it was for calendar 2016 rates which has contributed to the projected decrease in health insurance to -3.14%. However, one factor did increase upward pressure on rates after FY2014 when dollars from the Early Retiree Reinsurance Program (ERRP) ended. **Decrease FY2016 health insurance actual by -3.14% to reflect these anticipated rate changes.**

The projected FY17 (\$12,293) and FY18 (\$13,678) health insurance rates were blended into a 2017 calendar year rate and divided by the FY2016 base amount (\$13,406) to arrive at the decrease factor [(((((\$12,293 + \$13,678) / 2)) / \$13,406) - 1) * 100].

Expense Object - 7115

Retiree health care ("RHC") rates are projected to trend down in FY2017 (to 12.17%) and FY2018 (to 11.79%) from a base year rate of 13.75% in FY2016. This decrease is partially offset by the projected wage adjustments discussed above. Additionally, the Sewer Fund had a negative OPEB adjustment in the amount of \$63,980 for FY2016.

The RHC factor after consideration of the above rate and wage adjustments is 89.85% (or a decrease of 10.15%) for both GREIU and APA members. These factors are then applied to the FY2016 RHC balance before the OPEB adjustment (\$716,128). This result

is compared to the FY2016 RHC balance after the OPEB adjustment and the revised factor is weighted in accordance with union membership within the Sewer Fund.

GREIU: Step 1>> [(\$716,128 * 89.85%) = \$643,441]
 Step 2>> [(((\$643,441 – (\$716,128 - \$63,980)) / (\$716,128 - \$63,980)) *
100)]
 Step 3>> [-1.33% * 79%]

APA: Step 1>> [(\$716,128 * 89.85%) = \$643,441]
 Step 2>> [(((\$643,441 – (\$716,128 - \$63,980)) / (\$716,128 - \$63,980)) *
100)]
 Step 3>> [-1.33% * 21%]

 Step 4>> [-1.05% + -0.28%]

The factor to establish calendar year 2017's retiree health care cost is -1.33%. **Decrease the total of fiscal year 2016's retiree health care by this percent to establish the cost for calendar year 2017.**

Expense Object - 7120

The pension expense factor to translate FY2016 actual costs to estimated calendar 2017 will be 4.09%. **Increase the total of fiscal year 2016's pension expense by this percent to establish the cost for calendar year 2017.** This reflects the effect of a General Pension rate change increase from FY16 of 21.82% to a calendar 2017 rate of 22.02% and an estimated wage increase of 3.93%. The calendar 2017 rate is a blend of the FY2017 rate (23.03%) and the FY2018 rate (21.03%).

The pension factor after consideration of the above rate and wage adjustments is 104.09% (or an increase of 4.09%) for GREIU and APA members. These factors are then weighted in accordance with union membership within the Sewer Fund [(4.09 * 79%) + (4.09 * 21%)].

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 24, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Michael J. Lunn
Environmental Services Manager

**SUBJECT: 2016 SEWER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY16 operating costs are listed below:

<u>ACCOUNT</u> User Code	<u>DESCRIPTION</u>	<u>AMOUNT</u>
527-3XXX-5900-8010	GVRBA Contractual Services	(\$596,002.26)
527-3XXX-5900-9200	Consumers Energy Efficiency Program	\$56,824.72
527-3XXX-5900-9200	Consumers Energy Green Generation Participation	\$58,175.00

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 15, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Jenessa B. Carter
Financial Analyst

SUBJECT: 2016 SEWER RATE STUDY TASK #6

The Sewage Disposal System Fund's revenues and volumes by governmental unit for the year ended June 30, 2016, are disclosed on the attached page. In addition, actual volume comparisons for the past five (5) years by governmental unit are included herein.

Attachments

JBC:jbc

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 6**

DETERMINE SEWAGE VOLUME AND REVENUE BY GOVERNMENTAL ENTITY FOR THE YEAR ENDED JUNE 30, 2016:

RETAIL:	<u>SALES REVENUE</u>	<u>3 YR AVE BILLED VOL (GALLONS)</u>
CITY OF GRAND RAPIDS (1)	\$ 33,766,237.11	4,855,690,620
CITY OF WALKER	4,751,120.16	620,858,700
CITY OF KENTWOOD	3,848,215.08	1,026,351,744
CASCADE TOWNSHIP	2,290,821.26	324,228,828
GRAND RAPIDS TOWNSHIP	2,354,892.77	287,220,032
TALLMADGE TOWNSHIP	361,551.39	15,979,524
WRIGHT TOWNSHIP (2)	265,900.01	16,180,815
SUB-TOTAL RETAIL (3)	<u>\$ 47,638,737.78</u>	<u>7,146,510,263</u>
WHOLESALE:		
CITY OF E. GRAND RAPIDS	\$ 589,018.44	326,788,667
CALEDONIA TOWNSHIP (4)	102,023.58	25,698,000
ADA TOWNSHIP	1,180,846.76	337,517,333
GAINES TOWNSHIP (5)	182,576.89	118,674,000
SUB-TOTAL WHOLESALE	<u>\$ 2,054,465.67</u>	<u>808,678,000</u>
TOTAL	<u>\$ 49,693,203.45</u>	<u>7,955,188,263</u>
REVENUE CLASSIFICATION:		
527-1000-5900-6281 RETAIL SEWAGE SERVICE CHARGE		\$ 47,567,606.82
527-1000-5900-6284 WYOMING SEWAGE SERVICE CHARGE		71,130.96
527-1000-5900-6282 WHOLESALE SEWAGE SERVICE CHARGE		2,054,465.67
		<u>\$ 49,693,203.45</u>

- (1) THE VOLUME & DOLLAR AMOUNT FOR THE CITY OF WYOMING ARE INCLUDED IN THE GRAND RAPIDS TOTALS.
- (2) CHARGES TO USERS IN WRIGHT TOWNSHIP ARE BASED ON A REU (RESIDENTIAL EQUIVALENT UNIT) CHARGE, IN LIEU OF COMMODITY & MONTHLY SERVICE CHARGES, AND AS SUCH DOES NOT RECORD ANY BILLED VOLUME IN RETAIL SERVICE CHARGES TO WRIGHT TOWNSHIP. THE AMOUNT INCLUDED ABOVE REFLECTS THE ESTIMATED BILLED VOLUME BASED ON THE WWTP'S LIFT STATION PUMPING REPORT FOR FY 2016.
- (3) A REVENUE ACCRUAL OF (\$250,478.67) HAS BEEN PRORATED TO ALL RETAIL CUSTOMER COMMUNITIES TO ACCRUE BILLINGS FROM THE LAST READING DATE THROUGH JUNE 30, 2016, AND ADJUST FOR PREVIOUS FISCAL YEAR ACCRUAL.
- (4) CALEDONIA TOWNSHIP WAS ADDED TO THE SANITARY SEWER SYSTEM IN SEPTEMBER 2015. NO REVENUE WAS COLLECTED PRIOR TO JUNE 30, 2015. THREE YEAR AVERAGE BILLED VOLUME IS BASED ON ONE YEAR OF PROVIDED DATA FROM THE TOWNSHIP FOR FY 2015 AND BILLED VOLUME FOR FY 2016.
- (5) GAINES TWP RATES ARE CALCULATED BASED ON MOST RECENT FISCAL YEAR BILLED VOLUME PER CONTRACT.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
2016 RATE STUDY TASK NO. 6**

VOLUME COMPARISONS FOR FIVE (5) YEARS BY GOVERNMENTAL UNIT
VOLUME = 1,000 GALLONS

MUNICIPALITY	FY12		FY13		FY14		FY15		FY16		FY12-FY16	
	VOL BILLED	% CHANGE										
GRAND RAPIDS	5,131,245	-3.58%	4,947,696	-1.94%	4,851,466	-0.73%	4,815,852	-0.73%	4,899,755	1.74%	4,899,755	-4.51%
WALKER	619,441	-2.50%	603,938	4.42%	630,628	-3.38%	609,313	-3.38%	622,635	2.19%	622,635	0.52%
KENTWOOD	1,039,550	1.67%	1,056,913	-1.02%	1,046,081	-1.02%	998,322	-4.57%	1,034,652	3.64%	1,034,652	-0.47%
CASCADE	302,532	-0.63%	300,624	1.48%	305,066	6.27%	324,180	6.27%	343,441	5.94%	343,441	13.52%
GRAND RAPIDS TWP	297,317	1.33%	301,274	-5.24%	285,476	0.46%	286,787	0.46%	289,396	0.91%	289,396	-2.66%
TALLMADGE	12,180	5.94%	12,904	9.97%	14,191	11.76%	15,860	11.76%	17,888	12.79%	17,888	46.86%
WRIGHT TWP	12,457	24.94%	15,564	-6.60%	14,537	7.73%	15,661	7.73%	18,345	17.14%	18,345	47.26%
EAST GRAND RAPIDS	419,817	-5.67%	396,034	-22.99%	304,975	5.77%	322,576	5.77%	352,815	9.37%	352,815	-15.96%
ADA TWP	309,502	-0.02%	309,437	22.06%	377,714	-16.70%	314,628	-16.70%	320,210	1.77%	320,210	3.46%
CALEDONIA TWP	N/A	N/A	N/A	N/A	N/A	N/A	26,242	N/A	25,154	-4.15%	25,154	N/A
GAINES TWP	112,093	-14.00%	96,398	-21.75%	75,428	47.82%	111,500	47.82%	118,674	6.43%	118,674	5.87%
TOTAL	8,256,134	-2.61%	8,040,782	-1.68%	7,905,562	-0.82%	7,840,921	-0.82%	8,042,965	2.58%	8,042,965	-2.58%

GRAND RAPIDS VOLUME COMPARED TO
CUSTOMER COMMUNITIES

VOLUME = 1,000 GALLONS	FY12		FY13		FY14		FY15		FY16	
	% OF TOTAL	VOL BILLED	% OF TOTAL							
GRAND RAPIDS	62.15%	4,947,696	61.53%	4,851,466	61.37%	4,815,852	61.42%	4,899,755	60.92%	
CUSTOMER COMMUNITIES	37.85%	3,093,086	38.47%	3,054,096	38.63%	3,025,069	38.58%	3,143,210	39.08%	
TOTAL	100.00%	8,040,782	100.00%	7,905,562	100.00%	7,840,921	100.00%	8,042,965	100.00%	

* Volumes were restated from previous Rate Studies to reflect actual billings without adjustment for accrued revenues.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 7**

OPERATING REVENUES OTHER THAN WASTEWATER RECEIPTS:

527-1000-5900

6260	MISCELLANEOUS SERVICE FEES	\$ 6,691.76
6140	INSPECTION FEES - UTILITIES	39,862.00
6723	INTEREST/PENALTIES ON SPEC ASSM	2,076.58

527-(3XXX)-5900

4912	INDUSTRIAL PRETREATMENT PERMITS	\$ 51,197.07
6285	INDUSTRIAL DISCHARGE AUTHORIZATION	1,700.00
6421	SALES - OTHER	168.90
6423	SALES OF SCRAP MATERIAL	706.74
6461	INVENTORY WITHDRAWALS (SALES)	35,504.59
		<u>\$ 137,907.64</u>

CREDIT: UNDERUTILIZATION OF PENALTY CREDIT FROM PREVIOUS YEAR \$ 321,970.79

OTHER OPERATING REVENUES NOT INCLUDED:

CAPITAL CONTRIBUTION

527-1000-5900

6150	SEWAGE FRONT FOOTAGE	<u>\$ 192,610.00</u>
		<u>\$ 192,610.00</u>

INTEGRATED SYSTEM CREDITS

527-1000/3000-5900

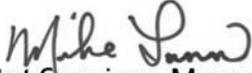
6152	INTEGRATED SEWER CONNECTION	\$ 1,046,326.00
6283	SEWAGE SURCHARGE	<u>2,122,789.07</u>
		<u>\$ 3,169,115.07</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 3, 2016

TO: Molly Eastman
Utility Financial Officer

FROM: Mike Lunn 
Environmental Services Manager

SUBJECT: 2016 SEWER RATE STUDY- TASK #8

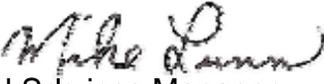
No significant changes in operating levels are anticipated to take effect by January 1, 2017, which would require adjustments to operating costs for the test period.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 3, 2016

TO: Molly Eastman
Utility Financial Officer

FROM: Mike Lunn 
Environmental Services Manager

SUBJECT: 2016 SEWER RATE STUDY- TASK #9

No significant changes in sewer revenues are anticipated to take effect by January 1, 2017, which would require an adjustment to operating revenue estimates as a whole.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 28, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2016 SEWER RATE STUDY- TASK #10

The following are sewage system projects that for rate study purposes should be considered operative as of January 1, 2017.

<u>Description</u>	<u>Location</u>	<u>Proj. Code</u>	<u>Cost</u>
CSO 27	Grand Rapids	590615154	\$3,560,579
CSO 27	Grand Rapids	590515154	\$970,301
CSO 28A	Grand Rapids	590615198	\$2,150,000
Taylor Howland Sweet Queen	Grand Rapids	590115139	\$2,146,200
Taylor Howland Sweet Queen	Grand Rapids	590217025	\$600,000
Jefferson Ave Reconstruction	Grand Rapids	590115140	\$470,392
Bostwick Ave NE	Grand Rapids	590115150	\$339,879
Clancy Ave – Cedar to Creston Plaza Dr.	Grand Rapids	590616067	\$390,000
Aspen Lakes	Grand Rapids	Contribution	\$104,000
Crescent Ave – Bradley to Lafayette	Grand Rapids	590115157	\$5,000
Woodburry Center	Kentwood	Contribution	\$176,689
ETO Magnetic	Kentwood	Contribution	\$79,485
Winchester Woods 2	Walker	Contribution	\$128,628
Northridge Drive & Shippers Ave	Walker	Contribution	\$164,155
Northridge Dr (Walkerville Phase 2)	Walker	Contribution	\$306,780
Sydney Dr. (Summerbrooke)	Walker	Contribution	\$80,615
		Total	<u>\$11,672,704</u>

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 11

COMPUTE ACCUMULATED COST, DEPRECIATION AND DEPRECIATION EXPENSE AS OF JUNE 30, 2016

INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 1,633,122	\$ -	\$ -
LAND IMPROVEMENTS	16,315,449	13,540,763	280,314
BUILDINGS & STRUCTURES	50,989,645	31,085,400	574,615
PROCESS EQUIPMENT	69,874,484	35,750,179	387,433
AUXILIARY EQUIPMENT	28,673,619	24,852,945	460,949
MACHINERY & EQUIPMENT	6,101,268	4,715,520	160,598
OFFICE EQUIPMENT & FURNITURE	494,401	486,080	235
	<u>\$ 174,081,988</u>	<u>\$ 110,430,887</u>	<u>\$ 1,864,144</u>

NON-INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 3,255,840	\$ -	\$ -
LAND IMPROVEMENTS	3,486,637	1,520,478	172,947
BUILDINGS & STRUCTURES	10,948,179	3,336,744	259,139
PROCESS EQUIPMENT	16,842,826	7,119,453	524,817
AUXILIARY EQUIPMENT	3,898,571	2,990,638	204,049
MACHINERY & EQUIPMENT	1,645,774	1,548,926	130,387
OFFICE EQUIPMENT & FURNITURE	68,632	68,632	-
SERVICEMAINS - GRAND RAPIDS	368,609,111	109,361,898	6,921,233
SERVICEMAINS - WALKER	39,295,867	16,047,990	775,493
SERVICEMAINS - KENTWOOD	40,857,010	15,672,444	809,918
SERVICEMAINS - CASCADE TWP	21,493,165	8,434,029	424,623
SERVICEMAINS - GRAND RAPIDS TWP	18,346,545	7,307,269	340,959
SERVICEMAINS - TALLMADGE TWP	5,848,892	1,471,558	114,953
SERVICEMAINS - WRIGHT TWP	125,288	26,315	2,509
	<u>\$ 534,722,337</u>	<u>\$ 174,906,374</u>	<u>\$ 10,681,027</u>
TOTAL	<u><u>\$ 708,804,325</u></u>	<u><u>\$ 285,337,261</u></u>	<u><u>\$ 12,545,171</u></u>

SOURCE: GENERAL LEDGER, AS ADJUSTED, FOR JUNE 30, 2016.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 12**

TASK 12A DETERMINE WORKING CAPITAL NEEDS FOR MATERIALS AND SUPPLIES ON HAND.

MATERIALS AND SUPPLIES INVENTORY AS OF JUNE 30, 2016: \$ 903,432

TASK 12B DETERMINE WORKING CAPITAL NEEDS FOR PREPAYMENT OF OPERATING COSTS.

NO REQUIREMENT FOR PREPAYMENT OF OPERATING COSTS IS CALLED FOR IN THE ORDINARY CYCLE OF BUSINESS.

TASK 12C DETERMINE CASH WORKING CAPITAL NEEDS & DETERMINE TOTAL WORKING CAPITAL NEEDS.

MINIMUM CASH WORKING CAPITAL IS DEFINED AS THE SUM OF 90 DAYS ADJUSTED OPERATING EXPENSES.

ADJUSTED CURRENT ANNUAL EXPENSES = \$ 27,801,770 @ 90/365 = \$ 6,855,231

TOTAL WORKING CAPITAL NEEDS CONSIST OF THE FOLLOWING:

12A INVESTMENT IN INVENTORY	\$	903,432
12B PREPAYMENT OF OPERATING EXPENSES		-
12C 90 DAY OPERATING EXPENSES		6,855,231
		6,855,231
	\$	7,758,663

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 28, 2016

TO: Eric R. DeLong
Deputy City Manager

FROM: Molly J. Eastman
Utility Financial Officer

**SUBJECT: 2016 SEWER RATE STUDY TASK #13
ZONEGATING & JOINT USE ALLOCATION METHODS**

Lengths and costs of all zoned gated interceptor and trunk sewer mains as well as jointly used lift stations are allocated to customer communities based on the 2016 Comprehensive Master Plan update performed by Black & Veatch, Ltd.

CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
METHODOLOGY FOR I/I & OTHER FLOW APPORTIONMENT - TASK NO. 13

	MILLION GALLONS
1.) ANNUAL WASTEWATER TREATMENT PLANT FLOW	14,819.13
LESS: WHOLESALE BILLED FLOW	(816.85)
LESS: RETAIL BILLED FLOW	(7,226.10)
TOTAL RETAIL I/I & OTHER FLOW	6,776.18
2.) RETAIL INFLOW FROM SEPARATED AREAS (A)	531.70
RETAIL INFLOW FROM COMBINED AREAS - AMOUNT ESTIMATED (A)	708.59
LESS: ANNUAL BYPASS FROM (3) PUMPING STATIONS	-
LESS: IN-SYSTEM BYPASS & RETENTION BASIN OVERFLOW	-
TOTAL RETAIL INFLOW	1,240.29
3.) RETAIL INFILTRATION:	
TOTAL RETAIL I/I & OTHER FLOW	6,776.18
LESS: TOTAL RETAIL INFLOW (#2)	(1,240.29)
LESS: MARKET AVE RETENTION BASIN (MARB) CAPTURE	5,535.89
TOTAL RETAIL INFILTRATION & OTHER FLOW	(8.68)
4.) ALLOCATION OF RETAIL INFILTRATION & OTHER FLOW - APPORTIONED ON THE BASIS OF B&V SUMMARY OF 2016 MONITORED FLOW DATA (B)	5,527.21
GOVERNMENTAL UNIT(S)	MILLION
UTILITY PARTNERS	GALLONS
TOTAL	5,527.21
PRORATA SHARE OF RETAIL INFILTRATION & OTHER	100.0000%
	100.0000%

(A) BASED ON RECORDED RAINFALL @ WWTP & APPORTIONED PER BLACK & VEATCH'S SUMMARY OF 2016 MONITORED FLOW DATA.
(B) BASED ON INFILTRATION & OTHER FLOW APPORTIONED IN PREVIOUS YEAR & ADJUSTED FOR SYSTEM ADDITIONS & IMPROVEMENTS IN EACH CUSTOMER COMMUNITY.

CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
METHODOLOGY FOR I/I & OTHER FLOW APPORTIONMENT - TASK NO. 13 (CONTINUED)

5.) SUMMARY: (IN MILLION GALLONS)	BILLED FLOW (TASK #6)	INFLOW (#2 ABOVE)	INFILTRATION & OTHER FLOW (#4 ABOVE)	MARB (A) (#3 ABOVE)	TOTAL PLANT FLOW	PERCENT OF TOTAL	TOTAL PLANT FLOW (MGD)
GOVERNMENTAL UNIT(S)	7,899.13	1,240.29	5,527.21	8.52	14,675.15	99.0284%	40.2059
UTILITY PARTNERS	118.67	-	-	0.13	118.80	0.8017%	0.3255
GAINES TWP	8,042.95	1,240.29	5,527.21	8.68	14,819.13	100.0000%	40.6004
TOTAL							

(A) BASED ON BILLED FLOW (TASK #6).

MEMORANDUM

CITY OF GRAND RAPIDS

Date: July 5, 2016

To: Molly Eastman, Acting Utility Financial Officer

From: Mike Lunn *Mike Lunn*
Environmental Services Manager

Subject: 2016 Sewer Rate Study - Wastewater Plant Flow Data

Listed below is the flow data measured in million gallons (MG) for the last three completed fiscal years. Plant flow increased by 0.50% from 14,752.54 MG treated in FY2015 to 14,819.13 MG treated in FY2016. The final in system Combined Sewer Overflow point was eliminated July 13, 2015 and are no longer applicable to this report.

Month	FY 2014	FY 2015	FY 2016	% incr (decr)
July	1,189.94	1,390.36	1,224.90	-11.90%
August	1,093.67	1,153.82	1,104.71	-4.30%
September	1,026.49	1,112.73	1,061.77	-4.60%
October	1,094.13	1,241.17	1,028.49	-17.10%
November	1,225.71	1,240.26	1,040.24	-16.10%
December	1,160.14	1,222.14	1,145.87	-6.20%
January	1,258.85	1,165.57	1,250.69	7.30%
February	1,057.55	963.35	1,239.81	28.70%
March	1,488.11	1,243.17	1,485.36	19.50%
April	1,513.54	1,429.57	1,624.04	13.60%
May	1,554.35	1,259.18	1,493.75	18.60%
June	1,399.94	1,331.22	1,119.50	-15.90%
Total	15,062.42	14,752.54	14,819.13	0.50%
Data measured	FY 2014	FY 2015	FY 2016	% incr (decr)
Wastewater Treatment Plan (WWTP) avg. daily flow (MG)	41.380	40.529	40.600	0.20%
Rainfall recorded at WWTP (inches)	33.460	27.300	32.360	18.50%
Market Avenue Retention Basin (MARB) inflow (MG)	35.320	66.450	8.680	-86.90%
Market Avenue Retention Basin (MARB) over flow (MG)	-	-	-	0.00%

cc: Mark DeClercq, City Engineer

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 28, 2015

TO: Molly J. Eastman
Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Mgr.

SUBJECT: 2016 SEWER RATE STUDY – TASK #14

Zonegating maps for the sewage system are included in the 2016 Comprehensive Master Plan update from Black & Veatch, Ltd. The report also contains comprehensive information with respect to the basis for zonegating service mains and other system components, such as lift stations, that service more than one community. All zonegating work papers are on file at the Wastewater Treatment Plant Administration Building located at 1300 Market Ave., SW, Grand Rapids, MI 49503. All zonegating maps are on file at the City Engineers Office located at 300 Monroe Ave, NW, Grand Rapids, MI 49503.

CRS\crs

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 15**

COMPUTE CONSTRUCTION COST RATE BASE (DEPRECIATED PLANT, PLUS WORKING CAPITAL, LESS CSO REVENUE REQUIREMENTS FOR CSO FIXED ASSETS INCLUDED IN TASK #11/21, LESS CONTRIBUTIONS BY OTHERS).

ORIGINAL CONSTRUCTION COST	- TASK #10	\$ 11,672,704	
	- TASK #11/21	707,999,325	
	- TASK #16/21	<u>(187,348,706)</u>	\$ 532,323,323
LESS: ACCUMULATED DEPRECIATION	- TASK #10	\$ -	
	TASK #11/21	285,226,814	
	TASK #16/21	<u>(58,410,306)</u>	<u>(226,816,508)</u>
			305,506,814
WORKING CAPITAL REQUIREMENT	- TASK #12	\$ 7,758,663	
		<u>7,758,663</u>	<u>7,758,663</u>
			313,265,477
CONTRIBUTIONS BY OTHERS	- TASK #21	\$ 189,643,802	
LESS: AMORTIZATION		(131,406,522)	
		<u>(58,237,280)</u>	<u>(58,237,280)</u>
CONSTRUCTION COST RATE BASE			<u>\$ 255,028,197</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 3, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Jenessa B. Carter
Financial Analyst

**SUBJECT: 2016 SEWER RATE STUDY TASK #15A
INTEGRATED SEWER CONNECTION FEES**

Attached is the Integrated Water Connection Fee Schedule as currently provided for in Chapter 26 of the City Code, with the addition of rates to be effective on January 1, 2017. The City Commission on June 27, 2000 established fees through calendar year 2004. Beginning January 1, 2005, the integrated water connection fees are to be calculated on a yearly basis as part of the annual Water/Sewer Rate Study. The Consumer Price Index used to determine rates effective January 1, 2017 is as follows:

August, 2015 Index	238.316
August, 2016 Index	240.853
Increase (decrease)	2.537
Percentage increase (decrease)	1.07%

JBC\jbc

Attachment

Section 2.35 Integrated Sewer Connection Fee Schedule

When a property owner or user is requested or required to connect to the System and has not previously paid or been assessed a connection fee, the following connection fee schedule shall apply:

Integrated Connection Base Fee Schedule

Water Meter Size (inches)	<u>1/01/16</u>	<u>1/01/17</u>
3/4 or less	\$ 2,928	\$ 2,959
1	4,890	4,942
1 ½	9,750	9,853
2	15,606	15,771
3	34,170	34,532
4	61,488	62,139
6 and over	136,650	138,097

Except as otherwise provided in the immediately succeeding paragraph, the foregoing integrated sewer connection base fee schedule for single-family and multi-family residential dwelling units shall be adjusted upward and downward as follows: A single-family residential dwelling unit located on a parcel containing twenty thousand (20,000) square feet shall pay the applicable integrated connection fee in accordance with the foregoing schedule. When determining the square footage of a residential parcel for the purposes of determining the appropriate integrated connection fee, parcel size may be adjusted downward to take into consideration such things as wetlands, lakes, streams and other unusual characteristics of the parcel in accordance with policies approved from time to time by the Utility Advisory Board. To the extent the size of a parcel, as adjusted, is greater than or less than twenty thousand (20,000) square feet, one-half the applicable integrated connection fee will increase or decrease by the same percentage increase or decrease in the parcel above or below twenty thousand (20,000) square feet. In the case of multi-family residential dwellings, in order to determine the size of the parcel assigned to each dwelling unit for purposes of calculating the integrated connection fee to be paid by each multi-family residential dwelling unit, the total square footage of the parcel, as adjusted, on which the multi-family residential dwelling is located shall be divided by the total number of residential units. Notwithstanding any other provision in this subsection, the integrated connection fee for a single-family residential dwelling unit or multi-family residential dwelling unit shall not exceed four and one-half times the applicable base integrated connection fee set forth in foregoing schedule.

There shall be no upward adjustment in the integrated sewer service connection fee payable for a single-family residential dwelling unit connecting to the Sewer System if (a) each of the following conditions are met (1) a building permit shall have been obtained, (2) the dwelling unit shall have been constructed, and (3) a certificate of occupancy shall have been issued prior to January 1, 2000 or (b) local building permit fees have been paid to the local governmental unit prior to January 1, 2000 for a single-family residential dwelling unit to be

constructed on or after January 1, 2000. When connecting to the Sewer System, Users living in or owning such single-family residential dwelling units shall pay the applicable base integrated connection fee set forth in the Integrated Connection Base Fee Schedule adjusted downward, if applicable, in accordance with the immediate preceding paragraph.

Effective January 1, 2005 and January 1st of every year thereafter, the Integrated Sewer Connection Base Fees shall be adjusted by a percentage, which is determined by the annual change in the Consumer Price Index (the "index") calculated as follows:

- (1) The Consumer Price Index shall be that Index referred to as the Consumer Price Index, US City Average, All Urban Consumers, published by the U.S. Department of Labor-Bureau of Statistics ((1982-84)=100). In the event the method of determining the Index is substantially altered, the basis for determining the annual change thereafter shall be the Index which is most comparable to the Index described above.
- (2) For the purpose of computing the percentage change each calendar year, the Index for the month of August for the prior calendar year shall be subtracted from the Index for the immediately-preceding August. The result so obtained (if positive) shall be divided by the Index for the month of August for the prior calendar year to obtain the percentage increase which shall be applied to the then current Integrated Sewer Connection Base Fee Schedule to determine the new calendar year schedule.

The foregoing Integrated Connection fee is due and payable at the time a User receives a permit to connect to the Sewer System. A permit issued by the City to connect to the Sewer System shall expire one hundred eighty (180) days from the date the permit was issued.

The user receiving services who applies for a larger water meter than the one presently in service shall pay an Integrated Connection Fee which is the difference in cost between the meter size in service and the one applied for in accordance with the Integrated Connection Fee in effect at the time of application. No credit or rebate shall be made in the case of application for a smaller meter size.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
CSO REVENUE REQUIREMENTS - TASK 16
PRINCIPAL & INTEREST ON REVENUE BONDS & SRF
DEBT FOR CALENDAR YEAR 2016 - ACCRUAL BASIS**

DATE	SRF/REVENUE REFERENCE	5073- SERIES	REVENUE BONDS			TOTAL			TOTAL PRINCIPAL & INTEREST
			PRINCIPAL	INTEREST	EST. FEES	PRINCIPAL	INTEREST	INTEREST	
07/01/17	N/A	1998	(1)	\$ 317,852.78	\$ 375.00	\$ -	\$ 317,852.78	\$ 318,227.78	\$ 318,227.78
01/01/18	N/A	1998	(1)	\$ 2,082,712.50	317,852.78	2,082,712.50	317,852.78	318,227.78	2,400,940.28
07/01/17	N/A	2008	(2)	514,225.00	625.00	0.00	514,225.00	514,850.00	514,850.00
01/01/18	N/A	2008	(2)	514,225.00	625.00	590,000.00	514,225.00	514,850.00	1,104,850.00
07/01/17	N/A	2010A	(3)	318,252.73	800.00	0.00	318,252.73	319,052.73	319,052.73
01/01/18	N/A	2010A	(3)	318,252.73	800.00	0.00	318,252.73	319,052.73	319,052.73
07/01/17	N/A	2013	(4)	627,263.75	600.00	0.00	627,263.75	627,863.75	627,863.75
01/01/18	N/A	2013	(4)	627,263.75	600.00	360,587.50	627,263.75	627,863.75	988,451.25
07/01/17	N/A	2014	(5)	661,708.00	625.00	0.00	661,708.00	662,333.00	662,333.00
01/01/18	N/A	2014	(5)	661,708.00	625.00	428,400.00	661,708.00	662,333.00	1,090,733.00
07/01/17	N/A	2016	(6)	260,221.96	1,825.00	0.00	260,221.96	262,046.96	262,046.96
01/01/18	N/A	2016	(6)	396,948.75	1,825.00	0.00	396,948.75	398,773.75	398,773.75
							<u>\$3,461,700.00</u>	<u>\$5,545,475.23</u>	<u>\$9,007,175.23</u>

- (1) PRORATED AMOUNT OF 1998 ISSUE RELATED TO CSO DEBT.
- (2) DS ON ES CSO PORTION OF 2008 ISSUE. (\$24.805M)
- (3) DS ON ES CSO PORTION OF 2010A&B ISSUE. (\$14.05M)
- (4) PRORATED AMOUNT OF 2013 ISSUE RELATED TO CSO DEBT.
- (5) PRORATED AMOUNT OF 2014 ISSUE RELATED TO CSO DEBT.
- (6) DS ON ES CSO PORTION OF REFUNDED 2008 ISSUE.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 16A**

INCLUDE MAJOR PROJECT COST FOR UPCOMING SYSTEM IMPROVEMENTS (NON-INTEGRATED)
THE ESTIMATED TOTAL PROJECT COST FOR RECOMMENDED SEWAGE SYSTEM IMPROVEMENTS
ARE SUMMARIZED IN THE FOLLOWING TABLE.

ITEM NO.	DESCRIPTION	ESTIMATED COST	BUDGET YEAR
1	LIVINGSTON PUMP STATION-2ND DISCHARGE LINE FROM CN #2	\$1,000,000	2017
2	LIVINGSTON PUMP STATION-2ND DISCHARGE LINE FROM CN #3	\$850,000	2017
3	KINGSBURY LIFT STATION REPLACEMENT	\$750,000	2019
4	ESCSO #28A & B	\$3,363,000	2019
5	GODFREY AVE - OXFORD ST TO MARKET AVE	\$2,000,000	2019
6	GODFREY AVE - OXFORD ST TO MARKET AVE	\$5,000,000	2020
7	GODFREY AVE - LIBERTY ST TO OXFORD ST	\$2,340,000	2020
8	BRANDYWINE SANITARY TRUNK SEWER	\$2,500,000	2020
9	LONGTERM WET WEATHER FLOW CONTROL PROGRAM	\$3,500,000	2021
10	WHISKEY CREEK SANITARY TRUNK SEWER	\$3,700,000	2021
		<u>\$ 25,003,000</u>	

NOTE: NONE OF THE PROJECTS ABOVE ARE INCLUDED IN RECOMMENDED REVENUE REQUIREMENTS FOR CALENDAR YEAR 2017. COSTS SHOWN ARE IN 2016 DOLLARS.

SOURCE: CHUCK SCHROEDER, ASSISTANT ENVIRONMENTAL SERVICES MANAGER, NOVEMBER 2016

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 17**

BONDS - PRINCIPAL & INTEREST PAYMENTS (SENIOR)

FISCAL YEAR ENDING JUNE 30,	PRINCIPAL	INTEREST	PRIN & INT
2017	\$7,080,000	\$11,390,522	18,470,522
2018	7,405,000	11,480,470	18,885,470
2019	7,575,000	11,119,495	18,694,495
2020	7,925,000	10,756,070	18,681,070
2021	8,285,000	10,348,420	18,633,420
2022	10,115,000	9,932,570	20,047,570
2023	10,620,000	9,409,270	20,029,270
2024	11,155,000	8,881,420	20,036,420
2025	11,710,000	8,326,920	20,036,920
2026	12,300,000	7,744,820	20,044,820
2027	12,925,000	7,132,336	20,057,336
2028	13,510,000	6,540,005	20,050,005
2029	9,425,000	5,920,130	15,345,130
2030	9,875,000	5,478,709	15,353,709
2031	10,340,000	5,015,992	15,355,992
2032	10,835,000	4,531,330	15,366,330
2033	11,385,000	3,992,508	15,377,508
2034	13,575,000	3,426,290	17,001,290
2035	11,990,000	2,750,711	14,740,711
2036	7,375,000	2,154,522	9,529,522
2037	7,730,000	1,797,337	9,527,337
2038	8,110,000	1,422,908	9,532,908
2039	6,220,000	1,047,798	7,267,798
2040	6,495,000	778,696	7,273,696
2041	6,775,000	497,636	7,272,636
2042	2,850,000	204,450	3,054,450
2043	805,000	82,750	887,750
2044	850,000	42,500	892,500
	\$ 245,240,000	\$ 152,206,586	\$ 397,446,586

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 18**

DETERMINE SEWER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE BY
SUBTRACTING DEBT OUTSTANDING FROM THE TOTAL RATE BASE.

CONSTRUCTION COST RATE BASE - TASK NO. 15	\$ 255,028,197
LESS: BONDED INDEBTEDNESS IN CCRB (CASH BASIS) - TASK NO. 20	(134,625,221)
NET SEWER SYSTEM EQUITY	<u><u>\$ 120,402,977</u></u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE OF RETURN ON EQUITY - TASK NO. 19**

AT THE APRIL 5, 1977, COMMITTEE OF THE WHOLE MEETING, THE CITY COMMISSION DECIDED THE LEVEL OF RETURN ON SEWER SYSTEM EQUITY. THE LEVEL DECIDED UPON WAS ONE PERCENT MORE THAN THE AVERAGE BOND BUYER'S INDEX OF MUNICIPAL BONDS FOR THE PREVIOUS TWELVE MONTH PERIOD.

BOND BUYER'S INDEX OF 20 MUNICIPAL BONDS

<u>DATE</u>	<u>RATE</u>	<u>DATE</u>	<u>RATE</u>
24-Sep-15	3.710%	24-Mar-16	3.380%
01-Oct-15	3.670%	31-Mar-16	3.380%
08-Oct-15	3.680%	07-Apr-16	3.280%
15-Oct-15	3.680%	14-Apr-16	3.300%
22-Oct-15	3.670%	21-Apr-16	3.280%
29-Oct-15	3.660%	28-Apr-16	3.320%
05-Nov-15	3.690%	05-May-16	3.320%
12-Nov-15	3.740%	12-May-16	3.320%
19-Nov-15	3.650%	19-May-16	3.260%
26-Nov-15	3.630%	26-May-16	3.260%
03-Dec-15	3.570%	02-Jun-16	3.260%
10-Dec-15	3.570%	09-Jun-16	3.030%
17-Dec-15	3.570%	16-Jun-16	2.990%
24-Dec-15	3.570%	23-Jun-16	2.900%
31-Dec-15	3.570%	30-Jun-16	2.850%
07-Jan-16	3.450%	07-Jul-16	2.800%
14-Jan-16	3.450%	14-Jul-16	2.800%
21-Jan-16	3.370%	21-Jul-16	2.870%
28-Jan-16	3.380%	28-Jul-16	2.850%
04-Feb-16	3.300%	04-Aug-16	2.850%
11-Feb-16	3.270%	11-Aug-16	2.850%
18-Feb-16	3.270%	18-Aug-16	2.840%
25-Feb-16	3.340%	25-Aug-16	2.840%
03-Mar-16	3.340%	01-Sep-16	2.840%
10-Mar-16	3.420%	08-Sep-16	2.830%
17-Mar-16	3.400%	15-Sep-16	2.960%
		<u>52 WEEKS</u>	<u>3.290%</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 20**

DETERMINE COMPOSITE RATE OF RETURN ON CONSTRUCTION COST RATE BASE

	RATE BASE	@	RATE OF RETURN	=	RETURN ON INVESTMENT
SEWER SYSTEM EQUITY IN THE CONSTRUCTION COST RATE BASE (CCRB)	\$ 120,402,977		4.290%		\$ 5,165,288
SEWER SYSTEM INDEBTEDNESS IN THE CCRB					
1998 BONDS (refunded 1990 Bonds)	8,395,083		5.06%		424,791
2008 KCDC CONTRACT	279,000		4.90%		13,671
2008 BONDS (partially refunded by 2016 Bonds)	1,975,000		4.92%		97,170
2010 BONDS	29,625,000		5.00%		1,481,250
2010A&B BONDS	9,710,000		4.37%		424,327
2011 SRF BONDS	5,314,675		2.50%		132,867
2012 BONDS	27,405,000		4.48%		1,227,744
2013 BONDS (refunded 2004 Bonds)	7,568,563		4.43%		335,287
2013 SRF BONDS	1,165,000		2.00%		23,300
2014 BONDS (refunded 2005 Bonds)	12,689,600		4.99%		633,211
2016 BONDS (partially refunded 2008 Bonds)	30,498,300		5.00%		1,524,915
LESS INTEREST ON BOND RESERVE ACCOUNTS					(26,054)
	\$ 255,028,197				\$ 11,457,767
COMPOSITE RATE OF RETURN ON INVESTMENT			\$ 11,457,767	=	4.493%
			\$255,028,197		

Noted Disclosure:

TOTAL BONDED INDEBTEDNESS IN CCRB (from above) \$ 134,625,221 TASK NO. 18

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
CONSTRUCTION COST RATE BASE & RETURN ON SYSTEM INVESTMENT- TASK NO. 21- PRT1
FISCAL YEAR ENDED JUNE 30, 2016

PHYSICAL LOCATION

DESCRIPTION	RETAIL										WHOLESALE					TOTAL
	INTEGRATED SYSTEM	CITY OF GR	CITY OF WALKER	CITY OF KENIWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP				
COST	\$ 174,081,988	\$ 212,170,663	\$ 39,833,590	\$ 29,607,066	\$ 20,344,240	\$ 20,975,052	\$ 5,123,775	\$ 118,230	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 502,254,604	
LESS: ACCUMULATED DEPRECIATION	110,430,887	60,223,297	16,405,263	13,289,453	8,346,096	7,791,628	1,405,315	60,731	-	-	-	-	-	-	217,952,670	
NET BOOK VALUE	\$ 63,651,101	\$ 151,947,365	\$ 23,428,327	\$ 16,317,613	\$ 11,998,144	\$ 13,183,424	\$ 3,718,460	\$ 57,499	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 284,301,933	
WORKING CAPITAL REQUIREMENT	4,968,648	1,704,578	341,459	242,381	203,199	221,199	29,871	28,086	3,181	931	11,483	3,647	-	-	7,758,663	
	\$ 68,619,749	\$ 153,651,943	\$ 23,769,786	\$ 16,559,994	\$ 12,201,343	\$ 13,404,623	\$ 3,748,331	\$ 85,585	\$ 3,181	\$ 931	\$ 11,483	\$ 3,647	-	-	\$ 292,060,596	
CONTRIBUTIONS	49,915,430	55,249,319	23,407,864	23,477,566	17,934,829	14,910,848	4,747,946	-	-	-	-	-	-	-	189,643,802	
LESS AMORTIZATION	(44,397,163)	(46,218,733)	(11,304,239)	(12,203,663)	(9,955,930)	(6,449,190)	(1,254,720)	-	-	-	-	-	-	-	(129,783,639)	
	\$ (5,518,267)	\$ (9,030,586)	\$ (12,103,625)	\$ (11,273,903)	\$ (9,978,899)	\$ (8,461,658)	\$ (3,493,226)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (69,860,164)	
CONSTRUCTION COST RATE BASE	\$ 63,101,482	\$ 144,621,357	\$ 11,666,161	\$ 5,286,091	\$ 2,222,444	\$ 4,942,965	\$ 255,105	\$ 85,585	\$ 3,181	\$ 931	\$ 11,483	\$ 3,647	-	-	\$ 232,200,432	
RETURN ON INVESTMENT- TASK 20	\$ 2,835,150	\$ 6,497,838	\$ 524,161	\$ 237,504	\$ 99,854	\$ 222,087	\$ 11,462	\$ 3,845	\$ 143	\$ 42	\$ 516	\$ 164	-	-	\$ 10,432,766	

4.493%

ZONEGATED

COST	\$ -	\$ 93,434	\$ 6,198,658	\$ 2,435,510	\$ 4,306,526	\$ 5,517,233	\$ 1,850,372	\$ 1,726,922	\$ 305,040	\$ 253,522	\$ 6,405,295	\$ 976,207	\$ -	\$ -	\$ 30,068,719
LESS: ACCUMULATED DEPRECIATION	-	(444,499)	2,004,375	1,427,651	1,017,166	1,671,777	368,517	493,406	229,557	144,129	1,396,773	554,986	-	-	8,863,838
NET BOOK VALUE	\$ -	\$ 537,933	\$ 4,194,283	\$ 1,007,859	\$ 3,289,360	\$ 3,845,456	\$ 1,481,855	\$ 1,233,516	\$ 75,483	\$ 109,393	\$ 5,008,522	\$ 421,221	\$ -	\$ -	\$ 21,204,881
WORKING CAPITAL REQUIREMENT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	\$ -	\$ 537,933	\$ 4,194,283	\$ 1,007,859	\$ 3,289,360	\$ 3,845,456	\$ 1,481,855	\$ 1,233,516	\$ 75,483	\$ 109,393	\$ 5,008,522	\$ 421,221	\$ -	\$ -	\$ 21,204,881
CONTRIBUTIONS	-	13	6,403	1,050,662	295,863	136,544	225	208	1,504	210,756	242,778	811,469	-	-	2,758,625
LESS AMORTIZATION	-	(7)	(6,603)	(651,411)	(183,435)	(86,360)	(225)	(208)	(932)	(111,990)	(150,522)	(431,191)	-	-	(1,622,884)
	\$ -	\$ (6)	\$ (12,199)	\$ (399,251)	\$ (112,428)	\$ (52,184)	\$ -	\$ -	\$ (572)	\$ (98,766)	\$ (92,256)	\$ (380,278)	\$ -	\$ -	\$ (1,135,741)
CONSTRUCTION COST RATE BASE	\$ -	\$ 537,927	\$ 4,194,283	\$ 608,608	\$ 3,176,932	\$ 3,793,272	\$ 1,481,855	\$ 1,233,516	\$ 74,911	\$ 10,627	\$ 4,916,266	\$ 40,943	\$ -	\$ -	\$ 20,069,140
RETURN ON INVESTMENT- TASK 19/21	\$ -	\$ 41,905	\$ 326,735	\$ 47,411	\$ 247,483	\$ 295,496	\$ 115,437	\$ 96,091	\$ 5,836	\$ 828	\$ 382,977	\$ 1,840	\$ -	\$ -	\$ 1,562,039
RETURN ON INVESTMENT- TASK 19/21	7.790%	7.790%	7.790%	7.790%	7.790%	7.790%	7.790%	7.790%	7.790%	7.790%	7.790%	4.493%	-	-	
TOTAL RETURN ON INVESTMENT	\$ 2,835,150	\$ 6,539,743	\$ 850,896	\$ 284,915	\$ 347,337	\$ 517,583	\$ 126,899	\$ 99,936	\$ 5,979	\$ 870	\$ 383,493	\$ 2,004	\$ -	\$ -	\$ 11,994,905

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
CONTRIBUTIONS & AMORTIZED CONTRIBUTIONS- TASK NO. 21- PART3
FISCAL YEAR ENDED JUNE 30, 2016

CONTRIBUTIONS BY OTHERS

COST CENTER (LOCATION)	AMOUNT	RETAIL										WHOLESALE					TOTAL	
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CITY OF TOWNSHIP	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP					
2015 RATE STUDY (LOCATION)		\$ 47,745,498	\$ 23,219,947	\$ 23,380,794	\$ 14,722,073	\$ 4,560,073												\$ 185,541,864
ADDITIONS:																		
CONNECTION & FRONT FOOT FEES		2,169,932	100,825	9,040	22,250													192,610
FIXED ASSET CONTRIBUTIONS		49,915,430	87,092	87,732	279,274	188,775	187,873											3,909,328
PLASTER CREEK INTERCEPTOR																		\$ 189,643,802
GRANT	\$ 2,244,621			1,050,662	295,863	137,326			1,504	23,973	242,778	92,276						
INTERCEPTOR	1,314,819									186,783		719,193						
LIFT STATION	70,753		6,603			1,218		225										
ADJUSTED BY ZONEGATING		49,915,430	23,414,467	24,528,228	18,220,692	15,049,392	4,748,171	208	1,504	210,756	242,778	811,469						\$ 189,643,802
ZONEGATING ADJUSTMENT			13	1,050,662	295,863	138,544	225	208	1,504	210,756	242,778	811,469						\$ -
PHYSICAL LOCATION		49,915,430	23,407,864	23,477,566	17,934,829	14,910,848	4,747,946											\$ 189,643,802

AMORTIZED CONTRIBUTIONS

2015 RATE STUDY (LOCATION)		\$ 43,862,569	\$ 10,869,985	\$ 11,737,085	\$ 7,600,026	\$ 6,156,326	\$ 1,161,595											\$ 126,511,311
CURRENT YEAR ADJUSTMENT		534,594	434,254	466,578	355,904	292,864	93,125											3,272,327
PLASTER CREEK INTERCEPTOR		44,397,163	11,304,239	12,203,663	7,955,930	6,449,190	1,254,720											\$ 129,783,638
GRANT	\$ 1,391,665			651,411	183,435	85,142			932	14,863	150,522	57,211						
INTERCEPTOR	683,706									97,127		373,980						
LIFT STATION	70,753		6,603			1,218	225	208										
ADJUSTED BY ZONEGATING		44,397,163	11,310,842	12,855,074	8,139,365	6,535,550	1,254,945	208	932	111,990	150,522	431,191						\$ 129,783,638
ZONEGATING ADJUSTMENT			7	651,411	183,435	86,360	225	208	932	111,990	150,522	431,191						\$ -
PHYSICAL LOCATION		44,397,163	11,304,239	12,203,663	7,955,930	6,449,190	1,254,720											\$ 129,783,638

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING
FISCAL YEAR ENDED JUNE 30, 2016**

COST CENTER	AMOUNT	RETAIL										WHOLESALE			
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	TOTAL		
CONSTRUCTION COST- BY PHYSICAL LOCATION:															
BY PHYSICAL LOCATION- TASK 11		\$ 408,755,570	\$ 39,295,867	\$ 40,857,010	\$ 21,493,165	\$ 18,346,545	\$ 5,848,892	\$ 125,288	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 708,804,325	
IN SERVICE- TASK 10		10,736,352	680,178	256,174	-	-	-	-	-	-	-	-	-	11,672,704	
MARINE CONNECTOR AGREEMENT		(211,573)	-	-	-	-	-	-	-	-	-	-	-	(805,000)	
SADDLEBACK SEWER		(1,187,160)	-	1,115,707	71,453	-	(515,311)	(78,116)	-	-	-	-	-	(187,348,706)	
TASK 11/16/21- CSO COST		(187,348,706)	-	-	-	-	-	-	-	-	-	-	-	-	
O'BRIEN		(546,532)	546,532	-	-	-	-	-	-	-	-	-	-	-	
VANPORTFLEET / LEONARD HTS		(1,239,326)	1,239,326	-	-	-	-	-	-	-	-	-	-	-	
REMEMBRANCE / 3 MILE		(1,213,244)	1,213,244	-	-	-	-	-	-	-	-	-	-	-	
16th AVENUE		(71,058)	-	-	-	-	-	-	-	-	-	-	-	-	
HAYES- WEST		(141,105)	-	-	-	-	141,105	71,058	-	-	-	-	-	-	
HAYES- EAST		(215,841)	-	-	-	-	215,841	-	-	-	-	-	-	-	
KINGSBURY	\$	(323,154)	323,154	-	-	-	-	-	-	-	-	-	-	-	
MEADOWWOOD TRAILS		(66,841)	-	-	66,841	-	-	-	-	-	-	-	-	-	
OAK HOLLOW		(66,840)	-	-	-	66,840	-	-	-	-	-	-	-	-	
COLLINDALE		(66,840)	-	-	-	-	-	-	-	-	-	-	-	-	
THORNAPPLE		(224,216)	224,216	-	-	-	-	-	-	-	-	-	-	-	
6000 28TH ST		(111,401)	111,401	-	-	-	-	-	-	-	-	-	-	-	
THORNHILLS		(118,407)	118,407	-	-	-	-	-	-	-	-	-	-	-	
ROBINHOOD		(178,399)	-	-	-	178,399	-	-	-	-	-	-	-	-	
CASCADE SPRINGS		(65,478)	-	-	-	-	-	-	-	-	-	-	-	-	
SHOREHAVEN		(72,602)	-	-	-	65,478	-	-	-	-	-	-	-	-	
EAGLECREST		(152,332)	-	-	-	-	-	-	72,602	-	-	-	-	-	
GREENRIER		(48,486)	-	-	-	-	-	-	152,332	-	-	-	-	-	
LINGCOLN SCHOOL		(153,651)	-	-	-	-	-	-	48,486	-	-	-	-	-	
REEDS LAKE		(962,898)	-	-	-	-	-	-	153,651	-	-	-	-	-	
KRAFT		(72,602)	-	-	-	-	-	-	962,898	-	-	-	-	-	
ORCHARD VISTA		(39,712)	-	-	-	-	-	-	72,602	-	-	-	-	-	
BIRD AVE-ALPINE ESTATES		(797,860)	-	-	-	-	-	-	39,712	-	-	-	-	-	
EAST PARIS		(323,478)	-	-	-	-	-	-	797,860	-	-	-	-	-	
SERVICE MAINS		(23,360,181)	(13,840,328)	(19,707,869)	(2,312,401)	(140,457)	(590,665)	-	-	-	-	-	-	(59,951,901)	
LESS- SERVICE MAINS- TOTAL SUBS- PHY. LOC.		12,068,679	10,308,777	7,086,044	393,366	12,418	23,913	-	-	-	-	-	-	29,883,197	
ADD- SERVICE MAINS- TOTAL ADDS- PHY. LOC.		\$ 212,170,678	\$ 39,833,590	\$ 29,607,066	\$ 20,344,240	\$ 20,975,052	\$ 5,123,775	\$ 118,230	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 502,254,618	
TOTAL- PHYSICAL LOCATION COST		\$ 174,081,988	\$ 39,833,590	\$ 29,607,066	\$ 20,344,240	\$ 20,975,052	\$ 5,123,775	\$ 118,230	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 502,254,618	
CONSTRUCTION COST- ZONEGATING:															
LIFT STATIONS / CHAMBERS:															
FULLER-BROOKVIEW	\$	1,252,893	-	(719,774)	-	-	-	-	719,774	-	-	-	-	-	
FULTON- MIDDLEBORROW		37,983	-	(37,983)	-	-	-	-	37,983	-	-	-	-	-	
WEALTHY ST EXT- CHAMBER		468,953	120,351	(135,813)	-	-	15,462	-	-	-	-	-	-	-	
WEALTHY		20,444	6,396	(6,701)	-	-	46	259	-	-	-	-	-	-	
MARKET		12,965,095	1,209,903	(1,512,508)	-	-	41,229	38,117	-	-	-	-	-	-	
VANPORTFLEET / LEONARD HTS		1,239,326	(387,203)	387,203	-	-	-	-	-	-	-	-	-	-	
REMEMBRANCE / 3 MILE		1,213,244	(225,760)	-	-	-	33,801	191,959	-	-	-	-	-	-	
16th AVENUE		(71,058)	-	-	-	-	-	-	-	-	-	-	-	-	
HAYES- WEST		141,105	-	-	-	-	(141,105)	141,105	-	-	-	-	-	-	
HAYES- EAST		215,841	-	-	-	-	-	-	-	-	-	-	-	-	
O'BRIEN		546,532	-	(102,442)	-	-	60,829	-	-	-	-	-	-	-	
SERVICE MAINS- ZONEGATED COST		2,077,397	5,577,413	2,435,510	4,306,526	4,536,217	1,840,110	1,355,482	305,040	253,522	6,405,295	976,207	30,068,719		
TOTAL- ZONEGATED COST		\$ 93,434	\$ 6,198,658	\$ 2,435,510	\$ 4,306,526	\$ 5,517,233	\$ 1,850,372	\$ 1,726,922	\$ 305,040	\$ 253,522	\$ 6,405,295	\$ 976,207	\$ 30,068,719		
GRAND TOTAL- COST		\$ 174,081,988	\$ 212,264,112	\$ 32,042,576	\$ 24,650,766	\$ 26,492,285	\$ 6,974,147	\$ 1,845,152	\$ 305,040	\$ 253,522	\$ 6,405,295	\$ 976,207	\$ 532,323,337		

ACCUMULATED DEPRECIATION- BY PHYSICAL LOCATION:

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED OPERATING EXPENSE ZONEGATING ALLOCATION BY GOVERNMENTAL UNIT - TASK #22
FISCAL YEAR ENDED JUNE 30, 2016**

COST CENTER	ADJUSTED EXPENSE BY COST CENTER	INTEGRATED SYSTEM	RETAIL					WHOLESALE									
			CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP				
WASTEWATER TREATMENT		\$ 14,546,797															
LIFT STATIONS:																	
A. INTERCEPTOR	234,671		21,899	-	65,823	7,224	-	4,041	-	-	690	-	-	-	-	-	-
B. TRUNK	180,201		51,769	-	133,532	50,190	60,215	12,551	-	746	-	-	-	-	-	-	-
C. LOCAL COLLECTOR	536,616		78,750	-	397,578	248,481	166,735	154,336	23,695	4,384	34,903	-	-	6,692	-	-	-
SEWER LINES:																	
A. INTERCEPTOR	262,483		152,184	37,252	65,823	7,224	-	-	-	-	-	-	-	-	-	-	-
B. TRUNK	568,729		195,359	143,883	133,532	50,190	50,190	29,864	15,253	648	648	-	-	-	-	-	-
C. LOCAL COLLECTOR	4,091,572		2,556,251	505,759	397,578	248,481	248,481	312,923	46,317	24,263	24,263	-	-	-	-	-	-
D. ZONEGATING			(99,893)	10,674	(22,318)	19,838	19,838	29,488	(5,768)	17,089	17,089	-	-	2,803	28,248	10,782	-
BULK METERING STATIONS	3,248		-	-	2,150	-	-	-	-	-	-	-	601	-	211	286	-
CUSTOMER ACCOUNTING *	2,646,822		2,066,744	200,444	163,838	68,182	68,182	132,712	6,723	8,179	8,179	-	-	-	-	-	-
INDUSTRIAL PRETREATMENT	633,875																
		633,875															
SUBTOTAL OPERATING EXPENSE	23,705,015	15,180,672	5,207,972	1,043,185	740,603	620,865	620,865	675,915	91,350	85,772	85,772	2,803	35,151	11,068			
ADMINISTRATIVE EXPENSE	4,096,756	2,586,305	945,447	177,725	126,175	105,776	105,776	115,155	15,563	14,613	14,613	477	5,989	1,886			
TOTAL	\$ 27,801,770	\$ 17,766,977	\$ 6,153,419	\$ 1,220,910	\$ 866,778	\$ 726,641	\$ 726,641	\$ 791,070	\$ 106,913	\$ 100,385	\$ 100,385	\$ 3,280	\$ 41,140	\$ 12,954			

* Reflects adjustment for circuit breaker provisions per the third amendment to W/S service agreements.

METHOD OF DISTRIBUTION

WASTEWATER TREATMENT		100.000%																
LIFT STATIONS:	(53)																	
A. INTERCEPTORS	(1)	100.000%	(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. TRUNK	(7)	100.000%	(3)	(3)	-	(1)	-	-	-	-	-	-	-	-	-	-	-	-
C. LOCAL	(45)	100.000%	(9)	(3)	-	(9)	-	(17)	(5)	(1)	-	-	(1)	-	-	-	-	-
SEWER LINES:																		
TOTAL MILES:	913.18																	
A. INTERCEPTOR	48.69	100.000%	57,979%	14,192%	25,077%	2,752%	2,752%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
MILES			28.23	6.91	12.21	1.34	1.34	-	-	-	-	-	-	-	-	-	-	-
B. TRUNK LINES	105.50	100.000%	34,350%	25,299%	23,479%	8,825%	8,825%	5,251%	2,682%	0.114%	0.114%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
MILES			36.24	26.69	24.77	9.31	9.31	5.54	2.83	0.12	0.12	-	-	-	-	-	-	
C. LOCAL COLLECTOR	758.99	100.000%	62,476%	12,361%	9,717%	6,073%	6,073%	7,648%	1,132%	0.593%	0.593%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
MILES			474.19	93.82	73.75	46.09	46.09	58.05	8.59	4.50	4.50	-	-	-	-	-	-	
D. ZONEGATING			(18.53)	1.98	(4.14)	3.68	3.68	5.47	(1.07)	3.17	3.17	0.52	5.24	2.00				
MILES			(1)	-	(1)	-	-	-	-	-	-	-	(1)	(1)				
BULK METERING STATIONS	(4)																	
CUSTOMER ACCTG (1)		100.000%	78,084%	7,573%	6,190%	2,576%	2,576%	5,014%	0.254%	0.309%	0.309%	0.254%	0.254%	0.254%	0.254%	0.254%	0.254%	
NO. OF METERS	74,685.00		58,316.00	5,656.00	4,623.00	1,924.00	1,924.00	3,745.00	190.00	231.00	231.00	190.00	190.00	190.00	190.00	190.00	190.00	
INDUSTRIAL PRETREATMENT		100.000%																
ADMINISTRATIVE EXPENSE (2)		100.000%	23,078%	4,338%	3,080%	2,582%	2,582%	2,811%	0.380%	0.357%	0.357%	0.012%	0.146%	0.046%	0.046%	0.046%	0.046%	

NOTES:

- (1) MAINTENANCE & COLLECTION COSTS ARE ALLOCATED ON THE NUMBER OF METERS, INCLUSIVE OF USERS FOR WRIGHT TWP.
- (2) ALLOCATED ON DIRECT OPERATING EXPENSE, ADJUSTED FOR ANY COST ASSIGNABLE EXCLUSIVELY TO GR OR RETAIL COMMUNITIES, IF APPLICABLE.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 23**

ASSIGN OTHER OPERATING REVENUES TO EACH GOVERNMENTAL ENTITY.

BASIS OF ALLOCATION: RETAIL BILLINGS BY GOVERNMENTAL ENTITY - TASK NO. 6 & 7

	<u>RETAIL BILLINGS</u>	<u>PERCENTAGE OF TOTAL</u>	<u>ALLOCATION *</u>
CITY OF GRAND RAPIDS	\$ 33,766,237	70.8799%	\$ 325,961
CITY OF WALKER	4,751,120	9.9732%	45,865
CITY OF KENTWOOD	3,848,215	8.0779%	37,149
CASCADE TOWNSHIP	2,290,821	4.8087%	22,114
GRAND RAPIDS TOWNSHIP	2,354,893	4.9432%	22,733
TALLMADGE TOWNSHIP	361,551	0.7589%	3,490
WRIGHT TOWNSHIP	265,900	0.5582%	2,567
	<u>\$ 47,638,737</u>	<u>100.0000%</u>	<u>\$ 459,879</u>

** Reflects adjustment for circuit breaker provisions per 3rd amendment of W/S agreements*

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ASSIGN DEPRECIATION EXPENSE TO CUSTOMER COMMUNITIES - TASK NO. 24
FISCAL YEAR ENDED JUNE 30, 2016

COST CENTER BY PHYSICAL LOCATION- TASK 11	DEPRECIATION EXPENSE	RETAIL										WHOLESALE					TOTAL
		CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CITY OF CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	TOTAL				
ADD-IN SERVICE- TASK 10		\$ 8,019,238	\$ 898,149	\$ 809,918	\$ 447,912	\$ 388,348	\$ 114,953	\$ 2,509	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,545,171	
MARINE CONNECTOR AGREEMENT		214,728	13,604	5,124	-	-	-	-	-	-	-	-	-	-	-	233,456	
SADDLEBACK SEWER		(4,785)														(16,655)	
LESS: TASK 11/1/021-CSO DEP. EXP.		(3,781,513)		22,313	1,429		(10,307)	(1,563)								23,742	
LIFT STATIONS / CHAMBERS:																(3,781,513)	
FULLER-BROOKVIEW (GR)	\$ 26,326																
FULTON- MIDDLEBORO (GR)	183	(15,124)				15,124											
WEALTHY ST EXT. CHAMBER	11,321	(183)				183											
MARKET	500,258	(3,350)	2,969			381											
VANPORTFLIET	34,991	(58,360)	46,684			8,614		1,471									
REMEMBRANCE / 3 MILE	62,642	10,932	(10,932)														
O'BRIEN	12,023	915	(2,253)					9,911									
KINGSBURY	10,772							1,338									
MEADOWOOD TRAILS	2,228																
OAK HOLLOW	2,228																
COLLINDALE	2,228																
THORNAPPLE	7,474																
6000 28TH ST	3,713																
THORNHILLS	3,947																
ROBINHOOD	5,947																
CASCADE SPRINGS	2,183																
SHOREHAVEN	2,420																
EAGLECREST	5,078																
GREENBRIER	1,616																
LINCOLN SCHOOL	5,121																
REEDS LAKE	24,979																
KRAFT	2,420																
ORCHARD VISTA	1,324																
16TH AVE	1,570	(1,570)															
HAYES- WEST	3,190	(3,190)															
HAYES- EAST	4,421	(4,421)															
BIRD AVE-ALPINE ESTATES	23,258	(23,258)															
EAST PARIS	10,783	(10,783)															
SERVICEMANS		(159,120)	33,127	(210,691)	45,806	83,703	25,408	26,914	4,511	4,913	126,511	18,918					
ADJUSTED BY ZONEGATING		4,180,156	969,692	626,664	495,147	530,013	139,630	44,002	4,511	4,913	126,511	18,918					
LESS CONTRIBUTIONS AMORTIZED		(534,594)	(434,254)	(452,194)	(355,904)	(292,864)	(93,125)	-	-	-	-	(14,364)					
TASK NO. 21		\$ 1,329,550	\$ 3,085,148	\$ 174,470	\$ 139,243	\$ 237,149	\$ 46,405	\$ 44,002	\$ 4,511	\$ 4,913	\$ 126,511	\$ 4,534					
TOTAL		\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	\$ 1,864,144	

CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ACCUMULATE REVENUE REQUIREMENTS BY CUSTOMER COMMUNITIES - TASK NO. 25
FISCAL YEAR ENDED JUNE 30, 2016

	RETAIL										WHOLESALE					TOTAL
	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP		
COST CENTER																
OPERATION & MAINTENANCE																
EXPENSE - TASK NO. 22	\$ 17,766,977	\$ 6,153,419	\$ 1,220,910	\$ 866,778	\$ 726,641	\$ 791,070	\$ 106,913	\$ 100,385	\$ 11,303	\$ 3,280	\$ 41,140	\$ 12,954	\$ 27,801,770			
DEPRECIATION EXPENSE	1,329,550	3,085,148	535,438	174,470	139,243	237,149	46,405	44,002	4,511	4,913	126,511	4,534	5,731,874			
TASK NO. 24	2,835,150	6,539,743	850,896	284,915	347,337	517,583	126,899	99,936	5,979	870	383,493	2,004	11,994,805			
RETURN ON SYSTEM INVESTMENT		(325,961)	(45,865)	(37,149)	(22,114)	(22,733)	(3,490)	(2,567)					(459,879)			
TASK NO. 21		9,007,175											9,007,175			
REVENUE CREDITS - TASK NO. 23		(1,852,980)	(312,789)	(416,434)	(193,160)	(137,514)	(18,188)	(10,074)	(93,835)	(17,700)	(116,441)	-	(3,169,115)			
CSO DEBT SERVICE REQUIREMENTS		12,720,629	2,147,286	2,858,806	1,326,036	944,030	124,861	69,157	644,173	121,511	799,362	175,826	(614,492)			
ALLOCATE:		(571,766)						(36,726)					108,205			
INTEGRATED SYSTEM CREDITS																
INTEGRATED SYSTEM (A)																
LESS: CIRCUIT BREAKER (B)																
CAPITAL INVESTMENT REIMBURSEMENT (C)																
	\$ -	\$ 34,749,408	\$ 4,395,876	\$ 3,839,591	\$ 2,323,983	\$ 2,329,585	\$ 383,400	\$ 264,113	\$ 572,131	\$ 112,874	\$ 1,234,065	\$ 195,318	\$ 50,400,344			

(A) ALLOCATED TO CUSTOMER COMMUNITIES UNDER OLD CONTRACT BASIS OF PLANT FLOW. REMAINING ALLOCATION TO UAB PARTNERS UNDER UNIFORM SERVICE AGREEMENTS BASED ON PLANT FLOW & LAND, AS NOTED BELOW
 (B) PURSUANT TO CITY AND CUSTOMER COMMUNITY CIRCUIT BREAKER, AS PROVIDED FOR BY THE THIRD AMENDMENT TO THE UNIFORM SERVICE AGREEMENTS
 (C) PER COMMISSION APPROVED PAYBACK AGREEMENT, THE CITY OF KENTWOOD IS FINANCING THE PAYBACK OF A LOAN THROUGH THE SEWER SYSTEM ENTERPRISE FUND OVER FOUR YEARS BEGINNING WITH THE 2015 RATE STUDY

	RETAIL										WHOLESALE					TOTAL
	CITY OF GR	CITY OF WALKER	CITY OF KENTWOOD	CASCADE TOWNSHIP	GR TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP	CITY OF EAST GR	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP	CALEDONIA TOWNSHIP	ADA TOWNSHIP	GAINES TOWNSHIP		
OLD METHOD - PLANT FLOW																
NEW METHOD - PLANT FLOW / LAND	\$ 12,720,629	\$ 2,147,286	\$ 2,858,806	\$ 1,326,036	\$ 944,030	\$ 124,861	\$ 69,157	\$ 644,173	\$ 121,511	\$ 799,362	\$ 175,826	\$ 21,755,851				
	\$ 12,720,629	\$ 2,147,286	\$ 2,858,806	\$ 1,326,036	\$ 944,030	\$ 124,861	\$ 69,157	\$ 644,173	\$ 121,511	\$ 799,362	\$ 175,826	\$ 21,931,677				

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 25a**

REVIEW THE REVENUE REQUIREMENTS TO ASSURE COMPLIANCE WITH THE APPLICABLE BOND ORDINANCE PROVISIONS.

	YEAR ENDED 6/30/16	PRO FORMA *
REVENUES:		
RETAIL/WHOLESALE SEWAGE SERVICE	\$ 49,693,203	\$ 50,222,000
CONNECTION FEES/FRONT FOOT FEES	1,238,936	1,096,993
SEWAGE SURCHARGES	2,122,789	1,763,068
OTHER OPERATING REVENUES	895,623	797,005
INTEREST ON INVESTMENTS	398,387	296,554
MISCELLANEOUS	120,267	20,000
TOTAL REVENUES	\$ 54,469,205	\$ 54,195,620
OPERATING EXPENSES:		
OPERATIONS & MAINTENANCE	\$ 28,251,304	\$ 27,040,246
DEPRECIATION	14,440,267	14,440,267
TOTAL EXPENSES	\$ 42,691,571	\$ 41,480,513
ADDITIONS: DEPRECIATION	14,440,267	14,440,267
NET EARNINGS OF THE SYSTEM	\$ 26,217,901	\$ 27,155,374
DEBT SERVICE		
SERIES 2016 BONDS	\$ -	\$ 1,991,426
SERIES 2014 BONDS	3,458,900	3,465,100
SERIES 2013 BONDS	2,028,800	2,036,200
SERIES 2012 BONDS	2,163,300	2,163,600
SERIES 2010A&B BONDS (after BAB subsidy)	1,252,670	1,255,920
SERIES 2010 BONDS	1,481,250	1,481,250
SERIES 2008 BONDS	4,394,113	1,676,150
SERIES 1998 BONDS	4,404,006	4,400,875
SENIOR LIEN	19,183,039	18,470,522
JUNIOR LIEN **	1,111,688	952,219
TOTAL	\$ 20,294,726	\$ 19,422,741
COVERAGE RATIO - SENIOR DEBT	1.37	1.47
COVERAGE RATIO - ALL DEBT	1.29	1.40

* SEWAGE SERVICE ADJUSTED FOR RATE REVISIONS OF 0.30% AND 0.36% EFFECTIVE 1/1/16 AND 1/1/17, RESPECTIVELY; OTHER REVENUES AND OPERATIONS & MAINTENANCE EXPENSE PER 2017 FISCAL PLAN, ADJUSTED FOR CARRYFORWARDS.

** AMOUNTS IN PRO FORMA ARE BASED ON MAXIMUM PRINCIPAL AND DO NOT INCLUDE PRINCIPAL FORGIVENESS IF NOT YET FINALIZED.

SUMMARY

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

INITIAL SYSTEM REVENUE REQUIREMENTS		\$ 50,906,631
REVENUES FROM CURRENT RATES		
REU CHARGE	\$ 246,909	
MONTHLY METER CHARGE	15,964,704	
MONTHLY BILLING CHARGE	3,776,947	
COMMODITY CHARGE	<u>30,232,118</u>	<u>(50,220,678)</u>
INITIAL REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 685,953</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>1.37%</u>
INITIAL SYSTEM REVENUE REQUIREMENTS FROM ABOVE		\$ 50,906,631
LESS: AMOUNT OF CIRCUIT BREAKER RELIEF TO REDUCE RR's TO RETAIL		(614,492)
PLUS: CAPITAL INVESTMENT REIMBURSEMENT (KENTWOOD)		108,205
SYSTEM REVENUE REQUIREMENTS		<u>\$ 50,400,344</u>
ACTUAL REQUIRED AMOUNT OF REVENUE INCREASE (DECREASE)		<u>\$ 179,666</u>
ACTUAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>0.36%</u>

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 26**

METER SIZE	EQUIV. FACTOR	CITY OF GR		CITY OF WALKER		CITY OF KENTWOOD		CASCADE TWP		GR TWP		TALLMADGE TWP		WRIGHT TWP	
		METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	METERS*	EQUIV.	USERS*	REU
A 3/4" or less	1.0000	54,319	54,319	5,063	5,063	3,600	3,600	1,451	1,451	3,384	3,384	163	163	-	-
B 1"	1.7778	2,229	3,963	348	619	476	846	246	437	241	428	14	25	-	-
C 1 1/4"	2.7778	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D 1 1/2"	4.0000	901	3,604	147	588	318	1,272	153	612	77	308	6	24	-	-
E 2"	7.1111	676	4,807	79	562	189	1,344	62	441	29	206	3	21	-	-
F 3"	16.0000	88	1,408	6	96	19	304	8	128	6	96	2	32	-	-
G 4"	28.4444	77	2,190	7	199	16	455	3	85	3	85	-	-	-	-
H 6" and over	64.0000	26	1,664	6	384	5	320	1	64	5	320	2	128	-	-
Other- Wright Twp		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	231	422.500
TOTAL		58,316	71,955	5,656	7,511	4,623	8,141	1,924	3,218	3,745	4,827	190	393	231	422.500
															<u>74,685</u>

* Source: City of Grand Rapids, Michigan, Water/Sewer Customer Accounts/Meters Report, dated October 31, 2016.

CITY OF GRAND RAPIDS, MICHIGAN

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

SYSTEM REVENUE REQUIREMENTS * \$ 34,749,408

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

71,955 meter equivalents x \$ 12.31 x 12 = \$ 10,629,193

MONTHLY BILLING CHARGE

58,316 meters x \$ 3.62 x 12 = 2,533,247

COMMODITY CHARGE

6,491,565 units (100 CF) x \$ 3.22 = 20,902,839 (34,065,279)

REQUIRED REVENUE INCREASE (DECREASE) \$ 684,129

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 2.01%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 577,766

CITY OF GRAND RAPIDS, MICHIGAN

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

COMMODITY CHARGE:

$$\frac{\text{INTEGRATED SYSTEM COST}}{\text{BILLED UNITS}} = \frac{\$21,727,804}{6,491,565} = \underline{\underline{\$ 3.35 /100 CF *}}$$

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS ** \$ 34,749,408

NEW COMMODITY CHARGE
6,491,565 x \$ 3.35 \$ 21,746,743

NEW MONTHLY BILLING CHARGE
58,316 x \$ 2.95 x 12 2,064,386 (23,811,129)

\$ 10,938,279

$$\text{MONTHLY METER CHARGE} = \frac{\$10,938,279}{71,955 \times 12} = \underline{\underline{\$ 12.67 \text{ MONTHLY}}}$$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 12.67	\$ 2.95	\$ 15.62	\$ 15.93
1"	1.7778	22.52	2.95	25.47	25.50
1 1/4"	2.7778	35.19	2.95	38.14	37.81
1 1/2"	4.0000	50.68	2.95	53.63	52.86
2"	7.1111	90.10	2.95	93.05	91.16
3"	16.0000	202.72	2.95	205.67	200.58
4"	28.4444	360.39	2.95	363.34	353.77
6" and over	64.0000	810.88	2.95	813.83	791.46

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2017

**REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 577,766

CITY OF WALKER, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS		\$ 4,395,876
REVENUES FROM CURRENT RATES		
MONTHLY METER CHARGE		
7,511 meter equivalents	x \$ 26.22	x 12 = \$ 2,363,261
MONTHLY BILLING CHARGE		
5,656 meters	x \$ 3.62	x 12 = 245,697
COMMODITY CHARGE		
830,025 units (100 CF)	x \$ 2.67	= <u>2,216,167</u>
		<u>(4,825,125)</u>
REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ (429,249)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u><u>-8.90%</u></u>

CITY OF KENTWOOD, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS		\$	3,839,591
REVENUES FROM CURRENT RATES			
MONTHLY METER CHARGE			
8,141 meter equivalents	x	\$ 3.71	x 12 = \$ 362,437
MONTHLY BILLING CHARGE			
4,623 meters	x	\$ 3.62	x 12 = 200,823
COMMODITY CHARGE			
1,372,128 units (100 CF)	x	\$ 2.46	= <u>3,375,435</u>
			<u>(3,938,695)</u>
REQUIRED REVENUE INCREASE (DECREASE)		\$	<u>(99,104)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>-2.52%</u>
REFLECTS CAPITAL INVESTMENT REIMBURSEMENT, IN THE AMOUNT OF		\$	108,205

CASCADE TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS \$ 2,323,983

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

3,218 meter equivalents x \$ 28.33 x 12 = \$ 1,093,991

MONTHLY BILLING CHARGE

1,924 meters x \$ 3.62 x 12 = 83,579

COMMODITY CHARGE

433,461 units (100 CF) x \$ 2.62 = 1,135,668 (2,313,238)

REQUIRED REVENUE INCREASE (DECREASE) \$ 10,745

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 0.46%

CASCADE TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.63 /100 CF *
 \$ 2.62 x 100.46%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS		\$ 2,323,983
NEW COMMODITY CHARGE		
433,461 x \$ 2.63		\$ 1,140,002
NEW MONTHLY BILLING CHARGE		
1,924 x \$ 2.95 x 12	68,110	(1,208,112)
		<u>\$ 1,115,871</u>

MONTHLY METER CHARGE = $\frac{\$1,115,871}{3,218 \times 12}$ = \$ 28.90 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 28.90	\$ 2.95	\$ 31.85	\$ 31.95
1"	1.7778	51.38	2.95	54.33	53.99
1 1/4"	2.7778	80.28	2.95	83.23	82.32
1 1/2"	4.0000	115.60	2.95	118.55	116.94
2"	7.1111	205.51	2.95	208.46	205.08
3"	16.0000	462.40	2.95	465.35	456.90
4"	28.4444	822.04	2.95	824.99	809.45
6" and over	64.0000	1,849.60	2.95	1,852.55	1,816.74

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2017

GRAND RAPIDS TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS \$ 2,329,585

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

4,827 meter equivalents x \$ 23.69 x 12 = \$ 1,372,220

MONTHLY BILLING CHARGE

3,745 meters x \$ 3.62 x 12 = 162,683

COMMODITY CHARGE

383,984 units (100 CF) x \$ 2.33 = 894,683 (2,429,586)

REQUIRED REVENUE INCREASE (DECREASE) \$ (100,001)

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES -4.12%

TALLMADGE TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS		\$	383,400
REVENUES FROM CURRENT RATES			
MONTHLY METER CHARGE			
393 meter equivalents	x	\$ 30.45	x 12 = \$ 143,602
MONTHLY BILLING CHARGE			
190 meters	x	\$ 3.62	x 12 = 8,254
COMMODITY CHARGE			
21,363 units (100 CF)	x	\$ 10.72	= <u>229,011</u>
			<u>(380,867)</u>
REQUIRED REVENUE INCREASE (DECREASE)		\$	<u><u>2,533</u></u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u><u>0.67%</u></u>

WRIGHT TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS \$ 264,113

REVENUES FROM CURRENT RATES

REU CHARGE

422.500 meter equivalents x \$ 48.70 x 12 = \$ 246,909

MONTHLY METER CHARGE

422.500 meter equivalents x \$ - x 12 = -

MONTHLY BILLING CHARGE

231 meters x \$ - x 12 = -

COMMODITY CHARGE

21,632 units (100 CF) x \$ - = - (246,909)

REQUIRED REVENUE INCREASE (DECREASE) \$ 17,204

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 6.97%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 36,726

WRIGHT TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

MONTHLY REU CHARGE:

$$\frac{\text{SYSTEM REVENUE REQUIREMENTS **}}{\text{TOTAL REU'S * 12 MONTHS}} = \frac{\$264,113}{422.500 \times 12} = \$ \underline{\underline{52.09}} \quad \text{MONTHLY REU CHARGE *}$$

EXAMPLES OF APPROXIMATE MONTHLY CHARGE BY NUMBER OF REU:

<u>NUMBER OF REU</u>	<u>AMOUNT</u>	<u>NUMBER OF REU</u>	<u>AMOUNT</u>	<u>NUMBER OF REU</u>	<u>AMOUNT</u>
1.0000	\$ 52.09	7.5000	\$ 390.68	19.0000	\$ 989.71
1.5000	78.14	8.0000	416.72	20.0000	1,041.80
2.0000	104.18	8.5000	442.77	25.0000	1,302.25
2.5000	130.23	9.0000	468.81	30.0000	1,562.70
3.0000	156.27	9.5000	494.86	35.0000	1,823.15
3.5000	182.32	10.0000	520.90	40.0000	2,083.60
4.0000	208.36	11.0000	572.99	50.0000	2,604.50
4.4000	229.20	12.0000	625.08	60.0000	3,125.40
4.5000	234.41	13.0000	677.17	70.0000	3,646.30
5.0000	260.45	14.0000	729.26	80.0000	4,167.20
5.5000	286.50	15.0000	781.35	90.0000	4,688.10
6.0000	312.54	16.0000	833.44	100.0000	5,209.00
6.5000	338.59	17.0000	885.53	150.0000	7,813.50
7.0000	364.63	18.0000	937.62	200.0000	10,418.00

*NEW RATES EFFECTIVE ON JANUARY 1, 2017

**REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 36,726

CITY OF EAST GRAND RAPIDS, MICHIGAN

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26**

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$	550,338
COMMODITY CHARGE			
326.789 units	x	\$	1,649.00
			538,875
			<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$	<u>11,463</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$	21,793
MONTHLY SERVICE CHARGE			
\$1,306	x		12 MONTHS
			15,672
			<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$	<u>6,121</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>3.17%</u>

CITY OF EAST GRAND RAPIDS, MICHIGAN

**SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27**

SYSTEM REVENUE REQUIREMENTS	\$ 572,131
NEW COMMODITY CHARGE *	
326.789 x \$ 1,684.00 =	(550,313)
	<hr/>
	<u>\$ 21,818</u>

MONTHLY SERVICE CHARGE * = \$ 21,818 / 12 = \$1,818

* NEW RATES EFFECTIVE ON JANUARY 1, 2017

CALEDONIA TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 103,811
COMMODITY CHARGE		
25.698 units x \$ 3,541.00		90,997
		90,997
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 12,814
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 9,063
MONTHLY SERVICE CHARGE		
\$523 x 12 MONTHS		6,276
		6,276
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ 2,787
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		16.04%

CALEDONIA TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

SYSTEM REVENUE REQUIREMENTS	\$ 112,874
NEW COMMODITY CHARGE * 25.698 x \$ 4,040.00 =	(103,820)
	<hr/>
	<u>\$ 9,054</u>

MONTHLY SERVICE CHARGE * = \$ 9,054 / 12 = \$755

* NEW RATES EFFECTIVE ON JANUARY 1, 2017

ADA TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 682,921
COMMODITY CHARGE		
337.517 units x \$ 2,005.00		676,722
		676,722
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 6,199
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 551,144
MONTHLY SERVICE CHARGE		
\$42,300 x 12 MONTHS		507,600
		507,600
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ 43,544
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		4.20%

ADA TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

SYSTEM REVENUE REQUIREMENTS	\$ 1,234,065
NEW COMMODITY CHARGE *	
337.517 x \$ 2,023.00 =	(682,797)
	<hr/>
	<u><u>\$ 551,268</u></u>

MONTHLY SERVICE CHARGE * = \$551,268 / 12 = \$45,939

* NEW RATES EFFECTIVE ON JANUARY 1, 2017

GAINES TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 175,826
COMMODITY CHARGE		
118.674 units x \$ 1,447.00		171,721
		171,721
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 4,105
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 19,492
MONTHLY SERVICE CHARGE		
\$1,093 x 12 MONTHS		13,116
		13,116
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ 6,376
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		5.67%

GAINES TOWNSHIP
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
RATE ANALYSIS - TASK NO. 27

SYSTEM REVENUE REQUIREMENTS	\$ 195,318
NEW COMMODITY CHARGE *	
118.674 x \$ 1,482.00 =	(175,875)
	<hr/>
	<u>\$ 19,443</u>

MONTHLY SERVICE CHARGE * = \$ 19,443 / 12 = \$1,620

* NEW RATES EFFECTIVE ON JANUARY 1, 2017

SEWER RATE STUDY
 SEWAGE DISPOSAL SYSTEM FUND
 RE-EVALUATE FRONT FOOT CHARGES
 TASK NO. 28

The City Engineer's Office has reviewed current construction costs for sewer facilities and recommends the following front foot assessment rates:

	<u>2016</u>	<u>2017</u>	<u>% Increase</u>
Domestic Sewer User	\$ 94.00	\$ 90.00	-4.26%
Commercial - Industrial User (Sewer over 8 in. diameter)	\$ 130.00	\$ 145.00	11.54%

The rates are based on an average of prices quoted in bid proposals which have been received by the City Engineer's Office during the period July, 2015 through June, 2016. Calculations of the rates are on file in the City Engineer's Office.

SEWER RATE STUDY
 SEWAGE DISPOSAL SYSTEM FUND
 EVALUATE SEWER LATERAL CHARGES
 TASK NO. 29

The City Engineer's Office has evaluated the cost for a six inch (6") sanitary sewer lateral and recommends that sewer lateral costs should be as follows:

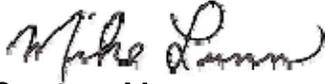
<u>R.O.W. WIDTH</u>	<u>COST FOR 6-INCH LATERAL</u>		
	<u>2016</u>	<u>2017</u>	<u>% Increase</u>
50 ft.	\$2,350	\$2,300	-2.13%
60 ft.	\$2,750	\$2,700	-1.82%
66 ft.	\$3,000	\$2,900	-3.33%
80 ft.	\$3,600	\$3,500	-2.78%
100 ft.	\$4,400	\$4,300	-2.27%

MEMORANDUM

CITY OF GRAND RAPIDS

Date: October 3, 2016

To: Molly Eastman
Utility Financial Officer

From: Michael Lunn 
Environmental Services Manager

Subject: Sewer Rate Study – Task #30 - Surcharges

The Wastewater Treatment plant has a limited amount of capacity which is typically allocated to industries having discharges exceeding ordinance limits. These industries are charged for utilizing this remaining plant capacity in four categories of conventional pollutants. These pollutants are: 1) Biochemical Oxygen Demand (BOD); 2) Total Suspended Solids (TSS); 3) Total Phosphorus (Phos); 4) and Ammonia Nitrogen (NH₃). This benefits the industries in that it reduces their pretreatment requirements and benefits the system by utilizing available system capacity.

As shown on the attached sheets, the surcharge methodology includes evaluating various cost centers at the Wastewater Treatment plant and allocating costs based on unit process operating cost. Cumulative costs can then be allocated to the four conventional pollutant categories identified above to determine appropriate surcharge rates.

City of Grand Rapids Michigan
Sewage Disposal System Fund
Evaluation of Wastewater Surcharges for Industrial Customers- BOD, TSS, Phos & NH3
TASK NO. 30- Part 1

Description	Rate Study Year		Wastewater Surcharges						
	2016	2017	Volume	BOD	TSS	Phos	NH3	Industrial	Other
Operation & Maintenance (See Part 2)	\$ 26,909,283	\$ 26,909,283	\$ 3,907,264	\$ 4,186,466	\$ 5,124,588	\$ 886,828	\$ 441,651	\$ 696,341	\$ 11,666,145
Depreciation (See Part 3)	5,731,874	5,731,874	357,131	382,631	468,374	81,049	40,365	-	4,402,324
Return on System Investment (See Part 3)	11,994,805	11,994,805	761,549	815,928	998,767	172,831	86,075	-	9,159,655
Total	\$ 44,635,963	\$ 44,635,963	\$ 5,025,944	\$ 5,385,025	\$ 6,591,729	\$ 1,140,708	\$ 568,091	\$ 696,341	\$ 25,228,124

Recommended Surcharge Rate - 2017

\$ 0.240 \$ 0.408 \$ 2.216 \$ 0.228

Actual Surcharge Rate - 2016

\$ 0.236 \$ 0.408 \$ 2.301 \$ 0.263

Change in Surcharge Rate - Amount- 2016 to 2017

\$ 0.004 \$ - \$ (0.085) \$ (0.035)

Change in Surcharge Rate - Percent- 2016 to 2017

1.69% 0.00% -3.69% -13.31%

Loadings - lb/day (Per Lunn) *

22,397,130 16,158,185 514,650 2,493,680

61,362 44,269 1,410 6,832

* Loadings are the average of the last three years.

Task No. 30 - Part 2

City of Grand Rapids Michigan
Sewage Disposal System Fund
Evaluation of High Strength Surcharges- BOD, TSS, Phos & NH3
Allocation of Operation & Maintenance Expense & Determination of WWTP Allocation Factors

	Primary Allocation		Allocation Basis	Line No. Ref.	Component Allocation (3)								
	Base Year- 2016	Calendar Year- 2017			BOD	TSS	Phos	NH3	Industrial	Other			
Wastewater Treatment Plant													
Pre-Treatment	\$ 855,600	\$ 995,040	WWTP	(1)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Primary Treatment	1,304,927	1,517,595	WWTP	(2)	455,278	910,557	-	151,760	-	-	-	-	-
Secondary Treatment	2,429,163	2,825,051	WWTP	(3)	1,130,020	423,758	423,758	141,253	-	-	-	-	-
Disinfection/Dechlorination	987,418	1,148,340	WWTP	(4)	-	-	-	-	-	-	-	-	-
Phosphorus Removal	540,737	628,863	WWTP	(5)	-	-	314,432	-	-	-	-	-	-
Residue Handling/Disposal	6,390,440	7,431,908	WWTP	(6)	2,601,168	3,790,273	148,638	148,638	-	-	-	-	-
	<u>\$ 12,508,285</u>	<u>\$ 14,546,797</u>			<u>\$ 4,186,466</u>	<u>\$ 5,124,588</u>	<u>\$ 886,828</u>	<u>\$ 441,651</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Lift Stations													
Interceptor		231,091	Collection	(11)	-	-	-	-	-	-	-	-	231,091
Trunk		130,074	Collection	(11)	-	-	-	-	-	-	-	-	130,074
Local Collector		458,437	Collection	(11)	-	-	-	-	-	-	-	-	458,437
Sewer Lines													
Interceptor		282,063	Collection	(11)	-	-	-	-	-	-	-	-	282,063
Trunk		609,956	Collection	(11)	-	-	-	-	-	-	-	-	609,956
Local Collector		4,394,018	Collection	(11)	-	-	-	-	-	-	-	-	4,394,018
Bulk Meter Stations		6,800	Collection	(7)	-	-	-	-	-	-	-	-	6,800
Customer Accounting		3,235,618	Admin	(8)	-	-	-	-	-	-	-	-	3,235,618
Industrial Pretreatment		696,341	Industry	(9)	-	-	-	-	-	696,341	-	-	-
Subtotal	\$ 24,591,195	\$ 24,591,195			\$ 4,186,466	\$ 5,124,588	\$ 886,828	\$ 441,651	\$ 696,341	\$ 696,341	\$ -	\$ 9,348,057	
Admin		2,318,088	Admin	(10)	-	-	-	-	-	-	-	-	2,318,088
Total	<u>\$ 26,909,283</u>	<u>\$ 26,909,283</u>			<u>\$ 4,186,466</u>	<u>\$ 5,124,588</u>	<u>\$ 886,828</u>	<u>\$ 441,651</u>	<u>\$ 696,341</u>	<u>\$ 696,341</u>	<u>\$ -</u>	<u>\$ 11,666,145</u>	
WWTP Allocation Factors		100.000%			28.779%	35.228%	6.096%	3.036%	0.000%	0.000%	0.000%	0.000%	0.000%

(1) Per Lunn 080816.

(2) Primary Allocation of Current Year for Calendar 2017, based on 2016 Base Year.

(3) - (11) Refer to Task 30- Part 4 as noted.

Task No. 30 - Part 3

**City of Grand Rapids Michigan
Sewage Disposal System Fund
Evaluation of High Strength Surcharges- BOD, TSS, Phos & NH3
Allocation of Depreciation Expense & Return on System Investment**

Depreciation Expense- Task 24

Description	Amount	Volume	Wastewater Surcharges				Industrial	Other
			BOD	TSS	Phos	NH3		
Integrated System (1)	\$ 1,329,550	\$ 357,131	\$ 382,631	\$ 468,374	\$ 81,049	\$ 40,365	\$ -	\$ -
Other	4,402,324	-	-	-	-	-	4,402,324	-
Total	\$ 5,731,874	\$ 357,131	\$ 382,631	\$ 468,374	\$ 81,049	\$ 40,365	\$ 4,402,324	\$ 4,402,324

Return on System Investment- Task 21

Description	Amount	Volume	Wastewater Surcharges				Industrial	Other
			BOD	TSS	Phos	NH3		
Integrated System (1)	\$ 2,835,150	\$ 761,549	\$ 815,928	\$ 998,767	\$ 172,831	\$ 86,075	\$ -	\$ -
Other	9,159,655	-	-	-	-	-	9,159,655	-
Total	\$ 11,994,805	\$ 761,549	\$ 815,928	\$ 998,767	\$ 172,831	\$ 86,075	\$ 9,159,655	\$ 9,159,655

(1) Allocated on WWTP Allocation Factors * 26.8610% 28.7790% 35.2280% 6.0960% 3.0360%

*** Refer to Task No. 30 - Part 2**

Task No. 30 - Part 4

City of Grand Rapids Michigan
 Sewage Disposal System Fund
 Evaluation of High Strength Surcharges- BOD, TSS, Phos & NH3
 Functional Cost Allocation Factors

Line No. Ref.	Cost Function	Total %	Allocation Basis	Volume %	Wastewater Surcharges					Other %
					BOD %	TSS %	Phos %	NH3 %	Industrial %	
(1)	Pre-Treatment	100.000%	WWTP	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(2)	Primary Treatment	100.000%	WWTP	0.000%	30.000%	60.000%	0.000%	10.000%	0.000%	0.000%
(3)	Secondary Treatment	100.000%	WWTP	25.000%	40.000%	15.000%	15.000%	5.000%	0.000%	0.000%
(4)	Disinfection/Dechlorination	100.000%	WWTP	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(5)	Phosphorus Removal	100.000%	WWTP	50.000%	0.000%	0.000%	50.000%	0.000%	0.000%	0.000%
(6)	Residue Handling/Disposal	100.000%	WWTP	10.000%	35.000%	51.000%	2.000%	2.000%	0.000%	0.000%
(7)	Bulk Metering Stations	100.000%	Collection	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%
(8)	Customer Accounting	100.000%	Admin	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%
(9)	Industrial Pretreatment	100.000%	Industry	0.000%	0.000%	0.000%	0.000%	100.000%	0.000%	0.000%
(10)	Admin	100.000%	Admin	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%
(11)	Collection System	100.000%	Collection	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	100.000%

(a) With the exception of phosphorus removal, foregoing based on "Final Allocation Table" in August 1, 2003 memo from Randall Fisher & Mike Lunn to Eric DeLong regarding 2001 Surcharge Rate Evaluation. Evaluation by WWTP staff for 2013 RS Review concluded percentages for phosphorus removal shall remain allocated 50/50 to the categories above, as initially recommended in the 2006 RS Review, to recommend 2016 rate adjustments.

**City of Grand Rapids Michigan
Sewage Disposal System Fund
Concentrated Waste Surcharge Adjustment
TASK NO. 30A**

Description	Operational Costs			Surcharge Adjustment		
	BOD	Phos	NH3	BOD	Phos	NH3
Operation & Maintenance (1)(2)	\$ 4,186,466	\$ 886,828	\$ 441,651	\$ 66,983	\$ 14,189	\$ 7,066
Disinfection/Dechlorination (1)(3)	\$ 1,148,340	\$ 2,918	\$ 357,488	\$ 12,607	\$ 47	\$ 5,720
Total	\$ 4,974,399	\$ 889,746	\$ 799,139	\$ 79,590	\$ 14,236	\$ 12,786
Proposed Concentrated Waste Adjustment				\$ 0.081	\$ 3.900	\$ 0.029
Recommended Surcharge Rate - 2017				\$ 0.240	\$ 2.216	\$ 0.228

Surcharge with Adjustment

Concentrated Waste Loadings - lb/day	2,700	10	1,225
Concentrated Waste Loadings - lb/year	985,500	3,650	447,125

(1) Surcharge Adjustment:
 Surcharge Adjustment = (Base Year Peaking Factor - Current Year Peaking Factor)*(1 - Fixed Costs)
 Base Year Peaking Factor 1.33
 Current Year Peaking Factor Adjustment 1.29
 Fixed Cost 60%
 Concentrated Waste Adjustment Factor 1.6%

(2) Operations & Maintenance cost is from Task 30 - Part 2, Total amount of BOD, Phos, & NH3. This is allocated based on the Surcharge Adjustment Factor - see footnote 1.

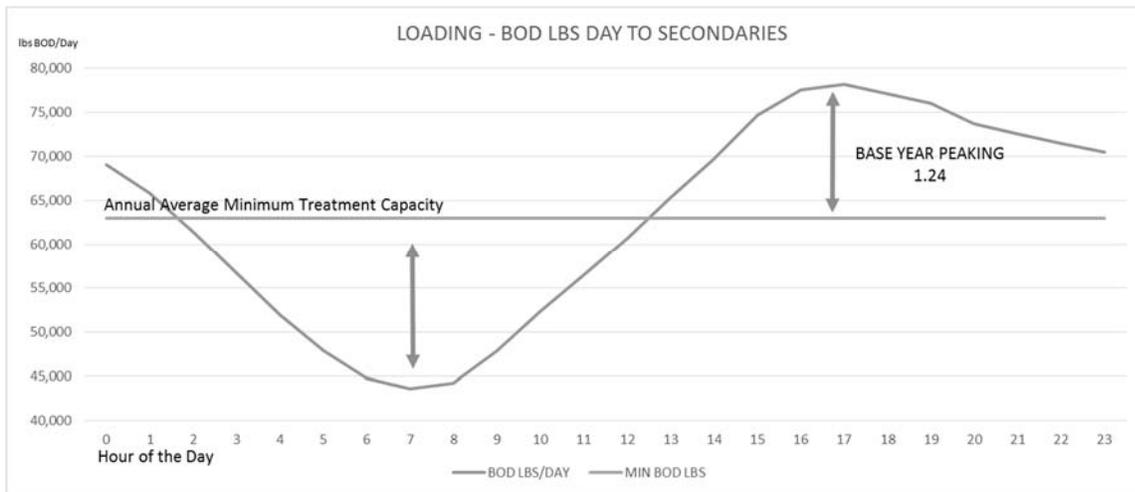
(3) Disinfection cost is from Task 30 - Part 2, 2016 allocation for WWTP. This is allocated based on the Surcharge Adjustment Factor - see footnote 1.

WASTE SURCHARGE ADJUSTMENT METHODOLOGY (Task 30A)

This surcharge adjustment is intended for industrial customers whose waste are not combined with the normal influent of the waste water recovery plant. These wastes are segregated into a separate holding tank and used to feed the plant during off peak times. This methodology recognizes savings achieved through this process.

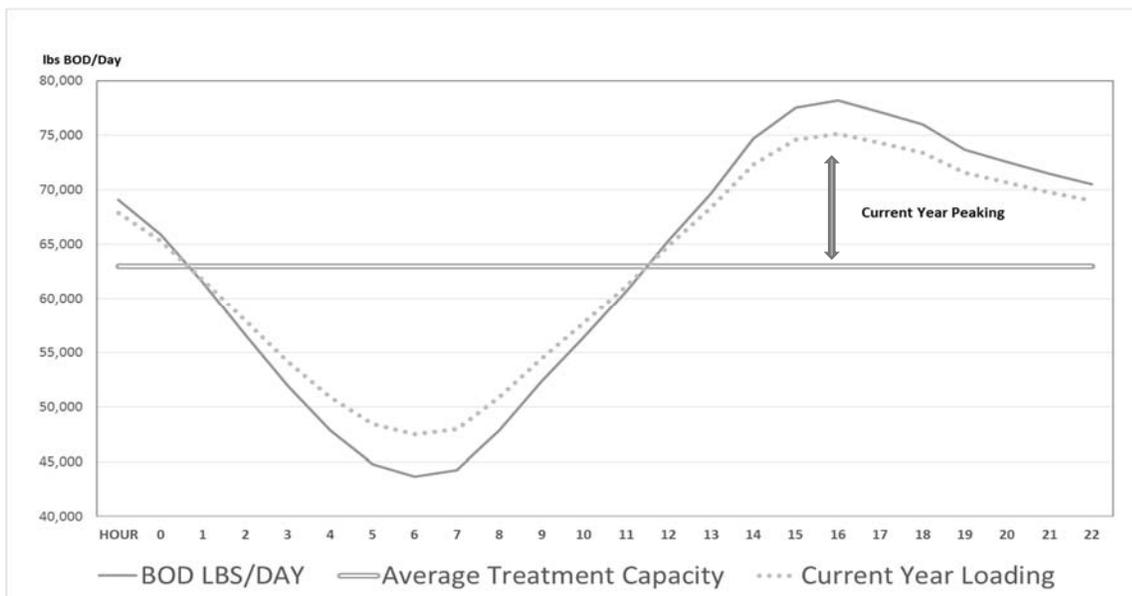
Step 1: Base Year Peaking Factor – Amount of energy required to remove compatible pollutant loading in excess of average residential discharges. Base year was calculated for plant operations in fiscal year 2016 and will remain as the base year in future rate studies.

- Base year maximum hourly load rate/ FY16 average hourly load rate
 - 83,168 lb Biochemical Oxygen Demand (BOD) / 62,454 lb BOD = 1.33



Step 2: Current Year Peaking Factor - Amount of energy required to remove compatible pollutant loading in excess of average residential discharges. Estimate based on current year data and concentrated waste participation.

- Current FY Maximum hourly load rate/ FY16 average hourly load rate
 - 80,468 lb BOD / 62,454 lb BOD = 1.29



Step 3: Fixed Cost - *Minimum cost to operate WRRF equipment to treat even minimum loading due to residential discharges.*

- 60% : determined through electrical cost to run secondary treatment blowers to meet baseline loading

Step 4: Concentrated Waste Adjustment Factor – *formula to attribute overall system costs to concentrated waste specific pollutant loadings.*

- Operation and Maintenance Savings multiplied by the Variable Costs
- (base year peaking factor – current year peaking factor) * (1 – fixed cost)
 - $(1.33 - 1.29) * (1 - 0.60) = 1.6\%$
- 1.6% represents the savings factor to be applied to all costs associated with the treatment of concentrated waste

Step 5: Operations & Maintenance Cost – *System O&M allocated to pollutant*

- Task 30 Part 2 Sewer Rate Study 2016
 - BOD: \$4,186,466
 - Phosphorus (Phos): \$886,828
 - Ammonia (NH3): \$441,651

Step 6: Concentrated Waste System Loadings – *plant loadings in lb pollutant in FY*

- Loading lb specific pollutant / loading lb Total Applicable Surcharge Pollutants

Pollutants	Loadings (in pounds)	Percent of Concentrated Waste Loadings
BOD	985,500	68.6%
Phos	3,650	0.3%
NH3	447,125	31.1%
Total	4,186,466	100.0%

Step 7: Disinfection and Dechlorination Adjustment - *allocated per pollutant based on concentrated waste system loadings/year*

- Task 30 Part 2 Sewer Rate Study 2016
 - \$1,148,340
- Operational cost allocated based on plant loadings from Step 6
 - BOD = \$787,933
 - Phos = \$2,918
 - NH3 = \$357,488

Step 8: Surcharge Adjustment Total

- Operation and Maintenance = (O&M * Concentrated Waste Adjustment Factor)
 - BOD: $\$4,186,466 * 1.6\% = \$66,983$
 - Phos: $\$886,828 * 1.6\% = \$14,189$
 - NH3: $\$441,651 * 1.6\% = \$7,066$
- Disinfection/Dechlorination = (Disinfection * Concentrated Waste Adjustment Factor)
 - BOD: $\$787,933 * 1.6\% = \$12,607$
 - Phos: $\$2,918 * 1.6\% = \47
 - NH3: $\$357,488 * 1.6\% = \$5,720$
- Total by Pollutant = Operation and Maintenance + Disinfection/Dechlorination
 - BOD: $\$66,983 + \$12,607 = \$79,590$
 - Phos: $\$14,189 + \$47 = \$14,236$
 - NH3: $\$7,066 + \$5,720 = \$12,786$

Step 9: Concentrated Waste Adjustment

- Total Surcharge Adjustment/Concentrated Waste Loadings
- Surcharge Adjustment Total of Pollutant/Loading lb/year Pollutant
 - BOD: $\$79,590/985,500\text{lbs} = \0.081
 - Phos: $\$14,236/3,650\text{lbs} = \3.90
 - NH3: $\$12,786/447,125\text{lbs} = \0.029

Step 10: Surcharge Rate with Concentrated Waste Adjustment 2017

- Recommended Surcharge Rate (Task 30 – Part 1) – Concentrated Waste Credit
- If Surcharge less credit is less than zero, then the rate will be zero
- Surcharge Rate with Concentrated Waste Credit
 - BOD: $\$0.24 - \$0.081 = \$0.159$
 - Phos: $\$2.212 - \$3.90 = \$0.00$
 - NH3: $\$0.227 - \$0.029 = \$0.198$

CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
IPP PERMIT FEE STRUCTURE – TASK NO. 31

The City of Grand Rapids Industrial Pretreatment Program (IPP) Permit fee structure is based on the actual cost of administration and implementation. Administration includes all the costs associated with document generation and handling as well as one annual site visit. The implementation costs include all sampling and associated laboratory analyses required by the permit. These two fees are identified on permit documents as a Permit Fee and an Analytical Fee.

Permit Fee: This fee is based on the actual costs associated with administering the permit program, including time spent on permit required inspections, clerical requirements, data handling requirements and all trunkline monitoring. This fee will be specific to the costs associated with the permit category.

Analytical Fee: This fee is based on actual costs associated with each permit. The costs, and an explanation of how they are determined, are outlined in an accompanying attachment. Labor time, including sampling and sample delivery to our laboratory, was derived from experience:

Composite samples:	1.5 hours each
Grab samples:	1.0 hours each

Four examples of analytical fees are attached herewith.

City of Grand Rapids
Cost of Services Provided by IPP

Last Update: 8/19/2016

Permit Fee: \$ 400.00

IPP Costs:

Labor: \$ 60.48 per hour
Vehicle: \$ 3.42 per hour
Sampler: \$ 35.00 per day

IPP Accounting:

Composite Labor: 1.5 hours per sample
Grab Sample Labor: 1.0 hours per sample

Laboratory Costs:

metals	\$	7.00	ea.
TSS	\$	7.00	ea.
BOD	\$	14.00	ea.
total phosphorus	\$	13.50	ea.
pH	\$	8.00	ea.
EPA 624	\$	60.00	ea.
EPA 625	\$	115.00	ea.
BTEX/MTBE	\$	35.00	ea.
sulfide	\$	12.00	ea.
oil & grease	\$	25.00	ea.
total cyanide	\$	15.00	ea.
hex chrome	\$	10.00	ea.
fecal coliform	\$	30.00	ea.
Ammonia (NH3-N)	\$	9.00	ea.
Mercury (EPA 245.1 or 245.2)	\$	15.00	ea.

Explanation of Costs:

Labor: Labor is the hourly pay rate of a Water Pollution Control Inspector (classification 21A @ "F" step = to \$30,2413 > 2) per the latest agreement between the City of Grand Rapids and the Grand Rapids Employees Independent Union plus 100% as specified in section 2.81(1) of the City of Grand Rapids Sewage Disposal System Ordinance. If personnel in a different classification are required, time will be billed based on that classification's pay scale plus 100%.

Vehicle: Hourly rate is the actual cost charged to City departments for vehicle use plus 25% for overhead.

Sampler: Sampler costs are based on the most recently approved competitive bid obtained for contract work

Analysis: Laboratory costs are based on the most recently approved competitive bid obtained for contract work provided to the Grand Rapids Wastewater Treatment

Permit No: **Example 1**

Company: **Typical Metal Finisher 4 day sampling**
Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 811.42
Amount Due: \$ 1,211.42

Composite Samples: **4**

IPP Requirements: man hours = **6.0** x \$ 60.48 = \$ **362.90**
sampler days = **4.0** x \$ 35.00 = \$ **140.00**
vehicle hours = **6.0** x \$ 3.42 = \$ **20.52**

Total IPP Composite Costs: \$ 523.42

Laboratory Analysis:
(each composite)

metals	7	x \$ 7.00 = \$ 49.00
TSS		x \$ 7.00 = \$ -
BOD		x \$ 14.00 = \$ -
total phosphate		x \$ 13.50 = \$ -
pH		x \$ 8.00 = \$ -
EPA 625		x \$ 115.00 = \$ -
sulfide		x \$ 12.00 = \$ -
oil & grease		x \$ 25.00 = \$ -
hex chrome		x \$ 10.00 = \$ -
fecal coliform		x \$ 30.00 = \$ -
other		x = \$ -

total per composite: \$ 49.00

Total Laboratory Composite Costs: \$ 196.00

Total Composite Sample Costs: \$ 719.42

Grab Samples: **4**

IPP Requirements: man hours = **0.0** x \$ 60.48 = \$ -
vehicle hours = **0.0** x \$ 3.42 = \$ -

Total IPP Grab Costs: \$ -

Laboratory Analysis:
(each grab)

metals		x \$ 7.00 = \$ -
TSS		x \$ 7.00 = \$ -
BOD		x \$ 14.00 = \$ -
total phosphate		x \$ 13.50 = \$ -
pH	1	x \$ 8.00 = \$ 8.00
EPA 624		x \$ 60.00 = \$ -
EPA 625		x \$ 115.00 = \$ -
BTEX/MTBE		x \$ 35.00 = \$ -
sulfide		x \$ 12.00 = \$ -
oil & grease		x \$ 25.00 = \$ -
total cyanide	1	x \$ 15.00 = \$ 15.00
hex chrome		x \$ 10.00 = \$ -
fecal coliform		x \$ 30.00 = \$ -
other		x = \$ -

total per grab: \$ 23.00

Total Laboratory Grab Costs: \$ 92.00

Total Grab Sample Costs: \$ 92.00

Total Analytical Permit Costs: \$ 811.42

Permit No: **Example 2**

Company: **Litho Process**

Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 71.90
Amount Due: \$ 471.90

Composite Samples:

IPP Requirements: man hours = 0.0 x \$ 60.48 = \$ -
sampler days = 0.0 x \$ 35.00 = \$ -
vehicle hours = 0.0 x \$ 3.42 = \$ -

Total IPP Composite Costs: \$ -

Laboratory Analysis:
(each composite)

metals		x	\$ 7.00	=	\$ -
TSS		x	\$ 7.00	=	\$ -
BOD		x	\$ 14.00	=	\$ -
total phosphate		x	\$ 13.50	=	\$ -
pH		x	\$ 8.00	=	\$ -
EPA 625		x	\$ 115.00	=	\$ -
sulfide		x	\$ 12.00	=	\$ -
oil & grease		x	\$ 25.00	=	\$ -
hex chrome		x	\$ 10.00	=	\$ -
fecal coliform		x	\$ 30.00	=	\$ -
other		x		=	\$ -

total per composite: \$ -

Total Laboratory Composite Costs: \$ -

Total Composite Sample Costs: \$ -

Grab Samples: 1

IPP Requirements: man hours = 1.0 x \$ 60.48 = \$ 60.48
vehicle hours = 1.0 x \$ 3.42 = \$ 3.42

Total IPP Grab Costs: \$ 63.90

Laboratory Analysis:
(each grab)

metals		x	\$ 7.00	=	\$ -
TSS		x	\$ 7.00	=	\$ -
BOD		x	\$ 14.00	=	\$ -
total phosphate		x	\$ 13.50	=	\$ -
pH	1	x	\$ 8.00	=	\$ 8.00
EPA 624		x	\$ 60.00	=	\$ -
EPA 625		x	\$ 115.00	=	\$ -
BTEX/MTBE		x	\$ 35.00	=	\$ -
sulfide		x	\$ 12.00	=	\$ -
oil & grease		x	\$ 25.00	=	\$ -
total cyanide		x	\$ 15.00	=	\$ -
hex chrome		x	\$ 10.00	=	\$ -
fecal coliform		x	\$ 30.00	=	\$ -
other		x		=	\$ -

total per grab: \$ 8.00

Total Laboratory Grab Costs: \$ 8.00

Total Grab Sample Costs: \$ 71.90

Total Analytical Permit Costs: \$ 71.90

Permit No: **Example 3**

Company: **Stripping Process**

Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 106.90
Amount Due: \$ 506.90

Composite Samples:

IPP Requirements:

man hours = 0.0 x \$ 60.48 = \$ -
sampler days = 0.0 x \$ 35.00 = \$ -
vehicle hours = 0.0 x \$ 3.42 = \$ -

Total IPP Composite Costs: \$ -

Laboratory Analysis:
(each composite)

metals x \$ 7.00 = \$ -
TSS x \$ 7.00 = \$ -
BOD x \$ 14.00 = \$ -
total phosphate x \$ 13.50 = \$ -
pH x \$ 8.00 = \$ -
EPA 625 x \$ 115.00 = \$ -
sulfide x \$ 12.00 = \$ -
oil & grease x \$ 25.00 = \$ -
hex chrome x \$ 10.00 = \$ -
fecal coliform x \$ 30.00 = \$ -
other x = \$ -

total per composite: \$ -

Total Laboratory Composite Costs: \$ -

Total Composite Sample Costs: \$ -

Grab Samples: 1

IPP Requirements:

man hours = 1.0 x \$ 60.48 = \$ 60.48
vehicle hours = 1.0 x \$ 3.42 = \$ 3.42

Total IPP Grab Costs: \$ 63.90

Laboratory Analysis:
(each grab)

metals 5 x \$ 7.00 = \$ 35.00
TSS x \$ 7.00 = \$ -
BOD x \$ 14.00 = \$ -
total phosphate x \$ 13.50 = \$ -
pH 1 x \$ 8.00 = \$ 8.00
EPA 624 x \$ 60.00 = \$ -
EPA 625 x \$ 115.00 = \$ -
BTEX/MTBE x \$ 35.00 = \$ -
sulfide x \$ 12.00 = \$ -
oil & grease x \$ 25.00 = \$ -
total cyanide x \$ 15.00 = \$ -
hex chrome x \$ 10.00 = \$ -
fecal coliform x \$ 30.00 = \$ -
other x = \$ -

total per grab: \$ 43.00

Total Laboratory Grab Costs: \$ 43.00

Total Grab Sample Costs: \$ 106.90

Total Analytical Permit Costs: \$ 106.90

Permit No: **Example 4**

Company: **Silver User - photoprocessor**
Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 212.71
Amount Due: \$ 612.71

Composite Samples:

IPP Requirements: man hours = 0.0 x \$ 60.48 = \$ -
sampler days = 0.0 x \$ 35.00 = \$ -
vehicle hours = 0.0 x \$ 3.42 = \$ -

Total IPP Composite Costs: \$ -

Laboratory Analysis:
(each composite)

metals		x \$ 7.00 = \$ -
TSS		x \$ 7.00 = \$ -
BOD		x \$ 14.00 = \$ -
total phosphate		x \$ 13.50 = \$ -
pH		x \$ 8.00 = \$ -
EPA 625		x \$ 115.00 = \$ -
sulfide		x \$ 12.00 = \$ -
oil & grease		x \$ 25.00 = \$ -
hex chrome		x \$ 10.00 = \$ -
fecal coliform		x \$ 30.00 = \$ -
other		x = \$ -

total per composite: \$ -

Total Laboratory Composite Costs: \$ -

Total Composite Sample Costs: \$ -

Grab Samples: 3

IPP Requirements: man hours = 3.0 x \$ 60.48 = \$ 181.45
vehicle hours = 3.0 x \$ 3.42 = \$ 10.26

Total IPP Grab Costs: \$ 191.71

Laboratory Analysis:
(each grab)

metals	1	x \$ 7.00 = \$ 7.00
TSS		x \$ 7.00 = \$ -
BOD		x \$ 14.00 = \$ -
total phosphate		x \$ 13.50 = \$ -
pH		x \$ 8.00 = \$ -
EPA 624		x \$ 60.00 = \$ -
EPA 625		x \$ 115.00 = \$ -
BTEX/MTBE		x \$ 35.00 = \$ -
sulfide		x \$ 12.00 = \$ -
oil & grease		x \$ 25.00 = \$ -
total cyanide		x \$ 15.00 = \$ -
hex chrome		x \$ 10.00 = \$ -
fecal coliform		x \$ 30.00 = \$ -
other		x = \$ -

total per grab: \$ 7.00

Total Laboratory Grab Costs: \$ 21.00

Total Grab Sample Costs: \$ 212.71

Total Analytical Permit Costs: \$ 212.71

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 30, 2016

TO: Molly Eastman
Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: **2016 SEWER RATE STUDY- TASK #32 - SANITARY SEWER
OVERSIZING RATES**

Sanitary Sewer oversizing rates are established for this year as noted below:

<u>Pipe Size</u>	<u>2016 Rate</u>	<u>2017 Rate</u>	<u>% Change</u>
8"-10"	\$6.98/ft	\$4.60/ft	-34.10%
8"-12"	\$12.69/ft	\$9.00/ft	-29.08%
8"-15"	\$22.86/ft	\$16.79/ft	-26.55%
10"-12"	\$5.71/ft	\$4.40/ft	-22.94%
10"-15"	\$15.88/ft	\$12.19/ft	-23.24%
12"-15"	\$10.17/ft	\$7.79/ft	-23.40%

These rates have been determined in accordance with the Sewer Disposal System Rules and Regulations, and are approved for use from January 1, 2017 through December 31, 2017. Background information and calculations to establish these rates are on file in the Utility Engineering, Distribution and Collection Office located at 1900 Oak Industrial Drive NE. If you have any questions regarding this matter, please call me at 456-4201.

AP
Cc: Charles Schroeder

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 33**

SERVICE AREA MAPS AND SERVICE AREA LAND MASS SUMMARIES

The following summarizes Utility Service Districts (USD) land mass square miles for UAB partner communities, per information on file as of October 5, 2016:

UAB Partners	Sq. Miles of USD by CC	Percent
Grand Rapids	45.36	37.782%
Walker	20.17	16.800%
Kentwood	14.28	11.894%
Cascade	16.18	13.477%
Grand Rapids Township	7.97	6.638%
Tallmadge Township	2.44	2.032%
Wright Township	0.89	0.741%
East Grand Rapids	3.37	2.807%
Ada	7.18	5.980%
Caledonia Township	2.22	1.849%
Total	120.06	100.000%

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 34**

INDIVIDUAL CIRCUIT BREAKER AND CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER

The Third Amendment to the Water and Sanitary Sewer Agreements stipulates penalty fees shall be used to fund the circuit breaker provisions noted above. The following summarizes those values:

<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
Individual Circuit Breaker (ICB)	\$ 87,785	12.50%
City & Customer Community Circuit Breaker (CCCCB)	614,492	87.50%
Total	<u>\$ 702,277</u>	<u>100.00%</u>

The following tables summarize the amount, if any, of the Circuit Breaker to be applied as a revenue credit in next year's Rate Study:

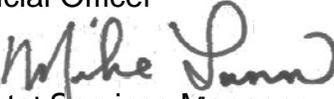
<u>Description</u>	<u>AMOUNT</u>	<u>PERCENT</u>
City & Customer Community Circuit Breaker Amount- Above	\$ 614,492	100.00%
Less: Amount Applied in Current Rate Study	(614,492)	-100.00%
Total CCCCCB Revenue Credit- Next Year's Rate Study	<u>\$ -</u>	<u>0.00%</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: November 5, 2016

TO: Molly J. Eastman
Utility Financial Officer

FROM: Mike Lunn 
Environmental Services Manager

SUBJECT: 2016 SEWER RATE STUDY - TASK #35- FDD Opt Out Charge

The Footing Drain Disconnection Ordinance (FDD) Authorizes the City Manager or his designee to identify FDD Project Areas within the City of Grand Rapids based on the severity of System groundwater and stormwater inflow surcharge problems. Once designated, the ordinance requires homeowners within the FDD Project Areas to disconnect their footing drains from the City's sanitary sewer system at City expense.

The additional charge for non-compliance with the footing drain disconnection ordinance has been calculated based on current information and recommended to be \$73.45 which is the actual cost to the system for the additional flow.

ML

**CITY OF GRAND RAPIDS, MICHIGAN
SEWER RATE STUDY
SEWER SUPPLY SYSTEM FUND
TASK NO. 35**

DETERMINE FOOTING DRAIN OPT OUT SEWER RATE.

1. Avoided Claims for Sewage Backups

Annual claim costs

Annual Backup Claims	\$150,000 /year ¹	Estimated annual claims cost
System Retail Customers	74,276	Total retail customers ²
Grand Rapids Retail Customers	<u>58,311</u>	Total retail customers in Grand Rapids ²
Annual Cost	\$2.02 /yr/cust.	Annual cost for claims in Grand Rapids

2. Avoided Costs to treat the additional flow generated by footing drains

Flow Estimate

DWF	43,800 gal/year	Average generation rate
WWF	<u>21,796</u> gal/year	Average generation rate
Total	65,596 gal/year	Average per house

Unit Conveyance & Treatment Costs

Annual average FD flows	0.065596 MG/yr	Average per house
Conveyance	\$412 /MG	Unit conveyance cost ³
Treatment	<u>\$924</u> /MG	Unit treatment cost ³
Conveyance & Treatment	\$1,336 /MG	
Annual Cost	\$87.64 /yr/cust.	Annual cost for a connected FD

3. Actual MDNRE penalties for SSO's

Penalties for SSO

Grand Rapids Customers	58,311	
Penalties	\$25,000	Per occurrence
Potential SSOs	0 /year	Occurrences
Annual cost	<u>0</u> \$/year	
	\$0.00 /yr/cust.	Annual cost for penalties

4. Avoided Transport & Future Projects

Cost Per FDD

Pilot Project Costs	1,788 \$/yr/FDD cust.	Annual cost of FDD work ⁵
FDD Equivalents	<u>25,598</u> FDD	FDDs needed to correct backup problems
Total Cost	\$45,769,224	Annualized Conveyance and Storage Costs
Grand Rapids Customers	<u>58,311</u>	Customers in Grand Rapids
Cost Per single Family Home	\$784.92 \$/home/not removed	Annualized cost for Grand Rapids Customers

5. Avoided Administrative (Engineering & Legal) Costs

Associated with Administration of claims, construction

Legal	0.5	Citywide claims administration
Engineering	<u>1.5</u>	Citywide engineering investigation
Staffing	2.0	Total staffing
Rate	\$200,000 /year	Average loaded staffing rate ⁴
Total	\$400,000 /year	
Customers	<u>58,311</u>	In Grand Rapids
	\$6.86 \$/yr/cust.	

Annual Cost Summary

1. Avoided Claims	\$2.02	
2. Avoided Treatment	\$87.64	
3. Actual MDNRE Penalties for SSOs	\$0.00	
4. Avoided Future Projects	\$784.92	
5. Administration	<u>\$6.86</u>	
TOTAL	\$881.44 \$/yr/cust.	
	\$73.45 /month/cust.	Monthly fee for not disconnecting

Notes:

- ¹ Sinking fund annual budget
- ² Customer numbers per 2012 Rate Study
- ³ Value for sewer maintenance and WWTP costs from 2012 rate study.
- ⁴ Estimated staff rate with benefits
- ⁵ Total cost per FDD amortized over 20 years with 2.5% interest rate

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**CITY OF GRAND RAPIDS, MICHIGAN
APPENDIXES
ANNUAL WATER/SEWER RATE REVIEW**

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CITY OF GRAND RAPIDS AGENDA ACTION REQUEST

DATE: November 15, 2016

TO: Gregory A. Sundstrom, City Manager

COMMITTEE: Committee of the Whole
LIAISON: Gregory A. Sundstrom, City Manager

FROM: Molly Eastman, Utility Financial Officer
Water System

SUBJECT: **2016 Water/Sewer Rate Study - Introduction and Initiation of the 20 Day Comment Period**

A comprehensive review of operating and capital costs by community, in conjunction with customer base variation and usage, is performed annually for the purpose of recommending water and sewer rate adjustments for Grand Rapids and its partner communities. The City of Grand Rapids continues to adhere to its water and sewer rate-setting methodology first established in 1976-77. The methodology yields consistent performance in providing for the long-term financing needs of the Water Supply and Sewage Disposal Systems and assuring adequate debt service coverage pursuant to the systems' master bond ordinance covenants. This year's review marks the 40th annual water/sewer rate study report.

The City's review of the Water Supply and Sewage Disposal Systems' performance has identified the revenue requirements for water and sewer for calendar year 2017 with rate increases of 3.95% and 0.26% respectively. The rate study methodology continues to use the three year average of billed volume to calculate new rates in an effort to level year-over-year usage variability and achieve reasonably stable rate changes. Also, as part of the 2016 Comprehensive Master Plan, the water and sewer utility, updated the current zoned assumptions which resulted in a minor redistribution of costs associated with Water and Sewer System Assets in the non-integrated (distribution/collection) portions of the system to reflect current flow and use. Evaluation of the zoned assumptions is still underway as part of the 30 day comment period but is expected to be complete by the time the final 2016 rate study is presented to the City Commission for approval.

Furthermore, the additional infrastructure investment in capital improvements contributes to the rate increases in both utility systems. These increases are also offset by a decrease in the requirements for return on investment as well as the ongoing efforts to limit operations and maintenance expenses for both utilities.

A summary of the proposed revisions to set the 2017 rates for the systems are as follows:

1. Water Supply System revenue requirements increased by \$1,569,324 or 3.95% more than revenues generated by existing rates and charges. This rate adjustment includes known cost adjustments for several total compensation items including wages, health insurance, retiree health care, pension costs, and includes a significant increase in supplemental revenue requirement amount required to help preserve the system's AA investment grade bond rating and assist with capital investment.
2. Sewage Disposal System revenue requirements increased by \$131,202 or 0.26% more than revenues generated by existing rates and charges. This rate adjustment includes known cost adjustments for several total compensation items including wages, health insurance, retiree health care, pension costs, and longevity pay and a necessary change in the treatment of certain fixed assets.
3. Water and sewer integrated connection fees were adjusted upward by a CPI increase factor of 1.07%.
4. Water and sewer front foot rates and charges for water service lines and sewer laterals are being adjusted based on the average bid prices quoted in bid proposals received by the City Engineer's Office during the period from July, 2015, through June, 2016.
5. The Utility Advisory Board (UAB) will receive a presentation on November 17, 2016 of fee and charge recommendations, including increases in inspection permits and meter testing scheduled in the Water System Rules and Regulations.
6. The cost of services provided by the Industrial Pretreatment Program will remain the same with the exception of the hourly vehicle rate will increase \$0.02 per hour.
7. Water and sewer oversizing rates will decrease due to the cost of materials.
8. The charge for non-compliance with the footing drain disconnection ordinance (FDD Opt Out Charge) will increase to \$73.45 from \$73.08 based on current information related to the actual cost to the system for the additional flow.
9. A new rate has been determined and added to this year's rate study that establishes a concentrated waste credit for surcharge customers. This rate will enable the WRRF to feed BOD to the plant at a constant rate, thus reducing costs and maximizing economic use of plant capacity. It is a benefit to the system and to affected industries.

Recommended rate adjustments incorporate provisions of the third amendment to the uniform service agreements with customer communities, which eliminates penalty fee credits from retail revenue requirements to fund the Individual Circuit Breaker (ICB) and the City and Customer Community Circuit Breaker (CCCCB). This amendment generated \$161,825 to support the ICB, the program aimed to assist retail customers requiring assistance in payment of their water/sewer bills, and represents a \$4,856 or 3.09% increase from the 2015 rate study. This amount will be supplemented with an additional appropriation of non-operating revenue. The third amendment also provides for a City and Customer Community Circuit Breaker, if sufficient funding is available, to

limit each retail service area revenue requirement change to a level in line with the overall systems' initial average change. Adequate funds were available in both utility systems to apply the CCCC and limit the revenue requirement changes. Total City and Customer Community Circuit Breaker funds used in the 2016 rate study was \$1,132,771 in relief.

Herewith please find detailed schedules by customer community of revenue requirement changes and rate adjustment impacts to a typical domestic and commercial customer with the system average quarterly consumption.

The preliminary 2017 water and sewer rates have been made available to the Utility Advisory Board partners and other customer communities on November 14, 2016. All partner and customer communities have a thirty-day comment period following notification of the rates as provided in the water/sewer service agreements. Approval of the rates by the City Commission is scheduled for Tuesday, December 13, 2016.

For the second year, the annual rate study conducted by the city and proposed changes in rates and charges and related fees, penalties and other miscellaneous charges along with explanatory materials will be filed with the City Clerk's Office no later than close of business on November 15, 2016 and are available for public review and comment. This is at least twenty (20) days prior to the City Commission's consideration of an approval resolution. Public notice will also be published in the newspaper, and the rate study and supplemental materials have been posted on the City's website at www.grcity.us/watersewerratestudy under the "Water Sewer Rate Study" directory. Comments will be reported and considered as part of the FY2018 budget planning process.

Prepared by Molly Eastman

CORRECT IN FORM

DEPARTMENT OF LAW

CITY OF GRAND RAPIDS, MICHIGAN
2016 PRELIMINARY WATER/SEWER RATE STUDY
SUMMARY OF REVENUE REQUIREMENT CHANGES
FOR RATES EFFECTIVE JANUARY 1, 2017
November 8, 2016

	<u>WATER (1)</u>		<u>SEWER (1)</u>	
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>
GRAND RAPIDS	\$ 677,863	2.88%	\$ 613,074	1.80%
WALKER	164,482	5.20%	(444,174)	-9.21%
KENTWOOD	331,207	7.92%	(71,034)	-1.80%
CASCADE TWP	125,261	3.99%	32,871	1.42%
GRAND RAPIDS TWP	193,043	9.38%	(98,368)	-4.05%
TALLMADGE TWP	18,390	13.71%	(962)	-0.25%
WRIGHT TWP (2)	N/A	N/A	15,344	6.21%
EAST GRAND RAPIDS	(27,517)	-3.44%	13,286	2.40%
ADA TWP	134,696	12.38%	37,913	3.20%
OTTAWA COUNTY	(48,100)	-3.00%	NA	NA
GAINES TWP	N/A	N/A	9,471	5.12%
CALEDONIA TWP	N/A	N/A	23,782	24.45%
SYSTEM	\$ 1,569,324	3.95%	\$ 131,202	0.26%

(1) Change in revenue requirements based on revenues currently generated from rates, customer base and volumes reported in the preliminary rate study (Includes consideration for relief from CCCCB).

DISCLOSE RELIEF PROVIDED BY CITY & CUSTOMER COMMUNITY CIRCUIT BREAKER (CCCB)

	<u>WATER</u>		<u>SEWER</u>	
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>
SYSTEM CHANGE- ABOVE	\$ 41,280,781	3.95%	\$ 50,351,880	0.26%
ADD: CCCCB RELIEF	518,279	1.31%	614,492	1.22%
ADD: CAPITAL CONTRIBUTION	87,800	0.22%		
LESS: CAPITAL INVESTMENT REIMBURSEMENT			(108,205)	-0.22%
SYSTEM CHANGE- WITHOUT RELIEF	<u>\$ 41,886,860</u>	<u>5.48%</u>	<u>\$ 50,858,168</u>	<u>1.27%</u>

**CITY OF GRAND RAPIDS, MICHIGAN
2016 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON DOMESTIC USERS
BY CUSTOMER COMMUNITY *
November 8, 2016**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2016</u>	<u>2017</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 74.92	\$ 76.60	\$ 1.68	2.24%
SEWER	105.75	106.95	1.20	1.13%
	<u>\$ 180.67</u>	<u>\$ 183.55</u>	<u>\$ 2.88</u>	1.59%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 77.54	\$ 81.10	\$ 3.56	4.59%
SEWER	137.58	124.71	(12.87)	-9.35%
	<u>\$ 215.12</u>	<u>\$ 205.81</u>	<u>\$ (9.31)</u>	-4.33%
RATIO TO GR	1.19	1.12		
KENTWOOD				
WATER	\$ 82.89	\$ 88.68	\$ 5.79	6.99%
SEWER	66.27	64.20	(2.07)	-3.12%
	<u>\$ 149.16</u>	<u>\$ 152.88</u>	<u>\$ 3.72</u>	2.49%
RATIO TO GR	0.83	0.83		
CASCADE TWP				
WATER	\$ 116.63	\$ 120.56	\$ 3.93	3.37%
SEWER	143.01	144.12	1.11	0.78%
	<u>\$ 259.64</u>	<u>\$ 264.68</u>	<u>\$ 5.04</u>	1.94%
RATIO TO GR	1.44	1.44		
GRAND RAPIDS TWP				
WATER	\$ 87.15	\$ 94.78	\$ 7.63	8.76%
SEWER	123.87	118.50	(5.37)	-4.34%
	<u>\$ 211.02</u>	<u>\$ 213.28</u>	<u>\$ 2.26</u>	1.07%
RATIO TO GR	1.17	1.16		
TALLMADGE TWP				
WATER	\$ 109.28	\$ 123.68	\$ 14.40	13.18%
SEWER	295.17	293.40	(1.77)	-0.60%
	<u>\$ 404.45</u>	<u>\$ 417.08</u>	<u>\$ 12.63</u>	3.12%
RATIO TO GR	2.24	2.27		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER QUARTERLY CONSUMPTION OF: WATER- 25.00 UNITS OR 18,700 GALLONS
SEWER - 18.00 UNITS OR 13,464 GALLONS
NO. OF MONTHS: 3

Note: The average water and sewer consumption depicted no change in usage from last year's rate study.

REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL

WRIGHT TWP-				
SEWER (No. of REU 1.00)	<u>\$ 146.10</u>	<u>\$ 155.19</u>	<u>\$ 9.09</u>	6.22%

CITY OF GRAND RAPIDS, MICHIGAN
2016 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON COMMERCIAL USERS
BY CUSTOMER COMMUNITY
November 8, 2016

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2016</u>	<u>2017</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 428.30	\$ 447.92	\$ 19.62	4.58%
SEWER	746.26	771.10	24.84	3.33%
	<u>\$ 1,174.56</u>	<u>\$ 1,219.02</u>	<u>\$ 44.46</u>	3.79%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 399.46	\$ 420.71	\$ 21.25	5.32%
SEWER	706.05	640.73	(65.32)	-9.25%
	<u>\$ 1,105.51</u>	<u>\$ 1,061.44</u>	<u>\$ (44.07)</u>	-3.99%
RATIO TO GR	0.94	0.87		
KENTWOOD				
WATER	\$ 400.59	\$ 432.51	\$ 31.92	7.97%
SEWER	542.34	533.18	(9.16)	-1.69%
	<u>\$ 942.93</u>	<u>\$ 965.69</u>	<u>\$ 22.76</u>	2.41%
RATIO TO GR	0.80	0.79		
CASCADE TWP				
WATER	\$ 564.46	\$ 588.04	\$ 23.58	4.18%
SEWER	706.93	717.50	10.57	1.50%
	<u>\$ 1,271.39</u>	<u>\$ 1,305.54</u>	<u>\$ 34.15</u>	2.69%
RATIO TO GR	1.08	1.07		
GRAND RAPIDS TWP				
WATER	\$ 433.11	\$ 475.19	\$ 42.08	9.72%
SEWER	621.86	598.01	(23.85)	-3.84%
	<u>\$ 1,054.97</u>	<u>\$ 1,073.20</u>	<u>\$ 18.23</u>	1.73%
RATIO TO GR	0.90	0.88		
TALLMADGE TWP				
WATER	\$ 777.58	\$ 885.16	\$ 107.58	13.84%
SEWER	2,403.01	2,396.17	(6.84)	-0.28%
	<u>\$ 3,180.59</u>	<u>\$ 3,281.33</u>	<u>\$ 100.74</u>	3.17%
RATIO TO GR	2.71	2.69		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE COMMERCIAL CUSTOMER
QUARTERLY CONSUMPTION OF : WATER- 212.00 UNITS OR 158,576 GALLONS
SEWER - 208.00 UNITS OR 155,584 GALLONS
NO. OF MONTHS: 3

REU (RESIDENTIAL EQUIVALENT UNIT) CUSTOMER COMMUNITY- APPROXIMATE QUARTERLY BILL

WRIGHT TWP				
SEWER (No. of REU 1.00)	<u>\$ 146.10</u>	<u>\$ 155.19</u>	<u>\$ 9.09</u>	6.22%

CITY OF GRAND RAPIDS, MICHIGAN
2016 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON WHOLESALE CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2017
November 8, 2016

	<u>2016</u>	<u>2017</u>	<u>PERCENTAGE CHANGE</u>
EAST GRAND RAPIDS			
WATER - SERVICE (MONTHLY)	\$ 15,936.00	\$15,615.00	-2.01%
- COMMODITY (100 CF)	1.03	\$0.99	-3.88%
SEWER - SERVICE (MONTHLY)	1,306.00	\$1,569.00	20.14%
- COMMODITY (MG)	1,649.00	1,680.00	1.88%
ADA TWP			
WATER - SERVICE	\$ 31,083.00	\$44,344.00	42.66%
- COMMODITY	1.17	\$1.13	-3.42%
SEWER - SERVICE	42,300.00	\$45,094.00	6.61%
- COMMODITY	2,005.00	2,018.00	0.65%
OTTAWA COUNTY			
WATER - SERVICE	\$ -	\$ -	N/A
- COMMODITY	1.16	\$1.13	-2.59%
GAINES TWP			
SEWER - SERVICE	\$ 1,093.00	\$ 1,566.00	43.28%
- COMMODITY	1,447.00	1,479.00	2.21%
CALEDONIA TWP			
SEWER - SERVICE	\$ 523.00	\$749	43.21%
- COMMODITY	3,541.00	4,361.00	23.16%

NOTE: Monthly defined as 1/12th of 365 days.

**CITY OF GRAND RAPIDS, MICHIGAN
2016 PRELIMINARY WATER/SEWER RATE STUDY
WATER & SEWER RATES FOR GRAND RAPIDS & RETAIL CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2017
November 8, 2016**

WATER RATES

COMMODITY	METER CODE	GRAND RAPIDS	WALKER	KENTWOOD	CASCADE	GR. RAPIDS TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP
CHARGE (HCF)		\$ 1.90	\$ 1.69	\$ 1.68	\$ 2.27	\$ 1.87	\$ 4.01	NA
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 9.70	\$ 12.95	\$ 15.56	\$ 21.27	\$ 16.01	\$ 7.81	NA
1"	B	\$ 15.04	\$ 20.81	\$ 25.45	\$ 35.60	\$ 26.25	\$ 11.68	NA
1-1/4"	C	\$ 21.90	\$ 30.92	\$ 38.17	\$ 54.03	\$ 39.42	\$ 16.65	NA
1-1/2"	D	\$ 30.28	\$ 43.28	\$ 53.72	\$ 76.56	\$ 55.52	\$ 22.72	NA
2"	E	\$ 51.62	\$ 74.73	\$ 93.29	\$ 133.90	\$ 96.49	\$ 38.18	NA
3"	F	\$ 112.60	\$ 164.60	\$ 206.36	\$ 297.72	\$ 213.56	\$ 82.36	NA
4"	G	\$ 197.97	\$ 290.41	\$ 364.65	\$ 527.07	\$ 377.45	\$ 144.21	NA
6" & Over	H	\$ 441.88	\$ 649.88	\$ 816.92	\$ 1,182.36	\$ 845.72	\$ 320.92	NA

SEWER RATES

COMMODITY	METER CODE	GRAND RAPIDS	WALKER	KENTWOOD	CASCADE	GR. RAPIDS TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP
CHARGE (HCF)		\$ 3.34	\$ 2.42	\$ 2.42	\$ 2.66	\$ 2.24	\$ 10.69	NA
REU Charge (Monthly) *		NA	NA	NA	NA	NA	NA	\$ 51.73
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 15.61	\$ 27.05	\$ 6.88	\$ 32.08	\$ 26.06	\$ 33.66	NA
1"	B	\$ 25.46	\$ 45.79	\$ 9.94	\$ 54.74	\$ 44.03	\$ 57.55	NA
1-1/4"	C	\$ 38.12	\$ 69.89	\$ 13.87	\$ 83.87	\$ 67.14	\$ 88.26	NA
1-1/2"	D	\$ 53.59	\$ 99.35	\$ 18.67	\$ 119.47	\$ 95.39	\$ 125.79	NA
2"	E	\$ 92.98	\$ 174.33	\$ 30.90	\$ 210.10	\$ 167.29	\$ 221.33	NA
3"	F	\$ 205.51	\$ 388.55	\$ 65.83	\$ 469.03	\$ 372.71	\$ 494.31	NA
4"	G	\$ 363.06	\$ 688.46	\$ 114.74	\$ 831.54	\$ 660.30	\$ 876.48	NA
6" & Over	H	\$ 813.19	\$ 1,545.35	\$ 254.47	\$ 1,867.27	\$ 1,481.99	\$ 1,968.39	NA

* REU - Residential Equivalent Unit (Wright Township Only)

FIRE PROTECTION RATES- ALL GOVERNMENTAL UNITS

6"	H	\$ 16.40	10"	J	\$ 45.59
8"	I	\$ 29.11	12"	K	\$ 65.60

NOTE: Monthly defined as 1/12th of 365 days.

**86345 Result: Adopted Unanimously.
Mover: O'Connor. Supporter: Kelly.**

WHEREAS:

1. The Water/Sewer rate studies have been undertaken and completed for the years 1976 through 2015; and
2. The 2016 Water/Sewer rate review has been completed using the same general methodology as the 1976 through 2015 Water/Sewer rate studies, as adjusted where appropriate for the uniform water and sanitary sewer service agreements; therefore

RESOLVED:

1. That pursuant to Section 2.33 of Chapter 26 of the City Code, the following City water rates, charges and fees will be as follows:

a. Front foot rate

Domestic	\$81
Commercial	\$132

b. Integrated water connection fees

Size of Water Meter	Base Fee
¾ inch or less	\$2,959
1 inch	\$4,942
1½ inch	\$9,853
2 inches	\$15,771
3 inches	\$34,532
4 inches	\$62,139
6 inches or larger	\$138,097

c. Commodity rates within the City of Grand Rapids

Domestic	\$1.92 per 100 cubic feet
Commercial	\$1.92 per 100 cubic feet
Industrial	\$1.92 per 100 cubic feet

d. Monthly service charge within the City of Grand Rapids

Size of Meter	Charge
¾ inch or less	\$9.77
1 inch	\$15.16
1¼ inch	\$22.09
1½ inch	\$30.56
2 inches	\$52.12
3 inches	\$113.72
4 inches	\$199.96
6 inches or larger	\$446.36

e. Fire protection charge

Size of Pipe	Monthly	Quarterly
6 inches	\$16.40	\$49.20
8 inches	\$29.11	\$87.33
10 inches	\$45.59	\$136.77
12 inches	\$65.60	\$196.80

f. Water service pipe costs

	50 ft.	60 ft.	66 ft.	80 ft.	100 ft.
	R.O.W.	R.O.W.	R.O.W.	R.O.W.	R.O.W.
Cost for 1 inch Water Service	\$2,350	\$2,700	\$2,850	\$3,300	\$3,950
Cost for 1½ inch Water Service	\$3,700	\$4,100	\$4,400	\$5,000	\$5,800
Cost for 2 inches Water Service	\$4,300	\$4,800	\$5,000	\$5,600	\$6,600

- g. Hydrant use permit (pool filling per connection) - \$100 refundable deposit + \$75/week
- h. Hydrant use permit (non-metered connection – residential customers) - \$50
- i. Hydrant use permit (metered connection) - \$300
- j. Metered hydrant connection use fee (per rental up to one season) - City of Grand Rapids account holder - \$500 refundable deposit + \$25/week + metered volume (commodity charges at City of Grand Rapids rate)
- k. Non-account holder - \$2,000 refundable deposit + \$25/week + metered volume (commodity charges at City of Grand Rapids rate)
- l. Hydrant flow test - \$200
- m. Tapping permits (all sizes) - \$375
- n. Meter installation and seasonal turn off/on

Meter Size	Fee
¾ inch or less	\$45
1 inch	\$50
1½ inch	\$75
2 inches	\$75
3 inches	\$110
4 inches or larger	\$220

o. Meter Replacement (Non-System Planned/Scheduled Replacement)

Meter Size	Fee
¾ inch or less	\$175
1 inch	\$250
1½ inch	\$800
2 inches	\$900
3 inches	\$1,100
4 inches or larger	Cost

p. Final or actual meter reading - \$35

q. Meter testing fee – paid by customer if meter is accurate, no charge if meter is faulty

Meter Size	Fee
¾ inch or less	\$100
1 inch	\$200
1½ inch	\$200
2 inches	\$300
3 inches	\$400
4 inches or larger	Cost

r. Meter interface unit replacement - \$150

s. Security deposit - \$500

t. Street opening permit - \$50

u. Water inspection permit (within City) - \$55

v. Water inspection permit (outside City) - \$70

w. Sanitary Service line inspection permit (within City) - \$55

x. Sanitary Service line inspection permit (outside City) - \$70

y. Storm Service line inspection permit (within City) - \$55

z. Storm Service line inspection permit (outside City) - \$70

aa. Footing drain lateral inspection permit (within City) - \$55

bb. Footing drain lateral inspection permit (outside City) - \$70

cc. Sewer lateral service demolition/cap off inspection fee (within City) - \$55

dd. Sewer lateral service demolition/cap off inspection fee (outside City) - \$70

ee. Plumbing service re-inspection fee - \$55

ff. Cross connection re-inspection fee - \$75

gg. Irrigation Service Cut/Cap Administration fee - \$55

- hh. Delinquent Commercial Backflow Test fee (per device) - \$25
- ii. Customer requested onsite service (nonscheduled) - \$100
- jj. Turn-on/turn-off water for real estate inspections - \$110
- kk. Statement research fee – document creation for detailed history of usage, bills and/or payments made beyond 13 months from date of request - \$55
- ll. Late payment penalty – 10% of net
- mm. Processing/review for shut-off, nonpayment, returned payment and/or cross connection noncompliance (administration and/or past fee) - \$55
- nn. Penalty for failure to keep appointment - \$35
- oo. Penalty for each missed appointment thereafter (related to same service) - \$50
- pp. Unauthorized use, operation, tampering, or removal of any Water or Sanitary Sewer System owned or maintained valve, asset, infrastructure, or equipment (for example, but not limited to, bypass valves, meters, meter reading equipment, hydrants, and curb stops - \$500 plus double commodity rate for estimated volume and doubling of penalties for each subsequent infraction
- qq. Unauthorized use or illegal connection to any Water or Sanitary Sewer System owned pipe, property and/or private plumbing system served by the Water and/or Sanitary Sewer System - \$500 plus double commodity rate for estimated volume and doubling of penalties for each subsequent infraction
- rr. Failure to return or return of damaged beyond repair / repairable hydrant connection equipment – Cost + 10%
- ss. Repair/replace damage to fire hydrant – Cost + 10%
- tt. Permit infractions/violations – \$100 plus double the commodity rate for estimated volume and doubling of penalties for each subsequent violation
- uu. Returned check charge - \$30
- vv. Unauthorized service tap of watermain - \$500
- ww. Watermain oversizing rates

8 – 12 inches	\$18.85 per lineal foot
12 – 16 inches	\$23.59 per lineal foot
8 – 16 inches	\$42.44 per lineal foot

xx. Circuit breaker allocation

Individual Circuit Breaker (ICB)	\$231,828
City and Customer Community Circuit Breaker (CCCCB)	\$1,062,768

2. That Pursuant to Section 2.94 of Chapter 27 of the City Code, the following City sewer rates, charges and fees will be as follows:

- a. Front foot rate

Domestic	\$90
Commercial	\$145

b. Integrated sewer connection fees (based on water meter size)

Size of Water Meter	Base Fee
¾ inch or less	\$2,959
1 inch	\$4,942
1½ inch	\$9,853
2 inches	\$15,771
3 inches	\$34,532
4 inches	\$62,139
6 inches or larger	\$138,097

c. Commodity rates within the City of Grand Rapids

Domestic	\$3.35 per 100 cubic feet
Commercial	\$3.35 per 100 cubic feet
Industrial	\$3.35 per 100 cubic feet

d. Monthly service charge within the City of Grand Rapids

Size of Meter	Charge
¾ inch or less	\$15.62
1 inch	\$25.47
1¼ inch	\$38.14
1½ inch	\$53.63
2 inches	\$93.05
3 inches	\$205.67
4 inches	\$363.34
6 inches or larger	\$813.83

e. Wastewater surcharges for industrial customers

BOD	\$0.240
TSS	\$0.408
Phos	\$2.216
NH3	\$0.228

f. Concentrated waste credit

BOD	\$0.081
Phos	\$3.900
NH3	\$0.029

g. Significant industrial user discharge permit fee - \$400 plus the surcharge analytical fees

h. Surcharge analytical fees

Metals	\$7/each
TSS	\$7/each
BOD	\$14/each
Total Phosphate	\$13.50/each
pH	\$8/each
EPA 624	\$60/each
EPA 625	\$115/each
BTEX/MTBE	\$35/each
Sulfide	\$12/each
Oil and Grease	\$25/each
Total Cyanide	\$15/each
Hexavalent Chromium	\$10/each
Fecal Coliform	\$30/each
Mercury	\$15/each
Ammonia	\$9/each
Labor	\$60.48/hour
Sampler	\$35/day
Vehicle	\$3.42/hour

i. Sewer lateral charges

	50 ft.	60 ft.	66 ft.	80 ft.	100 ft.
	R.O.W.	R.O.W.	R.O.W.	R.O.W.	R.O.W.
Cost for 6 inch lateral	\$2,300	\$2,700	\$2,900	\$3,500	\$4,300

j. Sewer oversizing rates

Description	Amount (per lineal foot)
8 – 10 inches	\$4.60
8 – 12 inches	\$9.00
8 – 15 inches	\$16.79
10 – 12 inches	\$4.40
10 – 15 inches	\$12.19
12 – 15 inches	\$7.79

k. Footing drain disconnect opt out charge - \$73.45 per customer per month

3. That the above Water and Sewer rates, charges and fees are approved and shall be effective January 1, 2017.

I hereby certify that the foregoing is a true transcript of the action of the City Commission of the City of Grand Rapids, Michigan, in public session held December 13, 2016.

A handwritten signature in cursive script that reads "Darlene O'Neal".

Darlene O'Neal, City Clerk

**86346 Result: Adopted Unanimously.
Mover: O'Connor. Supporter: Kelly.**

WHEREAS:

1. The Water/Sewer rate studies have been undertaken and completed for the years 1976 through 2015; and
2. The 2016 Water/Sewer Rate Review has been completed using the same general methodology as the 1976 through 2015 Water/Sewer Rate Studies, as adjusted where appropriate for the uniform water and sanitary sewer service agreements; therefore

RESOLVED:

1. That the attached water and sewer rates are approved for retail and wholesale partner communities of the City's Water Supply System and Sanitary Sewer System and shall be effective January 1, 2017; and
2. That the City Clerk is directed to notify the contractual water and sewer service customers in writing of the water and sewer rates, and the Mayor and City Clerk are authorized to take any action as may be required to evidence the new water and sewer rates.

I hereby certify that the foregoing is a true transcript of the action of the City Commission of the City of Grand Rapids, Michigan, in public session held December 13, 2016.



Darlene O'Neal, City Clerk

**SUMMARY OF COMMENTS RECEIVED FOR
20 DAY COMMENT PERIOD FOR 2016 RATE STUDY**

This is the second year of the new public comment period. The public comment period was opened on November 15, 2016 and closed on December 5, 2016. Comments that are received have been transmitted to Enterprise Systems staff and will be considered in the formulation of the FY2018 budget.

There was one comment received for the City of Grand Rapids during the public comment period. Please see the attached letter.

Nov. 30, 2016

Ken Rusilowski
1837 Fuller N.E.
Grand Rapids, MI 49505

City of Grand Rapids, MI
Attn. City Commissioners
Communications
City Clerk Office
300 Monroe Ave. N.W.
Grand Rapids, MI 49503

Dear City Commissioners;

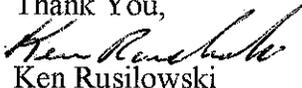
I am against the Proposed Water/Sewer Rate Hike, since there is "Illegal Public Communications That Was "Back Focused On The City of Grand Rapids" which The City of Grand Rapids is INNOCENT.

Since the City Residents Don't Have a Copy of Internal Financial Statements of Operating Costs, City of Grand Rapids has taken action to Reduce Operating Costs, Possibly Delay Rate Hike.

Due to Decline of Industrial Business in Grand Rapids Area, this affects the Personal Finances of City Residents.

I look forward to the future with Best Interests of City Residents.

Thank You,


Ken Rusilowski

kr

STATE OF MICHIGAN)
County of Kent
and County of Ottawa

ss Deja Moller

Being duly sworn deposes and say he/she is Principal Clerk of



THE GRAND RAPIDS PRESS
DAILY EDITION

a newspaper published and circulated in the County of Kent and the County of Ottawa and otherwise qualified according to Supreme Court Rule; and that the annexed notice, taken from said paper, has been duly published in said paper on the following day(days)

November 15 A.D. 20 16

Sworn to and subscribed before me this 15 day of November 20 16

MARIETTA FOLEY
Notary Public, State of Michigan
County of Kent
My Commission Expires: December 23, 2016



**CITY OF
GRAND RAPIDS**

**WATER/SEWER RATES AND CHARGES FOR 2016 NOW
AVAILABLE FOR PUBLIC COMMENT**

The City of Grand Rapids has completed the "Preliminary Water/Sewer 2016 Rate Study" report, which is the basis for recommending rates to become effective January 1, 2017, for all residential, commercial, and industrial users. That report, which also includes information on the Individual Circuit Breaker Program, the program aimed to help retail users requiring assistance in payment of their water/sewer bills, is available for public inspection in the City Clerk's Office, 2nd floor of City Hall, 300 Monroe NW, Grand Rapids, MI 49503 between 8:00 a.m. and 5:00 p.m. weekdays and can also be reviewed at www.grcity.us/waterseweratesstudy. Opportunity for public commentary runs through December 6th. You may submit comments to the City Clerk's Office or by sending an email to info@grcity.us.

The Grand Rapids City Commission is scheduled to consider approval on the rates on Tuesday, December 13, 2016.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: January 4, 2017

TO: Eric R. DeLong
Deputy City Manager

FROM: Molly J. Eastman
Utility Financial Officer

SUBJECT: **2016 WATER/SEWER RATES STUDY PARTNER COMMUNITY CONTRIBUTIONS**

The following communities have elected to make a contribution to reduce their water or sewer 2016 revenue requirement. The below amounts are applied in Task 27.

<u>Community</u>	<u>Utility</u>	<u>Amount</u>
City of Walker	Water	\$87,800
Tallmadge Township	Water	\$ 2,500

MJE:mje

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Ms. Jacqueline Smith, Clerk
Ada Township
7330 Thornapple River Drive
P.O. Box 370
Ada, MI 49301

Dear Jacqueline:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for Ada Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal".

Darlene O'Neal
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Mr. Clem Bell, Clerk
Cascade Charter Township
2865 Thornhills SE
Grand Rapids, MI 49546-7192

Dear Mr. Bell:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for Cascade Charter Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. O'Neal". The signature is fluid and cursive.

Darlene O'Neal
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Ms. Karen Brower, Clerk
City of East Grand Rapids
750 Lakeside Drive SE
East Grand Rapids, MI 49506

Dear Mr. Brower:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for East Grand Rapids are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal". The signature is fluid and cursive.

Darlene O'Neal
City Clerk

DO/eac

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Ms. Crystal Osterink, Clerk
Gaines Charter Township
8555 Kalamazoo Ave., S.E.
Caledonia, MI 49316-8270

Dear Ms. Osterink:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for Gaines charter Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal". The signature is fluid and cursive.

Darlene O'Neal
City Clerk

DO/eac

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Mr. Edward J. Robinette, Clerk
Grand Rapids Charter Township
1836 East Beltline NE
Grand Rapids, MI 49525

Dear Mr. Robinette:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for Grand Rapids Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal".

Darlene O'Neal
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Mr. Dan Kasunic, Clerk
City of Kentwood
4900 Breton Avenue SE
Kentwood, MI 49518-8848

Dear Mr. Kasunic:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for the City of Kentwood are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal".

Darlene O'Neal
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Mr. Patrick J. Staskiewicz, P.E.
Director of Public Utilities
County of Ottawa
Board of County Road Commissioners
U.S. 31 at Rosy Mound Drive, P.O. Box 739
Grand Haven, MI 49417

Dear Mr. Staskiewicz:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for Ottawa County are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal".

Darlene O'Neal
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Ms. Lenore Cook, Clerk
Tallmadge Township Offices
0-1451 Leonard Street NW
Grand Rapids, MI 49504

Dear Ms. Cook:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for Tallmadge Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal".

Darlene O'Neal
City Clerk

DO/eac

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Ms. Sarah Bydalek, City Clerk
City of Walker
4243 Remembrance Road NW
Grand Rapids, MI 49504

Dear Ms. Bydalek:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for the City of Walker are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,


Darlene O'Neal
City Clerk

DO/eac

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Ms. Maureen Carmody, Township Clerk
Wright Township
1565 Jackson
P.O. Box 255
Marne, MI 49435

Dear Ms. Carmody:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for Wright Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal".

Darlene O'Neal
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer

CITY CLERK



CITY OF GRAND RAPIDS

December 20, 2016

Mr. Richard Robertson, Treasurer
Caledonia Township
8196 Broadmoore Ave
Caledonia, MI 49316

Dear Mr. Robertson:

The "2016 Preliminary Water/Sewer Rate Study" recommended water and sewer rate adjustments for the City of Grand Rapids and each customer community contracting with the City of Grand Rapids for water and sewer services.

Customer communities were electronically notified of the recommended rate changes on November 14th, 2016, followed by a thirty-day comment period.

On December 13, 2016, the Grand Rapids City Commission adopted a resolution to approve the new rates with an effective date of January 1, 2017. A certified copy of the resolution and the approved rate schedules for Wright Township are attached for your information.

If you need any further information, please call me at 456-3014.

Sincerely,

A handwritten signature in blue ink that reads "D. O'Neal".

Darlene O'Neal
City Clerk

DO/ec

Enclosures

cc: Tom Almonte, Assistant to the City Manager
Molly Eastman, Utility Financial Officer