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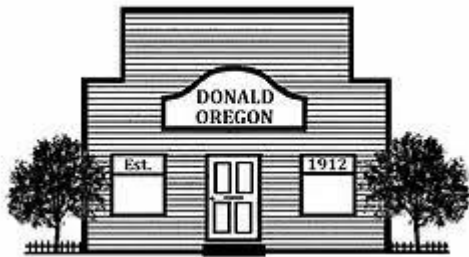
April

# 2021

## Utilities Rates and Cost of Service Study

Final  
Report

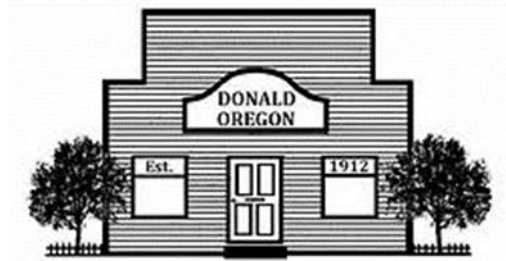
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# Utilities Rates and Cost of Service Study

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## Executive Summary

The City of Donald is the sole provider of water and wastewater services to customers within the urban services boundary of the City. Revenues required to fund the delivery of these services are obtained from monthly user fees which are set by the City Council via its City charter authority. This study addresses the revenue required from rates needed to support future operations and maintenance costs for the utilities along with a funding plan for capital needs identified by City Staff.

With the active involvement of City staff, and input from the City Council, twenty-year planning models were developed for this project; however, the focus for the rate study is the five-year near-term forecast of fiscal 2022 through fiscal 2026. These financial models have been reviewed with the City as they were developed and will be provided as a project deliverable enabling the City to make future updates.

The purpose of this study is to develop a cost of service-based methodology that will accurately determine the cost the city incurs to deliver water and wastewater services. The models developed for this project have been populated with estimated data for fiscal 2021, along with actuals for fiscal 2016 through 2020. During the first three months of 2021, the project team presented multiple utility rate scenarios to City staff for their consideration. These model runs simulated the current service levels (CSL) of the utilities, and sensitivity cases for a number of funding issues facing the City's utilities. The results of each model run were expressed in terms of the rate impacts on the average single family residential customer's monthly bill for utility services. Over the near-term five year forecast horizon, water and wastewater system revenue requirements are projected to rise by an average of 3% per year. The City Council prioritized its funding needs and, by consensus, arrived at the preferred alternative water and wastewater rate schedules shown below in tables 1 and 2:

Table 1 - Five Year Forecast of Recommended Water Rates

City of Donald Water Service Fees and Charges	Current	Effective July 1					
	April 1, 2021	2021	2022	2023	2024	2025	2026
<b>Inside City:</b>							
<i>Base charge (monthly)</i>							
Residential (first 1,000 gallons included)	\$ 42.12	\$ 44.80	\$ 46.72	\$ 48.66	\$ 50.70	\$ 52.80	\$ 54.97
Reserve fund fee	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Total monthly base charges	\$ 45.12	\$ 47.80	\$ 49.72	\$ 51.66	\$ 53.70	\$ 55.80	\$ 57.97
<i>Volume charge (\$/1,000 gallons)</i>	\$ 2.98	\$ 3.29	\$ 3.27	\$ 3.26	\$ 3.24	\$ 3.22	\$ 3.20
Other water fees and charges:							
Establishment of a new customer account		\$ 50					
Transfer utility account back to landlord		\$ 20					
Past due: charged morning of the 21st of the month		\$ 5					
Shut-off notice "red tag"		\$ 20					
Meter shutoffs - for non payment or vacate property		\$ 35					
After hours water service turn on/off fee for water/sewer		\$ 75					
Meter read test - returned if meter reads +2% fast		\$ 10					
Vacation monthly bill - with one turn off/and on service		\$ 50					
Bulk water sale (one time)		\$ 50	plus consumption				
Water service installation: residential 3/4" meter		\$ 6,000					
Without excavation		\$ 2,200					
Sewer service installation: residential 1,000 gal tank		\$ 9,200					
Without excavation		\$ 5,200					
Decreasing/increasing size of meter			at cost				
Return check fee		\$ 40					

Table 2 - Five Year Forecast of Wastewater Rates

City of Donald Sewer Service Fees and Charges	Current	Effective July 1					
	April 1, 2021	2021	2022	2023	2024	2025	2026
<b>Inside City:</b>							
<i>Residential:</i>							
Sewer monthly bill	\$ 35.93	\$ 35.93	\$ 37.10	\$ 38.30	\$ 39.54	\$ 40.81	\$ 42.13
Reserve fund fee	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Total monthly base charges	\$ 38.93	\$ 38.93	\$ 40.10	\$ 41.30	\$ 42.54	\$ 43.81	\$ 45.13
<i>Commercial:</i>							
Base charge (included 5,190 gallons)	\$ 35.93	\$ 35.93	\$ 37.10	\$ 38.30	\$ 39.54	\$ 40.81	\$ 42.13
Reserve fund fee	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Total monthly base charges	\$ 38.93	\$ 38.93	\$ 40.10	\$ 41.30	\$ 42.54	\$ 43.81	\$ 45.13
Volume charge (\$/1,000 gallons)	\$ 2.03	\$ 1.86	\$ 1.93	\$ 2.00	\$ 2.06	\$ 2.13	\$ 2.20
<b>Other water fees and charges:</b>							
Establishment of a new customer account		\$ 50					
Transfer utility account back to landlord		\$ 20					
Past due: charged morning of the 21st of the month		\$ 5					
Shut-off notice "red tag"		\$ 20					
Meter shutoffs - for non payment or vacate property		\$ 35					
After hours water service turn on/off fee for water/sewer		\$ 75					
Meter read test - returned if meter reads +2% fast		\$ 10					
Vacation monthly bill - with one turn off/and on service		\$ 50					
Bulk water sale (one time)		\$ 50	plus consumption				
Water service installation: residential 3/4" meter		\$ 6,000					
Without excavation		\$ 2,200					
Sewer service installation: residential 1,000 gal tank		\$ 9,200					
Without excavation		\$ 5,200					
Decreasing/increasing size of meter			at cost				
Return check fee		\$ 40					

The schedules of utility rates shown above were developed through consultation with City staff and the members of the rate study project team. The study process included an evaluation of revenue requirements, cost of service, and rate design for the five-year forecast (fiscal 2022 through fiscal 2026). The revenue requirements analysis determined the amount of annual revenue needed to be generated by water and wastewater rates. This analysis addressed the level, rather than the structure of rates. The cost of service analysis provided an analytical basis for assigning costs to customers, addressing equity among customer classes. Finally, the rate design element established the structure of rates for cost recovery through fixed and variable rate components. This step addressed equity within customer classes.

A number of specific conclusions and policy recommendations were developed through this collaboration, and are briefly discussed in this executive summary. Itemized below is a listing of these conclusions and recommendations.

## Conclusions

- With modest future rate increases and the use of cash reserves, there should be adequate funds available to pay for the City's planned water and wastewater system capital improvements over the five year forecast horizon. Over the five-year forecast horizon, the City is planning on investing in capital projects to improve and repair the water and wastewater systems. Our financial modeling indicates the City will be able to finance most of these projects with cash on hand. The exception to this is the assumed debt financing of water well #3. This project is projected to cost \$750,000 and is planned to be funded from the proceeds of a new safe drinking water loan. The City's projected share of the cost of this project is \$375,000 (50%). The balance of the cost sharing is \$318,750 (42%) to the developers of the planned Harvest Gardens subdivision, and \$56,520 (8%) to system development charges. Current planning calls for the development of this well in fiscal 2022-2023.
- The City's current residential water rate structure conforms to industry practice. This structure consists of a monthly base charge that includes 1,000 gallons of monthly usage and a volume charge for every 1,000 gallons over the allowance. The City does not employ conservation pricing mechanisms at this time.
- The City's current wastewater rate structure is entirely flat for residential customers, and slightly variable for commercial customers. The residential flat rates are very common in the industry.
- The City's wholesale wastewater customer, Fargo Interchange Service District, is being served under the terms of an expired contract. During wet weather months, Fargo regularly contributes wastewater flows to the lagoons that exceeds its contract capacity limits (i.e., 50,000 gallons per day). The last time the rates charged to Fargo were reviewed was in April, 2016.
- The City is collecting an infrastructure reserve fee from water and wastewater customers. In prior years, there was a difference between the water and wastewater reserve fees. Over several years, the City has worked to harmonize these fees and as of April 1, 2021, all customers are charged \$6 per month; \$3 per month for water and \$3 per month for wastewater.
- As discussed above, the base case revenue requirements forecast assumes an average annual increases of approximately 3% per year for water and wastewater. These annual increases are effectively in line with inflation.

## Recommendations

- Water rates – Although not required, it is recommended the City consider implementing conservation-based rates. Conservation-oriented water rates are aimed at stimulating water use efficiency and water conservation through economic incentives, specifically through water price signals.
- Wastewater rate structure – for the commercial customers' monthly base charge, continue the current methodology of including an allowance of 5,190 gallons of water in the base charge. This amount represents the winter class average water consumption for the 35 commercial wastewater customers in the City. Over the next several years, the City should move to cost of service based rates for the commercial class (which would eliminate the allowance in its entirety).
- Continue the prudent practice of collecting a monthly reserve fee from water and wastewater customers. The amount of the monthly fee should be reviewed annually (in conjunction with the City' budget process).

- Fargo Interchange Service District – Enter negotiations with Marion County to develop a new long term service contract between the City and Fargo. Furthermore, the City should start a wastewater sampling regime for Fargo flows to determine the strength of discharge originating from Fargo. Finally, on April 1, 2021, the City should implement the rate increases developed in this cost-of-service analysis. The new rates for Fargo are:

- ✓ Demand charge - \$/month ..... \$3,239
- ✓ Commodity charge - \$/ 1,000 gallons..... \$6.127

## Analysis Section

### Water Rates

#### Analysis of Water System Revenue Requirements

This analytical task determines the amount of revenue needed from water rates. This is driven by utility cash flow or income requirements, constraints of bond covenants, and specific fiscal policies related to the water utility. Based on three years of actual financial records (i.e., fiscal 2018 through 2020), estimated 2021 results, a base case analysis was developed. This case is predicated on a number of planning assumptions. These planning assumptions are discussed in detail below.

For the current budget year (fiscal 2021), it is forecasted the water utility will generate sufficient revenues from rates, charges, and fees to meet its obligations and produce an unappropriated ending balance in the water operating fund of \$482,044. The beginning balance for the water operating fund in this same fiscal year was \$498,189. In order to establish and maintain cash balances in the water operating fund while continuing to support the funding of future capital requirements, general water rate increases will be required over the five-year forecast horizon. On July 1, 2021 we recommend the City implement a 6.87% general rate increase. Then on July 1<sup>st</sup> of each subsequent year 3% rate increases are recommended.

For the forecast of revenue requirements, the following assumptions were made based on discussions with City staff:

*Inflation in costs and growth in the customer base* – In order to accurately reflect likely future conditions, the revenue requirements model was programmed to allow for inflation and cost escalation factors by budget line item. Per guidance from City staff, the following factors were applied for estimating future cost escalation:

- All direct labor line items – The model uses an annual average increase of 2.0% per year.
- Benefits and taxes (City cost) – 6.0% per year. This line item includes employer contributions to the defined benefit pension plan (i.e., PERS), and employer contributions to health insurance premiums.
- Materials and services – 2.0% per year.
- Construction cost inflation – 3.0% per year based on the most recent five-year average growth rate in the Engineering New Record's percent change in the Construction Cost Index.
- The growth forecast expressed in the annual increase in 3/4" meter equivalents is estimated to be 2.50% per year over the five (5) year forecast horizon.

*Capital Improvement Plan Funding* - Between fiscal 2022 and 2026, the City's water system capital improvement plan calls for the investment of \$1,766,000. Out of this total, \$501,000 is assigned to rate payers. The largest single project is well #3 development. The funding source for this project is new long-term debt via the safe drinking water loan program (administered by the Oregon Water Resources Board). The balance of the rate payer funded project will be paid for from free water system cash flow. The five-year water capital improvement plan cash flow is shown below in Table 3

Table 3 – Five Year Water Capital Improvement Plan

Water	Completion Year	Price: Rate Payers	Price: SDC	Harvest Gardens	Total
Reservoir #1 Inspection and Cleaning/ Liner Repair	2022-2023	\$ 7,000	\$ -	\$ -	\$ 7,000
Water Line Replacement at Blake Ct	2021-2022	70,000	-	-	70,000
Seal Driveway at WTP	2023-2024	3,000	-	-	3,000
Reservoir #2 Inspection and Cleaning	2025-2026	6,000	-	-	6,000
Source: Capacity Expansion - New Well (Well No. 3)	2022-2023	375,000	56,250	318,750	750,000
Decommission Existing Well No. 1	2022-2023	15,000	2,250	12,750	30,000
WTP: Expand Booster Pumping System	2022-2023	-	60,000	340,000	400,000
WTP: Upsize Standby Power	2022-2023	-	45,000	255,000	300,000
WTP: Upsize Electrical Service	2022-2023	-	22,500	127,500	150,000
Water Conservation Master Plan	2022-2023	15,000	2,250	12,750	30,000
Backwash Tank Recovery, Repair and Expansion	2022-2023	10,000	1,500	8,500	20,000
<b>Totals</b>		<b>\$ 501,000</b>	<b>\$ 189,750</b>	<b>\$ 1,075,250</b>	<b>\$ 1,766,000</b>



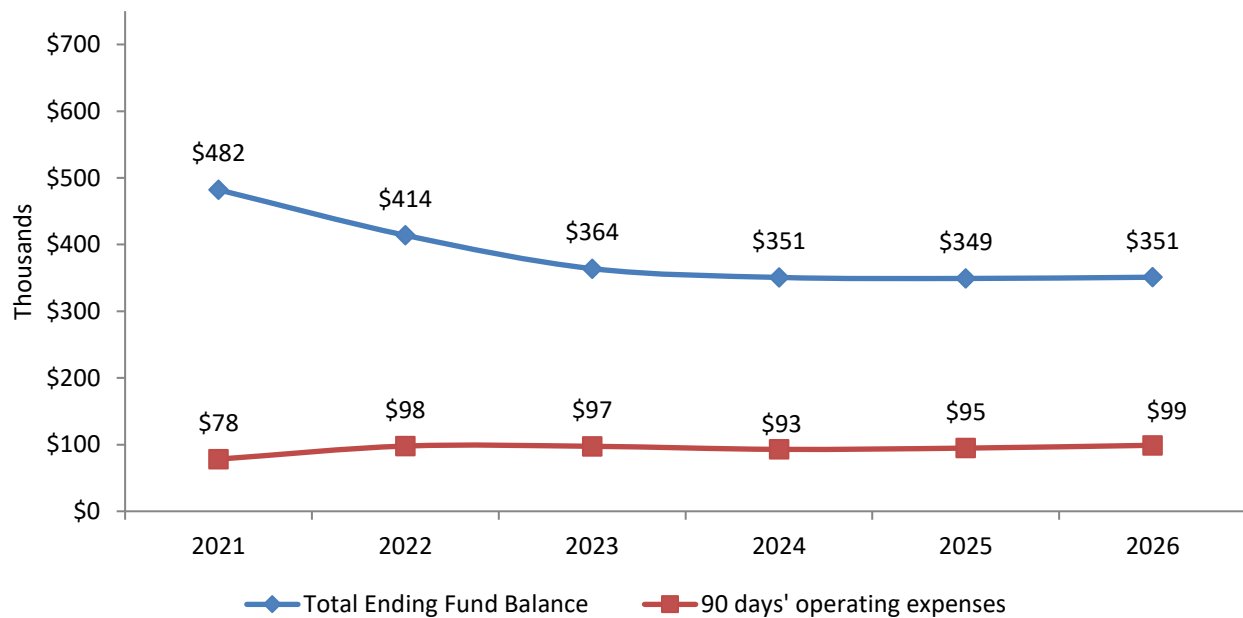
Please also note the future water capital improvement plan accounts for service installations, small works construction, minor equipment and tools, and the funding for an ongoing meter replacement program.

*Operating Costs in Excess of Inflation* – In most rate studies, there are certain operating cost categories that tend to grow in excess of the general price index. We have identified two such categories in this analysis: a) the City’s pension costs, and b) health care premiums. These cost categories have been accounted for in the revenue requirements model. We have not identified any other areas of concern for this forecast, but the City should monitor the cost structure of the water utility on an ongoing basis. Two key areas of future concern are:

- Administrative charges – We have not estimated or accounted for any unusual increases in City/General Fund administrative charges. The City provides administrative services such as accounting, legal, and billing to the water system. It is assumed the General Fund support services will continue over the forecast horizon, and likely increase with inflation. While modest, we do not know exactly how much these costs will be, but estimates have been included within the operations and maintenance expense forecast. The City should monitor this situation.
- Staffing Costs – We have not planned or budgeted for any additional labor. If the water utility does add staff, these costs will impact the current revenue requirements forecast.

*Modeling for Contingencies, Reserves, and Ending Fund Balances* - The financial engine of the water utility is the water operating fund. Because the utility cash finances all of its operations, the ending fund balance in the water operating fund is in effect the contingency fund for the utility. For planning purposes, we are expecting the Water Operating Fund will end all forecast years with a target ending fund balance in excess of ninety days of operating expenses. This target balance gives the water utility enough contingency to fund unforeseen operating cost spikes. The five year forecast of targeted water operating fund balances and operating reserve requirements is shown below in Figure 1.

Figure 1 - Forecast of Water Operating Fund Balances and Operating Reserve Requirements



## Revenue Requirements Forecast & Results

All of the above cost elements are contained in the revenue requirements model which is the platform for the “base case” forecast. The base case assumes the utility will fund the projects in the 2021 Water System Capital Improvement Plan (discussed above). Also, the utility would fund the operating costs as adjusted for inflation. This base case resulted in the following forecast of water system revenue requirements (Table 4).

Table 4 – Base Case Forecast of Water System Revenue Requirements

Line Item Description	Estimated 2021	Forecast				
		2022	2023	2024	2025	2026
<b>Projection of Cash Flow:</b>						
Revenues:						
Total licenses and permits	4,440	4,573	4,710	4,852	4,997	5,147
Total Service Charges	284,018	284,018	300,203	317,167	335,295	354,493
Total interest earned	6,450	3,307	2,839	2,496	2,406	2,395
Total other financing sources	5,000	5,000	5,000	5,000	5,000	5,000
Total miscellaneous income	1,160	1,195	1,231	1,268	1,306	1,345
Subtotal gross operating revenues	301,068	298,093	313,984	330,783	349,003	368,381
Operations & Maintenance Expense:						
Total personal services	219,326	227,034	235,096	243,529	252,356	261,596
Total materials and services	87,886	89,644	91,437	93,265	95,131	97,033
Total debt service	-	-	26,716	26,716	26,716	26,716
Total capital outlay	-	70,000	32,000	3,000	-	6,000
Transfers to other funds (excluding MP Debt Fund)	10,000	10,000	10,000	10,000	10,000	10,000
Total operations and maintenance expense	317,213	396,678	395,248	376,510	384,202	401,345
(Use)/replacement of fund balance	(16,145)	(82,400)	(64,300)	(27,600)	(16,000)	(12,700)
Net Cash	0	(16,186)	(16,964)	(18,127)	(19,199)	(20,264)
Net Deficiency/(Surplus)	(0)	16,186	16,964	18,127	19,199	20,264
<b>Test of Coverage Requirement:</b>						
Gross Revenues:						
Operating revenues	301,068	298,093	313,984	330,783	349,003	368,381
System Development Charges	4,002	4,022	4,042	4,062	4,083	4,103
Total Gross Revenues	305,070	302,115	318,026	334,846	353,086	372,484
Operating Expenses:						
Total personal services	219,326	227,034	235,096	243,529	252,356	261,596
Total materials and services	87,886	89,644	91,437	93,265	95,131	97,033
Transfers to other funds (excluding MP Debt Fund)	10,000	10,000	10,000	10,000	10,000	10,000
Transfers to/from the rate stabilization account	-	-	(64,300)	(27,600)	(16,000)	(12,700)
Total Operating Expenses	317,213	326,678	272,232	319,195	341,486	355,929
Net Revenues	(12,143)	(24,564)	45,793	15,651	11,600	16,554
Debt Service:						
Debt Service on Existing Refunding Bonds	-	-	-	-	-	-
Debt Service on New Serial Revenue Bond Debt	-	-	26,716	26,716	26,716	26,716
Total debt service	-	-	26,716	26,716	26,716	26,716
Coverage Recognized	N/A	N/A	1.71	0.59	0.43	0.62
Coverage Required	1.00	1.00	1.00	1.00	1.00	1.00
Net Deficiency/(Surplus)	N/A	N/A	(19,078)	11,065	15,116	10,161
<b>Projection of Revenue Sufficiency and Forecasted Rates:</b>						
Maximum Deficiency	-	16,186	16,964	18,127	19,199	20,264
Percent Increase Required Over Current Rate Revenues	0.00%	5.70%	5.65%	5.72%	5.73%	5.72%
Five Year Average Increase in Revenue Requirements						
Revenues recovered from existing water service charges	284,018	284,018	300,203	317,167	335,295	354,493
add: Revenues Recovered From Rate Increase	-	16,186	16,964	18,127	19,199	20,264
Total Revenues Recovered From Rates & Charges after Increase	284,018	300,203	317,167	335,295	354,493	374,758

## Funding of Future Debt Service

As discussed above, the base case water system financial plan calls for the City to fund well #3 with the proceeds of a 20-year loan from the Safe Drinking Water loan program. For modeling purposes, we have created a dedicated fund to account for the cash flows associated with this future borrowing. The projected cash flow for the water debt fund is shown below in Table 5.

Table 5 - Projected Water Capital Reserve Fund Cash Flow

	Estimated 2021	Forecast				
		2022	2023	2024	2025	2026
<b>Resources:</b>						
<i>Beginning Working Capital</i>	\$ -	\$ -	\$ -	\$ 26,716	\$ 26,899	\$ 27,084
<i>Charges for Services:</i>						
Service charges water	-	-	-	-	-	-
Future reserve fee	-	-	-	-	-	-
Total charges for services	-	-	-	-	-	-
<i>Interest:</i>						
Interest earned	-	-	-	183	185	186
Total interest earned	-	-	-	183	185	186
<i>Other Financing Sources:</i>						
Transfers from Water Fund	\$ -	\$ -	\$ 26,716	\$ 26,716	\$ 26,716	\$ 26,716
Transfers from other funds	-	-	-	-	-	-
Total other financing sources	-	-	26,716	26,716	26,716	26,716
<i>Bond Proceeds:</i>						
Bond reserve requirements	-	-	26,716	-	-	-
Bond proceeds for projects	-	-	405,756	-	-	-
Total bond proceeds	-	-	432,472	-	-	-
<b>Total Resources</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 459,187</b>	<b>\$ 53,615</b>	<b>\$ 53,799</b>	<b>\$ 53,985</b>
<b>Requirements:</b>						
<i>Personal Services:</i>						
Total personal services	-	-	-	-	-	-
<i>Materials and Services:</i>						
Future debt service:						
interest	-	-	8,737	8,377	8,010	7,636
principal	-	-	17,979	18,338	18,705	19,079
Total materials and services	-	-	26,716	26,716	26,716	26,716
<i>Capital Outlay:</i>						
Construction - infrastructure	-	-	405,756	-	-	-
Capital reserve	-	-	-	-	-	-
Total capital outlays	-	-	405,756	-	-	-
<i>Transfers:</i>						
Total transfers	-	-	-	-	-	-
<i>Reserves and Contingencies:</i>						
Revenue bond reserve requirements:						
Legacy debt	-	-	-	-	-	-
Future debt	-	-	26,716	26,716	26,716	26,716
Total reserves and contingencies	-	-	26,716	26,716	26,716	26,716
<i>Unappropriated Ending Fund Balance</i>	\$ -	\$ -	\$ -	\$ 183	\$ 368	\$ 554
<b>Total Requirements</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 459,187</b>	<b>\$ 53,615</b>	<b>\$ 53,799</b>	<b>\$ 53,985</b>

## Existing Water Rates and Recommended Changes

The City's current water rate structure consists of a fixed fee per meter per month, and a commodity charge expressed in dollars per 1,000 gallons. The monthly fixed fee includes an "allowance" of 1,000 gallons per month. Any metered consumption over the first 1,000 gallons is charged out at the current commodity rate. As of April 1, 2021, the rates were:

- Monthly base charge - \$/meter/month including the first 1,000 gallons ..... \$42.12
- Commodity charge - \$/1,000gallon (over the first 1,000 gallons)..... \$2.98
- Capital reserve fund fee - \$/account/month..... \$3.00

After a thorough discussion of the pros and cons of the current water rate structure, the project team has made the following observations:

- Commodity charge – The current commodity charge of \$2.98 per 1,000 gallons is monolithic and does not increase or decrease based on the amount of water consumed. The trend in the industry is to move to increasing block rates. With increasing block rates, the rate per unit of water increases as the volume of consumption increases. Consumers face a low rate up to the first block of consumption and pay a higher price up to the limit of the second block, and so on until the highest block of consumption. At the highest block, consumers can use as much water as they desire, but for each additional water unit consumed they pay the highest price in the rate structures. Increasing block tariffs are by far the most common charges for water services. This is not to say the City’s current “block less” rate structure is inappropriate. It does promote conservation in that the customer will pay more per month if they consume more water. This methodology has worked for the City and there is no compelling reason to change immediately to an increasing block water rate structure.
- Continue to have a monthly base fee that does not vary by meter size – A common method of charging monthly base charges is by meter size. In other words, the larger the meter, the higher the monthly base charge. In Donald, the monthly base charge is per account. An analysis of 2020 meters in service indicate that 397 out of 412 total meters are either ½” or ¾” residential meters. In other words, 96% of all meters in service are delivering water to homes or very low usage commercial customers. There is not a need to change the base charge methodology to a flow-based approach given the uniformity of the meter mix.
- Different commodity rates for residential and commercial customers – A common method in water rate making is to study the ratio of peak demand to average demand. This ratio, called the peaking factor is different between customer classes and can justify differential commodity rates for residential, commercial, and industrial customer classes. Analysis of metered water sales for calendar 2020 was completed as part of the study. The observed peaking factors for the residential class was 1.70. The corresponding peaking factor for the commercial class was 1.76. Because of the similarity of peaking factors between the classes, the team felt staying with a uniform commodity charge across all customer classes was deemed appropriate.

The assumptions shown above became the base case for the water rate analysis. The ratemaking methodology that was used is called the “base-extra capacity method”, and is consistent with industry standards in water rate making. Under this methodology, costs of service are separated into three primary cost components: (1) base costs, (2) extra capacity costs, and, (3) customer costs.

Base costs are those that tend to vary with the total quantity of water used plus those operations and maintenance (O&M) expenses and capital costs associated with service to customers under average load conditions, without the elements of cost incurred to meet water use variations and resulting peaks in demand. Base costs include O&M expenses of supply, treatment, pumping, and distribution facilities. Base costs also include capital costs related to water plant investment associated with serving customers to the extent required for a constant, or average, annual rate of demand/usage.

Extra capacity costs are those associated with meeting rate of use requirements in excess of average and include O&M expenses and capital costs for system capacity beyond that required for average rate of use. These costs have been subdivided into costs necessary to meet maximum-day extra demand, and maximum-hour demand in excess of maximum day demand.

Customer costs comprise those costs associated with serving customers, irrespective of the amount or rate of water use. They include meter reading, billing, and customer accounting and collection expense, as well as maintenance and capital costs related to meters and services.

The resulting cost of service-based forecast of recommended water rates is shown below in Table 6. The complete contents of the water rate model is contained in Appendix A to this report.

Table 6 - Five Year Forecast of Recommended Water Rates

Line Item Description	Actual 2021	Forecast					
		2021	2022	2023	2024	2025	2026
<b>Inside City:</b>							
Base charge (monthly)	\$ 42.1200	\$ 44.8038	\$ 46.7169	\$ 48.6587	\$ 50.6968	\$ 52.8028	\$ 54.9662
Use (commodity) charge							
Residential:							
Base		1.9951	1.9839	1.9727	1.9616	1.9506	1.9396
Extra capacity - maximum day		0.9686	0.9637	0.9589	0.9541	0.9493	0.9445
Extra capacity - maximum hour		0.3290	0.3273	0.3257	0.3240	0.3224	0.3207
Total	2.9800	3.2926	3.2749	3.2573	3.2397	3.2222	3.2048
Commercial/Industrial:							
Base		1.9951	1.9839	1.9727	1.9616	1.9506	1.9396
Extra capacity - maximum day		0.9686	0.9637	0.9589	0.9541	0.9493	0.9445
Extra capacity - maximum hour		0.3290	0.3273	0.3257	0.3240	0.3224	0.3207
Total	2.9800	3.2926	3.2749	3.2573	3.2397	3.2222	3.2048
Wholesale:							
Base		N/A	N/A	N/A	N/A	N/A	N/A
Extra capacity - maximum day		N/A	N/A	N/A	N/A	N/A	N/A
Extra capacity - maximum hour		N/A	N/A	N/A	N/A	N/A	N/A
Total		-	-	-	-	-	-
<b>Outside City:</b>							
Base charge (monthly)	\$ 84.24	\$ 89.61	\$ 93.43	\$ 97.32	\$ 101.39	\$ 105.61	\$ 109.93
Use (commodity) charge							
Residential:							
Base		2.9926	2.9758	2.9591	2.9425	2.9259	2.9094
Extra capacity - maximum day		1.4528	1.4456	1.4383	1.4311	1.4239	1.4168
Extra capacity - maximum hour		0.4935	0.4910	0.4885	0.4860	0.4835	0.4811
Total	4.4700	4.9389	4.9124	4.8859	4.8596	4.8333	4.8072
Commercial/Industrial:							
Base		2.9926	2.9758	2.9591	2.9425	2.9259	2.9094
Extra capacity - maximum day		1.4528	1.4456	1.4383	1.4311	1.4239	1.4168
Extra capacity - maximum hour		0.4935	0.4910	0.4885	0.4860	0.4835	0.4811
Total	4.4700	4.9389	4.9124	4.8859	4.8596	4.8333	4.8072



## Wastewater Rates

### Analysis of Wastewater System Revenue Requirements

For the current budget year (fiscal 2021), it is forecasted the wastewater utility will generate sufficient revenues from rates, charges, and fees to meet its obligations and produce an unappropriated ending balance in the Wastewater Operating Fund of \$698,029. The beginning balance for this same fiscal year was \$726,569. In order to establish and maintain cash balances in the Wastewater Operating Fund while continuing to pay for future capital requirements, general wastewater rate increases of about 3% per year will be required starting on July 1, 2022. No wastewater rate adjustments will be required on July 1, 2021.

For the forecast of revenue requirements, the following assumptions were made based on discussions with City staff:

*Inflation in costs and growth in the customer base* – Per guidance from City staff, the following factors were applied for estimating future cost escalation; the same factors that were used in the water system revenue requirements analysis:

- All direct labor line items – As in the case of the water forecast, the model uses an annual average increase of 2.0% per year.
- Benefits and taxes (City cost) – 6.0% per year. This line item includes employer contributions to the defined benefit pension plan (i.e., PERS), and employer contributions to health insurance premiums.
- Materials and services – 2.0% per year.
- Construction cost inflation – 3.0% per year based on the most recent five-year average growth rate in the Engineering News Record's percent change in the Construction Cost Index.
- The growth forecast expressed in the annual increase in 3/4" meter equivalents is estimated to be 2.50% per year over the five (5) year forecast horizon.

*Capital Improvement Plan Funding* - Between fiscal 2022 and 2026, the City's Wastewater System Capital Improvement Plan calls for the investment of \$4,227,000. Out of this total, only \$37,000 will have to be funded from rate payers. The preponderance of the proposed wastewater system capital improvement projects will be funded by the developer of Harvest Gardens, and to a lesser extent from the Fargo Interchange Service District. It is assumed the modest rate payer assigned costs will be funded from wastewater system free cash flow. The five-year wastewater capital improvement plan cash flow is shown below in Table 7

Table 7 – Five Year Wastewater Capital Improvement Plan

Sewer	Completion Year	Price: Rate Payers	Price: SDC	Harvest Gardens	Fargo Paid	Total
New Tractor Mower	2022-2023	\$ 18,000	\$ -	\$ -	\$ -	\$ 18,000
Seal Driveway at STP	2023-2024	3,000	-	-	-	3,000
Lagoons Profiling/Sludge Depth Reporting	2024-2025	6,000	-	-	-	6,000
Water Pollution Control Facility Permit Fee	2021-2022	10,000				10,000
Lagoon #5: 7 acres (HG and Fargo)*	2021-2022	-	-	2,380,000	420,000	2,800,000
Irrigation Line to Nursery Land**	2021-2022	-	187,000	552,500	110,500	850,000
Disinfection System Expansion**	2021-2022		11,000	32,500	6,500	50,000
New Irrigation Duplex Pump Station**	2021-2022	-	105,600	312,000	62,400	480,000
Recycled Water Use Plan Revisions**	2021-2022		2,200	6,500	1,300	10,000
<b>Totals</b>		<b>\$ 37,000</b>	<b>\$ 305,800</b>	<b>\$ 3,283,500</b>	<b>\$ 600,700</b>	<b>\$ 4,227,000</b>

\*Lagoon #5 Notes  
 Harvest Gardens is 6 acres = 85% of cost  
 Fargo is 1 acre = 15% of cost

\*\*New Irrigation Facilities Notes  
 Allocated by percentage of new flow  
 Harvest Gardens = 65% of new flow  
 City Growth = 22% of new flow  
 Fargo Growth = 13% of new flow



It should be noted, the wastewater system financial plan also assumes the City will continue to budget for routine wastewater repair and replacement projects. It is assumed these project costs will be funded with cash that is generated from wastewater rates, and is accounted for in the revenue requirements calculations. These costs are for wastewater line replacements, emergency response, small works construction, minor equipment and tools, and wastewater treatment plant equipment. For the forecast, we have used this figure for our starting point and adjusted it for inflation (3.0% per year) over the forecast period. We have not budgeted for any costs in the other minor capital line items.

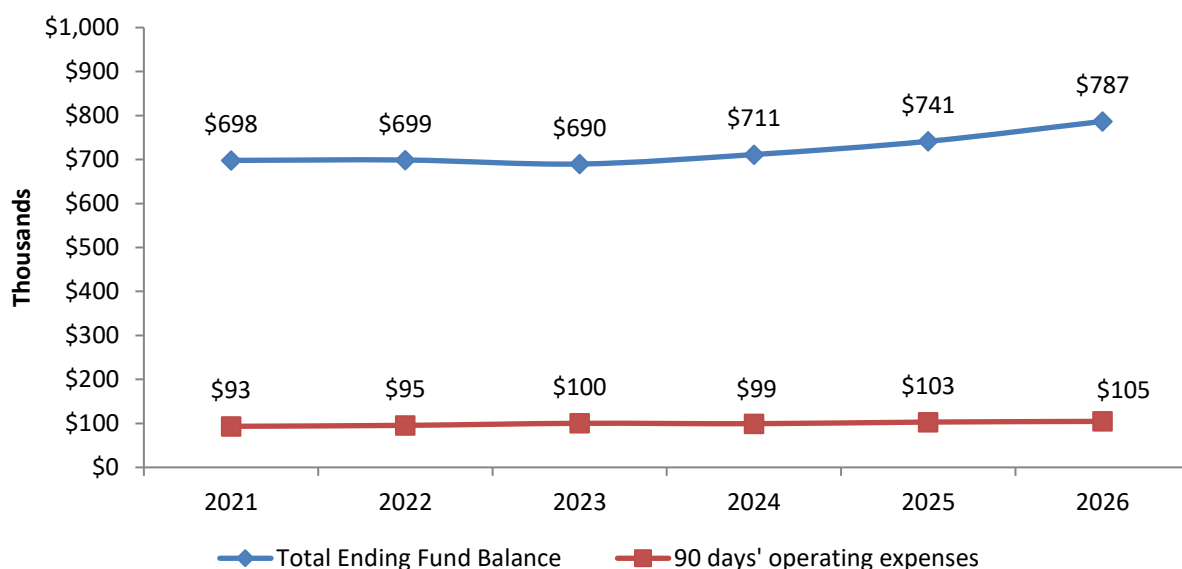
*Operating Costs in Excess of Inflation* – As in the case of the water forecast, we have identified two categories affecting revenue requirements. They are pension costs and health care premiums. These cost categories have been accounted for in the revenue requirements model. We have not identified any other areas of concern for this forecast, but the City should monitor the cost structure of the wastewater utility on an ongoing basis. Two key areas of future concern are:

*Administrative charges* – We have not estimated or accounted for any unusual increases in City/general fund administrative charges. The City provides administrative services such as accounting, legal, and billing to the wastewater system. The City should monitor this situation for developments.

*Staffing Costs* – We have not planned or budgeted for any additional labor. If the wastewater utility does add staff, these costs will impact the current revenue requirements forecast.

*Modeling for Contingencies, Reserves, and Ending Fund Balances* – As discussed above, the Wastewater Operating Fund is expected to end this fiscal year with an unappropriated ending fund balance of \$698,029. For planning purposes, we are expecting the Wastewater Operating Fund will end all forecast years with an ending fund balance in excess of ninety days of operating expenses. This target balance gives the wastewater utility enough contingency to fund unforeseen operating cost spikes. The five year forecast of targeted wastewater operating fund balances and operating reserve requirements is shown below in Figure 2.

Figure 2 - Forecast of Wastewater Operating Fund Balances and Operating Reserve Requirements



## Revenue Requirements Forecast & Results

All of the above cost elements are contained in the revenue requirements model and from this, the “base case” forecast was developed. The base case assumes the utility would fund the projected capital costs contained in the 2021 Wastewater System Capital Improvement Plan (discussed above). Also, the utility would fund the operating costs as adjusted for inflation. This base case resulted in the following forecast of water system revenue requirements (Table 8).

Table 8 – Base Case Forecast of Wastewater System Revenue Requirements

Line Item Description	Estimated 2021	Forecast				
		2022	2023	2024	2025	2026
<b>Projection of Cash Flow:</b>						
Revenues:						
Total licenses and permits	17,245	17,763	18,296	18,845	19,410	19,992
Total Service Charges	297,171	297,171	321,884	330,332	356,809	379,422
Total interest earned	6,388	5,584	5,591	5,518	5,691	5,931
Total other financing sources	5,000	5,000	5,000	5,000	5,000	5,000
Total miscellaneous income	24,393	24,917	24,961	25,006	25,053	25,102
Subtotal gross operating revenues	350,197	350,435	375,732	384,702	411,963	435,447
Operations & Maintenance Expense:						
Total personal services	219,328	227,036	235,097	243,531	252,357	261,598
Total materials and services	139,134	140,212	143,183	146,218	149,319	152,487
Total debt service	-	-	-	-	-	-
Total capital outlay	10,276	10,000	18,000	3,000	6,000	-
Transfers(excluding transfers to the construction and bond funds)	10,000	10,000	10,000	10,000	10,000	10,000
Total operations and maintenance expense	378,738	387,248	406,280	402,749	417,676	424,085
(Use)/replacement of fund balance	(28,540)	(12,100)	(22,100)	8,430	16,900	32,100
Net Cash	(0)	(24,713)	(8,448)	(26,477)	(22,613)	(20,738)
Net Deficiency/(Surplus)	0	24,713	8,448	26,477	22,613	20,738
<b>Test of Coverage Requirement:</b>						
Gross Revenues:						
Operating revenues	350,197	350,435	375,732	384,702	411,963	435,447
System Development Charges	4,065	4,085	4,106	4,126	4,147	4,168
Total Gross Revenues	354,262	354,520	379,837	388,828	416,110	439,615
Operating Expenses:						
Total personal services	219,328	227,036	235,097	243,531	252,357	261,598
Total materials and services	139,134	140,212	143,183	146,218	149,319	152,487
Transfers(excluding transfers to the construction and bond funds)	10,000	10,000	10,000	10,000	10,000	10,000
Transfers to/from the rate stabilization account	-	(12,100)	(22,100)	8,430	16,900	32,100
Total Operating Expenses	368,462	365,148	366,180	408,179	428,576	456,185
Net Revenues	(14,199)	(10,627)	13,658	(19,351)	(12,466)	(16,570)
Debt Service:						
Debt Service on Existing Refunding Bonds	-	-	-	-	-	-
Debt Service on New Serial Revenue Bond Debt	-	-	-	-	-	-
Total debt service	-	-	-	-	-	-
Coverage Recognized	N/A	N/A	N/A	N/A	N/A	N/A
Coverage Required	1.00	1.00	1.00	1.00	1.00	1.00
Net Deficiency/(Surplus)	N/A	N/A	N/A	N/A	N/A	N/A
<b>Projection of Revenue Sufficiency and Forecasted Rates:</b>						
Maximum Deficiency	0	24,713	8,448	26,477	22,613	20,738
Percent Increase Required Over Current Rate Revenues	0.00%	8.32%	2.62%	8.02%	6.34%	5.47%
Five Year Average Increase in Revenue Requirements						
Revenues Recovered From Existing Rates and Charges:	297,171	297,171	321,884	330,332	356,809	379,422
add: Revenues Recovered From Rate Increase	0	24,713	8,448	26,477	22,613	20,738
Total Revenues Recovered From Rates & Charges after Increase	297,171	321,884	330,332	356,809	379,422	400,160

Table 8 shows forecasted annual changes in wastewater system revenue requirements average approximately 6% per year from fiscal 2022 through fiscal 2026.

### Existing and Recommended Wastewater Rates

The City’s current wastewater rate structure is entirely flat for residential customers, and slightly variable for commercial customers. The residential flat rates are very common in the industry, but the City’s policy of including a 5,190-gallon allowance in the commercial monthly base charge is not common and cannot be justified on a cost-of-service basis. It is recommended the City eliminate this method in a phased approach. Over the next several years, the City should move to cost of service-based rates for the commercial class (which would eliminate the allowance in its entirety).

The cost of service rate making methodology consists of a monthly base charge for all customers, and a volume (commodity) charge. The commodity charge would be based on the average of the actual usage from the November billing through the April billing for residential customers. For commercial and high strength industrial customers, the volume contribution would be based on actual monthly metered water consumption.

Once the winter monthly average for residential customers is calculated, this total is used to set each customer’s wastewater fees for the next year. Most of the water used during the averaging period is for indoor use and most of it enters the wastewater collection system. Since much of the water used in warmer months waters lawns and gardens and doesn’t enter the wastewater collection system, the city would use the winter average as the most equitable way of determining wastewater volumes that get treated.

For wastewater cost of service analysis, the project team used a functional cost allocation methodology. Under this approach, system costs by budget line item are allocated to cost components using purpose-based, cost-causative factors. We relied on interviews with knowledgeable public works staff to provide estimates of percentages of O&M expenses that are allocated to the wastewater cost centers of flow, biochemical oxygen demand (BOD), total suspended solids (TSS), and customer accounts. The recommended schedule of wastewater rates is shown below in Table 9. The complete contents of the wastewater rate model are contained in Appendix B to this report.

Table 9 - Proposed Schedule of Wastewater Rates

City of Donald Sewer Service Fees and Charges	Current	Effective July 1					
	April 1, 2021	2021	2022	2023	2024	2025	2026
<b>Inside City:</b>							
<i>Residential:</i>							
Sewer monthly bill	\$ 35.93	\$ 35.93	\$ 37.10	\$ 38.30	\$ 39.54	\$ 40.81	\$ 42.13
Reserve fund fee	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Total monthly base charges	\$ 38.93	\$ 38.93	\$ 40.10	\$ 41.30	\$ 42.54	\$ 43.81	\$ 45.13
<i>Commercial:</i>							
Base charge (included 5,190 gallons)	\$ 35.93	\$ 35.93	\$ 37.10	\$ 38.30	\$ 39.54	\$ 40.81	\$ 42.13
Reserve fund fee	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Total monthly base charges	\$ 38.93	\$ 38.93	\$ 40.10	\$ 41.30	\$ 42.54	\$ 43.81	\$ 45.13
Volume charge (\$/1,000 gallons)	\$ 2.03	\$ 1.86	\$ 1.93	\$ 2.00	\$ 2.06	\$ 2.13	\$ 2.20

### Fargo Interchange Service District

An integral part of that engagement is the update of the wastewater cost of service analysis for the City and to determine the rates that should be charged to the Fargo Interchange Service District (the District). The District is a wholesale wastewater treatment customer of the City. As you are aware, the original 20-year service agreement between the City and the District dated November 10, 1993 has lapsed and is in

the process of renegotiation. For now, the District is being served by the City on a month-to-month basis. For rate making purposes, we have assumed the terms of the 1993 service agreement apply to this cost-of-service analysis and would guide the analysis.

Section 7.2 of that agreement defines the expenses that are to be included in the rates for the District. The language of Section 7.2 is itemized below:

**7.2 Rates to Include Expenses Associated With Existing Facilities.** The City shall charge rates to the District for use of the existing treatment plant. Such rates shall consist of a demand rate and a commodity rate. These rates shall be determined in accordance with generally accepted rate making practices and shall include, but not be limited to, payments for operation and maintenance expense, depreciation, return on investment, administrative and general expenses, in-lieu taxes, and other costs associated with the City's financing of the treatment plant. Such rates shall be determined and approved by the City Council, from time to time, as deemed appropriate. The decisions of the City Council shall be binding but shall be subject to arbitration under Section 13 of this agreement.

The last time the District's wholesale wastewater treatment rates were reviewed and updated by the City was in May of 2016. At that time, the City utilized the "utility approach" to set rates for the District. Per the Water Environment Federation, the utility approach provides an appropriate method for measuring revenue requirements and for calculating the costs of service applicable to all classes of customers served by a wastewater utility. The approach works particularly well for allocating costs to those customers located outside the corporate limits of a municipally owned utility. In such situations, the service relationship parallels that of an investor-owned utility because the owner (the City) serves non-owner customers (the District).

Customers inside the City are considered to be the utility stockholders. They are ultimately responsible for paying all operating and capital costs of the utility should the District decide to no longer be served by the City. Thus, the City is entitled to a reasonable return from the District, based on the value of its assets that are used and useful in providing the wastewater treatment services to the District.

For consistency purposes, we have replicated the City’s 2016 “utility approach” rate making methodology for the District’s cost of service analysis. We have populated the 2021 model with cost and asset data provided by the City, and we have made certain assumptions concerning that data. In our judgement, the use of such information and assumptions is appropriate for the cost-of-service analysis herein. The principal considerations and assumptions made by us and the information provided to us by the City are:

- ❖ Operations and maintenance expenses are from the City Council adopted wastewater fund budget for the fiscal year 2020-2021.
- ❖ Wastewater utility plant-in-service balances and depreciation expense data was for the fiscal year 2019-2020. This data was downloaded from the City’s fixed asset accounting module, a component of the City’s general ledger.
- ❖ Metered wastewater flows for the City and the District was provided by the City’s public works staff and is by month for calendar 2019 and 2020. The source documents for the data are the Discharge Monitoring Reports that are certified by City Staff and submitted to the Oregon Department of Environmental Quality on a monthly basis.
- ❖ As was the case for the 2016 analysis, the 2021 analysis assumes the allocation to volume is based on the average flow of the District divided by the peak flow. The remainder is allocated to capacity.
- ❖ The allocation of operations and maintenance expenses between treatment and collection is based on the same line item by line-item review that was done in the 2021 study. We have reviewed the 2016 methodology for accuracy and efficacy and made only minor changes to the prior approach.
- ❖ As discussed above, we have used the terms of the 1993 service agreement as our guide for updating the cost-of-service analysis for the District. Under the terms of that agreement, the District’s initial contract wastewater treatment capacity was set at 50,000 gallons per day. We have used this value as the basis of the monthly demand charge.
- ❖ The commodity (sic volume) charge is based on actual metered wastewater flows to the headworks of the lagoons in calendar 2020.

Based on our analysis, and with the benefit of the data provided by the City, we have calculated the following demand and commodity charges for the District effective April 1, 2021:

Monthly demand charge - \$/month .....	\$3,239
Commodity charge - \$/1,000 gallons of metered wastewater flow.....	\$6.127

The summary of the rate calculations for the District are shown below in Table 10. The complete content of the Fargo cost of service model is contained in Appendix C.

Table 10 – Summary of Demand and Commodity Charges for the Fargo Interchange Service District Effective April 1, 2021

	Total	Cost Causation		
		Flow Related Capacity Use (CAP)	Volume of WW Flow (VOL)	Direct Assignment (DA)
<b>Direct expenses:</b>				
Operations & Maintenance Expense	\$ 108,878	\$ 33,759	\$ 39,645	\$ 35,473
Taxes	-	-	-	-
Depreciation	9,907	4,058	5,849	-
Total direct expenses	<u>\$ 118,785</u>	<u>\$ 37,817</u>	<u>\$ 45,494</u>	<u>\$ 35,473</u>
<b>Rate of Return on Invested Capital:</b>				
Rate Base	\$ 78,458	\$ 26,415	\$ 47,609	\$ 4,434
Rate of Return - %	<u>4.000%</u>	<u>4.000%</u>	<u>4.000%</u>	<u>4.000%</u>
Return on Invested Capital	\$ 3,138	\$ 1,057	\$ 1,904	\$ 177
Total Fargo Revenue Requirement	<u>\$ 121,923</u>	<u>\$ 38,874</u>	<u>\$ 47,398</u>	<u>\$ 35,651</u>
Billing units		50,000	13,554	13,554
Proposed Rates for Fargo		<u>\$ 0.065</u> <b>A</b>	<u>\$ 3.497</u> <b>B</b>	<u>\$ 2.630</u> <b>C</b>
<i>Proposed Fargo rates effective April 1, 2021:</i>				
Demand rate - \$ per month (50,000 gpd x <b>A</b> )	\$ 3,239			
Commodity rate - \$ per kgal ( <b>B + C</b> )	\$ 6.127			

## Rate Study Conclusions and Recommendations

The schedules of utility rates shown above were developed through consultation with City staff and the members of the rate study project team. The study process included an evaluation of revenue requirements, cost of service, and rate design for the five-year forecast (fiscal 2022 through fiscal 2026). The revenue requirements analysis determined the amount of annual revenue needed to be generated by water and wastewater rates. This analysis addressed the level, rather than the structure of rates. The cost of service analysis provided an analytical basis for assigning costs to customers, addressing equity among customer classes. Finally, the rate design element established the structure of rates for cost recovery through fixed and variable rate components. This step addressed equity within customer classes.

A number of specific conclusions and policy recommendations were developed through this collaboration, and are briefly discussed in this executive summary. Itemized below is a listing of these conclusions and recommendations.

### Conclusions

- With modest future rate increases and the use of cash reserves, there should be adequate funds available to pay for the City's planned water and wastewater system capital improvements over the five-year forecast horizon. Over the five-year forecast horizon, the City is planning on investing in capital projects to improve and repair the water and wastewater systems. Our financial modeling indicates the City will be able to finance most of these projects with cash on hand. The exception to this is the assumed debt financing of water well #3. This project is projected to cost \$750,000 and is planned to be funded from the proceeds of a new safe drinking water loan. The City's projected share of the cost of this project is \$375,000 (50%). The balance of the cost sharing is \$318,750 (42%) to the developers of the planned Harvest Gardens subdivision, and \$56,520 (8%) to system development charges. Current planning calls for the development of this well in fiscal 2022-2023.
- The City's current residential water rate structure conforms to industry practice. This structure consists of a monthly base charge that includes 1,000 gallons of monthly usage and a volume charge for every 1,000 gallons over the allowance. The City does not employ conservation pricing mechanisms at this time.
- The City's current wastewater rate structure is entirely flat for residential customers, and slightly variable for commercial customers. The residential flat rates are very common in the industry.
- The City's wholesale wastewater customer, Fargo Interchange Service District, is being served under the terms of an expired contract. During wet weather months, Fargo regularly contributes wastewater flows to the lagoons that exceeds its contract capacity limits (i.e., 50,000 gallons per day). The last time the rates charged to Fargo were reviewed was in April, 2016.
- The City is collecting an infrastructure reserve fee from water and wastewater customers. In prior years, there was a difference between the water and wastewater reserve fees. Over several years, the City has worked to harmonize these fees and as of April 1, 2021, all customers are charged \$6 per month; \$3 per month for water and \$3 per month for wastewater.
- As discussed above, the base case revenue requirements forecast assumes an average annual increases of approximately 3% per year for water and wastewater. These annual increases are effectively in line with inflation.

## Recommendations

- Water rates – Although not required, it is recommended the City consider implementing conservation-based rates. Conservation-oriented water rates are aimed at stimulating water use efficiency and water conservation through economic incentives, specifically through water price signals.
- Wastewater rate structure – for the commercial customers’ monthly base charge, continue the current methodology of including an allowance of 5,190 gallons of water in the base charge. This amount represents the winter class average water consumption for the 35 commercial wastewater customers in the City. Over the next several years, the City should move to cost of service-based rates for the commercial class (which would eliminate the allowance in its entirety).
- Continue the prudent practice of collecting a monthly reserve fee from water and wastewater customers. The amount of the monthly fee should be reviewed annually (in conjunction with the City’ budget process).
- Fargo Interchange Service District – Enter negotiations with Marion County to develop a new long term service contract between the City and Fargo. Furthermore, the City should start a wastewater sampling regime for Fargo flows to determine the strength of discharge originating from Fargo. Finally, on April 1, 2021, the City should implement the rate increases developed in this cost-of-service analysis. The new rates for Fargo are:

✓ Demand charge - \$/month .....	\$3,239
✓ Commodity charge - \$/ 1,000 gallons.....	\$6.127

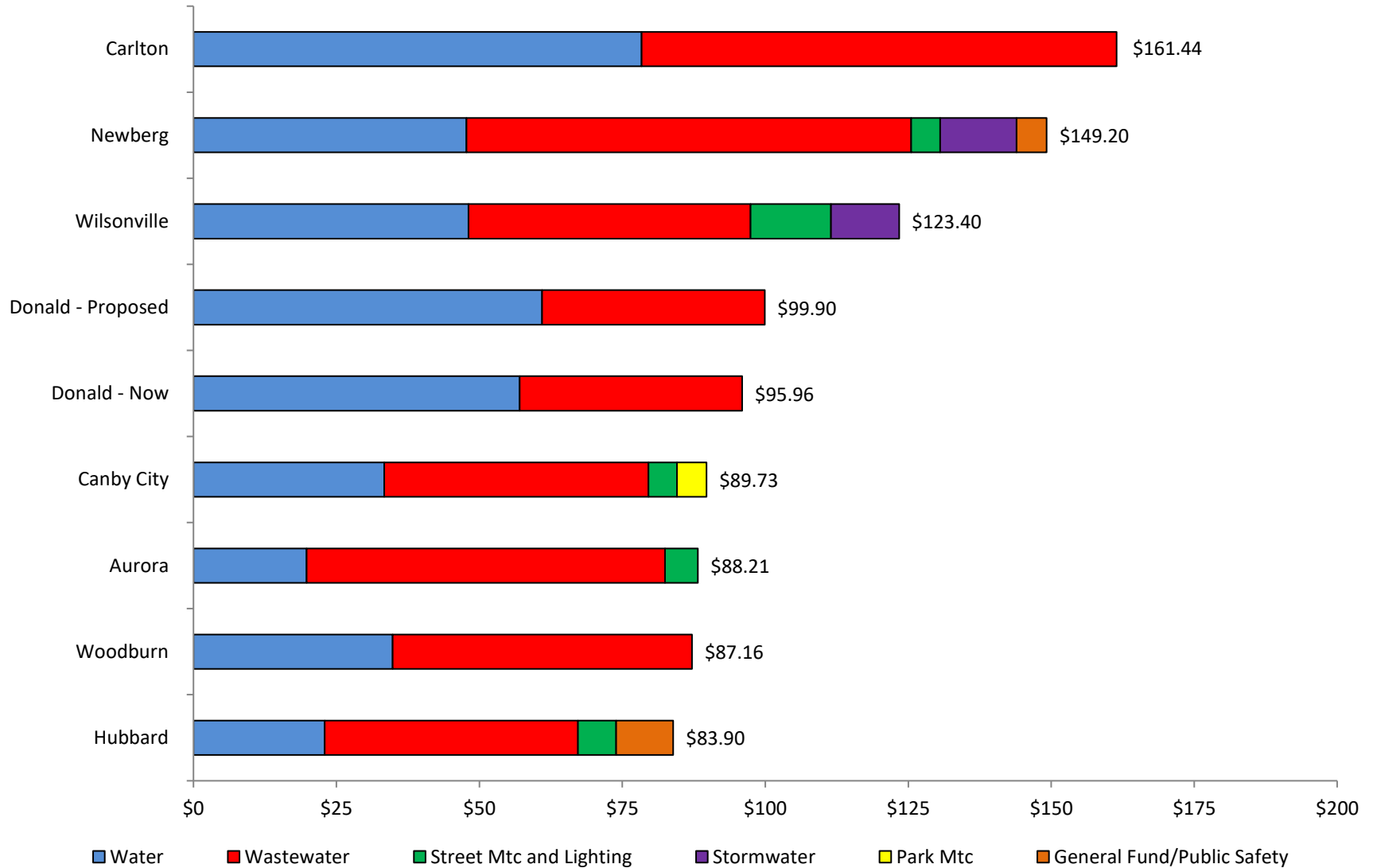
## Neighboring Communities’ Utility Rates and SDCs

Shown below in Figure 3 is a chart that compares the current and proposed utility rates for a single-family customer in Donald to the same charges in similar communities in the region.



Figure 3 - Comparison of Neighboring Communities' Utility Rates

Regional Utilities Rates per Month - March, 2021



## Appendix A – Water Rate Model Output Tables

## Water Rates Step 1 – Functional Allocation of Revenue Requirements

	2021	2022	2023	2024	2025	2026
<b>Net Revenue Requirement by Function:</b>						
Source of Supply						
land, buildings and impoundment	342	349	356	363	370	378
reservoir	342	349	356	363	370	378
water treatment equipment	15,846	16,163	16,487	16,816	17,153	17,496
fees, permits	-	-	-	-	-	-
laboratory testing	-	-	-	-	-	-
vehicles, tools. & misc.	-	-	-	-	-	-
source of supply total	16,531	16,861	17,198	17,542	17,893	18,251
Transmission and Distribution System						
distribution reservoirs	18,524	18,895	19,272	19,658	20,051	20,452
transmission & distribution mains	31,829	32,456	33,095	33,746	34,410	35,087
services	1,000	995	989	982	975	966
hydrants	-	-	-	-	-	-
fees, permits	-	-	-	-	-	-
tools, shop, and garage equipment	-	-	-	-	-	-
transmission & distribution mains total	51,353	52,345	53,356	54,387	55,436	56,506
Customer Account Expense						
meter reading and services	17,571	17,923	18,281	18,647	19,020	19,400
customer collection & services	126,640	130,824	135,191	139,750	144,513	149,489
postage, supplies	2,948	3,007	3,067	3,128	3,191	3,255
customer accounts expense total	147,159	151,753	156,539	161,526	166,724	172,144
General and Administrative Expense						
General & Administrative	26,606	36,028	35,994	56,879	68,580	81,079
office supplies	-	-	-	-	-	-
telephone	-	-	-	-	-	-
contract services	34,493	35,183	45,886	36,604	37,336	38,083
employee costs	752	767	783	798	814	831
insurance - general	7,123	7,265	7,411	7,559	7,710	7,864
long term supply development	-	-	-	-	-	-
general and administrative expense total	68,975	79,243	90,074	101,840	114,440	127,857
<b>Total Net Revenue Requirement by Function</b>	<b>284,017</b>	<b>300,203</b>	<b>317,167</b>	<b>335,295</b>	<b>354,493</b>	<b>374,758</b>
Checksum	284,017	300,203	317,167	335,295	354,493	374,758
Checksum error	-	-	-	-	-	-

## Water Rates Step 2 – Assignment of Functional Costs to Base, Extra Capacity, and Customer Accounts

Line Item Description	Base	Extra Capacity		Customer Costs		BEC Total
		Max Day	Max hour	Meters & Services	Billing	
<b>Forecast Year: 2021</b>						
Source of Supply	10,127	6,404	-	-	-	16,531
Transmission and Distribution System	31,006	13,565	6,783	-	-	51,353
Customer Account Expense	-	-	-	17,571	129,588	147,159
General and Administrative Expense	-	-	-	68,975	-	68,975
<b>Total</b>	<u>\$ 41,133</u>	<u>\$ 19,969</u>	<u>\$ 6,783</u>	<u>\$ 86,546</u>	<u>\$ 129,588</u>	<u>\$ 284,017</u>
<b>Forecast Year: 2022</b>						
Source of Supply	10,330	6,532	-	-	-	16,861
Transmission and Distribution System	31,595	13,834	6,917	-	-	52,345
Customer Account Expense	-	-	-	17,923	133,830	151,753
General and Administrative Expense	-	-	-	79,243	-	79,243
<b>Total</b>	<u>\$ 41,924</u>	<u>\$ 20,365</u>	<u>\$ 6,917</u>	<u>\$ 97,166</u>	<u>\$ 133,830</u>	<u>\$ 300,203</u>
<b>Forecast Year: 2023</b>						
Source of Supply	10,536	6,662	-	-	-	17,198
Transmission and Distribution System	32,195	14,108	7,054	-	-	53,356
Customer Account Expense	-	-	-	18,281	138,258	156,539
General and Administrative Expense	-	-	-	90,074	-	90,074
<b>Total</b>	<u>\$ 42,731</u>	<u>\$ 20,770</u>	<u>\$ 7,054</u>	<u>\$ 108,355</u>	<u>\$ 138,258</u>	<u>\$ 317,167</u>
<b>Forecast Year: 2024</b>						
Source of Supply	10,747	6,795	-	-	-	17,542
Transmission and Distribution System	32,806	14,387	7,193	-	-	54,387
Customer Account Expense	-	-	-	18,647	142,879	161,526
General and Administrative Expense	-	-	-	101,840	-	101,840
<b>Total</b>	<u>\$ 43,553</u>	<u>\$ 21,182</u>	<u>\$ 7,193</u>	<u>\$ 120,487</u>	<u>\$ 142,879</u>	<u>\$ 335,295</u>
<b>Forecast Year: 2025</b>						
Source of Supply	10,962	6,931	-	-	-	17,893
Transmission and Distribution System	33,428	14,672	7,336	-	-	55,436
Customer Account Expense	-	-	-	19,020	147,704	166,724
General and Administrative Expense	-	-	-	114,440	-	114,440
<b>Total</b>	<u>\$ 44,390</u>	<u>\$ 21,603</u>	<u>\$ 7,336</u>	<u>\$ 133,460</u>	<u>\$ 147,704</u>	<u>\$ 354,493</u>
<b>Forecast Year: 2026</b>						
Source of Supply	11,181	7,070	-	-	-	18,251
Transmission and Distribution System	34,062	14,962	7,481	-	-	56,506
Customer Account Expense	-	-	-	19,400	152,744	172,144
General and Administrative Expense	-	-	-	127,857	-	127,857
<b>Total</b>	<u>\$ 45,243</u>	<u>\$ 22,032</u>	<u>\$ 7,481</u>	<u>\$ 147,257</u>	<u>\$ 152,744</u>	<u>\$ 374,758</u>

### Water Rates Step 3 – Calculate Monthly Base Charges

	Budget 2021	Forecast				
		2022	2023	2024	2025	2026
<b>Net revenue requirement - customer costs</b>						
Meters & Services	86,546	97,166	108,355	120,487	133,460	147,257
Billing	<u>129,588</u>	<u>133,830</u>	<u>138,258</u>	<u>142,879</u>	<u>147,704</u>	<u>152,744</u>
Total	216,134	230,996	246,613	263,366	281,164	300,001
<b>Number of equivalent customers/bills:</b>						
Per month	402	412	422	433	444	455
Annual	4,824	4,945	5,068	5,195	5,325	5,458
<b>Unit charge per equivalent customer:</b>						
Meters & Services	17.9407	19.6509	21.3793	23.1933	25.0640	26.9805
Billing	<u>26.8631</u>	<u>27.0660</u>	<u>27.2793</u>	<u>27.5035</u>	<u>27.7388</u>	<u>27.9857</u>
Total	<u>\$ 44.8038</u>	<u>\$ 46.7169</u>	<u>\$ 48.6587</u>	<u>\$ 50.6968</u>	<u>\$ 52.8028</u>	<u>\$ 54.9662</u>

<b>Customer charge revenue reconciliation</b>						
Revenue generated from rates	216,134	230,996	246,613	263,366	281,164	300,001
Revenue required from rates	216,134	230,996	246,613	263,366	281,164	300,001
Over/(under) recovery from rates	-	-	-	-	-	-

## Water Rates Step 4 – Calculate Use (Commodity) Charge

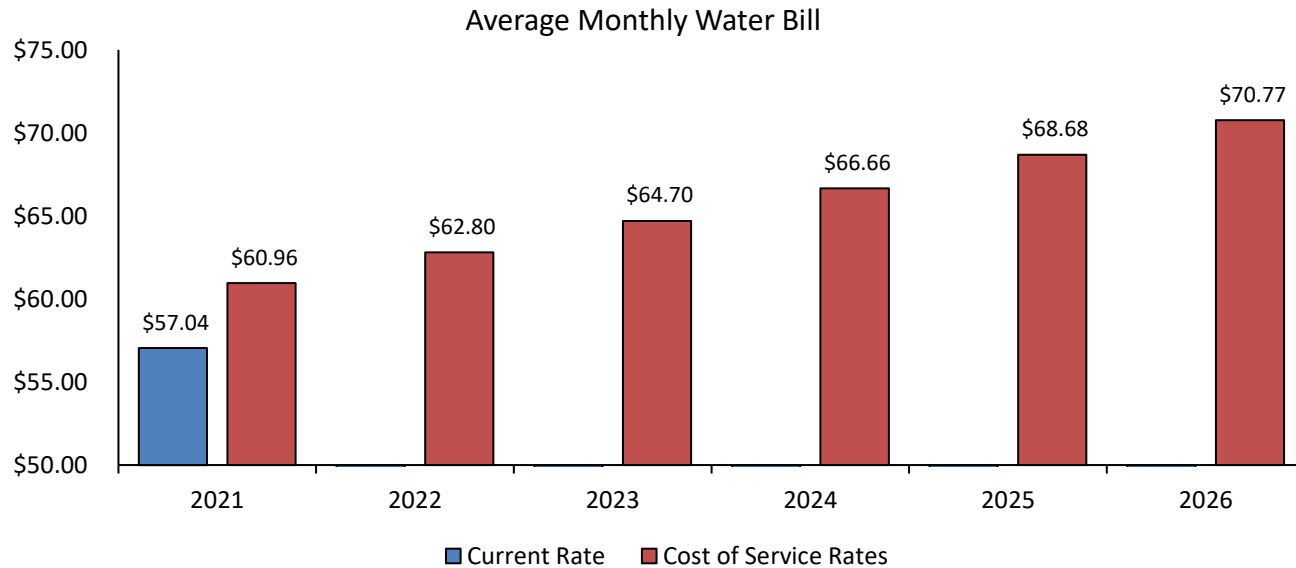
Line Item Description	Budget 2021	Forecast				
		2022	2023	2024	2025	2026
Estimated annual water sales in kgal:						
Residential	17,050.00	17,476	17,913	18,361	18,820	19,291
Commercial	3,567	3,656	3,748	3,841	3,937	4,036
Wholesale	-	-	-	-	-	-
Total	20,617	21,132	21,661	22,202	22,757	23,326
Base charge:						
Forecasted base cost revenue requirement	\$ 41,133	\$ 41,924	\$ 42,731	\$ 43,553	\$ 44,390	\$ 45,243
Base charge:						
Residential	1.9951	1.9839	1.9727	1.9616	1.9506	1.9396
Commercial	1.9951	1.9839	1.9727	1.9616	1.9506	1.9396
Wholesale	N/A	N/A	N/A	N/A	N/A	N/A
Extra capacity charge:						
Maximum day charge:						
Forecasted maximum day revenue requirement	\$ 19,969	\$ 20,365	\$ 20,770	\$ 21,182	\$ 21,603	\$ 22,032
Maximum day extra capacity charge:						
Residential	0.9686	0.9637	0.9589	0.9541	0.9493	0.9445
Commercial	0.9686	0.9637	0.9589	0.9541	0.9493	0.9445
Wholesale	N/A	N/A	N/A	N/A	N/A	N/A
Maximum hour charge:						
Forecasted maximum hour revenue requirement	\$ 6,783	\$ 6,917	\$ 7,054	\$ 7,193	\$ 7,336	\$ 7,481
Maximum hour extra capacity charge:						
Residential	0.3290	0.3273	0.3257	0.3240	0.3224	0.3207
Commercial	0.3290	0.3273	0.3257	0.3240	0.3224	0.3207
Wholesale	N/A	N/A	N/A	N/A	N/A	N/A
Commodity charge summary:						
Residential						
Base	1.9951	1.9839	1.9727	1.9616	1.9506	1.9396
Maximum day	0.9686	0.9637	0.9589	0.9541	0.9493	0.9445
Maximum hour	0.3290	0.3273	0.3257	0.3240	0.3224	0.3207
Total	3.2926	3.2749	3.2573	3.2397	3.2222	3.2048
Commercial						
Base	1.9951	1.9839	1.9727	1.9616	1.9506	1.9396
Maximum day	0.9686	0.9637	0.9589	0.9541	0.9493	0.9445
Maximum hour	0.3290	0.3273	0.3257	0.3240	0.3224	0.3207
Total	3.2926	3.2749	3.2573	3.2397	3.2222	3.2048
Wholesale						
Base	N/A	N/A	N/A	N/A	N/A	N/A
Maximum day	N/A	N/A	N/A	N/A	N/A	N/A
Maximum hour	N/A	N/A	N/A	N/A	N/A	N/A
Total	-	-	-	-	-	-

## Water Rates Step 5 – Proposed Schedule of Water Rates

Line Item Description	Actual 2021	Forecast					
		2021	2022	2023	2024	2025	2026
<b>Inside City:</b>							
Base charge (monthly)	\$ 42.1200	\$ 44.8038	\$ 46.7169	\$ 48.6587	\$ 50.6968	\$ 52.8028	\$ 54.9662
Use (commodity) charge							
Residential:							
Base		1.9951	1.9839	1.9727	1.9616	1.9506	1.9396
Extra capacity - maximum day		0.9686	0.9637	0.9589	0.9541	0.9493	0.9445
Extra capacity - maximum hour		0.3290	0.3273	0.3257	0.3240	0.3224	0.3207
Total	2.9800	3.2926	3.2749	3.2573	3.2397	3.2222	3.2048
Commercial/Industrial:							
Base		1.9951	1.9839	1.9727	1.9616	1.9506	1.9396
Extra capacity - maximum day		0.9686	0.9637	0.9589	0.9541	0.9493	0.9445
Extra capacity - maximum hour		0.3290	0.3273	0.3257	0.3240	0.3224	0.3207
Total	2.9800	3.2926	3.2749	3.2573	3.2397	3.2222	3.2048
Wholesale:							
Base		N/A	N/A	N/A	N/A	N/A	N/A
Extra capacity - maximum day		N/A	N/A	N/A	N/A	N/A	N/A
Extra capacity - maximum hour		N/A	N/A	N/A	N/A	N/A	N/A
Total		-	-	-	-	-	-
<b>Outside City:</b>							
Base charge (monthly)	\$ 84.24	\$ 89.61	\$ 93.43	\$ 97.32	\$ 101.39	\$ 105.61	\$ 109.93
Use (commodity) charge							
Residential:							
Base		2.9926	2.9758	2.9591	2.9425	2.9259	2.9094
Extra capacity - maximum day		1.4528	1.4456	1.4383	1.4311	1.4239	1.4168
Extra capacity - maximum hour		0.4935	0.4910	0.4885	0.4860	0.4835	0.4811
Total	4.4700	4.9389	4.9124	4.8859	4.8596	4.8333	4.8072
Commercial/Industrial:							
Base		2.9926	2.9758	2.9591	2.9425	2.9259	2.9094
Extra capacity - maximum day		1.4528	1.4456	1.4383	1.4311	1.4239	1.4168
Extra capacity - maximum hour		0.4935	0.4910	0.4885	0.4860	0.4835	0.4811
Total	4.4700	4.9389	4.9124	4.8859	4.8596	4.8333	4.8072

## Water Rates Step 6 – Monthly Bill Analysis

	Cost of Service Forecast						
	4/1/2021	2021	2022	2023	2024	2025	2026
Monthly base	42.12	44.80	46.72	48.66	50.70	52.80	54.97
Use charge	2.98	3.29	3.27	3.26	3.24	3.22	3.20
Assumed usage (kgal)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Monthly water bill	54.04	57.96	59.80	61.70	63.66	65.68	67.77
add: capital reserve charge	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Total monthly water bill	\$ 57.04	\$ 60.96	\$ 62.80	\$ 64.70	\$ 66.66	\$ 68.68	\$ 70.77
Annual change in monthly bills:		\$ 3.92	\$ 1.84	\$ 1.90	\$ 1.96	\$ 2.02	\$ 2.09
		6.87%	3.02%	3.03%	3.03%	3.03%	3.04%





## Appendix B – Wastewater Rate Model Output Tables

# Wastewater Rates Step 1 – Cost Factors Based on Actual Demand

City of Donald Wastewater Rate Study Update - 2021 Analysis of WWTP Influent Flow and Load Data <sup>1</sup>								
Observation	Calendar Year	Month	City of Donald			Fargo Interchange Service District		
			Influent Flows MGD		Total Influent Flow (Q)	Influent Flows MGD		Total Influent Flow (Q)
			Peak Daily	Ave. Daily		Peak Daily	Ave. Daily	
1	2019	January	0.0790	0.0589	1.8260	0.0530	0.0413	1.2800
2		February	0.0970	0.0665	1.8630	0.0760	0.0566	1.5840
3		March	0.0680	0.0576	1.7860	0.0760	0.0567	1.7590
4		April	0.1000	0.0653	1.9590	0.0790	0.0610	1.8310
5	2020	May	0.0580	0.0519	1.6090	0.0610	0.0477	1.4780
6		June	0.0600	0.0528	1.5850	0.0470	0.0439	1.3180
7		July	0.0590	0.0520	1.6130	0.0490	0.0406	1.2580
8		August	0.0650	0.0520	1.6110	0.0430	0.0367	1.1380
9		September	0.0610	0.0517	1.5520	0.0410	0.0356	1.0670
10		October	0.0530	0.0502	1.5560	0.0390	0.0345	1.0710
11	2021	November	0.0520	0.0504	1.5120	0.0410	0.0366	1.0990
12		December	0.0610	0.0548	1.6990	0.0430	0.0373	1.1560
13		January	0.1070	0.0706	2.1890	0.0520	0.0379	1.1760
14		February	0.0830	0.0611	1.7720	0.0470	0.0381	1.1040
15	2022	March	0.0700	0.0554	1.7160	0.0460	0.0383	1.1860
16		April	0.0710	0.0601	1.8020	0.0480	0.0388	1.1630
17		May	0.0610	0.0560	1.7350	0.0430	0.0361	1.1180
18		June	0.0690	0.0560	1.6810	0.0460	0.0381	1.1440
19		July	0.0580	0.0537	1.6660	0.0450	0.0392	1.2150
20		August	0.0520	0.0494	1.5300	0.0420	0.0380	1.1770
21	2023	September	0.0600	0.0529	1.5870	0.0410	0.0341	1.0240
22		October	0.0580	0.0541	1.6780	0.0410	0.0359	1.1140
23		November	0.0800	0.0554	1.6620	0.0430	0.0348	1.0440
24		December	0.1080	0.0694	2.1520	0.0540	0.0351	1.0890
<b>Calendar 2019 Observed Flows to the Lagoons:</b>								
		ADWF			1.5877			1.2217
		AWWF			1.7742			1.4515
		Peak Factor			112%			119%
<b>Calendar 2020 Observed Flows to the Lagoons:</b>								
		ADWF			1.6462			1.1320
		AWWF			1.8822			1.1270
		Peak Factor			114%			100%
<b>2016 Rate Study Flow and Load Statistics:</b>								
		ADWF			1.6169			1.1768
		AWWF			1.8282			1.2893
		Peak Factor			113%			110%

<sup>1</sup> Source: Monthly DEQ Discharge Monitoring Reports

= Average Wet Weather Flow

= Average Dry Weather Flow

## Wastewater Rates Step 2 – Group Customers with Similar Usage Characteristics

	BOD	TSS	Actual 2020	Estimated 2021	Forecast				
	mg/l	mg/l			2022	2023	2024	2025	2026
Standard conversion factors: (mg/l) --> (lbs./cgs:0.008345404									
Billable Flow (Q): 1000 gal units									
Single Family Residential (based on winter average)			17,460	17,897	18,344	18,803	19,273	19,754	20,248
Multi-Family (based on annual metered flow)			0	0	0	0	0	0	0
Commercial I domestic strength (based on annual metered flow)			3,635	3,726	3,819	3,914	4,012	4,113	4,215
Fargo domestic strength (based on annual metered flow)			13,801	14,146	14,500	14,862	15,234	15,615	16,005
Commercial III high strength (based on annual metered flow)			0	0	0	0	0	0	0
High Strength (based on annual metered flow)			0	0	0	0	0	0	0
Total billable flow (Q) cgal			34,896	35,768	36,663	37,579	38,519	39,482	40,469
Biochemical Oxygen Demand (BOD) Pounds:									
Single Family Residential (based on winter average)	200		29,142	29,871	30,617	31,383	32,167	32,972	33,796
Multi-Family (based on annual metered flow)	200		0	0	0	0	0	0	0
Commercial I domestic strength (based on annual metered flow)	200		6,067	6,219	6,374	6,534	6,697	6,864	7,036
Fargo strength (based on annual metered flow)	200		23,035	23,611	24,201	24,806	25,426	26,062	26,714
Commercial III high strength (based on annual metered flow)	300		0	0	0	0	0	0	0
High Strength (based on annual metered flow)	350		0	0	0	0	0	0	0
Total billable pounds BOD			58,244	59,700	61,193	62,723	64,291	65,898	67,545
Total Suspended Solids (TSS) Pounds:									
Single Family Residential (based on winter average)	200		29,142	29,871	30,617	31,383	32,167	32,972	33,796
Multi-Family (based on annual metered flow)	200		0	0	0	0	0	0	0
Commercial I domestic strength (based on annual metered flow)	200		6,067	6,219	6,374	6,534	6,697	6,864	7,036
Fargo strength (based on annual metered flow)	200		23,035	23,611	24,201	24,806	25,426	26,062	26,714
Commercial III high strength (based on annual metered flow)	300		0	0	0	0	0	0	0
High Strength (based on annual metered flow)	350		0	0	0	0	0	0	0
Total billable pounds TSS			58,244	59,700	61,193	62,723	64,291	65,898	67,545
Equivalent Dwelling Units:									
Single Family Residential			365	365	374	384	393	403	413
Multi-Family			-	-	-	-	-	-	-
Commercial I domestic strength			35	35	36	36	37	38	39
Fargo strength (based on annual metered flow)			1	1	1	1	1	1	1
Commercial III high strength			0	0	0	0	0	0	0
High Strength			0	0	0	0	0	0	0
Total customer equivalent dwelling units			401	401	411	421	432	443	454

## Wastewater Rates Step 3 – Allocate Costs to Customer Classes Proportionate to System Demands

	Functional Categories of Wastewater Service				Customer Accounts	Joint Costs	Total
	Volume of Wastewater		Strength of Discharge				
	Flow (Q)	I&I	BOD	TSS			
<b>Forecast Year: 2021</b>							
Gross Revenue Requirements							
Personal services	-	-	-	-	-	219,328	219,328
Materials and services	55,467	7,247	12,896	12,896	29,076	21,551	139,134
Capital outlays	6,046	790	1,162	1,162	1,116	-	10,276
Transfers	-	-	-	-	10,000	-	10,000
Debt Service:	-	-	-	-	-	-	-
Subtotal Gross Revenue Requirements	<u>61,513</u>	<u>8,037</u>	<u>14,059</u>	<u>14,059</u>	<u>40,193</u>	<u>240,879</u>	<u>378,738</u>
Revenue Offsets:	<u>17,423</u>	<u>2,276</u>	<u>3,350</u>	<u>3,350</u>	<u>30,775</u>	<u>24,393</u>	<u>81,567</u>
Direct revenue requirement	44,090	5,760	10,709	10,709	9,417	216,485	297,171
add: allocated joint costs	<u>118,297</u>	<u>15,455</u>	<u>28,733</u>	<u>28,733</u>	<u>25,267</u>	<u>(216,485)</u>	
Net Revenues Required From Rates	<u>\$ 162,387</u>	<u>\$ 21,216</u>	<u>\$ 39,442</u>	<u>\$ 39,442</u>	<u>\$ 34,685</u>	<u>\$ -</u>	<u>\$ 297,171</u>
<b>Forecast Year: 2022</b>							
Gross Revenue Requirements							
Personal services	-	-	-	-	-	227,036	227,036
Materials and services	56,577	7,392	13,154	13,154	27,953	21,982	140,212
Capital outlays	5,307	693	2,000	2,000	-	-	10,000
Transfers	-	-	-	-	10,000	-	10,000
Debt Service:	-	-	-	-	-	-	-
Subtotal Gross Revenue Requirements	<u>61,883</u>	<u>8,085</u>	<u>15,154</u>	<u>15,154</u>	<u>37,953</u>	<u>249,018</u>	<u>387,248</u>
Revenue Offsets:	<u>7,770</u>	<u>1,015</u>	<u>1,494</u>	<u>1,494</u>	<u>28,674</u>	<u>24,917</u>	<u>65,364</u>
Direct revenue requirement	54,113	7,070	13,660	13,660	9,279	224,101	321,884
add: allocated joint costs	<u>124,018</u>	<u>16,203</u>	<u>31,307</u>	<u>31,307</u>	<u>21,266</u>	<u>(224,101)</u>	
Net Revenues Required From Rates	<u>\$ 178,131</u>	<u>\$ 23,273</u>	<u>\$ 44,967</u>	<u>\$ 44,967</u>	<u>\$ 30,545</u>	<u>\$ -</u>	<u>\$ 321,884</u>
<b>Forecast Year: 2023</b>							
Gross Revenue Requirements							
Personal services	-	-	-	-	-	235,097	235,097
Materials and services	57,708	7,540	13,417	13,417	28,679	22,421	143,183
Capital outlays	11,940	1,560	-	-	4,500	-	18,000
Transfers	-	-	-	-	10,000	-	10,000
Debt Service:	-	-	-	-	-	-	-
Subtotal Gross Revenue Requirements	<u>69,648</u>	<u>9,100</u>	<u>13,417</u>	<u>13,417</u>	<u>43,179</u>	<u>257,519</u>	<u>406,280</u>
Revenue Offsets:	<u>13,673</u>	<u>1,786</u>	<u>2,629</u>	<u>2,629</u>	<u>30,271</u>	<u>24,961</u>	<u>75,948</u>
Direct revenue requirement	55,976	7,313	10,789	10,789	12,908	232,558	330,332
add: allocated joint costs	<u>133,139</u>	<u>17,395</u>	<u>25,661</u>	<u>25,661</u>	<u>30,703</u>	<u>(232,558)</u>	
Net Revenues Required From Rates	<u>\$ 189,114</u>	<u>\$ 24,708</u>	<u>\$ 36,449</u>	<u>\$ 36,449</u>	<u>\$ 43,611</u>	<u>\$ -</u>	<u>\$ 330,332</u>

## Wastewater Rates Step 4 – Calculate Monthly Base Charges

	Estimated 2021	Forecast				
		2022	2023	2024	2025	2026
Base charge revenue requirements:						
Customer accounts	\$ 34,685	\$ 30,545	\$ 43,611	\$ 38,180	\$ 38,307	\$ 41,911
Number of equivalent dwelling units:						
Single Family Residential	365	374	384	393	403	413
Multi-Family Dwelling Units	-	-	-	-	-	-
Commercial I	35	36	36	37	38	39
Fargo Interchange Service District	1	1	1	1	1	1
Commercial III	0	0	0	0	0	0
High Strength	0	0	0	0	0	0
Total	401	411	421	432	443	454
Checksum	401	411	421	432	443	454
Number of equivalent bills per year:						
Single Family Residential	4,384	4,494	4,606	4,721	4,839	4,960
Multi-Family Dwelling Units	-	-	-	-	-	-
Commercial I	416	426	437	448	459	471
Fargo Interchange Service District	12	12	12	12	12	12
Commercial III	0	0	0	0	0	0
High Strength	0	0	0	0	0	0
Total	4,812	4,932	5,055	5,181	5,311	5,443
Base charge:						
Monthly						
Customer accounts	<u>\$ 7.2076</u>	<u>\$ 6.1929</u>	<u>\$ 8.6269</u>	<u>\$ 7.3687</u>	<u>\$ 7.2134</u>	<u>\$ 7.6999</u>

## Wastewater Rates Step 5 – Calculate Use (Commodity) Charges

Forecast Year/Customer Class	Wastewater Flow (hydraulic demand)			I&I (based on sanitary flow)			Biosolids Handling and Management			Inorganics Handling and Management		
	Flow cgal	Flow %	Flow \$	Flow cgal	I&I %	I&I \$	BOD lbs	BOD %	BOD \$	TSS lbs	TSS %	TSS \$
<b>2021 Revenue Requirement</b>			<b>\$ 162,387</b>			<b>\$ 21,216</b>			<b>\$ 39,442</b>			<b>\$ 39,442</b>
Customer contributions:												
Single Family Residential	18,344	50.03%	\$ 4.4292	17,897	48.81%	\$ 0.5787	30,617	50.03%	\$ 1.0758	30,617	50.03%	\$ 1.0758
Multi-Family	0	0.00%	\$ 4.4292	0	0.00%	\$ 0.5787	0	0.00%	\$ 1.0758	0	0.00%	\$ 1.0758
Commercial I	3,819	10.42%	\$ 4.4292	3,726	10.16%	\$ 0.5787	6,374	10.42%	\$ 1.0758	6,374	10.42%	\$ 1.0758
Commercial II	14,500	39.55%	\$ 4.4292	14,146	38.58%	\$ 0.5787	24,201	39.55%	\$ 1.0758	24,201	39.55%	\$ 1.0758
Commercial III	0	0.00%	\$ 4.4292	0	0.00%	\$ 0.5787	0	0.00%	\$ 1.6137	0	0.00%	\$ 1.6137
High Strength	0	0.00%	\$ 4.4292	0	0.00%	\$ 0.5787	0	0.00%	\$ 1.8827	0	0.00%	\$ 1.8827
Customer Contribution	36,663	100.00%		36,663	100.00%		61,193	100.00%		61,193	100.00%	
Checksum	36,663			36,663			61,193			61,193		
<b>2022 Revenue Requirement</b>			<b>\$ 178,131</b>			<b>\$ 23,273</b>			<b>\$ 44,967</b>			<b>\$ 44,967</b>
Customer contributions:												
Single Family Residential	18,803	50.03%	\$ 4.7402	18,803	50.03%	\$ 0.6193	31,383	50.03%	\$ 1.1966	31,383	50.03%	\$ 1.1966
Multi-Family	0	0.00%	\$ 4.7402	0	0.00%	\$ 0.6193	0	0.00%	\$ 1.1966	0	0.00%	\$ 1.1966
Commercial I	3,914	10.42%	\$ 4.7402	3,914	10.42%	\$ 0.6193	6,534	10.42%	\$ 1.1966	6,534	10.42%	\$ 1.1966
Commercial II	14,862	39.55%	\$ 4.7402	14,862	39.55%	\$ 0.6193	24,806	39.55%	\$ 1.1966	24,806	39.55%	\$ 1.1966
Commercial III	0	0.00%	\$ 4.7402	0	0.00%	\$ 0.6193	0	0.00%	\$ 1.7949	0	0.00%	\$ 1.7949
High Strength	0	0.00%	\$ 4.7402	0	0.00%	\$ 0.6193	0	0.00%	\$ 2.0941	0	0.00%	\$ 2.0941
Customer Contribution	37,579	100.00%		37,579			62,723	100.00%		62,723	100.00%	
Checksum	37,579			37,579			62,723			62,723		
<b>2023 Revenue Requirements</b>			<b>\$ 189,114</b>			<b>\$ 24,708</b>			<b>\$ 36,449</b>			<b>\$ 36,449</b>
Customer contributions:												
Single Family Residential	19,273	50.03%	\$ 4.9097	19,273	50.03%	\$ 0.6414	32,167	50.03%	\$ 0.9463	32,167	50.03%	\$ 0.9463
Multi-Family	0	0.00%	\$ 4.9097	0	0.00%	\$ 0.6414	0	0.00%	\$ 0.9463	0	0.00%	\$ 0.9463
Commercial I	4,012	10.42%	\$ 4.9097	4,012	10.42%	\$ 0.6414	6,697	10.42%	\$ 0.9463	6,697	10.42%	\$ 0.9463
Commercial II	15,234	39.55%	\$ 4.9097	15,234	39.55%	\$ 0.6414	25,426	39.55%	\$ 0.9463	25,426	39.55%	\$ 0.9463
Commercial III	0	0.00%	\$ 4.9097	0	0.00%	\$ 0.6414	0	0.00%	\$ 1.4194	0	0.00%	\$ 1.4194
High Strength	0	0.00%	\$ 4.9097	0	0.00%	\$ 0.6414	0	0.00%	\$ 1.6560	0	0.00%	\$ 1.6560
Customer Contribution	38,519	100.00%		38,519			64,291	100.00%		64,291	100.00%	
Checksum	38,519			38,519			64,291			64,291		

## Wastewater Rates Step 6 – Proposed Schedule of Wastewater Rates

City of Donald Sewer Service Fees and Charges	Current	Effective July 1					
	April 1, 2021	2021	2022	2023	2024	2025	2026
<b>Inside City:</b>							
<i>Residential:</i>							
Sewer monthly bill	\$ 35.93	\$ 35.93	\$ 37.10	\$ 38.30	\$ 39.54	\$ 40.81	\$ 42.13
Reserve fund fee	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>
Total monthly base charges	\$ 38.93	\$ 38.93	\$ 40.10	\$ 41.30	\$ 42.54	\$ 43.81	\$ 45.13
<i>Commercial:</i>							
Base charge (included 5,190 gallons)	\$ 35.93	\$ 35.93	\$ 37.10	\$ 38.30	\$ 39.54	\$ 40.81	\$ 42.13
Reserve fund fee	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>	<u>3.00</u>
Total monthly base charges	\$ 38.93	\$ 38.93	\$ 40.10	\$ 41.30	\$ 42.54	\$ 43.81	\$ 45.13
<i>Volume charge (\$/1,000 gallons)</i>	\$ 2.03	\$ 1.86	\$ 1.93	\$ 2.00	\$ 2.06	\$ 2.13	\$ 2.20
<b>Other water fees and charges:</b>							
Establishment of a new customer account		\$ 50					
Transfer utility account back to landlord		\$ 20					
Past due: charged morning of the 21st of the month		\$ 5					
Shut-off notice "red tag"		\$ 20					
Meter shutoffs - for non payment or vacate property		\$ 35					
After hours water service turn on/off fee for water/sewer		\$ 75					
Meter read test - returned if meter reads +2% fast		\$ 10					
Vacation monthly bill - with one turn off/and on service		\$ 50					
Bulk water sale (one time)		\$ 50					plus consumption
Water service installation: residential 3/4" meter		\$ 6,000					
Without excavation		\$ 2,200					
Sewer service installation: residential 1,000 gal tank		\$ 9,200					
Without excavation		\$ 5,200					
Decreasing/increasing size of meter							at cost
Return check fee		\$ 40					

## Wastewater Rates Step 6 continued—(Cost of Service Rates)

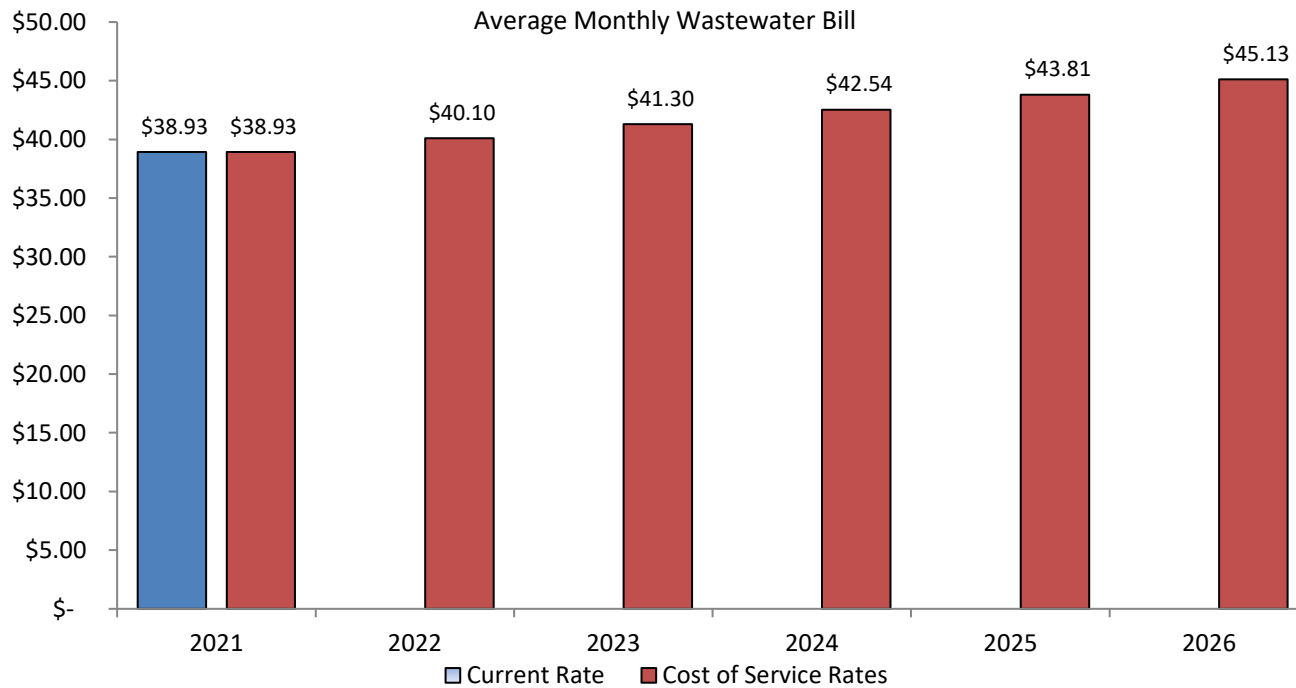
Line Item Description	Estimated 2021	Forecast				
		2022	2023	2024	2025	2026
<i>Residential Monthly Flat Rates - \$/EDU</i>	\$ 35.75	\$ 37.10	\$ 38.30	\$ 39.54	\$ 40.81	\$ 42.13
<i>Customer Account Service (BASE) Charges:</i>						
Inside City monthly	\$ 7.20760	\$ 6.19292	\$ 8.62687	\$ 7.36868	\$ 7.21338	\$ 7.69994
<i>Commodity (USE) Charges:</i>						
Single Family Residential						
Sanitary flow	4.42923	4.74016	4.90968	5.08153	5.27451	5.47573
Infiltration & inflow (I&I)	0.57868	0.61930	0.64145	0.66390	0.68911	0.71540
Strength - BOD	1.07580	1.19660	0.94628	1.16245	1.23275	1.22273
Strength - TSS	1.07580	1.19660	0.94628	1.16245	1.23275	1.22273
Total - \$/cgal	\$ 7.15951	\$ 7.75267	\$ 7.44369	\$ 8.07033	\$ 8.42912	\$ 8.63659
Multi-Family						
Sanitary flow	4.42923	4.74016	4.90968	5.08153	5.27451	5.47573
Infiltration & inflow (I&I)	0.57868	0.61930	0.64145	0.66390	0.68911	0.71540
Strength - BOD	1.07580	1.19660	0.94628	1.16245	1.23275	1.22273
Strength - TSS	1.07580	1.19660	0.94628	1.16245	1.23275	1.22273
Total - \$/cgal	\$ 7.15951	\$ 7.75267	\$ 7.44369	\$ 8.07033	\$ 8.42912	\$ 8.63659
Commercial I						
Sanitary flow	4.42923	4.74016	4.90968	5.08153	5.27451	5.47573
Infiltration & inflow (I&I)	0.57868	0.61930	0.64145	0.66390	0.68911	0.71540
Strength - BOD	1.07580	1.19660	0.94628	1.16245	1.23275	1.22273
Strength - TSS	1.07580	1.19660	0.94628	1.16245	1.23275	1.22273
Total - \$/cgal	\$ 7.15951	\$ 7.75267	\$ 7.44369	\$ 8.07033	\$ 8.42912	\$ 8.63659
Commercial III						
Sanitary flow	4.42923	4.74016	4.90968	5.08153	5.27451	5.47573
Infiltration & inflow (I&I)	0.57868	0.61930	0.64145	0.66390	0.68911	0.71540
Strength - BOD	1.61370	1.79490	1.74367	1.74367	1.84913	1.83409
Strength - TSS	1.61370	1.79490	1.74367	1.74367	1.84913	1.83409
Total - \$/cgal	\$ 8.23531	\$ 8.94927	\$ 9.03848	\$ 9.23278	\$ 9.66187	\$ 9.85932
High Strength						
Sanitary flow	4.42923	4.74016	4.90968	5.08153	5.27451	5.47573
Infiltration & inflow (I&I)	0.57868	0.61930	0.64145	0.66390	0.68911	0.71540
Strength - BOD	1.88265	2.09405	1.65599	2.03429	2.15731	2.13977
Strength - TSS	1.88265	2.09405	1.65599	2.03429	2.15731	2.13977
Total - \$/cgal	\$ 8.77322	\$ 9.54757	\$ 8.86311	\$ 9.81400	\$10.27825	\$10.47068

Note: High strength customers that contribute wastewater that exceed a strength threshold of 350 mg/l BOD or 350 mg/l TSS will be charged based on their actual flow and load.



## Water Rates Step 7 – Monthly Bill Analysis

	Cost of Service Forecast						
	4/1/2021	2021	2022	2023	2024	2025	2026
Monthly base		7.21	6.19	8.63	7.37	7.21	7.70
Use charge		7.16	7.75	7.44	8.07	8.43	8.64
Assumed usage (kgal)		3.99	3.99	3.99	3.99	3.99	3.99
Monthly wastewater bill	35.93	35.93	37.10	38.30	39.54	40.81	42.13
add: capital reserve charge	3.00	3.00	3.00	3.00	3.00	3.00	3.00
<b>Total monthly water bill</b>	<b>\$ 38.93</b>	<b>\$ 38.93</b>	<b>\$ 40.10</b>	<b>\$ 41.30</b>	<b>\$ 42.54</b>	<b>\$ 43.81</b>	<b>\$ 45.13</b>
			3.00%	3.00%	3.00%	3.00%	3.00%



## Appendix C – 2021 Fargo Wastewater Cost of Service Model

# Fargo Rates Step 1 – Allocation of Fiscal 2020-21 Budgeted Operations & Maintenance Expense

	Cost Causation			Direct Assignment (DA)	Basis for Classification			Direct Assignment (DA)	Donald	Fargo	Basis for Classification				
	Estimated 2021	Flow Related Capacity Use (CAP)	Volume of WW Flow (VOL)		CAP	VOL	DA				(DA)	Donald	Fargo	Donald	Fargo
Gross Revenue Requirements:															
Sewer Fund 08															
Personal Services:															
Salaries - maintenance wages	67,121	16,780	16,780	33,560	25%	25%	50%	33,560	25,170	8,390	75%	25%			
Salaries - administrative salaries	69,173	17,293	17,293	34,587	25%	25%	50%	34,587	31,128	3,459	90%	10%			
Extra labor	-	-	-	-	25%	25%	50%	-	-	-	75%	25%			
Overtime	-	-	-	-	25%	25%	50%	-	-	-	75%	25%			
Benefits and taxes	83,034	20,758	20,758	41,517	25%	25%	50%	41,517	31,138	10,379	75%	25%			
Materials and Services:															
Advertising	120	-	-	120	0%	0%	100%	120	120	-	100%	0%			
Materials & supplies	12,000	3,000	6,000	3,000	25%	50%	25%	3,000	3,000	-	100%	0%			
Postage	2,948	-	-	2,948	0%	0%	100%	2,948	2,948	-	100%	0%			
Vehicle operations & maintenance	1,290	322	645	322	25%	50%	25%	322	322	-	100%	0%			
Legal	3,797	633	1,266	1,898	17%	33%	50%	1,898	1,898	-	100%	0%			
Accounting	4,350	725	1,450	2,175	17%	33%	50%	2,175	2,175	-	100%	0%			
Outside services	8,404	-	-	8,404	0%	0%	100%	8,404	5,124	3,280	61%	39%			
Dues & subscriptions	813	203	406	203	25%	50%	25%	203	203	-	100%	0%			
Travel, meeting, education	271	68	136	68	25%	50%	25%	68	68	-	100%	0%			
Septic tank pumping	20,765	-	-	20,765	0%	0%	100%	20,765	20,765	-	100%	0%			
Sewer lab testing	2,020	-	1,010	1,010	0%	50%	50%	1,010	616	394	61%	39%			
Uniforms	480	80	160	240	17%	33%	50%	240	240	-	100%	0%			
Chemicals	6,260	1,565	1,565	3,130	25%	25%	50%	3,130	1,908	1,222	61%	39%			
Engineering	30,000	7,500	7,500	15,000	25%	25%	50%	15,000	9,145	5,855	61%	39%			
Permits & fees	1,724	517	1,034	172	30%	60%	10%	172	172	-	100%	0%			
Vehicle lease	-	-	-	-	25%	50%	25%	-	-	-	100%	0%			
Installations	18,000	5,400	10,800	1,800	30%	60%	10%	1,800	1,800	-	100%	0%			
Insurance & bonds	7,123	1,187	2,374	3,561	17%	33%	50%	3,561	3,561	-	100%	0%			
Repair & maintenance	2,966	742	1,483	742	25%	50%	25%	742	742	-	100%	0%			
Utilities	10,803	3,241	6,482	1,080	30%	60%	10%	1,080	1,080	-	100%	0%			
Miscellaneous expenses	5,000	833	1,667	2,500	17%	33%	50%	2,500	2,500	-	100%	0%			
Other	-	-	-	-	20%	40%	40%	-	-	-	100%	0%			
Other	-	-	-	-	20%	40%	40%	-	-	-	100%	0%			
Other	-	-	-	-	20%	40%	40%	-	-	-	100%	0%			
Other	-	-	-	-	20%	40%	40%	-	-	-	100%	0%			
Transfers:															
Transfer to the water debt service fund	-	-	-	-	As all O&M			-	-	-	100%	0%			
Transfer to support services (ACER)	10,000	2,255	2,756	4,988	As all O&M			4,988	3,041	2,494	61%	50%			
Transfer to public works reserve fund	-	-	-	-	As all O&M			-	-	-	100%	0%			
Transfer to Water Depreciation Fund	-	-	-	-	As all O&M			-	-	-	100%	0%			
Contingencies & Reserves:															
Total Operations & Maintenance Expense	368,462	83,104	101,566	183,791				183,791	148,865	35,473	100%	19%			
	100%	23%	28%	50%				100%	81%	19%					

## Fargo Rates Step 2 – Allocation of Depreciation Expense

Description	June 30, 2020 Depreciation Expense	Cost Causation			Basis for Classification			Direct Assignment (DA)	Donald	Fargo	Basis for Classification	
		Flow Related Capacity Use (CAP)	Volume of WW Flow (VOL)	Direct Assignment (DA)	CAP	VOL	DA				Donald	Fargo
<b>Land, Dedications, and Easements:</b>												
Lagoon #1	-	-	-	-	0%	0%	100%	-	-	-	100%	0%
Lagoon #2	-	-	-	-	0%	0%	100%	-	-	-	100%	0%
Lagoon #3	-	-	-	-	0%	0%	100%	-	-	-	100%	0%
Lagoon #4	-	-	-	-	0%	0%	100%	-	-	-		100%
<b>Buildings and Improvements:</b>												
Sewer Shop	-	-	-	-	40%	60%	0%	-	-	-	100%	0%
Sewer Plant, roof	298	119	179	-	40%	60%	0%	-	-	-	100%	0%
Chlorine Out Building	966	386	580	-	40%	60%	0%	-	-	-	100%	0%
Sewer Leasehold Improvements	-	-	-	-	40%	60%	0%	-	-	-	100%	0%
Addition: asphalt	280	112	168	-	40%	60%	0%	-	-	-	100%	0%
Sewer Plant: Paving	280	112	168	-	40%	60%	0%	-	-	-	100%	0%
Sewer Plant: Paving	742	297	445	-	40%	60%	0%	-	-	-	100%	0%
<b>Vehicles and Equipment:</b>												
Lawnmower	-	-	-	-	As All Other Plant			-	-	-	100%	0%
2012 Chevy Pickup - 3500	-	-	-	-	As All Other Plant			-	-	-	100%	0%
Used Case Tractor IHCx60	-	-	-	-	As All Other Plant			-	-	-	100%	0%
Vacuum Excavator	-	-	-	-	As All Other Plant			-	-	-	100%	0%
John Deere x758 Tractor w/mower deck	2,925	590	886	1,449	As All Other Plant			1,449	1,449	-	100%	0%
<b>Collection System:</b>												
Sewer System	22,333	-	-	22,333	0%	0%	100%	22,333	22,333	-	100%	0%
Septic Tanks	-	-	-	-	0%	0%	100%	-	-	-	100%	0%
<b>Treatment Plant:</b>												
Sewer System: Improvement	14,888	5,955	8,933	-	40%	60%	0%	-	-	-	100%	0%
Sewer System: Improvement	-	-	-	-	40%	60%	0%	-	-	-	100%	0%
Sewer System: Improvement	2,477	991	1,486	-	40%	60%	0%	-	-	-	100%	0%
Sewer System: Replace Valves	1,372	549	823	-	40%	60%	0%	-	-	-	100%	0%
Sewer System: Replace Valves	973	389	584	-	40%	60%	0%	-	-	-	100%	0%
Sewer System: Replace Valves	1,222	489	733	-	40%	60%	0%	-	-	-	100%	0%
<b>Total Utility Plant-in-Service</b>	<b>48,756</b>	<b>9,990</b>	<b>14,985</b>	<b>23,781</b>				<b>23,781</b>	<b>23,781</b>	<b>-</b>		
	100%	20%	31%	49%				100%	100%	0%		

## Fargo Rates Step 3 – Utility Plant-in-Service (rate base)

Description	Acquisition Year	Purchase Price	Useful Life (yrs.)	July 1, 2019 Book Value	Depreciation Expense	June 30, 2020 Book Value
<b>Land, Dedications, and Easements:</b>						
Lagoon #1	1984	\$ 27,000	30	\$ 27,000	-	\$ 27,000
Lagoon #2	1984	13,500	30	13,500	-	13,500
Lagoon #3	1984	13,500	30	13,500	-	13,500
Lagoon #4	2006	2,530,000	30	2,530,000	-	2,530,000
<b>Buildings and Improvements:</b>						
Sewer Shop	2009	37,789	10	-	-	-
Sewer Plant, roof	2018	8,950	30	8,353	298	8,055
Chlorine Out Building	2013	9,660	10	2,898	966	1,932
Sewer Leasehold Improvements	2006	7,100	10	-	-	-
Addition: asphalt	2008	5,600	20	2,240	280	1,960
Sewer Plant: Paving	2008	5,600	20	2,240	280	1,960
Sewer Plant: Paving	2013	14,838	20	9,644	742	8,902
<b>Vehicles and Equipment:</b>						
Lawnmower	2003	5,107	5	-	-	-
2012 Chevy Pickup - 3500	2012	30,000	5	-	-	-
Used Case Tractor IHCx60	2013	15,900	5	-	-	-
Vacuum Excavator	2014	23,374	3	-	-	-
John Deere x758 Tractor w/mower c	2019	14,626	5	11,701	2,925	8,776
<b>Collection System:</b>						
Sewer System	1985	1,116,620	50	334,986	22,333	312,653
Septic Tanks	1992	5,278	20	-	-	-
<b>Treatment Plant:</b>						
Sewer System: Improvement	1985	744,414	50	223,324	14,888	208,436
Sewer System: Improvement	1996	8,352	20	-	-	-
Sewer System: Improvement	2011	49,530	20	34,671	2,477	34,671
Sewer System: Replace Valves	2016	27,440	20	24,696	1,372	24,696
Sewer System: Replace Valves	2017	19,452	20	16,534	973	15,561
Sewer System: Replace Valves	2018	24,446	20	22,002	1,222	20,780
<b>Total Utility Plant-in-Service</b>		<b>\$ 4,758,076</b>		<b>\$ 3,277,289</b>	<b>\$ 48,756</b>	<b>\$ 3,232,382</b>

## Fargo Rates Step 4 – Allocation of Utility Plant-in-Service (rate base)

Description	Cost Causation				Basis for Classification			Assignment			Basis for Classification	
	June 30, 2020	Flow Related	Volume of	Direct	CAP	VOL	DA	(DA)	Donald	Fargo	Donald	Fargo
	Book Value	Capacity Use (CAP)	WW Flow (VOL)	Assignment (DA)								
<b>Land, Dedications, and Easements:</b>												
Lagoon #1	27,000	-	-	27,000	0%	0%	100%	27,000	27,000	-	100%	0%
Lagoon #2	13,500	-	-	13,500	0%	0%	100%	13,500	13,500	-	100%	0%
Lagoon #3	13,500	-	-	13,500	0%	0%	100%	13,500	13,500	-	100%	0%
Lagoon #4	2,530,000	-	-	2,530,000	0%	0%	100%	2,530,000	-	2,530,000	-	100%
<b>Buildings and Improvements:</b>												
Sewer Shop	-	-	-	-	33%	67%	0%	-	-	-	100%	0%
Sewer Plant, roof	8,055	1,343	2,685	4,028	17%	33%	50%	4,028	4,028	-	100%	0%
Chlorine Out Building	1,932	322	644	966	17%	33%	50%	966	966	-	100%	0%
Sewer Leasehold Improvements	-	-	-	-	17%	33%	50%	-	-	-	100%	0%
Addition: asphalt	1,960	327	653	980	17%	33%	50%	980	980	-	100%	0%
Sewer Plant: Paving	1,960	327	653	980	17%	33%	50%	980	980	-	100%	0%
Sewer Plant: Paving	8,902	1,484	2,967	4,451	17%	33%	50%	4,451	4,451	-	100%	0%
<b>Vehicles and Equipment:</b>												
Lawnmower	-	-	-	-	As All Other Plant			-	-	-	100%	0%
2012 Chevy Pickup - 3500	-	-	-	-	As All Other Plant			-	-	-	100%	0%
Used Case Tractor IHcx60	-	-	-	-	As All Other Plant			-	-	-	100%	0%
Vacuum Excavator	-	-	-	-	As All Other Plant			-	-	-	100%	0%
John Deere x758 Tractor w/mower deck	8,776	145	289	8,342	As All Other Plant			8,342	8,342	-	100%	0%
<b>Collection System:</b>												
Sewer System	312,653	-	-	312,653	0%	0%	100%	312,653	312,653	-	100%	0%
Septic Tanks	-	-	-	-	0%	0%	100%	-	-	-	100%	0%
<b>Treatment Plant:</b>												
Sewer System: Improvement	208,436	34,739	69,479	104,218	17%	33%	50%	104,218	104,218	-	100%	0%
Sewer System: Improvement	-	-	-	-	17%	33%	50%	-	-	-	100%	0%
Sewer System: Improvement	34,671	5,779	11,557	17,336	17%	33%	50%	17,336	17,336	-	100%	0%
Sewer System: Replace Valves	24,696	4,116	8,232	12,348	17%	33%	50%	12,348	12,348	-	100%	0%
Sewer System: Replace Valves	15,561	2,594	5,187	7,781	17%	33%	50%	7,781	7,781	-	100%	0%
Sewer System: Replace Valves	20,780	3,463	6,927	10,390	17%	33%	50%	10,390	10,390	-	100%	0%
<b>Total Utility Plant-in-Service</b>	<b>3,232,382</b>	<b>54,637</b>	<b>109,274</b>	<b>3,068,472</b>				<b>3,068,472</b>	<b>538,472</b>	<b>2,530,000</b>		
<b>Other Rate Base Items:</b>												
Allowance for working capital	46,058	10,388	12,696	22,974	As O&M			22,974	18,608	4,434	As O&M	
less: construction work in progress	-	-	-	-	As Plant less Fargo contributions			-	-	-	As Plant less Fargo con	
less: Fargo lagoon #4	2,530,000	-	-	2,530,000				2,530,000	-	2,530,000	To Fargo	
<b>Total other rate base items</b>	<b>(2,483,942)</b>	<b>10,388</b>	<b>12,696</b>	<b>(2,507,026)</b>				<b>(2,507,026)</b>	<b>18,608</b>	<b>(2,525,566)</b>		
<b>Total Rate Base</b>	<b>748,440</b>	<b>65,025</b>	<b>121,969</b>	<b>561,446</b>				<b>\$ 561,446</b>	<b>\$ 557,080</b>	<b>\$ 4,434</b>		
	100%	9%	16%	75%				100%	99%	1%		

## Fargo Rates Step 5 – Historical Metered Wastewater Flows to the Lagoons

Line Item Descriptions	Flow (Gallons)	% of Total	Observation	Calendar Year	Month	City of Donald			Fargo Interchange Service District		
						Influent Flows MGD		Total Influent	Influent Flows MGD		Total Influent
						Peak Daily	Ave. Daily	Flow (Q)	Peak Daily	Ave. Daily	Flow (Q)
Capacity Factor: peak day flow			1	2019	January	0.0790	0.0589	1.8260	0.0530	0.0413	1.2800
City of Donald	73,083	59.38%	2		February	0.0970	0.0665	1.8630	0.0760	0.0566	1.5840
Fargo	50,000	40.62%	3		March	0.0680	0.0576	1.7860	0.0760	0.0567	1.7590
	123,083	100.00%	4		April	0.1000	0.0653	1.9590	0.0790	0.0610	1.8310
			5		May	0.0580	0.0519	1.6090	0.0610	0.0477	1.4780
Volume Factor: total influent flow 2020			6		June	0.0600	0.0528	1.5850	0.0470	0.0439	1.3180
City of Donald	21,170,000	60.97%	7		July	0.0590	0.0520	1.6130	0.0490	0.0406	1.2580
Fargo	13,554,000	39.03%	8		August	0.0650	0.0520	1.6110	0.0430	0.0367	1.1380
	34,724,000	100.00%	9		September	0.0610	0.0517	1.5520	0.0410	0.0356	1.0670
			10		October	0.0530	0.0502	1.5560	0.0390	0.0345	1.0710
			11		November	0.0520	0.0504	1.5120	0.0410	0.0366	1.0990
			12		December	0.0610	0.0548	1.6990	0.0430	0.0373	1.1560
			13	2020	January	0.1070	0.0706	2.1890	0.0520	0.0379	1.1760
			14		February	0.0830	0.0611	1.7720	0.0470	0.0381	1.1040
			15		March	0.0700	0.0554	1.7160	0.0460	0.0383	1.1860
			16		April	0.0710	0.0601	1.8020	0.0480	0.0388	1.1630
			17		May	0.0610	0.0560	1.7350	0.0430	0.0361	1.1180
			18		June	0.0690	0.0560	1.6810	0.0460	0.0381	1.1440
			19		July	0.0580	0.0537	1.6660	0.0450	0.0392	1.2150
			20		August	0.0520	0.0494	1.5300	0.0420	0.0380	1.1770
			21		September	0.0600	0.0529	1.5870	0.0410	0.0341	1.0240
			22		October	0.0580	0.0541	1.6780	0.0410	0.0359	1.1140
			23		November	0.0800	0.0554	1.6620	0.0430	0.0348	1.0440
			24		December	0.1080	0.0694	2.1520	0.0540	0.0351	1.0890

<sup>1</sup> Source: Monthly DEQ Discharge Monitoring Reports

= Average Wet Weather Flow

= Average Dry Weather Flow

## Fargo Rates Step 6 – Proposed Fargo Wastewater Treatment Rates as of July 1, 2016

	Total	Cost Causation		
		Flow Related Capacity Use (CAP)	Volume of WW Flow (VOL)	Direct Assignment (DA)
<b>Direct expenses:</b>				
Operations & Maintenance Expense	\$ 108,878	\$ 33,759	\$ 39,645	\$ 35,473
Taxes	-	-	-	-
Depreciation	9,907	4,058	5,849	-
Total direct expenses	\$ 118,785	\$ 37,817	\$ 45,494	\$ 35,473
<b>Rate of Return on Invested Capital:</b>				
Rate Base	\$ 78,458	\$ 26,415	\$ 47,609	\$ 4,434
Rate of Return - %	4.000%	4.000%	4.000%	4.000%
Return on Invested Capital	\$ 3,138	\$ 1,057	\$ 1,904	\$ 177
Total Fargo Revenue Requirement	\$ 121,923	\$ 38,874	\$ 47,398	\$ 35,651
Billing units		50,000	13,554	13,554
Proposed Rates for Fargo		\$ 0.065	\$ 3.497	\$ 2.630
		<b>A</b>	<b>B</b>	<b>C</b>
<i>Proposed Fargo rates effective April 1, 2021:</i>				
Demand rate - \$ per month (50,000 gpd x <b>A</b> )	\$ 3,239			
Commodity rate - \$ per kgal ( <b>B + C</b> )	\$ 6.127			