

City of Grand Rapids, Michigan

Water/Sewer Rate Study 2021



Final

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: January 1, 2022

TO: Mark Washington, City Manager
Members of the Utility Advisory Board

FROM: Jenessa B. Carter
Utility Financial Officer

SUBJECT: 2021 WATER/SEWER RATE STUDY – FINAL REPORT

The final study, setting water and sewer rates effective January 1, 2022, 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 to 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 2021 review marked the 45th annual water/sewer rate study report and resulted in utility rate increases as follows:

1. Water Supply System revenue requirements increased \$1,868,903, or 4.08% more than revenue generated by existing rates and charges.
2. Sewage Disposal System revenue requirements increased \$2,419,745 or 4.00% more than revenue generated by existing rates and charges.

The final rate study continues to provide funding from the penalty fees and non-operating income to support both of the City's circuit breaker programs. A contribution of \$212,399 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 Walker,

City of Kentwood, Wright Township, Cascade 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 2022 water and sewer rates to the UAB partners and other customer communities was made November 5, 2021. All partner communities participated in a thirty (30) day comment period following notification of the rates as provided in the water/sewer service agreements.

Pursuant to Section 2.33 and 2.94 of the City Code, on November 9, 2021, the preliminary rate study with explanatory materials were filed with the City Clerk, made available online at <https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Study>, 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 14, 2021.

Attachments as named

JBC:jbc

**CITY OF GRAND RAPIDS, MICHIGAN
2021 FINAL WATER/SEWER RATE STUDY
SUMMARY OF REVENUE REQUIREMENT CHANGES
FOR RATES EFFECTIVE JANUARY 1, 2022**

	<u>WATER (1)</u>		<u>SEWER (1)</u>		
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>	
RETAIL COMMUNITIES	GRAND RAPIDS	\$ 1,320,344	4.95%	\$ 1,038,156	2.54%
	WALKER	178,450	4.95%	317,420	6.08%
	KENTWOOD	223,327	4.95%	421,109	8.64%
	CASCADE TWP	96,380	2.74%	198,958	6.95%
	GRAND RAPIDS TWP	(8,935)	-0.35%	31,901	1.10%
	TALLMADGE TWP	5,911	2.71%	9,740	2.06%
	WRIGHT TWP	N/A	N/A	12,854	4.01%
WHOLESALE COMMUNITIES	EAST GRAND RAPIDS	8,972	1.06%	154,384	13.56%
	ADA TWP	7,472	0.54%	106,370	7.26%
	OTTAWA COUNTY	36,982	1.47%	NA	NA
	GAINES TWP	N/A	N/A	94,004	41.88%
	CALEDONIA TWP	N/A	N/A	34,849	19.94%
<hr/>					
	SYSTEM	\$ 1,868,903	4.08%	\$ 2,419,745	4.00%
<hr/>					

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

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 REVENUE REQUIREMENT	\$ 47,692,896	4.08%	\$ 62,943,059	4.00%
ADD: CCCC B RELIEF	398,233	0.87%	525,768	0.87%
SYSTEM CHANGE- WITHOUT RELIEF	<u>\$ 48,091,129</u>	<u>4.95%</u>	<u>\$ 63,468,827</u>	<u>4.87%</u>

**CITY OF GRAND RAPIDS, MICHIGAN
2021 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON DOMESTIC USERS
BY CUSTOMER COMMUNITY *
FOR RATES EFFECTIVE JANUARY 1, 2022**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2021</u>	<u>2022</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 95.10	\$ 99.90	\$ 4.80	5.05%
SEWER	133.06	136.25	3.19	2.40%
	<u>\$ 228.16</u>	<u>\$ 236.15</u>	<u>\$ 7.99</u>	3.50%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 94.50	\$ 99.36	\$ 4.86	5.14%
SEWER	151.07	160.26	9.19	6.08%
	<u>\$ 245.57</u>	<u>\$ 259.62</u>	<u>\$ 14.05</u>	5.72%
RATIO TO GR	1.08	1.10		
KENTWOOD				
WATER	\$ 96.27	\$ 101.37	\$ 5.10	5.30%
SEWER	87.22	94.67	7.45	8.54%
	<u>\$ 183.49</u>	<u>\$ 196.04</u>	<u>\$ 12.55</u>	6.84%
RATIO TO GR	0.80	0.83		
CASCADE TWP				
WATER	\$ 135.87	\$ 139.89	\$ 4.02	2.96%
SEWER	172.91	184.91	12.00	6.94%
	<u>\$ 308.78</u>	<u>\$ 324.80</u>	<u>\$ 16.02</u>	5.19%
RATIO TO GR	1.35	1.38		
GRAND RAPIDS TWP				
WATER	\$ 112.05	\$ 111.81	\$ (0.24)	-0.21%
SEWER	147.63	149.34	1.71	1.16%
	<u>\$ 259.68</u>	<u>\$ 261.15</u>	<u>\$ 1.47</u>	0.57%
RATIO TO GR	1.14	1.11		
TALLMADGE TWP				
WATER	\$ 87.60	\$ 90.96	\$ 3.36	3.84%
SEWER	255.70	261.10	5.40	2.11%
	<u>\$ 343.30</u>	<u>\$ 352.06</u>	<u>\$ 8.76</u>	2.55%
RATIO TO GR	1.50	1.49		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER
QUARTERLY CONSUMPTION OF: WATER- 30.00 UNITS OR 22,440 GALLONS
SEWER - 20.00 UNITS OR 14,960 GALLONS
NO. OF MONTHS: 3

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

WRIGHT TWP-				
SEWER (No. of REU 1.00)	<u>\$ 189.54</u>	<u>\$ 197.16</u>	<u>\$ 7.62</u>	4.02%

**CITY OF GRAND RAPIDS, MICHIGAN
2021 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON COMMERCIAL USERS
BY CUSTOMER COMMUNITY
FOR RATES EFFECTIVE JANUARY 1, 2022**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2021</u>	<u>2022</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 442.34	\$ 464.07	\$ 21.73	4.91%
SEWER	837.76	876.68	38.92	4.65%
	<u>\$ 1,280.10</u>	<u>\$ 1,340.75</u>	<u>\$ 60.65</u>	4.74%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 403.00	\$ 423.49	\$ 20.49	5.08%
SEWER	675.02	715.83	40.81	6.05%
	<u>\$ 1,078.02</u>	<u>\$ 1,139.32</u>	<u>\$ 61.30</u>	5.69%
RATIO TO GR	0.84	0.85		
KENTWOOD				
WATER	\$ 388.38	\$ 407.93	\$ 19.55	5.03%
SEWER	593.71	644.60	50.89	8.57%
	<u>\$ 982.09</u>	<u>\$ 1,052.53</u>	<u>\$ 70.44</u>	7.17%
RATIO TO GR	0.77	0.79		
CASCADE TWP				
WATER	\$ 550.36	\$ 565.24	\$ 14.88	2.70%
SEWER	748.97	800.66	51.69	6.90%
	<u>\$ 1,299.33</u>	<u>\$ 1,365.90</u>	<u>\$ 66.57</u>	5.12%
RATIO TO GR	1.02	1.02		
GRAND RAPIDS TWP				
WATER	\$ 465.63	\$ 463.37	\$ (2.26)	-0.49%
SEWER	645.45	652.47	7.02	1.09%
	<u>\$ 1,111.08</u>	<u>\$ 1,115.84</u>	<u>\$ 4.76</u>	0.43%
RATIO TO GR	0.87	0.83		
TALLMADGE TWP				
WATER	\$ 497.35	\$ 512.42	\$ 15.07	3.03%
SEWER	1,710.40	1,745.92	35.52	2.08%
	<u>\$ 2,207.75</u>	<u>\$ 2,258.34</u>	<u>\$ 50.59</u>	2.29%
RATIO TO GR	1.72	1.68		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE COMMERCIAL CUSTOMER
QUARTERLY CONSUMPTION OF : WATER- 190.00 UNITS OR 142,120 GALLONS
SEWER - 182.00 UNITS OR 136,136 GALLONS
NO. OF MONTHS: 3

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

WRIGHT TWP				
SEWER (No. of REU 1.00)	<u>\$ 189.54</u>	<u>\$ 197.16</u>	<u>\$ 7.62</u>	4.02%

**CITY OF GRAND RAPIDS, MICHIGAN
2021 FINAL WATER/SEWER RATE STUDY
WATER & SEWER RATES FOR GRAND RAPIDS & RETAIL CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2022**

WATER RATES

COMMODITY	METER CODE	GRAND RAPIDS	WALKER	KENTWOOD	CASCADE	GR. RAPIDS TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP
CHARGE (HCF)		\$ 2.16	\$ 1.87	\$ 1.73	\$ 2.38	\$ 2.00	\$ 2.63	NA
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 11.70	\$ 14.42	\$ 16.49	\$ 22.83	\$ 17.27	\$ 4.02	NA
1"	B	\$ 17.89	\$ 22.73	\$ 26.41	\$ 37.68	\$ 27.79	\$ 4.24	NA
1-1/4"	C	\$ 25.85	\$ 33.41	\$ 39.16	\$ 56.77	\$ 41.32	\$ 4.52	NA
1-1/2"	D	\$ 35.58	\$ 46.46	\$ 54.74	\$ 80.10	\$ 57.86	\$ 4.86	NA
2"	E	\$ 60.34	\$ 79.69	\$ 94.41	\$ 139.49	\$ 99.95	\$ 5.73	NA
3"	F	\$ 131.10	\$ 174.62	\$ 207.74	\$ 309.18	\$ 220.22	\$ 8.22	NA
4"	G	\$ 230.16	\$ 307.53	\$ 366.41	\$ 546.74	\$ 388.59	\$ 11.70	NA
6" & Over	H	\$ 513.18	\$ 687.26	\$ 819.74	\$ 1,225.50	\$ 869.66	\$ 21.66	NA

SEWER RATES

COMMODITY	METER CODE	GRAND RAPIDS	WALKER	KENTWOOD	CASCADE	GR. RAPIDS TOWNSHIP	TALLMADGE TOWNSHIP	WRIGHT TOWNSHIP
CHARGE (HCF)		\$ 4.39	\$ 3.00	\$ 3.31	\$ 3.28	\$ 2.70	\$ 8.81	NA
REU Charge (Monthly) *		NA	NA	NA	NA	NA	NA	\$ 65.72
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 16.15	\$ 33.42	\$ 9.49	\$ 39.77	\$ 31.78	\$ 28.30	NA
1"	B	\$ 25.90	\$ 56.61	\$ 14.06	\$ 67.90	\$ 53.69	\$ 47.50	NA
1-1/4"	C	\$ 38.44	\$ 86.42	\$ 19.94	\$ 104.06	\$ 81.86	\$ 72.19	NA
1-1/2"	D	\$ 53.77	\$ 122.85	\$ 27.13	\$ 148.25	\$ 116.29	\$ 102.37	NA
2"	E	\$ 92.78	\$ 215.59	\$ 45.42	\$ 260.75	\$ 203.93	\$ 179.18	NA
3"	F	\$ 204.25	\$ 480.57	\$ 97.69	\$ 582.17	\$ 454.33	\$ 398.65	NA
4"	G	\$ 360.30	\$ 851.54	\$ 170.86	\$ 1,032.16	\$ 804.89	\$ 705.90	NA
6" & Over	H	\$ 806.17	\$ 1,911.45	\$ 379.93	\$ 2,317.85	\$ 1,806.49	\$ 1,583.77	NA

* REU - Residential Equivalent Unit (Wright Township Only)

FIRE PROTECTION RATES- ALL GOVERNMENTAL UNITS

6"	H	\$ 20.77	10"	J	\$ 57.75
8"	I	\$ 36.86	12"	K	\$ 83.11

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

**CITY OF GRAND RAPIDS, MICHIGAN
2021 FINAL WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON WHOLESALE CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2022**

	<u>2021</u>	<u>2022</u>	<u>PERCENTAGE CHANGE</u>
EAST GRAND RAPIDS			
WATER - SERVICE (MONTHLY)	\$15,299.00	\$15,106.00	-1.26%
- COMMODITY (100 CF)	\$1.18	\$1.20	1.69%
SEWER - SERVICE (MONTHLY)	\$1,918.00	\$1,851.00	-3.49%
- COMMODITY (MG)	\$2,538.00	\$2,891.00	13.91%
ADA TWP			
WATER - SERVICE	\$48,464.00	\$47,613.00	-1.76%
- COMMODITY	\$1.35	\$1.38	2.22%
SEWER - SERVICE	\$41,740.00	\$39,377.00	-5.66%
- COMMODITY	\$3,407.00	\$3,883.00	13.97%
OTTAWA COUNTY			
WATER - SERVICE	\$416.00	\$172.00	-58.65%
- COMMODITY	\$1.26	\$1.28	1.59%
GAINES TWP			
SEWER - SERVICE	\$1,566.00	\$1,590.00	1.53%
- COMMODITY	\$1,982.00	\$2,885.00	45.56%
CALEDONIA TWP			
SEWER - SERVICE	\$708.00	\$786.00	11.02%
- COMMODITY	\$6,596.00	\$7,941.00	20.39%

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, 2021
TASKS NO. 1, 2, & 3**

COMMUNITY	LOCAL		INTERMEDIATE		PRIMARY		TOTALS	
	FEET	MILES	FEET	MILES	FEET	MILES	FEET	MILES
Grand Rapids								
Construction	16,244	3.08	10,570	2.00	4,441	0.84	31,255	5.92
Abandonment	(17,296)	(3.28)	(8,063)	(1.53)	(2,667)	(0.51)	(28,025)	(5.32)
CSO Construction	0	0.00	0	0.00	0	0.00	0	0.00
CSO Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	(1,052)	(0.20)	2,507	0.47	1,774	0.33	3,229	0.60
Kentwood								
Construction	0	0.00	952	0.18	0	0.00	952	0.18
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	0	0.00	952	0.18	0	0.00	952	0.18
Cascade 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
	0	0.00	0	0.00	0	0.00	0	0.00
G.R. Twp.								
Construction	4,493	0.85	4,464	0.85	0	0.00	8,957	1.70
Abandonment	(38)	(0.01)	0	0.00	0	0.00	(38)	(0.01)
	4,455	0.84	4,464	0.85	0	0.00	8,919	1.69
Tallmadge 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
	0	0.00	0	0.00	0	0.00	0	0.00
Walker								
Construction	1,146	0.22	7,529	1.43	0	0.00	8,674	1.65
Abandonment	0	0.00	(1,363)	(0.26)	0	0.00	(1,363)	(0.26)
	1,146	0.22	6,166	1.17	0	0.00	7,311	1.39
TOTAL	4,549	0.86	14,089	2.67	1,774	0.33	20,411	3.86

	CONTRIBUTIONS		
	COMM	OTHER	TOTAL
Integrated	\$ -	\$ -	\$ -
Grand Rapids	295,122	-	295,122
Walker	659,227	-	659,227
Kentwood	100,250	-	100,250
Cascade Twp.	-	-	-
Grand Rapids Twp.	1,068,700	-	1,068,700
Tallmadge Twp.	-	-	-
TOTAL	\$ 2,123,299	\$ -	\$ 2,123,299

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #4, PART 1
FISCAL YEAR ENDED JUNE 30, 2021**

	ACTIVITY	EXPENSE BY ACTIVITY	FILTRATION PLANT	PUMPING STATIONS		WATERMAINS			RETAIL CUSTOMER METERING	ENGIN. SERVICES	ADMIN. EXPENSE
				PRIMARY	INTERM.	PRIMARY TRANSPORT	INTERMED. TRANSPORT	LOCAL DISTRIBUTION			
253 (4010) 5910	TREASURER-CUSTOMER SERVICE	\$ 982,157							\$ 982,157		
536 (2110 / 2700) 5910	WATER-CUSTOMER SERVICE *	2,901,538							2,901,538		
536 (3010:70) 5910	ENGINEERING	1,248,934								1,248,934	
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	3,014,745		745,123	2,269,622						
536 (6010 / 6370) 5910	FIELD OPERATIONS	6,847,226				350,920	1,819,513	4,676,793			
536 (6500:90) 5910	FILTRATION	7,731,856	7,731,856								
	SUBTOTAL OPERATING EXPENSE	22,726,456	7,731,856	745,123	2,269,622	350,920	1,819,513	4,676,793	3,883,695	1,248,934	-
536 (1000:10 / 8000) 5910	ADMINISTRATION	3,354,236									3,354,236
	TOTAL	\$ 26,080,692	\$ 7,731,856	\$ 745,123	\$ 2,269,622	\$ 350,920	\$ 1,819,513	\$ 4,676,793	\$ 3,883,695	\$ 1,248,934	\$ 3,354,236

* 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%		24.720%	75.280%						
536 (6010 / 6370) 5910	FIELD OPERATIONS	100.000%				5.125%	26.573%	68.302%			
	TOTAL MILES OF MAIN 1,191.75					61.08	316.68	813.99			
536 (6500:90) 5910	FILTRATION	100.000%	100.000%								
536 (1000:10 / 8000) 5910	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, 2021**

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	\$ 7,731,856	\$ 7,731,856										
PUMPING STATIONS:												
A. PRIMARY TRANSPORT	745,123	745,123										
B. INTERMEDIATE TRANSPORT	2,269,622		1,831,221	20,585	417,816	-	-	-				
WATERMAINS:												
A. PRIMARY TRANSPORT	350,920		291,112	18,501	26,312	9,650	5,345	-	-	-	-	-
B. INTERMEDIATE TRANSPORT	1,819,513		680,589	395,471	323,182	242,341	152,366	25,564	-	-	-	-
C. LOCAL DISTRIBUTION	4,676,793		3,411,674	369,934	321,623	259,235	296,883	17,444	-	-	-	-
RETAIL CUSTOMER METERING	3,883,695		2,875,061	321,764	269,140	186,845	214,496	16,389				
SUBTOTAL OPERATING EXPENSE	21,477,522	8,476,979	9,089,657	1,126,255	1,358,073	698,071	669,090	59,397	-	-	-	-
ENGINEERING SERVICES	1,248,934	492,942	528,574	65,494	78,970	40,590	38,904	3,460	-	-	-	-
ADMINISTRATIVE EXPENSE	3,354,236	943,289	1,975,762	125,329	151,116	77,673	74,447	6,620	-	-	-	-
TOTAL	<u>\$ 26,080,692</u>	<u>\$ 9,913,211</u>	<u>\$ 11,593,992</u>	<u>\$ 1,317,078</u>	<u>\$ 1,588,159</u>	<u>\$ 816,334</u>	<u>\$ 782,441</u>	<u>\$ 69,477</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

METHOD OF DISTRIBUTION

FILTRATION PLANTS		100.00%	100.00%									
PUMPING STATIONS:												
A. PRIMARY TRANSPORT		100.00%	100.00%									
B. INTERMEDIATE TRANSPORT		100.00%		80.684%	0.907%	18.409%						
MEMO												
WATERMAINS												
TOTAL MILES:	1,191.75											
A. PRIMARY TRANSPORT		100.000%		82.957%	5.272%	7.498%	2.750%	1.523%				
MILES	61.08			50.67	3.22	4.58	1.68	0.93	-	-	-	-
B. INTERMEDIATE TRANSPORT		100.000%		37.405%	21.735%	17.762%	13.319%	8.374%	1.405%			
MILES	316.68			118.45	68.83	56.25	42.18	26.52	4.45	-	-	-
C. LOCAL DISTRIBUTION		100.000%		72.949%	7.910%	6.877%	5.543%	6.348%	0.373%			
MILES	813.99			593.79	64.39	55.98	45.12	51.67	3.04	-	-	-
RETAIL CUSTOMER METERING (1)		100.000%		74.029%	8.285%	6.930%	4.811%	5.523%	0.422%			
NUMBER OF METERS	80,625.00			59,686.00	6,680.00	5,587.00	3,879.00	4,453.00	340.00			
ENGINEERING SERVICES (2)		100.000%	39.469%	42.322%	5.244%	6.323%	3.250%	3.115%	0.277%			
ADMINISTRATIVE EXPENSE (3)		100.000%	28.124%	58.903%	3.736%	4.505%	2.316%	2.219%	0.197%			

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 SUPPLY SYSTEM FUND
 ADJUSTED OPERATING EXPENSE ALLOCATION BY COST CENTER - TASK #5, PART 1
 FISCAL YEAR ENDED JUNE 30, 2021**

	ACTIVITY	ADJUSTED EXPENSE BY ACTIVITY	FILTRATION PLANT	PUMPING STATIONS		WATERMAINS			RETAIL CUSTOMER METERING	ENGIN. SERVICES	ADMIN. EXPENSE
				PRIMARY	INTERM.	PRIMARY TRANSPORT	INTERMED. TRANSPORT	LOCAL DISTRIBUTION			
253 (4010) 5910	TREASURER-CUSTOMER SERVICE	\$ 988,776							\$ 988,776		
536 (2110 / 2700) 5910	WATER-CUSTOMER SERVICE *	2,505,261							2,505,261		
536 (3010:70) 5910	ENGINEERING	1,294,761								1,294,761	
536 (4510:80) 5910	COLDBROOK DISTRIBUTION	3,056,958		755,556	2,301,402						
536 (6010 / 6370) 5910	FIELD OPERATIONS	6,321,200				323,961	1,679,732	4,317,507			
536 (6500:90) 5910	FILTRATION	8,419,602	8,419,602								
	SUBTOTAL OPERATING EXPENSE	22,586,557	8,419,602	755,556	2,301,402	323,961	1,679,732	4,317,507	3,494,038	1,294,761	-
536 (1000:10 / 8000) 5910	ADMINISTRATION	4,301,519									4,301,519
	TOTAL	<u>\$ 26,888,077</u>	<u>\$ 8,419,602</u>	<u>\$ 755,556</u>	<u>\$ 2,301,402</u>	<u>\$ 323,961</u>	<u>\$ 1,679,732</u>	<u>\$ 4,317,507</u>	<u>\$ 3,494,038</u>	<u>\$ 1,294,761</u>	<u>\$ 4,301,519</u>

* 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%		24.720%	75.280%						
536 (6010 / 6370) 5910	FIELD OPERATIONS	100.000%				5.125%	26.573%	68.302%			
	TOTAL MILES OF MAIN 1,191.75					61.08	316.68	813.99			
536 (6500:90) 5910	FILTRATION	100.000%	100.000%								
536 (1000:10 / 8000) 5910	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, 2021**

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	\$ 8,419,602	\$ 8,419,602										
PUMPING STATIONS:												
A. PRIMARY TRANSPORT	755,556	755,556										
B. INTERMEDIATE TRANSPORT	2,301,402		1,856,861	20,874	423,667	-	-	-				
WATERMAINS:												
A. PRIMARY TRANSPORT	323,961		268,748	17,079	24,291	8,909	4,934	-	-	-	-	-
B. INTERMEDIATE TRANSPORT	1,679,732		628,303	365,090	298,354	223,724	140,661	23,600	-	-	-	-
C. LOCAL DISTRIBUTION	4,317,507		3,149,579	341,515	296,915	239,319	274,075	16,104	-	-	-	-
RETAIL CUSTOMER METERING	3,494,038		2,586,601	289,481	242,137	168,098	192,976	14,745				
SUBTOTAL OPERATING EXPENSE	21,291,796	9,175,158	8,490,091	1,034,039	1,285,364	640,050	612,646	54,449	-	-	-	-
ENGINEERING SERVICES	1,294,761	557,937	516,286	62,887	78,165	38,921	37,250	3,315	-	-	-	-
ADMINISTRATIVE EXPENSE	4,301,519	1,438,081	2,295,009	162,089	201,469	100,317	96,012	8,543	-	-	-	-
TOTAL	<u>\$ 26,888,077</u>	<u>\$ 11,171,176</u>	<u>\$ 11,301,385</u>	<u>\$ 1,259,015</u>	<u>\$ 1,564,998</u>	<u>\$ 779,288</u>	<u>\$ 745,908</u>	<u>\$ 66,307</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

9-W

METHOD OF DISTRIBUTION

FILTRATION PLANTS		100.00%	100.00%									
PUMPING STATIONS:												
A. PRIMARY TRANSPORT		100.00%	100.00%									
B. INTERMEDIATE TRANSPORT		100.00%		80.684%	0.907%	18.409%						
MEMO												
WATERMAINS												
TOTAL MILES:	1,191.75											
A. PRIMARY TRANSPORT		100.000%		82.957%	5.272%	7.498%	2.750%	1.523%				
MILES	61.08			50.67	3.22	4.58	1.68	0.93	-	-	-	-
B. INTERMEDIATE TRANSPORT		100.000%		37.405%	21.735%	17.762%	13.319%	8.374%	1.405%			
MILES	316.68			118.45	68.83	56.25	42.18	26.52	4.45	-	-	-
C. LOCAL DISTRIBUTION		100.000%		72.949%	7.910%	6.877%	5.543%	6.348%	0.373%			
MILES	813.99			593.79	64.39	55.98	45.12	51.67	3.04	-	-	-
RETAIL CUSTOMER METERING (1)		100.000%		74.029%	8.285%	6.930%	4.811%	5.523%	0.422%			
NUMBER OF METERS	80,625.00			59,686.00	6,680.00	5,587.00	3,879.00	4,453.00	340.00			
ENGINEERING SERVICES (2)		100.000%	43.092%	39.875%	4.857%	6.037%	3.006%	2.877%	0.256%			
ADMINISTRATIVE EXPENSE (3)		100.000%	33.432%	53.353%	3.768%	4.684%	2.332%	2.232%	0.199%			

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 SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
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	\$ 545,019.81	\$ 20,601.75	\$ 565,621.56
7055	TIME & ONE-HALF	2,279.36	86.16	2,365.52
7105	EMPLOYERS SOCIAL SECURITY	38,733.80	1,464.14	40,197.94
7110	HOSPITALIZATION INSURANCE	91,629.93	7,916.83	99,546.76
7115	RETIREE HEALTH CARE	31,725.11	(2,331.80)	29,393.31
7120	RETIREMENT FUND CONTRIBUTION	123,941.16	15,480.25	139,421.41
7135	UNEMPLOYMENT COMPENSATION	750.99	-	750.99
7175	FOOD/CLEAN/CAR ALLOW	2,915.00	-	2,915.00
	TOTAL PERSONAL SERVICES	<u>836,995.16</u>	<u>43,217.33</u>	<u>880,212.49</u>
7520	SUPPLIES	10,820.43	-	10,820.43
7800	INVENTORY - COST OF GOODS SOLD	(27,505.11)	-	(27,505.11)
	TOTAL SUPPLIES	<u>(16,684.68)</u>	<u>-</u>	<u>(16,684.68)</u>
8010	CONTRACTUAL SERVICES	556,220.61	906,113.65	1,462,334.26
8011	CONTRACT EMPLOYEES - TEMP SERVICES	13,593.55	-	13,593.55
8016	CONTRACTS- EXTERNAL LEGAL SERVICES	483.00	-	483.00
8030	ADMINISTRATIVE SERVICES (ICB)	82,234.17	(82,234.17)	-
8240	FEES	28,305.54	-	28,305.54
8400	INSURANCE PREMIUMS	328,810.00	-	328,810.00
8450	GENERAL LIABILITY INSURANCE/CLAIMS	273,966.00	(46,063.00)	227,903.00
8500	TELEPHONE	2,967.83	-	2,967.83
8510	POSTAGE	246.64	-	246.64
8800	COMMUNITY PROMOTION	547.21	-	547.21
9000	PRINTING & PUBLISHING	6,037.36	-	6,037.36
9100	PROFESSIONAL DEVELOPMENT	3,435.00	-	3,435.00
9110	OTHER TRAVEL & TRAINING	9,176.57	-	9,176.57
9131	FOOD-BEVERAGE	182.00	-	182.00
9150	MEMBERSHIPS	48,864.50	-	48,864.50
9180	WATER	4,482.21	-	4,482.21
9190	REFUSE COLLECTION CHARGES	7,346.67	-	7,346.67
9200	ELECTRICITY	49,722.25	58,174.00	107,896.25
9210	NATURAL GAS	18,852.28	-	18,852.28
9340	MAINTENANCE SERVICE	40,770.63	-	40,770.63
9400	LAND RENTAL OR LEASE	3,821.49	-	3,821.49
9430	BUILDINGS RENTALS OR LEASE	6,186.01	-	6,186.01
9460	ENGINEERING SERVICES	13,780.85	-	13,780.85
9470	VEHICLE USAGE/CAR MILEAGE	2,759.99	-	2,759.99
9480	COMPUTER SERVICES	34,896.00	(4,846.00)	30,050.00
9650	BAD DEBT WRITE-OFFS	4,203.39	-	4,203.39
	TOTAL OTHER SERVICES & CHARGES	<u>1,541,891.75</u>	<u>831,144.48</u>	<u>2,373,036.23</u>
9760	EQUIPMENT	90,666.58	-	90,666.58
9800	FURNITURE	1,741.65	-	1,741.65
9840	SOFTWARE	504.12	-	504.12
9880	CONSTRUCTION IN PROGRESS	1,620.00	-	1,620.00
	TOTAL CAPITAL	<u>94,532.35</u>	<u>-</u>	<u>94,532.35</u>
9510	A-87 COST ALLOCATION	897,501.00	72,922.00	970,423.00
	TOTAL TRANSFERS/FEES	<u>897,501.00</u>	<u>72,922.00</u>	<u>970,423.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 3,354,235.58</u>	<u>\$ 947,283.81</u>	<u>\$ 4,301,519.39</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
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	\$ 1,535,648.25	\$ 58,047.50	\$ 1,593,695.75
7025	ACT.ASSIGNMENT	4,909.27	185.57	5,094.84
7040	TEMPORARY EMPLOYEES	(11.02)	(0.42)	(11.44)
7050	REGULAR HOURLY RATE	1,067.12	40.34	1,107.46
7055	TIME & ONE-HALF	105,136.02	3,974.14	109,110.16
7105	EMPLOYERS SOCIAL SECURITY	116,956.65	4,420.96	121,377.61
7110	HOSPITALIZATION INSURANCE	366,229.41	31,642.22	397,871.63
7115	RETIREE HEALTH CARE	91,472.19	(6,723.21)	84,748.98
7120	RETIREMENT FUND CONTRIBUTION	357,557.44	44,658.92	402,216.36
7135	UNEMPLOYMENT COMPENSATION	2,149.76	-	2,149.76
7165	SHIFT DIFFERENTIAL	1,761.75	-	1,761.75
7170	ELECTION WRKR-BRD MEMBERS PAY	200.00	-	200.00
7175	FOOD/CLEAN/CAR ALLOW	150.00	-	150.00
	TOTAL PERSONAL SERVICES	<u>2,583,226.84</u>	<u>136,246.02</u>	<u>2,719,472.86</u>
7520	SUPPLIES	1,129,236.26	-	1,129,236.26
7670	CLOTHING/CLEANING ALLOWANCE	4,734.12	-	4,734.12
	TOTAL SUPPLIES	<u>1,133,970.38</u>	<u>-</u>	<u>1,133,970.38</u>
8010	CONTRACTUAL SERVICES	735,046.99	200,000.00	935,046.99
8011	CONTRACT EMPLOYEES - TEMP SERVICES	19,474.16	-	19,474.16
8240	FEES	30.00	-	30.00
8500	TELEPHONE	15,661.68	-	15,661.68
8510	POSTAGE	8,024.20	-	8,024.20
9340	MAINTENANCE SERVICE	1,793.34	-	1,793.34
9410	EQUIPMENT RENTALS OR LEASE	15,756.43	-	15,756.43
9440	FLEET MANAGEMENT EQUIPMENT	139,498.41	-	139,498.41
9450	311 CALL CENTER SERVICES	526,562.00	-	526,562.00
9470	VEHICLE RENTAL/CAR MILEAGE	12,179.31	-	12,179.31
9480	COMPUTER SERVICES	163,044.00	(22,662.00)	140,382.00
9480	COMPUTER SERVICES (CIS-DEPR & ROI)	-	57,191.00	57,191.00
9650	BAD DEBT WRITE-OFFS	(303.43)	-	(303.43)
	TOTAL OTHER SERVICES & CHARGES	<u>1,636,767.09</u>	<u>234,529.00</u>	<u>1,871,296.09</u>
9760	EQUIPMENT	14,063.11	-	14,063.11
9840	SOFTWARE	622.24	-	622.24
	TOTAL CAPITAL	<u>14,685.35</u>	<u>-</u>	<u>14,685.35</u>
9510	A-87 COST ALLOCATION	73,686.00	(21,298.00)	52,388.00
	TOTAL TRANSFERS/FEES	<u>73,686.00</u>	<u>(21,298.00)</u>	<u>52,388.00</u>
	ORGANIZATIONAL UNIT TOTAL (GROSS)	\$ 5,442,335.66	\$ 349,477.02	\$ 5,791,812.68
	LESS: SDSF CONTRIBUTION *	(2,540,798.00)	(745,753.52)	(3,286,551.52)
	ORGANIZATIONAL UNIT TOTAL (NET)	<u>\$ 2,901,537.66</u>	<u>\$ (396,276.50)</u>	<u>\$ 2,505,261.16</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, 2021
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	\$ 678,005.40	\$ 25,628.60	\$ 703,634.00
7055	TIME & ONE-HALF	867.38	32.79	900.17
7105	EMPLOYERS SOCIAL SECURITY	49,923.39	1,887.10	51,810.49
7110	HOSPITALIZATION INSURANCE	126,880.70	10,962.49	137,843.19
7115	RETIREE HEALTH CARE	39,084.62	(2,872.72)	36,211.90
7120	RETIREMENT FUND CONTRIBUTION	152,775.10	19,081.61	171,856.71
7135	UNEMPLOYMENT COMPENSATION	912.00	-	912.00
	TOTAL PERSONAL SERVICES	<u>1,048,448.59</u>	<u>54,719.87</u>	<u>1,103,168.46</u>
7520	SUPPLIES	900.79	-	900.79
7670	CLOTHING/CLEANING ALLOWANCE	248.64	-	248.64
7910	SUBSCRIPTIONS AND PUBLICATIONS	108.00	-	108.00
	TOTAL SUPPLIES	<u>1,257.43</u>	<u>-</u>	<u>1,257.43</u>
8010	CONTRACTUAL SERVICES	85,874.62	-	85,874.62
8500	TELEPHONE	5,077.76	-	5,077.76
9340	MAINTENANCE SERVICE	1,367.66	-	1,367.66
9440	FLEET MANAGEMENT EQUIPMENT	20,899.20	-	20,899.20
9470	VEHICLE RENTAL/CAR MILEAGE	920.15	-	920.15
9480	COMPUTER SERVICES	63,984.00	(8,893.00)	55,091.00
	TOTAL OTHER SERVICES & CHARGES	<u>178,123.39</u>	<u>(8,893.00)</u>	<u>169,230.39</u>
9954	OPERATING TRANS-DEV CENTER	21,105.00	-	21,105.00
	TOTAL TRANSFERS/FEES	<u>21,105.00</u>	<u>-</u>	<u>21,105.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 1,248,934.41</u>	<u>\$ 45,826.87</u>	<u>\$ 1,294,761.28</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: DISTRIBUTION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 535,210.42	\$ 20,230.95	\$ 555,441.37
7055	TIME & ONE-HALF	17,008.13	642.91	17,651.04
7105	EMPLOYERS SOCIAL SECURITY	39,820.71	1,505.22	41,325.93
7110	HOSPITALIZATION INSURANCE	109,652.79	9,474.00	119,126.79
7115	RETIREE HEALTH CARE	30,784.54	(2,262.66)	28,521.88
7120	RETIREMENT FUND CONTRIBUTION	120,458.64	15,045.28	135,503.92
7135	UNEMPLOYMENT COMPENSATION	724.40	-	724.40
7165	SHIFT DIFFERENTIAL	9.55	-	9.55
	TOTAL PERSONAL SERVICES	<u>853,669.18</u>	<u>44,635.70</u>	<u>898,304.88</u>
7520	SUPPLIES	57,984.83	-	57,984.83
7670	CLOTHING/CLEANING ALLOWANCE	1,890.35	-	1,890.35
	TOTAL SUPPLIES	<u>59,875.18</u>	<u>-</u>	<u>59,875.18</u>
8010	CONTRACTUAL SERVICES	609,787.76	-	609,787.76
8240	FEES	16.95	-	16.95
8500	TELEPHONE	6,783.42	-	6,783.42
9180	WATER	18,076.77	-	18,076.77
9200	ELECTRICITY	1,245,997.35	-	1,245,997.35
9210	NATURAL GAS	76,477.16	-	76,477.16
9340	MAINTENANCE SERVICE	28,707.84	-	28,707.84
9410	EQUIPMENT RENTALS OR LEASE	7,089.49	-	7,089.49
9440	FLEET MANAGEMENT EQUIPMENT	69,428.93	-	69,428.93
9480	COMPUTER SERVICES	17,448.00	(2,423.00)	15,025.00
	TOTAL OTHER SERVICES & CHARGES	<u>2,079,813.67</u>	<u>(2,423.00)</u>	<u>2,077,390.67</u>
9760	EQUIPMENT	21,386.88	-	21,386.88
	TOTAL CAPITAL	<u>21,386.88</u>	<u>-</u>	<u>21,386.88</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 3,014,744.91</u>	<u>\$ 42,212.70</u>	<u>\$ 3,056,957.61</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
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	\$ 1,741,639.30	\$ 65,833.97	\$ 1,807,473.27
7025	ACT.ASSIGNMENT	303.27	11.46	314.73
7040	TEMPORARY EMPLOYEES	5,993.96	226.57	6,220.53
7055	TIME & ONE-HALF	252,114.20	9,529.92	261,644.12
7105	EMPLOYERS SOCIAL SECURITY	138,669.57	5,241.71	143,911.28
7110	HOSPITALIZATION INSURANCE	385,444.55	33,302.41	418,746.96
7115	RETIREE HEALTH CARE	98,798.42	(7,261.68)	91,536.74
7120	RETIREMENT FUND CONTRIBUTION	386,228.49	48,239.94	434,468.43
7135	UNEMPLOYMENT COMPENSATION	2,528.31	-	2,528.31
7165	SHIFT DIFFERENTIAL	1,934.80	-	1,934.80
7175	FOOD/CLEAN/CAR ALLOW	50.00	-	50.00
	TOTAL PERSONAL SERVICES	<u>3,013,704.87</u>	<u>155,124.30</u>	<u>3,168,829.17</u>
7520	SUPPLIES	601,818.83	-	601,818.83
7670	CLOTHING/CLEANING ALLOWANCE	9,238.49	-	9,238.49
	TOTAL SUPPLIES	<u>611,057.32</u>	<u>-</u>	<u>611,057.32</u>
8010	CONTRACTUAL SERVICES	1,979,013.20	(656,113.65)	1,322,899.55
8011	CONTRACT EMPLOYEES - TEMP SERVICES	61,627.86	-	61,627.86
8240	FEES	115.00	-	115.00
8500	TELEPHONE	28,269.58	-	28,269.58
9200	ELECTRICITY	481.87	-	481.87
9210	NATURAL GAS	1,029.75	-	1,029.75
9340	MAINTENANCE SERVICE	9,415.39	-	9,415.39
9410	EQUIPMENT RENTALS OR LEASE	41,252.58	-	41,252.58
9430	BUILDINGS RENTALS OR LEASE	40.50	-	40.50
9440	FLEET MANAGEMENT EQUIPMENT	889,976.72	-	889,976.72
9470	VEHICLE USAGE/CAR MILEAGE	350.00	-	350.00
9480	COMPUTER SERVICES	180,144.00	(25,037.00)	155,107.00
	TOTAL OTHER SERVICES & CHARGES	<u>3,191,716.45</u>	<u>(681,150.65)</u>	<u>2,510,565.80</u>
9760	EQUIPMENT	24,942.63	-	24,942.63
9800	FURNITURE	5,182.37	-	5,182.37
9840	SOFTWARE	622.24	-	622.24
	TOTAL CAPITAL	<u>30,747.24</u>	<u>-</u>	<u>30,747.24</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 6,847,225.88</u>	<u>\$ (526,026.35)</u>	<u>\$ 6,321,199.53</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: LAKE MI. FILTRATION

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
7020	PERMANENT EMPLOYEES	\$ 2,031,751.71	\$ 76,800.21	\$ 2,108,551.92
7050	REGULAR HOURLY RATE	4,992.53	188.72	5,181.25
7055	TIME & ONE-HALF	94,861.47	3,585.76	98,447.23
7105	EMPLOYERS SOCIAL SECURITY	153,341.25	5,796.30	159,137.55
7110	HOSPITALIZATION INSURANCE	420,690.23	36,347.64	457,037.87
7115	RETIREE HEALTH CARE	118,305.97	(8,695.49)	109,610.48
7120	RETIREMENT FUND CONTRIBUTION	462,481.82	57,763.98	520,245.80
7135	UNEMPLOYMENT COMPENSATION	2,795.49	-	2,795.49
7165	SHIFT DIFFERENTIAL	11,419.96	-	11,419.96
	TOTAL PERSONAL SERVICES	<u>3,300,640.43</u>	<u>171,787.12</u>	<u>3,472,427.55</u>
7520	SUPPLIES	228,844.03	-	228,844.03
7530	PROCESS CHEMICALS	820,942.87	600,000.00	1,420,942.87
7670	CLOTHING/CLEANING ALLOWANCE	13,251.31	-	13,251.31
7800	INVENTORY - COST OF GOODS SOLD	3,858.09	-	3,858.09
	TOTAL SUPPLIES	<u>1,066,896.30</u>	<u>600,000.00</u>	<u>1,666,896.30</u>
8010	CONTRACTUAL SERVICES	374,624.33	-	374,624.33
8011	CONTRACT EMPLOYEES - TEMP SERVICES	98,633.53	-	98,633.53
8240	FEES	400.00	-	400.00
8500	TELEPHONE	23,023.76	-	23,023.76
8510	POSTAGE	3,153.47	-	3,153.47
9130	LOCAL BUSINESS EXPENSE	9.00	-	9.00
9190	REFUSE COLLECTION CHARGES	5,399.82	-	5,399.82
9200	ELECTRICITY	1,940,002.24	(58,174.00)	1,881,828.24
9210	NATURAL GAS	104,141.21	-	104,141.21
9340	MAINTENANCE SERVICE	296,596.73	-	296,596.73
9410	EQUIPMENT RENTALS OR LEASE	9,056.27	-	9,056.27
9440	FLEET MANAGEMENT EQUIPMENT	60,185.72	-	60,185.72
9460	ENGINEERING SERVICES	860.00	-	860.00
9470	VEHICLE USAGE/CAR MILEAGE	98.62	-	98.62
9480	COMPUTER SERVICES	186,132.00	(25,868.00)	160,264.00
	TOTAL OTHER SERVICES & CHARGES	<u>3,102,316.70</u>	<u>(84,042.00)</u>	<u>3,018,274.70</u>
9760	EQUIPMENT	259,270.86	-	259,270.86
9800	FURNITURE	2,198.77	-	2,198.77
9840	SOFTWARE	533.33	-	533.33
	TOTAL CAPITAL	<u>262,002.96</u>	<u>-</u>	<u>262,002.96</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 7,731,856.39</u>	<u>\$ 687,745.12</u>	<u>\$ 8,419,601.51</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
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	\$ 78,131.56	\$ 2,953.37	\$ 81,084.93
7105	EMPLOYERS SOCIAL SECURITY	5,280.96	199.62	5,480.58
7110	HOSPITALIZATION INSURANCE	17,140.59	1,480.95	18,621.54
7115	RETIREE HEALTH CARE	4,404.18	(323.71)	4,080.47
7120	RETIREMENT FUND CONTRIBUTION	17,214.64	2,150.11	19,364.75
7135	UNEMPLOYMENT COMPENSATION	104.31	-	104.31
	TOTAL PERSONAL SERVICES	<u>122,276.24</u>	<u>6,460.34</u>	<u>128,736.58</u>
7520	SUPPLIES	1,369.78	-	1,369.78
	TOTAL SUPPLIES	<u>1,369.78</u>	<u>-</u>	<u>1,369.78</u>
8010	CONTRACTUAL SERVICES	168.66	-	168.66
8011	CONTRACT EMPLOYEES - TEMP SERVICES	3,233.58	-	3,233.58
8240	FEES	811,820.50	-	811,820.50
8450	GENERAL LIABILITY INSURANCE/CLAIMS	2,170.00	5.00	2,175.00
8500	TELEPHONE	42.00	-	42.00
9430	BUILDINGS RENTALS OR LEASE	11,300.82	-	11,300.82
9470	VEHICLE USAGE/CAR MILEAGE	10,911.47	-	10,911.47
9480	COMPUTER SERVICES	18,864.00	154.00	19,018.00
	TOTAL OTHER SERVICES & CHARGES	<u>858,511.03</u>	<u>159.00</u>	<u>858,670.03</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 982,157.05</u>	<u>\$ 6,619.34</u>	<u>\$ 988,776.39</u>

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
RATE STUDY- TASKS NO. 4 & 5**

ORGANIZATIONAL SUMMARY

OBJ	EXPENDITURE SUB-OBJECT DESCRIPTION	OPERATING EXPENSES	ADJUSTED COST FACTORS	ADJUSTED CURRENT ANNUAL CURRENT
7020	PERMANENT EMPLOYEES	\$ 7,145,406.45	\$ 270,096.35	\$ 7,415,502.80
7025	ACT.ASSIGNMENT	5,212.54	197.03	5,409.57
7040	TEMPORARY EMPLOYEES	5,982.94	226.15	6,209.09
7050	REGULAR HOURLY RATE	6,059.65	229.06	6,288.71
7055	TIME & ONE-HALF	472,266.56	17,851.68	490,118.24
7105	EMPLOYERS SOCIAL SECURITY	542,726.33	20,515.05	563,241.38
7110	HOSPITALIZATION INSURANCE	1,517,668.20	131,126.54	1,648,794.74
7115	RETIREE HEALTH CARE	414,575.03	(30,471.27)	384,103.76
7120	RETIREMENT FUND CONTRIBUTION	1,620,657.29	202,420.09	1,823,077.38
7135	UNEMPLOYMENT COMPENSATION	9,965.26	-	9,965.26
7165	SHIFT DIFFERENTIAL	15,126.06	-	15,126.06
7170	ELECTION WRKR-BRD MEMBERS PAY	200.00	-	200.00
7175	FOOD/CLEAN/CAR ALLOW	3,115.00	-	3,115.00
	TOTAL PERSONAL SERVICES	<u>11,758,961.31</u>	<u>612,190.68</u>	<u>12,371,151.99</u>
7520	SUPPLIES	2,030,974.95	-	2,030,974.95
7530	PROCESS CHEMICALS	820,942.87	600,000.00	1,420,942.87
7670	CLOTHING/CLEANING ALLOWANCE	29,362.91	-	29,362.91
7800	INVENTORY - COST OF GOODS SOLD	(23,647.02)	-	(23,647.02)
7910	SUBSCRIPTIONS AND PUBLICATIONS	108.00	-	108.00
	TOTAL SUPPLIES	<u>2,857,741.71</u>	<u>600,000.00</u>	<u>3,457,741.71</u>
8010	CONTRACTUAL SERVICES	4,340,736.17	450,000.00	4,790,736.17
8011	CONTRACT EMPLOYEES - TEMP SERVICES	196,562.68	-	196,562.68
8016	CONTRACTS- EXTERNAL LEGAL SERVICES	483.00	-	483.00
8030	ADMINISTRATIVE SERVICES	82,234.17	(82,234.17)	-
8240	FEES	840,687.99	-	840,687.99
8400	INSURANCE PREMIUMS	328,810.00	-	328,810.00
8450	GENERAL LIABILITY INSURANCE / CLAIMS	276,136.00	(46,058.00)	230,078.00
8500	TELEPHONE	81,826.03	-	81,826.03
8510	POSTAGE	11,424.31	-	11,424.31
8800	COMMUNITY PROMOTION	547.21	-	547.21
9000	PRINTING & PUBLISHING	6,037.36	-	6,037.36
9100	PROFESSIONAL DEVELOPMENT	3,435.00	-	3,435.00
9110	OTHER TRAVEL AND TRAINING	9,176.57	-	9,176.57
9130	LOCAL BUSINESS EXPENSE	9.00	-	9.00
9131	FOOD-BEVERAGE	182.00	-	182.00
9150	MEMBERSHIPS	48,864.50	-	48,864.50
9180	WATER	22,558.98	-	22,558.98
9190	REFUSE COLLECTION CHARGES	12,746.49	-	12,746.49
9200	ELECTRICITY	3,236,203.71	-	3,236,203.71
9210	NATURAL GAS	200,500.40	-	200,500.40
9340	MAINTENANCE SERVICE	378,651.59	-	378,651.59
9400	LAND RENTAL OR LEASE	3,821.49	-	3,821.49
9410	EQUIPMENT RENTALS OR LEASE	73,154.77	-	73,154.77
9430	BUILDINGS RENTALS OR LEASE	17,527.33	-	17,527.33
9440	FLEET MANAGEMENT EQUIPMENT	1,179,988.98	-	1,179,988.98
9450	311 CALL CENTER SERVICES	526,562.00	-	526,562.00
9460	ENGINEERING SERVICES	14,640.85	-	14,640.85
9470	VEHICLE RENTAL/CAR MILEAGE	27,219.54	-	27,219.54
9480	COMPUTER SERVICES	664,512.00	(89,575.00)	574,937.00
9480	COMPUTER SERVICES (CIS-DEPR & ROI)	-	57,191.00	57,191.00
9650	BAD DEBT WRITE-OFFS	3,899.96	-	3,899.96
	TOTAL OTHER SERVICES & CHARGES	<u>12,589,140.08</u>	<u>289,323.83</u>	<u>12,878,463.91</u>
9760	EQUIPMENT	410,330.06	-	410,330.06
9800	FURNITURE	9,122.79	-	9,122.79
9840	SOFTWARE	2,281.93	-	2,281.93
9880	CONSTRUCTION IN PROGRESS	1,620.00	-	1,620.00
	TOTAL CAPITAL	<u>423,354.78</u>	<u>-</u>	<u>423,354.78</u>
9510	A-87 COST ALLOCATION	971,187.00	51,624.00	1,022,811.00
9954	OPERATING TRANS-DEV CENTER	21,105.00	-	21,105.00
	TOTAL TRANSFERS/FEES	<u>992,292.00</u>	<u>51,624.00</u>	<u>1,043,916.00</u>
	GRAND TOTAL- EXPENDITURES	\$ 28,621,489.88	\$ 1,553,138.51	\$ 30,174,628.39
	LESS: SDSF CONTRIBUTION	(2,540,798.00)	(745,753.52)	(3,286,551.52)
	NET TOTAL- EXPENDITURES	<u>\$ 26,080,691.88</u>	<u>\$ 807,384.99</u>	<u>\$ 26,888,076.87</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 29, 2021

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Utility Financial Officer

**SUBJECT: 2021 WATER RATE STUDY TASK #4
FY21 OPERATING EXPENSES - WATER PUMPING FACILITIES**

This schedule allocates the integrated and non-integrated adjusted expenses for operating and maintaining the distribution system's 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

STATION	ENERGY COST	PERCENT	EXPENDITURE ALLOCATION	
			ACTUAL	ADJUSTED
ALGER	\$ 39,333	3.17%	\$ 95,169	\$ 96,501
BOOSTER A	10,275	0.82%	24,861	25,209
BOOSTER D	34,779	2.79%	84,149	85,328
BRISTOL	8,508	0.68%	20,585	20,874
COLDBROOK	181,464	14.56%	439,060	445,208
COVELL	68,700	5.51%	166,223	168,550
EAST PARIS	172,684	13.86%	417,816	423,667
FRANKLIN	336,358	27.00%	813,833	825,228
LIVINGSTON	207,369	16.64%	501,738	508,764
WILSON	92,696	7.44%	224,282	227,422
BURTON	33,800	2.71%	81,781	82,926
DEAN LAKE	60,031	4.82%	145,248	147,281
TOTAL	<u>\$ 1,245,997</u>	<u>100.00%</u>	<u>\$ 3,014,745</u>	<u>\$ 3,056,958</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 24, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Molly Clarin
Chief Financial Officer

**SUBJECT: 2021 WATER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY21 operating costs are listed below.

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

GREIU and APA wages were increased by 2.50% in FY2022. Labor negotiations will begin shortly for the next contract which begins with FY2023. As the outcome of these negotiations are unknown at this time, a 2.50% wage increase has also been presumed for FY2023 (same as FY2022). After converting these increases from a 2021 fiscal year to a 2022 calendar year basis, the result is a 3.78% factor for both GREIU and APA employees. There were no lump sum payments that needed to be factored into the calculation. A blended rate was then computed by weighting the calendar year percentages according to the percentage of Water Fund employees in each union (82% GREIU and 18% APA). Executive and non-reps amounted to only 1.9% of the population and were therefore excluded. **The wage increase factor to translate FY2021 actual costs to estimated calendar 2022 will be 3.78% [3.78 X 82% + 3.78 X 18%].**

Expense Object – 9480/8450/9510

Adjust FY2021 actual cost to reflect adjustments in charges for central services rendered by the Information Technology Fund (data charges), the Insurance Payment Fund (workers compensation and general liability) and the General Operating Fund (cost allocation). The “Exhibit” workbook (inclusive of cost center allocations) maintained by the Budget Office has been utilized to blend FY2022 and FY2023 budget amounts thus arriving at an estimated 2022 calendar year rate as follows:

9480-Data Charges			
Cost Center	FY2022 Request	FY2023 Forecast	Calendar 2022 Estimate
253-4010-5910	\$18,665	\$19,371	\$19,018
536-1000-5910	\$29,492	\$30,607	\$30,050
536-2110-5910	\$137,778	\$142,986	\$140,382
536-3010-5910	\$54,069	\$56,113	\$55,091
536-4510-5910	\$14,746	\$15,303	\$15,025
536-6010-5910	\$152,229	\$157,984	\$155,107
536-6510-5910	\$157,291	\$163,237	\$160,264

Total	\$564,270	\$585,601	\$574,936

8450-General Liability Insurance			
Cost Center	FY2022 Request	FY2023 Forecast	Calendar 2022 Estimate
253-4010-5910	\$2,153	\$2,196	\$2,175
536-1000-5910	\$225,646	\$230,159	\$227,903
Total	\$227,799	\$232,355	\$230,077

9510-Contributions to Other Funds (Cost Allocation)			
Cost Center	FY2022 Request	FY2023 Forecast	Calendar 2022 Estimate
536-1000-5910	\$1,017,658	\$923,187	\$970,423
536-2110-5910	\$51,869	\$52,906	\$52,388
Total	\$1,069,527	\$976,093	\$1,022,810

Expense Object - 7105

Increase FY2021 actual FICA expense by 3.78% consistent with the known wage impacts detailed above.

Expense Object - 7110

The calendar 2022 Trend Report is not completed at this time. However, unfavorable health insurance cost trends were anticipated in the calendar 2021 report. In the calendar 2020 report, decreases in health insurance costs were projected as a result of the City entering a contract with a new third-party health insurance plan administrator. In the 2021 report, industry benchmarks of trend increases were projected (7.5% for medical and 8.5% for prescription drugs). Additionally, a COVID-19 experience adjustment factor was projected (11.3% for active employees and 15.7% for pre-65 retirees) to represent the assumption that 2021 insurance claims should be higher than 2020 due to the loosening of restrictions associated with the COVID-19 pandemic. The 2021 COVID-19 adjustment factor was partially offset by a large plan gain recognized in 2020 as a result of COVID-19 restrictions. Plan gains or losses are smoothed out over a three-year period. Three-year smoothing of plan gains or losses was slightly less favorable in the 2021 report than in the 2020 report, but nonetheless still favorable. Smoothing favorable trends has contributed to limiting projected annual increases in health insurance costs or has provided for further decreases when applicable. Lastly, a health insurance fund surplus reduction of \$2.5 million was implemented in the 2021 report, which helped to stabilize rate increases from the impact of the other factors

mentioned above. **Increase FY2021 health insurance actual by 8.64% to reflect these anticipated rate changes.**

The budgeted FY22 (\$14,480.00) and FY23 (\$16,618.00) health insurance rates were blended into a 2022 calendar year rate estimate and divided by the FY2021 base budget amount (\$14,312.00) to arrive at the increase factor [(((((((\$14,480.00 + \$16,618.00) / 2)) / \$14,312.00) - 1) * 100)].

Expense Object - 7115

Retiree health care ("RHC") rates are projected to trend down in FY2022 (to 5.28%) and FY2023 (to 5.36%) from a base year rate of 5.96% in FY2021. This decrease is slightly offset by the projected wage adjustments discussed above (lump sum payments, if any, are not subject to RHC). The Water Fund did not have an OPEB adjustment in FY2021 due to changes resulting from the prior implementation of GASB Statement No. 75.

The RHC factor after consideration of the above rate and wage adjustments is 92.65% (or a decrease of 7.35%) for both GREIU and APA members. These factors are then weighted in accordance with union membership within the Water Fund [(-7.35 * 82%) + (-7.35 * 18%)].

The factor to establish calendar year 2022's retiree health care cost is -7.35%.
Decrease the total of fiscal year 2021's retiree health care by this percent to establish the cost for calendar year 2022.

Expense Object - 7120

The pension expense factor to translate FY2021 actual costs to estimated calendar 2022 will be 12.49%. **Increase the total of fiscal year 2021's pension expense by this percent to establish the cost for calendar year 2022.** This reflects the effect of a General Pension rate change increase from FY21 of 23.29% to a calendar 2022 rate of 25.25% and the projected wage adjustments discussed above (lump sum payments, if any, are not pensionable). The calendar 2022 rate is a blend of the FY2022 rate (25.23%) and the FY2023 rate (25.26%).

The pension factor after consideration of the above rate and wage adjustments is 112.49% (or an increase of 12.49%) for GREIU and APA members. These factors are then weighted in accordance with union membership within the Water Fund [(12.49 * 82%) + (12.49 * 18%)].

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 13, 2021

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Wayne Jernberg
Water System Manager

**SUBJECT: 2021 WATER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY21 operating costs are listed below:

<u>ACCOUNT</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
5910-536-1000-8010	Private Lead Service Line Replacement (GR only)	\$250,000.00
5910-536-6010-8010	Private Lead Service Line Replacement FY21 Expenses (adjust to admin unit 1000 to allocate GR only)	(\$656,113.65)
5910-536-1000-8030*	Kent County Community Action Program (ICB)	(\$82,234.17)
5910-536-2110-8010	Cayenta Utilities Version Upgrade	\$200,000.00
5910-536-2110-9480**	Cayenta Customer Information System (ROI & Dep)	\$57,191.00
5910-536-6510-7530	Chemical Pricing Increases	\$600,000.00
5910-536-6510-9200	Consumers Energy Green Generation participation (adjust to admin unit 1000 to allocate GR only)	(\$58,174.00)

*Net of calendar year 2020 ICB Reimbursement from KCCA of \$5,973.91

**Customer service related adjustments are shared with the Sewage Disposal Fund

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 7, 2021

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Utility Financial Officer

SUBJECT: 2021 WATER RATE STUDY TASK #6

The Water Supply System Fund's revenue by governmental unit for the year ending June 30, 2021, are disclosed on the attached page, along with the three-year average billed volume used to calculate expected revenue in the next calendar year (see Task 26 and 27). In addition, annual 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
2021 RATE STUDY TASK NO. 6**

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

MUNICIPALITY	FY17		FY18		FY19		FY20		FY21		FY17 - FY21 % CHANGE
	VOL BILLED	VOL BILLED	% CHANGE	VOL BILLED							
GRAND RAPIDS	6,294,410	6,346,480	0.83%	6,417,706	1.12%	5,899,570	-8.07%	6,288,343	6.59%	-0.10%	
WALKER	893,794	939,897	5.16%	929,719	-1.08%	835,703	-10.11%	952,327	13.96%	6.55%	
KENTWOOD	1,314,005	1,377,822	4.86%	1,342,574	-2.56%	1,190,449	-11.33%	1,305,704	9.68%	-0.63%	
CASCADE TWP	708,744	739,323	4.31%	695,896	-5.87%	585,011	-15.93%	686,897	17.42%	-3.08%	
GRAND RAPIDS TWP	495,024	541,008	9.29%	545,871	0.90%	462,801	-15.22%	573,570	23.93%	15.87%	
TALLMADGE TWP	30,912	37,179	20.27%	41,592	11.87%	37,831	-9.04%	48,587	28.43%	57.18%	
EAST GRAND RAPIDS	419,574	419,637	0.02%	413,246	-1.52%	422,907	2.34%	430,073	1.69%	2.50%	
OTTAWA COUNTY**	1,167,086	1,209,789	3.66%	1,280,873	5.88%	1,299,136	1.43%	1,492,668	14.90%	27.90%	
ADA TWP	482,549	463,080	-4.03%	438,337	-5.34%	417,313	-4.80%	466,832	11.87%	-3.26%	
TOTAL	11,806,098	12,074,215	2.27%	12,105,814	0.26%	11,150,721	-7.89%	12,245,001	9.81%	3.72%	

VOLUME PUMPED	12,649,000	13,525,000	12,911,000	12,735,000	13,381,000
% BILLED TO PUMPED	93.3%	89.3%	93.8%	87.6%	91.5%

GRAND RAPIDS VOLUME COMPARED TO
CUSTOMER COMMUNITIES

VOLUME = 1,000 GALLONS	FY17		FY18		FY19		FY20		FY21	
	VOL BILLED	VOL BILLED	% OF TOTAL	VOL BILLED						
GRAND RAPIDS	6,294,410	6,346,480	52.56%	6,417,706	53.01%	5,899,570	52.91%	6,288,343	51.35%	
CUSTOMER COMMUNITIES	5,511,688	5,727,735	47.44%	5,688,108	46.99%	5,251,151	47.09%	5,956,658	48.65%	
TOTAL	11,806,098	12,074,215	100.00%	12,105,814	100.00%	11,150,721	100.00%	12,245,001	100.00%	

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

** Volume adjusted in FY21 due to faulty meter conversion factor.

**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	\$ 5,760.00
	4916	TAPPING PERMITS	32,625.00
	6260	SERVICE FEES-GENERAL	499,845.00
	6265	SERVICES FOR CONTRACTORS	65,961.25
	6140	INSPECTION FEES - UTILITIES	138,275.00
	6151	METER SETTING FEES	22,545.00
	6423	SALE OF SCRAP MATERIAL	55,024.03
	6461	INVENTORY WITHDRAWALS	9,712.76
	6434	UNMETERED WATER	172,206.38
	6723	PENALTIES ON SPECIAL ASSESSMENTS	6,287.89
			<u>\$ 1,008,242.31</u>

CREDIT: UNDERUTILIZATION OF PENALTY CREDIT FROM PREVIOUS YEAR	<u>\$ -</u>
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INTEGRATED SYSTEM CREDITS

536-1000-5910			
	6152	INTEGRATED WATER CONNECTION	356,107.50
			<u>\$ 356,107.50</u>

OFFSETTING CREDIT TO CUSTOMER ACCOUNTING ACTIVITY EXPENSES:

536-1000-5910			
	6342	BILLABLE EXPENSE - SEWAGE DISPOSAL SYSTEM*	<u>\$ 2,540,798.00</u>

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

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 13, 2021

TO: Jenessa Carter
Utility Finance Officer

FROM: Wayne Jernberg, PE
Water System Manager

SUBJECT: 2021 WATER RATE STUDY – TASK #8

No significant changes in operating levels are anticipated to take effect by January 1, 2022, which would require adjustments to operating costs for the test period.

WJ

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 13, 2021

TO: Jenessa Carter
Utility Finance Officer

FROM: Wayne Jernberg, PE
Water System Manager

SUBJECT: 2021 WATER RATE STUDY – TASK #9

No significant changes in water revenues are anticipated to take effect by January 1, 2022, which would require an adjustment to operating revenue estimates as a whole.

WJ

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 4, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Alex Fleet, P.E.
Assistant Water System Manager

SUBJECT: 2021 WATER RATE STUDY- TASK #10

The following are water system projects that should be considered operative as of January 1, 2022.

Description	Location	Proj. Code	Cost
LMFP Pretreatment System Improvements	Integrated	591517045 591617045	\$1,097,426
LMFP Drain Field Improvements	Integrated	591517051	\$417,661
Breton Hamlet	Grand Rapids	Contribution	\$188,015
Various Projects	Grand Rapids	Contribution	\$17,655
Dean Lake Electrical Improvements*	Grand Rapids	591121063	\$622,220
Booster D Pump Station Improvements	Grand Rapids	591120043	\$477,810
Currwood Oak Park & Langley	Grand Rapids	591122032	\$1,422,740
Godfrey – Oxford to Liberty	Grand Rapids	591117011	\$3,424,100
Fulton – Benjamin to Wallinwood	Grand Rapids	591621040	\$1,530,000
Hall – Kalamazoo to Sylvan	Grand Rapids	591119110	\$835,000
Woodward, Sunnybrooke, Lyon**	Grand Rapids	591621038	\$143,850
Livingston Pump Station Improvements*	Grand Rapids	591619094	\$5,101,881
Mason, Ottawa, Fairview	Grand Rapids	591519094	\$64,314
Garden Apartments Phase I	Cascade Twp	591117096 Contribution	\$428,675 \$59,325
Pfieffer Pines Phase II	Kentwood	Contribution	\$90,300
Wildflower Estates	Kentwood	Contribution	\$206,810
32 nd Street	Kentwood	Contribution	\$39,643
Winchester Woods Phase III	Walker	Contribution	\$247,395
Northridge East Phase II	Walker	Contribution	\$311,008
Wilson Pump Station Improvements*	Walker	591120047	\$3,631,700
Kinney	Walker	Contribution	\$46,146
Total:			\$20,403,674

*Zonegated asset.

**Hall and Fuller Intersection Addition (Remainder of project was already included in Task 1).

WJ

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

COMPUTE ACCUMULATED COST, DEPRECIATION AND DEPRECIATION EXPENSE AS OF JUNE 30, 2021

INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 2,507,974	\$ -	\$ -
LAND IMPROVEMENTS	3,524,742	1,909,499	132,459
BUILDINGS & STRUCTURES	54,575,411	28,851,354	1,246,129
STORAGE	9,841,325	7,088,425	241,618
PROCESS EQUIPMENT	75,030,902	46,647,755	2,310,296
AUXILIARY EQUIPMENT	22,410,670	16,553,984	725,710
MACHINERY & EQUIPMENT	6,672,772	3,576,984	335,801
OFFICE EQUIPMENT & FURNITURE	622,184	622,184	-
WATERMAINS	56,676,524	23,002,257	723,025
	<u>\$ 231,862,504</u>	<u>\$ 128,252,442</u>	<u>\$ 5,715,038</u>

NON-INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 3,161,079	\$ -	\$ -
LAND IMPROVEMENTS	1,204,988	1,129,938	27,935
BUILDINGS & STRUCTURES	14,673,446	5,469,657	331,688
STORAGE	13,866,843	7,296,661	355,428
PROCESS EQUIPMENT	8,381,319	4,148,873	251,258
AUXILIARY EQUIPMENT	7,247,362	5,242,488	180,068
MACHINERY & EQUIPMENT	2,188,229	1,988,531	(14,208)
OFFICE EQUIPMENT & FURNITURE	533,805	533,805	-
WATERMAINS - GRAND RAPIDS	190,874,513	45,076,561	2,542,142
WATERMAINS - WALKER	30,758,451	9,102,334	403,587
WATERMAINS - KENTWOOD	31,901,547	10,134,473	422,947
WATERMAINS - CASCADE TWP	24,142,185	7,555,096	323,570
WATERMAINS - GRAND RAPIDS TWP	21,460,926	5,810,107	281,480
WATERMAINS - TALLMADGE TWP	3,103,088	566,750	41,338
	<u>\$ 353,497,781</u>	<u>\$ 104,055,274</u>	<u>\$ 5,147,233</u>
TOTAL	<u>\$ 585,360,285</u>	<u>\$ 232,307,716</u>	<u>\$ 10,862,271</u>

SOURCE: GENERAL LEDGER, AS ADJUSTED, FOR JUNE 30, 2021.

**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, 2021: \$ 1,991,017

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 = \$ 26,888,077 @ 90/365 = \$ 6,629,937

TOTAL WORKING CAPITAL NEEDS CONSIST OF THE FOLLOWING:

	12A INVESTMENT IN INVENTORY	\$ 1,991,017
	12B PREPAYMENT OF OPERATING EXPENSES	-
	12C 90 DAY OPERATING EXPENSES	<u>6,629,937</u>
		<u><u>\$ 8,620,954</u></u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 29, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Alex Fleet, P.E.
Assistant Water System Manager

SUBJECT: 2021 WATER RATE STUDY- TASK #13

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 2020 Comprehensive Master Plan and the current hydraulic model for the Water System.

In 2021, there was one improvement project that involved an existing integrated facility that was decommissioned and new assets that were added within the City of Grand Rapids Water System. The existing zoned maps, the Zoned Cross Reference List and the Joint Use List were all reviewed. From that review, the following are recommended changes for zoning of the Water System facilities for the 2021 Water Rate Study:

1. The following segments were added in conjunction with the Decommissioning of the Monroe Reservoir.
 - a. W128 was added and included 69' of 42" low pressure transmission main in the North Yard near the Monroe Reservoir and 15' of 36" low pressure transmission main in Monroe 150' south of Leonard Street. Percentages were determined for this section based on the current hydraulic model and align with segment W1.

WJ

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 30, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Alex Fleet, P.E.
Assistant Water System Manager

SUBJECT: 2021 WATER RATE STUDY- TASK #14

Zonegating maps for the water system have been adjusted and revised to reflect the current 2021 zonegating information. Included in the 2021 zonegating information is the following changes:

Segment W128 was added, including 69' of 42" transmission main in the North Yard near the Monroe Reservoir and 15' of 36" transmission main in Monroe 150' south of Leonard Street. These segments were critical replacements to properly decommission Monroe Reservoir.

All 2021 zonegating work papers and maps are on file at the Water Administration Building located at 1900 Oak Industrial Dr. NE, Grand Rapids, MI 49505.

WJ
CS

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

COMPUTE CONSTRUCTION COST RATE BASE (NET BOOK VALUE OF ASSETS, PLUS WORKING CAPITAL, LESS CONTRIBUTIONS BY OTHERS).

ORIGINAL CONSTRUCTION COST	- TASK #10	\$ 20,403,674	
	- TASK #11	585,360,285	
		<hr/>	\$ 605,763,959
LESS: ACCUMULATED DEPRECIATION	- TASK #11	\$ 232,307,716	
		<hr/>	(232,307,716)
			<hr/>
			373,456,243
WORKING CAPITAL REQUIREMENT	- TASK #12	\$ 8,620,954	
		<hr/>	8,620,954
			<hr/>
			382,077,196
CONTRIBUTIONS BY OTHERS	- TASK #21	\$ 107,000,915	
LESS: AMORTIZATION		(39,339,874)	
		<hr/>	(67,661,041)
CONSTRUCTION COST RATE BASE			<hr/> <hr/>
			\$ 314,416,155

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MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 31, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: 2021 Water Rate Study Integrated Connection Fees Task #15A

Attached is the Integrated Water and Sewer Connection Fee Schedule of rates effective January 1, 2022. Per the Fifth Amendment to the Water & Sanitary Sewer Service Agreements, adopted by City Commission on March 27, 2018 (Res. 87571), the methodology for connection to the water and sewer systems is calculated based on the cost of connection to the System and is evaluated annually as part of the Rate Study and shall be administered the same across the retail system.

The integrated connection fees effective January 1, 2022, shall be as follows:

Residential Users (three residential units or less)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2021	2022	% Change
3/4 inch	\$370	\$370	0%
1 inch	\$380	\$380	0%
1-1/2 inch	\$380	\$380	0%

All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2021	2022	% Change
3/4 inch	\$710	\$715	0.70%
1 inch	\$935	\$945	1.07%
1-1/2 inch	\$1,250	\$1,260	0.80%
2 inch	\$1,725	\$1,740	0.87%
3 inch	\$2,150	\$2,160	0.47%
4 inch	\$3,100	\$3,110	0.32%
6 inch	\$4,380	\$4,390	0.23%

Plus a Meter Capacity Fee based on the meter size (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged) as follows:

Meter Capacity Charge			
Meter Size	2021	2022	% Change
¾ inch	\$210	\$210	0%
1 inch	\$250	\$250	0%
1 ½ inch - T2	\$750	\$750	0%
2 inch - T2	\$880	\$880	0%
3 inch - T2	\$1,100	\$1,100	0%
4 inch - T2	\$2,135	\$2,135	0%
6 inch - T2	\$3,460	\$3,460	0%
1 ½ inch - C2	\$1,200	\$1,200	0%
2 inch - C2	\$1,385	\$1,385	0%
3 inch - C2	\$1,755	\$1,755	0%
4 inch -C2	\$3,050	\$3,050	0%
6 inch - C2	\$5,265	\$5,265	0%

Irrigation/Fire Protection Review Fee

Irrigation/Fire Service Review Fee			
	2021	2022	% Change
All Sizes	\$730	\$740	1.37%

Commercial Plan Assessment Fee – For instances where there is an established connection or property has been previously reviewed to allow for connection to the System which require less System resources to verify system connection requirements.

Commercial Plan Assessment Fee			
	2021	2022	% Change
All Sizes	\$125	\$125	0%

Further information on the new integrated connection fee methodology can be provided through the Utility Business Office.

AP/WJ

**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	COLDBROOK PUMP STATION DECOMMISSION PROJECTS	2,740,000	2020
2	LAKE EASTBROOK WM REPLACEMENT	1,100,000	2021
3	NORWICH WM REPLACEMENT	900,000	2021
4	OTTAWA - NEWBERRY TO HASTINGS	2,000,000	2021
5	GARFIELD WM REPLACEMENTS	1,891,000	2022
6	LANGLEY WM REPLACEMENT	1,800,000	2022
7	BUTTERWORTH LP DISTRICT IMPROVEMENTS	1,374,000	2022
8	COLLEGE WM REPLACEMENT	2,626,000	2022
9	RICHARDS WM REPLACEMENT	600,000	2022
10	KNAPP TANK IMPROVEMENTS	500,000	2022
11	FULLER WM REPLACEMENT	2,000,000	2022
12	PROSPECT WM REPLACEMENT	1,500,000	2022
13	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2022
14	HOUSEMAN WM REPLACEMENT	700,000	2022
15	FRANKLIN PS IMPROVEMENTS (PUMPS 1-4)	4,600,000	2022
16	FULLER WM REPLACEMENT	500,000	2023
17	EMERALD WM REPLACEMENTS	1,300,000	2023
18	GIDDINGS WM REPLACEMENT	1,300,000	2023
19	OKEMOS WM REPLACEMENT	875,000	2023
20	SOUTH WALKER WATERMAIN PHASE 3	2,000,000	2023
21	INTERMEDIATE PD TANK	4,000,000	2023
22	LEONARD TANK IMPROVEMENTS	500,000	2023
23	STEVENS WM REPLACEMENT	1,000,000	2023
24	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2023
25	PLAINFIELD WM REPLACEMENTS	2,000,000	2023
26	ELEANOR WM REPLACEMENTS	1,250,000	2023
27	GIDDINGS WM REPLACEMENT	1,300,000	2023
28	SIGSBEE WM REPLACEMENT	900,000	2023
29	PAGE AND LISTER WM IMPROVEMENTS	1,000,000	2023
30	CASCADE NORTH RIVER CROSSING	4,200,000	2024
30	KNAPP WATERMAIN REPLACEMENTS	2,250,000	2024
31	OAK PARK WM REPLACEMENT	865,000	2024
32	BUTTERWORTH WM IMPROVEMENTS	840,000	2024
33	LONDON WM IMPROVEMENTS	650,000	2024
34	ALGER TANK IMPROVEMENTS	500,000	2024

35	BLAINE WM IMPROVEMENTS	900,000	2024
36	OMENA WM REPLACEMENT	700,000	2024
37	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2024
38	GRANDVILLE WM REPLACEMENTS	650,000	2024
39	LINCOLN WM REPLACEMENTS	600,000	2024
40	O'BRIEN WM EXTENSION	800,000	2024
41	HALL WM REPLACEMENT	800,000	2024
42	COVELL RESERVOIR JOINT REPLACEMENT	1,540,000	2024
43	COVELL 24" TRANSMISSION MAIN	5,180,000	2024
42	4 MILE RD WM LOOPING	1,000,000	2024
43	ANN WM REPLACEMENTS	587,500	2025
44	FREEMAN WM REPLACEMENT	700,000	2025
45	2ND ST WM REPLACEMENT	814,000	2025
46	FRUITWOOD WM REPLACEMENT	500,000	2025
47	KENDALL WM REPLACEMENT	800,000	2025
48	BURTON WM REPLACEMENT	3,665,000	2025
49	BURTON/I-96 WM CROSSING	1,450,000	2025
49	BOSTON WM REPLACEMENT	1,575,000	2025
50	GRANDVILLE WM REPLACEMENT	1,500,000	2025
51	KENT RIDGE WM REPLACEMENT	1,000,000	2025
52	LEAD SERVICE LINE REPLACEMENTS	1,000,000	2025
53	OAKWOOD AVE WM REPLACEMENT	1,585,000	2026
54	VALLEY, 3RD & 4TH WM REPLACEMENT	1,357,500	2026
55	BERKSHIRE, GIDDINGS, SHANGRI-LA WM REPLACEMENTS	1,500,000	2026
56	GRANDVILLE WM REPLACEMENT	600,000	2026
57	JEFFERSON WM REPLACEMENT	650,000	2026
58	KNAPP WM REPLACEMENT	1,100,000	2026
59	GODFREY WM REPLACEMENT	3,000,000	2026
60	BUCHANAN WM REPLACEMENT	1,350,000	2026
61	MILLBANK & DERBYSHIRE WM REPLACEMENT	750,000	2026
62	PLYMOUTH WM REPLACEMENT	1,500,000	2026
		<u>\$ 93,715,000</u>	

NOTE: NONE OF THE PROJECTS ABOVE ARE INCLUDED IN RECOMMENDED REVENUE REQUIREMENTS FOR CALENDAR YEAR 2021. COSTS SHOWN ARE IN 2021 DOLLARS AND ARE TAKEN FROM THE FISCAL YEARS 2022-2026 CAPITAL PROJECT PLAN.

SOURCE: ALEX FLEET, ASSISTANT WATER SYSTEM MANAGER, SEPTEMBER 2021

**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
2022	\$ 3,335,000	\$ 5,721,269	\$ 9,056,269
2023	3,505,000	5,559,331	9,064,331
2024	3,695,000	5,388,831	9,083,831
2025	3,875,000	5,208,950	9,083,950
2026	4,080,000	5,020,150	9,100,150
2027	4,285,000	4,820,950	9,105,950
2028	4,515,000	4,611,800	9,126,800
2029	4,450,000	4,388,850	8,838,850
2030	4,665,000	4,166,350	8,831,350
2031	4,900,000	3,933,100	8,833,100
2032	5,140,000	3,697,050	8,837,050
2033	5,385,000	3,449,350	8,834,350
2034	5,640,000	3,189,750	8,829,750
2035	5,930,000	2,907,750	8,837,750
2036	3,970,000	2,611,250	6,581,250
2037	4,165,000	2,412,750	6,577,750
2038	4,380,000	2,204,500	6,584,500
2039	4,600,000	1,985,500	6,585,500
2040	3,070,000	1,755,500	4,825,500
2041	3,230,000	1,602,000	4,832,000
2042	3,390,000	1,440,500	4,830,500
2043	3,555,000	1,271,000	4,826,000
2044	3,735,000	1,093,250	4,828,250
2045	3,925,000	906,500	4,831,500
2046	4,125,000	710,250	4,835,250
2047	3,330,000	504,000	3,834,000
2048	3,500,000	337,500	3,837,500
2049	1,585,000	162,500	1,747,500
2050	1,665,000	83,250	1,748,250
	<u>\$ 115,625,000</u>	<u>\$ 81,143,731</u>	<u>\$ 196,768,731</u>

**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	\$ 314,416,155
LESS: BONDED INDEBTEDNESS in CCRB (CASH BASIS) - TASK NO. 20	(125,428,592)
NET WATER SYSTEM EQUITY	<u>\$ 188,987,563</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-20	2.210%	25-Mar-21	2.350%
01-Oct-20	2.250%	01-Apr-21	2.340%
08-Oct-20	2.350%	08-Apr-21	2.300%
15-Oct-20	2.350%	15-Apr-21	2.260%
22-Oct-20	2.370%	22-Apr-21	2.260%
29-Oct-20	2.340%	29-Apr-21	2.270%
05-Nov-20	2.240%	06-May-21	2.250%
12-Nov-20	2.280%	13-May-21	2.280%
19-Nov-20	2.190%	20-May-21	2.260%
26-Nov-20	2.130%	27-May-21	2.200%
03-Dec-20	2.130%	03-Jun-21	2.180%
10-Dec-20	2.130%	10-Jun-21	2.070%
17-Dec-20	2.120%	17-Jun-21	2.090%
24-Dec-20	2.120%	24-Jun-21	2.160%
31-Dec-20	2.120%	01-Jul-21	2.140%
07-Jan-21	2.170%	08-Jul-21	2.040%
14-Jan-21	2.210%	15-Jul-21	2.040%
21-Jan-21	2.210%	22-Jul-21	2.030%
28-Jan-21	2.140%	29-Jul-21	2.040%
04-Feb-21	2.140%	05-Aug-21	2.040%
11-Feb-21	2.100%	12-Aug-21	2.140%
18-Feb-21	2.170%	19-Aug-21	2.140%
25-Feb-21	2.440%	26-Aug-21	2.140%
04-Mar-21	2.440%	02-Sep-21	2.140%
11-Mar-21	2.350%	09-Sep-21	2.150%
18-Mar-21	2.400%	16-Sep-21	2.140%
		<u>52 WEEKS</u>	<u>2.203%</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)	\$ 188,987,563	@ 3.203%	= \$ 6,053,054
WATER SYSTEM INDEBTEDNESS IN THE CCRB			
2011 DWRF BONDS	1,011,301	@ 2.50%	= 25,283
2011 DWRF BONDS	1,811,024	@ 2.50%	= 45,276
2012 DWRF BONDS	2,295,930	@ 2.50%	= 57,398
2012 DWRF BONDS	443,514	@ 2.00%	= 8,870
2013 BONDS	1,565,000	@ 2.88%	= 44,994
2014 DWRF BONDS	2,147,840	@ 2.50%	= 53,696
2015 BONDS (refunded 2009 Bonds)	22,270,000	@ 5.00%	= 1,113,500
2015 DWRF BONDS	7,763,063	@ 2.50%	= 194,077
2016 DWRF BONDS	1,718,008	@ 2.50%	= 42,950
2016 BONDS (refunded 2009)	34,550,000	@ 5.00%	= 1,727,500
2018 BONDS (refunded 1993)	30,795,000	@ 4.89%	= 1,505,568
2020 BONDS (amt in CCRB)	19,057,912	@ 5.00%	= 952,896
LESS INTEREST ON BOND RESERVE ACCOUNTS			0
	\$ 314,416,155		\$ 11,825,062
COMPOSITE RATE OF RETURN ON INVESTMENT		\$ 11,825,062	= 3.761%
		\$314,416,155	
<u>Noted Disclosure:</u>			
TOTAL BONDED INDEBTEDNESS IN CCRB (from above)	\$ 125,428,592	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, 2021

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	\$ 233,377,590	\$ 223,990,130	\$ 34,339,385	\$ 39,224,435	\$ 24,665,159	\$ 20,235,667	\$ 3,219,302	\$ -	\$ -	\$ 222,344	\$ 579,274,012	
LESS: ACCUMULATED DEPRECIATION	128,252,442	61,878,043	9,416,736	12,360,836	7,554,830	5,278,590	566,750	-	-	-	225,308,227	
NET BOOK VALUE	\$ 105,125,148	\$ 162,112,087	\$ 24,922,649	\$ 26,863,599	\$ 17,110,329	\$ 14,957,077	\$ 2,652,552	\$ -	\$ -	\$ 222,344	\$ 353,965,785	
WORKING CAPITAL REQUIREMENT	3,714,942	3,147,855	421,478	538,551	387,598	304,751	23,708	23,104	-	58,967	8,620,954	
	\$ 108,840,090	\$ 165,259,942	\$ 25,344,127	\$ 27,402,150	\$ 17,497,927	\$ 15,261,828	\$ 2,676,260	\$ 23,104	\$ -	\$ 281,311	\$ 362,586,738	
CONTRIBUTIONS	580,137	25,366,065	22,741,010	18,541,906	20,918,896	15,724,398	3,058,480	-	-	-	106,930,892	
LESS AMORTIZATION	(68,520)	(14,240,139)	(7,157,749)	(6,358,843)	(6,473,891)	(4,393,549)	(577,160)	-	-	-	(39,269,851)	
	\$ (511,617)	\$ (11,125,926)	\$ (15,583,261)	\$ (12,183,063)	\$ (14,445,005)	\$ (11,330,849)	\$ (2,481,320)	\$ -	\$ -	\$ -	\$ (67,661,041)	
CONSTRUCTION COST RATE BASE	\$ 108,328,473	\$ 154,134,015	\$ 9,760,866	\$ 15,219,087	\$ 3,052,922	\$ 3,930,979	\$ 194,940	\$ 23,104	\$ -	\$ 281,311	\$ 294,925,697	
RETURN ON INVESTMENT- TASK 4/5		874									\$ 874	
RETURN ON INVESTMENT- TASK 20	3.761%	\$ 4,074,234	\$ 5,796,106	\$ 367,106	\$ 572,390	\$ 114,820	\$ 147,844	\$ 7,332	\$ 869	\$ -	\$ 10,580	\$ 11,091,281

ZONEGATED

COST	\$ -	\$ (9,055,474)	\$ 1,885,431	\$ 4,949,875	\$ 13,592,288	\$ 6,992,049	\$ 240,333	\$ 1,701,998	\$ -	\$ 6,183,448	\$ 26,489,948
LESS: ACCUMULATED DEPRECIATION	-	(5,698,597)	866,974	2,329,103	4,660,326	2,063,112	115,384	674,771	-	1,988,416	6,999,489
NET BOOK VALUE	\$ -	\$ (3,356,877)	\$ 1,018,457	\$ 2,620,772	\$ 8,931,962	\$ 4,928,937	\$ 124,949	\$ 1,027,227	\$ -	\$ 4,195,032	\$ 19,490,459
WORKING CAPITAL REQUIREMENT	-	-	-	-	-	-	-	-	-	-	-
	\$ -	\$ (3,356,877)	\$ 1,018,457	\$ 2,620,772	\$ 8,931,962	\$ 4,928,937	\$ 124,949	\$ 1,027,227	\$ -	\$ 4,195,032	\$ 19,490,459
CONTRIBUTIONS	-	-	-	8,928	5,816	26,260	-	-	-	29,019	70,023
LESS AMORTIZATION	-	-	-	(8,928)	(5,816)	(26,260)	-	-	-	(29,019)	(70,023)
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CONSTRUCTION COST RATE BASE	\$ -	\$ (3,356,877)	\$ 1,018,457	\$ 2,620,772	\$ 8,931,962	\$ 4,928,937	\$ 124,949	\$ 1,027,227	\$ -	\$ 4,195,032	\$ 19,490,459
RETURN ON INVESTMENT- TASK 19/20	\$ -	\$ (225,008)	\$ 68,266	\$ 175,667	\$ 598,699	\$ 330,381	\$ 8,375	\$ 68,854	\$ -	\$ 281,188	\$ 1,306,422
RETURN ON INVESTMENT- TASK 19/20	6.703%	6.703%	6.703%	6.703%	6.703%	6.703%	6.703%	6.703%		6.703%	
TOTAL RETURN ON INVESTMENT	\$ 4,074,234	\$ 5,571,098	\$ 435,372	\$ 748,057	\$ 713,519	\$ 478,225	\$ 15,707	\$ 69,723	\$ -	\$ 291,768	\$ 12,397,703

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
CONSTRUCTION COST & ACCUMULATED DEPRECIATION- TASK NO. 21- PART 2
FISCAL YEAR ENDED JUNE 30, 2021**

CONSTRUCTION COST

COST CENTER	AMOUNT	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		\$ 231,862,504	\$ 230,980,285	\$ 31,591,043	\$ 42,220,254	\$ 24,142,185	\$ 21,460,926	\$ 3,103,088	\$ -	\$ -	\$ -	\$ 585,360,285
IN SERVICE- TASK 10		1,515,086	14,296,534	3,079,880	377,122	523,688	272,805	116,214			222,344	20,403,674
PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 3,379,233		(2,412,414)	-	155,347	150,525	1,212,634	-	-	-	893,908	-
LIVINGSTON	3,110,531		(955,980)	-	71,937	59,313	455,641	-	-	-	369,089	-
FRANKLIN	8,541,087		(5,812,813)	-	3,196,900	1,726,217	-	-	889,696	-	-	-
LEFFINGWELL	141,009		(85,635)	-	10,919	7,113	32,115	-	-	-	35,488	-
BRISTOL	612,700											-
EAST PARIS	6,379,717		378,782	-	(2,468,590)	2,089,808	-	-	-	-	-	-
BURTON	219,892											-
COLDBROOK PS PUMP 2	389,279		(5,795)	-	-	-	5,795	-	-	-	-	-
COVELL	1,563,604		(869,049)	869,049	-	-	-	-	-	-	-	-
WILSON	782,625		(558,474)	533,433	-	-	-	25,041	-	-	-	-
STORAGE TANKS:												
ELKS	236,335		(85,158)	84,783	-	-	-	375	-	-	-	-
KNAPP	118,570		(83,354)	-	5,369	5,219	41,841	-	-	-	30,925	-
CAMBRIDGE	471,529		(65,940)	-	65,940	-	-	-	-	-	-	-
PATTERSON	3,938,991		277,932	-	(3,160,296)	2,882,364	-	-	-	-	-	-
WATERMAINS			(20,064,265)	66,628	3,699,407	6,671,015	3,745,959	214,917	812,302	-	4,854,038	1
ADJUSTED BY ZONEGATING		\$ 233,377,590	\$ 214,934,656	\$ 36,224,816	\$ 44,174,310	\$ 38,257,447	\$ 27,227,716	\$ 3,459,635	\$ 1,701,998	\$ -	\$ 6,405,792	\$ 605,763,960
LESS: ZONEGATING ADJUSTMENT		\$ -	\$ (9,055,474)	\$ 1,885,431	\$ 4,949,875	\$ 13,592,288	\$ 6,992,049	\$ 240,333	\$ 1,701,998	\$ -	\$ 6,183,448	\$ 26,489,948
PHYSICAL LOCATION		\$ 233,377,590	\$ 223,990,130	\$ 34,339,385	\$ 39,224,435	\$ 24,665,159	\$ 20,235,667	\$ 3,219,302	\$ -	\$ -	\$ 222,344	\$ 579,274,012

ACCUMULATED DEPRECIATION

BY PHYSICAL LOCATION- TASK 11		\$ 128,252,442	\$ 66,970,279	\$ 9,607,670	\$ 13,545,372	\$ 7,555,096	\$ 5,810,107	\$ 566,750	\$ -	\$ -	\$ -	\$ 232,307,716
IN SERVICE- TASK 10		-	-	-	-	-	-	-	-	-	-	-
PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 2,640,384		(1,884,954)	-	121,381	117,613	947,499	-	-	-	698,461	-
LIVINGSTON	1,297,226		(398,685)	-	30,001	24,736	190,022	-	-	-	153,926	-
FRANKLIN	4,722,778		(3,214,184)	-	1,767,720	954,508	-	-	491,956	-	-	-
LEFFINGWELL	141,009		(85,635)	-	10,919	7,113	32,115	-	-	-	35,488	-
BRISTOL	380,868											-
EAST PARIS	2,597,229		154,205	-	(1,004,981)	850,776	-	-	-	-	-	-
BURTON	124,468		-									-
COLDBROOK PS PUMP 2	103,808		(1,545)	-	-	-	1,545	-	-	-	-	-
COVELL	696,315		(387,011)	387,011	-	-	-	-	-	-	-	-
WILSON	156,525		(111,695)	106,687	-	-	-	5,008	-	-	-	-
STORAGE TANKS:												
ELKS	236,335		(85,158)	84,783	-	-	-	375	-	-	-	-
KNAPP	116,070		(81,597)	-	5,256	5,109	40,959	-	-	-	30,273	-
CAMBRIDGE	163,465		(22,859)	-	22,859	-	-	-	-	-	-	-
PATTERSON	813,670		57,412	-	(652,817)	595,405	-	-	-	-	-	-
WATERMAINS			(4,729,127)	97,559	844,229	2,104,800	319,455	110,001	182,815	-	1,070,268	-
ADJUSTED BY ZONEGATING		\$ 128,252,442	\$ 56,179,446	\$ 10,283,710	\$ 14,689,939	\$ 12,215,156	\$ 7,341,702	\$ 682,134	\$ 674,771	\$ -	\$ 1,988,416	\$ 232,307,716
LESS: ZONEGATING ADJUSTMENT		\$ -	\$ (5,698,597)	\$ 866,974	\$ 2,329,103	\$ 4,660,326	\$ 2,063,112	\$ 115,384	\$ 674,771	\$ -	\$ 1,988,416	\$ 6,999,489
PHYSICAL LOCATION		\$ 128,252,442	\$ 61,878,043	\$ 9,416,736	\$ 12,360,836	\$ 7,554,830	\$ 5,278,590	\$ 566,750	\$ -	\$ -	\$ -	\$ 225,308,227

**CITY OF GRAND RAPIDS, MICHIGAN
 WATER SUPPLY SYSTEM FUND
 CONTRIBUTIONS & AMORTIZED CONTRIBUTIONS- TASK NO. 21- PART 3
 FISCAL YEAR ENDED JUNE 30, 2021**

CONTRIBUTIONS BY OTHERS

COST CENTER	AMOUNT	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	
2020 RATE STUDY- LOCATION		\$ 580,137	\$ 25,070,943	\$ 21,999,888	\$ 18,372,207	\$ 20,900,996	\$ 14,587,713	\$ 3,058,480	\$ -	\$ -	\$ -	\$104,570,364
ADDITIONS:												
FRONT FOOT FEES			-	81,895	69,449	17,900	67,985	-	-	-	-	237,229
FIXED ASSET CONTRIBUTIONS		-	295,122	659,227	100,250	-	1,068,700	-	-	-	-	2,123,299
OTHER CONTRIBUTIONS		-	-	-	-	-	-	-	-	-	-	-
		580,137	25,366,065	22,741,010	18,541,906	20,918,896	15,724,398	3,058,480	-	-	-	106,930,892
PUMPING STATIONS:												
LEFFINGWELL	\$ 115,303			-	8,928	5,816	26,260	-	-	-	29,019	70,023
ADJUSTED BY ZONEGATING		580,137	25,366,065	22,741,010	18,550,834	20,924,712	15,750,658	3,058,480	-	-	29,019	107,000,915
LESS: ZONEGATING ADJUSTMENT		-	-	-	8,928	5,816	26,260	-	-	-	29,019	70,023
PHYSICAL LOCATION		580,137	25,366,065	22,741,010	18,541,906	20,918,896	15,724,398	3,058,480	-	-	-	106,930,892
AMORTIZED CONTRIBUTIONS												
2020 RATE STUDY- LOCATION		\$ 60,785	\$ 13,635,979	\$ 6,850,669	\$ 6,109,136	\$ 6,193,689	\$ 4,181,872	\$ 536,380	\$ -	\$ -	\$ -	\$ 37,568,510
CURRENT YEAR ADJUSTMENTS		7,735	326,228	307,080	249,707	280,202	211,677	40,780				1,423,409
PRIOR PERIOD ADJUSTMENT			277,932									277,932
		68,520	14,240,139	7,157,749	6,358,843	6,473,891	4,393,549	577,160	-	-	-	39,269,851
PUMPING STATIONS:												
LEFFINGWELL	115,303			-	8,928	5,816	26,260	-	-	-	29,019	70,023
ADJUSTED BY ZONEGATING		68,520	14,240,139	7,157,749	6,367,771	6,479,707	4,419,809	577,160	-	-	29,019	39,339,874
LESS: ZONEGATING ADJUSTMENT		-	-	-	8,928	5,816	26,260	-	-	-	29,019	70,023
PHYSICAL LOCATION		68,520	14,240,139	7,157,749	6,358,843	6,473,891	4,393,549	577,160	-	-	-	39,269,851

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING
FISCAL YEAR ENDED JUNE 30, 2021**

CONSTRUCTION COST- BY PHYSICAL LOCATION

COST CENTER	AMOUNT	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	
COST BY PHYSICAL LOCATION- TASK 11		\$ 231,862,504	\$ 242,131,584	\$ 30,758,451	\$ 31,901,547	\$ 24,142,185	\$ 21,460,926	\$ 3,103,088	\$ -	\$ -	\$ -	\$ 585,360,285
IN SERVICE- TASK 10		1,515,086	14,296,534	3,079,880	377,122	523,688	272,805	116,214	-	-	222,344	20,403,674
BRISTOL			(612,700)	612,700								-
EAST PARIS			(6,379,717)		6,379,717							-
BURTON			(219,892)	219,892								-
PATTERSON TANK			(3,938,991)		3,938,991							-
WATERMAINS												-
LESS: WATERMAINS-TOTAL SUBS-HOME COMM			(31,062,025)	(725,425)	(10,825,800)	(6,200)	(2,208,247)	-	-	-	-	(44,827,697)
ADD: WATERMAINS-TOTAL ADDS-HOME COMM			9,775,336	393,887	7,452,858	5,486	710,183	-	-	-	-	18,337,750
TOTAL-PHYSICAL LOCATION COST		\$ 233,377,590	\$ 223,990,130	\$ 34,339,385	\$ 39,224,435	\$ 24,665,159	\$ 20,235,667	\$ 3,219,302	\$ -	\$ -	\$ 222,344	\$ 579,274,012

CONSTRUCTION COST- ZONEGATING

PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 3,379,233		\$ (2,412,414)	\$ -	\$ 155,347	\$ 150,525	\$ 1,212,634	\$ -	\$ -	\$ -	\$ 893,908	\$ -
LIVINGSTON	3,110,531		(955,980)	-	71,937	59,313	455,641	-	-	-	369,089	-
FRANKLIN	8,541,087		(5,812,813)	-	3,196,900	1,726,217	-	889,696	-	-	-	-
LEFFINGWELL	141,009		(85,635)	-	10,919	7,113	32,115	-	-	-	35,488	-
BRISTOL	612,700		-	-	-	-	-	-	-	-	-	-
EAST PARIS	6,379,717		378,782	-	(2,468,590)	2,089,808	-	-	-	-	-	-
BURTON	219,892		-	-	-	-	-	-	-	-	-	-
COLDBROOK PS PUMP 2	389,279		(5,795)	-	-	-	5,795	-	-	-	-	-
COVELL	1,563,604		(869,049)	869,049	-	-	-	-	-	-	-	-
WILSON	782,625		(558,474)	533,433	-	-	-	25,041	-	-	-	-
STORAGE TANKS:												
ELKS	236,335		(85,158)	84,783	-	-	-	375	-	-	-	-
KNAPP	118,570		(83,354)	-	5,369	5,219	41,841	-	-	-	30,925	-
CAMBRIDGE	471,529		(65,940)	-	65,940	-	-	-	-	-	-	-
PATTERSON	3,938,991		277,932	-	(3,160,296)	2,882,364	-	-	-	-	-	-
WATERMAINS- ZONEGATED COST			1,222,424	398,166	7,072,349	6,671,729	5,244,023	214,917	812,302	-	4,854,038	26,489,948
TOTAL- ZONEGATED COST		\$ -	\$ (9,055,474)	\$ 1,885,431	\$ 4,949,875	\$ 13,592,288	\$ 6,992,049	\$ 240,333	\$ 1,701,998	\$ -	\$ 6,183,448	\$ 26,489,948
GRAND TOTAL- COST		\$ 233,377,590	\$ 214,934,656	\$ 36,224,816	\$ 44,174,310	\$ 38,257,447	\$ 27,227,716	\$ 3,459,635	\$ 1,701,998	\$ -	\$ 6,405,792	\$ 605,763,960

ACCUMULATED DEPRECIATION-BY PHYSICAL LOCATION

ACC DEPREC BY PHYSICAL LOCATION- TASK 11	\$ 128,252,442	\$ 70,886,514	\$ 9,102,334	\$ 10,134,473	\$ 7,555,096	\$ 5,810,107	\$ 566,750	\$ -	\$ -	\$ -	\$ -	\$ 232,307,716
BRISTOL		(380,868)	380,868									-
EAST PARIS		(2,597,229)		2,597,229								-
BURTON		(124,468)	124,468									-
PATTERSON		(813,670)		813,670								-
WATERMAINS												-
LESS: WATERMAINS-TOTAL SUBS-HOME COMM			(7,635,936)	(454,182)	(3,063,499)	(2,315)	(751,812)	-	-	-	-	(11,907,744)
ADD: WATERMAINS-TOTAL ADDS-HOME COMM			2,543,700	263,248	1,878,963	2,048	220,295	-	-	-	-	4,908,254
TOTAL-PHYSICAL LOCATION ACC DEP	\$ 128,252,442	\$ 61,878,043	\$ 9,416,736	\$ 12,360,836	\$ 7,554,829	\$ 5,278,590	\$ 566,750	\$ -	\$ -	\$ -	\$ -	\$ 225,308,226

ACCUMULATED DEPRECIATION-ZONEGATING

PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 2,640,384		\$ (1,884,954)	\$ -	\$ 121,381	\$ 117,613	\$ 947,499	\$ -	\$ -	\$ -	\$ 698,461	\$ -
LIVINGSTON	1,297,226		(398,685)	-	30,001	24,736	190,022	-	-	-	153,926	-
FRANKLIN	4,722,778		(3,214,184)	-	1,767,720	954,508	-	491,956	-	-	-	-
LEFFINGWELL	141,009		(85,635)	-	10,919	7,113	32,115	-	-	-	35,488	-
BRISTOL	380,868		-	-	-	-	-	-	-	-	-	-
EAST PARIS	2,597,229		154,205	-	(1,004,981)	850,776	-	-	-	-	-	-
BURTON	124,468		-	-	-	-	-	-	-	-	-	-
COLDBROOK PS PUMP 2	103,808		(1,545)	-	-	-	1,545	-	-	-	-	-
COVELL	696,315		(387,011)	387,011	-	-	-	-	-	-	-	-
WILSON	156,525		(111,695)	106,687	-	-	-	5,008	-	-	-	-
STORAGE TANKS:												
ELKS	236,335		(85,158)	84,783	-	-	-	375	-	-	-	-
KNAPP	116,070		(81,597)	-	5,256	5,109	40,959	-	-	-	30,273	-
CAMBRIDGE	163,465		(22,859)	-	22,859	-	-	-	-	-	-	-
PATTERSON	813,670		57,412	-	(652,817)	595,405	-	-	-	-	-	-
WATERMAINS- ZONEGATED ACC DEP			363,109	288,493	2,028,765	2,105,066	850,972	110,001	182,815	-	1,070,268	6,999,489
TOTAL- ZONEGATED ACC DEP	\$ -	\$ (5,698,597)	\$ 866,974	\$ 2,329,103	\$ 4,660,326	\$ 2,063,112	\$ 115,384	\$ 674,771	\$ -	\$ -	\$ 1,988,416	\$ 6,999,489
GRAND TOTAL- ACC DEP	\$ 128,252,442	\$ 56,179,446	\$ 10,283,710	\$ 14,689,939	\$ 12,215,155	\$ 7,341,702	\$ 682,134	\$ 674,771	\$ -	\$ -	\$ 1,988,416	\$ 232,307,715

**CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ADJUSTED OPERATING EXPENSE ZONEGATED BY GOVERNMENTAL UNIT - TASK #22
FISCAL YEAR ENDED JUNE 30, 2021**

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	\$ 8,419,602	\$ 8,419,602										
PUMPING STATIONS:												
A. PRIMARY TRANSPORT	755,556	755,556										
B. INTERMEDIATE TRANSPORT	2,301,402		1,234,327	20,874	475,305	262,225	143,426	-	54,182	-	111,063	
WATERMAINS:												
A. PRIMARY TRANSPORT	323,961		185,209	28,534	43,226	32,620	17,928	107	2,812	-	13,525	
B. INTERMEDIATE TRANSPORT	1,679,732		618,511	360,521	272,637	255,034	124,216	27,749	-	-	21,064	
C. LOCAL DISTRIBUTION	4,317,507		3,149,579	341,515	296,915	239,319	274,075	16,104	-	-	-	
RETAIL CUSTOMER METERING *	3,494,038		2,586,601	289,481	242,137	168,098	192,976	14,745				
SUBTOTAL OPERATING EXPENSE	21,291,797	9,175,158	7,774,226	1,040,925	1,330,220	957,296	752,621	58,705	56,994	-	145,652	
ENGINEERING SERVICES	1,294,761	557,925	472,756	63,301	80,897	58,212	45,770	3,574	3,470	-	8,856	
ADMINISTRATIVE EXPENSE	4,301,519	1,438,047	2,182,811	163,157	208,510	150,042	117,971	9,211	8,944	-	22,827	
TOTAL	\$ 26,888,077	\$ 11,171,130	\$ 10,429,793	\$ 1,267,383	\$ 1,619,627	\$ 1,165,550	\$ 916,362	\$ 71,490	\$ 69,408	\$ -	\$ 177,335	

* 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%		53.634%	0.907%	20.653%	11.394%	6.232%		2.354%		4.826%
MEMO												
WATERMAINS												
TOTAL MILES:	1,191.75											
A. PRIMARY TRANSPORT		100.000%		57.170%	8.808%	13.343%	10.069%	5.534%	0.033%	0.868%		4.175%
MILES	61.08			34.92	5.38	8.15	6.15	3.38	0.02	0.53	-	2.55
B. INTERMEDIATE TRANSPORT		100.000%		36.822%	21.463%	16.231%	15.183%	7.395%	1.652%			1.254%
MILES	316.68			116.61	67.97	51.40	48.08	23.42	5.23	-	-	3.97
C. LOCAL DISTRIBUTION		100.000%		72.949%	7.910%	6.877%	5.543%	6.348%	0.373%			
MILES	813.99			593.79	64.39	55.98	45.12	51.67	3.04	-	-	-
RETAIL CUSTOMER METERING (1)		100.000%		74.029%	8.285%	6.930%	4.811%	5.523%	0.422%			
NUMBER OF METERS	80,625.00			59,686.00	6,680.00	5,587.00	3,879.00	4,453.00	340.00			
ENGINEERING SERVICES (2)		100.000%	43.091%	36.513%	4.889%	6.248%	4.496%	3.535%	0.276%	0.268%		0.684%
ADMINISTRATIVE EXPENSE (3)		100.000%	33.431%	50.745%	3.793%	4.847%	3.488%	2.743%	0.214%	0.208%		0.531%

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 AND UNDERUTILIZED PENALTY CREDIT FROM PREVIOUS YEAR TO EACH GOVERNMENTAL ENTITY - TASK NO. 7

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

	<u>RETAIL BILLINGS</u>	<u>PERCENTAGE OF TOTAL</u>	<u>ALLOCATION</u>
CITY OF GRAND RAPIDS	\$ 26,725,622	64.8737%	\$ 654,083
CITY OF WALKER	3,621,826	8.7916%	88,641
CITY OF KENTWOOD	4,418,859	10.7263%	108,147
CASCADE TOWNSHIP	3,622,761	8.7939%	88,664
GRAND RAPIDS TOWNSHIP	2,597,100	6.3042%	63,562
TALLMADGE TOWNSHIP	210,229	0.5103%	5,145
	<u>\$ 41,196,397</u>	<u>100.0000%</u>	<u>\$ 1,008,242</u>

CITY OF GRAND RAPIDS, MICHIGAN
WATER SUPPLY SYSTEM FUND
ASSIGN DEPRECIATION EXPENSE TO CUSTOMER COMMUNITIES- TASK NO. 24
FISCAL YEAR ENDED JUNE 30, 2021

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		\$ 5,715,038	\$ 3,508,458	\$ 431,904	\$ 560,483	\$ 323,570	\$ 281,480	\$ 41,338	\$ -	\$ -	\$ -	\$ 10,862,271
IN SERVICE- TASK 10		57,464	435,321	227,302	5,698	7,550	7,990	10,293			6,498	758,116
PUMPING STATIONS:												
KNAPP SERVICE CENTER	\$ 92,899		(66,321)	-	4,271	4,138	33,337	-	-	-	24,575	-
LIVINGSTON	75,657		(23,252)	-	1,750	1,443	11,082	-	-	-	8,977	-
FRANKLIN	301,852		(205,432)	-	112,982	61,007	-	-	31,443	-	-	-
LEFFINGWELL	-		-	-	-	-	-	-	-	-	-	-
BRISTOL	15,870											
EAST PARIS	156,906		9,316	-	(60,714)	51,398	-	-	-	-	-	-
BURTON	12,447											
COLDBROOK PS PUMP 2	12,976		(193)	-	-	-	193	-	-	-	-	-
COVELL	57,743		(32,093)	32,093	-	-	-	-	-	-	-	-
WILSON	26,087		(18,616)	17,781	-	-	-	835	-	-	-	-
STORAGE TANKS:												
ELKS	-		-	-	-	-	-	-	-	-	-	-
KNAPP	-		-	-	-	-	-	-	-	-	-	-
CAMBRIDGE	23,697		(3,314)	-	3,314	-	-	-	-	-	-	-
PATTERSON	101,837		7,186	-	(81,705)	74,519	-	-	-	-	-	-
WATERMANS			(263,591)	888	47,202	87,876	49,825	2,866	10,286	-	64,648	-
ADJUSTED BY ZONEGATING		5,772,502	3,347,469	709,968	593,281	611,501	383,907	55,332	41,729	-	104,698	11,620,387
LESS DEPR ON CIS (TASK 4/5)			(27,280)									(27,280)
LESS CONTRIBUTIONS AMORTIZED												
TASK NO. 21		(7,735)	(326,228)	(307,080)	(249,707)	(280,202)	(211,677)	(40,780)	-	-	-	(1,423,409)
TOTAL		<u>\$ 5,764,767</u>	<u>\$ 2,993,961</u>	<u>\$ 402,888</u>	<u>\$ 343,574</u>	<u>\$ 331,299</u>	<u>\$ 172,230</u>	<u>\$ 14,552</u>	<u>\$ 41,729</u>	<u>\$ -</u>	<u>\$ 104,698</u>	<u>\$ 10,169,698</u>

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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, 2021**

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	\$ 11,171,176	\$ 10,430,120	\$ 1,267,313	\$ 1,619,511	\$ 1,165,515	\$ 916,327	\$ 71,373	\$ 69,408	\$ -	\$ 177,335	\$ 26,888,077
DEPRECIATION EXPENSE TASK NO. 24	5,764,767	2,993,961	402,888	343,574	331,299	172,230	14,552	41,729	-	104,698	10,169,698
RETURN ON SYSTEM INVESTMENT TASK NO. 21	4,074,234	5,571,098	435,372	748,057	713,519	478,225	15,707	69,723	-	291,768	12,397,703
REVENUE CREDITS- TASK NO. 23	-	(654,083)	(88,641)	(108,147)	(88,664)	(63,562)	(5,145)	-	-	-	(1,008,242)
ALLOCATE:											
INTEG CONN. FEE CREDIT (A)	-	(193,611)	(38,653)	(42,224)	(29,468)	(20,353)	(2,512)	(13,332)	-	(15,955)	(356,108)
INTEGRATED SYSTEM (A)	(21,010,177)	10,033,046	2,003,051	2,188,069	1,527,053	1,054,709	130,211	690,873	2,556,361	826,804	-
LESS: CIRCUIT BREAKER (B)		(186,554)	(197,833)	(13,846)	-	-	-				(398,233)
	<u>\$ -</u>	<u>\$ 27,993,977</u>	<u>\$ 3,783,497</u>	<u>\$ 4,734,994</u>	<u>\$ 3,619,254</u>	<u>\$ 2,537,576</u>	<u>\$ 224,186</u>	<u>\$ 858,401</u>	<u>\$ 2,556,361</u>	<u>\$ 1,384,650</u>	<u>\$ 47,692,896</u>

(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 6/30/21</u>	<u>PRO FORMA * 6/30/22</u>
REVENUES:		
RETAIL/WHOLESALE WATER SALES	\$ 45,969,364	\$ 45,761,664
CONNECTION FEES/FRONT FOOT FEES	603,737	490,000
BILLABLE TO SDS FUND	2,540,798	2,923,313
OTHER OPERATING REVENUES	2,136,799	1,610,000
INTEREST ON INVESTMENTS	879,714	590,944
MISCELLANEOUS	665,451	688,426
TOTAL REVENUES	<u>\$ 52,795,862</u>	<u>\$ 52,064,347</u>
OPERATING EXPENSES:		
OPERATIONS & MAINTENANCE	\$ 28,621,490	\$ 33,414,036
DEPRECIATION	<u>10,931,700</u>	<u>10,931,700</u>
TOTAL EXPENSES	<u>\$ 39,553,190</u>	<u>\$ 44,345,736</u>
ADDITIONS: DEPRECIATION	<u>10,931,700</u>	<u>10,931,700</u>
NET EARNINGS OF THE SYSTEM	<u>\$ 24,174,372</u>	<u>\$ 18,650,311</u>
DEBT SERVICE		
SERIES 2020 BONDS	\$ 683,163	\$ 1,747,250
SERIES 2018 BONDS	2,089,350	2,086,850
SERIES 2016 BONDS	2,751,900	2,752,500
SERIES 2015 BONDS	2,247,500	2,248,500
SERIES 2013 BONDS	<u>214,469</u>	<u>221,169</u>
SENIOR LIEN	7,986,382	9,056,269
JUNIOR LIEN **	<u>1,438,462</u>	<u>1,438,487</u>
TOTAL	<u>9,424,844</u>	<u>10,494,756</u>
COVERAGE RATIO - SENIOR DEBT	<u>3.03</u>	<u>2.06</u>
COVERAGE RATIO - ALL DEBT	<u>2.56</u>	<u>1.78</u>

* WATER SALES ADJUSTED FOR RATE REVISIONS OF 0.62% AND 4.08% EFFECTIVE 1/1/21 AND 1/1/22, RESPECTIVELY; OTHER REVENUES AND OPERATIONS & MAINTENANCE EXPENSE PER 2021 FISCAL PLAN, ADJUSTED FOR CARRYFORWARDS AND KNOWN ADJUSTMENTS.

** 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		\$ 48,091,129
REVENUES FROM CURRENT RATES		
MONTHLY METER CHARGE	\$ 11,931,474	
MONTHLY BILLING CHARGE	3,306,218	
COMMODITY CHARGE	29,631,985	
MONTHLY FIRE PROTECTION	904,106	
ANNUAL HYDRANT CHARGE	<u>50,209</u>	<u>(45,823,992)</u>
INITIAL REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 2,267,136.00</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>4.95%</u>
INITIAL SYSTEM REVENUE REQUIREMENTS FROM ABOVE		\$ 48,091,129
LESS: AMOUNT OF CIRCUIT BREAKER RELIEF TO REDUCE RR's TO RETAIL		(398,233)
SYSTEM REVENUE REQUIREMENTS		<u>\$ 47,692,896</u>
ACTUAL REQUIRED AMOUNT OF REVENUE INCREASE (DECREASE)		<u>\$ 1,868,903</u>
ACTUAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>4.08%</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	53,475	53,475	5,440	5,440	3,706	3,706	2,793	2,793	3,816	3,816	272	272
B 1"	1.7778	2,554	4,541	485	862	663	1,179	384	683	318	565	23	41
C 1 1/4"	2.7778	-	-	-	-	-	-	-	-	-	-	-	-
D 1 1/2"	4.0000	1,244	4,976	258	1,032	439	1,756	279	1,116	142	568	16	64
E 2"	7.1111	792	5,632	107	761	191	1,358	93	661	39	277	1	7
F 3"	16.0000	116	1,856	15	240	22	352	10	160	10	160	-	-
G 4"	28.4444	77	2,190	7	199	13	370	2	57	3	85	2	57
H 6" and over	64.0000	18	1,152	2	128	2	128	-	-	1	64	-	-
		<u>58,276</u>	<u>73,822</u>	<u>6,314</u>	<u>8,662</u>	<u>5,036</u>	<u>8,849</u>	<u>3,561</u>	<u>5,470</u>	<u>4,329</u>	<u>5,535</u>	<u>314</u>	<u>441</u>

FIRE PROTECTION SERVICE

H 6"	1,079	248	309	176	103	21
I 8"	296	90	208	113	20	3
J 10"	15	6	10	2	-	-
K 12"	20	22	24	27	1	2
	<u>1,410</u>	<u>366</u>	<u>551</u>	<u>318</u>	<u>124</u>	<u>26</u>
TOTAL	<u>59,686</u>	<u>6,680</u>	<u>5,587</u>	<u>3,879</u>	<u>4,453</u>	<u>340</u>
TOTAL						<u>80,625</u>

Source: City of Grand Rapids, Michigan, Water/Sewer Customer Accounts/Meters Report, dated November 1, 2021.

CITY OF GRAND RAPIDS, MICHIGAN

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

SYSTEM REVENUE REQUIREMENTS \$ 27,993,977

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

73,822 meter equivalents x \$ 7.56 x 12 = \$ 6,697,132

MONTHLY BILLING CHARGE

58,276 meters x \$ 3.54 x 12 = 2,475,564

COMMODITY CHARGE

8,291,274 units (100 CF) x \$ 2.06 = 17,080,024

MONTHLY FIRE PROTECTION

420,913

ANNUAL HYDRANT CHARGE

- (26,673,633)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 1,320,344

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

4.95%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 186,554

CITY OF GRAND RAPIDS, MICHIGAN

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

COMMODITY CHARGE:

$$\frac{\text{COMMODITY CHARGE @ 64\%}}{\text{BILLED UNITS}} = \frac{\$17,916,145}{8,291,274} = \underline{\underline{\$ 2.16 /100 CF *}}$$

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **	\$ 27,993,977
NEW COMMODITY CHARGE 8,291,274 x \$ 2.16	\$ 17,909,152
NEW MONTHLY BILLING CHARGE 58,276 x \$ 3.74 x 12	2,615,427
MONTHLY FIRE PROTECTION CHARGE	420,913
ANNUAL HYDRANT CHARGE	-
	<u>(20,945,492)</u>
	<u><u>\$ 7,048,485</u></u>

$$\text{MONTHLY METER CHARGE} = \frac{\$7,048,485}{73,822 \times 12} = \underline{\underline{\$ 7.96 \text{ MONTHLY}}}$$

<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	\$ 7.96	\$ 3.74	\$ 11.70	\$ 11.10
1"	1.7778	14.15	3.74	17.89	16.98
1 1/4"	2.7778	22.11	3.74	25.85	24.54
1 1/2"	4.0000	31.84	3.74	35.58	33.78
2"	7.1111	56.60	3.74	60.34	57.30
3"	16.0000	127.36	3.74	131.10	124.50
4"	28.4444	226.42	3.74	230.16	218.58
6" and over	64.0000	509.44	3.74	513.18	487.38

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2022

** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 186,554

CITY OF WALKER, MICHIGAN
WATER RATE STUDY
WATER SUPPLY SYSTEM FUND
RATE ANALYSIS - TASK NO. 26

SYSTEM REVENUE REQUIREMENTS*	\$ 3,783,497
REVENUES FROM CURRENT RATES	
MONTHLY METER CHARGE	
8,662 meter equivalents x \$ 10.16 x 12 = \$	1,056,071
MONTHLY BILLING CHARGE	
6,314 meters x \$ 3.54 x 12 =	268,219
COMMODITY CHARGE	
1,211,119 units (100 CF) x \$ 1.78 =	2,155,792
MONTHLY FIRE PROTECTION	124,965
ANNUAL HYDRANT CHARGE	<div style="display: flex; justify-content: space-between; align-items: center;"> - (3,605,047) </div>
REQUIRED REVENUE INCREASE (DECREASE)	<div style="display: flex; justify-content: space-between; align-items: center;"> \$ 178,450 </div>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES	<div style="display: flex; justify-content: space-between; align-items: center;"> 4.95% </div>

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 197,833

CITY OF WALKER, MICHIGAN

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.87 /100 CF *
 \$ 1.78 x 104.95%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **	\$ 3,783,497
NEW COMMODITY CHARGE 1,211,119 x \$ 1.87	\$ 2,264,793
NEW MONTHLY BILLING CHARGE 6,314 x \$ 3.74 x 12	283,372
MONTHLY FIRE PROTECTION CHARGE	124,965
ANNUAL HYDRANT CHARGE	<u>-</u> (2,673,130)
	<u><u>\$ 1,110,367</u></u>

MONTHLY METER CHARGE = $\frac{\$1,110,367}{8,662 \times 12}$ = \$ 10.68 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 10.68	\$ 3.74	\$ 14.42	\$ 13.70
1"	1.7778	18.99	3.74	22.73	21.60
1 1/4"	2.7778	29.67	3.74	33.41	31.76
1 1/2"	4.0000	42.72	3.74	46.46	44.18
2"	7.1111	75.95	3.74	79.69	75.79
3"	16.0000	170.88	3.74	174.62	166.10
4"	28.4444	303.79	3.74	307.53	292.54
6" and over	64.0000	683.52	3.74	687.26	653.78

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2022

**REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 197,833

CITY OF KENTWOOD, MICHIGAN

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

SYSTEM REVENUE REQUIREMENTS \$ 4,734,994

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

8,849 meter equivalents x \$ 12.05 x 12 = \$ 1,279,565

MONTHLY BILLING CHARGE

5,036 meters x \$ 3.54 x 12 = 213,929

COMMODITY CHARGE

1,710,663 units (100 CF) x \$ 1.65 = 2,822,594

MONTHLY FIRE PROTECTION

195,579

ANNUAL HYDRANT CHARGE

- (4,511,667)

REQUIRED REVENUE INCREASE (DECREASE)

\$ 223,327

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES

4.95%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 13,846

CITY OF KENTWOOD, MICHIGAN

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 1.73 /100 CF *
 \$ 1.65 x 104.95%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **	\$ 4,734,994
NEW COMMODITY CHARGE 1,710,663 x \$ 1.73	\$ 2,959,447
NEW MONTHLY BILLING CHARGE 5,036 x \$ 3.74 x 12	226,016
MONTHLY FIRE PROTECTION CHARGE	195,579
ANNUAL HYDRANT CHARGE	<u>-</u> <u>(3,381,042)</u>
	<u>\$ 1,353,952</u>

MONTHLY METER CHARGE = $\frac{\$1,353,952}{8,849 \times 12} = \underline{\underline{\$ 12.75 \text{ MONTHLY}}}$

<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	\$ 12.75	\$ 3.74	\$ 16.49	\$ 15.59
1"	1.7778	22.67	3.74	26.41	24.96
1 1/4"	2.7778	35.42	3.74	39.16	37.01
1 1/2"	4.0000	51.00	3.74	54.74	51.74
2"	7.1111	90.67	3.74	94.41	89.23
3"	16.0000	204.00	3.74	207.74	196.34
4"	28.4444	362.67	3.74	366.41	346.30
6" and over	64.0000	816.00	3.74	819.74	774.74

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2022
 ** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 13,846

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

SYSTEM REVENUE REQUIREMENTS* \$ 3,619,254

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
5,470 meter equivalents	x	\$ 18.55	x 12 = \$ 1,217,622
MONTHLY BILLING CHARGE			
3,561 meters	x	\$ 3.54	x 12 = 151,271
COMMODITY CHARGE			
876,918 units (100 CF)	x	\$ 2.32	= 2,034,450
MONTHLY FIRE PROTECTION			119,531
ANNUAL HYDRANT CHARGE			- <u>(3,522,874)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ 96,380</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>2.74%</u>

CASCADE TOWNSHIP

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.38 /100 CF *
 \$ 2.32 x 102.74%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS	\$ 3,619,254
NEW COMMODITY CHARGE 876,918 x \$ 2.38	\$ 2,087,065
NEW MONTHLY BILLING CHARGE 3,561 x \$ 3.74 x 12	159,818
MONTHLY FIRE PROTECTION CHARGE	119,531
ANNUAL HYDRANT CHARGE	<u>-</u> <u>(2,366,414)</u>
	<u>\$ 1,252,840</u>

MONTHLY METER CHARGE = $\frac{\$1,252,840}{5,470 \times 12} = \underline{\underline{\$ 19.09 \text{ MONTHLY}}}$

<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	\$ 19.09	\$ 3.74	\$ 22.83	\$ 22.09
1"	1.7778	33.94	3.74	37.68	36.52
1 1/4"	2.7778	53.03	3.74	56.77	55.07
1 1/2"	4.0000	76.36	3.74	80.10	77.74
2"	7.1111	135.75	3.74	139.49	135.45
3"	16.0000	305.44	3.74	309.18	300.34
4"	28.4444	543.00	3.74	546.74	531.18
6" and over	64.0000	1,221.76	3.74	1,225.50	1,190.74

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2022

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

SYSTEM REVENUE REQUIREMENTS* \$ 2,537,576

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE					
	5,535 meter equivalents	x	\$ 13.71	x	12 = \$ 910,618
MONTHLY BILLING CHARGE					
	4,329 meters	x	\$ 3.54	x	12 = 183,896
COMMODITY CHARGE					
	705,099 units (100 CF)	x	\$ 2.01	=	1,417,249
MONTHLY FIRE PROTECTION					34,748
ANNUAL HYDRANT CHARGE				-	<u>(2,546,511)</u>
REQUIRED REVENUE INCREASE (DECREASE)					<u>\$ (8,935)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES					<u><u>-0.35%</u></u>

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

SYSTEM REVENUE REQUIREMENTS \$ 224,186

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE			
441 meter equivalents	x	\$ 0.06	x 12 = \$ 318
MONTHLY BILLING CHARGE			
314 meters	x	\$ 3.54	x 12 = 13,339
COMMODITY CHARGE			
57,046 units (100 CF)	x	\$ 2.56	= 146,038
MONTHLY FIRE PROTECTION 8,371			
ANNUAL HYDRANT CHARGE 50,209			
			<u>(218,275)</u>
REQUIRED REVENUE INCREASE (DECREASE)			<u>\$ 5,911</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>2.71%</u>

TALLMADGE TOWNSHIP

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 2.63 /100 CF *
 \$ 2.56 x 102.71%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS	\$ 224,186
NEW COMMODITY CHARGE	
57,046 x \$ 2.63	\$ 150,031
NEW MONTHLY BILLING CHARGE	
314 x \$ 3.74 x 12	14,092
MONTHLY FIRE PROTECTION CHARGE	8,371
ANNUAL HYDRANT CHARGE	<u>50,209</u>
	<u>(222,703)</u>
	<u>\$ 1,483</u>

MONTHLY METER CHARGE = $\frac{\$1,483}{441 \times 12} = \underline{\underline{\$ 0.28 \text{ MONTHLY}}}$

<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	\$ 0.28	\$ 3.74	\$ 4.02	\$ 3.60
1"	1.7778	0.50	3.74	4.24	\$ 3.65
1 1/4"	2.7778	0.78	3.74	4.52	\$ 3.71
1 1/2"	4.0000	1.12	3.74	4.86	\$ 3.78
2"	7.1111	1.99	3.74	5.73	\$ 3.97
3"	16.0000	4.48	3.74	8.22	\$ 4.50
4"	28.4444	7.96	3.74	11.70	\$ 5.25
6" and over	64.0000	17.92	3.74	21.66	\$ 7.38

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2022

CITY OF EAST GRAND RAPIDS, MICHIGAN

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS *		\$	677,541
COMMODITY CHARGE			
(100CF) 564,272 units	x	\$ 1.18	665,841
			<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$	<u>11,700</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$	180,860
MONTHLY SERVICE CHARGE			
\$15,299	x	12 MONTHS	183,588
			<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$	<u>(2,728)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>1.06%</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	\$	858,401
NEW COMMODITY CHARGE *		
564,272 x \$1.20 =		(677,126)
		<hr/>
	\$	<u>181,275</u>

MONTHLY SERVICE CHARGE * = \$ 181,275 / 12 = \$15,106

* NEW RATES EFFECTIVE ON JANUARY 1, 2022

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS *		\$ 810,849
COMMODITY CHARGE		
(100CF) 589,341 units x \$ 1.35		795,610
		795,610
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 15,239
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 573,801
MONTHLY SERVICE CHARGE		
\$48,464 x 12 MONTHS		581,568
		581,568
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ (7,767)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		0.54%

* NET OF INTEGRATED CONNECTION FEE CREDIT.

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

SYSTEM REVENUE REQUIREMENTS	\$ 1,384,650
NEW COMMODITY CHARGE *	
589,341 x \$1.38 =	(813,291)
	<hr/>
	<u>\$ 571,359</u>

MONTHLY SERVICE CHARGE * = \$571,359 / 12 = \$47,613

* NEW RATES EFFECTIVE ON JANUARY 1, 2022

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS					\$ 2,556,361
COMMODITY CHARGE					
(100CF)	1,995,545	units	x	\$ 1.26	2,514,387
					<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)					<u>\$ 41,974</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS					\$ -
MONTHLY SERVICE CHARGE					
	\$416		x	12 MONTHS	4,992
					<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)					<u>\$ (4,992)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES					<u>1.47%</u>

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

SYSTEM REVENUE REQUIREMENTS	\$ 2,556,361
NEW COMMODITY CHARGE *	
1,995,545 x \$1.28 =	(2,554,298)
	<hr/>
	<u><u>\$ 2,063</u></u>

MONTHLY SERVICE CHARGE * = \$ 2,063 / 12 = \$172

* NEW RATES EFFECTIVE ON JANUARY 1, 2022

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

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

Water User Type	Definition	2021 Rate	2022 Rate	% Change
Domestic	Property is domicile for single or multiple family use, such as homes, apartments, duplexes, condominium, etc.	\$ 100.00	\$ 118.00	18.00%
Commercial - Industrial	Property used to offer services and / or products, such as retail/wholesale stores, gas stations, restaurants, hotels, schools, churches, etc., and manufacturing or processing facilities (industrial).	\$ 145.00	\$ 165.00	13.79%

The above 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 1, 2020 through June 30, 2021. 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:

Service Size	Year	50' R.O.W.	60' R.O.W.	66' R.O.W.	80' R.O.W.	100' R.O.W.
1" Water Service	2021	\$ 3,050	\$ 3,500	\$ 3,750	\$ 4,350	\$ 5,200
	2022	\$ 3,050	\$ 3,500	\$ 3,750	\$ 4,350	\$ 5,200
1-1/2" Water Service	2021	\$ 4,100	\$ 4,600	\$ 4,900	\$ 5,600	\$ 6,600
	2022	\$ 4,300	\$ 4,800	\$ 5,100	\$ 5,800	\$ 7,000
2" Water Service	2021	\$ 4,400	\$ 4,900	\$ 5,200	\$ 6,000	\$ 7,000
	2022	\$ 4,400	\$ 4,900	\$ 5,200	\$ 5,900	\$ 6,900

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

Service Size	50' R.O.W.	60' R.O.W.	66' R.O.W.	80' R.O.W.	100' R.O.W.
1" Water Service	0.00%	0.00%	0.00%	0.00%	0.00%
1-1/2" Water Service	4.88%	4.35%	4.08%	3.57%	6.06%
2" Water Service	0.00%	0.00%	0.00%	-1.67%	-1.43%

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 14, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Samarhia Giffel
Administrative Services Officer

SUBJECT: 2021 WATER RATE STUDY TASK #30
FEES, CHARGES, and PENALTIES

Fees, charges, and penalties have been reviewed and determined in accordance with the Water System Rules and Regulations and are approved for use beginning January 1, 2022.

The following are recommended changes in fee amounts, aligned to support resource requirements:

Fire Protection Monthly

- Fee increase of 2.203% for all sizes based on BBI referenced from Task 19

Meter Installation and Service On/Off Requests

- Meter installations for all sizes increased 9.1% from \$55 to \$60 to account for associated administrative cost for BOR tasks and field work performed by the service worker including the city vehicle, mileage and fuel.

Meter Reading

- Meter Interface Unit Replacement increased 3.0% from \$165 to \$170 to account for the Smart Endpoint cost, associated administrative and field work performed by the service worker including the city vehicle, mileage and fuel.

Please see the attached fee, charges, and penalties schedule in entirety.

SG

Cc: Wayne Jernberg, Water System Manager
Mike Grenier, Environmental Services Manager
Arden Postma, Hydraulic Engineer
Chad Reul, Utility Field Operations Superintendent

Fees, Charges, and Penalties	2021 Fee (\$)	2022 Fee (\$)	% Change
Fire Protection Monthly (based on pipe size)			
6"	\$20.32	\$20.77	2.203%
8"	\$36.07	\$36.86	2.203%
10"	\$56.51	\$57.75	2.203%
12"	\$81.32	\$83.11	2.203%

**BBI referenced from Task 19*

Hydrant Use Per Season			
Hydrant Use Permit Fee (Non-Metered Hydrant Connection - Residential Customers)	\$50	\$50	0%
Hydrant Use Permit Fee (Metered Hydrant Connection)	\$300	\$300	0%
Non-Metered Hydrant Connection Use Fee (pool filling per connection)	\$100 (RD) + \$75/week	\$100 (RD) + \$75/week	0%
Metered Hydrant Connection Use Fee * (per connection)	\$500 (RD) + \$25/week	\$500 (RD) + \$25/week	0%

RD=Refundable Deposit

**Plus metered volume (Commodity Charges at City of Grand Rapids Rate)*

A \$100 Services fee applies for all hydrant connection assistance requests

Tapping Permits			
All sizes	\$375	\$375	0%

Meter Installation and Service On/Off Requests			
<i>All non-emergency service requests must be scheduled (normal service Hours 8am - 7pm M-F)</i>			
All sizes	\$55	\$60	9.1%
Inspection/Repair Scheduled On & Off Request (may also need meter install)	\$70	\$70	0%

Meter Reading			
Final or Actual Reading	\$60	\$60	0%
Meter Interface Unit Replacement (includes Smart Endpoint Device)	\$165	\$170	3.0%

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 benefit of the Water System, the fee will be refunded, and a new meter will be set.</i>			
<i>*In addition to the Meter Testing fee a Service On/Off Requests fee applies.</i>			
¾" and 1"	\$150	\$150	0%
1 ½"	\$200	\$200	0%
2"	\$350	\$350	0%
3"	\$400	\$400	0%
4" or larger	Cost	Cost	0%

Security Deposit			
Minimum Deposit Amount	\$500	\$500	0%

Fees, Charges, and Penalties
2021 Fee (\$) **2022 Fee (\$)** **% Change**
Meter Replacement (Non-System Planned/Scheduled Replacement)

*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. *In addition to the Meter Replacement fee a Meter Installation fee applies.*

¾"	\$210	\$210	0%
1"	\$250	\$250	0%

T2 Omni Meter			
1 ½"	\$750	\$750	0%
2"	\$880	\$880	0%
3"	\$1,100	\$1,100	0%
4" or larger	Cost	Cost	0%

C2 Omni Meter			
1 ½"	\$1200	\$1200	0%
2"	\$1385	\$1385	0%
3"	\$1,755	\$1,755	0%
4" or larger	Cost	Cost	0%

Miscellaneous

Street Opening Permit (Water/ESD, City Engineering, Streets)	\$300	\$300	0%
Water Inspection Permit (Within City Limits)	\$80	\$80	0%
Water Inspection Permit (Outside City Limits)	\$95	\$95	0%
Sanitary Service Line Inspection Permit (Within City Limits)	\$80	\$80	0%
Sanitary Service Line Inspection Permit (Outside City Limits)	\$95	\$95	0%
Storm Service Line Inspection Permit (Within City Limits)	\$80	\$80	0%
Storm Service Line Inspection Permit (Outside City Limits)	\$95	\$95	0%
Footing Drain Lateral Inspection Permit (Within City Limits)	\$80	\$80	0%
Footing Drain Lateral Inspection Permit (Outside City Limits)	\$95	\$95	0%
Sewer Lateral Service Demolition/Cap off Inspection Fee (Within City Limits)	\$80	\$80	0%
Sewer Later Service Demolition/Cap off Inspection Fee (Outside City Limits)	\$95	\$95	0%
Plumbing Service Re-inspection Fee	\$80	\$80	0%
Cross Connection Re-inspection Fee	\$75	\$75	0%

Fees, Charges, and Penalties	2021 Fee (\$)	2022 Fee (\$)	% Change
Miscellaneous Cont...			
Irrigation Service Cut/Cap Administrative Fee	\$65	\$65	0%
Delinquent Commercial Backflow Test Fee (Per Device)	\$25	\$25	0%
Hydrant Flow Test	\$200	\$200	0%

Services			
Customer requested on-site service visit (hydrant connection assistance requests, internal plumbing, customer issue)	\$100	\$100	0%

Penalties			
Late Payment Penalty	10% of Net	10% of Net	0%
Return check or payment charge (City Treasurer processing fee)	\$30	\$30	0%
Administrative/Research Fee (Review or processing of account for non-payment, returned payment, shut-off, posting of property, and/or backflow non-compliance) (Documentation creation for account of location information- FOIA request may still be required)	\$55	\$55	0%
Missed Appointment	\$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, valves, meters, meter reading equipment, hydrants, and curb stops & box) ** & ***	\$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	Cost + 10%	Cost + 10%	0%
Repair/Replace damage to a fire hydrant	Cost + 10%	Cost + 10%	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: October 26, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: **2021 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>2020 Rate</u>	<u>2021 Rate</u>	<u>2022 Rate</u>	<u>2021 to 2022 % Change</u>
8"-12"	\$27.47/ft	\$27.76/ft	\$32.94/ft	18.6%
12"-16"	\$33.90/ft	\$28.00/ft	\$39.85/ft	42.4%
8"-16"	\$61.37/ft	\$55.76/ft	\$72.79/ft	30.5%

These rates have been determined in accordance with the Water System Rules and Regulations, and are approved for use from January 1, 2022, through December 31, 2022. Background information and calculations to establish these rates are on file in the Utility Engineering, Distribution and Collection Office.

Due to the volatility in the economic marketplace and interruptions in the supply chain due to Covid-19, material prices have risen sharply this year. As a result of the price increases, we are seeing a parallel increase in the Oversizing Rates.

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: Wayne Jernberg
Rick DeVries
Jeff McCaul

**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 June 30, 2021:

UAB Partners	Sq. Miles of USD by CC	Percent
Grand Rapids	45.36	35.042%
Walker	25.48	19.684%
Kentwood	13.50	10.429%
Cascade	21.14	16.331%
Grand Rapids Township	10.93	8.441%
Tallmadge Township	2.46	1.900%
East Grand Rapids	3.37	2.603%
Ada	7.21	5.570%
Total	129.45	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)*	\$ 137,289	25.50%
City & Customer Community Circuit Breaker (CCCCB)	401,022	74.50%
Total	<u>\$ 538,311</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	\$ 401,022	100.00%
Less: Amount Applied in Current Rate Study	(398,233)	-99.30%
Total CCCCCB Revenue Credit- Next Year's Rate Study	<u>\$ 2,789</u>	<u>0.70%</u>

*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. \$137,289 includes \$80,000 of facility rental revenue from fiscal year 2021 to supplement the 2022 ICB.

**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, 2021
TASKS NO. 1, 2, & 3**

COMMUNITY	LOCAL		TRUNK		INTERCEPTOR		TOTALS	
	FEET	MILES	FEET	MILES	FEET	MILES	FEET	MILES
Grand Rapids								
Construction	2,841	0.54	760	0.14	0	0.00	3,601	0.68
Abandonment	(2,049)	(0.39)	(333)	(0.06)	(786)	(0.15)	(3,168)	(0.60)
CSO Construction	0	0.00	0	0.00	0	0.00	0	0.00
CSO Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>792</u>	<u>0.15</u>	<u>427</u>	<u>0.08</u>	<u>(786)</u>	<u>(0.15)</u>	<u>433</u>	<u>0.08</u>
Kentwood								
Construction	1,369	0.26	0	0.00	0	0.00	1,369	0.26
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>1,369</u>	<u>0.26</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>1,369</u>	<u>0.26</u>
Cascade 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>
G.R. Twp.								
Construction	5,302	1.00	0	0.00	0	0.00	5,302	1.00
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>5,302</u>	<u>1.00</u>	<u>0</u>	<u>0.00</u>	<u>0</u>	<u>0.00</u>	<u>5,302</u>	<u>1.00</u>
Tallmadge 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>
Walker								
Construction	2,287	0.43	3,678	0.70	0	0.00	5,965	1.13
Abandonment	0	0.00	0	0.00	0	0.00	0	0.00
	<u>2,287</u>	<u>0.43</u>	<u>3,678</u>	<u>0.70</u>	<u>0</u>	<u>0.00</u>	<u>5,965</u>	<u>1.13</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><u>9,750</u></u>	<u><u>1.84</u></u>	<u><u>4,105</u></u>	<u><u>0.78</u></u>	<u><u>(786)</u></u>	<u><u>(0.15)</u></u>	<u><u>13,069</u></u>	<u><u>2.47</u></u>

	CONTRIBUTIONS		
	COMM	OTHER	TOTAL
Integrated	\$ -	\$ -	\$ -
Grand Rapids	303,434	-	303,434
Kentwood	157,146	-	157,146
Cascade Twp.	-	-	-
Grand Rapids Twp.	550,000	-	550,000
Tallmadge Twp.	-	-	-
Walker	442,643	-	442,643
Wright Twp.	-	-	-
TOTAL	<u><u>\$ 1,453,223</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 1,453,223</u></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, 2021**

Dept-Unit-Fund	ACTIVITY	EXPENSE BY ACTIVITY	WASTEWATER TREATMENT PLANT	WASTEWATER LIFT STATIONS			SEWER LINES			BULK METERING STATIONS	CUSTOMER ACCOUNTING	INDUSTRIAL PRETREAT.	ADMIN. EXPENSE
				INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK	LOCAL COLLECTOR				
527 (3000:70) 5900	WASTEWATER TREATMENT (LESS 527 - 3040 - 5900)	\$ 18,969,951	\$ 18,161,556	\$ 211,156	\$ 144,521	\$ 445,668				\$ 7,050			
527 (4000 / 4290) 5900	SEWER MAINTENANCE	5,024,765					258,273	594,480	4,172,012				
527 (2000) 5900	CUSTOMER SERVICE*	2,540,798									2,540,798		
527 (3040) 5900	INDUSTRIAL PRETREATMENT	726,968										726,968	
	SUBTOTAL OPERATING EXPENSE	27,262,481	18,161,556	211,156	144,521	445,668	258,273	594,480	4,172,012	7,050	2,540,798	726,968	-
527 (1000:10 / 8000) 5900	ADMINISTRATION	2,661,389											2,661,389
	TOTAL	\$ 29,923,871	\$ 18,161,556	\$ 211,156	\$ 144,521	\$ 445,668	\$ 258,273	\$ 594,480	\$ 4,172,012	\$ 7,050	\$ 2,540,798	\$ 726,968	\$ 2,661,389

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

METHOD OF DISTRIBUTION

527 (3000:70) 5900	WASTEWATER TREATMENT		100.000%										
	A. TREATMENT PLANT			95.739%									
	B. LIFT & METER STATIONS NO. OF STATIONS	(60)		4.261%	(1)	(8)	(45)			(6)			
527 (4000 / 4290) 5900	SEWER MAINTENANCE TOTAL MILES	927.95	100.000%										
	A. INTERCEPTOR MILES	47.70	5.140%					5.140%					
	B. TRUNK LINES MILES	109.79	11.831%						11.831%				
	C. LOCAL COLLECTOR MILES	770.46	83.029%							83.029%			
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
OPERATING EXPENSE ALLOCATION BY GOVERNMENTAL UNIT - TASK #4, PART 2
FISCAL YEAR ENDED JUNE 30, 2021**

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	\$ 18,161,556	\$ 18,161,556											
LIFT STATIONS:													
A. INTERCEPTOR	211,156		211,156	-	-	-	-	-	-	-	-	-	-
B. TRUNK	144,521		36,921	66,864	-	28,643	12,093	-	-	-	-	-	-
C. LOCAL COLLECTOR	445,668		57,854	58,502	-	96,996	159,742	40,524	12,817	-	-	19,233	-
SEWER LINES:													
A. INTERCEPTOR	258,273		147,495	37,413	66,110	7,255	-	-	-	-	-	-	-
B. TRUNK	594,480		211,658	148,311	136,071	52,469	29,997	15,326	648	-	-	-	-
C. LOCAL COLLECTOR	4,172,012		2,807,364	311,090	406,187	252,031	324,040	46,935	24,365	-	-	-	-
BULK METERING STATIONS	7,050		-	-	2,809	-	-	-	-	1,175	678	1,233	1,155
CUSTOMER ACCOUNTING	2,540,798		1,961,013	196,480	165,025	68,729	131,512	10,290	7,749				
INDUSTRIAL PRETREATMENT	726,968	726,968											
SUBTOTAL OPERATING EXPENSE	27,262,481	18,888,524	5,433,461	818,660	776,202	506,123	657,384	113,075	45,579	1,175	678	20,467	1,155
ADMINISTRATIVE EXPENSE	2,661,389	1,803,611	577,000	78,171	74,117	48,328	62,772	10,797	4,352	112	65	1,954	110
TOTAL	\$ 29,923,871	\$ 20,692,135	\$ 6,010,461	\$ 896,831	\$ 850,319	\$ 554,451	\$ 720,156	\$ 123,872	\$ 49,931	\$ 1,287	\$ 743	\$ 22,421	\$ 1,265

METHOD OF DISTRIBUTION

WASTEWATER TREATMENT													
A. TREATMENT PLANT	100.000%	100.00%											
B. LIFT & METER STATIONS (1)	100.000%												
NO. OF STATIONS	(60)		(13)	(6)	(2)	(10)	(18)	(5)	(1)	(1)	(1)	(2)	(1)
SEWER LINES:													
TOTAL MILES:	927.95												
A. INTERCEPTOR	100.000%		57.108%	14.486%	25.597%	2.809%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
MILES	47.70		27.24	6.91	12.21	1.34	-	-	-	-	-	-	-
B. TRUNK LINES	100.000%		35.604%	24.948%	22.889%	8.826%	5.046%	2.578%	0.109%	0.000%	0.000%	0.000%	0.000%
MILES	109.79		39.09	27.39	25.13	9.69	5.54	2.83	0.12	-	-	-	-
C. LOCAL COLLECTOR	100.000%		62.218%	12.529%	9.736%	6.041%	7.767%	1.125%	0.584%	0.000%	0.000%	0.000%	0.000%
MILES	770.46		479.37	96.53	75.01	46.54	59.84	8.67	4.50	-	-	-	-
CUSTOMER ACCTG (2)	100.000%		77.486%	7.733%	6.495%	2.705%	5.176%	0.405%	0.305%				
NO. OF METERS	75,814.00		58,514.00	5,863.00	4,924.00	2,051.00	3,924.00	307.00	231.00				
INDUSTRIAL PRETREATMENT	100.000%	100.00%											
ADMINISTRATIVE EXPENSE (3)	100.000%	67.770%	21.680%	2.937%	2.785%	1.816%	2.359%	0.406%	0.164%	0.004%	0.002%	0.073%	0.004%

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, 2021**

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
				INTERCEPTOR	TRUNK	LOCAL COLLECTOR	INTERCEPTOR	TRUNK	LOCAL COLLECTOR				
527 (3000:70) 5900	WASTEWATER TREATMENT (LESS 527 - 3040 - 5900)	\$ 23,123,274	\$ 22,153,700	\$ 253,257	\$ 173,336	\$ 534,526				\$ 8,455			
527 (4000 / 4290) 5900	SEWER MAINTENANCE	5,152,354					264,831	609,575	4,277,948				
527 (2000) 5900	CUSTOMER SERVICE *	3,286,552									3,286,552		
527 (3040) 5900	INDUSTRIAL PRETREATMENT	863,221										863,221	
	SUBTOTAL OPERATING EXPENSE	32,425,401	22,153,700	253,257	173,336	534,526	264,831	609,575	4,277,948	8,455	3,286,552	863,221	-
527 (1000:10 / 8000) 5900	ADMINISTRATION	3,199,256											3,199,256
	TOTAL	<u>\$ 35,624,656</u>	<u>\$ 22,153,700</u>	<u>\$ 253,257</u>	<u>\$ 173,336</u>	<u>\$ 534,526</u>	<u>\$ 264,831</u>	<u>\$ 609,575</u>	<u>\$ 4,277,948</u>	<u>\$ 8,455</u>	<u>\$ 3,286,552</u>	<u>\$ 863,221</u>	<u>\$ 3,199,256</u>

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

METHOD OF DISTRIBUTION

527 (3000:70) 5900	WASTEWATER TREATMENT		100.000%									
	A. TREATMENT PLANT			95.807%								
	B. LIFT & METER STATIONS			4.193%								
	NO. OF STATIONS	(60)			(1)	(8)	(45)			(6)		
527 (4000 / 4290) 5900	SEWER MAINTENANCE											
	TOTAL MILES	927.95	100.000%									
	A. INTERCEPTOR											
	MILES	47.70	5.140%					5.140%				
	B. TRUNK LINES											
	MILES	109.79	11.831%						11.831%			
	C. LOCAL COLLECTOR											
	MILES	770.46	83.029%							83.029%		
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, 2021**

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	\$ 22,153,700	\$ 22,153,700											
LIFT STATIONS:													
A. INTERCEPTOR	253,257		253,257	-	-	-	-	-	-	-	-	-	-
B. TRUNK	173,336		44,282	80,196	-	34,354	14,504	-	-	-	-	-	-
C. LOCAL COLLECTOR	534,526		69,389	70,166	-	116,335	191,591	48,604	15,373	-	-	23,068	-
SEWER LINES:													
A. INTERCEPTOR	264,831		151,240	38,363	67,789	7,439	-	-	-	-	-	-	-
B. TRUNK	609,575		217,033	152,077	139,526	53,801	30,759	15,715	664	-	-	-	-
C. LOCAL COLLECTOR	4,277,948		2,661,654	535,984	416,501	258,431	332,268	48,127	24,983	-	-	-	-
BULK METERING STATIONS	8,455		-	-	3,368	-	-	-	-	1,409	813	1,479	1,386
CUSTOMER ACCOUNTING	3,286,552		2,536,593	254,149	213,462	88,901	170,112	13,311	10,024				
INDUSTRIAL PRETREATMENT	863,221	863,221											
SUBTOTAL OPERATING EXPENSE	32,425,401	23,016,921	5,933,448	1,130,935	840,646	559,261	739,234	125,757	51,044	1,409	813	24,547	1,386
ADMINISTRATIVE EXPENSE	3,199,256	2,229,673	632,953	109,555	81,434	54,176	71,610	12,182	4,945	137	79	2,378	134
TOTAL	\$ 35,624,656	\$ 25,246,594	\$ 6,566,401	\$ 1,240,490	\$ 922,080	\$ 613,437	\$ 810,844	\$ 137,939	\$ 55,989	\$ 1,546	\$ 892	\$ 26,925	\$ 1,520

METHOD OF DISTRIBUTION

WASTEWATER TREATMENT													
A. TREATMENT PLANT	100.00%	100.00%											
B. LIFT & METER STATIONS (1) NO. OF STATIONS (60)	100.00%		(13)	(6)	(2)	(10)	(18)	(5)	(1)	(1)	(1)	(2)	(1)
SEWER LINES:													
TOTAL MILES: 927.95													
A. INTERCEPTOR MILES 47.70	100.00%		57.108%	14.486%	25.597%	2.809%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
B. TRUNK LINES MILES 109.79	100.00%		35.604%	24.948%	22.889%	8.826%	5.046%	2.578%	0.109%	0.000%	0.000%	0.000%	0.000%
C. LOCAL COLLECTOR MILES 770.46	100.00%		62.218%	12.529%	9.736%	6.041%	7.767%	1.125%	0.584%	0.000%	0.000%	0.000%	0.000%
CUSTOMER ACCTG (2) NO. OF METERS 75,814.00	100.00%		77.181%	7.733%	6.495%	2.705%	5.176%	0.405%	0.305%				
INDUSTRIAL PRETREATMENT	100.00%	100.00%											
ADMINISTRATIVE EXPENSE (3)	100.00%	69.696%	19.784%	3.424%	2.545%	1.693%	2.238%	0.381%	0.155%	0.004%	0.002%	0.074%	0.004%

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, 2021
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	\$ 308,960.99	\$ 11,678.73	\$ 320,639.72
7055	TIME & ONE-HALF	299.76	11.33	311.09
7105	EMPLOYERS SOCIAL SECURITY	21,826.87	825.06	22,651.93
7110	HOSPITALIZATION INSURANCE	43,829.86	3,786.90	47,616.76
7115	RETIREE HEALTH CARE	17,988.59	(1,322.16)	16,666.43
7120	RETIREMENT FUND CONTRIBUTION	70,225.60	8,771.18	78,996.78
7135	UNEMPLOYMENT COMPENSATION	427.67	-	427.67
7175	FOOD/CLEAN/CAR ALLOW	3,227.00	-	3,227.00
	TOTAL PERSONAL SERVICES	<u>466,786.34</u>	<u>23,751.04</u>	<u>490,537.38</u>
7520	SUPPLIES	1,354.50	-	1,354.50
7800	INVENTORY - COST OF GOODS SOLD	44,474.17	-	44,474.17
	TOTAL SUPPLIES	<u>45,828.67</u>	<u>-</u>	<u>45,828.67</u>
6931	GAIN-LOSS ON SALE OF ASSETS-FA	-	450,000.00	450,000.00
8010	CONTRACTUAL SERVICES	289,657.10	-	289,657.10
8011	CONTRACT EMPLOYEES - TEMP SERVICES	10,026.73	-	10,026.73
8016	CONTRACTS-EXTERNAL LEGAL SERVICES	62,301.25	-	62,301.25
8030	ADMINISTRATIVE SERVICES	4,431.76	(4,431.76)	-
8400	INSURANCE PREMIUMS	252,575.00	-	252,575.00
8450	GENERAL LIABILITY INSURANCE/CLAIMS	375,191.00	(41,085.00)	334,106.00
8500	TELEPHONE	917.82	-	917.82
8510	POSTAGE	156.30	-	156.30
9000	PRINTING & PUBLISHING	2,555.55	-	2,555.55
9100	PROFESSIONAL DEVELOPMENT	263.64	-	263.64
9110	OTHER TRAVEL & TRAINING	107.50	-	107.50
9130	LOCAL BUSINESS EXPENSE	15.00	-	15.00
9150	MEMBERSHIPS	26,284.08	-	26,284.08
9200	ELECTRICITY	-	58,174.00	58,174.00
9430	BUILDINGS RENTALS OR LEASE	30,098.85	-	30,098.85
9460	ENGINEERING SERVICES	10,903.75	-	10,903.75
9470	VEHICLE USAGE/CAR MILAGE	5,442.50	-	5,442.50
9480	COMPUTER SERVICES	17,016.00	(2,022.00)	14,994.00
9650	BAD DEBT WRITE-OFFS	1,195.49	-	1,195.49
	TOTAL OTHER SERVICES & CHARGES	<u>1,089,139.32</u>	<u>460,635.24</u>	<u>1,549,774.56</u>
9760	EQUIPMENT	167.19	-	167.19
9880	CONSTRUCTION IN PROGRESS	332,760.83	-	332,760.83
	TOTAL CAPITAL	<u>332,928.02</u>	<u>-</u>	<u>332,928.02</u>
9510	A-87 COST ALLOCATION	726,707.00	53,480.00	780,187.00
	TOTAL TRANSFERS/FEES	<u>726,707.00</u>	<u>53,480.00</u>	<u>780,187.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,661,389.35</u>	<u>\$ 537,866.28</u>	<u>\$ 3,199,255.63</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: SDSF - CUST.SERV'S

EXPENDITURE SUB-OBJECT		OPERATING	ADJUSTED	ADJUSTED
OBJ	DESCRIPTION	EXPENSES	COST	CURRENT
			FACTORS	ANNUAL
				EXPENSES
9512	UTILITY CUSTOMER SERVICE	2,540,798.00	\$ 745,753.52	\$ 3,286,551.52
	TOTAL OTHER SERVICES & CHARGES	<u>2,540,798.00</u>	<u>745,753.52</u>	<u>3,286,551.52</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 2,540,798.00</u>	<u>\$ 745,753.52</u>	<u>\$ 3,286,551.52</u>

* 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, 2021
RATE STUDY- TASKS NO. 4 & 5 SUPPORT**

ORGANIZATIONAL UNIT: WASTEWATER

OBJ	EXPENDITURE SUB-OBJECT DESCRIPTION	OPERATING EXPENSES	ADJUSTED COST FACTORS	ADJUSTED CURRENT ANNUAL EXPENSES
7020	PERMANENT EMPLOYEES	\$ 4,294,811.81	\$ 404,856.89	\$ 4,699,668.70
7025	ACT.ASSIGNMENT	20,994.15	793.58	21,787.73
7040	TEMPORARY EMPLOYEES	29,787.46	1,125.97	30,913.43
7050	REGULAR HOURLY RATE	7,643.03	288.91	7,931.94
7055	TIME & ONE-HALF	187,844.52	7,100.52	194,945.04
7105	EMPLOYERS SOCIAL SECURITY	329,307.65	12,447.83	341,755.48
7110	HOSPITALIZATION INSURANCE	883,232.13	76,311.26	959,543.39
7115	RETIREE HEALTH CARE	250,076.05	(18,380.59)	231,695.46
7120	RETIREMENT FUND CONTRIBUTION	976,975.11	122,024.19	1,098,999.30
7135	UNEMPLOYMENT COMPENSATION	7,041.65	-	7,041.65
7165	SHIFT DIFFERENTIAL	15,403.19	-	15,403.19
7175	FOOD/CLEAN/CAR ALLOW	50.00	-	50.00
	TOTAL PERSONAL SERVICES	<u>7,003,166.75</u>	<u>606,568.56</u>	<u>7,609,735.31</u>
7520	SUPPLIES	1,357,509.70	-	1,357,509.70
7530	PROCESS CHEMICALS	689,023.98	800,000.00	1,489,023.98
7670	CLOTHING/CLEANING ALLOWANCE	71.52	-	71.52
7910	PUBLICATIONS AND SUBSCRIPTIONS	1,717.74	-	1,717.74
	TOTAL SUPPLIES	<u>2,048,322.94</u>	<u>800,000.00</u>	<u>2,848,322.94</u>
8010	CONTRACTUAL SERVICES	7,128,203.90	1,792,261.93	8,920,465.83
8011	CONTRACT EMPLOYEES - TEMP SERVICES	44,005.39	-	44,005.39
8240	FEES	72,085.92	-	72,085.92
8500	TELEPHONE	48,342.94	-	48,342.94
8510	POSTAGE	410.11	-	410.11
9000	PRINTING & PUBLISHING	927.37	-	927.37
9010	ADVERTISING - ANY MEDIA	2,000.00	-	2,000.00
9100	PROFESSIONAL DEVELOPMENT	13,729.58	-	13,729.58
9110	OTHER TRAVEL & TRAINING	1,150.04	-	1,150.04
9131	FOOD-BEVERAGE	1,003.42	-	1,003.42
9150	MEMBERSHIPS	22,454.00	-	22,454.00
9180	WATER	53,068.67	-	53,068.67
9200	ELECTRICITY	1,731,656.58	(58,174.00)	1,673,482.58
9210	NATURAL GAS	187,389.84	-	187,389.84
9310	EQUIPMENT REPAIRS	6,306.00	-	6,306.00
9330	SOFTWARE MAINTENANCE AGREEMENTS	5,295.90	100,000.00	105,295.90
9340	MAINTENANCE SERVICE	68.00	-	68.00
9410	EQUIPMENT RENTALS OR LEASE	24,675.87	-	24,675.87
9440	FLEET MANAGEMENT EQUIPMENT	246,588.36	-	246,588.36
9450	311 CALL CENTER SERVICES	1,721.00	-	1,721.00
9470	VEHICLE USAGE/CAR MILAGE	4,160.00	-	4,160.00
9480	COMPUTER SERVICES	288,446.22	(39,333.22)	249,113.00
	TOTAL OTHER SERVICES & CHARGES	<u>9,883,689.11</u>	<u>1,794,754.71</u>	<u>11,678,443.82</u>
9760	EQUIPMENT	17,817.03	952,000.00	969,817.03
9800	FURNITURE	4,668.22	-	4,668.22
9840	SOFTWARE	12,286.55	-	12,286.55
	TOTAL CAPITAL	<u>34,771.80</u>	<u>952,000.00</u>	<u>986,771.80</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 18,969,950.60</u>	<u>\$ 4,153,323.27</u>	<u>\$ 23,123,273.87</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
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	\$ 441,260.34	\$ 16,679.64	\$ 457,939.98
7025	ACT.ASSIGNMENT	69.27	2.62	71.89
7055	TIME & ONE-HALF	1,267.58	47.91	1,315.49
7105	EMPLOYERS SOCIAL SECURITY	32,366.37	1,223.45	33,589.82
7110	HOSPITALIZATION INSURANCE	85,942.50	7,425.43	93,367.93
7115	RETIREE HEALTH CARE	26,216.38	(1,926.90)	24,289.48
7120	RETIREMENT FUND CONTRIBUTION	102,488.06	12,800.76	115,288.82
7135	UNEMPLOYMENT COMPENSATION	613.86	-	613.86
	TOTAL PERSONAL SERVICES	<u>690,224.36</u>	<u>36,252.91</u>	<u>726,477.27</u>
7520	SUPPLIES	171.89	-	171.89
	TOTAL SUPPLIES	<u>171.89</u>	<u>-</u>	<u>171.89</u>
8010	CONTRACTUAL SERVICES	11,436.44	100,000.00	111,436.44
8500	TELEPHONE	195.13	-	195.13
8510	POSTAGE	3,271.89	-	3,271.89
9330	SOFTWARE MAINTENANCE AGREEMENTS	864.00	-	864.00
9460	ENGINEERING SERVICES	8,134.35	-	8,134.35
	TOTAL OTHER SERVICES & CHARGES	<u>23,901.81</u>	<u>100,000.00</u>	<u>123,901.81</u>
9840	SOFTWARE	12,670.00	-	12,670.00
	TOTAL CAPITAL	<u>12,670.00</u>	<u>-</u>	<u>12,670.00</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 726,968.06</u>	<u>\$ 136,252.91</u>	<u>\$ 863,220.97</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
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	\$ 1,609,212.51	\$ 60,828.23	\$ 1,670,040.74
7025	ACT.ASSIGNMENT	4,287.13	162.05	4,449.18
7040	TEMPORARY EMPLOYEES	(5.68)	(0.21)	(5.89)
7055	TIME & ONE-HALF	139,082.94	5,257.34	144,340.28
7105	EMPLOYERS SOCIAL SECURITY	126,265.30	4,772.83	131,038.13
7110	HOSPITALIZATION INSURANCE	354,138.91	30,597.60	384,736.51
7115	RETIREE HEALTH CARE	95,789.69	(7,040.54)	88,749.15
7120	RETIREMENT FUND CONTRIBUTION	374,365.84	46,758.29	421,124.13
7135	UNEMPLOYMENT COMPENSATION	2,248.42	-	2,248.42
7165	SHIFT DIFFERENTIAL	250.34	-	250.34
	TOTAL PERSONAL SERVICES	<u>2,705,635.40</u>	<u>141,335.59</u>	<u>2,846,970.99</u>
7520	SUPPLIES	283,102.15	-	283,102.15
7670	CLOTHING/CLEANING ALLOWANCE	11,322.55	-	11,322.55
	TOTAL SUPPLIES	<u>294,424.70</u>	<u>-</u>	<u>294,424.70</u>
8010	CONTRACTUAL SERVICES	771,516.24	-	771,516.24
8040	HOME REPAIRS	31,899.00	-	31,899.00
8240	FEES	338.00	-	338.00
8500	TELEPHONE	35,893.66	-	35,893.66
9200	ELECTRICITY	481.87	-	481.87
9340	MAINTENANCE SERVICE	1,428.73	-	1,428.73
9400	LAND RENTAL OR LEASE	6,106.33	-	6,106.33
9410	EQUIPMENT RENTALS OR LEASE	68,110.50	-	68,110.50
9440	FLEET MANAGEMENT EQUIPMENT	930,677.05	-	930,677.05
9450	311 CALL CENTER SERVICES	19,465.00	-	19,465.00
9470	VEHICLE USAGE/CAR MILAGE	2,388.00	-	2,388.00
9480	COMPUTER SERVICES	115,644.00	(13,746.00)	101,898.00
	TOTAL OTHER SERVICES & CHARGES	<u>1,983,948.38</u>	<u>(13,746.00)</u>	<u>1,970,202.38</u>
9760	EQUIPMENT	40,756.28	-	40,756.28
	TOTAL CAPITAL	<u>40,756.28</u>	<u>-</u>	<u>40,756.28</u>
	ORGANIZATIONAL UNIT TOTAL	<u>\$ 5,024,764.76</u>	<u>\$ 127,589.59</u>	<u>\$ 5,152,354.35</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED ACTUAL EXPENSE
YEAR ENDED JUNE 30, 2021
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	\$ 6,654,245.65	\$ 494,043.49	\$ 7,148,289.14
7025	ACT.ASSIGNMENT	25,350.55	958.25	26,308.80
7040	TEMPORARY EMPLOYEES	29,781.78	1,125.76	30,907.54
7050	REGULAR HOURLY RATE	7,643.03	288.91	7,931.94
7055	TIME & ONE-HALF	328,494.80	12,417.10	340,911.90
7105	EMPLOYERS SOCIAL SECURITY	509,766.19	19,269.17	529,035.36
7110	HOSPITALIZATION INSURANCE	1,367,143.40	118,121.19	1,485,264.59
7115	RETIREE HEALTH CARE	390,070.71	(28,670.19)	361,400.52
7120	RETIREMENT FUND CONTRIBUTION	1,524,054.61	190,354.42	1,714,409.03
7135	UNEMPLOYMENT COMPENSATION	10,331.60	-	10,331.60
7165	SHIFT DIFFERENTIAL	15,653.53	-	15,653.53
7175	FOOD/CLEAN/CAR ALLOW	3,277.00	-	3,277.00
	TOTAL PERSONAL SERVICES	<u>10,865,812.85</u>	<u>807,908.10</u>	<u>11,673,720.95</u>
7520	SUPPLIES	1,642,138.24	-	1,642,138.24
7530	PROCESS CHEMICALS	689,023.98	800,000.00	1,489,023.98
7670	CLOTHING/CLEANING ALLOWANCE	11,394.07	-	11,394.07
7800	INVENTORY - COST OF GOODS SOLD	44,474.17	-	44,474.17
7910	SUBSCRIPTIONS AND PUBLICATIONS	1,717.74	-	1,717.74
	TOTAL SUPPLIES	<u>2,388,748.20</u>	<u>800,000.00</u>	<u>3,188,748.20</u>
6931	GAIN-LOSS ON SALE OF ASSETS-FA	-	450,000.00	450,000.00
8010	CONTRACTUAL SERVICES	8,200,813.68	1,892,261.93	10,093,075.61
8011	CONTRACT EMPLOYEES - TEMP SERVICES	54,032.12	-	54,032.12
8016	CONTRACTS-EXTERNAL LEGAL SERVICES	62,301.25	-	62,301.25
8030	ADMINISTRATIVE SERVICES	4,431.76	(4,431.76)	-
8040	HOME REPAIRS	31,899.00	-	31,899.00
8240	FEES	72,423.92	-	72,423.92
8400	INSURANCE PREMIUMS	252,575.00	-	252,575.00
8450	GENERAL LIABILITY INSURANCE/CLAIMS	375,191.00	(41,085.00)	334,106.00
8500	TELEPHONE	85,349.55	-	85,349.55
8510	POSTAGE	3,838.30	-	3,838.30
9000	PRINTING & PUBLISHING	3,482.92	-	3,482.92
9010	ADVERTISING - ANY MEDIA	2,000.00	-	2,000.00
9100	PROFESSIONAL DEVELOPMENT	13,993.22	-	13,993.22
9110	OTHER TRAVEL & TRAINING	1,257.54	-	1,257.54
9130	LOCAL BUSINESS EXPENSE	15.00	-	15.00
9131	FOOD-BEVERAGE	1,003.42	-	1,003.42
9150	MEMBERSHIPS	48,738.08	-	48,738.08
9180	WATER	53,068.67	-	53,068.67
9200	ELECTRICITY	1,732,138.45	-	1,732,138.45
9210	NATURAL GAS	187,389.84	-	187,389.84
9310	EQUIPMENT REPAIRS	6,306.00	-	6,306.00
9330	SOFTWARE MAINTENANCE AGREEMENTS	6,159.90	100,000.00	106,159.90
9340	MAINTENANCE SERVICE	1,496.73	-	1,496.73
9400	LAND RENTAL OR LEASE	6,106.33	-	6,106.33
9410	EQUIPMENT RENTALS OR LEASE	92,786.37	-	92,786.37
9430	BUILDINGS RENTALS OR LEASE	30,098.85	-	30,098.85
9440	FLEET MANAGEMENT EQUIPMENT	1,177,265.41	-	1,177,265.41
9450	311 CALL CENTER SERVICES	21,186.00	-	21,186.00
9460	ENGINEERING SERVICES	19,038.10	-	19,038.10
9470	VEHICLE USAGE/CAR MILAGE	11,990.50	-	11,990.50
9480	COMPUTER SERVICES	421,106.22	(55,101.22)	366,005.00
9512	UTILITY CUSTOMER SERVICE	2,540,798.00	745,753.52	3,286,551.52
9650	BAD DEBT WRITE-OFFS	1,195.49	-	1,195.49
	TOTAL OTHER SERVICES & CHARGES	<u>15,521,476.62</u>	<u>3,087,397.47</u>	<u>18,608,874.09</u>
9760	EQUIPMENT	58,740.50	952,000.00	1,010,740.50
9800	FURNITURE	4,668.22	-	4,668.22
9840	SOFTWARE	24,956.55	-	24,956.55
9880	CONSTRUCTION IN PROGRESS	332,760.83	-	332,760.83
	TOTAL CAPITAL	<u>421,126.10</u>	<u>952,000.00</u>	<u>1,373,126.10</u>
9510	A-87 COST ALLOCATION	<u>726,707.00</u>	<u>53,480.00</u>	<u>780,187.00</u>
	TOTAL TRANSFERS/FEES	<u>726,707.00</u>	<u>53,480.00</u>	<u>780,187.00</u>
	GRAND TOTAL- EXPENDITURES	<u>\$ 29,923,870.77</u>	<u>\$ 5,700,785.57</u>	<u>\$ 35,624,656.34</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 29, 2021

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Utility Financial Officer

**SUBJECT: 2021 SEWER RATE STUDY TASK #4
FY21 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

JBC:jbc

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE PUMPING STATIONS OPERATING COSTS
FOR THE YEAR ENDED JUNE 30, 2021**

<u>Station</u>	<u>Physical Location</u>	<u>Type</u>	<u>FY2021 5900 Expenses</u>
Market Avenue Pump Station	Grand Rapids	Interceptor	\$211,156.11
Millbank Lift Station	Grand Rapids	Local	\$3,854.47
Eastlake Lift Station	Grand Rapids	Local	\$11,166.88
Eastern Lift Station	Grand Rapids	Trunk	\$6,043.90
Oak Hollow Lift Station	Grand Rapids Twmsp	Local	\$6,784.71
Kingsbury Lift Station	Walker	Trunk	\$16,637.47
Bona Vista Lift Station	Grand Rapids	Trunk	\$15,033.56
Aberdeen Lift Station	Grand Rapids	Local	\$12,557.47
O'Brien Lift Station	Walker	Trunk	\$40,102.20
Leonard Heights Lift Station	Walker	Trunk	\$10,124.59
Guild Lift Station	Grand Rapids	Local	\$6,192.41
Orchard Vista Lift Station	Cascade Twmsp	Local	\$5,698.23
Brookview Lift Station	Grand Rapids	Trunk	\$15,843.07
Remembrance Road Lift Station	Walker	Local	\$47,942.22
Kraft Avenue Lift Station	Cascade Twmsp	Local	\$13,047.69
Thornapple Lift Station	Cascade Twmsp	Trunk	\$28,642.86
Thornhills Lift Station	Cascade Twmsp	Local	\$9,357.68
Greenbrier Lift Station	Grand Rapids Twmsp	Local	\$6,353.03
Shore Haven Lift Station	Grand Rapids Twmsp	Local	\$22,622.09
Ada Lift Station	Ada	Local	\$19,233.48
Robinhood Lift Station	Grand Rapids Twmsp	Local	\$9,589.36
Lincoln School Lift Station	Grand Rapids Twmsp	Local	\$4,168.77
Reeds Lake Blvd. Lift Station	Grand Rapids Twmsp	Local	\$11,093.39
6000 28th Street Lift Station	Cascade Twmsp	Local	\$6,422.67
Ada Meter Station	Ada	Meter	\$1,233.39
East Grand Rapids Meter Station	East Grand Rapids	Meter	\$1,174.52
Rickman Avenue Lift Station	Grand Rapids	Local	\$4,489.89
Michigan Street Lift Station	Grand Rapids	Local	\$5,824.66
Eagle Crest Lift Station	Grand Rapids Twmsp	Local	\$14,833.89
East Paris Lift Station	Grand Rapids Twmsp	Local	\$9,561.48
Alpine Estates Lift Station	Walker	Local	\$6,583.20
Elmdale Lift Station	Grand Rapids	Local	\$3,371.38
Collindale Lift Station	Walker	Local	\$3,976.11
Bird Avenue Lift Station	Grand Rapids Twmsp	Local	\$27,112.36
Valentine Lift Station	Grand Rapids Twmsp	Local	\$2,568.22
Cascade Springs Lift Station	Cascade Twmsp	Local	\$20,037.50
Churchill Downs Lift Station	Grand Rapids	Local	\$5,532.92
Woodsboro Court Lift Station	Grand Rapids Twmsp	Local	\$2,627.62
Meadowood Trails Lift Station	Cascade Twmsp	Local	\$6,676.36
Gaines Township Meter Station	Gaines Township	Meter	\$1,155.39
Kentwood Meter Station	Kentwood	Meter	\$1,916.21
Stonebridge Lift Station	Grand Rapids Twmsp	Local	\$5,074.41
Burton/Cacade Lift Station	Cascade Twmsp	Local	\$23,694.47
Crahen Lift Station	Grand Rapids Twmsp	Local	\$10,705.17
Jonathan Woods Lift Station	Cascade Twmsp	Local	\$5,609.79
Watermark Lift Station	Cascade Twmsp	Local	\$6,451.35
Mountain Ash Lift Station	Tallmadge Twmsp	Local	\$5,639.33
Reeds Hollow Lift Station	Grand Rapids Twmsp	Local	\$6,946.39
Celebration Village Lift Station	Grand Rapids Twmsp	Trunk	\$12,093.01
Saddleback Lift Station	Grand Rapids Twmsp	Local	\$6,103.25
Arbor Hills Lift Station	Grand Rapids Twmsp	Local	\$7,928.28
16th Avenue Lift Station	Marne	Local	\$12,817.34
Hayes West Lift Station	Wright TWP	Local	\$18,130.47
Hayes East Lift Station	Wright TWP	Local	\$4,609.59
Cypress Trails Lift Station	Grand Rapids Twmsp	Local	\$5,669.15
8th & Leonard Lift Station	Tallmadge Twmsp	Local	\$6,574.84
Summit Ridge Lift Station	Grand Rapids	Local	\$4,864.29
Lake Michigan Estates	Tallmadge Twmsp	Local	\$5,569.85
Bretonfield Meter Station	Kentwood	Meter	\$892.32
Caledonia Meter Station	Caledonia	Meter	\$678.01

\$808,394.72

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 24, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Molly Clarin
Chief Financial Officer

**SUBJECT: 2021 SEWER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY21 operating costs are listed below.

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

GREIU and APA wages were increased by 2.50% in FY2022. Labor negotiations will begin shortly for the next contract which begins with FY2023. As the outcome of these negotiations are unknown at this time, a 2.50% wage increase has also been presumed for FY2023 (same as FY2022). After converting these increases from a 2021 fiscal year to a 2022 calendar year basis, the result is a 3.78% factor for both GREIU and APA employees. There were no lump sum payments that needed to be factored into the calculation. A blended rate was then computed by weighting the calendar year percentages according to the percentage of Sewer Fund employees in each union (78% GREIU and 22% APA). Executive and non-reps amounted to only 2.1% of the population and were therefore excluded. **The wage increase factor to translate FY2021 actual costs to estimated calendar 2022 will be 3.78% [3.78 X 78% + 3.78 X 22%].**

Expense Object – 9480/8450/9510

Adjust FY2021 actual cost to reflect adjustments in charges for central services rendered by the Information Technology Fund (data charges), the Insurance Payment Fund (workers compensation and general liability) and the General Operating Fund (cost allocation). The “Exhibit” workbook (inclusive of cost center allocations) maintained by the Budget Office has been utilized to blend FY2022 and FY2023 budget amounts thus arriving at an estimated 2022 calendar year rate as follows:

9480-Data Charges			
Cost Center	FY2022 Request	FY2023 Forecast	Calendar 2022 Estimate
527-1000-5900	\$14,715	\$15,272	\$14,994
527-3000-5900	\$244,492	\$253,734	\$249,113
527-4010-5900	\$100,007	\$103,788	\$101,898
Total	\$359,214	\$372,794	\$366,004

8450-General Liability Insurance			
Cost Center	FY2022 Request	FY2023 Forecast	Calendar 2022 Estimate
527-1000-5900	\$330,798	\$337,414	\$334,106

9510-Contributions to Other Funds (Cost Allocation)			
Cost Center	FY2022 Request	FY2023 Forecast	Calendar 2022 Estimate
527-1000-5900	\$813,727	\$746,646	\$780,187

Expense Object - 7105

Increase FY2021 actual FICA expense by 3.78% consistent with the known wage impacts detailed above.

Expense Object - 7110

The calendar 2022 Trend Report is not completed at this time. However, unfavorable health insurance cost trends were anticipated in the calendar 2021 report. In the calendar 2020 report, decreases in health insurance costs were projected as a result of the City entering a contract with a new third-party health insurance plan administrator. In the 2021 report, industry benchmarks of trend increases were projected (7.5% for medical and 8.5% for prescription drugs). Additionally, a COVID-19 experience adjustment factor was projected (11.3% for active employees and 15.7% for pre-65 retirees) to represent the assumption that 2021 insurance claims should be higher than 2020 due to the loosening of restrictions associated with the COVID-19 pandemic. The 2021 COVID-19 adjustment factor was partially offset by a large plan gain recognized in 2020 as a result of COVID-19 restrictions. Plan gains or losses are smoothed out over a three-year period. Three-year smoothing of plan gains or losses was slightly less favorable in the 2021 report than in the 2020 report, but nonetheless still favorable. Smoothing favorable trends has contributed to limiting projected annual increases in health insurance costs or has provided for further decreases when applicable. Lastly, a health insurance fund surplus reduction of \$2.5 million was implemented in the 2021 report, which helped to stabilize rate increases from the impact of the other factors mentioned above. **Increase FY2021 health insurance actual by 8.64% to reflect these anticipated rate changes.**

The budgeted FY22 (\$14,480.00) and FY23 (\$16,618.00) health insurance rates were blended into a 2022 calendar year rate estimate and divided by the FY2021 base budget amount (\$14,312.00) to arrive at the increase factor [(((((\$14,480.00 + \$16,618.00) / 2)) / \$14,312.00) - 1) * 100].

Expense Object - 7115

Retiree health care ("RHC") rates are projected to trend down in FY2022 (to 5.28%) and FY2023 (to 5.36%) from a base year rate of 5.96% in FY2021. This decrease is slightly offset by the projected wage adjustments discussed above (lump sum payments, if any, are not subject to RHC). The Sewer Fund did not have an OPEB adjustment in FY2021 due to changes resulting from the prior implementation of GASB Statement No. 75.

The RHC factor after consideration of the above rate and wage adjustments is 92.65% (or a decrease of 7.35%) for both GREIU and APA members. These factors are then weighted in accordance with union membership within the Sewer Fund $[(-7.35 * 78\%) + (-7.35 * 22\%)]$.

The factor to establish calendar year 2022's retiree health care cost is -7.35%. **Decrease the total of fiscal year 2021's retiree health care by this percent to establish the cost for calendar year 2022.**

Expense Object - 7120

The pension expense factor to translate FY2021 actual costs to estimated calendar 2022 will be 12.49%. **Increase the total of fiscal year 2021's pension expense by this percent to establish the cost for calendar year 2022.** This reflects the effect of a General Pension rate change increase from FY21 of 23.29% to a calendar 2022 rate of 25.25% and the projected wage adjustments discussed above (lump sum payments, if any, are not pensionable). The calendar 2022 rate is a blend of the FY2022 rate (25.23%) and the FY2023 rate (25.26%).

The pension factor after consideration of the above rate and wage adjustments is 112.49% (or an increase of 12.49%) for GREIU and APA members. These factors are then weighted in accordance with union membership within the Sewer Fund $[(12.49 * 78\%) + (12.49 * 22\%)]$.

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MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 13, 2021

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Mike Grenier
ESD Manager

**SUBJECT: 2021 SEWER RATE STUDY TASK #5
KNOWN COST ADJUSTMENTS**

Known cost adjustments by which to adjust FY21 operating costs are listed below:

<u>ACCOUNT/User Code</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
5900-527-1000-8030*	Kent County Community Action Program (ICB)	(\$4,431.76)
5900-527-1000-6931	Glass lined pipe replacements	\$450,000.00
5900-527-3XXX-7020	Department Personnel Additions	\$242,513.00
5900-527-3000-7530	WRRF Process Chemical Price Increase	\$800,000.00
5900-527-3000-8010	GVRBA Contractual Services	(\$777,738.07)
5900-527-3000-8010	Ash Lagoon Remediation (EGLE Mandate)	\$1,000,000.00
5900-527-3000-8010	Digester Service Contracts	\$750,000.00
5900-527-3000-8010	WRRF Additional Service Contracts	\$500,000.00
5900-527-3000-8010	GVRBA (hauling and chemical increases)	\$320,000.00
5900-527-3000-9330	Linko Software (fats, oils, and grease monitoring)	\$100,000.00
5900-527-3000-9760	North Aeration Maintenance	\$300,000.00
5900-527-3000-9760	WRRF Equipment Replacements	\$652,000.00

5900-527-3000-9200	Consumers Energy Green Generation Participation (adjust to admin unit 1000 to allocate to GR Only)	(\$58,174.00)
5900-527-3040-8010	PFAS testing and analysis	\$100,000.00

*Net of calendar year 2020 ICB Reimbursement from KCCA of \$7,603.16.

-Adjustments detailed in the Water Rate Study Task #5 related to Customer Service will be shared with the Sewage Disposal Fund.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 7, 2021

TO: Molly J. Clarin
Chief Financial Officer

FROM: Jenessa B. Carter
Utility Financial Officer

SUBJECT: 2021 SEWER RATE STUDY TASK #6

The Sewage Disposal System Fund's revenues by governmental unit for the year ended June 30, 2021, are disclosed on the attached page, along with the three-year average billed volume used to calculate expected revenue in the next calendar year (see Task 26 and 27). In addition, annual 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, 2021:

RETAIL:	SALES REVENUE	3 YR AVE BILLED VOL (GALLONS)	3 YR AVE BILLED VOL (HCF)
CITY OF GRAND RAPIDS (1)	\$ 38,569,228.24	4,829,123,156	6,456,047
CITY OF WALKER	4,961,436.07	612,828,172	819,289
CITY OF KENTWOOD	4,505,290.35	1,012,782,276	1,353,987
CASCADE TOWNSHIP	2,651,133.75	341,042,372	455,939
GRAND RAPIDS TOWNSHIP	2,663,140.93	285,433,060	381,595
TALLMADGE TOWNSHIP	454,554.53	26,726,040	35,730
WRIGHT TOWNSHIP (2)	248,193.22	17,293,707	23,120
SUB-TOTAL RETAIL (3)	<u>\$ 54,052,977.09</u>	<u>7,125,228,783</u>	<u>9,525,707</u>
 WHOLESALE:			
CITY OF E. GRAND RAPIDS	\$ 840,364.55	439,617,000	587,723
CALEDONIA TOWNSHIP	133,595.26	25,212,333	33,706
ADA TOWNSHIP	1,346,340.72	283,030,333	378,383
GAINES TOWNSHIP (4)	205,825.24	103,780,000	138,743
SUB-TOTAL WHOLESALE	<u>\$ 2,526,125.77</u>	<u>851,639,666</u>	<u>1,138,555</u>
TOTAL	<u>\$ 56,579,102.86</u>	<u>7,976,868,449</u>	<u>10,664,262</u>

REVENUE CLASSIFICATION:

527-1000-5900-6281 RETAIL SEWAGE SERVICE CHARGE	\$ 53,969,838.45
527-1000-5900-6284 WYOMING SEWAGE SERVICE CHARGE	83,138.64
527-1000-5900-6282 WHOLESALE SEWAGE SERVICE CHARGE	<u>2,526,125.77</u>
TOTAL	<u>\$ 56,579,102.86</u>

- (1) THE VOLUME & REVENUE 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 WRRF'S LIFT STATION PUMPING REPORT FOR FY 2021.
- (3) A NET REVENUE ACCRUAL OF (\$152,998.91) HAS BEEN PRORATED TO ALL RETAIL CUSTOMER COMMUNITIES TO ACCRUE BILLINGS FROM THE LAST READING DATE THROUGH JUNE 30, 2021, AND ADJUST FOR PREVIOUS FISCAL YEAR ACCRUAL.
- (4) GAINES TWP RATES ARE CALCULATED BASED ON MOST RECENT FISCAL YEAR BILLED VOLUME PER CONTRACT.

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
2021 RATE STUDY TASK NO. 6**

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

<i>MUNICIPALITY</i>	<i>FY17</i>		<i>FY18</i>		<i>FY19</i>		<i>FY20</i>		<i>FY21</i>		<i>FY17 - FY21 % CHANGE</i>
	<i>VOL BILLED</i>	<i>VOL BILLED</i>	<i>% CHANGE</i>								
GRAND RAPIDS	4,942,953	4,931,223	-0.24%	4,998,134	1.36%	4,782,754	-4.31%	4,706,480	-1.59%	-4.78%	
WALKER	650,975	646,233	-0.73%	637,561	-1.34%	596,412	-6.45%	604,510	1.36%	-7.14%	
KENTWOOD	1,032,553	1,069,319	3.56%	1,060,147	-0.86%	976,528	-7.89%	1,001,673	2.57%	-2.99%	
CASCADE	358,774	353,054	-1.59%	357,434	1.24%	330,505	-7.53%	335,188	1.42%	-6.57%	
GRAND RAPIDS TWP	289,525	284,378	-1.78%	293,245	3.12%	278,126	-5.16%	284,929	2.45%	-1.59%	
TALLMADGE	21,454	24,350	13.50%	27,276	12.02%	25,812	-5.37%	27,089	4.95%	26.27%	
WRIGHT TWP	19,465	18,885	-2.98%	19,834	5.03%	20,025	0.96%	12,023	-39.96%	-38.23%	
EAST GRAND RAPIDS	393,511	441,259	12.13%	461,287	4.54%	498,507	8.07%	359,057	-27.97%	-8.76%	
ADA TWP	315,417	296,101	-6.12%	291,737	-1.47%	292,738	0.34%	264,616	-9.61%	-16.11%	
CALEDONIA TWP	31,631	29,741	-5.98%	28,715	-3.45%	25,910	-9.77%	21,012	-18.90%	-33.57%	
GAINES TWP	133,866	113,527	-15.19%	115,345	1.60%	122,183	5.93%	103,780	-15.06%	-22.47%	
TOTAL	8,190,124	8,208,070	0.22%	8,290,715	1.01%	7,949,500	-4.12%	7,720,357	-2.88%	-5.74%	

GRAND RAPIDS VOLUME COMPARED TO
CUSTOMER COMMUNITIES

VOLUME = 1,000 GALLONS	<i>FY17</i>		<i>FY18</i>		<i>FY19</i>		<i>FY20</i>		<i>FY21</i>	
	<i>VOL BILLED</i>	<i>VOL BILLED</i>	<i>% OF TOTAL</i>							
GRAND RAPIDS	4,942,953	4,931,223	60.08%	4,998,134	60.29%	4,782,754	60.16%	4,706,480	60.96%	
CUSTOMER COMMUNITIES	3,247,171	3,276,847	39.92%	3,292,581	39.71%	3,166,746	39.84%	3,013,877	39.04%	
TOTAL	8,190,124	8,208,070	100.00%	8,290,715	100.00%	7,949,500	100.00%	7,720,357	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	\$ 3,175.04
6140	INSPECTION FEES - UTILITIES	23,185.00
6461	INVENTORY WITHDRAWALS (SALES)	15,460.16
6723	INTEREST/PENALTIES ON SPEC ASSM	3,027.98

527-(3000/3080)-5900

4912	INDUSTRIAL PRETREATMENT PERMITS	\$ 52,777.12
6285	INDUSTRIAL DISCHARGE AUTHORIZATION	400.00
6423	SALES OF SCRAP MATERIAL	2,992.11
6461	INVENTORY WITHDRAWALS (SALES)	37,247.79
6611	WATER PENALTIES (SDS PRORATA SHARE)	\$ -
		<u>\$ 138,265.20</u>

CREDIT: UNDERUTILIZATION OF PENALTY CREDIT FROM PREVIOUS YEAR \$ -

INTEGRATED SYSTEM CREDITS

527-1000/3000-5900

6152	INTEGRATED SEWER CONNECTION	\$ 276,251.50
6283	SEWAGE SURCHARGE	2,741,451.16
		<u>\$ 3,017,702.66</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 7, 2021

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2021 SEWER RATE STUDY- TASK #8

No significant changes in operating levels are anticipated to take effect by January 1, 2022, which would require adjustments to operating costs for the test period.

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 7, 2021

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2021 SEWER RATE STUDY- TASK #9

No significant changes in sewer revenues are anticipated to take effect by January 1, 2022, which would require an adjustment to operating revenue estimates as a whole.

With the completion of the Biodigestion Projects, the System anticipates significant revenue from the sale of renewable natural gas (“RNG”) after January 1, 2022. This revenue will be accounted for as integrated system credits in Task 7 of the 2022 Rate Study.

CS

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 12, 2021

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2021 SEWER RATE STUDY- TASK #10

The following are sewage system projects that should be considered operative as of January 1, 2022.

<u>Description</u>	<u>Location</u>	<u>Proj. Code</u>	<u>Cost</u>
Godfrey – Oxford to Liberty	Grand Rapids	590220034	\$4,724,100
Breton Hamlet	Grand Rapids	Contribution	54,425
826 & 835 Fairview	Grand Rapids	Contribution	29,520
Spectrum Health Acute Rehab	Grand Rapids	Contribution	4,929
Garden Apartments Phase 1	Cascade	Contribution	331,000
Wildflower Estates	Kentwood	Contribution	183,920
Pfeiffer Pines Ph 2	Kentwood	Contribution	86,795
32 nd Street	Kentwood	Contribution	34,332
Northridge East Ph 2	Walker	Contribution	425,596
Winchester Woods Ph 3	Walker	Contribution	211,825
			<u>\$6,086,442</u>

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

COMPUTE ACCUMULATED COST, DEPRECIATION AND DEPRECIATION EXPENSE AS OF JUNE 30, 2021

INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 1,381,234	\$ -	\$ -
LAND IMPROVEMENTS	19,559,132	14,970,316	393,224
BUILDINGS & STRUCTURES	66,935,043	36,877,047	1,390,860
PROCESS EQUIPMENT	119,140,848	46,627,962	3,490,214
AUXILIARY EQUIPMENT	52,578,157	29,107,985	2,169,882
MACHINERY & EQUIPMENT	6,381,095	5,488,534	185,484
OFFICE EQUIPMENT & FURNITURE	494,401	487,251	234
	<u>\$ 266,469,910</u>	<u>\$ 133,559,095</u>	<u>\$ 7,629,898</u>

NON-INTEGRATED SYSTEM

	ORIGINAL COST	ACCUMULATED DEPRECIATION	DEPRECIATION EXPENSE
LAND & EASEMENTS	\$ 4,141,307	\$ -	\$ -
LAND IMPROVEMENTS	3,486,637	2,392,123	174,137
BUILDINGS & STRUCTURES	10,653,671	4,564,492	253,467
PROCESS EQUIPMENT	16,842,826	9,740,665	523,665
AUXILIARY EQUIPMENT	4,927,465	3,912,610	210,832
MACHINERY & EQUIPMENT	1,694,680	1,692,950	5,704
OFFICE EQUIPMENT & FURNITURE	66,272	66,272	-
SERVICEMAINS - GRAND RAPIDS	398,046,767	146,309,748	7,524,783
SERVICEMAINS - WALKER	42,009,974	19,967,136	790,304
SERVICEMAINS - KENTWOOD	43,107,899	19,743,562	812,517
SERVICEMAINS - CASCADE TWP	22,303,119	10,607,189	431,513
SERVICEMAINS - GRAND RAPIDS TWP	19,919,546	9,169,114	379,495
SERVICEMAINS - TALLMADGE TWP	6,408,677	2,079,750	127,978
SERVICEMAINS - WRIGHT TWP	125,288	38,838	2,502
	<u>\$ 573,734,128</u>	<u>\$ 230,284,449</u>	<u>\$ 11,236,897</u>
TOTAL	<u><u>\$ 840,204,038</u></u>	<u><u>\$ 363,843,544</u></u>	<u><u>\$ 18,866,795</u></u>

SOURCE: GENERAL LEDGER, AS ADJUSTED, FOR JUNE 30, 2021.

**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, 2021: \$ 969,483

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 = \$ 35,624,656 @ 90/365 = \$ 8,784,162

TOTAL WORKING CAPITAL NEEDS CONSIST OF THE FOLLOWING:

12A INVESTMENT IN INVENTORY	\$	969,483
12B PREPAYMENT OF OPERATING EXPENSES		-
12C 90 DAY OPERATING EXPENSES		8,784,162
		8,784,162
	\$	9,753,645

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 29, 2021

TO: Jenessa B. Carter
Utilities Financial Officer

FROM: Charles R. Schroeder, P.E.
Assistant Environmental Services Manager

**SUBJECT: 2021 SEWER RATE STUDY- TASK #13
ZONEGATING & JOINT USE ALLOCATION METHODS**

Lengths and costs of all zoned 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. and adjusted annually for the changes in billed flow for 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

	MILLION GALLONS
1.) ANNUAL WASTEWATER TREATMENT PLANT FLOW	12,882.30
LESS: WHOLESALE BILLED FLOW	(748.47)
LESS: RETAIL BILLED FLOW	(6,971.89)
TOTAL RETAIL I/I & OTHER FLOW	5,161.94
2.) RETAIL INFLOW FROM SEPARATED AREAS (A)	583.13
RETAIL INFLOW FROM COMBINED AREAS - AMOUNT ESTIMATED (A)	777.13
LESS: ANNUAL BYPASS FROM (3) PUMPING STATIONS	-
LESS: IN-SYSTEM BYPASS & RETENTION BASIN OVERFLOW	-
TOTAL RETAIL INFLOW	1,360.26
3.) RETAIL INFILTRATION:	
TOTAL RETAIL I/I & OTHER FLOW	5,161.94
LESS: TOTAL RETAIL INFLOW (#2)	(1,360.26)
	3,801.68
LESS: MARKET AVE RETENTION BASIN (MARB) CAPTURE	(31.80)
TOTAL RETAIL INFILTRATION & OTHER FLOW	3,769.88
4.) ALLOCATION OF RETAIL INFILTRATION & OTHER FLOW - APPORTIONED ON THE BASIS OF B&V SUMMARY OF 2018 MONITORED FLOW DATA (B)	

	PRORATA SHARE OF RETAIL INFILTRA- TION & OTHER	MILLION GALLONS
GOVERNMENTAL UNIT(S)	100.0000%	3,769.88
UTILITY PARTNERS	100.0000%	3,769.88
TOTAL	100.0000%	3,769.88

(A) BASED ON RECORDED RAINFALL @ WWTP & APPORTIONED PER BLACK & VEATCH'S SUMMARY OF 2018 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)

<u>GOVERNMENTAL UNIT(S)</u>	<u>BILLED FLOW (TASK #6)</u>	<u>INFLOW (#2 ABOVE)</u>	<u>INFILTRATION & OTHER FLOW (#4 ABOVE)</u>	<u>MARB (A) (#3 ABOVE)</u>	<u>TOTAL PLANT FLOW</u>	<u>PERCENT OF TOTAL</u>	<u>TOTAL PLANT FLOW (MGD)</u>
UTILITY PARTNERS	7,595.57	1,360.26	3,769.88	31.28	12,756.99	99.0273%	34.9508
GAINES TWP	103.78	-	-	0.43	104.21	0.8089%	0.2855
TOTAL	<u>7,720.36</u>	<u>1,360.26</u>	<u>3,769.88</u>	<u>31.80</u>	<u>12,882.30</u>	<u>100.0000%</u>	<u>35.2941</u>

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

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 2, 2021

TO: Jenessa B Carter, Utility Financial Officer

FROM: Charles Schroeder, P.E.
Assistant ESD Manager

SUBJECT: 2021 SEWER RATE STUDY – WRRF FLOW DATA

Listed below is the Water Resource Recovery Facility (WRRF) flow data measured in million gallons (MG) for the last three completed fiscal years. Plant flow decreased by 24.081% from 16,968.40 MG treated in FY2020 to 12,882.30 MG treated in FY2021. The final in system Combined Sewer Overflow point was eliminated July 13, 2015 and is no longer applicable to this report.

Month	FY 2019	FY 2020	FY 2021	% incr (decr)
July	1105.700	1234.100	1202.700	-2.544%
August	1205.700	1091.900	1106.000	1.291%
September	1295.900	1208.100	1026.000	-15.073%
October	1481.100	1627.900	1042.100	-35.985%
November	1288.600	1420.100	1009.000	-28.949%
December	1319.900	1429.700	1082.700	-24.271%
January	1247.300	1781.200	1057.200	-40.647%
February	1411.600	1324.600	948.600	-28.386%
March	1670.300	1398.000	1182.900	-15.386%
April	1420.600	1346.500	1034.000	-23.208%
May	1601.700	1799.400	993.000	-44.815%
June	1465.700	1306.900	1198.100	-8.325%
Total	16514.100	16968.400	12882.300	-24.081%

Data Measured	FY 2019	FY 2020	FY 2021	% incr (decr)
Water Resource Recovery Facility (WRRF) avg daily flow (MG)	45.244	46.489	35.294	-24.081%
Rainfall Recorded at WRRF (inches)	35.850	48.800	35.490	-27.275%
Market Ave Retention Basin (MARB) inflow (MG)	33.900	112.400	31.800	-71.708%
Market Ave Retention Basin (MARB) outflow (MG)	0.000	24.200	0.000	-100%

cc: Jeff McCaul, P.E. - Assistant City Engineer

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MEMORANDUM

CITY OF GRAND RAPIDS

DATE: September 7, 2021

TO: Jenessa B. Carter
Utility Financial Officer

FROM: Charles R. Schroeder, PE
Assistant ESD Manager

SUBJECT: 2021 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 (NET BOOK VALUE OF ASSETS, 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	\$ 6,086,442	
	- TASK #11/21	839,399,038	
	- TASK #16/21	<u>(187,300,597)</u>	\$ 658,184,882
LESS: ACCUMULATED DEPRECIATION	- TASK #10	\$ -	
	TASK #11/21	363,787,571	
	TASK #16/21	<u>(77,277,500)</u>	<u>(286,510,071)</u>
			371,674,811
WORKING CAPITAL REQUIREMENT	- TASK #12	\$ 9,753,645	
		<u>9,753,645</u>	<u>9,753,645</u>
			381,428,457
CONTRIBUTIONS BY OTHERS	- TASK #21	\$ 200,951,952	
LESS: AMORTIZATION		(151,063,887)	
		<u>(49,888,065)</u>	<u>(49,888,065)</u>
CONSTRUCTION COST RATE BASE			<u><u>\$ 331,540,392</u></u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: August 31, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

SUBJECT: 2021 Sewer Rate Study Integrated Connection Fees Task #15A

Attached is the Integrated Water and Sewer Connection Fee Schedule of rates effective January 1, 2022. Per the Fifth Amendment to the Water & Sanitary Sewer Service Agreements, adopted by City Commission on March 27, 2018 (Res. 87571), the methodology for connection to the water and sewer systems is calculated based on the cost of connection to the System and is evaluated annually as part of the Rate Study and shall be administered the same across the retail system.

The integrated connection fees effective January 1, 2022, shall be as follows:

Residential Users (three residential units or less)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2021	2022	% Change
3/4 inch	\$370	\$370	0%
1 inch	\$380	\$380	0%
1-1/2 inch	\$380	\$380	0%

All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Plan Review and Connection Fee (PRC Fee)			
Meter Size	2021	2022	% Change
3/4 inch	\$710	\$715	0.70%
1 inch	\$935	\$945	1.07%
1-1/2 inch	\$1,250	\$1,260	0.80%
2 inch	\$1,725	\$1,740	0.87%
3 inch	\$2,150	\$2,160	0.47%
4 inch	\$3,100	\$3,110	0.32%
6 inch	\$4,380	\$4,390	0.23%

Plus a Meter Capacity Fee based on the meter size (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged) as follows:

Meter Capacity Charge			
Meter Size	2021	2022	% Change
¾ inch	\$210	\$210	0%
1 inch	\$250	\$250	0%
1 ½ inch - T2	\$750	\$750	0%
2 inch - T2	\$880	\$880	0%
3 inch - T2	\$1,100	\$1,100	0%
4 inch - T2	\$2,135	\$2,135	0%
6 inch - T2	\$3,460	\$3,460	0%
1 ½ inch - C2	\$1,200	\$1,200	0%
2 inch - C2	\$1,385	\$1,385	0%
3 inch - C2	\$1,755	\$1,755	0%
4 inch -C2	\$3,050	\$3,050	0%
6 inch - C2	\$5,265	\$5,265	0%

Irrigation/Fire Protection Review Fee

Irrigation/Fire Service Review Fee			
	2021	2022	% Change
All Sizes	\$730	\$740	1.37%

Commercial Plan Assessment Fee – For instances where there is an established connection or property has been previously reviewed to allow for connection to the System which require less System resources to verify system connection requirements.

Commercial Plan Assessment Fee			
	2021	2022	% Change
All Sizes	\$125	\$125	0%

Further information on the new integrated connection fee methodology can be provided through the Utility Business Office.

AP/WJ

**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 2022 - ACCRUAL BASIS**

DATE	SRF/REVENUE REFERENCE		REVENUE BONDS			TOTAL		TOTAL PRINCIPAL & INTEREST
	5073-	SERIES	PRINCIPAL	INTEREST	EST. FEES	PRINCIPAL	INTEREST	
07/01/22	N/A	2010A (1)		\$ 316,270.00	\$ 800.00	\$ -	\$ 317,070.00	\$ 317,070.00
01/01/23	N/A	2010A (1)		316,270.00	800.00	0.00	317,070.00	317,070.00
07/01/22	N/A	2013 (2)		41,606.25	600.00	0.00	42,206.25	42,206.25
01/01/23	N/A	2013 (2)	1,664,250.00	41,606.25	600.00	1,664,250.00	42,206.25	1,706,456.25
07/01/22	N/A	2014 (3)		72,420.00	625.00	0.00	73,045.00	73,045.00
01/01/23	N/A	2014 (3)	1,411,000.00	72,420.00	625.00	1,411,000.00	73,045.00	1,484,045.00
07/01/22	N/A	2016 (4)		347,242.50	625.00	0.00	347,867.50	347,867.50
01/01/23	N/A	2016 (4)	585,750.00	347,242.50	625.00	585,750.00	347,867.50	933,617.50
07/01/22	N/A	2021 (5)		477,015.03	625.00	0.00	477,640.03	477,640.03
01/01/23	N/A	2021 (5)	863,710.79	477,015.03	625.00	863,710.79	477,640.03	1,341,350.82
						<u>\$ 4,524,710.79</u>	<u>\$ 2,515,657.55</u>	<u>\$ 7,040,368.34</u>

- (1) DS ON ES CSO PORTION OF 2010A ISSUE. (\$14.05M)
- (2) PRORATED AMOUNT OF 2013 ISSUE RELATED TO CSO DEBT. PARTIAL REFUND WITH 2021 ISSUE
- (3) PRORATED AMOUNT OF 2014 (2005 CSO) ISSUE RELATED TO CSO DEBT. PARTIAL REFUND WITH 2021 ISSUE
- (4) DS ON ES CSO PORTION OF REFUNDED 2008 ISSUE
- (5) PRORATED AMOUNT OF REFUNDED 2013 AND 2014 (2005 CSO REFUNDING) ISSUES RELATED TO CSO DEBT

**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	BURTON / BRETON SANITARY TRUNK SEWER	\$500,000	2023
2	BERKSHIRE ST - GIDDINGS TO KALAMAZOO	\$225,000	2023
3	CASCADE / KENTWOOD SANITARY TRUNK SEWER	\$2,500,000	2023
4	BRANDYWINE SANITARY TRUNK SEWER	\$100,000	2023
5	COLLINDALE LIFT STATION IMPROVEMENTS	\$2,000,000	2023
6	ORCHARD VISTA LIFT STATION - CONTROLS / ELEC IMPROVE	\$100,000	2023
7	RICKMAN LIFT STATION - CONTROLS / ELEC IMPROVE	\$50,000	2023
8	EAST LAKE LIFT STATION - CONTROLS / ELEC IMPROVE	\$100,000	2023
9	EAGLECREST LIFT STATION - CONTROLS / ELEC IMPROVE	\$150,000	2024
10	ALPINE ESTATES LIFT STATION - CONTROLS / ELEC IMPROVE	\$100,000	2024
11	THORNAPPLE LIFT STATION CABINETS & GEN ENCLOSURE	\$200,000	2024
12	BUTTERWORTH - HOGADONE TO GOLD AVE	\$100,000	2024
13	BRANDYWINE SANITARY TRUNK SEWER	\$2,500,000	2024
14	CASCADE / KENTWOOD SANITARY TRUNK SEWER	\$2,500,000	2024
15	WHISKEY CREEK SANITARY TRUNK SEWER	\$200,000	2024
16	GRANDVILLE AVE - CLYDE PARK TO STOLPE	\$200,000	2024
17	44TH ST / EASTERN AVE SE COLLECTION AREA	\$500,000	2024
18	BURTON / BRETON SANITARY TRUNK SEWER	\$100,000	2024
19	GRANDVILLE AVE - FRANKLIN TO BEACON (DESIGN)	\$150,000	2024
20	BEACON ST AND B ST (DESIGN)	\$100,000	2024
21	GRANDVILLE AVE - FRANKLIN TO BEACON	\$1,830,000	2025
22	BEACON ST - GRANDVILLE TO CAUFIELD	\$500,000	2025
23	B ST - GRANDVILLE TO CAUFIELD ALLEY	\$305,000	2025
24	KENT COUNTRY CLUB SANITARY TRUNK SEWER	\$1,600,000	2025
25	BURTON / BRETON SANITARY TRUNK SEWER	\$3,000,000	2025
26	WHISKEY CREEK SANITARY TRUNK SEWER	\$3,700,000	2025
27	NELAND - BATES TO SHERMAN	\$1,000,000	2025
28	WEALTHY ST - ETHEL TO EAST CITY LIMITS	\$100,000	2025
29	GRANDVILLE AVE - FRANKLIN ST TO BEACON ST	\$500,000	2025
30	EASTERN AVE LIFT STATION - CONTROLS / ELEC IMPROVE	\$150,000	2025
31	VALENTINE LIFT STATION - CONTROLS / ELEC IMPROVE	\$100,000	2025
32	BEACON ST AND B ST	\$400,000	2026
33	LAFAYETTE AVE - FOUNTAIN ST TO MICHIGAN ST	\$270,000	2026
		<u>\$25,830,000</u>	

NOTE: NONE OF THE PROJECTS ABOVE ARE INCLUDED IN RECOMMENDED REVENUE REQUIREMENTS FOR CALENDAR YEAR 2022. COSTS SHOWN ARE IN 2021 DOLLARS.

SOURCE: CHUCK SCHROEDER, ASSISTANT ENVIRONMENTAL SERVICES MANAGER, OCTOBER 2021

**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
2022	\$ 12,635,000	\$ 12,054,893	\$ 24,689,893
2023	13,025,000	10,240,175	23,265,175
2024	13,560,000	9,665,519	23,225,519
2025	14,025,000	9,155,225	23,180,225
2026	14,540,000	8,702,589	23,242,589
2027	15,060,000	8,219,392	23,279,392
2028	15,570,000	7,700,535	23,270,535
2029	11,385,000	7,149,652	18,534,652
2030	12,650,000	6,835,012	19,485,012
2031	13,030,000	6,453,850	19,483,850
2032	13,425,000	6,050,316	19,475,316
2033	13,865,000	5,619,582	19,484,582
2034	15,925,000	5,159,803	21,084,803
2035	14,210,000	4,637,596	18,847,596
2036	9,585,000	4,138,313	13,723,313
2037	10,010,000	3,703,861	13,713,861
2038	10,460,000	3,263,135	13,723,135
2039	8,650,000	2,802,114	11,452,114
2040	9,010,000	2,441,647	11,451,647
2041	9,380,000	2,065,700	11,445,700
2042	5,560,000	1,657,797	7,217,797
2043	3,825,000	1,421,850	5,246,850
2044	4,020,000	1,230,600	5,250,600
2045	4,220,000	1,029,600	5,249,600
2046	4,430,000	818,600	5,248,600
2047	4,630,000	617,550	5,247,550
2048	4,840,000	407,300	5,247,300
2049	2,295,000	187,400	2,482,400
2050	2,390,000	95,600	2,485,600
	<u>\$ 286,210,000</u>	<u>\$ 133,525,205</u>	<u>\$ 419,735,205</u>

**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	\$ 331,540,392
LESS: BONDED INDEBTEDNESS IN CCRB (CASH BASIS) - TASK NO. 20	(200,864,186)
NET SEWER SYSTEM EQUITY	<u><u>\$ 130,676,206</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-20	2.210%	25-Mar-21	2.350%
01-Oct-20	2.250%	01-Apr-21	2.340%
08-Oct-20	2.350%	08-Apr-21	2.300%
15-Oct-20	2.350%	15-Apr-21	2.260%
22-Oct-20	2.370%	22-Apr-21	2.260%
29-Oct-20	2.340%	29-Apr-21	2.270%
05-Nov-20	2.240%	06-May-21	2.250%
12-Nov-20	2.280%	13-May-21	2.280%
19-Nov-20	2.190%	20-May-21	2.260%
26-Nov-20	2.130%	27-May-21	2.200%
03-Dec-20	2.130%	03-Jun-21	2.180%
10-Dec-20	2.130%	10-Jun-21	2.070%
17-Dec-20	2.120%	17-Jun-21	2.090%
24-Dec-20	2.120%	24-Jun-21	2.160%
31-Dec-20	2.120%	01-Jul-21	2.140%
07-Jan-21	2.170%	08-Jul-21	2.040%
14-Jan-21	2.210%	15-Jul-21	2.040%
21-Jan-21	2.210%	22-Jul-21	2.030%
28-Jan-21	2.140%	29-Jul-21	2.040%
04-Feb-21	2.140%	05-Aug-21	2.040%
11-Feb-21	2.100%	12-Aug-21	2.140%
18-Feb-21	2.170%	19-Aug-21	2.140%
25-Feb-21	2.440%	26-Aug-21	2.140%
04-Mar-21	2.440%	02-Sep-21	2.140%
11-Mar-21	2.350%	09-Sep-21	2.150%
18-Mar-21	2.400%	16-Sep-21	2.140%
		<u>52 WEEKS</u>	<u>2.203%</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)	\$ 130,676,206		3.203%		\$ 4,185,408
SEWER SYSTEM INDEBTEDNESS IN THE CCRB					
1998 BONDS (refunded 1990 Bonds)	1,577,548		5.06%		79,824
2010 BONDS	29,625,000		5.00%		1,481,250
2010A BONDS	7,280,000		4.37%		318,136
2011 SRF BONDS	3,904,675		2.50%		97,617
2012 BONDS	50,000		4.00%		2,000
2013 BONDS (refunded 2004 Bonds)	435,750		5.00%		21,788
2013 SRF BONDS	769,125		2.00%		15,383
2014 BONDS (refunded 2005 Bonds)	2,641,600		5.00%		132,080
2016 BONDS (partially refunded 2008 Bonds)	25,575,450		5.00%		1,278,773
2018 BONDS	40,455,000		5.00%		2,022,750
2020 BONDS (amt in CCRB)	33,329,125		4.64%		1,546,471
2021 BONDS (refunded 2012, 2013, 2014 Bonds)	55,220,913		1.95%		1,075,703
LESS INTEREST ON BOND RESERVE ACCOUNTS					-
	\$ 331,540,392				\$ 12,257,183
COMPOSITE RATE OF RETURN ON INVESTMENT			\$ 12,257,183	=	3.697%
			\$331,540,392		

Noted Disclosure:

TOTAL BONDED INDEBTEDNESS IN CCRB (from above) \$ 200,864,186 TASK NO. 18

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
CONSTRUCTION COST RATE BASE & RETURN ON SYSTEM INVESTMENT- TASK NO. 21- PART I
FISCAL YEAR ENDED JUNE 30, 2021**

PHYSICAL LOCATION

DESCRIPTION	INTEGRATED SYSTEM	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		
COST	\$ 266,469,910	\$ 237,342,153	\$ 42,504,940	\$ 31,906,828	\$ 21,485,194	\$ 22,548,053	\$ 5,683,560	\$ 118,230	\$ -	\$ -	\$ -	\$ -	\$ 628,058,867	
LESS: ACCUMULATED DEPRECIATION	133,559,095	82,547,978	20,527,134	16,218,542	10,334,498	9,640,669	1,950,855	71,999	-	-	-	-	274,850,770	
NET BOOK VALUE	\$ 132,910,815	\$ 154,794,175	\$ 21,977,806	\$ 15,688,286	\$ 11,150,696	\$ 12,907,384	\$ 3,732,705	\$ 46,231	\$ -	\$ -	\$ -	\$ -	\$ 353,208,097	
WORKING CAPITAL REQUIREMENT	6,923,526	1,743,952	343,523	245,987	174,395	236,136	31,797	30,139	3,219	1,073	16,094	3,804	9,753,645	
	<u>\$ 139,834,341</u>	<u>\$ 156,538,127</u>	<u>\$ 22,321,329</u>	<u>\$ 15,934,273</u>	<u>\$ 11,325,091</u>	<u>\$ 13,143,520</u>	<u>\$ 3,764,502</u>	<u>\$ 76,370</u>	<u>\$ 3,219</u>	<u>\$ 1,073</u>	<u>\$ 16,094</u>	<u>\$ 3,804</u>	<u>\$ 362,961,743</u>	
CONTRIBUTIONS	50,267,759	58,457,893	26,100,611	25,429,763	18,809,078	16,579,116	5,307,732	-	-	-	-	-	200,951,952	
LESS AMORTIZATION	(49,420,584)	(51,860,792)	(13,651,053)	(14,649,776)	(9,812,787)	(8,008,636)	(1,762,343)	-	-	-	-	-	(149,165,971)	
	<u>\$ (847,175)</u>	<u>\$ (6,597,101)</u>	<u>\$ (12,449,558)</u>	<u>\$ (10,779,987)</u>	<u>\$ (8,996,291)</u>	<u>\$ (8,570,480)</u>	<u>\$ (3,545,389)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (51,785,981)</u>	
CONSTRUCTION COST RATE BASE	<u>\$ 138,987,166</u>	<u>\$ 149,941,026</u>	<u>\$ 9,871,771</u>	<u>\$ 5,154,286</u>	<u>\$ 2,328,800</u>	<u>\$ 4,573,040</u>	<u>\$ 219,113</u>	<u>\$ 76,370</u>	<u>\$ 3,219</u>	<u>\$ 1,073</u>	<u>\$ 16,094</u>	<u>\$ 3,804</u>	<u>\$ 311,175,762</u>	
RETURN ON INVESTMENT- TASK 20	3.697%	<u>\$ 5,138,356</u>	<u>\$ 5,543,320</u>	<u>\$ 364,959</u>	<u>\$ 190,554</u>	<u>\$ 86,096</u>	<u>\$ 169,065</u>	<u>\$ 8,101</u>	<u>\$ 2,823</u>	<u>\$ 119</u>	<u>\$ 40</u>	<u>\$ 595</u>	<u>\$ 141</u>	<u>\$ 11,504,169</u>
ZONEGATED														
COST	\$ -	\$ 93,421	\$ 6,198,658	\$ 2,435,111	\$ 4,306,410	\$ 5,517,191	\$ 1,850,372	\$ 1,726,922	\$ 363,044	\$ 253,511	\$ 6,405,200	\$ 976,175	\$ 30,126,015	
LESS: ACCUMULATED DEPRECIATION	-	(502,922)	2,576,720	1,616,372	1,431,058	2,197,347	560,289	696,083	250,421	168,337	2,017,396	648,200	11,659,301	
NET BOOK VALUE	\$ -	\$ 596,343	\$ 3,621,938	\$ 818,739	\$ 2,875,352	\$ 3,319,844	\$ 1,290,083	\$ 1,030,839	\$ 112,623	\$ 85,174	\$ 4,387,804	\$ 327,975	\$ 18,466,714	
WORKING CAPITAL REQUIREMENT	-	-	-	-	-	-	-	-	-	-	-	-	-	
	<u>\$ -</u>	<u>\$ 596,343</u>	<u>\$ 3,621,938</u>	<u>\$ 818,739</u>	<u>\$ 2,875,352</u>	<u>\$ 3,319,844</u>	<u>\$ 1,290,083</u>	<u>\$ 1,030,839</u>	<u>\$ 112,623</u>	<u>\$ 85,174</u>	<u>\$ 4,387,804</u>	<u>\$ 327,975</u>	<u>\$ 18,466,714</u>	
CONTRIBUTIONS	-	-	6,603	1,050,662	295,863	138,544	225	208	1,504	210,756	242,778	811,469	2,758,612	
LESS AMORTIZATION	-	-	(6,603)	(756,477)	(213,022)	(100,093)	(225)	(208)	(1,083)	(133,066)	(174,800)	(512,339)	(1,897,916)	
	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (294,185)</u>	<u>\$ (82,841)</u>	<u>\$ (38,451)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (421)</u>	<u>\$ (77,690)</u>	<u>\$ (67,978)</u>	<u>\$ (299,130)</u>	<u>\$ (860,696)</u>	
CONSTRUCTION COST RATE BASE	<u>\$ -</u>	<u>\$ 596,343</u>	<u>\$ 3,621,938</u>	<u>\$ 524,554</u>	<u>\$ 2,792,511</u>	<u>\$ 3,281,393</u>	<u>\$ 1,290,083</u>	<u>\$ 1,030,839</u>	<u>\$ 112,202</u>	<u>\$ 7,484</u>	<u>\$ 4,319,826</u>	<u>\$ 28,845</u>	<u>\$ 17,606,018</u>	
RETURN ON INVESTMENT- TASK 19/21	-	<u>\$ 39,972</u>	<u>\$ 242,774</u>	<u>\$ 35,160</u>	<u>\$ 187,179</u>	<u>\$ 219,948</u>	<u>\$ 86,473</u>	<u>\$ 69,096</u>	<u>\$ 7,521</u>	<u>\$ 502</u>	<u>\$ 289,553</u>	<u>\$ 1,066</u>	<u>\$ 1,179,244</u>	
RETURN ON INVESTMENT- TASK 19/21	6.703%	6.703%	6.703%	6.703%	6.703%	6.703%	6.703%	6.703%	6.703%	6.703%	6.703%	3.697%		
TOTAL RETURN ON INVESTMENT	<u>\$ 5,138,356</u>	<u>\$ 5,583,292</u>	<u>\$ 607,733</u>	<u>\$ 225,714</u>	<u>\$ 273,275</u>	<u>\$ 389,013</u>	<u>\$ 94,574</u>	<u>\$ 71,919</u>	<u>\$ 7,640</u>	<u>\$ 542</u>	<u>\$ 290,148</u>	<u>\$ 1,207</u>	<u>\$ 12,683,413</u>	

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
CONSTRUCTION COST & ACCUMULATED DEPRECIATION- TASK NO. 21- PART2
FISCAL YEAR ENDED JUNE 30, 2021**

CONSTRUCTION COST

COST CENTER	AMOUNT	INTEGRATED SYSTEM	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	
BY PHYSICAL LOCATION- TASK 11		\$ 266,469,910	\$ 432,587,322	\$ 45,399,070	\$ 43,107,899	\$ 23,001,776	\$ 22,676,092	\$ 6,765,623	\$ 196,346	\$ -	\$ -	\$ -	\$ -	\$ 840,204,038
ADD: IN SERVICE- TASK 10/8		-	4,812,974	637,421	305,047	331,000	-	-	-	-	-	-	-	6,086,442
MARNE CONNECTOR AGREEMENT			(211,573)					(515,311)	(78,116)					(805,000)
SADDLEBACK SEWER			(1,187,160)		1,115,707	71,453								-
TASK 11/16/21- CSO FA AMT			(187,300,597)											(187,300,597)
LIFT STATIONS / CHAMBERS:														
FULLER-BROOKVIEW	\$ 1,252,893		(719,774)	-	-	-	719,774	-	-	-	-	-	-	-
FULTON- MIDDLEBORROW	37,983		(37,983)	-	-	-	37,983	-	-	-	-	-	-	-
WEALTHY ST EXT. CHAMBER	458,953		(135,813)	120,351	-	-	-	15,462	-	-	-	-	-	-
WEALTHY	20,444		(6,701)	6,396	-	-	-	46	259	-	-	-	-	-
MARKET	12,965,095		(1,512,508)	1,209,903	-	-	223,259	41,229	38,117	-	-	-	-	-
VANPORTFLIET / 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		41,613	(102,442)	-	-	-	60,829	-	-	-	-	-	-
SERVICEMAINS			(9,281,429)	2,045,862	(10,186,714)	2,387,375	4,408,136	1,273,358	1,355,482	363,044	253,511	6,405,200	976,175	-
ADJUSTED BY ZONEGATING		\$ 266,469,910	\$ 237,435,574	\$ 48,703,598	\$ 34,341,939	\$ 25,791,604	\$ 28,065,244	\$ 7,533,932	\$ 1,845,152	\$ 363,044	\$ 253,511	\$ 6,405,200	\$ 976,175	\$ 658,184,882
ZONEGATING ADJUSTMENT		\$ -	\$ 93,421	\$ 6,198,658	\$ 2,435,111	\$ 4,306,410	\$ 5,517,191	\$ 1,850,372	\$ 1,726,922	\$ 363,044	\$ 253,511	\$ 6,405,200	\$ 976,175	\$ 30,126,015
PHYSICAL LOCATION		\$ 266,469,910	\$ 237,342,153	\$ 42,504,940	\$ 31,906,828	\$ 21,485,194	\$ 22,548,053	\$ 5,683,560	\$ 118,230	\$ -	\$ -	\$ -	\$ -	\$ 628,058,867

ACCUMULATED DEPRECIATION

BY PHYSICAL LOCATION- TASK 11	\$ 133,559,095	\$ 165,868,354	\$ 21,682,675	\$ 19,743,562	\$ 10,829,415	\$ 9,768,708	\$ 2,296,924	\$ 94,811	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 363,843,544
ADD: IN SERVICE- TASK 10		-	-	-	-	-	-	-	-	-	-	-	-	-
MARNE CONNECTOR AGREEMENT			(162,527)					(142,039)	(22,812)					(327,378)
SADDLEBACK SEWER				255,685	15,720									271,405
TASK 11/16/21- CSO ACC DEP			(77,277,500)											(77,277,500)
LIFT STATIONS / CHAMBERS:														
FULLER-BROOKVIEW	\$ 849,847		(488,229)	-	-	-	488,229	-	-	-	-	-	-	-
FULTON- MIDDLEBORROW	37,983		(37,983)	-	-	-	37,983	-	-	-	-	-	-	-
WEALTHY ST EXT. CHAMBER	202,857		(60,029)	53,195	-	-	-	6,834	-	-	-	-	-	-
WEALTHY	20,444		(6,701)	6,396	-	-	-	46	259	-	-	-	-	-
MARKET	8,192,329		(955,717)	764,508	-	-	141,072	26,052	24,085	-	-	-	-	-
VANPORTFLIET / LEONARD HTS	411,115		128,445	(128,445)	-	-	-	-	-	-	-	-	-	-
REMEMBRANCE / 3 MILE	876,422		-	(163,084)	-	-	-	24,417	138,667	-	-	-	-	-
16th AVENUE	55,973													
HAYES- WEST	92,943		-	-	-	-	-	(92,943)	92,943	-	-	-	-	-
HAYES- EAST	124,231		-	-	-	-	-	-	-	-	-	-	-	-
O'BRIEN	331,199		25,217	(62,079)	-	-	-	36,862	-	-	-	-	-	-
SERVICEMAINS			(4,988,274)	950,688	(2,164,333)	920,421	1,402,024	354,991	440,129	250,421	168,337	2,017,396	648,200	-
ADJUSTED BY ZONEGATING	\$ 133,559,095	\$ 82,045,056	\$ 23,103,854	\$ 17,834,914	\$ 11,765,556	\$ 11,838,016	\$ 2,511,144	\$ 768,082	\$ 250,421	\$ 168,337	\$ 2,017,396	\$ 648,200	\$ 286,510,071	
ZONEGATING ADJUSTMENT	\$ -	\$ (502,922)	\$ 2,576,720	\$ 1,616,372	\$ 1,431,058	\$ 2,197,347	\$ 560,289	\$ 696,083	\$ 250,421	\$ 168,337	\$ 2,017,396	\$ 648,200	\$ 11,659,301	
PHYSICAL LOCATION	\$ 133,559,095	\$ 82,547,978	\$ 20,527,134	\$ 16,218,542	\$ 10,334,498	\$ 9,640,669	\$ 1,950,855	\$ 71,999	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 274,850,770

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
CONTRIBUTIONS & AMORTIZED CONTRIBUTIONS- TASK NO. 21- PART3
FISCAL YEAR ENDED JUNE 30, 2021**

CONTRIBUTIONS BY OTHERS

COST CENTER	AMOUNT	INTEGRATED SYSTEM	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	
2020 RATE STUDY (LOCATION)		\$ 50,267,759	\$ 58,145,009	\$ 25,636,372	\$ 25,229,104	\$ 18,792,253	\$ 15,967,969	\$ 5,307,732	\$ -	\$ -	\$ -	\$ -	\$ -	\$199,346,198
ADDITIONS:														
CONNECTION & FRONT FOOT FEES			9,450	21,596	43,513	16,825	61,147	-	-	-	-	-	-	152,531
FIXED ASSET CONTRIBUTIONS		-	303,434	442,643	157,146	-	550,000	-	-	-	-	-	-	1,453,223
		\$ 50,267,759	\$ 58,457,893	\$ 26,100,611	\$ 25,429,763	\$ 18,809,078	\$ 16,579,116	\$ 5,307,732	\$ -	\$ -	\$ -	\$ -	\$ -	\$200,951,952
PLASTER CREEK INTERCEPTOR 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	208	-	-	-	-	
ADJUSTED BY ZONEGATING		\$ 50,267,759	\$ 58,457,893	\$ 26,107,214	\$ 26,480,425	\$ 19,104,941	\$ 16,717,660	\$ 5,307,957	\$ 208	\$ 1,504	\$ 210,756	\$ 242,778	\$ 811,469	\$200,951,952
LESS: ZONEGATING ADJUSTMENT		\$ -	\$ -	\$ 6,603	\$ 1,050,662	\$ 295,863	\$ 138,544	\$ 225	\$ 208	\$ 1,504	\$ 210,756	\$ 242,778	\$ 811,469	\$ -
PHYSICAL LOCATION		50,267,759	58,457,893	26,100,611	25,429,763	18,809,078	16,579,116	5,307,732	-	-	-	-	-	200,951,952

AMORTIZED CONTRIBUTIONS

2020 RATE STUDY (LOCATION)		\$ 48,415,229	\$ 50,721,346	\$ 13,162,073	\$ 14,143,277	\$ 9,436,605	\$ 7,680,519	\$ 1,656,143	\$ -	\$ -	\$ -	\$ -	\$ -	\$145,215,192
CURRENT YEAR ADJUSTMENT		1,005,355.18	1,139,446.00	488,980.00	506,499.00	376,182.00	328,117.00	106,200.00						3,950,779.18
		\$ 49,420,584	\$ 51,860,792	\$ 13,651,053	\$ 14,649,776	\$ 9,812,787	\$ 8,008,636	\$ 1,762,343	\$ -	\$ -	\$ -	\$ -	\$ -	\$149,165,971
PLASTER CREEK INTERCEPTOR GRANT	\$ 1,616,127		-	-	756,477	213,022	98,875	-	-	1,083	17,260	174,800	66,439	
INTERCEPTOR	815,188		-	-	-	-	-	-	-	-	115,806	-	445,900	
LIFT STATION	70,753		-	6,603	-	-	1,218	225	208	-	-	-	-	
ADJUSTED BY ZONEGATING		\$ 49,420,584	\$ 51,860,792	\$ 13,657,656	\$ 15,406,253	\$ 10,025,809	\$ 8,108,729	\$ 1,762,568	\$ 208	\$ 1,083	\$ 133,066	\$ 174,800	\$ 512,339	\$149,165,971
LESS: ZONEGATING ADJUSTMENT		\$ -	\$ -	\$ 6,603	\$ 756,477	\$ 213,022	\$ 100,093	\$ 225	\$ 208	\$ 1,083	\$ 133,066	\$ 174,800	\$ 512,339	\$ -
PHYSICAL LOCATION		\$ 49,420,584	\$ 51,860,792	\$ 13,651,053	\$ 14,649,776	\$ 9,812,787	\$ 8,008,636	\$ 1,762,343	\$ -	\$ -	\$ -	\$ -	\$ -	\$149,165,971

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING
FISCAL YEAR ENDED JUNE 30, 2021**

COST CENTER	AMOUNT	INTEGRATED SYSTEM	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	
CONSTRUCTION COST- BY PHYSICAL LOCATION:														
BY PHYSICAL LOCATION- TASK 11		\$ 266,469,910	\$ 439,859,625	\$ 42,009,974	\$ 43,107,899	\$ 22,303,119	\$ 19,919,546	\$ 6,408,677	\$ 125,288	\$ -	\$ -	\$ -	\$ -	\$ 840,204,038
IN SERVICE- TASK 10/8		-	4,812,974	637,421	305,047	331,000	-	-	-	-	-	-	-	6,086,442
MARNE CONNECTOR AGREEMENT		-	(211,573)	-	-	-	-	(515,311)	(78,116)	-	-	-	-	(805,000)
SADDLEBACK SEWER		-	(1,187,160)	-	1,115,707	71,453	-	-	-	-	-	-	-	-
TASK 11/16/21- CSO COST		-	(187,300,597)	-	-	-	-	-	-	-	-	-	-	(187,300,597)
O'BRIEN		-	(546,532)	546,532	-	-	-	-	-	-	-	-	-	-
VANPORTFLIET / LEONARD HTS		-	(1,239,326)	1,239,326	-	-	-	-	-	-	-	-	-	-
REMEMBRANCE / 3 MILE		-	(1,213,244)	1,213,244	-	-	-	-	-	-	-	-	-	-
16th AVENUE		-	(71,058)	-	-	-	-	-	71,058	-	-	-	-	-
HAYES- WEST		-	(141,105)	-	-	-	-	141,105	-	-	-	-	-	-
HAYES- EAST		-	(215,841)	-	-	-	-	215,841	-	-	-	-	-	-
KINGSBURY	\$ 323,154		(323,154)	323,154	-	-	-	-	-	-	-	-	-	-
MEADOWWOOD TRAILS	66,841		(66,841)	-	-	66,841	-	-	-	-	-	-	-	-
OAK HOLLOW	66,840		(66,840)	-	-	-	66,840	-	-	-	-	-	-	-
COLLINDALE	66,840		(66,840)	66,840	-	-	-	-	-	-	-	-	-	-
THORNAPPLE	224,216		(224,216)	-	-	224,216	-	-	-	-	-	-	-	-
6000 28TH ST	111,401		(111,401)	-	-	111,401	-	-	-	-	-	-	-	-
THORNHILLS	118,407		(118,407)	-	-	118,407	-	-	-	-	-	-	-	-
ROBINHOOD	178,399		(178,399)	-	-	-	178,399	-	-	-	-	-	-	-
CASCADE SPRINGS	65,478		(65,478)	-	-	65,478	-	-	-	-	-	-	-	-
SHOREHAVEN	72,602		(72,602)	-	-	-	72,602	-	-	-	-	-	-	-
EAGLECREST	345,633		(345,633)	-	-	-	345,633	-	-	-	-	-	-	-
GREENBRIER	48,486		(48,486)	-	-	-	48,486	-	-	-	-	-	-	-
LINCOLN SCHOOL	153,651		(153,651)	-	-	-	153,651	-	-	-	-	-	-	-
REEDS LAKE	962,898		(962,898)	-	-	-	962,898	-	-	-	-	-	-	-
KRAFT	72,602		(72,602)	-	-	72,602	-	-	-	-	-	-	-	-
ORCHARD VISTA	39,712		(39,712)	-	-	39,712	-	-	-	-	-	-	-	-
BIRD AVE-ALPINE ESTATES	797,860		(797,860)	-	-	-	797,860	-	-	-	-	-	-	-
EAST PARIS	323,478		(323,478)	-	-	-	323,478	-	-	-	-	-	-	-
SERVICE MAINS														
LESS: SERVICE MAINS- TOTAL SUBS- PHY. LOC.			(23,602,073)	(13,840,328)	(19,707,869)	(2,312,401)	(140,457)	(590,665)	-	-	-	-	-	(60,193,793)
ADD: SERVICE MAINS- TOTAL ADDS- PHY. LOC.			12,243,261	10,308,777	7,086,044	393,366	12,418	23,913	-	-	-	-	-	30,067,779
TOTAL- PHYSICAL LOCATION COST		<u>\$ 266,469,910</u>	<u>\$ 237,148,853</u>	<u>\$ 42,504,940</u>	<u>\$ 31,906,828</u>	<u>\$ 21,485,194</u>	<u>\$ 22,741,354</u>	<u>\$ 5,683,560</u>	<u>\$ 118,230</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 628,058,868</u>
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	458,953		(135,813)	120,351	-	-	-	15,462	-	-	-	-	-	-
WEALTHY	20,444		(6,701)	6,396	-	-	-	46	259	-	-	-	-	-
MARKET	12,965,095		(1,512,508)	1,209,903	-	-	223,259	41,229	38,117	-	-	-	-	-
VANPORTFLIET / 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		41,613	(102,442)	-	-	-	60,829	-	-	-	-	-	-
SERVICEMAINS- ZONEGATED COST			2,077,384	5,577,413	2,435,111	4,306,410	4,536,175	1,840,110	1,355,482	363,044	253,511	6,405,200	976,175	30,126,015
TOTAL- ZONEGATED COST		<u>\$ -</u>	<u>\$ 93,421</u>	<u>\$ 6,198,658</u>	<u>\$ 2,435,111</u>	<u>\$ 4,306,410</u>	<u>\$ 5,517,191</u>	<u>\$ 1,850,372</u>	<u>\$ 1,726,922</u>	<u>\$ 363,044</u>	<u>\$ 253,511</u>	<u>\$ 6,405,200</u>	<u>\$ 976,175</u>	<u>\$ 30,126,015</u>
GRAND TOTAL- COST		<u>\$ 266,469,910</u>	<u>\$ 237,242,274</u>	<u>\$ 48,703,598</u>	<u>\$ 34,341,939</u>	<u>\$ 25,791,604</u>	<u>\$ 28,258,545</u>	<u>\$ 7,533,932</u>	<u>\$ 1,845,152</u>	<u>\$ 363,044</u>	<u>\$ 253,511</u>	<u>\$ 6,405,200</u>	<u>\$ 976,175</u>	<u>\$ 658,184,883</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
RECONCILIATION OF CONSTRUCTION COST & ACCUMULATED DEPRECIATION- PHYSICAL LOCATION & ZONEGATING
FISCAL YEAR ENDED JUNE 30, 2021**

COST CENTER	AMOUNT	INTEGRATED SYSTEM	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	
ACCUMULATED DEPRECIATION- BY PHYSICAL LOCATION:														
BY PHYSICAL LOCATION- TASK 11		\$ 133,559,095	\$ 167,398,388	\$ 20,210,817	\$ 19,743,562	\$ 11,145,740	\$ 9,493,837	\$ 2,164,068	\$ 128,037	\$ -	\$ -	\$ -	\$ -	\$ 363,843,544
IN SERVICE- TASK 10		-	-	-	-	-	-	-	-	-	-	-	-	-
MARNE CONNECTOR AGREEMENT		-	(162,527)	-	-	-	-	(142,039)	(22,812)	-	-	-	-	(327,378)
SADDLEBACK SEWER					255,685	15,720								271,405
TASK 11/16/21- CSO ACC. DEPRECIATION			(77,277,500)											(77,277,500)
O'BRIEN			(331,199)	331,199										-
VANPORTFLIET			(411,115)	411,115										-
REMEMBRANCE / 3 MILE			(876,422)	876,422										-
16th AVENUE			(55,973)						55,973					-
HAYES- WEST			(92,943)					92,943						-
HAYES- EAST			(124,231)					124,231						-
KINGSBURY	\$ 150,294		(150,294)	150,294										-
MEADOWOOD TRAILS	24,508		(24,508)			24,508								-
OAK HOLLOW	24,508		(24,508)				24,508							-
COLLINDALE	24,508		(24,508)	24,508										-
THORNAPPLE	136,106		(136,106)			136,106								-
6000 28TH ST	44,560		(44,560)			44,560								-
THORNHILLS	55,257		(55,257)			55,257								-
ROBINHOOD	89,199		(89,199)				89,199							-
CASCADE SPRINGS	48,017		(48,017)			48,017								-
SHOREHAVEN	36,301		(36,301)				36,301							-
EAGLECREST	86,552		(86,552)				86,552							-
GREENBRIER	21,011		(21,011)				21,011							-
LINCOLN SCHOOL	62,868		(62,868)				62,868							-
REEDS LAKE	324,723		(324,723)				324,723							-
KRAFT	36,301		(36,301)			36,301								-
ORCHARD VISTA	17,208		(17,208)			17,208								-
BIRD AVE-ALPINE ESTATES	275,171		(275,171)				275,171							-
EAST PARIS	183,304		(183,304)				183,304							-
SERVICE MAINS														-
LESS: SERVICE MAINS- TOTAL SUBS- PHY. LOC.			(12,514,967)	(4,634,837)	(6,318,647)	(604,260)	(140,457)	(212,639)	-	-	-	-	-	(24,425,807)
ADD: SERVICE MAINS- TOTAL ADDS- PHY. LOC.			6,634,620	3,479,296	2,537,942	93,623	12,418	8,609	-	-	-	-	-	12,766,508
		<u>\$ 133,559,095</u>	<u>\$ 80,545,735</u>	<u>\$ 20,848,814</u>	<u>\$ 16,218,542</u>	<u>\$ 11,012,780</u>	<u>\$ 10,469,435</u>	<u>\$ 2,035,173</u>	<u>\$ 161,198</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 274,850,772</u>
ACCUMULATED DEPRECIATION- ZONEGATED														
LIFT STATIONS / CHAMBERS:														
FULLER-BROOKVIEW	\$ 849,847		(488,229)	-	-	-	488,229	-	-	-	-	-	-	-
FULTON- MIDDLEBORROW	37,983		(37,983)	-	-	-	37,983	-	-	-	-	-	-	-
WEALTHY ST EXT. CHAMBER	202,857		(60,029)	53,195	-	-	-	6,834	-	-	-	-	-	-
WEALTHY	20,444		(6,701)	6,396	-	-	-	46	259	-	-	-	-	-
MARKET	8,192,329		(955,717)	764,508	-	-	141,072	26,052	24,085	-	-	-	-	-
VANPORTFLIET	411,115		128,445	(128,445)	-	-	-	-	-	-	-	-	-	-
REMEMBRANCE / 3 MILE	876,422		-	(163,084)	-	-	-	24,417	138,667	-	-	-	-	-
16th AVENUE	55,973		-	-	-	-	-	-	-	-	-	-	-	-
HAYES- WEST	92,943		-	-	-	-	-	(92,943)	92,943	-	-	-	-	-
HAYES- EAST	124,231		-	-	-	-	-	-	-	-	-	-	-	-
O'BRIEN	331,199		25,217	(62,079)	-	-	-	36,862	-	-	-	-	-	-
SERVICEMAINS-ZONEGATED ACC. DEPRECIATION			892,075	2,106,229	1,616,372	1,431,058	1,530,063	559,021	440,129	250,421	168,337	2,017,396	648,200	11,659,301
TOTAL- ZONEGATED ACC. DEPRECIATION		<u>\$ -</u>	<u>\$ (502,922)</u>	<u>\$ 2,576,720</u>	<u>\$ 1,616,372</u>	<u>\$ 1,431,058</u>	<u>\$ 2,197,347</u>	<u>\$ 560,289</u>	<u>\$ 696,083</u>	<u>\$ 250,421</u>	<u>\$ 168,337</u>	<u>\$ 2,017,396</u>	<u>\$ 648,200</u>	<u>\$ 11,659,301</u>
GRAND TOTAL- ACC. DEPRECIATION		<u>\$ 133,559,095</u>	<u>\$ 80,042,813</u>	<u>\$ 23,425,534</u>	<u>\$ 17,834,914</u>	<u>\$ 12,443,838</u>	<u>\$ 12,666,782</u>	<u>\$ 2,595,462</u>	<u>\$ 857,281</u>	<u>\$ 250,421</u>	<u>\$ 168,337</u>	<u>\$ 2,017,396</u>	<u>\$ 648,200</u>	<u>\$ 286,510,073</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ADJUSTED OPERATING EXPENSE ZONEGATING ALLOCATION BY GOVERNMENTAL UNIT - TASK #22
FISCAL YEAR ENDED JUNE 30, 2021**

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	\$ 22,153,700	\$ 22,153,700											
LIFT STATIONS:													
A. INTERCEPTOR	253,257		223,712	23,634	-	-	4,361	805	745	-	-	-	-
B. TRUNK	173,336		40,822	67,387	-	34,354	25,420	5,353	-	-	-	-	-
C. LOCAL COLLECTOR	534,526		69,389	59,466	-	116,335	191,591	28,461	46,216	-	-	23,068	-
SEWER LINES:													
A. INTERCEPTOR	264,831		151,240	38,363	67,789	7,439	-	-	-	-	-	-	-
B. TRUNK	609,575		217,033	152,077	139,526	53,801	30,759	15,715	664	-	-	-	-
C. LOCAL COLLECTOR	4,277,948		2,661,654	535,984	416,501	258,431	332,268	48,127	24,983	-	-	-	-
D. ZONEGATING			(102,887)	10,994	(22,987)	20,433	30,372	(5,941)	17,601	9,328	2,887	29,095	11,105
BULK METERING STATIONS	8,455		-	-	3,368	-	-	-	-	1,409	813	1,479	1,386
CUSTOMER ACCOUNTING *	3,286,552		2,536,593	254,149	213,462	88,901	170,112	13,311	10,024				
INDUSTRIAL PRETREATMENT	863,221	863,221											
SUBTOTAL OPERATING EXPENSE	32,425,401	23,016,921	5,797,556	1,142,054	817,659	579,694	784,883	105,831	100,233	10,737	3,700	53,642	12,491
ADMINISTRATIVE EXPENSE	3,199,256	2,229,674	619,789	110,632	79,207	56,156	76,032	10,252	9,710	1,040	358	5,196	1,210
TOTAL	\$ 35,624,656	\$ 25,246,595	\$ 6,417,345	\$ 1,252,686	\$ 896,866	\$ 635,850	\$ 860,915	\$ 116,083	\$ 109,943	\$ 11,777	\$ 4,058	\$ 58,838	\$ 13,701

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

METHOD OF DISTRIBUTION

WASTEWATER TREATMENT	100.000%	100.00%												
LIFT STATIONS:	(54)													
A. INTERCEPTORS	(1)	100.000%	(1)	-	-	-	-	-	-	-	-	-	-	
B. TRUNK	(8)	100.000%	(3)	(3)	-	(1)	(1)	-	-	-	-	-	-	
C. LOCAL	(45)	100.000%	(9)	(3)	-	(9)	(17)	(5)	(1)	-	-	(1)	-	
SEWER LINES:														
TOTAL MILES:	927.95													
A. INTERCEPTOR MILES	47.70	100.000%	57.108%	14.486%	25.597%	2.809%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
B. TRUNK LINES MILES	109.79	100.000%	35.604%	24.948%	22.889%	8.826%	5.046%	2.578%	0.109%	0.000%	0.000%	0.000%	0.000%	
C. LOCAL COLLECTOR MILES	770.46	100.000%	62.218%	12.529%	9.736%	6.041%	7.767%	1.125%	0.584%	0.000%	0.000%	0.000%	0.000%	
D. ZONEGATING MILES	(6)		(18.53)	1.98	(4.14)	3.68	5.47	(1.07)	3.17	1.68	0.52	5.24	2.00	
BULK METERING STATIONS	(6)		-	-	(2)	-	-	-	-	(1)	(1)	(1)	(1)	
CUSTOMER ACCTG (1) NO. OF METERS	75,814.00	100.000%	77.181%	7.733%	6.495%	2.705%	5.176%	0.405%	0.305%					
INDUSTRIAL PRETREATMENT		100.000%												
ADMINISTRATIVE EXPENSE (2)		100.000%	69.693%	19.373%	3.458%	2.476%	1.755%	2.377%	0.320%	0.304%	0.033%	0.011%	0.162%	0.038%

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	\$ 38,569,228	71.3545%	\$ 98,659
CITY OF WALKER	4,961,436	9.1788%	12,691
CITY OF KENTWOOD	4,505,290	8.3350%	11,524
CASCADE TOWNSHIP	2,651,134	4.9047%	6,781
GRAND RAPIDS TOWNSHIP	2,663,141	4.9269%	6,812
TALLMADGE TOWNSHIP	454,555	0.8409%	1,163
WRIGHT TOWNSHIP	248,193	0.4592%	635
	<u>\$ 54,052,977</u>	<u>100.0000%</u>	<u>\$ 138,265</u>

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ASSIGN DEPRECIATION EXPENSE TO CUSTOMER COMMUNITIES- TASK NO. 24
FISCAL YEAR ENDED JUNE 30, 2021**

COST CENTER	DEPRECIATION EXPENSE	INTEGRATED SYSTEM	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	
BY PHYSICAL LOCATION- TASK 11		\$ 7,629,898	\$ 8,495,528	\$ 912,820	\$ 812,517	\$ 454,802	\$ 430,750	\$ 127,978	\$ 2,502	\$ -	\$ -	\$ -	\$ -	\$ 18,866,795
ADD: IN SERVICE- TASK 10/8		-	96,260	12,748	6,101	6,620	-	-	-	-	-	-	-	121,729
MARNE CONNECTOR AGREEMENT			(2,695)					(10,307)	(1,563)					(14,565)
SADDLEBACK SEWER					22,313	1,429								23,742
LESS: TASK 11/16/21- CSO DEP. EXP.			(3,770,565)											(3,770,565)
LIFT STATIONS / CHAMBERS:														
FULLER-BROOKVIEW (GR)	\$ 18,488		(10,621)	-	-	-	10,621	-	-	-	-	-	-	-
FULTON- MIDDLEBORO (GR)	-		-	-	-	-	-	-	-	-	-	-	-	-
WEALTHY ST EXT. CHAMBER	8,261		(2,444)	2,166	-	-	-	278	-	-	-	-	-	-
WEALTHY	-		-	-	-	-	-	-	-	-	-	-	-	-
MARKET	393,343		(45,887)	36,707	-	-	6,773	1,251	1,156	-	-	-	-	-
VANPORTFLIET	34,991		10,932	(10,932)	-	-	-	-	-	-	-	-	-	-
REMEMBRANCE / 3 MILE	62,502		-	(11,630)	-	-	-	1,741	9,889	-	-	-	-	-
O'BRIEN	12,023		915	(2,253)	-	-	-	1,338	-	-	-	-	-	-
KINGSBURY	10,772													
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	8,944													
GREENBRIER	1,616													
LINCOLN SCHOOL	5,121													
REEDS LAKE	24,979													
KRAFT	2,420													
ORCHARD VISTA	1,324													
16TH AVE	826		(826)	-	-	-	-	-	826	-	-	-	-	-
HAYES- WEST	2,160		(2,160)	-	-	-	-	-	2,160	-	-	-	-	-
HAYES- EAST	3,205		(3,205)	-	-	-	-	3,205	-	-	-	-	-	-
BIRD AVE-ALPINE ESTATES	23,258		(23,258)				23,258							
EAST PARIS	10,783		(10,783)				10,783							
SERVICEMAINS			(143,167)	30,791	(212,372)	43,452	79,622	24,849	26,914	2,907	4,829	123,581	18,594	-
ADJUSTED BY ZONEGATING		7,629,898	4,588,024	970,417	628,559	506,303	561,807	150,333	41,884	2,907	4,829	123,581	18,594	15,227,136
LESS CONTRIBUTIONS AMORTIZED														
TASK NO. 21		(1,005,355)	(1,139,446)	(488,980)	(492,115)	(376,182)	(328,117)	(106,200)	-	-	-	-	(14,384)	(3,950,779)
TOTAL		\$ 6,624,543	\$ 3,448,578	\$ 481,437	\$ 136,444	\$ 130,121	\$ 233,690	\$ 44,133	\$ 41,884	\$ 2,907	\$ 4,829	\$ 123,581	\$ 4,210	\$ 11,276,357

**CITY OF GRAND RAPIDS, MICHIGAN
SEWAGE DISPOSAL SYSTEM FUND
ACCUMULATE REVENUE REQUIREMENTS BY CUSTOMER COMMUNITIES- TASK NO. 25
FISCAL YEAR ENDED JUNE 30, 2021**

COST CENTER	INTEGRATED SYSTEM	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	
OPERATION & MAINTENANCE EXPENSE- TASK NO. 22	\$ 25,246,595	\$ 6,417,345	\$ 1,252,686	\$ 896,866	\$ 635,850	\$ 860,915	\$ 116,083	\$ 109,943	\$ 11,777	\$ 4,058	\$ 58,838	\$ 13,701	\$ 35,624,656
DEPRECIATION EXPENSE TASK NO. 24	6,624,543	3,448,578	481,437	136,444	130,121	233,690	44,133	41,884	2,907	4,829	123,581	4,210	11,276,357
RETURN ON SYSTEM INVESTMENT TASK NO. 21	5,138,356	5,583,292	607,733	225,714	273,275	389,013	94,574	71,919	7,640	542	290,148	1,207	12,683,413
REVENUE CREDITS- TASK NO. 23		(98,659)	(12,691)	(11,524)	(6,781)	(6,812)	(1,163)	(635)					(138,265)
CSO DEBT SERVICE REQUIREMENTS		7,040,368											7,040,368
ALLOCATE:													
INTEGRATED SYSTEM CREDITS		(1,748,431)	(296,945)	(390,697)	(190,729)	(130,309)	(20,548)	(9,858)	(113,823)	(17,933)	(98,430)	-	(3,017,703)
INTEGRATED SYSTEM (A)	(37,009,493)	21,269,509	3,612,320	4,752,801	2,320,211	1,585,202	249,966	119,924	1,384,647	218,147	1,197,396	299,370	-
LESS: CIRCUIT BREAKER (B)		-	(108,470)	(315,053)	(102,245)	-	-	-					(525,768)
	<u>\$ -</u>	<u>\$ 41,912,003</u>	<u>\$ 5,536,070</u>	<u>\$ 5,294,551</u>	<u>\$ 3,059,702</u>	<u>\$ 2,931,699</u>	<u>\$ 483,045</u>	<u>\$ 333,177</u>	<u>\$ 5,293,148</u>	<u>\$ 209,643</u>	<u>\$ 1,571,533</u>	<u>\$ 318,488</u>	<u>\$ 62,943,059</u>

(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

	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
OLD METHOD- PLANT FLOW	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 299,370	\$ 299,370
NEW METHOD- PLANT FLOW / LAND	21,269,509	3,612,320	4,752,801	2,320,211	1,585,202	249,966	119,924	1,384,647	218,147	1,197,396	-	36,710,123
	<u>\$ 21,269,509</u>	<u>\$ 3,612,320</u>	<u>\$ 4,752,801</u>	<u>\$ 2,320,211</u>	<u>\$ 1,585,202</u>	<u>\$ 249,966</u>	<u>\$ 119,924</u>	<u>\$ 1,384,647</u>	<u>\$ 218,147</u>	<u>\$ 1,197,396</u>	<u>\$ 299,370</u>	<u>\$ 37,009,493</u>

(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
SEWER RATE STUDY
SEWAGE DISPOSAL SYSTEM FUND
TASK NO. 25A**

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

	<u>YEAR ENDED</u> <u>6/30/21</u>	<u>PRO FORMA *</u> <u>6/30/22</u>
REVENUES:		
RETAIL/WHOLESALE SEWAGE SERVICE	\$ 56,579,103	\$ 60,981,803
CONNECTION FEES/FRONT FOOT FEES	428,783	400,000
SEWAGE SURCHARGES	2,741,451	2,131,500
RENEWABLE NATURAL GAS SALES	-	600,000
OTHER OPERATING REVENUES	919,779	704,500
INTEREST ON INVESTMENTS	769,582	596,519
MISCELLANEOUS	45,710	25,000
TOTAL REVENUES	<u>\$ 61,484,407</u>	<u>\$ 65,439,322</u>
OPERATING EXPENSES:		
OPERATIONS & MAINTENANCE	\$ 29,923,871	\$ 34,277,563
DEPRECIATION	18,882,231	18,882,231
TOTAL EXPENSES	<u>\$ 48,806,102</u>	<u>\$ 53,159,794</u>
ADDITIONS: DEPRECIATION	<u>18,882,231</u>	<u>18,882,231</u>
NET EARNINGS OF THE SYSTEM	<u>\$ 31,560,536</u>	<u>\$ 31,161,759</u>
DEBT SERVICE		
SERIES 2021 BONDS	\$ -	\$ 2,632,356
SERIES 2020 BONDS	1,642,448	1,815,700
SERIES 2018 BONDS	2,763,000	2,762,750
SERIES 2016 BONDS	3,885,000	3,884,250
SERIES 2014 BONDS	3,464,750	5,461,250
SERIES 2013 BONDS	2,036,600	810,700
SERIES 2012 BONDS	2,162,050	537,400
SERIES 2010A&B BONDS (after BAB subsidy)	954,082	957,637
SERIES 2010 BONDS	1,481,250	1,481,250
SERIES 1998 BONDS	4,351,650	4,346,600
SENIOR LIEN	22,740,830	24,689,893
JUNIOR LIEN **	466,374	467,999
TOTAL	<u>\$ 23,207,204</u>	<u>\$ 25,157,892</u>
COVERAGE RATIO - SENIOR DEBT	<u>1.39</u>	<u>1.26</u>
COVERAGE RATIO - ALL DEBT	<u>1.36</u>	<u>1.24</u>

* SEWAGE SERVICE ADJUSTED FOR RATE REVISIONS OF 7.92% AND 4.00% EFFECTIVE 1/1/21 AND 1/1/22, RESPECTIVELY; OTHER REVENUES AND OPERATIONS & MAINTENANCE EXPENSE PER 2021 FISCAL PLAN, ADJUSTED FOR CARRYFORWARDS & KNOWN COST ADJUSTMENTS.

** 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		\$ 63,468,827
REVENUES FROM CURRENT RATES		
REU CHARGE	\$ 320,323	
MONTHLY METER CHARGE	18,056,444	
MONTHLY BILLING CHARGE	3,662,180	
COMMODITY CHARGE	<u>38,484,367</u>	<u>(60,523,314)</u>
INITIAL REQUIRED REVENUE INCREASE (DECREASE)		<u>\$ 2,945,513</u>
INITIAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>4.87%</u>
INITIAL SYSTEM REVENUE REQUIREMENTS FROM ABOVE		\$ 63,468,827
LESS: AMOUNT OF CIRCUIT BREAKER RELIEF TO REDUCE RR's TO RETAIL		(525,768)
SYSTEM REVENUE REQUIREMENTS		<u>\$ 62,943,059</u>
ACTUAL REQUIRED AMOUNT OF REVENUE INCREASE (DECREASE)		<u>\$ 2,419,745</u>
ACTUAL PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>4.00%</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	54,320	54,320	5,224	5,224	3,861	3,861	1,554	1,554	3,539	3,539	274	274		-
B 1"	1.7778	2,307	4,101	360	640	501	891	259	460	245	436	16	28	-	-
C 1 1/4"	2.7778	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D 1 1/2"	4.0000	1,005	4,020	173	692	336	1,344	163	652	98	392	10	40	-	-
E 2"	7.1111	661	4,700	85	604	184	1,308	62	441	26	185	3	21	-	-
F 3"	16.0000	107	1,712	6	96	20	320	9	144	8	128	2	32	-	-
G 4"	28.4444	79	2,247	9	256	18	512	3	85	2	57	-	-	-	-
H 6" and over	64.0000	35	2,240	6	384	4	256	1	64	6	384	2	128	-	-
<i>Other- Wright Twp</i>		<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	231	422.500
		58,514	73,340	5,863	7,896	4,924	8,492	2,051	3,400	3,924	5,121	307	523	231	422.500
TOTAL															<u>75,814</u>

Source: City of Grand Rapids, Michigan, Water/Sewer Customer Accounts/Meters Report, dated November 1, 2021.

CITY OF GRAND RAPIDS, MICHIGAN

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

SYSTEM REVENUE REQUIREMENTS \$ 41,912,003

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

73,340 meter equivalents x \$ 13.19 x 12 = \$ 11,608,255

MONTHLY BILLING CHARGE

58,514 meters x \$ 3.43 x 12 = 2,408,436

COMMODITY CHARGE

6,456,047 units (100 CF) x \$ 4.16 = 26,857,156 (40,873,847)

REQUIRED REVENUE INCREASE (DECREASE) \$ 1,038,156

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 2.54%

CITY OF GRAND RAPIDS, MICHIGAN

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

COMMODITY CHARGE:

$$\frac{\text{INTEGRATED SYSTEM COST}}{\text{BILLED UNITS}} = \frac{\$28,309,877}{6,456,047} = \underline{\underline{\$ 4.39 /100 CF *}}$$

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS \$ 41,912,003

NEW COMMODITY CHARGE
6,456,047 x \$ 4.39 \$ 28,342,046

NEW MONTHLY BILLING CHARGE
58,514 x \$ 3.61 x 12 2,534,826 (30,876,872)

\$ 11,035,131

$$\text{MONTHLY METER CHARGE} = \frac{\$11,035,131}{73,340 \times 12} = \underline{\underline{\$ 12.54 \text{ MONTHLY}}}$$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 12.54	\$ 3.61	\$ 16.15	\$ 16.62
1"	1.7778	22.29	3.61	25.90	26.88
1 1/4"	2.7778	34.83	3.61	38.44	40.07
1 1/2"	4.0000	50.16	3.61	53.77	56.19
2"	7.1111	89.17	3.61	92.78	97.23
3"	16.0000	200.64	3.61	204.25	214.47
4"	28.4444	356.69	3.61	360.30	378.61
6" and over	64.0000	802.56	3.61	806.17	847.59

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2022

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

SYSTEM REVENUE REQUIREMENTS * \$ 5,536,070

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

7,896 meter equivalents x \$ 28.06 x 12 = \$ 2,658,741

MONTHLY BILLING CHARGE

5,863 meters x \$ 3.43 x 12 = 241,321

COMMODITY CHARGE

819,289 units (100 CF) x \$ 2.83 = 2,318,588 (5,218,650)

REQUIRED REVENUE INCREASE (DECREASE) \$ 317,420

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 6.08%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 108,470

CITY OF WALKER, MICHIGAN

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 3.00 /100 CF *
 \$ 2.83 x 106.08%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **	\$ 5,536,070
NEW COMMODITY CHARGE 819,289 x \$ 3.00	\$ 2,457,867
NEW MONTHLY BILLING CHARGE 5,863 x \$ 3.61 x 12	<u>253,985</u> <u>(2,711,852)</u>
	<u><u>\$ 2,824,218</u></u>

MONTHLY METER CHARGE = $\frac{\$2,824,218}{7,896 \times 12} = \underline{\underline{\$ 29.81 \text{ MONTHLY}}}$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 29.81	\$ 3.61	\$ 33.42	\$ 31.49
1"	1.7778	53.00	3.61	56.61	53.32
1 1/4"	2.7778	82.81	3.61	86.42	81.38
1 1/2"	4.0000	119.24	3.61	122.85	115.67
2"	7.1111	211.98	3.61	215.59	202.97
3"	16.0000	476.96	3.61	480.57	452.39
4"	28.4444	847.93	3.61	851.54	801.58
6" and over	64.0000	1,907.84	3.61	1,911.45	1,799.27

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2022

** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 108,470

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

SYSTEM REVENUE REQUIREMENTS *		\$	5,294,551
REVENUES FROM CURRENT RATES			
MONTHLY METER CHARGE			
8,492 meter equivalents	x	\$ 5.31	x 12 = \$ 541,110
MONTHLY BILLING CHARGE			
4,924 meters	x	\$ 3.43	x 12 = 202,672
COMMODITY CHARGE			
1,353,987 units (100 CF)	x	\$ 3.05	= <u>4,129,660</u>
			<u>(4,873,442)</u>
REQUIRED REVENUE INCREASE (DECREASE)		\$	<u>421,109</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>8.64%</u>
* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF		\$	315,053

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

SYSTEM REVENUE REQUIREMENTS * \$ 3,059,702

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

3,400 meter equivalents x \$ 33.74 x 12 = \$ 1,376,592

MONTHLY BILLING CHARGE

2,051 meters x \$ 3.43 x 12 = 84,419

COMMODITY CHARGE

455,939 units (100 CF) x \$ 3.07 = 1,399,733 (2,860,744)

REQUIRED REVENUE INCREASE (DECREASE) \$ 198,958

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 6.95%

* REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 102,245

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 3.28 /100 CF *
 \$ 3.07 x 106.95%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS **		\$ 3,059,702
NEW COMMODITY CHARGE		
455,939 x \$ 3.28		\$ 1,495,480
NEW MONTHLY BILLING CHARGE		
2,051 x \$ 3.61 x 12	88,849	(1,584,329)
		<u>\$ 1,475,373</u>

MONTHLY METER CHARGE = $\frac{\$1,475,373}{3,400 \times 12}$ = \$ 36.16 MONTHLY

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 36.16	\$ 3.61	\$ 39.77	\$ 37.17
1"	1.7778	64.29	3.61	67.90	63.41
1 1/4"	2.7778	100.45	3.61	104.06	97.15
1 1/2"	4.0000	144.64	3.61	148.25	138.39
2"	7.1111	257.14	3.61	260.75	243.36
3"	16.0000	578.56	3.61	582.17	543.27
4"	28.4444	1,028.55	3.61	1,032.16	963.14
6" and over	64.0000	2,314.24	3.61	2,317.85	2,162.79

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2022

** REFLECTS RELIEF FROM CIRCUIT BREAKER, IN THE AMOUNT OF \$ 102,245

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

SYSTEM REVENUE REQUIREMENTS \$ 2,931,699

REVENUES FROM CURRENT RATES

MONTHLY METER CHARGE

5,121 meter equivalents x \$ 27.98 x 12 = \$ 1,719,427

MONTHLY BILLING CHARGE

3,924 meters x \$ 3.43 x 12 = 161,512

COMMODITY CHARGE

381,595 units (100 CF) x \$ 2.67 = 1,018,859 (2,899,798)

REQUIRED REVENUE INCREASE (DECREASE) \$ 31,901

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 1.10%

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

SYSTEM REVENUE REQUIREMENTS		\$	483,045
REVENUES FROM CURRENT RATES			
MONTHLY METER CHARGE			
523 meter equivalents	x	\$ 24.27	x 12 = \$ 152,319
MONTHLY BILLING CHARGE			
307 meters	x	\$ 3.43	x 12 = 12,636
COMMODITY CHARGE			
35,730 units (100 CF)	x	\$ 8.63	= <u>308,350</u>
			<u>(473,305)</u>
REQUIRED REVENUE INCREASE (DECREASE)		\$	<u>9,740</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES			<u>2.06%</u>

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

COMMODITY CHARGE:

PRESENT CHARGE x RATE ADJUSTMENT \$ 8.81 /100 CF *
 \$ 8.63 x 102.06%

MONTHLY SERVICE CHARGE:

SYSTEM REVENUE REQUIREMENTS		\$ 483,045
NEW COMMODITY CHARGE		
35,730 x \$ 8.81		\$ 314,781
NEW MONTHLY BILLING CHARGE		
307 x \$ 3.61 x 12	13,299	(328,080)
		\$ 154,965

MONTHLY METER CHARGE = $\frac{\$154,965}{523 \times 12} = \underline{\underline{\$ 24.69 \text{ MONTHLY}}}$

METER SIZE	EQUIVALENT	MONTHLY SERVICE CHARGE			PRESENT
		METER	BILLING	TOTAL	
3/4" or less	1.0000	\$ 24.69	\$ 3.61	\$ 28.30	\$ 27.70
1"	1.7778	43.89	3.61	47.50	46.58
1 1/4"	2.7778	68.58	3.61	72.19	70.85
1 1/2"	4.0000	98.76	3.61	102.37	100.51
2"	7.1111	175.57	3.61	179.18	176.02
3"	16.0000	395.04	3.61	398.65	391.75
4"	28.4444	702.29	3.61	705.90	693.78
6" and over	64.0000	1,580.16	3.61	1,583.77	1,556.71

* NEW RATES EFFECTIVE, ON A PRO-RATA BASIS, JANUARY 1, 2022

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

SYSTEM REVENUE REQUIREMENTS \$ 333,177

REVENUES FROM CURRENT RATES

REU CHARGE

422.500 meter equivalents x \$ 63.18 x 12 = \$ 320,323

MONTHLY METER CHARGE

422.500 meter equivalents x \$ - x 12 = -

MONTHLY BILLING CHARGE

231 meters x \$ - x 12 = -

COMMODITY CHARGE

23,120 units (100 CF) x \$ - = - (320,323)

REQUIRED REVENUE INCREASE (DECREASE) \$ 12,854

PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES 4.01%

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

MONTHLY REU CHARGE:

$$\frac{\text{SYSTEM REVENUE REQUIREMENTS}}{\text{TOTAL REU'S * 12 MONTHS}} = \frac{\$333,177}{422.500 \times 12} = \$ \underline{\underline{65.72}} \quad \text{MONTHLY REU CHARGE *}$$

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	\$ 65.72	7.5000	\$ 492.90	19.0000	\$ 1,248.68
1.5000	98.58	8.0000	525.76	20.0000	1,314.40
2.0000	131.44	8.5000	558.62	25.0000	1,643.00
2.5000	164.30	9.0000	591.48	30.0000	1,971.60
3.0000	197.16	9.5000	624.34	35.0000	2,300.20
3.5000	230.02	10.0000	657.20	40.0000	2,628.80
4.0000	262.88	11.0000	722.92	50.0000	3,286.00
4.4000	289.17	12.0000	788.64	60.0000	3,943.20
4.5000	295.74	13.0000	854.36	70.0000	4,600.40
5.0000	328.60	14.0000	920.08	80.0000	5,257.60
5.5000	361.46	15.0000	985.80	90.0000	5,914.80
6.0000	394.32	16.0000	1,051.52	100.0000	6,572.00
6.5000	427.18	17.0000	1,117.24	150.0000	9,858.00
7.0000	460.04	18.0000	1,182.96	200.0000	13,144.00

*NEW RATES EFFECTIVE ON JANUARY 1, 2022

CITY OF EAST GRAND RAPIDS, MICHIGAN

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 1,270,824
COMMODITY CHARGE		
439.617 units (MG) x	\$ 2,538.00	1,115,748
		<hr/>
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		<u>\$ 155,076</u>
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 22,324
MONTHLY SERVICE CHARGE		
\$1,918	x 12 MONTHS	23,016
		<hr/>
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		<u>\$ (692)</u>
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		<u>13.56%</u>

CITY OF EAST GRAND RAPIDS, MICHIGAN

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

SYSTEM REVENUE REQUIREMENTS	\$ 1,293,148
NEW COMMODITY CHARGE *	
439.617 x \$ 2,891.00 =	(1,270,933)
	<hr/>
	<u>\$ 22,215</u>

MONTHLY SERVICE CHARGE * = \$ 22,215 / 12 = \$1,851

* NEW RATES EFFECTIVE ON JANUARY 1, 2022

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 200,214
COMMODITY CHARGE		
25.212 units (MG) x	\$ 6,596.00	166,298
		166,298
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 33,916
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 9,429
MONTHLY SERVICE CHARGE		
\$708	x 12 MONTHS	8,496
		8,496
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ 933
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		19.94%

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

SYSTEM REVENUE REQUIREMENTS	\$ 209,643
NEW COMMODITY CHARGE * 25.212 x \$ 7,941.00 =	(200,208)
	<hr/>
	<u>\$ 9,435</u>

MONTHLY SERVICE CHARGE * = \$ 9,435 / 12 = \$786

* NEW RATES EFFECTIVE ON JANUARY 1, 2022

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$ 1,098,966
COMMODITY CHARGE	
283.030 units (MG) x \$ 3,407.00	964,283
	964,283
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)	\$ 134,683
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS	\$ 472,567
MONTHLY SERVICE CHARGE	
\$41,740 x 12 MONTHS	500,880
	500,880
REQUIRED SERVICE REVENUE INCREASE (DECREASE)	\$ (28,313)
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES	7.26%

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

SYSTEM REVENUE REQUIREMENTS	\$ 1,571,533
NEW COMMODITY CHARGE *	
283.030 x \$ 3,883.00 =	(1,099,005)
	<hr/>
	<u>\$ 472,528</u>

MONTHLY SERVICE CHARGE * = \$472,528 / 12 = \$39,377

* NEW RATES EFFECTIVE ON JANUARY 1, 2022

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

INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 299,370
COMMODITY CHARGE		
103.780 units (MG) x	\$ 1,982.00	205,692
		205,692
REQUIRED COMMODITY REVENUE INCREASE (DECREASE)		\$ 93,678
NON-INTEGRATED SYSTEM REVENUE REQUIREMENTS		\$ 19,118
MONTHLY SERVICE CHARGE		
\$1,566	x 12 MONTHS	18,792
		18,792
REQUIRED SERVICE REVENUE INCREASE (DECREASE)		\$ 326
PERCENTAGE INCREASE (DECREASE) OVER EXISTING RATES		41.88%

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

SYSTEM REVENUE REQUIREMENTS	\$ 318,488
NEW COMMODITY CHARGE *	
103.780 x \$ 2,885.00 =	(299,405)
	<hr/>
	<u>\$ 19,083</u>

MONTHLY SERVICE CHARGE * = \$ 19,083 / 12 = \$1,590

* NEW RATES EFFECTIVE ON JANUARY 1, 2022

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

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

Sewer User Type	Definition	2021 Rate	2022 Rate	% Change
Domestic	Property is domicile for single or multiple family use, such as homes, apartments, duplexes, condominium, etc.	\$ 108.00	\$ 110.00	1.85%
Commercial - Industrial	Property used to offer services and / or products, such as retail/wholesale stores, gas stations, restaurants, hotels, schools, churches, etc., and manufacturing or processing facilities (industrial).	\$ 138.00	\$ 165.00	19.57%

The above 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 1, 2020 through June 30, 2021. 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 recent costs for a six inch (6”) sanitary sewer lateral and recommends the following sanitary sewer lateral charges:

R.O.W. Width	Year	Lateral Charge	% Change
50 feet	2021	\$3,050	11.48%
	2022	\$3,400	
60 feet	2021	\$3,600	11.11%
	2022	\$4,000	
66 feet	2021	\$3,950	11.39%
	2022	\$4,400	
80 feet	2021	\$4,700	10.64%
	2022	\$5,200	
100 feet	2021	\$5,800	10.34%
	2022	\$6,400	

MEMORANDUM

CITY OF GRAND RAPIDS

Date: October 26, 2021

To: Jenessa Carter
Utility Financial Officer

From: William R. Kaiser
Acting Assistant Environmental Service Manager

Subject: **Sewer Rate Study – Task #30 - Surcharges**

The Water Resource Recovery Facility (WRRF) 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 Water Resource Recovery Facility 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.

The WRRF also accepts domestic septage portable toilet waste and concentrated waste on site. The following fees covers costs associated with permit administration, receiving facility operation and maintenance, analytical testing, treatment and disposal of the waste.

Septage Portable Toilet Waste

- \$500 annual discharge authorization permit fee.
- \$100 per 1,000 gallons discharged.

Concentrated Waste

- \$1,000 annual discharge authorization permit fee for Permitted Significant Industrial Users within the service area.
- \$2,000 annual discharge authorization permit fee for customers outside the service area.
- \$1,000 each for waste stream characterization and compatibility evaluation.
- \$45 per 1,000 gallons discharged for customers within the service area.
- \$60 per 1,000 gallons discharged for customers outside the service area.

Pumped or Hauled Municipal EQ Biosolids

- \$1,500 annual discharge authorization permit fee
- \$1,000 each for Biosolids characterization and compatibility evaluation.
- \$80 per dry ton discharged for customers within the service area.
- \$100 per dry ton discharged for customers outside the service area.

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 2021	Volume	Wastewater Surcharges				Industrial	Other
			BOD	TSS	Phos	NH3		
Operation & Maintenance (See Part 2)	\$ 35,522,654	\$ 6,468,153	\$ 6,002,923	\$ 7,362,797	\$ 1,487,776	\$ 730,048	\$ 863,221	\$ 12,607,736
Depreciation (See Part 3)	11,276,357	1,943,044	1,803,333	2,211,869	446,958	219,339	-	4,651,814
Return on System Investment (See Part 3)	12,683,413	1,507,131	1,398,763	1,715,646	346,685	170,131	-	7,545,057
Total	\$ 59,482,424	\$ 9,918,328	\$ 9,205,019	\$ 11,290,312	\$ 2,281,419	\$ 1,119,518	\$ 863,221	\$ 24,804,607
Recommended Surcharge Rate - 2022			\$ 0.411	\$ 0.622	\$ 4.257	\$ 0.446		
Actual Surcharge Rate - 2021			\$ 0.362	\$ 0.569	\$ 3.488	\$ 0.356		
Change in Surcharge Rate - Amount- 2021 to 2022			\$ 0.049	\$ 0.053	\$ 0.769	\$ 0.090		
Change in Surcharge Rate - Percent- 2021 to 2022			13.54%	9.31%	22.05%	25.28%		
Loadings - lb/day (Per W.R.Kaiser) *			61,317	49,719	1,468	6,877		
Loadings - lb/year			22,380,705	18,147,435	535,942	2,510,105		

* 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		See Task 30 - Part 4		Component Allocation (3)						
	Base Year- 2021	Calendar Year- 2022	Allocation Basis	Line No. Ref.	Volume	Wastewater Surcharges				Industrial	Other
	Allocation (1)	Allocation (2)				BOD	TSS	Phos	NH3		
Wastewater Treatment Plant											
Pre-Treatment	\$ 1,754,471	\$ 2,136,407	WWTP	(1)	\$ 2,136,407	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Primary Treatment	2,649,066	3,225,749	WWTP	(2)	-	967,725	1,935,449	-	322,575	-	-
Secondary Treatment	3,623,035	4,411,744	WWTP	(3)	1,102,935	1,764,698	661,762	661,762	220,587	-	-
Disinfection/Dechlorination	1,359,338	1,655,256	WWTP	(4)	1,655,256	-	-	-	-	-	-
Phosphorus Removal	1,049,735	1,278,255	WWTP	(5)	639,127	-	-	639,128	-	-	-
Residue Handling/Disposal	7,673,763	9,344,286	WWTP	(6)	934,428	3,270,500	4,765,586	186,886	186,886	-	-
	<u>\$ 18,109,408</u>	<u>\$ 22,051,697</u>			<u>\$ 6,468,153</u>	<u>\$ 6,002,923</u>	<u>\$ 7,362,797</u>	<u>\$ 1,487,776</u>	<u>\$ 730,048</u>	<u>\$ -</u>	<u>\$ -</u>
Lift Stations											
Interceptor		253,257	Collection	(11)	-	-	-	-	-	-	253,257
Trunk		173,336	Collection	(11)	-	-	-	-	-	-	173,336
Local Collector		534,526	Collection	(11)	-	-	-	-	-	-	534,526
Sewer Lines											
Interceptor		264,831	Collection	(11)	-	-	-	-	-	-	264,831
Trunk		609,575	Collection	(11)	-	-	-	-	-	-	609,575
Local Collector		4,277,948	Collection	(11)	0	-	-	-	-	-	4,277,948
Bulk Meter Stations		8,455	Collection	(7)	-	-	-	-	-	-	8,455
Customer Accounting		3,286,552	Admin	(8)	(0)	-	-	-	-	-	3,286,552
Industrial Pretreatment		863,221	Industry	(9)	-	-	-	-	-	863,221	-
Subtotal		\$ 32,323,398			\$ 6,468,153	\$ 6,002,923	\$ 7,362,797	\$ 1,487,776	\$ 730,048	\$ 863,221	\$ 9,408,480
Admin		3,199,256	Admin	(10)	(0)	-	-	-	-	-	3,199,256
Total		<u>\$ 35,522,654</u>			<u>\$ 6,468,153</u>	<u>\$ 6,002,923</u>	<u>\$ 7,362,797</u>	<u>\$ 1,487,776</u>	<u>\$ 730,048</u>	<u>\$ 863,221</u>	<u>\$ 12,607,736</u>
WWTP Allocation Factors		100.000%			29.331%	27.222%	33.389%	6.747%	3.311%	0.000%	0.000%

(1) Per W.R. Kaiser 10/15/21

(2) Primary Allocation of Current Year for Calendar 2021, based on 2020 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

<i>Description</i>	<i>Amount</i>	<i>Volume</i>	Wastewater Surcharges				<i>Industrial</i>	<i>Other</i>
			BOD	TSS	Phos	NH3		
<i>Integrated System (1)</i>	\$ 6,624,543	\$ 1,943,044	\$ 1,803,333	\$ 2,211,869	\$ 446,958	\$ 219,339	\$ -	\$ -
<i>Other</i>	4,651,814	-	-	-	-	-	-	4,651,814
<i>Total</i>	<u>\$ 11,276,357</u>	<u>\$ 1,943,044</u>	<u>\$ 1,803,333</u>	<u>\$ 2,211,869</u>	<u>\$ 446,958</u>	<u>\$ 219,339</u>	<u>\$ -</u>	<u>\$ 4,651,814</u>

Return on System Investment- Task 21

<i>Description</i>	<i>Amount</i>	<i>Volume</i>	Wastewater Surcharges				<i>Industrial</i>	<i>Other</i>
			BOD	TSS	Phos	NH3		
<i>Integrated System (1)</i>	\$ 5,138,356	\$ 1,507,131	\$ 1,398,763	\$ 1,715,646	\$ 346,685	\$ 170,131	\$ -	\$ -
<i>Other</i>	7,545,057	-	-	-	-	-	-	7,545,057
<i>Total</i>	<u>\$ 12,683,413</u>	<u>\$ 1,507,131</u>	<u>\$ 1,398,763</u>	<u>\$ 1,715,646</u>	<u>\$ 346,685</u>	<u>\$ 170,131</u>	<u>\$ -</u>	<u>\$ 7,545,057</u>

(1) Allocated on WWTP Allocation Factors * **29.3310%** **27.2220%** **33.3890%** **6.7470%** **3.3110%**

*** 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				Industrial %	Other %
					BOD %	TSS %	Phos %	NH3 %		
(1)	Pre-Treatment (a)	100.000%	WWTP	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(2)	Primary Treatment (a)	100.000%	WWTP	0.000%	30.000%	60.000%	0.000%	10.000%	0.000%	0.000%
(3)	Secondary Treatment (a)	100.000%	WWTP	25.000%	40.000%	15.000%	15.000%	5.000%	0.000%	0.000%
(4)	Disinfection/Dechlorination (a)	100.000%	WWTP	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(5)	Phosphorus Removal (a)	100.000%	WWTP	50.000%	0.000%	0.000%	50.000%	0.000%	0.000%	0.000%
(6)	Residue Handling/Disposal (a)	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%	0.000%	100.000%	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%

S-05

(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 2021 RS 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)	\$ 6,002,923	\$ 1,487,776	\$ 730,048	\$ 96,047	\$ 23,804	\$ 11,681
Disinfection/Dechlorination (1)(3)	\$ 1,076,194	\$ 10,712	\$ 568,350	\$ 17,219	\$ 171	\$ 9,094
<i>Total</i>	<u>\$ 7,079,117</u>	<u>\$ 1,498,488</u>	<u>\$ 1,298,398</u>	<u>\$ 113,266</u>	<u>\$ 23,976</u>	<u>\$ 20,774</u>
Proposed Concentrated Waste Adjustment				<u>\$ 0.057</u>	<u>\$ 1.216</u>	<u>\$ 0.020</u>
Recommended Surcharge Rate - 2022				<u>\$ 0.411</u>	<u>\$ 4.257</u>	<u>\$ 0.446</u>
Surcharge with Adjustment				<u>\$ 0.354</u>	<u>\$ 3.041</u>	<u>\$ 0.426</u>

Concentrated Waste Loadings - lb/day	5,425	54	2,865
Concentrated Waste Loadings - lb/year	1,980,125	19,710	1,045,725

- (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, 2020 allocation for WWTP. This is allocated based on the Surcharge Adjustment Factor - see footnote 1.

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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

FY FY22

Permit Fee: \$ 400.00

IPP Costs:

Labor: \$ 69.79 per hour
Vehicle: \$ 3.83 per hour
Sampler: \$ 50.00 per day

IPP Accounting:

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

Laboratory Costs:

metals			
1 metal	\$	10.00	ea.
2 metals	\$	13.50	total
3 metals	\$	17.00	total
4 metals	\$	20.50	total
5 metals	\$	24.00	total
6 metals	\$	27.50	total
7 metals	\$	31.00	total
8 metals	\$	34.50	total
9 metals	\$	38.00	total
10 metals	\$	41.50	total
11 metals	\$	45.00	total
12 metals	\$	48.50	total
13 metals	\$	52.00	total
14 metals	\$	55.50	total
TSS	\$	10.00	ea.
BOD	\$	20.00	ea.
BOD 7	\$	20.00	ea.
COD	\$	15.00	ea.
Total Phosphorus	\$	10.00	ea.
pH	\$	5.00	ea.
EPA 624.1	\$	45.00	ea.
EPA 625.1	\$	100.00	ea.
BTEX/MTBE	\$	45.00	ea.
Sulfide	\$	20.00	ea.
Oil & Grease	\$	20.00	ea.
Total cyanide	\$	20.00	ea.
Hexavalent chromium	\$	25.00	ea.
Fecal coliform	\$	17.50	ea.
Ammonia nitrogen	\$	15.00	ea.
Mercury (EPA 245.1 or 245.2)	\$	18.00	ea.
Pesticides and PCBs EPA 608	\$	120.00	ea.

PCBs	\$	60.00	ea.
Phenols, Total	\$	20.00	ea.
PFAS EPA 537 Modified (sample, duplicate and blank are separate samples)	\$	245.00	ea.
PFAS by LCMSMS (sample, duplicate and blank are separate samples)	\$	285.00	ea.
EPA 1666 Volatile organics in pharmaceuticals	\$	45.00	ea.
EPA 524.2 Purgeable Organics	\$	45.00	ea.
Methyl Blue Active substances (MBAS)	\$	60.00	ea.
Color	\$	15.00	ea.

Explanation of Costs:

Labor: Labor is the hourly pay rate of an Industrial Pretreatment Program Inspector (classification 21A @ "F" step = to \$34.8984 x 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 provided to the Grand Rapids Water Resource Recovery Facility

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

Permit No: Example 4

Company: Surcharge

Facility Address:
City, State, Zip

Permit Fee: \$ 400.00
Analytical Fee: \$ 414.48
Amount Due: \$ 814.48

Composite Samples:

IPP Requirements: man hours = 0.0 x \$ 69.79 = \$ -
sampler days = 0.0 x \$ 50.00 = \$ -
vehicle hours = 0.0 x \$ 3.83 = \$ -

Total IPP Composite Costs: \$ -

Laboratory Analysis:
(each composite)

Metals \$ 27.50 = \$ 27.50
TSS x \$ 10.00 = \$ -
BOD x \$ 20.00 = \$ -
Total phosphorus x \$ 10.00 = \$ -
Ammonia nitrogen x \$ 15.00 = \$ -
EPA 625.1 x \$ 100.00 = \$ -
Sulfide x \$ 20.00 = \$ -
other x = \$ -

total per composite: \$ 27.50

Total Laboratory Composite Costs: \$ -

Total Composite Sample Costs: \$ -

Grab Samples: 4

IPP Requirements: man hours = 4.0 x \$ 69.79 = \$ 279.16
vehicle hours = 4.0 x \$ 3.83 = \$ 15.32

Total IPP Grab Costs: \$ 294.48

Laboratory Analysis:
(each grab)

Metals \$ - = \$ -
pH 1 x \$ 10.00 = \$ 10.00
EPA 624.1 x \$ 5.00 = \$ -
EPA 625.1 x \$ 45.00 = \$ -
BTEX/MTBE x \$ 100.00 = \$ -
Sulfide x \$ 45.00 = \$ -
Oil & grease 1 x \$ 20.00 = \$ 20.00
Total cyanide x \$ 20.00 = \$ -
Hex chrome x \$ 20.00 = \$ -
other x = \$ -

total per grab: \$ 30.00

Total Laboratory Grab Costs: \$ 120.00

Total Grab Sample Costs: \$ 414.48

Total Analytical Permit Costs: \$ 414.48

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 28, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Arden Postma, P.E.
Hydraulic Engineer

**SUBJECT: 2021 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>2020 Rate</u>	<u>2021 Rate</u>	<u>2022 Rate</u>	<u>2021 to 2022 % Change</u>
8"-10"	\$4.37/ft	\$4.77/ft	\$3.44/ft	-27.88%
8"-12"	\$9.12/ft	\$9.98/ft	\$10.71/ft	7.31%
8"-15"	\$17.55/ft	\$18.95/ft	\$20.52/ft	8.28%
10"-12"	\$4.75/ft	\$5.21/ft	\$7.27/ft	39.54%
10"-15"	\$13.18/ft	\$14.18/ft	\$17.08/ft	20.45%
12"-15"	\$8.43/ft	\$8.97/ft	\$9.81/ft	9.36%

These rates have been determined in accordance with the Sewer Disposal System Rules and Regulations, and are approved for use from January 1, 2022, through December 31, 2022.

Due to the volatility in the economic marketplace and interruptions in the supply chain due to Covid-19, material prices have risen sharply this year. As a result of the price increases, we are seeing large variations in the Oversizing Rates.

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: Mike Grenier
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 June 30, 2021:

UAB Partners	Sq. Miles of USD by CC	Percent
Grand Rapids	45.36	37.157%
Walker	20.94	17.153%
Kentwood	14.37	11.771%
Cascade	16.81	13.767%
Grand Rapids Township	8.14	6.664%
Tallmadge Township	2.45	2.007%
Wright Township	0.89	0.729%
East Grand Rapids	3.37	2.760%
Ada	7.26	5.944%
Caledonia Township	2.50	2.048%
Total	122.08	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)	\$ 75,110	12.50%
City & Customer Community Circuit Breaker (CCCCB)	525,768	87.50%
Total	<u>\$ 600,878</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	\$ 525,768	100.00%
Less: Amount Applied in Current Rate Study	<u>(525,768)</u>	<u>-100.00%</u>
Total CCCCCB Revenue Credit- Next Year's Rate Study	<u>\$ (0)</u>	<u>0.00%</u>

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: October 26, 2021

TO: Jenessa Carter
Utility Financial Officer

FROM: Charles Schroeder, P.E.
Assistant Environmental Services Manager

SUBJECT: 2021 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 is recommended to be \$77.92 / month which is the actual cost to the system for the additional flow.

CRS

**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	75,814	Total retail customers ²
Grand Rapids Retail Customers	<u>58,511</u>	Total retail customers in Grand Rapids ²
Annual Cost	\$1.98 /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	\$475 /MG	Unit conveyance cost ³
Treatment	<u>\$1,720</u> /MG	Unit treatment cost ³
Conveyance & Treatment	\$2,195 /MG	
Annual Cost	\$143.98 /yr/cust.	Annual cost for a connected FD

3. Actual MDNRE penalties for SSO's

Penalties for SSO

Grand Rapids Customers	58,511	
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>58,511</u>	Customers in Grand Rapids
Cost Per single Family Home	\$782.23 \$/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	1.5	Citywide engineering investigation
Staffing	2.0	Total staffing
Rate	<u>\$200,000</u> /year	Average loaded staffing rate ⁴
Total	\$400,000 /year	
Customers	<u>58,511</u>	In Grand Rapids
	\$6.84 \$/yr/cust.	

Annual Cost Summary

1. Avoided Claims	\$1.98	
2. Avoided Treatment	\$143.98	
3. Actual MDNRE Penalties for SSOs	\$0.00	
4. Avoided Future Projects	\$782.23	
5. Administration	<u>\$6.84</u>	
TOTAL	\$935.03 \$/yr/cust.	
	\$77.92 /month/cust.	Monthly fee for not disconnecting

Notes:

- ¹ Sinking fund annual budget
- ² Customer numbers per 2021 Rate Study
- ³ Value for sewer maintenance and WRRF costs from 2021 rate study.
- ⁴ Estimated staff rate with benefits
- ⁵ Total cost per FDD amortized over 20 years with 2.5% interest rate

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

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Public Comment Period Feedback and Responses	D



CITY OF GRAND RAPIDS AGENDA ACTION REQUEST

DATE: November 9, 2021

TO: Mark Washington, City Manager

COMMITTEE: Committee of the Whole
LIAISON: Mark Washington, City Manager

FROM: Jenessa Carter, Utility Financial Officer
Fiscal Services Department

SUBJECT: **2021 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 the City of 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 45th 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 operations and service for calendar year 2022. Water Supply System revenue requirements increased by \$1,868,903 or 4.08% more than revenues generated by existing rates and charges. Sewage Disposal System revenue requirements increased by \$2,419,745 or 4.00% more than revenues generated by existing rates and charges. Comparatively, both identified system increases are less than the current rate of inflation, with annual inflation for the 12 months ending September 2021 at 5.39%.

Both Systems experienced fluctuations in the three-year average of billed volume that made an impact in the rate changes. Billed volume is used in the rate study to forecast the next calendar year's expected revenue. The Water System experienced a 1.32% increase in the three-year average of billed volume, largely due to dry weather conditions throughout fiscal year 2021. This results in a downward pressure on rates for the Water System. The Sewer System experienced a 2.18% reduction in the three-year average of billed volume. This is largely attributed to dry weather conditions and the result of sewer lining projects that have reduced infiltration in the System. The System also experienced further impacts of the COVID-19 pandemic through partial or total closures of commercial

businesses and schools, resulting in a decline in expected usage. With overall consumption down, this causes upward pressure on rates for the Sewer System.

Asset management remains a priority for both Systems. Investments at the Lake Michigan Filtration Plant (LMFP) were a major driver for the Water System rate increase. Furthermore, the Water System is focusing on private lead service line replacements for the City of Grand Rapids residents in accordance with the Environmental Protection Agency (EPA) and The State of Michigan Environment, Great Lakes & Energy Division (EGLE) regulatory requirements. The City of Grand Rapids also had significant investment in watermain replacements.

Additional contract work related to maintenance at the Wastewater Resource Recovery Facility (WRRF) and the rollout of the Biodigester program are significant outlays influencing Sewer rates. Other investments include PFAS testing and analysis, and an EGLE mandated ash lagoon remediation. Continued effects of the COVID-19 pandemic have also caused supply chain issues, which has inflated the costs of chemicals needed for waste processing. While significant assets were put into service this fiscal year related to the renovation of assets at the WRRF and the completion of the Biodigestion and related projects, rate impacts were partially mitigated from the reduction in the return-on-investment (ROI) rate resulting from the Sanitary Sewer System Revenue Refunding Bonds, Series 2021.

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 \$132,399 to support the ICB, the program aimed to assist retail customers requiring assistance in payment of their water/sewer bills. 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 CCCCCB and limit the revenue requirement changes. Total City and Customer Community Circuit Breaker funds used in the 2021 rate study was \$924,001 in relief.

Attached are 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 2021 Water and Sewer Rate Study has been made available to the Utility Advisory Board partners and other customer communities on November 5, 2021. 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 resolution for the 2022 Water and Sewer rates by the City Commission is scheduled for Tuesday, December 14, 2021.

The annual rate study along with explanatory materials will be filed with the City Clerk's Office no later than close of business on November 9, 2021 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. Those wishing to provide feedback may submit comments to the City Clerk's Office or by sending an email to info@grcity.us. 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:

<https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Studies>.

Comments will be reported and considered as part of the FY2023 budget planning process.

Prepared by Jenessa Carter


CORRECT IN FORM
DEPARTMENT OF LAW

**CITY OF GRAND RAPIDS, MICHIGAN
2021 PRELIMINARY WATER/SEWER RATE STUDY
SUMMARY OF REVENUE REQUIREMENT CHANGES
FOR RATES EFFECTIVE JANUARY 1, 2022**

	<u>WATER (1)</u>		<u>SEWER (1)</u>		
	<u>AMOUNT</u>	<u>PERCENT</u>	<u>AMOUNT</u>	<u>PERCENT</u>	
RETAIL COMMUNITIES	GRAND RAPIDS	\$ 1,320,344	4.95%	\$ 1,038,156	2.54%
	WALKER	178,450	4.95%	317,420	6.08%
	KENTWOOD	223,327	4.95%	421,109	8.64%
	CASCADE TWP	96,380	2.74%	198,958	6.95%
	GRAND RAPIDS TWP	(8,935)	-0.35%	31,901	1.10%
	TALLMADGE TWP	5,911	2.71%	9,740	2.06%
	WRIGHT TWP	N/A	N/A	12,854	4.01%
WHOLESALE COMMUNITIES	EAST GRAND RAPIDS	8,972	1.06%	154,384	13.56%
	ADA TWP	7,472	0.54%	106,370	7.26%
	OTTAWA COUNTY	36,982	1.47%	NA	NA
	GAINES TWP	N/A	N/A	94,004	41.88%
	CALEDONIA TWP	N/A	N/A	34,849	19.94%
<hr/>					
SYSTEM	\$ 1,868,903	4.08%	\$ 2,419,745	4.00%	
<hr/>					

(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 CCCC B).

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 REVENUE REQUIREMENT	\$ 47,692,896	4.08%	\$ 62,943,059	4.00%
ADD: CCCC B RELIEF	398,233	0.87%	525,768	0.87%
SYSTEM CHANGE- WITHOUT RELIEF	<u>\$ 48,091,129</u>	<u>4.95%</u>	<u>\$ 63,468,827</u>	<u>4.87%</u>

**CITY OF GRAND RAPIDS, MICHIGAN
2021 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON DOMESTIC USERS
BY CUSTOMER COMMUNITY *
FOR RATES EFFECTIVE JANUARY 1, 2022**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2021</u>	<u>2022</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 95.10	\$ 99.90	\$ 4.80	5.05%
SEWER	133.06	136.25	3.19	2.40%
	<u>\$ 228.16</u>	<u>\$ 236.15</u>	<u>\$ 7.99</u>	3.50%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 94.50	\$ 99.36	\$ 4.86	5.14%
SEWER	151.07	160.26	9.19	6.08%
	<u>\$ 245.57</u>	<u>\$ 259.62</u>	<u>\$ 14.05</u>	5.72%
RATIO TO GR	1.08	1.10		
KENTWOOD				
WATER	\$ 96.27	\$ 101.37	\$ 5.10	5.30%
SEWER	87.22	94.67	7.45	8.54%
	<u>\$ 183.49</u>	<u>\$ 196.04</u>	<u>\$ 12.55</u>	6.84%
RATIO TO GR	0.80	0.83		
CASCADE TWP				
WATER	\$ 135.87	\$ 139.89	\$ 4.02	2.96%
SEWER	172.91	184.91	12.00	6.94%
	<u>\$ 308.78</u>	<u>\$ 324.80</u>	<u>\$ 16.02</u>	5.19%
RATIO TO GR	1.35	1.38		
GRAND RAPIDS TWP				
WATER	\$ 112.05	\$ 111.81	\$ (0.24)	-0.21%
SEWER	147.63	149.34	1.71	1.16%
	<u>\$ 259.68</u>	<u>\$ 261.15</u>	<u>\$ 1.47</u>	0.57%
RATIO TO GR	1.14	1.11		
TALLMADGE TWP				
WATER	\$ 87.60	\$ 90.96	\$ 3.36	3.84%
SEWER	255.70	261.10	5.40	2.11%
	<u>\$ 343.30</u>	<u>\$ 352.06</u>	<u>\$ 8.76</u>	2.55%
RATIO TO GR	1.50	1.49		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE DOMESTIC CUSTOMER
 QUARTERLY CONSUMPTION OF: WATER- 30.00 UNITS OR 22,440 GALLONS
 SEWER - 20.00 UNITS OR 14,960 GALLONS
 NO. OF MONTHS: 3

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

WRIGHT TWP-				
SEWER (No. of REU 1.00)	<u>\$ 189.54</u>	<u>\$ 197.16</u>	<u>\$ 7.62</u>	4.02%

**CITY OF GRAND RAPIDS, MICHIGAN
2021 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON COMMERCIAL USERS
BY CUSTOMER COMMUNITY
FOR RATES EFFECTIVE JANUARY 1, 2022**

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2021</u>	<u>2022</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 442.34	\$ 464.07	\$ 21.73	4.91%
SEWER	837.76	876.68	38.92	4.65%
	<u>\$ 1,280.10</u>	<u>\$ 1,340.75</u>	<u>\$ 60.65</u>	4.74%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 403.00	\$ 423.49	\$ 20.49	5.08%
SEWER	675.02	715.83	40.81	6.05%
	<u>\$ 1,078.02</u>	<u>\$ 1,139.32</u>	<u>\$ 61.30</u>	5.69%
RATIO TO GR	0.84	0.85		
KENTWOOD				
WATER	\$ 388.38	\$ 407.93	\$ 19.55	5.03%
SEWER	593.71	644.60	50.89	8.57%
	<u>\$ 982.09</u>	<u>\$ 1,052.53</u>	<u>\$ 70.44</u>	7.17%
RATIO TO GR	0.77	0.79		
CASCADE TWP				
WATER	\$ 550.36	\$ 565.24	\$ 14.88	2.70%
SEWER	748.97	800.66	51.69	6.90%
	<u>\$ 1,299.33</u>	<u>\$ 1,365.90</u>	<u>\$ 66.57</u>	5.12%
RATIO TO GR	1.02	1.02		
GRAND RAPIDS TWP				
WATER	\$ 465.63	\$ 463.37	\$ (2.26)	-0.49%
SEWER	645.45	652.47	7.02	1.09%
	<u>\$ 1,111.08</u>	<u>\$ 1,115.84</u>	<u>\$ 4.76</u>	0.43%
RATIO TO GR	0.87	0.83		
TALLMADGE TWP				
WATER	\$ 497.35	\$ 512.42	\$ 15.07	3.03%
SEWER	1,710.40	1,745.92	35.52	2.08%
	<u>\$ 2,207.75</u>	<u>\$ 2,258.34</u>	<u>\$ 50.59</u>	2.29%
RATIO TO GR	1.72	1.68		

* THE COMPARISONS ABOVE ARE BASED ON SYSTEM AVERAGE COMMERCIAL CUSTOMER
 QUARTERLY CONSUMPTION OF : WATER- 190.00 UNITS OR 142,120 GALLONS
 SEWER - 182.00 UNITS OR 136,136 GALLONS
 NO. OF MONTHS: 3

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

WRIGHT TWP				
SEWER (No. of REU 1.00)	<u>\$ 189.54</u>	<u>\$ 197.16</u>	<u>\$ 7.62</u>	4.02%

**CITY OF GRAND RAPIDS, MICHIGAN
2021 PRELIMINARY WATER/SEWER RATE STUDY
WATER & SEWER RATES FOR GRAND RAPIDS & RETAIL CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2022**

WATER RATES

	<u>METER CODE</u>	<u>GRAND RAPIDS</u>	<u>WALKER</u>	<u>KENTWOOD</u>	<u>CASCADE</u>	<u>GR. RAPIDS TOWNSHIP</u>	<u>TALLMADGE TOWNSHIP</u>	<u>WRIGHT TOWNSHIP</u>
COMMODITY CHARGE (HCF)		\$ 2.16	\$ 1.87	\$ 1.73	\$ 2.38	\$ 2.00	\$ 2.63	NA
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 11.70	\$ 14.42	\$ 16.49	\$ 22.83	\$ 17.27	\$ 4.02	NA
1"	B	\$ 17.89	\$ 22.73	\$ 26.41	\$ 37.68	\$ 27.79	\$ 4.24	NA
1-1/4"	C	\$ 25.85	\$ 33.41	\$ 39.16	\$ 56.77	\$ 41.32	\$ 4.52	NA
1-1/2"	D	\$ 35.58	\$ 46.46	\$ 54.74	\$ 80.10	\$ 57.86	\$ 4.86	NA
2"	E	\$ 60.34	\$ 79.69	\$ 94.41	\$ 139.49	\$ 99.95	\$ 5.73	NA
3"	F	\$ 131.10	\$ 174.62	\$ 207.74	\$ 309.18	\$ 220.22	\$ 8.22	NA
4"	G	\$ 230.16	\$ 307.53	\$ 366.41	\$ 546.74	\$ 388.59	\$ 11.70	NA
6" & Over	H	\$ 513.18	\$ 687.26	\$ 819.74	\$ 1,225.50	\$ 869.66	\$ 21.66	NA

SEWER RATES

	<u>METER CODE</u>	<u>GRAND RAPIDS</u>	<u>WALKER</u>	<u>KENTWOOD</u>	<u>CASCADE</u>	<u>GR. RAPIDS TOWNSHIP</u>	<u>TALLMADGE TOWNSHIP</u>	<u>WRIGHT TOWNSHIP</u>
COMMODITY CHARGE (HCF)		\$ 4.39	\$ 3.00	\$ 3.31	\$ 3.28	\$ 2.70	\$ 8.81	NA
REU Charge (Monthly) *		NA	NA	NA	NA	NA	NA	\$ 65.72
MONTHLY SERVICE CHARGE BY METER SIZE								
3/4" & Less	A	\$ 16.15	\$ 33.42	\$ 9.49	\$ 39.77	\$ 31.78	\$ 28.30	NA
1"	B	\$ 25.90	\$ 56.61	\$ 14.06	\$ 67.90	\$ 53.69	\$ 47.50	NA
1-1/4"	C	\$ 38.44	\$ 86.42	\$ 19.94	\$ 104.06	\$ 81.86	\$ 72.19	NA
1-1/2"	D	\$ 53.77	\$ 122.85	\$ 27.13	\$ 148.25	\$ 116.29	\$ 102.37	NA
2"	E	\$ 92.78	\$ 215.59	\$ 45.42	\$ 260.75	\$ 203.93	\$ 179.18	NA
3"	F	\$ 204.25	\$ 480.57	\$ 97.69	\$ 582.17	\$ 454.33	\$ 398.65	NA
4"	G	\$ 360.30	\$ 851.54	\$ 170.86	\$ 1,032.16	\$ 804.89	\$ 705.90	NA
6" & Over	H	\$ 806.17	\$ 1,911.45	\$ 379.93	\$ 2,317.85	\$ 1,806.49	\$ 1,583.77	NA

* REU - Residential Equivalent Unit (Wright Township Only)

FIRE PROTECTION RATES- ALL GOVERNMENTAL UNITS

6"	H	\$ 20.77	10"	J	\$ 57.75
8"	I	\$ 36.86	12"	K	\$ 83.11

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

CITY OF GRAND RAPIDS, MICHIGAN
2021 PRELIMINARY WATER/SEWER RATE STUDY
IMPACT OF RATE ADJUSTMENTS ON WHOLESALE CUSTOMER COMMUNITIES
EFFECTIVE JANUARY 1, 2022

	<u>2021</u>	<u>2022</u>	<u>PERCENTAGE CHANGE</u>
EAST GRAND RAPIDS			
WATER - SERVICE (MONTHLY)	\$15,299.00	\$15,106.00	-1.26%
- COMMODITY (100 CF)	\$1.18	\$1.20	1.69%
SEWER - SERVICE (MONTHLY)	\$1,918.00	\$1,851.00	-3.49%
- COMMODITY (MG)	\$2,538.00	\$2,891.00	13.91%
ADA TWP			
WATER - SERVICE	\$48,464.00	\$47,613.00	-1.76%
- COMMODITY	\$1.35	\$1.38	2.22%
SEWER - SERVICE	\$41,740.00	\$39,377.00	-5.66%
- COMMODITY	\$3,407.00	\$3,883.00	13.97%
OTTAWA COUNTY			
WATER - SERVICE	\$416.00	\$172.00	-58.65%
- COMMODITY	\$1.26	\$1.28	1.59%
GAINES TWP			
SEWER - SERVICE	\$1,566.00	\$1,590.00	1.53%
- COMMODITY	\$1,982.00	\$2,885.00	45.56%
CALEDONIA TWP			
SEWER - SERVICE	\$708.00	\$786.00	11.02%
- COMMODITY	\$6,596.00	\$7,941.00	20.39%

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



City of Grand Rapids Water and Sewer Systems

45th Annual Preliminary Rate Study 2021

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Building Blocks of the Revenue Requirement

**Operating and Maintenance
Expense**

**Assets:
Depreciation
& Return on Investment
(ROI)**

**Other Items:
Combined Sewer Overflow
(CSO) &
Payback Agreements**

**Revenue Credits (Other
Operating Revenue)**

**City and Customer
Community Circuit Breaker
(CCCCB) (Penalty Revenue)**

Billed Volume

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Appendix A - Introduction of Preliminary Rates/Initiation of Public Comment Period

15-Year Historical Rate Changes



Rate Study Year	Water Supply System			Sewage Disposal System		
	Revenue Requirements	% change in RR over prev year	% gross rate incr (decr) **	Revenue Requirements	% change in RR over prev year	% gross rate incr (decr) **
2006	\$ 39,629,260	6.16%	0.63%	\$ 38,301,107	5.56%	4.94%
2007	40,270,271	1.62%	4.95%	42,742,825	11.60%	15.73%
2008	42,017,680	4.34%	2.45%	47,092,925	10.18%	14.69%
2009	42,939,752	2.19%	9.89%	51,378,424	9.10%	14.04%
2010	41,200,107	-4.05%	-6.27%	49,673,390	-3.32%	-3.30%
2011	41,802,404	1.46%	5.15%	50,082,541	0.82%	2.89%
2012	39,247,442	-6.11%	-4.41%	48,183,681	-3.79%	-2.46%
2013	38,646,748	-1.53%	-4.30%	48,946,212	1.58%	2.46%
2014	40,055,985	3.65%	2.50%	49,962,043	2.08%	2.81%
2015	40,178,439	0.31%	1.00%	49,868,027	-0.19%	0.30%
2016	41,187,517	2.51%	3.63%	50,400,344	1.07%	0.36%
2017	42,828,972	3.99%	2.45%	52,319,981	3.81%	3.08%
2018	43,868,464	2.43%	2.71%	54,611,300	4.38%	3.28%
2019	45,752,997	4.30%	2.47%	56,969,417	4.32%	3.49%
2020	45,501,943	-0.55%	0.62%	61,242,290	7.50%	7.92%
2021*	47,692,896	4.82%	4.08%	62,943,059	2.78%	4.00%
AVG	42,051,305	1.59%	1.72%	50,919,848	3.59%	4.64%

* Revenue Requirements per the 2021 Preliminary Rate Study.

** The percentage gross rate increase (decrease) differs from the annual percentage change in Revenue Requirements due to differences in usage volumes/customers/application of Circuit Breaker. Annual inflation for the 12 months ending September 2021 was 5.39%



Rate Impact Factors - Water

2021 Water Rate Study Rate Drivers	% Impact
Increases:	
Assets – ROI and Depreciation (LMFP Investments)	3.01%
O&M – Electricity Increases Corrosion Control Study Monroe Reservoir Decommissioning Cost adjustments for Chemical Pricing Increases Private Lead Service Line Replacements (GR) Cayenta Billing System Upgrade	2.44%
Integrated Connection Fees Down	0.07%
Decreases:	
Billed Volume 3-Yr Avg Water Volume Up	(0.70%)
Revenue Credits	(0.44%)
Circuit Breaker Credit (penalty revenue)	(0.30%)
Proposed Rate Increase	4.08%

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Rate Impact Factors - Sewer

2021 Sewer Rate Study Rate Drivers	% Impact
Increases:	
O&M – Known cost adjustments, Contract work Ash Lagoon Remediation – EGLE mandate Biodigester Project Related WRRF Plant Work and Equipment PFAS Testing and Analysis Chemical Pricing Increases	6.83%
Billed Volume 3-Yr Avg Sewer Volume Down	1.19%
Revenue Credits	0.46%
Decreases:	
Assets – ROI and Depreciation (Reduction in ROI)	(1.77%)
CSO Debt Service Requirement (GR Only)	(1.89%)
Connection Fees and Surcharge Revenues	(0.53%)
Circuit Breaker Credit (penalty revenue)	(0.29%)
Proposed Rate Increase	4.00%

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Assets – ROI and Depreciation



Pretreatment Improvements at the LMFP



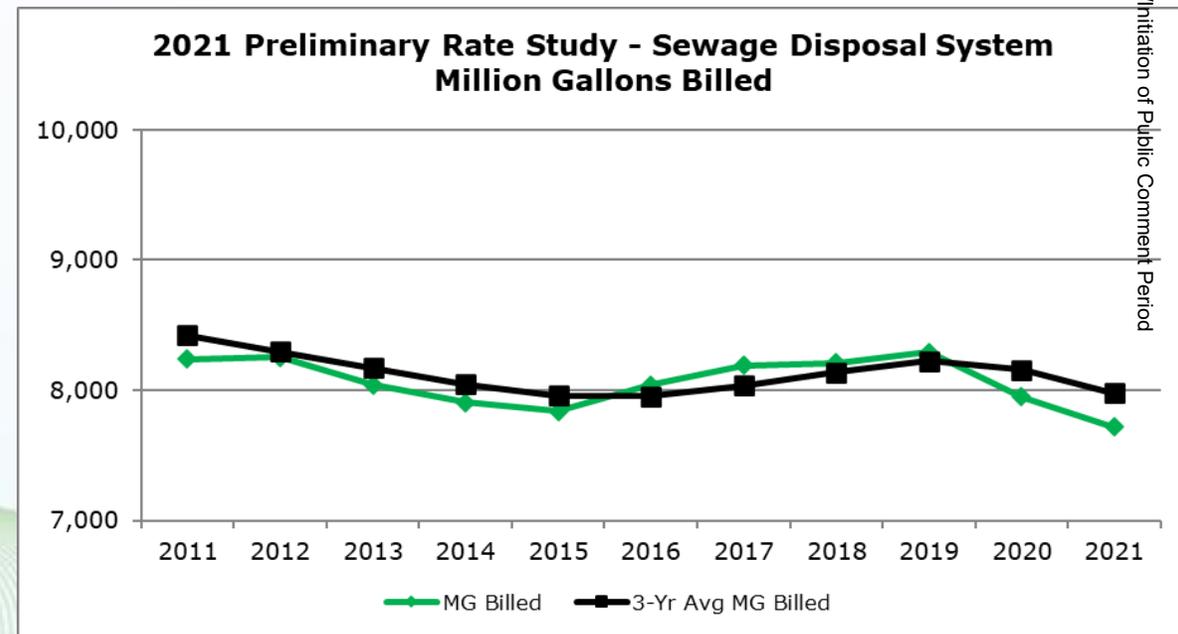
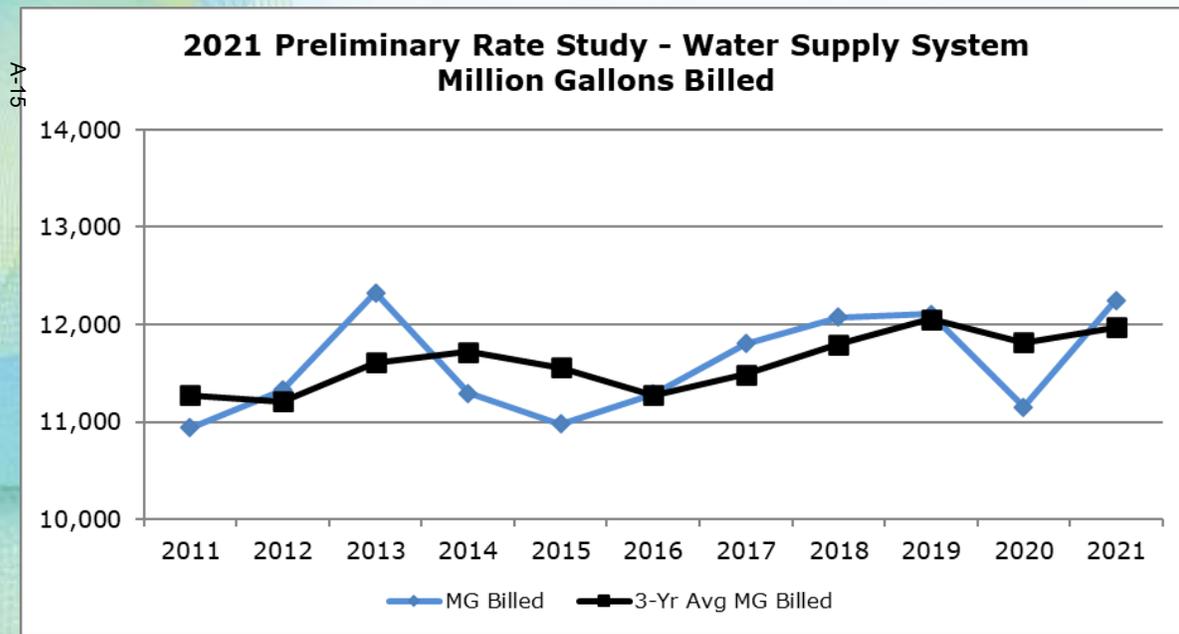
Biodigester and related projects at the WRRF



Billed Volume

- 2021 Water volume up 9.81% over 2020
- 3-Yr Avg Water volume **up** 1.32%

- 2021 Sewer Volume down (2.88%) over 2020
- 3-Yr Avg Sewer Volume **down** (2.18%)





Partner Communities Water Billed Volume FY21

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MUNICIPALITY	FY17		FY18		FY19		FY20		FY21		FY17 - FY21 % CHANGE
	VOL BILLED	VOL BILLED	% CHANGE								
GRAND RAPIDS	6,294,410	6,346,480	0.83%	6,417,706	1.12%	5,899,570	-8.07%	6,288,343	6.59%	-0.10%	
WALKER	893,794	939,897	5.16%	929,719	-1.08%	835,703	-10.11%	952,327	13.96%	6.55%	
KENTWOOD	1,314,005	1,377,822	4.86%	1,342,574	-2.56%	1,190,449	-11.33%	1,305,704	9.68%	-0.63%	
CASCADE TWP	708,744	739,323	4.31%	695,896	-5.87%	585,011	-15.93%	686,897	17.42%	-3.08%	
GRAND RAPIDS TWP	495,024	541,008	9.29%	545,871	0.90%	462,801	-15.22%	573,570	23.93%	15.87%	
TALLMADGE TWP	30,912	37,179	20.27%	41,592	11.87%	37,831	-9.04%	48,587	28.43%	57.18%	
EAST GRAND RAPIDS	419,574	419,637	0.02%	413,246	-1.52%	422,907	2.34%	430,073	1.69%	2.50%	
OTTAWA COUNTY**	1,167,086	1,209,789	3.66%	1,280,873	5.88%	1,299,136	1.43%	1,492,668	14.90%	27.90%	
ADA TWP	482,549	463,080	-4.03%	438,337	-5.34%	417,313	-4.80%	466,832	11.87%	-3.26%	
TOTAL	11,806,098	12,074,215	2.27%	12,105,814	0.26%	11,150,721	-7.89%	12,245,001	9.81%	3.72%	



Partner Communities Sewer Billed Volume FY21

MUNICIPALITY	FY17	FY18		FY19		FY20		FY21		FY17 - FY21
	VOL BILLED	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	VOL BILLED	% CHANGE	% CHANGE
GRAND RAPIDS	4,942,953	4,931,223	-0.24%	4,998,134	1.36%	4,782,754	-4.31%	4,706,480	-1.59%	-4.78%
WALKER	650,975	646,233	-0.73%	637,561	-1.34%	596,412	-6.45%	604,510	1.36%	-7.14%
KENTWOOD	1,032,553	1,069,319	3.56%	1,060,147	-0.86%	976,528	-7.89%	1,001,673	2.57%	-2.99%
CASCADE	358,774	353,054	-1.59%	357,434	1.24%	330,505	-7.53%	335,188	1.42%	-6.57%
GRAND RAPIDS TWP	289,525	284,378	-1.78%	293,245	3.12%	278,126	-5.16%	284,929	2.45%	-1.59%
TALLMADGE	21,454	24,350	13.50%	27,276	12.02%	25,812	-5.37%	27,089	4.95%	26.27%
WRIGHT TWP	19,465	18,885	-2.98%	19,834	5.03%	20,025	0.96%	12,023	-39.96%	-38.23%
EAST GRAND RAPIDS	393,511	441,259	12.13%	461,287	4.54%	498,507	8.07%	359,057	-27.97%	-8.76%
ADA TWP	315,417	296,101	-6.12%	291,737	-1.47%	292,738	0.34%	264,616	-9.61%	-16.11%
CALEDONIA TWP	31,631	29,741	-5.98%	28,715	-3.45%	25,910	-9.77%	21,012	-18.90%	-33.57%
GAINES TWP	133,866	113,527	-15.19%	115,345	1.60%	122,183	5.93%	103,780	-15.06%	-22.47%
TOTAL	8,190,124	8,208,070	0.22%	8,290,715	1.01%	7,949,500	-4.12%	7,720,357	-2.88%	-5.74%

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Circuit Breaker Calculation

	Water/Sewer
City & Customer Community Circuit Breaker (CCCCB): Penalty Revenue (87.5%)*	\$926,790
Individual Circuit Breaker (ICB):	
Penalty Revenue (12.5%)	132,399
Other Non-op Revenue	80,000
Total ICB	\$212,399
Total Circuit Breaker Funds	\$1,139,189
*CCCCB funds used in 2021 Rate Study	\$924,001

Kent County Community Action (KCCA) facilitates the ICB on behalf of the City of Grand Rapids. Through Q3 of 2021, assistance is at 85% of Q3 2020 levels, which were historic lows. Total remaining ICB balance for 2021 is \$143,132.



Additional Assistance Resources

2020 Senate Bill 690 established \$25M in funding for bill assistance:

- 1st round was \$360,876 (1,110 households served).
- 2nd round was \$76,924 (284 households served).

COVID Emergency Rental Assistance (CERA)

KCCA has received additional funds through MSHDA to assist rental households who have incomes less than 80% of Area Median Income (AMI) and are facing pandemic-related hardships with:

- Eviction Notices/past-due rent
- Utility assistance for tenant supplied electricity, home heating (any type of fuel), water, sewer and trash (if billed along with another utility).
- \$300 internet stipend for households that have home internet and include a recent internet bill/statement in their application package.



Prelim 2022 Rate Impact by Community

Retail Communities: charges assessed directly to User based on water consumption (except for Wright Twp – REUs). Readiness to Serve (RTS) based on meter size and Commodity based on volume. City of GR maintains assets and bills users directly.

Wholesale Communities: charges assessed directly to Wholesale Community based on water consumption measured through a master meter at the point of service in the customer community. Readiness to Serve (RTS) based on non-integrated system requirements and Commodity based on volume. Customer community maintains assets and bills users directly.

RETAIL COMMUNITIES

WHOLESALE COMMUNITIES

	WATER (1)		SEWER (1)	
	AMOUNT	PERCENT	AMOUNT	PERCENT
GRAND RAPIDS	\$ 1,320,344	4.95%	\$ 1,038,156	2.54%
WALKER	178,450	4.95%	317,420	6.08%
KENTWOOD	223,327	4.95%	421,109	8.64%
CASCADE TWP	96,380	2.74%	198,958	6.95%
GRAND RAPIDS TWP	(8,935)	-0.35%	31,901	1.10%
TALLMADGE TWP	5,911	2.71%	9,740	2.06%
WRIGHT TWP	N/A	N/A	12,854	4.01%
EAST GRAND RAPIDS	8,972	1.06%	154,384	13.56%
ADA TWP	7,472	0.54%	106,370	7.26%
OTTAWA COUNTY	36,982	1.47%	NA	NA
GAINES TWP	N/A	N/A	94,004	41.88%
CALEDONIA TWP	N/A	N/A	34,849	19.94%
SYSTEM	\$ 1,868,903	4.08%	\$ 2,419,745	4.00%

(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 CCCC).



Preliminary 2022 Quarterly Bill

	<u>APPROXIMATE QUARTERLY BILL</u>		<u>CHANGE</u>	
	<u>2021</u>	<u>2022</u>	<u>DOLLARS</u>	<u>PERCENT</u>
GRAND RAPIDS				
WATER	\$ 95.10	\$ 99.90	\$ 4.80	5.05%
SEWER	133.06	136.25	3.19	2.40%
	<u>\$ 228.16</u>	<u>\$ 236.15</u>	<u>\$ 7.99</u>	3.50%
BASE RATIO	1.00	1.00		
WALKER				
WATER	\$ 94.50	\$ 99.36	\$ 4.86	5.14%
SEWER	151.07	160.26	9.19	6.08%
	<u>\$ 245.57</u>	<u>\$ 259.62</u>	<u>\$ 14.05</u>	5.72%
RATIO TO GR	1.08	1.10		
KENTWOOD				
WATER	\$ 96.27	\$ 101.37	\$ 5.10	5.30%
SEWER	87.22	94.67	7.45	8.54%
	<u>\$ 183.49</u>	<u>\$ 196.04</u>	<u>\$ 12.55</u>	6.84%
RATIO TO GR	0.80	0.83		
CASCADE TWP				
WATER	\$ 135.87	\$ 139.89	\$ 4.02	2.96%
SEWER	172.91	184.91	12.00	6.94%
	<u>\$ 308.78</u>	<u>\$ 324.80</u>	<u>\$ 16.02</u>	5.19%
RATIO TO GR	1.35	1.38		
GRAND RAPIDS TWP				
WATER	\$ 112.05	\$ 111.81	\$ (0.24)	-0.21%
SEWER	147.63	149.34	1.71	1.16%
	<u>\$ 259.68</u>	<u>\$ 261.15</u>	<u>\$ 1.47</u>	0.57%
RATIO TO GR	1.14	1.11		
TALLMADGE TWP				
WATER	\$ 87.60	\$ 90.96	\$ 3.36	3.84%
SEWER	255.70	261.10	5.40	2.11%
	<u>\$ 343.30</u>	<u>\$ 352.06</u>	<u>\$ 8.76</u>	2.55%
RATIO TO GR	1.50	1.49		

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2021 Water & Sewer Rate Study Schedule

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Rate studies available online at:

<https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Study>

STATE OF MICHIGAN)

County of Kent
and County of Ottawa

ss Shawn Suttrop

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 9 A.D. 20 21

Sworn to and subscribed before me this 9th day of November 20 21

Teasha R. Payne
TEASHA R. PAYNE
NOTARY PUBLIC, STATE OF MI
COUNTY OF MECOSTA
COMMISSION EXP FEB 24 2026
ACTING IN COUNTY OF Kent

CITY OF GRAND RAPIDS

WATER/SEWER RATES AND CHARGES FOR 2022 NOW AVAILABLE FOR PUBLIC COMMENT

The City of Grand Rapids has completed the "Preliminary Water/Sewer 2021 Rate Study" report, which is the basis for recommending water and sewer rates to become effective January 1, 2022, 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:

<https://www.grandrapidsmi.gov/Government/Departments/Water-System/Water-and-Sewer-Rate-Study> Opportunity for public commentary runs through November 29th. 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 14, 2021.

10730504-01

91296 Result: Adopted.

Mover: O'Connor. Supporter: Jones.

WHEREAS:

1. The Water/Sewer rate studies have been undertaken and completed for the years 1976 through 2020; and
2. The 2021 Water/Sewer rate review has been completed using the same general methodology as the 1976 through 2020 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	\$118
Commercial	\$165

b. Integrated water connection fees

i. Plan Review and Connection Fee (PRC)

1. Residential Users (three residential units or less)

Meter Size	PRC Fee
¾ inch or less	\$370
1 inch	\$380
1½ inch	\$380

2. All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Meter Size	PRC Fee
¾ inch or less	\$715
1 inch	\$945
1½ inch	\$1,260
2 inch	\$1,740
3 inch	\$2,160
4 inch	\$3,110
6 inch	\$4,390

- ii. Meter Capacity Fee (MCC) (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged)

Meter Size	MCC Fee
¾ inch or less	\$210
1 inch	\$250
1½ inch – T2	\$750
2 inch – T2	\$880
3 inch – T2	\$1,100
4 inch – T2	\$2,135
6 inch – T2	\$3,460
1½ inch – C2	\$1,200
2 inch – C2	\$1,385
3 inch – C2	\$1,755
4 inch – C2	\$3,050
6 inch – C2	\$5,265

- iii. Fire Protection Review Fee

All Fire Service Sizes	\$740
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- iv. Commercial Plan Assessment Fee (for instances where there is an established connection or property has been previously reviewed)

All Sizes	\$125
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- c. Commodity rates within the City of Grand Rapids

Domestic	\$2.16 per 100 cubic feet
Commercial	\$2.16 per 100 cubic feet
Industrial	\$2.16 per 100 cubic feet

- d. Monthly service charge within the City of Grand Rapids

Size of Meter	Charge
¾ inch or less	\$11.70
1 inch	\$17.89
1¼ inch	\$25.85

1½ inch	\$35.58
2 inches	\$60.34
3 inches	\$131.10
4 inches	\$230.16
6 inches or larger	\$513.18

e. Fire protection charge

Size of Pipe	Monthly	Quarterly
6 inches	\$20.77	\$62.31
8 inches	\$36.86	\$110.58
10 inches	\$57.75	\$173.25
12 inches	\$83.11	\$249.33

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	\$3,050	\$3,500	\$3,750	\$4,350	\$5,200
Cost for 1½ inch Water Service	\$4,300	\$4,800	\$5,100	\$5,800	\$7,000
Cost for 2 inches Water Service	\$4,400	\$4,900	\$5,200	\$5,900	\$6,900

- g. Non-metered hydrant connection use fee (pool filling per connection) - \$100 refundable deposit + \$75/week
- h. Hydrant use permit (non-metered connection – residential customers) - \$50
- i. Hydrant use permit fee (metered connection) - \$300
- j. Metered hydrant connection use fee (per connection) - City of Grand Rapids account holder and Non-account holder - \$500 refundable deposit + \$25/week + metered volume (commodity charges at City of Grand Rapids rate)
- k. Hydrant connection assistance requests - \$100 service fee
- l. Hydrant flow test - \$200
- m. Tapping permits (all sizes) - \$375
- n. Meter service on/off requests (normal service hours 8am-7pm M-F)

Meter Size	Fee
All Sizes	\$60
Inspections/repair scheduled on & off request (may also need meter install)	\$70

- o. Meter replacement (non-system planned/scheduled replacement) (In addition to meter installation fee)

Meter Size	Fee
¾ inch or less	\$210
1 inch	\$250
T2 Omni Meter	Fee
1½ inch	\$750
2 inches	\$880
3 inches	\$1,100
4 inches or larger	At cost
C2 Omni Meter	Fee
1½ inch	\$1,200
2 inches	\$1,385
3 inches	\$1,755
4 inches or larger	At cost

- p. Final or actual meter reading - \$60
 q. Meter testing fee – paid by customer if meter is accurate, no charge if meter is faulty (In addition to Service On/Off Requests Fee)

Meter Size	Fee
¾ inch or less	\$150
1 inch	\$150
1½ inch	\$200
2 inches	\$350
3 inches	\$400
4 inches or larger	At cost

- r. Meter interface unit replacement - \$170
- s. Security deposit - \$500
- t. Street opening permit - \$300
- u. Water inspection permit (within City) - \$80
- v. Water inspection permit (outside City) - \$95
- w. Sanitary Service line inspection permit (within City) - \$80
- x. Sanitary Service line inspection permit (outside City) - \$95
- y. Storm Service line inspection permit (within City) - \$80
- z. Storm Service line inspection permit (outside City) - \$95
- aa. Footing drain lateral inspection permit (within City) - \$80
- bb. Footing drain lateral inspection permit (outside City) - \$95
- cc. Sewer lateral service demolition/cap off inspection fee (within City) - \$80
- dd. Sewer lateral service demolition/cap off inspection fee (outside City) - \$95
- ee. Plumbing service re-inspection fee - \$80
- ff. Cross connection re-inspection fee - \$75
- gg. Irrigation Service Cut/Cap Administration fee - \$65
- hh. Delinquent Commercial Backflow Test fee (per device) - \$25
- ii. Customer requested onsite service - \$100
- jj. Administrative/Research fee (review or processing of account for non-payment, returned payment, shut-off, posting of property, and/or backflow non-compliance. Documentation creation for account of location information, FOIA request may still be required) – \$55
- kk. Late payment penalty – 10% of net
- ll. Missed appointment fee - \$50
- mm. 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, valves, meters, meter reading equipment, hydrants, and curb stops and box) - \$500 plus double commodity rate for estimated volume and unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction
- nn. 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 any unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction
- oo. Failure to return or return of damaged beyond repair / repairable hydrant connection equipment – Cost + 10%
- pp. Repair/replace damage to fire hydrant – Cost + 10%
- qq. Permit infractions/violations – \$100 plus double commodity rate for estimated volume and any unbilled readiness to serve charges that may apply plus doubling of penalties for each subsequent infraction
- rr. Returned check charge - \$30
- ss. Unauthorized service tap of Water or Sewer main - \$500 plus double commodity rate for estimated volume and any unbilled readiness to

serve charges that may apply plus doubling of penalties for each subsequent infraction

- tt. Any cost recovery due to damaged 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%

uu. Watermain oversizing rates

8 – 12 inches	\$32.94 per lineal foot
12 – 16 inches	\$39.85 per lineal foot
8 – 16 inches	\$72.79 per lineal foot

vv. Circuit breaker allocation

Individual Circuit Breaker (ICB)	\$212,399
City and Customer Community Circuit Breaker (CCCCB)	\$926,790

- 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	\$110
Commercial	\$165

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

i. Plan Review and Connection Fee (PRC)

1. Residential Users (three residential units or less)

Meter Size	PRC Fee
¾ inch or less	\$370
1 inch	\$380
1½ inch	\$380

2. All other Users (including residential of more than 3 units, commercial, industrial, governmental and religious)

Meter Size	PRC Fee
¾ inch or less	\$715
1 inch	\$945
1½ inch	\$1,260
2 inch	\$1,740

3 inch	\$2,160
4 inch	\$3,110
6 inch	\$4,390

ii. Meter Capacity Fee (when water and sanitary sewer connections are made at the same time only one Meter Capacity Fee shall be charged)

Meter Size	MCC Fee
¾ inch or less	\$210
1 inch	\$250
1½ inch – T2	\$750
2 inch – T2	\$880
3 inch – T2	\$1,100
4 inch – T2	\$2,135
6 inch – T2	\$3,460
1½ inch – C2	\$1,200
2 inch – C2	\$1,385
3 inch – C2	\$1,755
4 inch – C2	\$3,050
6 inch – C2	\$5,265

iii. Commercial Plan Assessment Fee (for instances where there is an established connection or property has been previously reviewed)

All Sizes	\$125
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c. Commodity rates within the City of Grand Rapids

Domestic	\$4.39 per 100 cubic feet
Commercial	\$4.39 per 100 cubic feet
Industrial	\$4.39 per 100 cubic feet

d. Monthly service charge within the City of Grand Rapids

Size of Meter	Charge
¾ inch or less	\$16.15
1 inch	\$25.90
1¼ inch	\$38.44
1½ inch	\$53.77
2 inches	\$92.78
3 inches	\$204.25
4 inches	\$360.30
6 inches or larger	\$806.17

e. Wastewater surcharges for industrial customers

BOD	\$0.411
TSS	\$0.622
Phos	\$4.257
NH3	\$0.446

f. Concentrated waste credit

BOD	\$0.057
Phos	\$1.216
NH3	\$0.020

g. Septage portable toilet waste

- i. Annual discharge authorization permit fee - \$500
- ii. \$100 per 1,000 gallons discharged

h. Hauled Concentrated Waste

- i. Annual discharge authorization permit fee for permitted significant industrial within the service area - \$1,000
 - ii. Annual discharge authorization permit fee for customers outside the service areas - \$2,000
 - iii. Waste stream characterization and compatibility evaluation -\$1,000 each
 - iv. \$45 per 1,000 gallons discharged for customers within the service area
 - v. \$60 per 1,000 gallons discharged for customers outside the service area
- i. Pumped or Hauled Municipal EQ Biosolids
- i. \$1,500 annual discharge authorization permit fee

- ii. \$1,000 each for Biosolids characterization and compatibility evaluation
- iii. \$80 per dry ton discharged for customers within the service area
- iv. \$100 per dry ton discharged for customers outside the service area
- j. Significant industrial user discharge permit fee - \$400 plus the surcharge analytical fees
- k. Surcharge analytical fees

Metals	
1 Metal	\$10/each
2 Metals	\$13.50 total
3 Metals	\$17.00 total
4 Metals	\$20.50 total
5 Metals	\$24.00 total
6 Metals	\$27.50 total
7 Metals	\$31.00 total
8 Metals	\$34.50 total
9 Metals	\$38.00 total
10 Metals	\$41.50 total
11 Metals	\$45.00 total
12 Metals	\$48.50 total
13 Metals	\$52.00 total
14 Metals	\$55.50 total
TSS	\$10/each
BOD	\$20/each
BOD 7	\$20/each
COD	\$15/each
Total Phosphorus	\$10/each
pH	\$5/each
EPA 624.1	\$45/each
EPA 625.2	\$100/each
BTEX/MTBE	\$45/each
Sulfide	\$20/each

Oil and Grease	\$20/each
Total Cyanide	\$20/each
Hexavalent Chromium	\$25/each
Fecal Coliform	\$17.50/each
Mercury (EPA 245.1 or 245.2)	\$18/each
Ammonia	\$15/each
Pesticides and PCBs EPA 608	\$120/each
PCB's	\$60/each
Phenols	\$20/each
PFAS EPA 537 Modified (samples, duplicate and blank)	\$245/each
PFAS by LCMSMS (samples, duplicate and blank)	\$285/each
EPA 1666 Volatile Organics in Pharmaceuticals	\$45/each
EPA 524.2 Purgeable Organics	\$45/each
Methyl Blue Active Substances (MBAS)	\$60/each
Color	\$15/each
Labor	\$69.79/hour
Sampler	\$50/day
Vehicle	\$3.83/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	\$3,400	\$4,000	\$4,400	\$5,200	\$6,400

m. Sewer oversizing rates

Description	Amount (per lineal foot)
8 – 10 inches	\$3.44

8 – 12 inches	\$10.71
8 – 15 inches	\$20.52
10 – 12 inches	\$7.27
10 – 15 inches	\$17.08
12 – 15 inches	\$9.81

n. Footing drain disconnect opt out charge - \$77.92 per customer per month

3. That the above Water and Sewer rates, charges and fees are approved and shall be effective January 1, 2022.

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 14, 2021.



Joel H. Hondorp, City Clerk

91295 Result: Adopted.

Mover: O'Connor. Supporter: Jones.

WHEREAS:

1. The Water/Sewer rate studies have been undertaken and completed for the years 1976 through 2020; and
2. The 2021 Water/Sewer Rate Review has been completed using the same general methodology as the 1976 through 2020 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, 2022; and
2. That the Utility Financial Officer 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 14, 2021.



Joel H. Hondorp, City Clerk

MEMORANDUM

CITY OF GRAND RAPIDS

DATE: December 14, 2021

TO: City of Grand Rapids Mayor and City Commissioners

FROM: Jenessa B. Carter, Utility Financial Officer

SUBJECT: **2021 Rate Study – City of Grand Rapids 20-day Public Comment Period Comments and Answers**

During the 2021 Water and Sewer Rate Study comment period, the City of Grand Rapids received one public comment. As indicated at the Committee of the Whole Preliminary Rate Study Presentation on November 9, 2021, all public comments received will be reviewed by staff and considered as part of the FY2023 budget planning process.

Tuesday, November 9, 2021:

Email from Mr. David Koss:

From: David Koss <dmkoss@att.net>
Sent: Tuesday, November 9, 2021 11:16 AM
To: Customer Service Information Center <csic1@grand-rapids.mi.us>
Subject: Water increase

To whom it may concierge,

It is hard for me to grasp that at the present time, with gas prices highest ever, prices for groceries high, natural gas prices soaring, the water board of this city has the nerve to implement a 4% increase above the high rates we pay already for services. I can't make heads or tails of the report submitted, it's made that way so many of us can't understand it. No matter what anyone says about this increase, it will happen anyway and many families will suffer further financial difficulty. How about cutting the many highly paid administration offices down there at city hall. For a small city like GR, I can't believe we have so many departments with so many highly paid people running it. I'm sure the water department has some on their staff. Again, this increase is unfair and unjust and hopefully doesn't happen. I would also like to know what we as citizens receive for what we pay in our water bills? A mystery to me.

David Koss
Sent from my iPad

Response:

From: Carter, Jenessa
Sent: Wednesday, November 17, 2021 7:42 AM
To: dmkoss@att.net
Subject: RE: Water increase

Dear Mr. Koss,

Thank you for your email in response to the 2021 Preliminary Water and Sewer Rate Study. The feedback we receive is important and I appreciate you taking the time to reach out.

The annual rate study is a comprehensive review of the Water and Sanitary Sewer Systems. This is done to ensure we have adequate funding to address repairs, conduct maintenance, and make improvements, as well as safely operate the Water and Sanitary Sewer Systems.

In this year's study, investments at the Lake Michigan Filtration Plant, as well as specific watermain work in Grand Rapids and our partner communities contributed to the rate increase for the Water System. This also included vital programs such as the private lead service line replacements. For the Sewer System, operations and maintenance expenses at the Wastewater Resource Recovery Facility were key drivers. In addition, inflation for the 12 months ending September 2021 was 5.39%, which also influenced the costs to operate both Systems. We actively look for ways to manage costs and save money. One example of this is the refunding of some of the outstanding Sanitary Sewer System debt this summer, which reduced annual debt service by over \$1M. This helped lower the System's debt obligations and the user rates.

The annual water and sewer rate study is very complex. Every year we strive to make the information more transparent and accessible. We have created a citizen's guide to improve awareness about the rate study. It can be found online and copies are also available in the Clerk's office. This year, we also created a video which explains how the water and sewer user rates are developed. You can find the video posted here: [Water and Sewer Rate Study \(grandrapidsmi.gov\)](https://www.grandrapidsmi.gov/water-and-sewer-rate-study)

Thank you again for reaching out. I will share your affordability concerns with the System managers.

Jenessa B. Carter
Utility Financial Officer
City of Grand Rapids, Fiscal Services
300 Monroe Ave NW
Grand Rapids, MI 49503
Email: jbcarter@grand-rapids.mi.us
Direct: 616-456-4393