

****ATTENTION****

The City Council meeting will be held in a hybrid format that includes both in-person AND Zoom. Councilmembers may choose to attend the meeting virtually or in person at the **Billings Public Library Community Room**. In order to honor the Right of Participation and the Right to Know in Article II, sections 8 and 9, of the Montana Constitution, the City of Billings and City Council are making every effort to meet the requirements of the open meeting laws.

Citizens are invited to:

- Review the Agenda Packet on the City's website at: www.billingsmt.gov and click on "Your Government," "City Council," and "Agendas & Minutes".
- View the meeting:
 - On Community 7 TV - Channel 7 or Channel 507 – Spectrum Cable. *(On evenings when there is a conflict with School District No. 2 Board meetings, the City Council meeting will be broadcast on Channel 8 - Spectrum Cable.)*
 - Online at www.comm7tv.com and click on the "Watch Live" icon. Community 7 also has links to their Facebook page and YouTube channel.
 - On the City's website at www.billingsmt.gov and click on "Watch Meetings Online" on the homepage.
 - In-Person – capacity is limited to approximately 15 spectators with overflow available in the lobby. Mask and social distancing requirements will be enforced.

Citizens may submit public comment via the following methods:

- Mail: City Clerk, P.O. Box 1178, Billings, MT 59103
- Email: Council@billingsmt.gov.
 - Emails received after 3:00 PM on the day of the meeting, may be posted on the Council's webpage the following day for public viewing.
- Attend the meeting in person - capacity is limited to approximately 15 spectators with overflow available in the lobby. Mask and social distancing requirements will be enforced. Speakers may be asked to exit after speaking to comply with social distancing protocols.
- Attend the meeting virtually by registering at Zoom.us and "join a meeting", enter the Webinar ID and Passcode indicated below. Click on *Zoom Meeting Instructions* and *Zoom Hybrid Meeting Details* below for more information. Attendees are asked to register by Noon the day of the meeting. After registering, a link into the meeting will be sent to the attendee. The link will allow you to attend, view and participate in the meeting on your computer, laptop or smart phone. (You must have the Zoom App on your device [Click Here to Download Zoom App](#)) To provide public comment at the appropriate time, click on the "raise hand" icon located at the bottom of the screen and the moderator will unmute your device.
 - **Don't have a smart phone, computer or laptop?** That's okay -- you can attend a Zoom meeting using your **landline phone**. Call the Zoom phone number, **1.253.215.8782** to join the meeting and follow the operator's instructions. Want to give public comment? Simply "*raise your hand*" by pressing *9 and the moderator will give you permission to speak when it is your turn. **Note this is a long distance toll number and charges may apply depending on your plan.*
- Click Here for [City Council Zoom Hybrid Meeting Details and Schedule](#)
- Click Here for [Zoom Meeting Instructions for Attendees \(as guests\)](#)

Webinar ID: 850 1208 9084

Passcode: 834316

Or join by phone: US: +1-253-215-8782

The practice of receiving phone calls to a specific Public Comment telephone line has been discontinued.

Future delivery methods may be explored as best practice is learned.

Please contact Denise Bohlman, City Clerk, at bohlmand@billingsmt.gov, or at 406.657.8205, with any questions.



VISION STATEMENT:
"The Magic City: A diverse,
welcoming community
where people prosper and
business succeeds."

WORK SESSION AGENDA

Billings Public Library and remotely
via Zoom. Please see coversheet
for details and instructions for
viewing and participation.

April 19, 2021

5:30 P.M.

CALL TO ORDER: Mayor Cole

1. Legislative Updates.

(Presented by: Greg Dorrington and Aimee Grmoljez, City's Lobbyists)

- Public Comment

2. Water and Wastewater Rates.

(Presented by: Jennifer Duray, Public Works Deputy Director)

-Public Comment

3. Safe Routes to School and Trail Funding.

(Presented by: Jennifer Duray, Public Works Deputy Director)

-Public Comment

4. Energy and Conservation Commission Update.

(Presented by: Louis Engels, Water Quality Superintendent; Randy Hafer and Glenn Foy, Energy and Conservation Commission)

-Public Comment

5. Property Purchasing Resolution.

(Presented by: Jessica Iverson, Facilities Manager)

-Public Comment

COUNCIL DISCUSSION:

PUBLIC COMMENT on "NON-AGENDA ITEMS". Speaker Identification required. (Restricted to ONLY items not on this printed agenda. Comments are limited to 3 minutes or as set by the Mayor. Public comments during the meeting may be made in-person or remotely by registering as an attendee through Zoom.us as outlined in the Agenda coversheet.)

ADJOURN:

Note:

- This meeting is an “informal” meeting of the City Council. The content of the Agenda is subject to change at the meeting.
- In the event there is a Closed Executive Session at the end of a Work Session, the sole purpose is to discuss litigation strategy. The other parties to the case(s) discussed are not public bodies or associations as described in Section 2-3-203(1) and (2), MCA. The meeting is closed, as allowed by Section 2-3-203(4)(a), MCA, “to discuss a strategy to be followed with respect to litigation when an open meeting would have a detrimental effect on the litigating position” of the City of Billings.

City Council Work Session

Date: 04/19/2021
Title: Water and Wastewater Rate Study Results and Recommendations
Presented by: Jennifer Duray
Department: Public Works
Presentation: Yes

RECOMMENDATION

No formal action is expected at this work session, but staff is seeking feedback from the Council on the proposed rates, as well as direction from City Council on the residential water tier structure and bulk water reseller rate options.

BACKGROUND (Consistency with Adopted Plans and Policies, if applicable)

At the September 8, 2020 Council work session, staff requested direction on issues Council desired to have analyzed in the upcoming water and wastewater rate study. The following was the general direction provided by Council:

- Change the chart on the utility bills to show the rate tiers.
- Investigate the possibility of reporting consumption in gallons rather than Ccfs.
- Analyze an alternative residential water tier structure that provided a rate for users with minimal consumption ("lifeline rate").
- Provide rate options for bulk water resellers located in the City limits (charged inside City rate) and selling water outside the City of Billings limits.

Public works engaged AE2S Nexus to conduct a cost of service rate study to review and recommend appropriate water and wastewater user rates, the resale rate for the County Water District of Billings Heights, and wholesale rates for Lockwood Water and Sewer District, Philips 66 Billings Refinery and ExxonMobil Refinery, as well as the System Development Fees (SDFs) for water and wastewater. An analysis of an alternative residential tier structure and bulk water reseller rates was also conducted as requested by Council. The rate study reports are attached. Staff will present an overview of the water and wastewater systems, the primary drivers of the rate increases, and the recommended rates for each class of user. Staff will also report on the status and recommendations of the four items above that Council had requested.

ALTERNATIVES

This is a work session, so no formal action may be taken at this time. However, staff is asking the City Council to provide direction on the residential water tier structure options and rates for bulk water resellers. Council will be asked to approve water and wastewater rates for fiscal years 2020 and 2021 at the May 24, 2021, business meeting.

FISCAL EFFECTS

There are no direct fiscal effects for the discussion.

System Development Fees

Wastewater Wholesale

Water

Wastewater

System Development Fees FY22 and FY23

Billings, MT

March 31, 2021

Executive Summary

The City of Billings (City) charges a System Development Fee (SDF) designed to recoup, in part, the costs of building and holding excess system capacity to serve future growth. This SDF is based on the value of existing infrastructure and reasonable expectations of costs for future infrastructure. These costs are then apportioned by anticipated demand placed on the system in conjunction with the benefits provided to new development.

Using information provided by the City, AE2S Nexus performed a multi-step analysis for each utility to:

1. Identify the area served by the utility on which to levy an SDF,
2. evaluate the existing system and determine available capacity based on level of service determinates,
3. forecast future demand for system growth,
4. allocate capital costs to either existing or future capacity,
5. calculate the value of the applicable system assets,
6. assign system values equitably based on capacity and standard system service profiles, and
7. ultimately, determine the final SDF charge.

The resulting maximum supportable SDF charges for the Water and Wastewater systems for the FY22-FY23 period from the above analysis are presented below for each service areas identified.

**Table ES-1
Maximum Supportable SDF Water Charge FY22 – FY23**

Meter Size	Water					
	Residential		Non-Residential		Seasonal Irrigation	
	Current	Updated	Current	Updated	Current	Updated
3/4" or less	\$2,905	\$2,950	\$8,535	\$8,925	\$10,270	\$11,030
1"	\$2,905	\$2,950	\$14,480	\$15,140	\$17,410	\$18,705
1 1/2"	\$2,905	\$2,950	\$28,945	\$30,270	\$34,830	\$37,415
2"	\$2,905	\$2,950	\$46,320	\$48,435	\$55,735	\$59,875
3"	\$2,905	\$2,950	\$92,640	\$96,875	\$111,430	\$119,720
4"	\$2,905	\$2,950	\$144,755	\$151,370	\$174,115	\$187,075
With 4% Administration Charge						

**Table ES-2
Maximum Supportable SDF Wastewater Charge FY22 – FY23**

Wastewater				
Meter Size	City Service Area		Lockwood Service Area	
	Current	Updated	Current	Updated
3/4" or less	\$2,630	\$3,120	\$1,370	\$1,430
1"	\$8,075	\$9,575	\$4,210	\$4,385
1 1/2"	\$23,440	\$27,795	\$12,230	\$12,740
2"	\$40,465	\$47,985	\$21,110	\$21,990
3"	\$104,980	\$124,485	\$54,770	\$57,050
4"	\$245,775	\$291,435	\$128,230	\$133,570
With 4% Administration Charge				

1.0 Introduction

The City of Billings, Montana (City) retained AE2S Nexus to conduct a water and wastewater system utility rate study to include an evaluation and update to the System Development Fees (SDF) charged by the City for new connections. This analysis evaluated and updated the SDF to ensure the revised SDF continues to be equitable and proportionate to benefits received based on the City's existing assets, planned infrastructure, and changes in usage.

The City provides water and wastewater service to nearly 35,000 retail and wholesale customers throughout the region. Access to water and wastewater service is a critical factor for ongoing development and growth within the community and the region. Cities generally build and hold excess capacity within their treatment systems so they have the ability to serve new residents and businesses as they look to build and grow within their community. The City of Billings is no exception and takes proactive steps to have capacity ready for new connections. Building and holding this excess capacity comes with a cost that is borne by existing customers of the system. To recoup a portion of these costs, the City has historically charged an SDF to new connections based on the additional service capacity required to serve that new connection with water or wastewater service.

An SDF is a charge directly tied to the cost of building excess capacity to serve new growth. This direct linkage is important to the legal basis for such fees and is called the rational nexus. The three major components to the rational nexus test are 1) the connection between the need for a facility and the development being charged, 2) a demonstrable benefit to the new growth, and 3) that the charge is proportionate to the benefit received. This analysis is designed to demonstrate compliance with the rational nexus as well as all other requirements under Montana law.

Impact Fees (or SDFs as in the case of Billings) are developed based on the requirements set forth in Title 7, Chapter 6, Part 16 of the Montana Code. Per subsection 7, an impact fee must meet the following requirements:

- “The amount of the impact fee must be reasonably related to and reasonably attributable to the development’s share of the cost of infrastructure improvements made necessary by the new development.
- The impact fees imposed may not exceed a proportionate share of the costs incurred or to be incurred by the governmental entity in accommodating the development. The following factors must be considered in determining a proportionate share of public facilities capital improvements costs:
 - the need for public facilities capital improvements required to serve new development; and
 - consideration of payments for system improvements reasonably anticipated to be made by or as a result of development in the form of user fees, debt service payments, taxes, and other available sources of funding the system improvements.

- Costs for correction of existing deficiencies in a public facility may not be included in the impact fee.
- New development may not be held to a higher level of service than existing users unless there is a mechanism in place for the existing users to make improvements to the existing system to match the higher level of service.
- Impact fees may not include expenses for operations and maintenance of the facility.”

In order to ensure the analysis does meet all of Montana’s legal requirements for impact fees, the following basic outline was used to calculate the water and wastewater system development charges:

1. Identify service area;
2. Evaluate existing facility conditions;
3. Forecast growth-related demands;
4. Determine capital improvements needed to serve both existing and future capacity;
5. Calculate value of existing assets and capital improvements;
6. Determine unit value for capacity;
7. Establish level of service standards for each user class; and
8. Assign the proportionate share of costs based on established level of service.

The specifics of how this outline was applied to each system is described in more detail within the individual system analyses described herein. The final SDF arrived at through this process is a combination of the value of existing system assets, credited for the component of debt and equity in the system, along with the value of planned improvements that benefit growth.

2.0 Water System Development Fee

1. Service Area

While the City of Billings’ water system is designed with a number of zones within the system itself, the service area of the system as a whole is considered to be the entire City area (including areas to be annexed with planned provision for water service) and is not divided down to the pressure zones. All new customers to the City’s system are included in this service area.

2. Existing Facility Conditions

Existing water assets are currently estimated at 86.2 percent capacity. The available capacity was calculated based on the peak day usage for the water treatment plant from 2009 through 2020. As the capacity used can fluctuate in any given year due to a number of factors, historic peak day usage was used to represent the maximum amount of capacity needed to serve the user base. The resultant peak capacity utilization is 51.7 million gallon per day output from fiscal year 2012. All other facility conditions are outlined in the most recent facility plan on file with the City.

3. Growth-Related Demands

Growth-related demands are forecast based on the 2017 Integrated Water Plan adjusted for growth realized since the adoption of the facility plan. As a result, the current growth estimates anticipate full utilization of current capacity by 2029.

4. Capital Improvements

The City maintains an extensive capital improvements plan (CIP) to identify the investments needed to both expand the water system as well as increase the capacity to serve growth over a 10-year period. The analysis evaluated this CIP in conjunction with City staff to determine which projects contribute to expanding system capacity and to what level those projects contribute to system expansion. Projects designed to increase the overall treatment capacity, the trunk transmission system, and improve operations at the plant in a way that still benefits excess capacity were included and assigned a value applicable to growth to weight the overall cost of the project. The overall SDF charge is calculated to coincide with this same 10-year CIP planning period. The CIP used in the analysis is included in Appendix A.

5. Facility Valuations

Future Facilities

The CIP identifies nearly \$251 million in capital improvements from FY21 – FY31, including \$22.8 million in construction work in progress in FY21. The facility determination and growth percentages identified during the CIP process were used to adjust the overall CIP valuation and ensure that it accounts solely for projects that benefit future connections. This adjustment for growth results in approximately \$158,874,946 million in growth-related capital projects over the time horizon.

Existing Facilities

The existing system value is based on the Replacement Cost New less Depreciation (RCNLD) for all applicable assets. The starting point for this calculation is the City's existing listing of all current assets for the system. The process then reviews the existing asset information listing and excludes all assets that were classified as contributed capital, i.e. not paid for with ratepayer funds. Once the asset list was defined, the original cost was adjusted to 2021 dollars using the *Engineering News Record Construction Cost Index (CCI)* for Denver to determine the replacement cost new of the assets. Accumulated depreciation percentage was then netted off the replacement cost new to identify the final RCNLD. For the existing water system value, this calculation resulted in an applicable existing water system value of \$172,523,377.

Cash Equity

The third piece of identifying the overall facility valuation is accounting for the value of cash that ratepayers have contributed to the system over the years, the outstanding debt on existing assets, and the SDF's currently available to buy-down future assets. Cash values are estimated

based on current utility budgeting data and cash-flow trends through the end of FY21. Projected cash on hand is equal to \$28,420,496. Both the value of existing debt and the outstanding SDF fund balance are then netted off the value of cash on hand to arrive at the cash equity value. Outstanding debt is calculated to be \$22,085,000 based on current debt issuances and FY21 principal payments. SDF values are set at \$0 based on budgeted expenditures. Total cash equity portion is \$6,335,496.

6. Determine unit value for capacity

To arrive at a single unit value for capacity, the analysis looks at existing facilities (less cash equity) and future facilities separately and then combines them into a single unit value. The total treatment capacity was used as the capacity basis for existing system and is set at 60 MGD. The value for planned capital improvements is divided by the currently available capacity of 8.3 MGD plus the new capacity additions in the CIP of 20 MGD to determine that unit value. Facility valuations are divided by these unit values to calculate the unit capacity values on a gallon per day basis. Table 2-1 provides the resulting unit capacity values.

Table 2-1
Water Unit Capacity Values

Component	Facility Value	Capacity	Value*
Existing Capital	\$172,523,377	60 MGD	\$2.77 / gpd
Cash Equity	\$6,335,496	60 MGD	\$0.11 / gpd
Planned Capital	\$158,874,946	28.3 MGD	\$5.61 / gpd
		Total	\$8.49 / gpd
<i>*Values rounded to the nearest whole cent</i>			

7. Level of Service Standards

Level of service standards are identified for three separate user classes: residential, non-residential, and seasonal irrigation. The overall level of service is determined by the demands placed on the system from each user class. These various user classes have dramatically different usage profiles and as such are separated accordingly. To determine the overall demand from each user class, recent historical usage from 2010 through 2020 was evaluated. Since many factors contribute to the variation in usage of system capacity from year to year, the peak annual average usage from this data set (FY 2013) was selected for inclusion to the analysis to represent capacity utilization. Table 2-2 outlines identified level of service standards for the user classes.

Table 2-2
Water Level of Service Standards

User Class	Usage (gpd)	Standard Meter Size
Residential	335	¾"
Non-Residential	1,715	1"
Seasonal Irrigation	6,782	2"

8. Proportionate Share of Costs

In order to fairly assign a proportionate share of costs to the various user classes, the level of service standard set by those classes was multiplied by the unit cost per gpd capacity to arrive at a standard SDF per user class. As the standard units associated with each class are provided in a specific meter size, industry standard equivalent meter factors are applied to the standard SDF to adjust these costs into charges across the variety of meter sizes that those user classes could have. In the case of residential accounts, only ¾” meters are used in the City’s system so only one fee is provided. By breaking down the system values into the unit cost and assigning it proportionately based water service standards, it provides a total cost associated with the proportionate share of growth and growth-related costs by new users. This calculated total cost was rounded down to the nearest \$5 equivalent to ensure that the recommended maximum supportable impact fee to ensure the final adopted impact fee does not exceed the maximum supportable. After the proportionate share of costs were calculated, a 4.0 percent administrative charge was added to reflect the ongoing costs associated with managing an SDF program. The resulting final SDF charges are outlined in Table 2-3.

**Table 2-3
Maximum Supportable SDF Water Charge FY22– FY23**

Meter Size	Water					
	Residential		Non-Residential		Seasonal Irrigation	
	Current	Updated	Current	Updated	Current	Updated
¾" or less	\$2,905	\$2,950	\$8,535	\$8,925	\$10,270	\$11,030
1"	\$2,905	\$2,950	\$14,480	\$15,140	\$17,410	\$18,705
1 1/2"	\$2,905	\$2,950	\$28,945	\$30,270	\$34,830	\$37,415
2"	\$2,905	\$2,950	\$46,320	\$48,435	\$55,735	\$59,875
3"	\$2,905	\$2,950	\$92,640	\$96,875	\$111,430	\$119,720
4"	\$2,905	\$2,950	\$144,755	\$151,370	\$174,115	\$187,075

In instances where the meter size needed to service a new connection is greater than 4” or when the unique characteristics of a larger water user may require, the SDF should be calculated by multiplying the anticipated average daily demand of the user by the unit rate of \$8.49 per gallon. An additional 4.0 percent administrative fee should then be added to the resulting SDF. In instances where the characteristics of the user may result in a change in capital use patterns, a special study may be required to calculate the charge.

3.0 Wastewater System Development Fee

1. Service Area

The wastewater system has two separate service areas resulting in two distinct SDF calculations. These service areas are: the City of Billings and Lockwood Water & Sewer District. Lockwood Water & Sewer District connects at the plant and does not use any of the City's collection system, necessitating modifications to the baseline SDF for this benefit of use of a smaller overall asset base.

2. Existing Facility Conditions

The capacity of the wastewater system is currently estimated at 34 MGD based on average day treatment capacity. The available capacity was calculated based on the average day usage for the wastewater treatment plant from 2009 through 2020. As the capacity used can fluctuate in any given year due to a number of factors, historic plant influent average day recordings were used to represent the maximum amount of capacity needed to serve the in-place user base. For these reasons, a maximum average day usage of 24.4 million gallon per day of plant influent from FY19 was incorporated into the analysis. This existing system capacity is applicable to both service areas. All other facility conditions are outlined in the most recent facility plan on file with the City.

3. Growth-Related Demands

The City evaluates the existing plant capacity and the demands placed on it by new connections on an ongoing basis. The most recent comprehensive engineering study on current treatment facilities, including an evaluation of in-place capacity and the demands of growth, was the 2016 study (updated January 2017) done in conjunction with the ongoing nutrient upgrade, expansion, and plant improvement work. The overall capacity and the demands growth continues to place on available capacity is derived from this report.

4. Capital Improvements

The City maintains an extensive capital improvements plan (CIP) to identify the investments needed to both expand the system treatment and collection system as well as increase the capacity to serve growth over a 10-year period. The analysis evaluated the currently adopted CIP in conjunction with City staff to determine which projects contribute to expanding system capacity and to what level those projects contribute to system expansion. Particular care is taken to adjust out projects that do not affect overall system capacity such as the local collection system. The SDF charge is calculated to coincide with this same 10-year CIP planning period.

5. Facility Valuations

Future Facilities

The CIP identifies over \$189 million in capital improvements from FY22 – FY31, including \$16.9 million in construction work in progress in FY21. As part of the process to identify which projects expand system capacity, all small line collection system projects are removed from the system growth value calculation due to assessment policy. The remaining project costs are weighted based on the proportion of the project benefiting growth-related capacity as estimated at the time of improvement (based on growth-related demand calculations). This results in \$30,739,253 million in growth-related capital projects identified for the City service area. Further reductions are necessary for the Lockwood service area since it does not share in any of the large, trunk collection infrastructure. While there is a reduction, the majority of the City's investment for growth throughout the system is targeting capacity at the plant. As a result, these reductions reflect the limited use of the overall system by Lockwood and are equal to growth related capital of \$18,245,055 million for Lockwood.

Existing Facilities

The existing system value is based on the Replacement Cost New less Depreciation (RCNLD) for all applicable assets. The starting point for this calculation is the City's existing listing of all current assets for the system. The process then reviews the existing asset information listing and excludes all assets that were classified as contributed capital, i.e. not paid for with ratepayer funds. Once the asset list was defined, the original cost was adjusted to 2021 dollars using the *Engineering News Record Construction Cost Index (CCI)* for Denver to determine the replacement cost new of the assets. Accumulated depreciation percentage was then netted off the replacement cost new to identify the final RCNLD. For the existing water system value, this calculation resulted in an applicable existing water system value of \$181,954,139. Further reductions are necessary to reflect the limited use of the system by the second service area, Lockwood. These reductions result in an existing system value of \$85,084,621 for Lockwood.

Cash Equity

The third piece of identifying the overall facility valuation is accounting for the value of cash that ratepayers have contributed to the system over the years, the outstanding debt on existing assets, and the SDF's currently available to buy-down future assets. Cash values are estimated based on current utility budgeting data and cash-flow trends through the end of FY21. Projected cash on hand is equal to \$22,668,084. Both the value of existing debt and the outstanding SDF fund balance are then netted off the value of cash on hand to arrive at the cash equity value. Outstanding debt is calculated to be \$61,933,000 based on current debt issuances and FY21 principal payments. SDF values are set at \$0 based on FY21 collections to date as they exceed budgeted amounts. Total cash equity portion is \$(39,264,916). Lockwood's adjustment nets off items not applicable to the SDF and results in a total cash equity of \$(34,261,465).

6. Determine unit value for capacity

To arrive at a single unit value for capacity, the analysis looks at existing facilities (less cash equity) and future facilities separately and then combines them into a single unit value. In this instance, the total treatment capacity was used as our capacity factor for existing system and is set at 34 MGD. At current average day flows of 24.4 MGD, the capacity value for existing system components is based on an available 9.6 MGD. The capacity value for planned capital is based on the currently available capacity for growth plus direct new treatment capacity added by capital improvements of 0 MGD. The resulting available capacity value is 9.6 MGD for planned capital improvements. Tables 3-1 and 3-2 provide the resulting unit capacity values. Both service areas share in the capacity equally without any adjustments.

**Table 3-1
Wastewater Unit Capacity Values (City Service Area)**

Component	Facility Value	Capacity	Value for City Service Area*
Existing Capital	\$181,954,139	34 MGD	\$5.35 / gpd
Cash Equity	\$(39,264,916)	34 MGD	\$(1.15) / gpd
Planned Capital	\$30,739,253	9.6 MGD	\$3.20 / gpd
		Total	\$7.40 / gpd
<i>*Values rounded to the nearest whole cent</i>			

**Table 3-2
Wastewater Unit Capacity Values (Lockwood Service Area)**

Component	Facility Value	Capacity	Value for Lockwood Service Area*
Existing Capital	\$85,084,621	34 MGD	\$2.50 / gpd
Cash Equity	\$(34,261,465)	34 MGD	\$(1.01) / gpd
Planned Capital	\$18,254,055	9.6 MGD	\$1.90 / gpd
		Total	\$3.39 / gpd
<i>*Values rounded to the nearest whole cent</i>			

7. Level of Service Standards

One level of service standard has been identified for the wastewater system. The overall level of service is determined by the demands placed on the system by the contributing users. To determine the overall demand, total equivalent dwelling units (EDUs) contributing to the system were analyzed. Total capacity and EDUs were used to identify an average gallon capacity use per EDU per day. This established a level of service of 406 gallons per day per EDU.

8. Proportionate Share of Costs

Proportionate share of costs were determined by taking the calculated unit value by the level of service standard. As the standard units associated with the level of service standard are provided in an EDU meter size of ¾”, industry standard equivalent meter factors are applied to translate these costs into charges for the appropriate meter size. This provides a total cost associated with the proportionate share of growth and growth-related costs by new users. The total cost is rounded down to the nearest \$5 to ensure the actual charge is at or just less than the maximum supportable. After the proportionate share of costs were determined, a 4.0 percent administrative charge was added, under the state maximum allowance of 5 percent. The resulting final SDF charges are outlined in the Table 3-3.

**Table 3-3
Maximum Supportable SDF Wastewater Charge FY22– FY23**

Meter Size	Wastewater			
	City Service Area		Lockwood Service Area	
	Current	Updated	Current	Updated
¾" or less	\$2,630	\$3,120	\$1,370	\$1,430
1"	\$8,075	\$9,575	\$4,210	\$4,385
1 ½"	\$23,440	\$27,795	\$12,230	\$12,740
2"	\$40,465	\$47,985	\$21,110	\$21,990
3"	\$104,980	\$124,485	\$54,770	\$57,050
4"	\$245,775	\$291,435	\$128,230	\$133,570

In instances where the meter size needed to service a new connection within the City service area is greater than 4” or when the unique characteristics of a larger wastewater user may require a more in-depth review, the SDF should be calculated by identifying the key usage characteristics of flow, Biochemical Oxygen Demand (BOD) loading, Total Suspended Solids (TSS), and Total Kjeldahl Nitrogen (TKN) loading and using the formula below.

$$(\$7.40 * \text{Flow} * (0.5234 + (\text{BOD} * 0.1782/200) + (\text{TSS} * 0.1847/200) + (\text{TKN} * 0.1136/55))) * 1.04$$

Where \$7.40 is the total unit cost identified through the analysis, 0.5234 is the weighted capital allocation (across all assets) from the cost of service model applicable to flow, 0.1782 is the weighted capital allocation applicable to BOD, 0.1847 is the weighted capital allocation to TSS, 0.1136 is the weighted capital allocation applicable to TKN, and 1.04 represents the administrative charge. These weighted capital allocations are available from the 2022 capital allocations in the retail rate model.

In instances where the user requesting connection to the system presents a demand that may result in different allocation factors used above, a special study may be required to calculate the charge.

4.0 Summary

The SDFs calculated in this analysis are based on the value of the in-place assets and the reasonably expected costs of future capital to expand and improve the City's water and wastewater systems. The fees calculated are based on the proportionate share of the capital costs tied to the demand placed by new development. Tables 4-1 and 4-2 present the SDF fee schedule in its entirety for the water system and the wastewater service areas, respectively.

**Table 4-1
Maximum Supportable SDF Water Charge FY22– FY23**

Water						
Meter Size	Residential		Non-Residential		Seasonal Irrigation	
	Current	Updated	Current	Updated	Current	Updated
3/4" or less	\$2,905	\$2,950	\$8,535	\$8,925	\$10,270	\$11,030
1"	\$2,905	\$2,950	\$14,480	\$15,140	\$17,410	\$18,705
1 1/2"	\$2,905	\$2,950	\$28,945	\$30,270	\$34,830	\$37,415
2"	\$2,905	\$2,950	\$46,320	\$48,435	\$55,735	\$59,875
3"	\$2,905	\$2,950	\$92,640	\$96,875	\$111,430	\$119,720
4"	\$2,905	\$2,950	\$144,755	\$151,370	\$174,115	\$187,075

**Table 4-2
Maximum Supportable SDF Wastewater Charge FY22– FY23**

Wastewater				
Meter Size	City Service Area		Lockwood Service Area	
	Current	Updated	Current	Updated
3/4" or less	\$2,630	\$3,120	\$1,370	\$1,430
1"	\$8,075	\$9,575	\$4,210	\$4,385
1 1/2"	\$23,440	\$27,795	\$12,230	\$12,740
2"	\$40,465	\$47,985	\$21,110	\$21,990
3"	\$104,980	\$124,485	\$54,770	\$57,050
4"	\$245,775	\$291,435	\$128,230	\$133,570

Appendix A

Water Capital Improvement Plan

D? Project	Percent Growth												Total	Adj. Percent	Growth
		Current FY 21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	Cost	Growth	Total
Water Treatment Plant Valve Replacement	0%	231,000											231,000	14%	31,955
Voelker Pump Station Improvements	0%	89,000											89,000	14%	12,312
Leavens Reservoir Expansion & Zone 1 Improvements	50%	1,902,000											1,902,000	50%	951,000
Water Master Plan Update	50%	52,500											52,500	50%	26,250
2019 Water Main Replacement Project	0%	462,000											462,000	0%	0
West End Reservoir (complete in FY 24)	100%	4,616,000											4,616,000	100%	4,616,000
Belknap Office Remodel	0%	583,000											583,000	14%	80,648
WTP Drought & Flood Control Plan	0%	19,500											19,500	14%	2,698
King Ave E Main Replacement (Orchard to Jacks)	0%	275,000											275,000	0%	0
WTP High Service H2-2 Pump Replacement	0%	905,000											905,000	14%	125,192
West End Water Treatment Plant Project (complete)	100%	4,868,500											4,868,500	100%	4,868,500
Irrigation Pump Centennial Park	50%	8,500											8,500	50%	4,250
Walter Pump Station Addition	100%	567,500											567,500	100%	567,500
Hallowell Lane Water Main Replacement	0%	457,000											457,000	0%	0
Lead Service Replacement Project	0%	77,500											77,500	0%	0
Walter Pump Station Generator	0%	325,000											325,000	14%	44,958
Rip Rap	0%	200,000											200,000	14%	27,667
Lead Services	0%	750,000											750,000	0%	0
Compensation Agreements	0%	300,000											300,000	0%	0
Electrical	0%	500,000											500,000	14%	69,167
Equipment Replacements	0%	343,572											343,572	14%	47,527
Water- West End Distribution	100%	500,000	5,000,000										5,500,000	0%	0
Water Main Replacements	0%	4,809,148	4,400,000	3,800,000	5,300,000	5,800,000	6,400,000	7,000,000	7,700,000	8,500,000	8,500,000	8,500,000	70,709,148	0%	0
Water - West End Intake, Pump Station, and Pipeline	100%		21,000,000										21,000,000	100%	21,000,000
Water - West End Treatment Plant	100%		57,000,000										57,000,000	100%	57,000,000
Water - South Frontage Road Loop	0%		50,000										50,000	0%	0
Water Compensation Agreements	0%		300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	3,000,000	0%	0
Water Treatment Plant Electrical Improvements	0%		600,000	400,000	400,000	150,000	200,000	400,000	200,000	300,000	150,000	200,000	3,000,000	19%	562,219
Equipment Replacements	0%		283,618	200,000	300,000	250,000	400,000	300,000	600,000	700,000	750,000	200,000	3,983,618	22%	892,642
Water - Staples Reservoir	100%		400,000					3,600,000					4,000,000	100%	4,000,000
Water Lead Service Replacement Project	0%	-	750,000	500,000	700,000	-	-	-	-	-	-	-	1,950,000	0%	0
Water - West End Reservoir/City Lakes	100%	-	-	34,000,000									34,000,000	100%	34,000,000
Alkali Creek Main Extension	0%		1,155,000										1,155,000	0%	0
Water - Logan Reservoir Recoating/Exterior Painting	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water - Fox Reservoir #1 Replacement	50%	-	-	-	-	-	-	-	-	-	400,000	3,000,000	3,400,000	50%	1,700,000
D&C Heated Shop and Breakroom Addition	0%	-	-	-	-	500,000	-	-	-	-	-	-	500,000	0%	0
Water - Storage Improvements (Zone 1)	100%			600,000	3,000,000								3,600,000	100%	3,600,000
Neibauer Water Lines	0%	-	-	-	-	-	-	-	-	-	-	-	-	0%	0
Highway 3 Water Lines	0%	-	-	-	-	-	-	-	-	-	-	-	-	0%	0
Demo Staples Standpipe	0%							200,000					200,000	29%	57,608
High Service Pump Station Improvements	25%			150,000	1,000,000								1,150,000	25%	287,500
Intake 2 Screening Improvements	100%				1,500,000								1,500,000	100%	1,500,000
Leavens Improvements	0%											1,200,000	1,200,000	30%	362,250
Recoat Logan Reservoir	0%								500,000				500,000	27%	137,104
Zone 4W Additional Storage	100%							700,000					6,700,000	100%	13,400,000
Zone 6 Reservoir and redundant line	50%			100,000	800,000	8,000,000							8,900,000	50%	8,900,000
Total		22,841,720	90,938,618	40,050,000	13,300,000	15,000,000	9,200,000	17,800,000	9,300,000	9,800,000	10,100,000	12,200,000	250,530,338		158,874,946

Wastewater Capital Improvement Plan

C? IE	Project	Percent Growth	Percent										Adj.				
			Current FY 21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	10-Yr Total	Percent Growth	Growth Total	Lockwood Total
1	AFT Building and Equipment Upgrades	0%	59,879											59,879	28%	16,907	16,907
1	Hydrogen Sulfide Mitigation	0%	62,890											62,890	28%	17,757	17,757
1	Service Center Reconstruction	20%	700,161											700,161	20%	140,032	140,032
1	Influent Lift Station	20%	5,939,064											5,939,064	20%	1,187,813	1,187,813
1	UV Third Channel	0%	37,540											37,540	28%	10,600	10,600
1	Headworks Screen	0%	7,449											7,449	28%	2,103	2,103
1	Headworks Grit Unit	0%	8,280											8,280	28%	2,338	2,338
0	2020 Sewer Interceptor	0%	3,501,421											3,501,421	28%	988,637	0
1	Wastewater Process Equipment Installation	0%	1,007,420											1,007,420	28%	284,448	284,448
0	Lloyd Mangrum Lift Station	0%	742,001											742,001	28%	209,506	0
1	Wastewater Master Plan	100%	303,023											303,023	100%	303,023	303,023
1	WRF Solids Handling Modifications	0%	329,847											329,847	28%	93,133	93,133
1	WRF Digester Gas Replacement	0%	71,296											71,296	28%	20,131	20,131
1	WWTP Nutrient Improvement Project	0%	1,068,990											1,068,990	28%	301,832	301,832
1	15KV Boxcar	0%	458,765											458,765	28%	129,534	129,534
1	Replace Equipment	0%	947,715											947,715	28%	267,590	267,590
0	CCTV Support for WWMP	0%	42,847											42,847	28%	12,098	0
1	Wastewater Treatment Plant Drying Beds	50%	300,000											300,000	50%	150,000	150,000
1	Wastewater Treatment Plant Electrical	50%	300,000											300,000	50%	150,000	150,000
1	Wastewater Secondary Pump Station Motors	0%	135,000											135,000	28%	38,118	38,118
0	Wastewater Compensation Agreements	0%	300,000											300,000	0%	0	0
1	Nutrient Recovery (WAS Dewatering for Compost)	50%	630,549	4,000,000										4,630,549	50%	2,315,275	2,315,275
0	2020 Sewer Interceptor	0%		4,400,000										4,400,000	26%	1,129,412	0
0	Wastewater Main Replacements	0%		4,450,000	4,800,000	5,300,000	5,800,000	6,400,000	5,000,000	7,700,000	8,500,000	8,500,000	8,500,000	64,950,000	0%	0	0
0	Inflow and Infiltration Mitigation Projects	0%			750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	6,750,000	0%	0	0
1	Wastewater - Replace Heat Exchangers #1, 2, and 3	0%		500,000										500,000	26%	128,342	128,342
0	Wastewater - Sahara Sands Lift Station Rehabilitation	0%		150,000										150,000	26%	38,503	0
1	Utilities Service Center Reconstruction	20%		100,000	700,000									800,000	20%	160,000	160,000
1	Wastewater FOG Receiving Station	0%		200,000	1,800,000									2,000,000	26%	513,369	513,369
1	Wastewater Treatment Plant Campus Electrical	0%		300,000	500,000									800,000	26%	205,348	205,348
0	Wastewater Compensation Agreements	0%		300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	3,000,000	0%	0	0
1	Equipment Replacements	0%		119,103	300,000	200,000	400,000	300,000	350,000	600,000	300,000	200,000	800,000	3,569,103	14%	508,005	508,005
0	Alkali Creek Road Sewer Extension	0%		2,000,000										2,000,000	26%	513,369	0
0	Hesper Road Collector Sewer Extension (Shiloh to 48th)	100%			3,000,000									3,000,000	100%	3,000,000	0
1	Wastewater Plant Acetate Feed System	50%			500,000									500,000	50%	250,000	250,000
1	Hydrogen Sulfide Mitigation (Phase 2 and 3)	0%			500,000	500,000								1,000,000	24%	243,850	243,850
0	King Avenue Collector Sewer bypass to Monad	50%				3,000,000								3,000,000	50%	1,500,000	0
1	Wastewater Reclamation Facility Improvements	0%				6,000,000		54,000,000						60,000,000	16%	9,702,674	9,702,674
0	Central Avenue Collector Sewer Extension (to 58th)	100%					5,000,000							5,000,000	100%	5,000,000	0
1	Wastewater Biogas Recovery System	0%					200,000	1,000,000						1,200,000	18%	220,749	220,749
0	D&C Heated Shop and Breakroom Addition	0%					500,000							500,000	21%	102,674	0
1	4th UV Disinfection Treatment Unit	100%							850,000					850,000	100%	850,000	850,000
1	Replace Digester Gas Compressors	0%								250,000				250,000	13%	32,086	32,086
0	Sewer Upgrades to Match City Expansion Plans	100%									4,000,000			4,000,000	0%	0	0
	Total		16,954,137	16,519,103	13,150,000	16,050,000	12,950,000	8,750,000	61,250,000	9,600,000	13,850,000	9,750,000	10,350,000	189,173,240		30,739,253	18,245,055

WASTEWATER WHOLESALE RATE STUDY FY22 and FY23

Billings, MT

March 26, 2021

Executive Summary

The City of Billings, Montana (City) provides municipal wastewater service to its citizens, businesses, and industries. In addition to this retail wastewater service, the City provides wholesale wastewater service to the Phillips 66 Refinery (P66), ExxonMobil Refinery (Exxon), and the Lockwood Water and Sewer District (Lockwood). AE2S Nexus was retained to update the City’s wholesale rate model. Consistent with the contractual provisions for the individual users, a utility-basis cost of service model is used to identify cost of service based rates for Fiscal Year 2022 (FY22) as well as Fiscal Year 2023 (FY23) for P66, Exxon, and Lockwood.

The analysis resulted in the recommended cost of service rates as outlined in Tables ES.1, ES.2, and ES.3. In general, the variability in rate changes between the wholesale users is due to changes in discharges. Both refineries are seeing increases in total revenue requirements resulting from an increase in the strength they are discharging into the system. Exxon’s proposed reduction in discharges to the system also results in volumetric costs being spread over lower volumes, driving up slightly the volumetric rates. Other changes to total revenue requirements result from the final capitalization of assets into the asset base.

**Table ES.1:
Proposed ExxonMobil Wastewater Rate**

	Current	FY22	FY23
Fixed, \$/mo	\$24,200	\$32,283	\$34,528
Variable, \$/kgal	\$0.386	\$0.709	\$0.733

**Table ES.2:
Proposed Lockwood Wastewater Rate**

	Current	FY22	FY23
Fixed, \$/mo	\$26,868	\$23,582	\$25,239
Variable, \$/ kgal	\$1.084	\$1.466	\$1.514

**Table ES.3:
Proposed Phillips 66 Wastewater Rate**

	Current	FY22	FY23
Fixed, \$/mo	\$19,388	\$22,608	\$24,233
Variable, \$/ kgal	\$0.647	\$0.985	\$1.017

1.0 Introduction

AE2S Nexus was retained by the City of Billings (City) to calculate wholesale wastewater rates for wholesale customers of the City's wastewater system for Fiscal Year 2022 (FY22) and Fiscal Year 2023 (FY23), which begins July 1 and ends June 30. The three wholesale customers connected to the City's wastewater system are Lockwood Water and Sewer District (Lockwood), ExxonMobil (Exxon), and Phillips 66 Refinery (P66).

The City's wholesale rates are set by a comprehensive rate model based on standard industry rate setting methodology and practices using a Utility-Basis approach for calculating cost of service rates. The overall process is generally dictated by the contractual agreements between the City and wholesale wastewater customers with an established minimum return on equity of 15 percent. Consistent with these agreements, a 15 percent rate of return was utilized in the FY22 and FY23 rate model update for the establishment of capital related revenue requirements.

This report provides additional details on the methodology used in determining the rate for wholesale wastewater customers and summarizes the following topics:

- Wastewater system usage parameters (Section 2.0);
- Projected revenue requirements and associated assumptions (Section 3.0);
- Allocation of operating and capital-related revenue requirements (Section 4.0); and
- Calculated costs of service by user class and recommended FY22 and FY23 wastewater rates (Section 5.0).

2.0 Customers and Usage

The City owns and operates its wastewater treatment and conveyance facilities serving nearly 35,000 retail utility accounts across the City and outside city users. In addition to retail accounts, the City has contractual relationships with three wholesale users, P66, Exxon, and Lockwood, to provide wastewater service. The customer makeup, volume of wastewater flow, and strength characteristics of the wastewater for these utility accounts in large part determines how costs are allocated across different user classes. Tables 2.1 and 2.2 show the projected utility accounts across the varying customer types and the associated equivalent meters for FY22 and FY23, respectively. Growth rates are held consistent with the retail wastewater model. The equivalent meter counts provided are on a 3/4-inch meter basis as the City’s standard residential meter size is 3/4”.

**Table 2.1:
FY22 Customer Accounts**

Meter Size	Residential	Residential - Large	Commercial - Domestic	Public Buildings - Domestic	Outside City	Industrial	Total
3/4-Inch	31,321	415	1,328	14	11	0	33,089
1-Inch	384	298	366	5	5	0	1,057
1-1/2-Inch	28	140	266	15	-	0	449
2-Inch	-	65	135	21	1	0	222
3-Inch	6	36	72	24	1	0	139
4-Inch	1	18	16	5	1	0	41
6-Inch	-	23	11	4	-	0	38
8-Inch	-	4	2	2	1	0	9
10-Inch	-	-	-	-	-	0	-
12-Inch	-	1	-	-	-	0	1
Total	31,740	1,001	2,196	91	20	0	35,048
Equivalent Meters	31,880	1,770	2,961	283	51	0	36,945

**Table 2.2:
FY23 Customer Accounts**

Meter Size	Residential	Residential - Large	Commercial - Domestic	Public Buildings - Domestic	Outside City	Industrial	Total
3/4-Inch	31,477	417	1,335	14	11	0	33,254
1-Inch	386	299	367	5	5	0	1,062
1-1/2-Inch	28	141	267	15	-	0	451
2-Inch	-	65	136	21	1	0	223
3-Inch	6	37	72	24	1	0	140
4-Inch	1	18	16	5	1	0	41
6-Inch	-	23	11	4	-	0	38
8-Inch	-	4	2	2	1	0	9
10-Inch	-	-	-	-	-	0	-
12-Inch	-	-	-	-	-	0	-
Total	31,898	1,004	2,206	90	20	0	35,218
Equivalent Meters	32,038	1,771	2,970	281	51	0	37,110

FY22 and FY23 flows by customer class are shown in Table 2.3 including allocation of Inflow/Infiltration (I/I) by customer class. Minimal BOD, TSS, or TKN is presumed for I/I. In calculating these flows, reserve capacity was established for Lockwood based on their agreement and no reserve capacity was set aside for P66 or Exxon. Baseline flow contributions for Lockwood are set at 0.15 MGD based on billing history. P66 is set at 0.96 MGD based on billing history. Exxon is set at 2.1 MGD based on actual billings since the last update. The 2.1 MGD flow rate for Exxon is only used to allocate capital and capacity costs associated with the system. Operating costs for Exxon are allocated based on reduced flow rates of 356 MG annual discharge, consistent with the April through November discharges anticipated in the coming year. All three wholesale users are allocated no share of I/I in consideration of metered service of all contributed flow.

Modeled loadings for each wholesale user are consistent with sampling reports and generally average recorded strengths since connection and discharge to the system. However, Lockwood strength loadings current tracked in sampling reports are diluted with flows from Exxon, as a result Lockwood’s modeled loadings are consistent with the historical averages used in previous modeling efforts. Concentrations and loadings by customer class are shown in Table 2.4 and Table 2.5. Contributed TKN for retail users was adjusted to 45 mg/L based on updated loading information. Wholesale user flows are kept constant between FY22 and FY23 while retail customer flows included estimated growth. All customer account, customer flow, concentrations, and loadings are consistent with the Test Year assumptions made for the FY22-FY23 Wastewater Retail Rate model.

**Table 2.3:
Annual Customer Flows**

Customer Class	Fiscal Year 2022			Fiscal Year 2023		
	Contributed Flow (MG)	I/I (MG)	Total (MG)	Contributed Flow (MG)	I/I (MG)	Total (MG)
Residential	1,528	2,268	3,795	1,535	2,257	3,792
Residential - Large	581	862	1,443	584	858	1,441
Commercial - Domestic	910	1,351	2,261	915	1,345	2,259
Public Buildings - Domestic	79	117	196	79	117	196
Outside City	40	59	100	40	59	99
Lockwood	56	0	56	56	0	56
Lockwood Reserve	210	0	210	209	0	209
Retail Reserve Capacity	6,189	0	6,189	6,167	0	6,167
Phillips 66	352	0	352	352	0	352
ExxonMobil	776*	0	776	776	0	776
Total	10,720	4,658	15,378	10,720	4,635	15,355

*776MG was used for capital/capacity allocations. O&M allocations based on 356MG.

**Table 2.4:
FY22 Average Daily Concentrations (mg/L) and Calculated Annual Loadings (lbs)**

Customer Class	BOD – Capacity (mg/L)	TSS – Capacity (mg/L)	TKN – Capacity (mg/L)	lbs. of BOD	lbs. of TSS	lbs. of TKN
Residential	200	200	45	2,833,657	2,833,657	857,584
Residential – Large	200	200	45	1,077,053	1,077,053	325,962
Commercial - Domestic	200	200	45	1,688,322	1,688,322	510,958
Public Buildings - Domestic	200	200	45	146,561	146,561	44,356
Outside City	200	200	45	74,310	74,310	22,489
Lockwood & Lockwood Reserve*	170	88	48	375,908	195,704	107,332
Retail Reserve Capacity	200	200	45	10,329,978	10,329,978	2,324,245
Phillips 66	46	147	25	134,254	431,775	73,940
ExxonMobil**	47	39	15	305,868	255,164	98,672
Total				16,965,911	17,032,524	4,365,538

*Lockwood Reserve is not allocated any strength charges for O&M allocations as they are allocated their share of capital costs only.

**ExxonMobil O&M allocations based on identified strengths at reduced 356MG flows.

**Table 2.5:
FY23 Average Daily Concentrations (mg/L) and Calculated Annual Loadings (lbs)**

Customer Class	BOD - Capacity	TSS - Capacity	TKN – Capacity	lbs. of BOD	lbs. of TSS	lbs. of TKN
Residential	200	200	45	2,845,450	2,845,450	859,494
Residential – Large	200	200	45	1,081,565	1,081,565	326,697
Commercial - Domestic	200	200	45	1,695,345	1,695,345	512,095
Public Buildings - Domestic	200	200	45	147,180	147,180	44,457
Outside City	200	200	45	74,619	74,619	22,539
Lockwood & Lockwood Reserve*	170	88	48	375,908	195,704	107,332
Retail Reserve Capacity	200	200	45	10,329,978	10,329,978	2,324,245
Phillips 66	46	147	25	134,254	431,775	73,940
ExxonMobil**	47	39	15	305,868	255,164	98,672
Total				16,963,945	17,030,558	4,363,572

*Lockwood Reserve is not allocated any strength charges for O&M allocations as they are allocated their share of capital costs only.

**ExxonMobil O&M allocations based on identified strengths at reduced 356MG flows.

3.0 Revenue Requirements

Revenue requirements are defined as the amount of revenues required to fully fund operations and maintenance (O&M) requirements as well as capital-related expenses. A financially sustainable utility will work to ensure that all identified revenue requirements are covered by revenues through either non-rate revenues or user charges. While capital revenue requirements can be generally calculated using either the cash-basis approach or the utility-basis approach, O&M are generally based on budgeted or planned expenditures for the given rate year. The contractually agreed upon method for calculating wholesale user capital requirements is the utility-basis approach. Using the utility-basis for rate setting, capital-related expenses are calculated based on asset depreciation and on the established rate of return on capital assets.

3.1 Operations and Maintenance

O&M is considered all expenses associated with the actual running of the wastewater collection and treatment system. O&M expenses include costs with operating the system as well as maintaining the collection and treatment system in good working order. Specific costs include administrative, billing and collections, electricity and chemical, compliance costs, and others.

While O&M expenses are a portion of total revenue requirements, all O&M expenses are not applied to revenue requirements. Non-rate revenue is subtracted from O&M expenses before they are applied to total revenue requirements needed from rates. Non-rate revenues include sewer permits, sale of material/labor, miscellaneous revenue, collection of bad debt, wastewater supply, and charge for services. Table 3.1 summarizes O&M expenses, non-rate revenues applied, and the resulting net O&M related revenue requirements. Consistent with previous analyses, wastewater treatment, and collection system costs (note: collection system costs are primarily allocated to non-wholesale users) are allocated on a fully variable basis using contributed flows to apportion these costs. Environmental affairs costs were allocated evenly on a variable (flow) basis and a fixed (meter) basis. Customer costs are allocated on a fully fixed (meter) basis.

FY22 O&M expenses are based on preliminary budget projections with FY23 inflated at approximately 4 percent from FY22 baseline costs (less one-time budgetary requests).

**Table 3.1:
O&M Related Revenue Requirements**

Line Item	Fiscal Year 2022			Fiscal Year 2023		
	Total	Fixed	Variable	Total	Fixed	Variable
Administrative	\$1,862,847	\$1,862,847	\$0	\$2,094,921	\$2,094,921	\$0
Utility Commercial & Meter	\$72,160	\$72,160	\$0	\$75,046	\$75,046	\$0
Wastewater Treatment	\$6,147,162	\$0	\$6,147,162	\$6,393,048	\$0	\$6,393,048
Distribution & Collection	\$1,630,262	\$0	\$1,630,262	\$1,695,472	\$0	\$1,695,472
Environmental Affairs	\$476,160	\$238,080	\$238,080	\$495,206	\$247,603	\$247,603
O&M Total	\$10,188,591	\$2,173,087	\$8,015,504	\$10,753,695	\$2,417,570	\$8,336,124
Less: Non-Rate O&M Revenue	-\$370,920	-\$370,920	\$0	-\$370,920	-\$370,920	\$0
Total O&M Revenue Requirement	\$9,817,671	\$1,802,167	\$8,015,504	\$10,382,775	\$2,046,650	\$8,336,124

3.2 Capital Costs

Consistent with the negotiated wholesale user agreements, this wholesale rate analysis uses the utility-basis for calculating capital costs. Under this approach, capital costs for wholesale are calculated by identifying the rate of return and then applying that rate of return to the net assets of the system (i.e., the undepreciated value of the system). Owner capital costs are simply the difference between the identified cash-based net capital costs and the identified wholesale user specific capital costs (arrived at through the utility method). As the Owner rates are not calculated through this model, the capital costs attributable to those user classes have little to no bearing on the resulting wholesale capital costs.

Before any rate of return can be applied to the net assets of the system (or net system value), net system value must be calculated. Often referred to as net plant in service (NPIS), the system value is determined by identifying the assets in service by the end of FY20 and then adding the assets expected to be placed in service by the end of FY21. The calculated FY22 NPIS totals \$173 Million. The calculated FY23 NPIS totals \$182.6 Million. Table 3.2 outlines the fixed assets and depreciation resulting in the current NPIS. FY23 depreciation increases based on fully capitalizing the WWTF expansion and incorporating preliminary depreciation figures into the model.

**Table 3.2:
Fixed Assets and Depreciation by Functional Category**

	FY22 Ratebase	FY22 Depreciation	FY23 Ratebase	FY23 Depreciation
Collection	\$47,745,671	\$1,130,896	\$49,998,470	\$1,205,734
Trunks/ Interceptors	\$30,019,968	\$728,237	\$31,418,008	\$775,321
Lift Stations	\$2,985,511	\$94,064	\$3,099,854	\$98,741
Common Conveyance	\$611	\$82	\$529	\$82
Preliminary Treatment	\$9,335,858	\$154,034	\$9,853,641	\$168,755
Lab	\$105,348	\$15,803	\$93,875	\$15,930
Primary Treatment	\$5,113,301	\$91,113	\$5,392,164	\$99,242
Secondary Treatment	\$6,228,690	\$258,511	\$6,403,406	\$268,008
Residuals	\$1,150,792	\$77,934	\$1,140,776	\$79,557
Disinfection/Outfall	\$6,548,311	\$121,061	\$6,897,822	\$131,406
Secondary Treatment – Nutrient Removal	\$63,792,335	\$217,809	\$68,279,272	\$318,827
Customer	\$532	\$18	\$550	\$19
Exclude From Ratebase	\$0	\$0	\$0	\$0
Indirect	\$0	\$0	\$0	\$0
	\$173,026,928	\$2,889,562	\$182,578,368	\$3,161,622

Once identified, NPIS is then allocated across customer classes based on ownership and functional cost component. The methodology used to allocate ownership remains consistent with previous wholesale rate analyses for the City. P66 was allocated a portion of the treatment system assets consistent with P66’s proportional share of the overall flow and strength loading of the treatment system. Similarly, P66 was allocated a proportional share of the collection system consistent with the assets used to convey wastewater through City trunk lines from P66 to the WWTP. P66’s allocated share of the collection system is limited to the infrastructure utilized for conveyance of wastewater.

For Lockwood and Exxon, no sole proportion of the NPIS was identified, nor were any collection system related costs as they connect directly to the WWTP (near the headworks of the facility) through non-City assets. Exxon is allocated their proportionate share of treatment assets consistent with Exxon’s proportional share of flow, strength loading, and conveyance in each portion of the system. The allocation of capital requirements for Lockwood, Exxon, and P66 are shown in Table 3.3. The allocation of NPIS and depreciation is then used to calculate the utility-basis of capital costs for all wholesale users. For this analysis, the rate of return is set at the established minimum of 15 percent for P66, Exxon, and Lockwood. Table 3.4 identifies the calculated capital costs.

**Table 3.3:
Allocation of Net Plant in Service and Depreciation Expenses**

Ownership	FY22 Net Fixed Assets	FY22 Depreciation Expense	FY23 Net Fixed Assets	FY23 Depreciation Expense
Joint				
Retail	\$86,690,473	\$879,185	\$92,124,223	\$1,015,805
Lockwood	\$1,719,835	\$16,453	\$1,829,485	\$19,172
Exxon	\$2,320,250	\$24,533	\$2,466,099	\$28,209
P66	\$1,544,688	\$16,177	\$1,641,679	\$18,621
Subtotal- Joint	\$92,275,246	\$936,347	\$98,061,485	\$1,081,807
Retail Only	\$80,740,846	\$1,952,952	\$84,505,540	\$2,079,535
Lockwood Only	\$0	\$0	\$0	\$0
P66 Only	\$10,837	\$263	\$11,342	\$280
Total	\$173,026,928	\$2,889,562	\$182,578,368	\$3,161,622
Retail Subtotal	\$167,431,319	\$2,832,136	\$176,629,764	\$3,095,340
Lockwood Subtotal	\$1,719,835	\$16,453	\$1,829,485	\$19,172
Exxon Subtotal	\$2,320,250	\$24,533	\$2,466,099	\$28,209
P66 Subtotal	\$1,555,525	\$16,440	\$1,653,020	\$18,901

**Table 3.4:
FY22 Utility Basis Capital Costs**

	P66	Lockwood	Exxon
Total NPIS	\$1,555,525	\$1,719,835	\$2,320,250
Additional Allowance for Working Capital	\$24,843	\$27,467	\$37,057
Total Rate Base	\$1,580,368	\$1,747,302	\$2,357,307
Rate of Return	15%		
Rate Base Capital Costs	\$237,055	\$262,095	\$353,596
Depreciation Costs	\$16,440	\$16,453	\$24,533
Total Wholesale Capital Costs	\$253,495	\$278,548	\$378,129
Residual Owner Capital Costs	\$19,963,584		

**Table 3.5:
FY23 Utility Basis Capital Costs**

	P66	Lockwood	Exxon
Total NPIS	\$1,653,020	\$1,829,485	\$2,466,099
Additional Allowance for Working Capital	\$25,755	\$28,504	\$38,423
Total Rate Base	\$1,678,775	\$1,857,989	\$2,504,521
Rate of Return	15%		
Rate Base Capital Costs	\$251,816	\$278,698	\$375,678
Depreciation Costs	\$18,901	\$19,172	\$28,209
Total Wholesale Capital Costs	\$270,717	\$297,870	\$403,887
Residual Owner Capital Costs	\$14,966,212		

3.3 Revenue Requirements

Total revenue requirements are the combination of O&M related expenses and capital related expenses. Table 3.6 and Table 3.7 detail the total revenue requirements by wholesale user and retail user.

**Table 3.6:
FY22 Revenue Requirements**

Ownership	Operating Costs	Capital Costs	Total
Retail	\$9,069,234	\$19,963,584	\$29,032,818
Lockwood & Lockwood Reserve	\$86,479	\$278,548	\$365,027
P66	\$364,419	\$253,495	\$617,914
Exxon	\$264,040	\$378,129	\$642,168
Total	\$9,784,171	\$15,166,274	\$30,657,927

**Table 3.7:
FY23 Revenue Requirements**

Ownership	Operating Costs	Capital Costs	Total
Retail	\$9,606,485	\$14,966,212	\$24,572,697
Lockwood & Lockwood Reserve	\$89,724	\$297,870	\$387,594
P66	\$378,098	\$270,717	\$648,815
Exxon	\$273,627	\$403,887	\$677,514
Total	\$10,347,935	\$19,910,277	\$26,286,621

4.0 Allocations

4.1 Customer Class Allocations

In order to identify the cost of service for customer classes, the revenue requirements in Section 3 must first be allocated to the customer classes themselves. This analysis identifies three sets of customer service allocations: fixed O&M, variable O&M, and capital (to include depreciation and NPIS). The resulting allocations are based on, in part, how reserve capacity and I/I for the various user classes are allocated to overall costs. P66 and Exxon are not allocated any reserve capacity or I/I. Lockwood is allocated reserve capacity, but not I/I. Flow percentages are based on the projected customer class wastewater flow compared to total projected flow & retail reserve capacity. BOD, TSS, and TKN percentages are based on the projected customer class specific loadings compared to the total projected loadings & the excess capacity reserved for retail.

4.2 O&M Allocations

In addition to allocating revenue requirements among customer class, O&M expenses must also be allocated along functional cost components. O&M costs are spread based on how flow-, BOD-, TSS-, and TKN-related costs are incurred throughout the system. Table 4.1 and Table 4.2 outline the breakdown in allocation across these functional categories.

**Table 4.1:
FY22 O&M Cost by Functional Category**

Line Item	Total	Flow-Use	BOD-Use	TSS-Use	TKN-Use
Collection	\$798,381	\$798,381	\$0	\$0	\$0
Trunks/ Interceptors/ Common Conveyance	\$480,625	\$480,625	\$0	\$0	\$0
Lift Stations	\$317,756	\$317,756	\$0	\$0	\$0
Preliminary Treatment	\$491,773	\$491,773	\$0	\$0	\$0
Lab	\$59,520	\$0	\$19,840	\$19,840	\$19,840
Primary / Secondary Treatment	\$1,229,432	\$245,886	\$614,716	\$368,830	\$0
Secondary / Strength Components	\$4,425,957	\$663,444	\$1,696,069	\$969,936	\$1,096,508
Customer	\$178,560	\$68,598	\$53,330	\$31,088	\$25,544
Indirect	\$0	\$0	\$0	\$0	\$0
Total O&M Revenue Requirement	\$7,982,004	\$3,066,463	\$2,383,955	\$1,389,693	\$1,141,892

**Table 4.2:
FY23 O&M Cost by Functional Category**

Line Item	Total	Flow-Use	BOD-Use	TSS-Use	TKN-Use
Collection	\$830,316	\$830,316	\$0	\$0	\$0
Trunks/ Interceptors/ Common Conveyance	\$499,850	\$499,850	\$0	\$0	\$0
Lift Stations	\$330,466	\$330,466	\$0	\$0	\$0
Preliminary Treatment	\$511,444	\$511,444	\$0	\$0	\$0
Lab	\$61,901	\$0	\$20,634	\$20,634	\$20,634
Primary / Secondary Treatment	\$1,278,610	\$255,722	\$639,305	\$383,583	\$0
Secondary / Strength Components	\$4,602,995	\$689,982	\$1,763,912	\$1,008,733	\$1,140,368
Customer	\$185,702	\$71,342	\$55,463	\$32,331	\$26,566
Indirect	\$0	\$0	\$0	\$0	\$0
Total O&M Revenue Requirement	\$8,115,582	\$3,189,122	\$2,479,314	\$1,445,281	\$1,187,568

4.3 Capital Cost Allocations

Like the allocation of O&M costs, NPIS capital costs must be allocated across the various cost components and the functional category as they relate to flow and strength. Table 4.3 and Table 4.4 outline the allocation of NPIS based on the functional components.

**Table 4.3:
FY22 Allocation of Net Plant in Service by Functional Category**

Category	Total	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity
Collection	\$47,745,671	\$47,745,671	\$0	\$0	\$0
Trunks/ Interceptors/Common Conveyance	\$30,020,580	\$30,020,580	\$0	\$0	\$0
Lift Stations	\$2,985,511	\$2,985,511	\$0	\$0	\$0
Preliminary Treatment	\$9,335,858	\$1,867,172	\$1,867,172	\$5,601,515	\$0
Lab	\$105,348	\$0	\$35,116	\$35,116	\$35,116
Primary Treatment	\$5,113,301	\$1,022,660	\$1,022,660	\$3,067,981	\$0
Secondary Treatment	\$6,228,690	\$1,245,738	\$3,114,345	\$1,868,607	\$0
Residuals	\$1,150,792	\$0	\$805,554	\$345,237	\$0
Effluent/ Outfall	\$6,548,311	\$6,548,311	\$0	\$0	\$0
Secondary Treatment – Nutrient Removal	\$63,792,335	\$9,562,371	\$24,445,839	\$13,979,907	\$15,804,217
Customer	\$532	\$311	\$96	\$77	\$49
Indirect	\$0	\$0	\$0	\$0	\$0
Total Fixed Asset	\$173,026,928	\$100,998,325	\$31,290,782	\$24,898,440	\$15,839,382

**Table 4.4:
FY23 Allocation of Net Plant in Service by Functional Category**

Category	Total	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity
Collection	\$49,998,470	\$49,998,470	\$0	\$0	\$0
Trunks/ Interceptors/Common Conveyance	\$31,418,536	\$31,418,536	\$0	\$0	\$0
Lift Stations	\$3,099,854	\$3,099,854	\$0	\$0	\$0
Preliminary Treatment	\$9,853,641	\$1,970,728	\$1,970,728	\$5,912,185	\$0
Lab	\$93,875	\$0	\$31,292	\$31,292	\$31,292
Primary Treatment	\$5,392,164	\$1,078,433	\$1,078,433	\$3,235,298	\$0
Secondary Treatment	\$6,403,406	\$1,280,681	\$3,201,703	\$1,921,022	\$0
Residuals	\$1,140,776	\$0	\$798,543	\$342,233	\$0
Effluent/ Outfall	\$6,897,822	\$6,897,822	\$0	\$0	\$0
Nitrification	\$68,279,272	\$10,234,956	\$26,165,277	\$14,963,207	\$16,915,833
Customer	\$550	\$320	\$100	\$80	\$51
Indirect	\$0	\$0	\$0	\$0	\$0
Total Fixed Asset	\$182,578,368	\$105,979,801	\$33,246,076	\$26,405,316	\$16,947,175

Applying the rate of return to the NPIS results in capital costs associated with the current rate base. Table 4.5 and Table 4.6 outline these rate base capital costs (excluding depreciation) allocated across the same functional categories for FY22 and FY23, respectively.

**Table 4.5:
FY22 Rate Base Capital Costs by Functional Category**

	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Total
Collection	\$4,885,301	\$0	\$0	\$0	\$4,885,301
Trunks / Interceptors / Common Conveyance	\$3,072,229	\$0	\$0	\$0	\$3,072,229
Lift Stations	\$305,475	\$0	\$0	\$0	\$305,475
Preliminary Treatment	\$199,239	\$195,545	\$587,679	\$0	\$199,239
Lab	\$0	\$3,678	\$3,684	\$3,706	\$0
Primary Treatment	\$109,124	\$107,101	\$321,875	\$0	\$109,124
Secondary Treatment	\$132,928	\$326,159	\$196,044	\$0	\$132,928
Residuals	\$0	\$84,364	\$36,220	\$0	\$0
Effluent/ Outfall	\$698,746	\$0	\$0	\$0	\$698,746
Nitrification	\$1,020,365	\$2,560,160	\$1,466,692	\$1,667,826	\$1,020,365
Customer	\$32	\$10	\$8	\$5	\$32
Indirect	\$0	\$0	\$0	\$0	\$0
Total	\$10,423,440	\$3,277,016	\$2,612,201	\$1,671,537	\$17,984,194

**Table 4.6:
FY23 Rate Base Capital Costs by Functional Category**

	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Total
Collection	\$3,360,280	\$0	\$0	\$0	\$3,360,280
Trunks / Interceptors / Common Conveyance	\$2,112,531	\$0	\$0	\$0	\$2,112,531
Lift Stations	\$208,334	\$0	\$0	\$0	\$208,334
Preliminary Treatment	\$147,161	\$140,518	\$423,429	\$0	\$711,108
Lab	\$0	\$2,231	\$2,241	\$2,274	\$6,746
Primary Treatment	\$80,530	\$76,895	\$231,711	\$0	\$389,136
Secondary Treatment	\$95,633	\$228,290	\$137,583	\$0	\$461,506
Residuals	\$0	\$56,938	\$24,511	\$0	\$81,449
Effluent/ Outfall	\$515,083	\$0	\$0	\$0	\$515,083
Nitrification	\$764,278	\$1,865,655	\$1,071,660	\$1,229,259	\$4,930,851
Customer	\$21	\$7	\$5	\$3	\$37
Indirect	\$0	\$0	\$0	\$0	\$0
Total	\$7,283,855	\$2,370,534	\$1,891,139	\$1,231,536	\$12,777,064

Prior to arriving at total revenue requirements for wholesale users, depreciation is added into capital costs after the rate of return and allowance for working capital is applied to the asset base. Table 4.7 and Table 4.8 outline the depreciation capital costs by functional category that are included into overall capital costs.

**Table 4.7:
FY22 Depreciation Capital Costs by Functional Category**

	Flow – Capacity	BOD - Capacity	TSS – Capacity	TKN - Capacity	Total
Collection	\$1,205,734	\$0	\$0	\$0	\$1,205,734
Trunks / Interceptors / Common Conveyance	\$775,403	\$0	\$0	\$0	\$775,403
Lift Stations	\$98,741	\$0	\$0	\$0	\$98,741
Preliminary Treatment	\$33,751	\$33,751	\$101,253	\$0	\$168,755
Lab	\$0	\$5,310	\$5,310	\$5,310	\$15,930
Primary Treatment	\$19,848	\$19,848	\$59,545	\$0	\$99,242
Secondary Treatment	\$53,602	\$134,004	\$80,402	\$0	\$268,008
Residuals	\$0	\$55,690	\$23,867	\$0	\$79,557
Effluent/ Outfall	\$131,406	\$0	\$0	\$0	\$131,406
Nitrification	\$47,792	\$122,178	\$69,870	\$78,988	\$318,827
Customer	\$11	\$3	\$3	\$2	\$19
Indirect	\$0	\$0	\$0	\$0	\$0
Total	\$2,366,288	\$370,784	\$340,250	\$84,300	\$3,161,622

**Table 4.8:
FY23 Depreciation Capital Costs by Functional Category**

	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Total
Collection	\$1,130,896	\$0	\$0	\$0	\$1,130,896
Trunks / Interceptors / Common Conveyance	\$728,319	\$0	\$0	\$0	\$728,319
Lift Stations	\$94,064	\$0	\$0	\$0	\$94,064
Preliminary Treatment	\$30,807	\$30,807	\$92,420	\$0	\$154,034
Lab	\$0	\$5,268	\$5,268	\$5,268	\$15,803
Primary Treatment	\$18,223	\$18,223	\$54,668	\$0	\$91,113
Secondary Treatment	\$51,702	\$129,256	\$77,553	\$0	\$258,511
Residuals	\$0	\$54,554	\$23,380	\$0	\$77,934
Effluent/ Outfall	\$121,061	\$0	\$0	\$0	\$121,061
Nitrification	\$32,649	\$83,466	\$47,732	\$53,961	\$217,809
Customer	\$10	\$3	\$3	\$2	\$18
Indirect	\$0	\$0	\$0	\$0	\$0
Total	\$2,207,731	\$321,576	\$301,024	\$59,230	\$2,889,562

As each wholesale user is allocated their attributable portion of the overall O&M, Capital, and Depreciation, the rate modeling further breaks down these costs into the various flow and strength based categories across both capacity (fixed) and use (variable) categories. The capital costs as they relate to Lockwood specifically are shown in Table 4.9 and Table 4.10 for FY22 and FY23, respectively.

**Table 4.9:
FY22 Lockwood Specific Costs by Functional Category**

	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use	Total
Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Trunks / Interceptors / Common Conveyance	\$3	\$0	\$0	\$0	\$23	\$0	\$0	\$0	\$26
Lift Stations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Preliminary Treatment	\$5,467	\$6,987	\$10,870	\$0	\$7,066	\$0	\$0	\$0	\$30,391
Lab	\$0	\$1,872	\$939	\$2,239	\$0	\$282	\$141	\$341	\$5,814
Primary Treatment	\$3,018	\$3,857	\$6,000	\$0	\$0	\$0	\$0	\$0	\$12,875
Secondary Treatment	\$4,188	\$13,380	\$4,163	\$0	\$3,533	\$8,728	\$2,616	\$0	\$36,608
Residuals	\$0	\$3,929	\$873	\$0	\$0	\$0	\$0	\$0	\$4,802
Effluent/ Outfall	\$19,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,400
Secondary Treatment – Nutrient Removal	\$25,831	\$84,393	\$25,028	\$60,543	\$9,533	\$24,083	\$6,879	\$18,823	\$255,111
Customer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Indirect	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$57,907	\$114,417	\$47,874	\$62,782	\$20,155	\$33,093	\$9,635	\$19,163	\$365,027

**Table 4.10:
FY23 Lockwood Specific Costs by Functional Category**

	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use	Total
Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Trunks / Interceptors / Common Conveyance	\$3	\$0	\$0	\$0	\$24	\$0	\$0	\$0	\$27
Lift Stations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Preliminary Treatment	\$5,796	\$7,400	\$11,513	\$0	\$7,302	\$0	\$0	\$0	\$32,011
Lab	\$0	\$2,068	\$1,037	\$2,479	\$0	\$291	\$145	\$352	\$6,372
Primary Treatment	\$3,196	\$4,080	\$6,348	\$0	\$0	\$0	\$0	\$0	\$13,624
Secondary Treatment	\$4,316	\$13,777	\$4,287	\$0	\$3,651	\$9,010	\$2,701	\$0	\$37,742
Residuals	\$0	\$3,930	\$873	\$0	\$0	\$0	\$0	\$0	\$4,803
Effluent/ Outfall	\$20,517	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,517
Secondary Treatment – Nutrient Removal	\$27,889	\$91,033	\$26,997	\$65,328	\$9,851	\$24,860	\$7,103	\$19,437	\$272,498
Customer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Indirect	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$61,716	\$122,288	\$51,056	\$67,807	\$20,828	\$34,161	\$9,949	\$19,789	\$387,594

The O&M, Capital, and Depreciation costs as they relate to Exxon specifically are shown in Table 4.11 and Table 4.12 for FY22 and FY23, respectively.

Table 4.11:
FY22 Exxon Specific Costs by Functional Category

	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use	Total
Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Trunks / Interceptors / Common Conveyance	\$9	\$0	\$0	\$0	\$147	\$0	\$0	\$0	\$156
Lift Stations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Preliminary Treatment	\$15,967	\$5,685	\$14,173	\$0	\$45,337	\$0	\$0	\$0	\$81,162
Lab	\$0	\$3,117	\$2,500	\$4,236	\$0	\$504	\$403	\$688	\$11,447
Primary Treatment	\$8,813	\$3,138	\$7,823	\$0	\$0	\$0	\$0	\$0	\$19,775
Secondary Treatment	\$12,230	\$10,887	\$5,428	\$0	\$22,668	\$15,603	\$7,493	\$0	\$74,309
Residuals	\$0	\$3,197	\$1,138	\$0	\$0	\$0	\$0	\$0	\$4,335
Effluent/ Outfall	\$56,656	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$56,656
Secondary Treatment – Nutrient Removal	\$75,436	\$68,668	\$32,632	\$55,658	\$61,163	\$43,051	\$19,704	\$38,016	\$394,328
Customer	0	0	0	0	0	0	0	0	0
Indirect	0	0	0	0	0	0	0	0	0
Total	\$169,111	\$94,692	\$63,695	\$59,893	\$129,315	\$59,158	\$27,600	\$38,704	\$642,168

**Table 4.12:
FY23 Exxon Specific Costs by Functional Category**

	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use	Total
Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Trunks / Interceptors / Common Conveyance	\$8	\$0	\$0	\$0	\$152	\$0	\$0	\$0	\$160
Lift Stations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Preliminary Treatment	\$16,926	\$6,022	\$15,011	\$0	\$46,852	\$0	\$0	\$0	\$84,812
Lab	\$0	\$3,479	\$2,791	\$4,734	\$0	\$520	\$416	\$710	\$12,651
Primary Treatment	\$9,332	\$3,320	\$8,276	\$0	\$0	\$0	\$0	\$0	\$20,929
Secondary Treatment	\$12,605	\$11,210	\$5,589	\$0	\$23,426	\$16,108	\$7,738	\$0	\$76,676
Residuals	\$0	\$3,197	\$1,139	\$0	\$0	\$0	\$0	\$0	\$4,336
Effluent/ Outfall	\$59,917	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$59,917
Secondary Treatment – Nutrient Removal	\$81,445	\$74,071	\$35,199	\$60,057	\$63,208	\$44,444	\$20,348	\$39,260	\$418,033
Customer	0	0	0	0	0	0	0	0	0
Indirect	0	0	0	0	0	0	0	0	0
Total	\$180,234	\$101,300	\$68,006	\$64,791	\$133,639	\$61,072	\$28,502	\$39,971	\$677,514

Finally, the O&M, Capital, and Depreciation costs as they relate to P66 specifically are shown in Table 4.13 and Table 4.14 for FY22 and FY23, respectively.

**Table 4.13:
FY22 P66 Specific Costs by Functional Category**

	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use	Total
Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Trunks / Interceptors / Common Conveyance	\$1,918	\$0	\$0	\$0	\$317	\$0	\$0	\$0	\$2,235
Lift Stations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Preliminary Treatment	\$6,193	\$2,495	\$23,983	\$0	\$44,437	\$0	\$0	\$0	\$77,108
Lab	\$0	\$2,859	\$8,830	\$6,650	\$0	\$478	\$1,474	\$1,114	\$21,403
Primary Treatment	\$3,419	\$1,377	\$13,238	\$0	\$0	\$0	\$0	\$0	\$18,034
Secondary Treatment	\$4,744	\$4,779	\$9,185	\$0	\$22,218	\$14,799	\$27,396	\$0	\$83,120
Residuals	\$0	\$1,403	\$1,926	\$0	\$0	\$0	\$0	\$0	\$3,330
Effluent/ Outfall	\$21,976	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$21,976
Nitrification	\$29,261	\$30,141	\$55,218	\$41,707	\$59,949	\$40,831	\$72,046	\$61,556	\$390,707
Customer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Indirect	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$67,510	\$43,054	\$112,380	\$48,357	\$126,921	\$56,107	\$100,916	\$62,669	\$617,914

**Table 4.14:
FY23 P66 Specific Costs by Functional Category**

	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use	Total
Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Trunks / Interceptors / Common Conveyance	\$2,011	\$0	\$0	\$0	\$329	\$0	\$0	\$0	\$2,340
Lift Stations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Preliminary Treatment	\$6,566	\$2,643	\$25,401	\$0	\$45,922	\$0	\$0	\$0	\$80,532
Lab	\$0	\$3,207	\$9,909	\$7,467	\$0	\$493	\$1,522	\$1,150	\$23,748
Primary Treatment	\$3,620	\$1,457	\$14,005	\$0	\$0	\$0	\$0	\$0	\$19,082
Secondary Treatment	\$4,889	\$4,921	\$9,458	\$0	\$22,961	\$15,277	\$28,291	\$0	\$85,797
Residuals	\$0	\$1,403	\$1,927	\$0	\$0	\$0	\$0	\$0	\$3,330
Effluent/ Outfall	\$23,241	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$23,241
Secondary Treatment – Nutrient Removal	\$31,592	\$32,512	\$59,562	\$45,004	\$61,953	\$42,152	\$74,399	\$63,570	\$410,744
Customer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Indirect	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$71,918	\$46,144	\$120,262	\$52,471	\$131,166	\$57,923	\$104,213	\$64,720	\$648,815

4.4 Allocation of Total Revenue Requirements

Wholesale rates are based on the total allocation of both O&M costs and capital costs. Table 4.15 and Table 4.16 outline this total allocation of revenue requirements. As not all customer classes incur these costs equally, Table 4.17 and Table 4.18 outline each customer classes' share of functional cost components.

**Table 4.15:
FY22 Allocation of Total Revenue Requirements**

Line Item	Total	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use
Revenue Requirements									
O&M	\$9,784,171	\$349,401	\$649,190	\$427,347	\$376,229	\$3,066,463	\$2,383,955	\$1,389,693	\$1,141,892
Capital	\$20,873,756	\$12,631,171	\$3,598,592	\$2,913,226	\$1,730,767				
Total	\$30,657,927	\$12,980,572	\$4,247,782	\$3,340,573	\$2,106,997	\$3,066,463	\$2,383,955	\$1,389,693	\$1,141,892

**Table 4.16:
FY23 Allocation of Total Revenue Requirements**

Line Item	Total	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use
Revenue Requirements									
O&M	\$10,347,935	\$396,801	\$737,260	\$485,321	\$427,269	\$3,189,122	\$2,479,314	\$1,445,281	\$1,187,568
Capital	\$15,938,686	\$9,650,142	\$2,741,319	\$2,231,389	\$1,315,836				
Total	\$26,286,621	\$10,046,943	\$3,478,578	\$2,716,711	\$1,743,105	\$3,189,122	\$2,479,314	\$1,445,281	\$1,187,568

**Table 4.17:
FY22 Allocation of Functional Revenue Requirements to Customer Class**

Customer Class	Total	Flow - Capacity	BOD – Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use
Residential	\$9,169,108	\$3,518,873	\$901,866	\$676,866	\$507,642	\$1,362,381	\$1,091,633	\$611,123	\$498,724
Residential – Large	\$3,485,113	\$1,337,499	\$342,793	\$257,272	\$192,951	\$517,832	\$414,922	\$232,283	\$189,561
Commercial – High	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Public Buildings – Domestic	\$474,241	\$182,002	\$46,646	\$35,009	\$26,256	\$70,465	\$56,461	\$31,608	\$25,795
Outside City	\$240,452	\$92,279	\$23,651	\$17,750	\$13,312	\$35,727	\$28,627	\$16,026	\$13,079
Lockwood	\$145,155	\$12,198	\$25,394	\$10,730	\$14,787	\$20,155	\$33,093	\$9,635	\$19,163
Lockwood Reserve	\$219,872	\$45,709	\$89,023	\$37,144	\$47,995	\$0	\$0	\$0	\$0
Retail Reserve Capacity	\$10,227,031	\$5,459,819	\$2,145,175	\$1,727,643	\$894,394	\$0	\$0	\$0	\$0
Phillips 66	\$617,914	\$67,510	\$43,054	\$112,380	\$48,357	\$126,921	\$56,107	\$100,916	\$62,669
ExxonMobil	\$642,168	\$169,111	\$94,692	\$63,695	\$59,893	\$129,315	\$59,158	\$27,600	\$38,704
Total Revenue Requirement	\$30,657,927	\$12,980,572	\$4,247,782	\$3,340,573	\$2,106,997	\$3,066,463	\$2,383,955	\$1,389,693	\$1,141,892

**Table 4.18:
FY23 Allocation of Functional Revenue Requirements to Customer Class**

Customer Class	Total	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use
Residential	\$8,245,337	\$2,729,971	\$791,916	\$583,217	\$442,149	\$1,413,674	\$1,132,578	\$634,229	\$517,605
Residential – Large	\$3,134,081	\$1,037,671	\$301,010	\$221,683	\$168,063	\$537,342	\$430,497	\$241,072	\$196,743
Commercial – Domestic	\$4,912,647	\$1,626,541	\$471,831	\$347,486	\$263,437	\$842,280	\$674,800	\$377,879	\$308,394
Commercial – High	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Public Buildings – Domestic	\$426,489	\$141,207	\$40,962	\$30,167	\$22,870	\$73,122	\$58,582	\$32,805	\$26,773
Outside City	\$216,225	\$71,591	\$20,767	\$15,294	\$11,595	\$37,072	\$29,701	\$16,632	\$13,574
Lockwood	\$152,466	\$13,000	\$27,214	\$11,482	\$16,043	\$20,828	\$34,161	\$9,949	\$19,789
Lockwood Reserve	\$235,128	\$48,717	\$95,074	\$39,574	\$51,763	\$0	\$0	\$0	\$0
Industrial	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Retail Reserve Capacity	\$7,637,919	\$4,126,093	\$1,582,361	\$1,279,542	\$649,923	\$0	\$0	\$0	\$0
Phillips 66	\$648,815	\$71,918	\$46,144	\$120,262	\$52,471	\$131,166	\$57,923	\$104,213	\$64,720
ExxonMobil	\$677,514	\$180,234	\$101,300	\$68,006	\$64,791	\$133,639	\$61,072	\$28,502	\$39,971
Total Revenue Requirement	\$26,286,621	\$10,046,943	\$3,478,578	\$2,716,711	\$1,743,105	\$3,189,122	\$2,479,314	\$1,445,281	\$1,187,568

5.0 Costs by Class and Proposed Rates

For FY22, the total revenue requirements attributable to wholesale users to be recovered through rates are \$1,625,109. P66 is allocated \$617,914 of these costs, Exxon is allocated \$642,168, and Lockwood is allocated \$365,027 of these. Table 5.1 shows these costs across the categories of fixed O&M, variable O&M, depreciation, and return on NPIS. For FY23, the total revenue requirements attributable to wholesale users to be recovered through rates are \$1,713,923. P66 is allocated \$648,815 of these costs, Exxon is allocated \$677,514 and Lockwood is allocated \$387,594. Table 5.2 shows these costs across the categories of fixed O&M, variable O&M, depreciation, and return on NPIS for FY23. Wholesale rates are set as a function of the total cost of serving these users with wastewater service. The rate is broken into both a fixed and variable component. Table 5.3 and Table 5.4 outline the proposed rates.

Table 5.1:
FY22 Wholesale Cost of Service

Line Item	Fixed O&M	Variable O&M	Depreciation	Return	Total
Lockwood & Lockwood Reserve	\$4,432	\$82,046	\$16,453	\$262,095	\$365,027
Phillips 66	\$17,805	\$346,614	\$16,440	\$237,055	\$617,914
ExxonMobil	\$9,262	\$254,777	\$24,533	\$353,596	\$642,168

Table 5.2:
FY23 Wholesale Cost of Service

Line Item	Fixed O&M	Variable O&M	Depreciation	Return	Total
Lockwood & Lockwood Reserve	\$4,997	\$84,727	\$19,172	\$278,698	\$387,594
Phillips 66	\$20,077	\$358,021	\$18,901	\$251,816	\$648,815
ExxonMobil	\$10,444	\$263,183	\$28,209	\$375,678	\$677,514

**Table 5.3:
Proposed ExxonMobil Wastewater Rates**

	Current	FY22	FY23
Fixed, \$/mo	\$24,200	\$32,283	\$34,528
Variable, \$/ccf	\$0.386	\$0.709	\$0.733

**Table 5.4:
Proposed Lockwood Wastewater Rates**

	Current	FY22	FY23
Fixed, \$/mo	\$26,868	\$23,582	\$25,239
Variable, \$/ccf	\$1.084	\$1.466	\$1.513

**Table 5.5:
Proposed Phillips 66 Wastewater Rates**

	Current	FY22	FY23
Fixed, \$/mo	\$19,388	\$22,608	\$24,233
Variable, \$/ccf	\$0.647	\$0.985	\$1.017

Appendix A: Customer Class Allocations

Table A.1 & A.2 outline FY22 & FY23 Fixed O&M Cost of Service Characteristics by Owner/Non-Owner class. Split of Flow, BOD, TSS, and TKN are for O&M purposes are based on actual average annual flows and loadings. Retail reserve capacity is not used in O&M breakdowns.

Table A.1:
FY22 Summary of Customer Service Characteristics, Fixed O&M

Customer Class	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use
Owners	86.27%	93.63%	89.83%	89.20%	86.27%	95.77%	93.15%	93.96%
ExxonMobil	6.43%	2.54%	2.03%	3.47%	6.43%	1.69%	1.37%	1.94%
Lockwood	1.00%	1.42%	0.71%	1.72%	1.00%	0.94%	0.48%	0.96%
Phillips 66	6.30%	2.41%	7.43%	5.61%	6.30%	1.60%	5.00%	3.14%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Table A.2:
FY23 Summary of Customer Service Characteristics, Fixed O&M

Customer Class	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Capacity
Owners	86.33%	93.68%	89.90%	89.28%	86.33%	95.79%	93.19%	93.99%
ExxonMobil	6.40%	2.52%	2.02%	3.44%	6.40%	1.68%	1.36%	1.93%
Lockwood	1.00%	1.41%	0.70%	1.70%	1.00%	0.94%	0.48%	0.96%
Phillips 66	6.27%	2.39%	7.38%	5.57%	6.27%	1.59%	4.98%	3.13%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Table A.3 and A.4 present FY22 & FY23 Variable Capital Cost of Service Characteristics by Owner/Non-Owner class. Split of Flow, BOD, TSS, and TKN are for O&M purposes are based on actual average annual flows and loadings.

Table A.3:
FY22 Summary of Customer Service Characteristics, Variable O&M

Customer Class	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use
Owner	80.31%	93.63%	89.83%	89.20%	80.31%	93.63%	89.83%	89.20%
ExxonMobil	9.22%	2.54%	2.03%	3.47%	9.22%	2.54%	2.03%	3.47%
Lockwood	1.44%	1.42%	0.71%	1.72%	1.44%	1.42%	0.71%	1.72%
Phillips 66	9.04%	2.41%	7.43%	5.61%	9.04%	2.41%	7.43%	5.61%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Table A.4:
FY23 Summary of Customer Service Characteristics, Variable O&M

Customer Class	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS - Use	TKN - Use
Owner	80.43%	93.68%	89.90%	89.28%	80.43%	93.68%	89.90%	89.28%
ExxonMobil	9.16%	2.52%	2.02%	3.44%	9.16%	2.52%	2.02%	3.44%
Lockwood	1.43%	1.41%	0.70%	1.70%	1.43%	1.41%	0.70%	1.70%
Phillips 66	8.98%	2.39%	7.38%	5.57%	8.98%	2.39%	7.38%	5.57%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Table A.5 and A.6 present FY22 & FY23 Fixed Capital Cost of Service Characteristics by Owner/Non-Owner class. Split of Flow, BOD, TSS, and TKN are for O&M purposes are based on actual average annual flows and loadings. Reserve capacity are included in these capital allocations.

**Table A.5:
FY22 Summary of Customer Service Characteristics, Depreciation & Rate Base**

Customer Class	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS – Use	TKN - Capacity
Owner	91.24%	95.19%	94.82%	93.59%	90.94%	97.90%	97.23%	97.21%
ExxonMobil	5.06%	1.80%	1.50%	2.26%	5.05%	1.28%	1.06%	1.49%
Lockwood & Lockwood Reserve	1.73%	2.22%	1.15%	2.46%	1.73%	0.33%	0.17%	0.34%
Phillips 66	1.96%	0.79%	2.54%	1.69%	2.29%	0.48%	1.54%	0.96%
Total	100%	100%	100%	100%	100%	100%	100%	100%

**Table A.6:
FY23 Summary of Customer Service Characteristics, Depreciation & Rate Base**

Customer Class	Flow - Capacity	BOD - Capacity	TSS - Capacity	TKN - Capacity	Flow - Use	BOD - Use	TSS – Use	TKN - Use
Owner	91.23%	95.19%	94.82%	93.58%	90.93%	97.90%	97.22%	97.20%
ExxonMobil	5.07%	1.80%	1.50%	2.26%	5.05%	1.28%	1.06%	1.50%
Lockwood & Lockwood Reserve	1.74%	2.22%	1.15%	2.46%	1.73%	0.33%	0.17%	0.34%
Phillips 66	1.97%	0.79%	2.54%	1.69%	2.29%	0.48%	1.54%	0.96%
Total	100%	100%	100%	100%	100%	100%	100%	100%

**RETAIL/RESALE
WATER RATE STUDY
Fiscal Years
2022 and 2023**

Billings, MT
March 31, 2021

Executive Summary

The City of Billings, Montana calculates its water rates for retail and resale customers using a cost of service rate model developed specifically for its water system. In October 2020, the City retained AE2S Nexus to update its water rate model and develop recommendations for FY22 and FY23 water rates. This report summarizes the results of the most recent update to the water rate model, including rate recommendations for FY22 and FY23. Detailed tables are found in the Appendices. It should be noted that volumes and costs per volume are reported relative to gallons or thousand gallons (kgal), as opposed to cubic feet or one hundred cubic feet (CCF). This is reflective of a recent shift in how the City intends to represent volumetric use and corresponding charges to customers in the future.

Based on the results of this study, the recommended monthly meter charges for FY22 and FY23 are shown in Table ES.1. To balance the overall need for a revenue increase between the fixed and volumetric rates, meter rate increases are recommended for both FY22 and FY23. Tables ES.2 and ES.3 summarize the recommendations for Fire Protection charges for Owners (inside City users) and Non-Owners (outside City users), respectively.

Meter Size	Inside City Recommended Rate FY22	Outside City Recommended Rate FY22	% Increase from FY21	Inside City Recommended Rate FY23	Outside City Recommended Rate FY23	% Increase from FY22
3/4"	\$8.30	\$8.95	1.8%	\$8.45	\$9.15	1.8%
1"	\$9.35	\$10.20	2.2%	\$9.55	\$10.40	2.1%
1-1/2"	\$11.30	\$12.30	2.0%	\$11.55	\$12.55	2.2%
2"	\$16.20	\$17.70	1.8%	\$16.50	\$18.05	1.9%
3"	\$50.50	\$54.90	2.0%	\$51.50	\$56.00	2.0%
4"	\$65.80	\$71.50	2.0%	\$67.10	\$72.95	2.0%
6"	\$98.70	\$107.25	2.0%	\$100.65	\$109.40	2.0%
8"	\$134.85	\$146.55	2.0%	\$137.55	\$149.50	2.0%

Table ES.1: Recommended FY22 and FY23 Meter Charges for Owners and Non-Owners

Meter Size	Inside City Current Rate FY21 (\$/Year)	Inside City Recommended Rate FY22 (\$/Year)	% Increase from FY21	Inside City Recommended Rate FY23 (\$/Year)	% Increase from FY22
1-1/4"	\$27.65	\$29.30	6.0%	\$30.75	5.0%
1-1/2"	\$36.90	\$39.10		\$41.05	
2"	\$59.05	\$62.60		\$65.75	
3"	\$147.50	\$156.35		\$164.15	
4"	\$258.10	\$273.60		\$287.30	
6"	\$589.85	\$625.25		\$656.50	
8"	\$1,032.25	\$1,094.20		\$1,148.90	
10"	\$1,622.05	\$1,719.35		\$1,805.30	
12"	\$2,335.80	\$2,475.95		\$2,599.75	
14"	\$3,179.25	\$3,370.00		\$3,538.50	

Table ES.2: Recommended Annual Fire Protection Charges for Owners – FY22/FY23

Meter Size	Outside City Current Rate FY21 (\$/Year)	Outside City Recommended Rate FY22 (\$/Year)	% Increase from FY21	Outside City Recommended Rate FY23 (\$/Year)	% Increase from FY22
1-1/4"	\$28.05	\$29.75	6.0%	\$31.25	5.0%
1-1/2"	\$37.35	\$39.60		\$41.60	
2"	\$59.80	\$63.40		\$66.55	
3"	\$149.55	\$158.50		\$166.45	
4"	\$261.65	\$277.35		\$291.20	
6"	\$598.05	\$633.95		\$665.65	
8"	\$1,046.60	\$1,109.40		\$1,164.85	
10"	\$1,644.65	\$1,743.35		\$1,830.50	
12"	\$2,368.25	\$2,510.35		\$2,635.85	
14"	\$3,223.50	\$3,416.90		\$3,587.75	

Table ES.3: Recommended Annual Fire Protection Charges for Non-Owners – FY22/FY23

In recent years, a combination of weather patterns and conservation initiatives undertaken by the City has resulted in a change in Single-Family Residential water use. As part of this study, an alternate Single-Family Residential volumetric tier structure was evaluated for consideration by the City. The results summarized herein are associated with two rate scenarios:

- Scenario 1: Existing Four-Tier Inclining Block Tier Structure; and
- Scenario 2: Four-Tier Inclining Block with Reduced Tier 1 Volume.

Tables ES.4 and ES.5 present the recommended FY22 and FY23 volumetric rates for Single-Family Residential users under Scenarios 1 and 2, respectively. Consistent with the approach taken in the previous analysis, rate increase percentages for Non-Owner Residential users are equal to the increases recommended for the Owner Single Family Residential user class in FY22 and FY23. Tables ES.6 and ES.7 present the calculated FY22 and FY23 volumetric rates for Non-Owner Single Family Residential accounts under both Scenarios 1 and 2, respectively.

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-14	0-10	\$3.56	\$3.72	4.3%	\$3.88	4.3%
Tier 2	15-43	11-32	\$4.26	\$4.45		\$4.64	
Tier 3	44-100	33-75	\$5.55	\$5.79		\$6.04	
Tier 4	>100	>75	\$8.33	\$8.69		\$9.06	

Table ES.4: Scenario 1: Recommended FY22 and FY23 Volumetric Charges for Owners

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-7	0-5	\$3.56	\$3.66	3.0%	\$3.77	2.8%
Tier 2	8-43	6-32	\$4.26	\$4.40			
Tier 3	44-100	33-75	\$5.55	\$5.71			
Tier 4	>100	>75	\$8.33	\$8.58			

Table ES.5: Scenario 2: Recommended FY22 and FY23 Volumetric Charges for Owners

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-14	0-10	\$3.69	\$3.85	4.3%	\$4.01	4.3%
Tier 2	15-43	11-32	\$4.43	\$4.61			
Tier 3	44-100	33-75	\$5.76	\$6.02			
Tier 4	>100	>75	\$8.64	\$9.01			

Table ES.6: Scenario 1: Recommended FY22 and FY23 Volumetric Charges for Non-Owners

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-7	0-5	\$3.69	\$3.80	3.0%	\$3.90	2.8%
Tier 2	8-43	6-32	\$4.43	\$4.56			
Tier 3	44-100	33-75	\$5.76	\$5.94			
Tier 4	>100	>75	\$8.64	\$8.89			

Table ES.7: Scenario 2: Recommended FY22 and FY23 Volumetric Charges for Non-Owners

Table ES.8 summarizes the recommended multi-family residential and non-residential volumetric rates for FY22 and FY23. Adjustments to the multi-family residential user rates were set based on the single-family residential rates; as a result, Scenario 1 and Scenario 2 rates are shown for the Multi-Family Residential class.

Table ES.8 also summarizes the non-residential volumetric rates for FY22 and FY23 for Owners and Non-Owners. For the Resale user class, it is recommended that the City continue its approach of charging the calculated cost of service rate, adopting the calculated FY22 and FY23 rates shown in Table ES.8. Due to a significant increase in the supply/treatment components of the rate base in FY22, the calculated FY23 rate for the Resale user increases significantly.

	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Owners					
Multi-Family Residential - Scenario 1	\$3.60	\$3.76	4.4%	\$3.92	4.3%
Multi-Family Residential - Scenario 2	\$3.60	\$3.70	2.8%	\$3.81	3.0%
Non-Residential	\$3.07	\$3.20	4.2%	\$3.29	2.8%
Seasonal	\$5.07	\$5.37	5.9%	\$5.48	2.0%
Non-Owners					
Non-Residential	\$3.25	\$3.38	4.0%	\$3.49	3.3%
Resale	\$2.79	\$2.81	0.7%	\$3.68	31.0%

Table ES.8: Recommended Multi-Family and Non-Residential Volumetric Rates for Owners and Non-Owners – FY22 and FY23

Table ES.9 summarizes the projected revenue adequacy of the Water Utility for FY22 and FY23 based on the recommended rates. The residential volumetric rates associated with Scenarios 1 and 2 were developed to calculate essentially the same amount of revenue, and do not significantly affect the values shown in Table ES.9. The recommended rates for FY22 result in a very slight projected revenue deficiency. As shown in Table ES.10, even with significant investment of reserve funds in capital projects in FY22, it is anticipated that remaining utility reserves would be adequate to absorb the projected revenue deficiency. At the recommended rates, projected revenues in FY23 are forecast to be adequate to meet revenue requirements given the current modeled assumptions. In summary, under the projected water sales and given the current cash reserve balances, the recommended rates for FY22 and FY23 will present a stable near-term approach to rate-setting, while allowing the City to step into the necessary increases to fully meet cost of service over two or more years.

	FY2022	FY2023
Rate Revenue Requirements		
O&M-Related	\$ 13,077,025	\$ 13,466,611
Less Other Operating Revenue	\$ (1,068,900)	\$ (1,068,900)
Capital-Related	\$ 23,639,415	\$ 25,385,780
Less Cash Reserves	\$ (9,335,061)	\$ (9,729,839)
Net Rate Revenue Requirements	\$ 26,312,478	\$ 28,053,652
Projected Rate Revenues		
Owners		
Residential	\$ 12,592,485	\$ 13,129,521
Multi-Family	\$ 2,359,881	\$ 2,475,865
Non-Residential	\$ 3,865,521	\$ 3,976,538
Seasonal	\$ 1,756,760	\$ 1,800,626
Fire Protection	\$ 455,595	\$ 478,375
Non-Owners		
Residential	\$ 114,843	\$ 119,159
Non-Residential	\$ 2,474,634	\$ 2,552,770
Resale	\$ 2,638,944	\$ 3,517,113
Fire Protection	\$ 16,690	\$ 17,525
Total Projected Rate Revenue	\$ 26,275,355	\$ 28,067,492
Projected Revenue Adequacy	\$ (37,123)	\$ 13,840

Table ES.9: Summary of Net Cash-Based Rate Revenue Requirements – FY22 and FY23

	2021	2022	2023
Total Water Fund Balance	\$ 28,420,496	\$ 19,048,311	\$ 9,332,312
O&M Reserve	\$ 3,435,000	\$ 3,530,797	\$ 3,635,985
Debt Service Reserve	\$ 1,385,000	\$ 1,385,000	\$ 1,385,000
Capital/Rate Stabilization Reserve	\$ 23,600,496	\$ 14,132,515	\$ 4,311,327

Table ES.10: Projected Cash Reserve Balances – FY22 and FY23

Table ES.11 summarizes three significant near-term capital projects for which the City has recently applied for grant funding. At the time of this study, grant funding has not been obtained. In the event grant funding should be awarded, the City should reconsider the volumetric water rates for FY23, as the grant-funded portion of these projects will not be allowable in the rate base for the purposes of rate-setting. Alternative rates that account for \$50M in grant funding have been evaluated and are presented in Section 5.5 of this report for future consideration.

Project	Year	Cost (\$)	Potential Grant (\$)
Water - West End Intake, Pump Station, and Pipeline	FY22	\$21,000,000	\$11,998,385
Water - West End Treatment Plant	FY22	\$57,000,000	\$14,552,029
Water - West End Reservoir/City Lakes	FY23	\$34,000,000	\$23,449,586

Table ES.11: Capital Projects with Potential Grant Funding

Lastly, to assess the potential revenue stability risk to the City of Billings, a probabilistic revenue forecasting model was developed. The framework for the model was based on a publicly-available tool developed by the Alliance for Water Efficiency. The probabilistic revenue forecast completed was based on the stochastic evaluation of FY20 billing and weather data as compared to 20 years of historical weather data. The results of the revenue forecast resulted in the conclusions presented in Table ES.12. The percentages in Table ES.12 indicate the modeled probability of achieving total target FY22 rate revenues, excluding fire protection, from Table ES.9, of \$25.8 million (M).

	\$25.52 Million	\$25.32 Million	\$24.71 Million	\$23.69 Million
Probability to Meet/Exceed	17%	23%	79%	100%

Table ES.12: Estimated Probability of Achieving Revenue at Varying Targets (FY22)

Although the revenue forecasting model indicated that water sales adequate to meet target revenue of \$25.8M are not forecast to be achieved at a high confidence interval, it should be noted that the City’s operation and maintenance (O&M) expenditures are typically less than budgeted. For the most recent three-year period, the average for actual expenditures as compared to budget was 91.3 percent. As a result, it is reasonable to assume for the purposes of the forecast modeling that total target revenue requirements for FY22 could be reduced by \$1.13M (8.7 percent) with no anticipated net impact on cash position of the utility. In this case, total rate revenue requirements would be reduced to \$24.67M. The model projects a high probability of reaching a revenue target of that magnitude.

In summary, reducing water sales projections based solely on the outputs of the water sales forecasting from the model would require the City to implement increases in excess of those currently proposed, which does not seem prudent given the factors noted above. As long as the City continues its practice of evaluating rates at least once every two years and maintaining a healthy cash position, it appears that the maximum revenue shortfall as predicted by the forecasting model could be readily offset using existing cash reserves.

1.0 Introduction

The City of Billings retained AE2S Nexus to update its water rate model and recommend Retail and Resale water rates for the 2022 Fiscal Year (FY22), which begins July 1, 2021 and ends June 30, 2022, as well as for FY23. The City has utilized a detailed and comprehensive rate-setting model for several years. The rate model utilized by the City of Billings was last updated by AE2S Nexus in early 2019 for the purpose of developing rates for FY20 and FY21. The FY22/FY23 rate review involved a comprehensive review of assumptions and methodology upon which the analysis is based. It should be noted that the data and results reported herein are given in terms of gallons or thousand gallons (kgal), as opposed to cubic feet or one hundred cubic feet (CCF), as was the practice in previous studies. The results of that review are described herein.

The County Water District of Billings Heights is a major outside/non-owner user of the City's water system and is referred to as the Resale user class throughout this analysis. Based on the current agreement between the City of Billings and this Resale customer, the established and agreed upon rate of return is based on the weighted average cost of capital (WACC). The Memorandum of Understanding between the City and the District included the following methodology for establishing the WACC, the calculation of which is detailed in Section 3.2.2.

“The WACC will be calculated for each rate study, including the current study, using the City’s then current effective interest rate on outstanding debt and a return on equity equal to the average 30-year treasury rate plus 300 basis points for the most recent twelve month period ending June 30th.”¹

At the City's request, AE2S Nexus has updated the customer billing data, operation and maintenance (O&M), capital revenue requirements, and asset inventory. To complete a comprehensive update, assumptions upon which the model calculations are based were also reviewed and verified or updated to reflect current system conditions. In general, the cost of service analysis (COSA) methodology utilized remains consistent with previous analyses, which involved three steps: 1) Functionalization, 2) Classification, and 3) Allocation. The cost of service analysis completed using the City's existing rate model and upon which rate calculations have been historically based, involved the following steps:

1. *Functionalization*: in the methodology applied by the City of Billings, this step involves the grouping of costs based on the type of customer to which the cost applies:
 - a. Joint allocation – costs allocated to all user classes

¹ Memorandum of Understanding Between the City of Billings and County Water District of Billings Heights, May 8, 2013.

- b. All-But-Resale allocation – costs allocated to all but the Resale user class including both Inside City (Owner) and Outside (non-Owner) City users
 - c. Owner allocation – costs allocated only to the owner user classes
 - d. Resale allocation – costs assigned to the Resale class
 2. *Classification*: categorization of functionalized costs based on how the cost is related to the user characteristics (related to customer account numbers, average flow, peak flow, etc.):
 - a. Fixed cost allocation
 - i. Customer-based
 - ii. Meter-based
 - b. Variable cost allocation
 - i. Base Capacity allocation
 - ii. Peak Day Capacity allocation
 - iii. Peak Hour Capacity allocation
 - c. Direct Fire allocation
 3. *Allocation*: The distribution of functionalized and classified costs to customer classes based on number of meters, equivalent meters, peak day and peak hour demands, and billed flow totals.

This report summarizes the following topics:

- Water system usage parameters assumed for FY22 and FY23 (Section 2.0);
- Projected FY22/FY23 revenue requirements and associated assumptions (Section 3.0);
- Allocation of FY22/FY23 operating and capital-related revenue requirements (Section 4.0);
- Calculated FY22/FY23 costs of service by user class and recommended FY22/FY23 water rates for Retail and Resale customer classes (Section 5.0); and
- Probabilistic revenue forecasting and rate setting risk considerations (Section 6.0).

2.0 Customers and Usage

The City of Billings provides water service to approximately 31,000 users within City limits, 300 users outside of the City, and 1 Resale customer, the County Water District of Billings Heights. Based on a review of billed flow and account data from FY19 and FY20, a Test Year representing recent water usage patterns by user class was developed. Customer classes include the following:

- Owners:
 - Single Family Residential (single family, two- and three-unit complexes)
 - Multi-Family Residential (multi-family complexes with greater than three units)
 - Commercial
 - Industrial
 - Seasonal
 - Private Fire Protection
- Non-Owners:
 - Residential (single family, two- and three- multi-family unit complexes)
 - Commercial (includes multi-family complexes with greater than three units)
 - Resale (County Water District of Billings Heights)
 - Private Fire Protection

Estimated FY22 customer accounts by meter size and equivalent meters for the owner and non-owner user classes are shown in Table 2.1 and Table 2.2, respectively. Similar values for FY23 are found in Table 2.3 and Table 2.4, respectively. The equivalent meter counts are shown on a 3/4-inch meter basis.

Meter Size	Residential	Multi-Family Residential	Commercial	Industrial	Seasonal	Total
3/4"	27,020	353	1,230	0	144	28,747
1"	343	246	340	0	132	1,061
1-1/2"	20	128	257	4	91	500
2"	1	53	148	0	26	228
3"	0	32	95	1	10	138
4"	0	17	20	0	4	41
6"	0	21	31	1	0	53
8"	0	4	5	0	0	9
10"	0	0	0	0	0	0
Total Accounts	27,384	854	2,126	6	407	30,777
Total Equivalent Meters	27,492	2,058	4,402	36	680	34,668

Table 2.1: Owner Customer Accounts and Equivalent Meters – Projected FY22

Meter Size	Residential	Commercial	Resale	Total
3/4"	250	19	0	269
1"	3	11	0	14
1-1/2"	0	1	0	1
2"	0	1	0	1
3"	0	3	0	3
4"	0	0	0	0
6"	0	0	0	0
8"	0	1	0	1
10"	0	1	1	2
Total Accounts	253	37	1	291
Total Equivalent Meters	254	135	41	430

Table 2.2: Non-Owner Customer Accounts and Equivalent Meters – Projected FY22

Meter Size	Residential	Residential	Commercial	Industrial	Seasonal	Total
3/4"	27,155	355	1,236	0	145	28,891
1"	345	247	342	0	133	1,067
1-1/2"	20	129	258	0	91	498
2"	1	53	149	0	26	229
3"	0	32	95	1	10	138
4"	0	17	20	0	4	41
6"	0	21	31	1	0	53
8"	0	4	5	0	0	9
10"	0	0	0	0	0	0
Total Accounts	27,521	858	2,136	2	409	30,926
Total Equivalent Meters	27,629	2,063	4,414	36	683	34,825

Table 2.3: Owner Customer Accounts and Equivalent Meters – Projected FY23

Meter Size	Residential	Commercial	Resale	Total
3/4"	250	19	0	269
1"	3	11	0	14
1-1/2"	0	1	0	1
2"	0	1	0	1
3"	0	3	0	3
4"	0	0	0	0
6"	0	0	0	0
8"	0	1	0	1
10"	0	1	1	2
Total Accounts	253	37	1	291
Total Equivalent Meters	254	135	41	430

Table 2.4: Non-Owner Customer Accounts and Equivalent Meters – Projected FY23

Figure 2.1 shows the recent historical trend in meter growth for all non-irrigation meter classes. As shown, meter number growth has been relatively flat. The dip in commercial accounts in FY14 correlates with identification of a Multi-Family Residential user class, which was previously accounted for in the Commercial class. Figure 2.2 shows the change in Single Family residential inside meters, which have grown at an average of one percent per year since FY13.

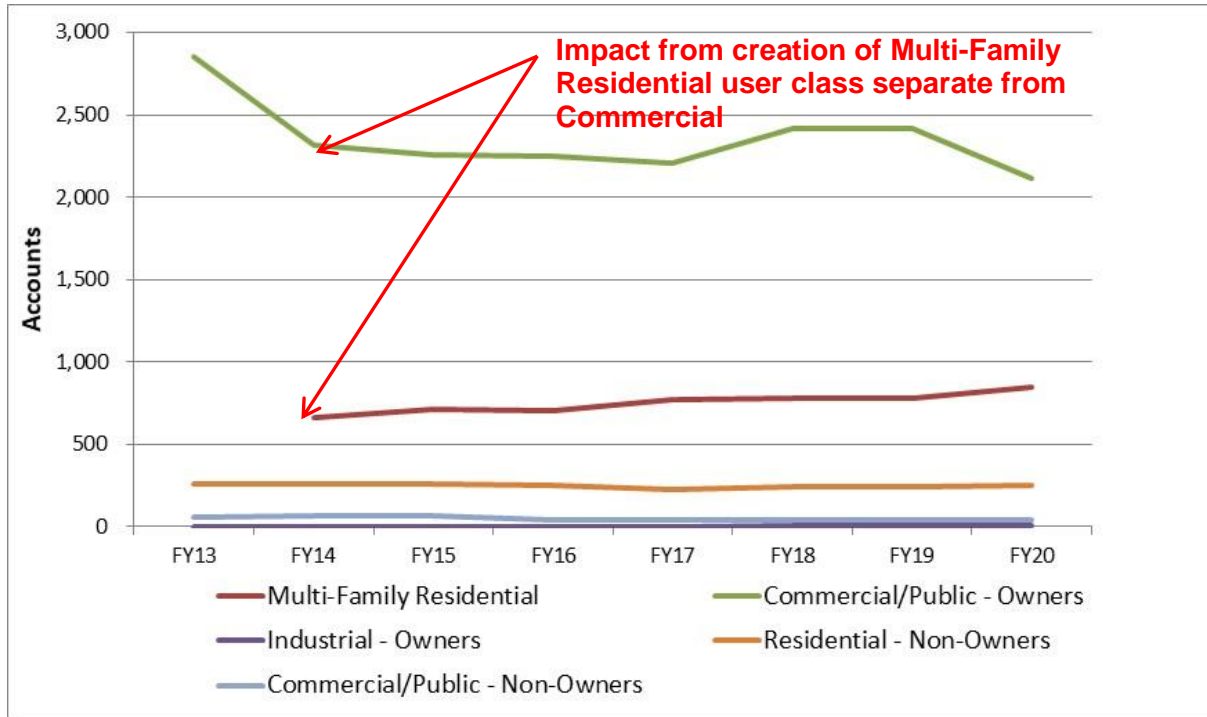


Figure 2.1: Recent Historical Meter Counts (Excluding Irrigation)

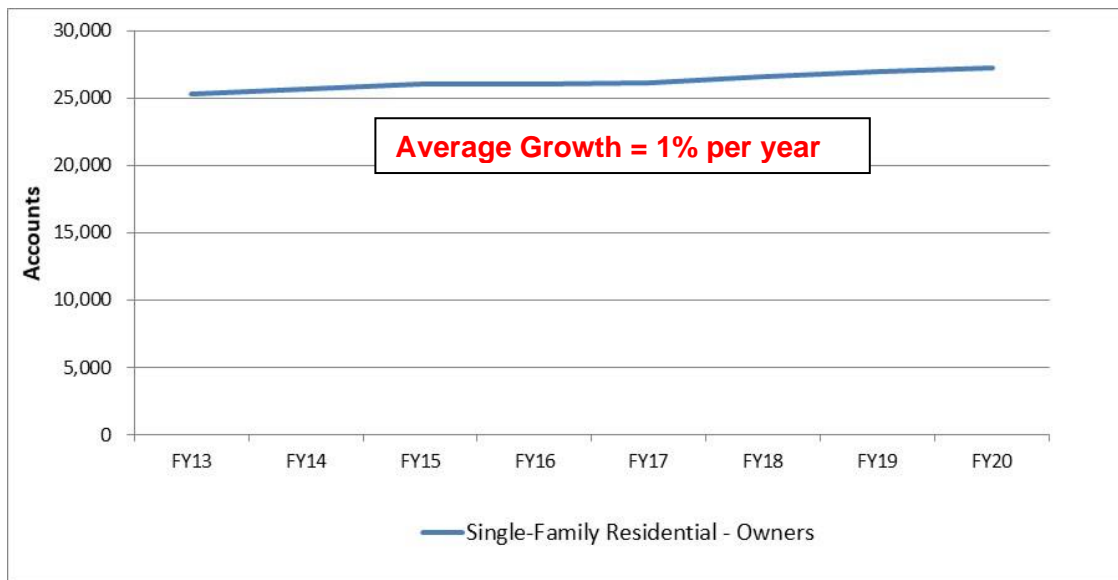


Figure 2.2: Recent Historical Single-Family Residential (Owner) Meter Counts

Despite growth in meters, water use for the Single-Family Residential class has declined, likely as a combined result of conservation-oriented rate changes, increased use of water-saving household appliances, as well as variable weather patterns. Water use for other inside user classes has been sporadic, but the City expects to see continued growth. To avoid overestimating water sales for FY22 and FY23, account growth was projected to be 0.5 percent per year for the Single-Family Residential, Multi-Family Residential, Commercial and Irrigation Accounts. Industrial accounts numbers were projected to remain constant. Based on recent historical water use per account, all water use other than Industrial was also grown at 0.5 percent per year. Water demand projections from the County Water District of Billings Heights shows an expected increase in water use of approximately 1.8 percent annually. Meter and water demand projections for other outside users were not assumed to grow from projected FY22 levels.

Table 2.5 summarizes the projected FY22 and FY23 billable flow for each user class, measured in units of one thousand gallons (kgal), noting the basis for the FY22 and FY23 flow assumptions. Table 2.6 presents the peaking factors utilized in the FY22/FY23 analysis.

Customer Class	FY22 Usage (kgal)	FY23 Usage (kgal)	Basis
Owners			
Residential	2,447,792	2,460,031	Based on FY20; 0.5% annual increase
Multi-Family Residential	588,757	591,701	Based on FY20; 0.5% annual increase
Commercial	1,088,985	1,094,430	Based on FY20; 0.5% annual increase
Industrial	13,074	13,074	Based on FY20; no annual increase
Seasonal	316,504	318,086	Based on FY20; 0.5% annual increase
Subtotal	4,455,112	4,477,322	
Non-Owners			
Residential	20,712	20,712	Based on FY20; no annual increase
Commercial	728,615	728,615	Based on FY20; no annual increase
Resale	938,998	955,900	Based on FY20 and Height's projections
Subtotal	1,688,325	1,705,227	
Total	6,143,437	6,182,549	

Table 2.5: Projected FY22 and FY23 Billable Water Sales

Customer Class	Max (Peak) Day (MGD)/Average Day (MGD)	Max (Peak) Hour (MGD)/Average Day (MGD)
Owners		
Residential	2.60	4.00
Multi-Family	1.40	4.00
Commercial	1.50	3.00
Industrial	1.50	2.00
Seasonal	3.50	6.00
Non-Owners		
Residential	2.60	4.00
Commercial	1.50	3.00
Resale	2.60	3.83
System Data	2.20	3.40

Table 2.6: Peaking Factors – FY22 and FY23 Analyses

Single-Family Residential Water Use

Figure 2.3 illustrates how Single-Family Residential water use has shifted since implementation of the existing tier structure. In FY14, the first tier was sized to capture the first 3,000 gallons of water use, with the second tier capturing water use up to 12,000 gallons, with the remainder falling within the third tier. Based on an analysis of residential water use completed in FY14, in FY15 the Single-Family Residential tier structure was changed in to the four-tier structure currently in place:

- Tier 1: 0 – 14 CCF (0 – 10,500 gallons)
- Tier 2: 15 – 43 CCF (11,000 – 32,000 gallons)
- Tier 3: 44 – 100 CCF (33,000 – 74,800 gallons)
- Tier 4: greater than 100 CCF (74,800 gallons)

The FY19 and FY20 bars in Figure 2.3 show how overall Single-Family Residential water use has decreased since FY14, as well as how in recent years the volume of water billed between one and three thousand gallons has increased while the amount of water billed in excess of 12,000 gallons has decreased.

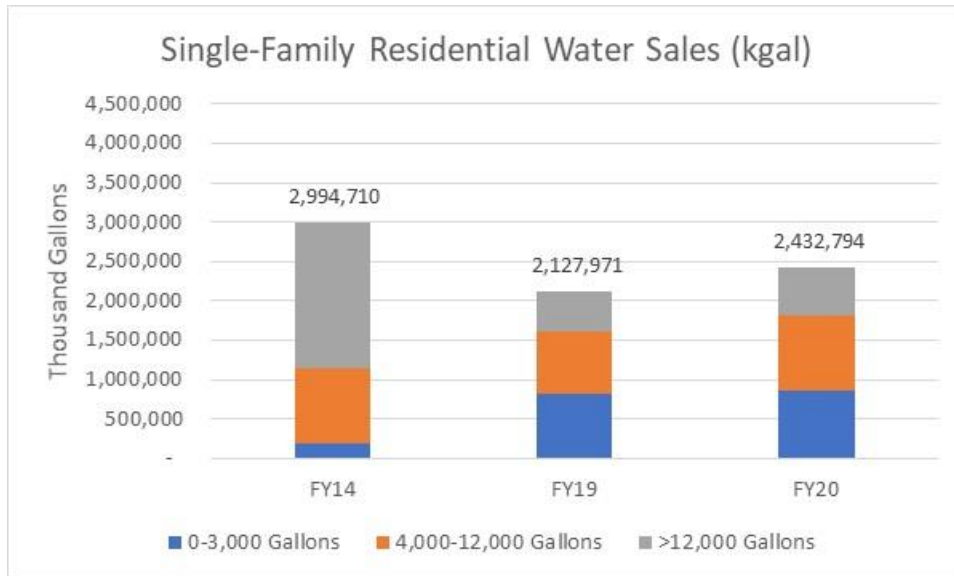


Figure 2.3: Single-Family Residential Water Sales

As part of this study, an alternate Single-Family Residential volumetric tier structure was evaluated for consideration by the City. The two scenarios evaluated are:

- Scenario 1: Existing Four-Tier Inclining Block Tier Structure; and
- Scenario 2: Four-Tier Inclining Block with Reduced Tier 1 Volume.

When the tiers were modified in FY15, the City’s Tier 1 rate block was designed to capture average annual water use. Table 2.7 summarizes the water use statistics used to design the existing block structure, based on water usage for the period of FY09-FY13, as well as current water use statistics from FY20. A review of this data found that average annual water use has been reduced from approximately 10,500 gallons per month to 7,500 gallons per month. Additionally, it was noted that median indoor (winter) water use has not changed significantly. This information suggests that some Single-Family Residential users have indeed changed their summer usage habits to some degree, and that reconsideration of the existing tier structure is appropriate.

FY09-FY13	Winter (Jan-Mar)	Summer(Jul-Sept)	Annual
Average Monthly Bill	6.1 CCF/4,500 gallons	26.1 CCF/19,500 gallons	14.0 CCF/10,500 gallons
Median Monthly Bill	5.4 CCF/4,000 gallons	20.0 CCF/15,000 gallons	11.5 CCF/8,600 gallons
FY20	Winter (Jan-Mar)	Summer(Jul-Sept)	Annual
Average Monthly Bill	5.25 CCF/4,000 gallons	16.4 CCF/12,300 gallons	10.1 CCF/7,500 gallons
Median Monthly Bill	5.2 CCF/3,900 gallons	15.7 CCF/11,700 gallons	7.1 CCF/5,300 gallons

Table 2.7: Historical and Recent Single-Family Residential Water Usage Statistics

Based on water usage data reviews with City staff, it was determined that the Scenario 2 Tier 1 cap would be set at 5,000 gallons. At this level, it is anticipated that at least 50 percent of the annual bills will fall within Tier 1 and given that average indoor water use is less than 5,000 gallons, most users will have the ability to stay within Tier 1. By reducing the volume captured within Tier 1 and simultaneously increasing the water billed in Tier 2, the City would have the ability to keep the Tier 1 rate as low as possible. This is favorable in terms of affordability. Table 2.8 summarizes the tier sizes for Scenarios 1 and 2. Rate projections associated with Scenarios 1 and 2 are presented in Section 5.3.

Single Family Residential	Tier Volume (CCF)	Tier Volume (Gallons)
Scenario 1:		
Tier 1	0-14	0-10,000
Tier 2	15-43	11,000-32,000
Tier 3	44-100	33,000-75,000
Tier 4	>100	>75,000
Scenario 2:		
Tier 1	0-7	0-5,000
Tier 2	8-43	6,000-32,000
Tier 3	44-100	33,000-75,000
Tier 4	>100	>75,000

Table 2.8: Single-Family Residential Volumetric Tier Scenarios

3.0 Revenue Requirements

Revenue requirements consist of expenses incurred for O&M of the Water Utility, as well as capital-related expenses such as debt service principal, capital outlays, and contributions to reserves.

3.1 Operation and Maintenance Costs

For the purpose of developing water rates for FY22 and FY23, the O&M component of revenue requirements was based on the preliminary FY22 Water Operating budget divisions titled Administration, Fiscal Services/Billing, Service Center, Water Treatment Plant, Distribution/Collection Maintenance, and Meter Shop. As agreed upon with the District, Joint O&M was determined based on the three-year average of the difference between budgeted and actual O&M expenses. For the FY22 and FY23 analyses, this value was 91.3 percent, updated from 92.8 percent in the FY20/FY21 study.

In determining net O&M revenue requirements, consideration is also given to non-rate operating revenue, which is applied to offset the operating costs. Tables 3.1 and 3.2 summarize total projected O&M revenue requirements, total projected O&M non-rate revenue, and net O&M revenue requirements based on ownership for FY22 and FY23, respectively.

Changes to the cost of service assumptions upon which Tables 3.1 and 3.2 are discussed in Section 4. Similar to the previous analysis, the portion of distribution cost associated with Zones 1, 2, and 4 was assumed to provide a benefit to non-owner users based on how water is managed within the system and provisions in place for alternate flow patterns in the case of emergency. In addition, it was noted that the City of Billings manages the District's storage tanks, which have a total volume of 8 MG. The analysis includes a direct allocation of O&M expense to the District for the purpose of storage management. The directly assigned value for FY22 was derived as shown below based on the following assumptions:

- Heights storage volume = 8 MG
- City of Billings distribution storage volume = 29.91MG
- Assumed percentage of Water Treatment Plant budget division labor and expense associated with maintenance of pump station and storage reservoirs = 6 percent

$$8MG \div (29.91MG + 8 MG) \times 6\% = 1.27\%$$

$$1.27\% \times \text{Water Treatment Plant division fixed cost of } \$3,912,172 = \$49,534$$

As Owners of the system, the Owner user classes are allocated all of the O&M non-rate revenue except for the Transfer to O&M for pipe bursting. As a result of this credit to Owner-only

revenue requirements, the net O&M revenue requirements for Non-Owners appears as a negative value in Tables 3.1 and 3.2.

The net revenue requirements functionalized by ownership shown in Tables 3.1 and 3.2 are further allocated to the user classes based on the fixed or variable nature of the cost (classification), and the system usage parameters associated with each user class (allocation). Table 3.3 summarizes the allocated O&M revenue requirements by owner of FY22 and FY23, noting in particular the total net O&M revenue requirements allocated to the Resale user class.

Budget Line Item		Total	Joint	All-But-Resale	Owners	Resale
Water Production						
	Chemicals	\$545,000	\$497,351	\$47,649	\$0	\$0
	All Other	\$3,638,320	\$3,320,224	\$318,096	\$0	\$0
High Service Pumping						
	Utilities (80% to Base)	\$1,276,266	\$1,164,683	\$111,583	\$0	\$0
	All Other	\$39,122	\$35,701	\$3,420	\$0	\$0
System Pumping and Storage						
	Utilities (80% to Base)	\$476,734	\$68,961	\$230,674	\$142,967	\$34,132
	All Other	\$234,730	\$28,855	\$96,520	\$59,821	\$49,534
Distribution System						
	Fire Hydrants	\$847,375	\$0	\$847,375	\$0	\$0
	All Other	\$1,740,152	\$633,005	\$815,793	\$291,353	\$0
Customer Billing and Meter						
	Admin.	\$2,579,716	\$2,354,173	\$225,543	\$0	\$0
O&M - Total		\$13,077,025	\$9,653,969	\$2,845,249	\$494,141	\$83,666
Less						
		Non-Rate				
O&M - Related		Revenue	Joint	All-But-Resale	Owners	Resale
	Water Permits	\$56,000	\$0	\$0	\$56,000	\$0
	Misc. Revenue	\$24,900	\$0	\$0	\$24,900	\$0
	Collection of Bad Debt	\$3,000	\$0	\$0	\$3,000	\$0
	Sale of Material/Labor	\$280,000	\$0	\$0	\$280,000	\$0
	Public Water Supply	\$62,000	\$0	\$0	\$62,000	\$0
	Water Service Line Repair	\$526,000	\$0	\$0	\$526,000	\$0
	Water Service Line Admin.	\$25,000	\$0	\$0	\$25,000	\$0
	Hydrant Meter Rental Fee	\$23,000	\$0	\$0	\$23,000	\$0
	Charge for Services	\$69,000	\$0	\$0	\$69,000	\$0
	Transfer to O&M for Pipebursting Projects	\$0	\$0	\$0	\$0	\$0
	Transfers In	\$0	\$0	\$0	\$0	\$0
Total O&M-Related		\$1,068,900	\$0	\$0	\$1,068,900	\$0
		Total	Joint	All-But-Resale	Owners	Resale
Total O&M Revenue Requirement		\$12,008,125	\$9,653,969	\$2,845,249	(\$574,759)	\$83,666

Table 3.1: Summary of Projected FY22 O&M Revenue Requirements

Budget Line Item	Total	Joint	All-But-Resale	Owners	Resale
Water Production					
Chemicals	\$558,625	\$509,785	\$48,840	\$0	\$0
All Other	\$3,747,470	\$3,419,831	\$327,638	\$0	\$0
High Service Pumping	\$0	\$0	\$0	\$0	\$0
Utilities (80% to Base)	\$1,314,554	\$1,199,624	\$114,930	\$0	\$0
All Other	\$40,295	\$36,772	\$3,523	\$0	\$0
System Pumping and Storage	\$0	\$0	\$0	\$0	\$0
Utilities (80% to Base)	\$491,036	\$71,030	\$237,594	\$147,256	\$35,156
All Other	\$241,772	\$29,721	\$99,416	\$61,616	\$51,020
Distribution System	\$0	\$0	\$0	\$0	\$0
Fire Hydrants	\$872,797	\$0	\$872,797	\$0	\$0
All Other	\$1,792,356	\$651,995	\$840,267	\$300,094	\$0
Customer Billing and Meter	\$1,750,598	\$1,597,545	\$153,053	\$0	\$0
Admin.	\$2,657,107	\$2,424,799	\$232,309	\$0	\$0
O&M - Total	\$13,466,611	\$9,941,101	\$2,930,368	\$508,965	\$86,176
Less	Non-Rate				
O&M - Related	Revenue	Joint	All-But-Resale	Owners	Resale
Water Permits	\$56,000	\$0	\$0	\$56,000	\$0
Misc. Revenue	\$24,900	\$0	\$0	\$24,900	\$0
Collection of Bad Debt	\$3,000	\$0	\$0	\$3,000	\$0
Sale of Material/Labor	\$280,000	\$0	\$0	\$280,000	\$0
Public Water Supply	\$62,000	\$0	\$0	\$62,000	\$0
Water Service Line Repair	\$526,000	\$0	\$0	\$526,000	\$0
Water Service Line Admin.	\$25,000	\$0	\$0	\$25,000	\$0
Hydrant Meter Rental Fee	\$23,000	\$0	\$0	\$0	\$0
Charge for Services	\$69,000	\$0	\$0	\$0	\$0
Transfer to O&M for Pipebursting Projects	\$0	\$0	\$0	\$23,000	\$0
Transfers In	\$0	\$0	\$0	\$69,000	\$0
Total O&M-Related	\$1,068,900	\$0	\$0	\$1,068,900	\$0
	Total	Joint	All-But-Resale	Owners	Resale
Total O&M Revenue Requirement	\$12,397,711	\$9,941,101	\$2,930,368	(\$559,935)	\$86,176

Table 3.2: Summary of Projected FY23 O&M Revenue Requirements

Ownership		FY22 O&M	FY23 O&M
Joint			
Owners		\$ 7,791,829	\$ 8,014,045
Resale		\$ 1,186,619	\$ 1,235,900
Other Non-Owners		\$ 675,521	\$ 691,157
Total Joint		\$ 9,653,969	\$ 9,941,101
All But Resale			
Owners		\$ 2,656,855	\$ 2,737,141
Other Non-Owners		\$ 188,393	\$ 193,227
Total All But Resale		\$ 2,845,249	\$ 2,930,368
Owners-Only		\$ (574,759)	\$ (559,935)
Resale-Only		\$ 83,666	\$ 86,176
Total		\$ 12,008,125	\$ 12,397,711
Total Resale		\$ 1,270,285	\$ 1,322,076

Table 3.3: Summary of Net O&M Revenue Requirements by Ownership

3.2 Capital Costs

Total capital-related revenue requirements were evaluated in terms of the cash-basis for the purpose of establishing the utility-basis capital requirements to be met with rate revenue. Capital costs are determined on a cash basis for owners of the system and a hybrid-utility basis for non-owners of the system. The hybrid-utility basis is determined by first taking the cash-based utility revenue requirements and then adjusting for the remaining non-owner share on a utility basis. These steps are described below.

3.2.1 Development of Cash-Basis Capital-Related Revenue Requirements

The City provided information related to existing and anticipated debt service requirements, the five-year Capital Improvement Plan (CIP), non-CIP capital outlays, and anticipated capital-related non-rate revenue for FY22. In FY22, the CIP includes \$90.938 million (M) in capital improvements. The City anticipates utilizing \$1.3M in revenue from system development fee (SDF) revenues and taking \$72M in new debt, leaving a total CIP cash-funded capital requirement of approximately \$17,639,000 to be met using cash reserves and user fees. Of this, approximately \$8.3M is anticipated to be funded through FY22 rate revenues, with the balance of approximately \$9.4M funded with cash reserves. The total FY22 rate and reserve-funded CIP amount is higher than average historical rate-funded capital values which have ranged from \$8M to \$10M. Changes to the timing of projects have allowed the City to build and subsequently strategically spend down cash reserves to fund capital in the period of FY17 through FY23. After accounting for reserve-funded capital, projected capital-related rate revenue requirements

totaled \$14,519,353, and net capital-related revenue requirements came to \$14,304,353 after netting out capital-related non-rate revenue of \$215,000.

For FY23, the current CIP projects expenditures of \$40.05M, with \$1.3M funded with cash from SDF revenues and \$6.020M funded with rate revenues. Projected FY23 capital-related revenue requirements totaled \$16,190,941, with net capital-related revenue requirements of \$15,655,941 when considering a projected capital-related non-rate revenue estimate of \$535,000. Table 3.4 summarizes the anticipated FY22 and FY23 cash-basis capital-related revenue requirements and capital-related non-rate revenues.

Line Item	Total FY22	Total FY23
Debt Service	\$ 5,770,000	\$ 9,715,592
Cash Funded CIP	\$ 17,638,618	\$ 15,750,000
Water Service Line Repair	\$ 350,000	\$ 350,000
Transfers To (from) O&M Reserve	\$ 95,797	\$ 105,188
Increase/ (Decrease) Operating Fund Balance	\$ (9,335,061)	\$ (9,729,839)
Total Capital Revenue Requirements - Cash Basis	\$ 14,519,353	\$ 16,190,941
Less: Non-Rate Capital Revenue		
late payment interest	\$ 35,000	\$ 35,000
interest earnings	\$ 180,000	\$ 500,000
Total Non-Rate Capital -Related Revenue	\$ 215,000	\$ 535,000
Net Capital Revenue Requirements - Cash Basis	\$ 14,304,353	\$ 15,655,941

Table 3.4: Summary of Net Capital-Related Revenue Requirements – Cash Basis

3.2.2 Development of Utility-Basis Capital-Related Revenue Requirements

To fairly assign the cost of only those assets in service and utilized by non-owner user classes, the Utility-basis with cash residual methodology is utilized by the City of Billings in determining the appropriate rates to charge non-owner user classes. This methodology calculates the capital-related component of revenue requirements based on depreciation of system assets in service and a return on capital investment made by the owners of the system.

Once capital-related revenue requirements have been established, the City’s methodology then applies the utility-based approach for calculating the appropriate share of capital-related revenue requirements for users located outside of the City. The utility approach is considered a fair means to allocate the capital-related revenue requirements to non-owners of the system based on the value of the infrastructure used by the non-owner users. The utility approach is based upon the allocation of revenue requirements represented by depreciation and a rate of return on the utility’s investment. Users located within the City are then allocated the difference between the total capital-related revenue requirements established under the cash-basis methodology and the

outside city allocation of the utility-based capital-related revenue requirements. This approach is consistent with past efforts and Resale contract agreements.

There are two components to the Utility-basis capital-related revenue requirements: the return on rate base as calculated by applying a rate of return percentage to the asset base or net plant in service, and the depreciation on the net plant in service. To identify the return on rate base, the total assets in service must first be identified. Once the asset base is identified, the net plant in service is calculated as the original cost less depreciation to date. The annual depreciation for the assets currently in service must also be determined. Table 3.5 summarizes the net fixed assets and depreciation for development of the FY22 utility-basis capital-related revenue requirements. The net fixed asset totals in Table 3.5 indicate that based on asset values at year-end FY20, new assets placed in service in FY21, assets that depreciated out in FY21, and assets that remained in service for FY21, the value of net plant in service for FY22 calculated as \$173.779M. Using the FY22 net asset base and the FY21 and FY22 CIP items anticipated to be placed in service by the close of FY21, the anticipated net asset base and annual depreciation for FY23 was developed and is summarized in Table 3.6.

For the FY22 and FY23 asset bases, use of the system was evaluated in terms of ownership, as was done for the evaluation of O&M revenue requirements. Tables 3.7 and 3.8 summarize the ownership allocations of net fixed asset value and depreciation for FY22 and FY23, respectively. Detailed fixed asset tables are found in Appendix A.

Fixed Asset Type	FY20 Asset Value	Annual Depreciation	FY22 Fixed Assets	FY21 Asset Additions	FY22 Net Fixed Assets
Source of Supply	\$7,217,215	\$230,382	\$6,756,451	\$103,100	\$6,859,551
Water Treatment/HS Pumping	\$35,023,147	\$1,947,040	\$31,129,066	\$15,769,922	\$46,898,988
Distribution Pumping	\$7,525,807	\$345,756	\$6,834,296	\$2,188,355	\$9,022,651
Reservoirs and Tanks	\$19,105,557	\$588,346	\$17,928,865	\$2,610,530	\$20,539,395
Transmission and Distribution	\$76,087,783	\$2,647,341	\$70,793,100	\$15,622,868	\$86,415,968
Meters and Hydrants	\$1,913,467	\$105,450	\$1,702,567	\$0	\$1,702,567
General Plant	\$1,745,081	\$336,747	\$1,074,105	\$1,265,783	\$2,339,888
Net	\$148,618,055	\$6,201,062	\$136,218,451	\$37,560,557	\$173,779,008

Table 3.5: Summary of FY22 Fixed Assets and Depreciation

Fixed Asset Type	Net Fixed Assets	Allocat Depr
Source of Supply	\$27,207,400	\$232,100
Water Treatment/HS Pumping	\$112,892,815	\$2,086,860
Distribution Pumping	\$9,589,283	\$382,228
Reservoirs and Tanks	\$22,120,620	\$625,527
Transmission and Distribution	\$101,923,682	\$2,959,799
Meters and Hydrants	\$1,597,100	\$105,450
General Plant	\$3,008,543	\$504,448
Net	\$278,339,444	\$6,896,412

Table 3.6: Summary of FY23 Fixed Assets and Depreciation

Ownership	Net Fixed Asset	Depreciation
Joint		
Owners	\$120,271,300	\$4,843,110
Resale	14,597,301	668,528
Other Non-Owners	<u>12,702,828</u>	<u>507,860</u>
Subtotal Joint	\$147,571,429	\$6,019,498
Owners-Only	\$24,970,626	\$820,876
Resale-Only	<u>\$1,236,953</u>	<u>\$56,038</u>
Total	\$173,779,008	\$6,896,412
Owner Subtotal	\$145,241,925	\$5,663,986
Non-Owner Subtotal (including Resale)	\$28,537,082	\$1,232,426
Resale Subtotal	\$15,834,255	\$724,566

Table 3.7: FY22 Utility-Basis Capital-Related Revenue Requirements Based on Ownership

Ownership	Net Fixed Asset	Depreciation
Joint		
Owners	\$194,047,272	\$6,159,599
Resale	29,456,313	924,867
Other Non-Owners	<u>21,489,402</u>	<u>665,127</u>
Subtotal Joint	\$244,992,987	\$7,749,594
Owners-Only	\$31,820,436	\$986,198
Resale-Only	<u>\$1,526,020</u>	<u>\$61,988</u>
Total	\$278,339,444	\$8,797,779
Owner Subtotal	\$225,867,709	\$7,145,797
Non-Owner Subtotal (including Resale)	\$52,471,735	\$1,651,982
Resale Subtotal	\$30,982,333	\$986,855

Table 3.8: FY23 Utility-Basis Capital-Related Revenue Requirements Based on Ownership

Per the Memorandum of Understanding between the City and its Resale customer, the rate of return is based on the WACC, calculated using the City’s current effective interest rate on outstanding debt and a return on equity equal to the average 30-year treasury rate plus 300 basis points for the most recent twelve-month period ending June 30th. Based on this formula, with an average 30-year treasury rate of 1.41 percent, the calculated rate of return on equity was 4.41 percent. For FY22 the effective interest rate on water debt for the City is estimated at 2.60 percent, resulting in a FY22 WACC of 4.20 percent. Table 3.9 summarizes the WACC calculation. The average 30-year treasury rate used for FY22 was also used for FY23. Based on a projected effective interest rate on water debt of 2.90 percent, the FY23 weighted cost of capital was projected to be 3.92 percent. This is a significant decrease from recent years and is a direct reflection of the recent interest rate environment.

Debt/Equity	FY2022	FY2023
Total Outstanding Debt	\$25,887,726	\$95,118,503
Interest on Outstanding Debt	\$673,459	\$2,760,258
Effective Interest Rate on Outstanding Debt	2.60%	2.90%
Total Fund Equity	\$193,911,655	\$197,390,579
Rate of Return on Equity	4.41%	4.41%
Total Equity and Debt	\$219,799,381	\$292,509,082
Weighted Cost of Capital	4.20%	3.92%

Table 3.9: Weighted Average Cost of Capital (WACC) Calculation

Table 3.10 shows the calculated return on rate base using Non-Owner rates of return of 4.20 percent and 3.92 percent in FY22 and FY23, respectively. Although the rate of return for Non-Owners decreases from FY22 to FY23, the substantial increase in the rate base as new infrastructure comes online results in an overall increase of 52 percent in net utility basis capital-related costs allocable to Non-Owners. Total capital revenue requirements under the utility method are equal to the capital-related revenue requirements under the cash basis and are based on actual capital revenue requirements for each year.

Line Item	FY2022	FY2023
Utility Basis Capital Costs for Non-Owners		
Return on Rate Base		
Rate Base		
Net Plant in Service	\$28,537,082	\$52,471,735
Allowance for Working Capital	\$266,775	\$275,807
Total Rate Base	\$28,803,857	\$52,747,542
Rate of Return	4.20%	3.92%
Total Rate of Return on Rate Base	\$1,208,896	\$2,067,492
Depreciation Less Amortization Expense	\$1,232,426	\$1,651,982
Net Utility Basis Capital Costs	\$2,441,322	\$3,719,474
Utility Basis Capital Costs for Owners		
Return on Rate Base		
Rate Base		
Net Plant in Service	\$145,241,925	\$225,867,709
Allowance for Working Capital	\$1,234,241	\$1,273,906
Total Rate Base	\$146,476,166	\$227,141,615
Rate of Return	4.23%	2.11%
Return on Rate Base	\$6,199,046	\$4,790,670
Depreciation Less Amortization Expense	\$5,663,986	\$7,145,797
Net Utility Basis Capital Costs	\$11,863,031	\$11,936,467
Total Utility Basis Capital Revenue Requirement	\$14,304,353	\$15,655,941

Table 3.10: Utility-Basis Capital Revenue Requirements – FY22 and FY23

The system owners are allocated the balance of the capital revenue requirements not allocated to the non-owners. This translates to a rate of return for Owners equal to 4.23 percent in FY22 and 2.11 percent in FY23. Because the return percentage is calculated based on the total rate base, the percentage decreases from FY22 to FY23 due to the \$81M increase in Owner rate base.

3.3 Total Revenue Requirements

Tables 3.11 and 3.12 summarize the total revenue requirements for FY22 and FY23, respectively, under both the Cash-Basis and Utility-Basis methodologies. Table 3.13 summarizes the total revenue requirements by ownership for both FY22 and FY23.

	Operating Costs	Capital Costs	Total
Cash-Basis Revenue Requirements			
O&M Expense	\$13,077,025	\$0	\$13,077,025
Debt Service Requirements		5,770,000	5,770,000
Cash Financing of Construction		17,638,618	17,638,618
Water Line Service Repair		350,000	350,000
Operating Reserve		95,797	95,797
Total	\$13,077,025	\$23,854,415	\$36,931,440
Revenue Requirements Met From Other Sources			
Other Operating Revenue	\$1,068,900	\$0	\$1,068,900
Interest Income		215,000	215,000
Change in Funds Available		9,335,061	9,335,061
Total	\$1,068,900	\$9,550,061	\$10,618,961
Net Costs to be Met From Charges	\$12,008,125	\$14,304,353	\$26,312,478
Restatement of Net Costs - Utility-Basis Revenue Requirements			
O&M Expenses	\$12,008,125	\$0	\$12,008,125
Capital Costs			
Depreciation		6,896,412	6,896,412
Return on Rate Base		7,407,941	7,407,941
Total	\$12,008,125	\$14,304,353	\$26,312,478

Table 3.11: Summary of Total Projected FY22 Net Revenue Requirements

	Operating Costs	Capital Costs	Total
Cash-Basis Revenue Requirements			
O&M Expense	\$13,466,611	\$0	\$13,466,611
Debt Service Requirements		9,715,592	9,715,592
Cash Financing of Construction		15,750,000	15,750,000
Water Line Service Repair		350,000	350,000
Operating Reserve		105,188	105,188
Total	\$13,466,611	\$25,920,780	\$39,387,391
Revenue Requirements Met From Other Sources			
Other Operating Revenue	\$1,068,900	\$0	\$1,068,900
Interest Income		535,000	535,000
Change in Funds Available		9,729,839	9,729,839
Total	\$1,068,900	\$10,264,839	\$11,333,739
Net Costs to be Met From Charges (Rates)	\$12,397,711	\$15,655,941	\$28,053,652
Restatement of Net Costs - Utility-Basis Revenue Requirements			
O&M Expenses	\$12,397,711	\$0	\$12,397,711
Capital Costs			
Depreciation		8,797,779	8,797,779
Return on Rate Base		6,858,162	6,858,162
Total	\$12,397,711	\$15,655,941	\$28,053,652

Table 3.12: Summary of Total Projected FY23 Net Revenue Requirements

Ownership	O&M	Capital	Total
FY2022			
Owner	\$9,873,926	\$11,863,031	\$21,736,957
Non-Owners	\$2,134,199	\$2,441,322	\$4,575,521
Total	\$12,008,125	\$14,304,353	\$26,312,478
FY2023			
Owner	\$10,191,251.0	\$11,936,467	\$22,127,718
Non-Owners	\$2,206,459.8	\$3,719,474	\$5,925,934
Total	\$12,397,711	\$15,655,941	\$28,053,652

Table 3.13: Summary of Total Projected FY22 and FY23 Net Revenue Requirements by Ownership

4.0 Cost of Service Analysis

The following sub-sections summarize the cost of service assumptions and results. Detailed tables summarizing the costs by ownership, cost type, and cost allocation to the user classes are found in Appendix B.

4.1 Methodology

Following the establishment of total O&M and capital revenue requirements by customer group (joint, all-but-resale, owner, or resale), the revenue requirements were then taken through a series of steps to result in allocation to each user class. In the first step, revenue requirements were functionalized according to customer group. As noted in Section 1.0, Joint costs were allocated to all user classes, All-But-Resale were allocated to all owner user classes and non-owner user classes with the exception of the Resale class, Owner costs were allocated only to Owner user classes, and Resale costs were allocated only to the Resale user class. In the second step, costs were classified as to how the cost is related to usage characteristics – Customer, Meter, Base, Max Day, or Peak Day applicability. Finally, in the third step, costs were allocated to the user classes based on the system usage characteristics of each class. For the allocation of customer costs, the percentage of meters or accounts determined the allocation percentage. For meter costs, the percentage of total equivalent meters in terms of 3/4-inch meter equivalents was used. For base capacity, average day billed water use determines the allocation percentage, and for peak/max day and peak/max hour allocations were calculated using the average day billed water use and the peaking factors from Table 2.6. The following subsections describe the Functionalization, Classification, and Allocation steps for the O&M and Capital-Related revenue requirements.

4.2 O&M Cost Allocations

Table 3.3 presented the O&M revenue requirements by ownership. To arrive at the final O&M cost allocation to each user class, the costs by ownership were also classified to the appropriate fixed or variable component based on the manner in which the cost is related to user characteristics such as meter numbers and flow. Table 4.1 presents the functionalization percentages for each line item O&M revenue requirement by ownership. The same values were applied for both FY22 and FY23. Table 4.2 shows the classification of each line item. Per the agreement with the County Water District of Billings Heights, the amount of cost eligible for joint allocation to all users is adjusted based on the rolling three-year average percentage of actual expenditures over budgeted expenditures. For FY22 this value was 91.3 percent. The following bullets briefly summarize the assumptions behind the O&M functionalization percentages in Table 4.1.

- Water Production and High Service Pumping costs: Allocated to all users. Adjusted by 91.3 percent to account for agreement with Resale customer.
- System Pumping and Storage: Allocated based on value of asset base utilization of system components. Assumed Resale customer uses 75 percent of the Walter Pump Station, with the rest allocated to the Owner user class. The Joint allocation percentage is based on the assumption that the Resale customer benefits from the Willet and Leavens Reservoirs due to their role in serving Zone 1, and the Fox Reservoir due to its interconnect that allows for emergency service to the Resale customer. All-But-Resale allocation is based on the determination that Non-Owner users (other than Resale) benefit from infrastructure in Pressure Zones 1, 2, and 4.
- System Pumping and Storage: A portion of fixed Water Treatment Plant division costs were allocated directly to the Resale customer to account for reservoir management as described in Section 3.1.
- Allocation of Fire Hydrants based on information indicating the presence of public hydrants served outside of City limits.
- Allocation of all other Distribution (maintenance of pipelines) based on agreement that Resale customer can be charged for transmission greater than 12” and that Non-Owner customers (other than Resale) utilize the transmission system. In addition, it was assumed that Non-Owner customers (other than Resale) utilize 60 percent of the distribution system to receive water at their connection points based on the estimated miles of pipe in Pressure Zones 1, 2, and 4.
- Customer Billing and Meter: Allocated to all users. Adjusted by 91.3 percent to account for agreement with Resale customer.
- Administrative: Allocated to all users. Adjusted by 91.3 percent to account for agreement with Resale customer.

As shown in Table 4.2, the costs were classified as Base, Max Day, Max Hour, Customer, Meter, or Direct Fire. The revenue requirements comprising the Customer and Meter classified costs result in the calculation of the fixed meter charges, and those allocated to the Base, Max Day, and Max Hour components comprise the charges that derive the volumetric rates. The revenue requirements identified as Direct Fire costs are associated with the fixed fire protection charges.

The following bullets briefly summarize the assumptions behind the O&M classification percentages in Table 4.2.

- Water Production – Chemicals: This expense varies directly with water usage and is assigned as a 100 percent Base cost.
- Water Production – All Other, High Service Pumping – All Other, and System Pumping and Storage – All Other: These expenses are associated with meeting maximum day demands as well as average day usage, and are split between Base (average day) and

Extra Capacity – Peak Day based on the system max day/average day design parameter of 2.2.

Item	Joint	All-But-Resale	Owners	Resale	Total
Water Production					
Chemicals	91.3%	8.7%	0.0%	0.0%	100.0%
All Other	91.3%	8.7%	0.0%	0.0%	100.0%
High Service Pumping					
Utilities (80% to Base)	91.3%	8.7%	0.0%	0.0%	100.0%
All Other	91.3%	8.7%	0.0%	0.0%	100.0%
System Pumping and Storage					
Utilities (80% to Base)	14.5%	48.4%	30.0%	7.2%	100.0%
All Other	12.3%	41.1%	25.5%	21.1%	100.0%
Distribution System					
Fire Hydrants	0.0%	100.0%	0.0%	0.0%	100.0%
All Other	36.4%	46.9%	16.7%	0.0%	100.0%
Customer Billing and Meter	91.3%	8.7%	0.0%	0.0%	100.0%
Administrative	91.3%	8.7%	0.0%	0.0%	100.0%
Total O&M-Related Non-Rate Revenues					
3121 Street Sprinkling	0.0%	0.0%	100.0%	0.0%	100.0%
3122 Sewer Flushing	0.0%	0.0%	100.0%	0.0%	100.0%
Water Permits	0.0%	0.0%	100.0%	0.0%	100.0%
Misc. Revenue	0.0%	0.0%	100.0%	0.0%	100.0%
Collection of Bad Debt	0.0%	0.0%	100.0%	0.0%	100.0%
Sale of Material/Labor	0.0%	0.0%	100.0%	0.0%	100.0%
Public Water Supply	0.0%	0.0%	100.0%	0.0%	100.0%
Water Service Line Repair	0.0%	0.0%	100.0%	0.0%	100.0%
Water Service Line Admin.	0.0%	0.0%	100.0%	0.0%	100.0%
Unused	0.0%	0.0%	100.0%	0.0%	100.0%
Late Payment Interest	0.0%	0.0%	100.0%	0.0%	100.0%
Hydrant Meter Rental Fee	0.0%	0.0%	100.0%	0.0%	100.0%
Charge for Services	0.0%	0.0%	100.0%	0.0%	100.0%
Transfer to O&M for Pipebursting Projects	36.4%	46.9%	16.7%	0.0%	100.0%
Interest Earnings - Operating Fund (502 & 505)	0.0%	0.0%	100.0%	0.0%	100.0%
Transfers In	0.0%	0.0%	100.0%	0.0%	100.0%

Table 4.1: Functionalization of FY22 and FY23 O&M Revenue Requirements by Ownership

- High Service Pumping – Utilities, and System Pumping and Storage – Utilities: These expenses are classified as 80 percent Base and 20 percent Extra Capacity – Peak Day based on a review of 2013 – 2020 daily pumping data.
- Distribution System – All Other: These are costs that are driven by peak hour, as well as peak day, and are therefore classified based on system parameters for meeting peak day and peak hour requirements, with the remainder classified as average day costs.

Item	Base	Max Day	Max Hr.	Customer	Meter	Direct Fire	Total
Water Production							
Chemicals	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
All Other	45.5%	54.5%	0.0%	0.0%	0.0%	0.0%	100.0%
High Service Pumping							
Utilities (80% to Base)	80.0%	20.0%	0.0%	0.0%	0.0%	0.0%	100.0%
All Other	45.5%	54.5%	0.0%	0.0%	0.0%	0.0%	100.0%
System Pumping and Storage							
Utilities (80% to Base)	80.0%	20.0%	0.0%	0.0%	0.0%	0.0%	100.0%
All Other	45.5%	54.5%	0.0%	0.0%	0.0%	0.0%	100.0%
Distribution System							
Fire Hydrants	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
All Other	29.4%	35.3%	35.3%	0.0%	0.0%	0.0%	100.0%
Customer Billing and Meter	0.0%	0.0%	0.0%	40.6%	59.4%	0.0%	100.0%
Administrative	27.9%	33.5%	7.5%	8.4%	12.3%	10.3%	100.0%
Total O&M-Related Non-Rate Revenues							
Water Permits	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Misc. Revenue	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Collection of Bad Debt	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Sale of Material/Labor	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Public Water Supply	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Water Service Line Repair	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Water Service Line Admin.	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Late Payment Interest	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Hydrant Meter Rental Fee	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Charge for Services	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Transfer to O&M for Pipebursting Projects	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Interest Earnings - Operating Fund (502 & 505)	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%
Transfers In	40.4%	29.5%	5.9%	6.6%	9.6%	8.1%	100.0%

Table 4.2: Classification of FY22 and FY23 O&M Revenue Requirements

Tables 4.3 and 4.4, respectively, summarize the O&M revenue requirements by classification for FY22 and the allocated O&M revenue requirements to each user class for FY22. Similarly, Tables 4.5 and 4.6 present the O&M revenue requirements by classification and the allocated O&M revenue requirements to each user class for FY23, respectively. Detailed allocation tables are found in Appendix B.

Item	Total	Base	Max Day	Max Hr.	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$ 545,000	\$ 545,000	\$ -	\$ -	\$ -	\$ -	\$ -
All Other	\$ 3,638,320	\$ 1,653,782	\$ 1,984,538	\$ -	\$ -	\$ -	\$ -
High Service Pumping							
Utilities (80% to Base)	\$ 1,276,266	\$ 1,021,013	\$ 255,253	\$ -	\$ -	\$ -	\$ -
All Other	\$ 39,122	\$ 17,783	\$ 21,339	\$ -	\$ -	\$ -	\$ -
System Pumping and Storage							
Utilities (80% to Base)	\$ 476,734	\$ 381,387	\$ 95,347	\$ -	\$ -	\$ -	\$ -
All Other	\$ 234,730	\$ 106,696	\$ 128,035	\$ -	\$ -	\$ -	\$ -
Distribution System							
Fire Hydrants	\$ 847,375	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 847,375
All Other	\$ 1,740,152	\$ 511,809	\$ 614,171	\$ 614,171	\$ -	\$ -	\$ -
Customer Billing and Meter	\$ 1,699,610	\$ -	\$ -	\$ -	\$ 690,042	\$ 1,009,568	\$ -
Administrative	\$ 2,579,716	\$ 720,515	\$ 864,618	\$ 193,234	\$ 217,105	\$ 317,636	\$ 266,606
Total O&M Allocations	\$ 13,077,025	\$ 4,957,985	\$ 3,963,302	\$ 807,405	\$ 907,147	\$ 1,327,205	\$ 1,113,982
3121 Street Sprinkling	\$ 1,700	\$ 686	\$ 502	\$ 99	\$ 112	\$ 163	\$ 137
3122 Sewer Flushing	\$ 6,000	\$ 2,422	\$ 1,771	\$ 351	\$ 394	\$ 577	\$ 484
Water Permits	\$ 56,000	\$ 22,606	\$ 16,531	\$ 3,276	\$ 3,681	\$ 5,386	\$ 4,520
Misc. Revenue	\$ 17,200	\$ 6,943	\$ 5,077	\$ 1,006	\$ 1,131	\$ 1,654	\$ 1,388
Collection of Bad Debt	\$ 3,000	\$ 1,211	\$ 886	\$ 176	\$ 197	\$ 289	\$ 242
Sale of Material/Labor	\$ 280,000	\$ 113,028	\$ 82,653	\$ 16,382	\$ 18,406	\$ 26,929	\$ 22,602
Public Water Supply	\$ 62,000	\$ 25,028	\$ 18,302	\$ 3,627	\$ 4,076	\$ 5,963	\$ 5,005
Water Service Line Repair	\$ 526,000	\$ 212,331	\$ 155,269	\$ 30,775	\$ 34,577	\$ 50,588	\$ 42,460
Water Service Line Admin.	\$ 25,000	\$ 10,092	\$ 7,380	\$ 1,463	\$ 1,643	\$ 2,404	\$ 2,018
Hydrant Meter Rental Fee	\$ 23,000	\$ 9,284	\$ 6,789	\$ 1,346	\$ 1,512	\$ 2,212	\$ 1,857
Charge for Services	\$ 69,000	\$ 27,853	\$ 20,368	\$ 4,037	\$ 4,536	\$ 6,636	\$ 5,570
Net Revenue Requirements	\$ 12,008,125	\$ 4,526,500	\$ 3,647,775	\$ 744,867	\$ 836,882	\$ 1,224,404	\$ 1,027,697

Table 4.3: Classified FY22 O&M Revenue Requirements

Customer Class	Base	Max Day	Max Hr.	Customer	Meter	Direct Fire	Total
Owners							
Residential	\$ 1,811,397	\$ 1,753,724	\$ 181,220	\$ 737,063	\$ 958,189	\$ -	\$ 5,441,593
Multi-Family Residential	\$ 435,687	\$ 105,454	\$ 80,949	\$ 22,986	\$ 71,728	\$ -	\$ 716,805
Commercial	\$ 805,862	\$ 243,814	\$ 86,381	\$ 57,223	\$ 153,412	\$ -	\$ 1,346,692
Industrial	\$ 9,675	\$ 2,927	\$ 346	\$ 161	\$ 1,242	\$ -	\$ 14,352
Seasonal	\$ 234,217	\$ 354,312	\$ 41,843	\$ 10,955	\$ 23,713	\$ -	\$ 665,039
Public Fire Protection	\$ -	\$ 346,484	\$ 229,391	\$ -	\$ -	\$ 882,252	\$ 1,458,128
Private Fire Protection	\$ -	\$ 54,966	\$ 36,391	\$ -	\$ -	\$ 139,961	\$ 231,318
Non-Owners							
Residential	\$ 16,277	\$ 15,625	\$ 1,439	\$ 7,387	\$ 9,599	\$ -	\$ 50,327
Commercial	\$ 572,585	\$ 171,765	\$ 54,248	\$ 1,080	\$ 5,099	\$ -	\$ 804,778
Resale	\$ 640,800	\$ 596,613	\$ 31,425	\$ 27	\$ 1,422	\$ -	\$ 1,270,285
Private Fire Protection	\$ -	\$ 2,091	\$ 1,234	\$ -	\$ -	\$ 5,484	\$ 8,809
Total O&M Revenue Requirements	\$ 4,526,500	\$ 3,647,775	\$ 744,867	\$ 836,882	\$ 1,224,404	\$ 1,027,697	\$ 12,008,125

Table 4.4: Projected FY22 O&M Revenue Requirements by Customer Classes

Item	Total	Base	Max Day	Max Hr.	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$ 558,625	\$ 558,625	\$ -	\$ -	\$ -	\$ -	\$ -
All Other	\$ 3,747,470	\$ 1,703,395	\$ 2,044,074	\$ -	\$ -	\$ -	\$ -
High Service Pumping							
Utilities (80% to Base)	\$ 1,314,554	\$ 1,051,644	\$ 262,911	\$ -	\$ -	\$ -	\$ -
All Other	\$ 40,295	\$ 18,316	\$ 21,979	\$ -	\$ -	\$ -	\$ -
System Pumping and Storage							
Utilities (80% to Base)	\$ 491,036	\$ 392,828	\$ 98,207	\$ -	\$ -	\$ -	\$ -
All Other	\$ 241,772	\$ 109,896	\$ 131,876	\$ -	\$ -	\$ -	\$ -
Distribution System							
Fire Hydrants	\$ 872,797	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 872,797
All Other	\$ 1,792,356	\$ 527,164	\$ 632,596	\$ 632,596	\$ -	\$ -	\$ -
Customer Billing and Meter	\$ 1,750,598	\$ -	\$ -	\$ -	\$ 710,743	\$ 1,039,855	\$ -
Administrative	\$ 2,657,107	\$ 742,131	\$ 890,557	\$ 199,031	\$ 223,618	\$ 327,166	\$ 274,605
Total Allocations	\$ 13,466,611	\$ 5,103,999	\$ 4,082,201	\$ 831,628	\$ 934,361	\$ 1,367,021	\$ 1,147,401
3121 Street Sprinkling	\$ 1,700	\$ 686	\$ 502	\$ 99	\$ 112	\$ 163	\$ 137
3122 Sewer Flushing	\$ 6,000	\$ 2,422	\$ 1,771	\$ 351	\$ 394	\$ 577	\$ 484
Water Permits	\$ 56,000	\$ 22,606	\$ 16,531	\$ 3,276	\$ 3,681	\$ 5,386	\$ 4,520
Misc. Revenue	\$ 17,200	\$ 6,943	\$ 5,077	\$ 1,006	\$ 1,131	\$ 1,654	\$ 1,388
Collection of Bad Debt	\$ 3,000	\$ 1,211	\$ 886	\$ 176	\$ 197	\$ 289	\$ 242
Sale of Material/Labor	\$ 280,000	\$ 113,028	\$ 82,653	\$ 16,382	\$ 18,406	\$ 26,929	\$ 22,602
Public Water Supply	\$ 62,000	\$ 25,028	\$ 18,302	\$ 3,627	\$ 4,076	\$ 5,963	\$ 5,005
Water Service Line Repair	\$ 526,000	\$ 212,331	\$ 155,269	\$ 30,775	\$ 34,577	\$ 50,588	\$ 42,460
Water Service Line Admin.	\$ 25,000	\$ 10,092	\$ 7,380	\$ 1,463	\$ 1,643	\$ 2,404	\$ 2,018
Late Payment Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hydrant Meter Rental Fee	\$ 23,000	\$ 9,284	\$ 6,789	\$ 1,346	\$ 1,512	\$ 2,212	\$ 1,857
Charge for Services	\$ 69,000	\$ 27,853	\$ 20,368	\$ 4,037	\$ 4,536	\$ 6,636	\$ 5,570
Net Requirements	\$ 12,397,711	\$ 4,672,514	\$ 3,766,674	\$ 769,089	\$ 864,097	\$ 1,264,221	\$ 1,061,116

Table 4.5: Classified FY23 O&M Revenue Requirements

Customer Class	Base	Max Day	Max Hr.	Customer	Meter	Direct Fire	Total
Owners							
Residential	\$ 1,869,881	\$ 1,810,095	\$ 187,481	\$ 761,112	\$ 989,891	\$ -	\$ 5,618,460
Multi-Family Residential	\$ 449,754	\$ 108,844	\$ 83,746	\$ 23,729	\$ 73,909	\$ -	\$ 739,981
Commercial	\$ 831,881	\$ 251,651	\$ 89,365	\$ 59,073	\$ 158,158	\$ -	\$ 1,390,128
Industrial	\$ 9,938	\$ 3,006	\$ 356	\$ 166	\$ 1,277	\$ -	\$ 14,743
Seasonal	\$ 241,779	\$ 365,700	\$ 43,289	\$ 11,311	\$ 24,457	\$ -	\$ 686,536
Public Fire Protection	\$ -	\$ 355,851	\$ 236,143	\$ -	\$ -	\$ 910,978	\$ 1,502,971
Private Fire Protection	\$ -	\$ 56,452	\$ 37,462	\$ -	\$ -	\$ 144,518	\$ 238,432
Non-Owners							
Residential	\$ 16,657	\$ 15,997	\$ 1,477	\$ 7,572	\$ 9,843	\$ -	\$ 51,545
Commercial	\$ 585,949	\$ 175,855	\$ 55,688	\$ 1,107	\$ 5,229	\$ -	\$ 823,827
Resale	\$ 666,676	\$ 621,094	\$ 32,822	\$ 27	\$ 1,458	\$ -	\$ 1,322,076
Private Fire Protection	\$ -	\$ 2,130	\$ 1,261	\$ -	\$ -	\$ 5,621	\$ 9,012
Total O&M Revenue Requirements	\$ 4,672,514	\$ 3,766,674	\$ 769,089	\$ 864,097	\$ 1,264,221	\$ 1,061,116	\$ 12,397,711

Table 4.6: Projected FY23 O&M Revenue Requirements by Customer Classes

4.3 Fixed Asset Allocations

Table 3.5 presented the fixed assets by asset type and Tables 3.7 and 3.8 summarized total fixed assets by ownership for FY22 and FY23, respectively. Tables 4.7 and 4.8, respectively, summarize the functionalized FY22 and FY23 fixed assets by ownership and asset type, excluding contributed assets. Functionalization of fixed assets and depreciation costs, addressed later in this Section, was similar to that described for the corresponding O&M cost categories. The following bullets summarize specific assumptions behind the capital functionalization.

- Source of Supply, Water Treatment, High Service Pumping, General Plant, Meter and Service Connection facilities were functionalized as Joint costs.
- Distribution System Pump Station facilities serving Pressure Zones 1, 2, and 4 were functionalized to All-But-Resale. Based on an evaluation of the capital cost associated with the Walter Pump Station as completed by the design engineer for the facility, 40 percent of the Walter Pump Station was functionalized to the Resale class and the remainder was functionalized as an Owner cost, consistent with the previous analyses.
- Reservoirs and Tanks serving the Resale customer (Fox, Leavens, and Willet) were functionalized as Joint costs. The remaining facilities that support pressure zones 1, 2, and 4 were functionalized as All-But-Resale costs, and the remaining facilities were functionalized to Owner classes.
- Transmission pipelines greater than 12 inches in diameter were functionalized as Joint costs and transmission pipelines equal to 12 inches were functionalized as All-But-Resale due to the connection of outside users. Based on a review of miles of pipe within Pressure Zones 1, 2, and 4, 60 percent of distribution lines were allocated as All-But-Resale.
- Hydrants and Hydrant mains were functionalized as All-But-Resale.

Tables 4.9 and 4.10, respectively, summarize fixed assets by classification for FY22 and FY23. Classification of the functionalized fixed asset and depreciation costs is similar to the approach taken for classification of O&M costs. The following bullets summarize the key assumptions for capital classification.

- Source of Supply, Water Treatment, and High Service Pumping components were primarily classified based on peak day and average day parameters. Exceptions to this include the intake and the water treatment plant site/landscaping, which were classified as an average day cost associated with providing a baseline level of service.
- Distribution Pump stations were classified based on peak day and average day parameters, and booster stations were assumed to include a peak hour component as well as peak day and average day.
- Storage Reservoirs and Tanks and Transmission/Distribution components were classified based on peak hour, peak day, and average day.
- Meters and Service Connections were classified as customer costs.

- Hydrants and Hydrant Mains were classified to the Direct Fire classification.
- General Plant components were classified to peak hour, peak day, and average day based on the composite classification of all other direct capital.

Table 4.11 and 4.12 present the allocated fixed assets to each user class for FY22 and FY23, respectively. Detailed tables are found in Appendix B.

Fixed Asset Type	Joint	All But Resale	Owners	Resale	Total
Source of Supply	\$ 6,859,551	\$ -	\$ -	\$ -	\$ 6,859,551
Water Treatment/HS Pumping	\$ 46,898,988	\$ -	\$ -	\$ -	\$ 46,898,988
Distribution Pumping	\$ 25,521	\$ 3,789,656	\$ 3,970,521	\$ 1,236,953	\$ 9,022,651
Reservoirs and Tanks	\$ 4,521,817	\$ 9,786,088	\$ 6,231,490	\$ -	\$ 20,539,395
Transmission and Meters and Hydrants	\$ 34,446,708	\$ 37,500,645	\$ 14,468,615	\$ -	\$ 86,415,968
General Plant	\$ 39,154	\$ 1,663,413	\$ -	\$ -	\$ 1,702,567
General Plant	\$ 2,039,888	\$ -	\$ 300,000	\$ -	\$ 2,339,888
Total	\$ 94,831,627	\$ 52,739,802	\$ 24,970,626	\$ 1,236,953	\$ 173,779,008

Table 4.7: Functionalization of FY22 Fixed Assets to Ownership Category by Asset Type

Fixed Asset Type	Joint	All But Resale	Owners	Resale	Total
Source of Supply	\$ 27,207,400	\$ -	\$ -	\$ -	\$ 27,207,400
Water Treatment/HS Pumping	\$ 112,892,815	\$ -	\$ -	\$ -	\$ 112,892,815
Distribution Pumping	\$ 23,600	\$ 3,607,700	\$ 4,431,963	\$ 1,526,020	\$ 9,589,283
Reservoirs and Tanks	\$ 6,132,720	\$ 9,909,100	\$ 6,078,800	\$ -	\$ 22,120,620
Transmission and Meters and Hydrants	\$ 34,620,000	\$ 46,549,009	\$ 20,754,673	\$ -	\$ 101,923,682
General Plant	\$ 32,300	\$ 1,564,800	\$ -	\$ -	\$ 1,597,100
General Plant	\$ 2,453,543	\$ -	\$ 555,000	\$ -	\$ 3,008,543
Total	\$ 183,362,378	\$ 61,630,609	\$ 31,820,436	\$ 1,526,020	\$ 278,339,444

Table 4.8: Functionalization of FY23 Fixed Assets to Ownership Category by Asset Type

Fixed Asset Type	Base	Max Day	Max Hour	Meter	Direct Fire	Total
Source of Supply	\$ 5,910,575	\$ 948,976	\$ -	\$ -	\$ -	\$ 6,859,551
Water Treatment/HS Pumping	\$ 21,372,521	\$ 25,519,282	\$ 6,875	\$ 7	\$ 303	\$ 46,898,988
Distribution Pumping	\$ 4,100,207	\$ 4,920,249	\$ 2,194	\$ -	\$ -	\$ 9,022,651
Reservoirs and Tanks	\$ 6,042,268	\$ 7,250,721	\$ 7,246,406	\$ -	\$ -	\$ 20,539,395
Transmission and Distribution	\$ 25,416,461	\$ 30,499,753	\$ 30,499,753	\$ -	\$ -	\$ 86,415,968
Meters and Hydrants	\$ -	\$ -	\$ -	\$ 39,154	\$ 1,663,413	\$ 1,702,567
General Plant	\$ 987,141	\$ 861,235	\$ 470,301	\$ 488	\$ 20,724	\$ 2,339,888
Total	\$ 63,829,174	\$ 70,000,216	\$ 38,225,529	\$ 39,649	\$ 1,684,441	\$ 173,779,008

Table 4.9: Classification of FY22 Fixed Assets by Asset Type

Fixed Asset Type	Base	Max Day	Max Hour	Meter	Direct Fire	Total
Source of Supply	\$ 26,311,109	\$ 896,291	\$ -	\$ -	\$ -	\$ 27,207,400
Water Treatment/HS Pumping	\$ 51,356,633	\$ 61,529,975	\$ 5,939	\$ 6	\$ 262	\$ 112,892,815
Distribution Pumping	\$ 4,357,770	\$ 5,229,325	\$ 2,188	\$ -	\$ -	\$ 9,589,283
Reservoirs and Tanks	\$ 6,506,065	\$ 7,807,278	\$ 7,807,278	\$ -	\$ -	\$ 22,120,620
Transmission and Distribution	\$ 29,977,554	\$ 35,973,064	\$ 35,973,064	\$ -	\$ -	\$ 101,923,682
Meters and Hydrants	\$ -	\$ -	\$ -	\$ 32,300	\$ 1,564,800	\$ 1,597,100
General Plant	\$ 1,351,097	\$ 1,055,223	\$ 576,233	\$ 598	\$ 25,392	\$ 3,008,543
Total	\$ 119,860,228	\$ 112,491,155	\$ 44,364,702	\$ 32,904	\$ 1,590,454	\$ 278,339,444

Table 4.10: Classification of FY23 Fixed Assets by Asset Type

Customer Class	Base	Max Day	Max Hour	Meter	Direct Fire	Total
Owners						
Residential	\$ 27,540,094	\$ 36,037,336	\$ 9,549,943	\$ 31,058	\$ -	\$ 73,158,430
Multi-Family Residential	\$ 6,624,098	\$ 2,166,975	\$ 4,265,868	\$ 2,325	\$ -	\$ 13,059,266
Commercial	\$ 12,252,160	\$ 5,010,141	\$ 4,552,094	\$ 4,973	\$ -	\$ 21,819,368
Industrial	\$ 147,099	\$ 60,151	\$ 18,217	\$ 40	\$ -	\$ 225,508
Seasonal	\$ 3,560,979	\$ 7,280,761	\$ 2,205,042	\$ 769	\$ -	\$ 13,047,550
Public Fire Protection	\$ -	\$ 7,119,913	\$ 12,088,503	\$ -	\$ 1,446,664	\$ 20,655,079
Private Fire Protection	\$ -	\$ 1,129,504	\$ 1,917,722	\$ -	\$ 229,499	\$ 3,276,724
Non-Owners						\$ -
Residential	\$ 195,824	\$ 255,190	\$ 63,589	\$ 286	\$ -	\$ 514,890
Commercial	\$ 6,888,744	\$ 2,805,349	\$ 2,396,733	\$ 152	\$ -	\$ 12,090,978
Resale	\$ 6,620,177	\$ 8,100,741	\$ 1,113,290	\$ 46	\$ -	\$ 15,834,255
Private Fire Protection	\$ -	\$ 34,155	\$ 54,528	\$ -	\$ 8,278	\$ 96,960
Total	\$ 63,829,174	\$ 70,000,216	\$ 38,225,529	\$ 39,649	\$ 1,684,441	\$ 173,779,008

Table 4.11: Allocation of FY22 Fixed Assets to Customer Classes

Customer Class	Base	Max Day	Max Hour	Meter	Direct Fire	Total
Owners						
Residential	\$ 50,276,141	\$ 56,664,764	\$ 11,160,023	\$ 25,788	\$ -	\$ 118,126,716
Multi-Family Residential	\$ 12,092,699	\$ 3,407,332	\$ 4,985,075	\$ 1,925	\$ -	\$ 20,487,031
Commercial	\$ 22,367,074	\$ 7,877,898	\$ 5,319,558	\$ 4,120	\$ -	\$ 35,568,650
Industrial	\$ 267,202	\$ 94,111	\$ 21,183	\$ 33	\$ -	\$ 382,529
Seasonal	\$ 6,500,788	\$ 11,448,198	\$ 2,576,802	\$ 637	\$ -	\$ 20,526,426
Public Fire Protection	\$ -	\$ 11,139,858	\$ 14,056,635	\$ -	\$ 1,365,989	\$ 26,562,482
Private Fire Protection	\$ -	\$ 1,767,228	\$ 2,229,946	\$ -	\$ 216,701	\$ 4,213,876
Non-Owners						\$ -
Residential	\$ 376,526	\$ 414,550	\$ 71,623	\$ 236	\$ -	\$ 862,935
Commercial	\$ 13,245,503	\$ 4,557,227	\$ 2,699,526	\$ 125	\$ -	\$ 20,502,381
Resale	\$ 14,734,296	\$ 15,064,781	\$ 1,183,219	\$ 38	\$ -	\$ 30,982,333
Private Fire Protection	\$ -	\$ 55,209	\$ 61,113	\$ -	\$ 7,765	\$ 124,086
Total	\$ 119,860,228	\$ 112,491,155	\$ 44,364,702	\$ 32,904	\$ 1,590,454	\$ 278,339,444

Table 4.12: Allocation of FY23 Fixed Assets to Customer Classes

From the values in Table 4.11, it can be determined that the total FY22 Fixed Asset base for Non-Owners is \$28,537,082. This value was previously reported in Table 3.10. To determine the rate of return component of the revenue requirements as illustrated in Table 3.10, the total fixed assets for non-owners in Table 4.11 was added to a working capital allowance of 12.5 percent of the non-owners share of O&M. This resulted in a total asset base of \$28,803,857 for Non-Owners, to which the rate of return of 4.20 percent was applied to calculate a return on rate base for Non-Owners of \$1,208,896. Allocation of the balance of capital-related revenue requirements to the Owner user classes under similar parameters resulted in return on rate base-component of the owner cost of service equal to 4.23 percent for FY22.

4.4 Depreciation Allocations

Tables 3.5 and 3.6 presented the depreciation by asset type and Tables 3.7 and 3.8 summarized total depreciation by ownership for FY22 and FY23, respectively. Tables 4.13 and 4.14 summarize functionalized depreciation expense by asset type and ownership for FY22 and FY23, respectively. Functionalization of depreciation expense was previously described in Sub-section 4.3.

Asset Type	Joint	All-But-Resale	Owners	Resale	Total
Source of Supply	\$ 232,100	\$ -	\$ -	\$ -	\$ 232,100
Water Treatment/HS Pumping	\$ 2,086,860	\$ -	\$ -	\$ -	\$ 2,086,860
Distribution Pumping	\$ 1,963	\$ 181,926	\$ 142,302	\$ 56,038	\$ 382,228
Reservoirs and Tanks	\$ 349,195	\$ 123,722	\$ 152,609	\$ -	\$ 625,527
Transmission and Distribution	\$ 1,301,623	\$ 1,147,210	\$ 510,966	\$ -	\$ 2,959,799
Meters and Hydrants	\$ 6,811	\$ 98,639	\$ -	\$ -	\$ 105,450
General Plant	\$ 344,213	\$ 145,235	\$ 15,000	\$ -	\$ 504,448
Total	\$4,322,765	\$ 1,696,733	\$820,876	\$56,038	\$6,896,412

Table 4.13: FY22 Depreciation Expense by Ownership

Asset Type	Joint	All-But-Resale	Owners	Resale	Total
Source of Supply	\$ 652,100	\$ -	\$ -	\$ -	\$ 652,100
Water Treatment/HS Pumping	\$ 3,018,782	\$ -	\$ -	\$ -	\$ 3,018,782
Distribution Pumping	\$ 1,963	\$ 181,926	\$ 152,710	\$ 61,988	\$ 398,587
Reservoirs and Tanks	\$ 475,600	\$ 131,722	\$ 152,609	\$ -	\$ 759,931
Transmission and Distribution	\$ 1,331,723	\$ 1,357,080	\$ 650,879	\$ -	\$ 3,339,682
Meters and Hydrants	\$ 6,811	\$ 98,639	\$ -	\$ -	\$ 105,450
General Plant	\$ 348,013	\$ 145,235	\$ 30,000	\$ -	\$ 523,248
Total	\$5,834,991	\$1,914,603	\$986,198	\$61,988	\$8,797,779

Table 4.14: FY23 Depreciation Expense by Ownership

Tables 4.15 and 4.16 summarize depreciation expense by asset type classification and Tables 4.17 and 4.18 present the allocated depreciation expense to each user class for FY22 and FY23, respectively. Classification of depreciation expense was previously described in Sub-section 4.3. Detailed tables are found in Appendix B.

Asset Type	Base	Max Day	Max Hour	Meter	Direct Fire	Total
Source of Supply	\$ 179,414	\$ 52,686	\$ -	\$ -	\$ -	\$ 232,100
Water Treatment/HS Pumping	\$ 1,018,567	\$ 1,192,566	\$ 936	\$ 1	\$ 41	\$ 2,212,111
Distribution Pumping	\$ 173,739	\$ 208,487	\$ 2	\$ -	\$ -	\$ 382,228
Reservoirs and Tanks	\$ 190,303	\$ 228,363	\$ 221,891	\$ -	\$ -	\$ 640,556
Transmission and Distribution	\$ 870,529	\$ 1,044,635	\$ 1,044,635	\$ -	\$ -	\$ 2,959,799
Meters and Hydrants	\$ -	\$ -	\$ -	\$ 6,811	\$ 98,639	\$ 105,450
General Plant	\$ 136,894	\$ 144,695	\$ 79,015	\$ 82	\$ 3,482	\$ 364,168
Total	\$2,569,445	\$2,871,433	\$1,346,478	\$6,894	\$102,162	\$6,896,412

Table 4.15: FY22 Depreciation Expense by Classification

Asset Type	Base	Max Day	Max Hour	Meter	Direct Fire	Total
Source of Supply	\$ 599,414	\$ 52,686	\$ -	\$ -	\$ -	\$ 652,100
Water Treatment/HS Pumping	\$ 1,482,313	\$ 1,749,061	\$ 936	\$ 1	\$ 41	\$ 3,232,353
Distribution Pumping	\$ 181,175	\$ 217,410	\$ 2	\$ -	\$ -	\$ 398,587
Reservoirs and Tanks	\$ 202,046	\$ 242,455	\$ 238,140	\$ -	\$ -	\$ 682,641
Transmission and Distribution	\$ 982,259	\$ 1,178,711	\$ 1,178,711	\$ -	\$ -	\$ 3,339,682
Meters and Hydrants	\$ -	\$ -	\$ -	\$ 6,811	\$ 98,639	\$ 105,450
General Plant	\$ 147,799	\$ 152,268	\$ 83,150	\$ 86	\$ 3,664	\$ 386,968
Total	\$3,595,006	\$3,592,592	\$1,500,939	\$6,898	\$102,344	\$ 8,797,779

Table 4.16: FY23 Depreciation Expense by Classification

Customer Class	Base	Max Day	Max Hr.	Customer	Meter	Direct Fire	Total
Owners							
Res Residential	\$ 1,089,577	\$ 1,448,462	\$ 333,684	\$ -	\$ 5,400	\$ -	\$ 2,877,123
Mul Multi-Family Residential	\$ 262,071	\$ 87,098	\$ 149,054	\$ -	\$ 404	\$ -	\$ 498,627
Cor Commercial	\$ 484,736	\$ 201,375	\$ 159,055	\$ -	\$ 865	\$ -	\$ 846,029
Ind Industrial	\$ 5,820	\$ 2,418	\$ 637	\$ -	\$ 7	\$ -	\$ 8,881
Sea Seasonal	\$ 140,884	\$ 292,638	\$ 77,046	\$ -	\$ 134	\$ -	\$ 510,702
Pub Public Fire Protection	\$ -	\$ 286,173	\$ 422,384	\$ -	\$ -	\$ 87,741	\$ 796,298
Priv Private Fire Protection	\$ -	\$ 45,399	\$ 67,007	\$ -	\$ -	\$ 13,919	\$ 126,325
Non-Owners							
Res Residential	\$ 7,986	\$ 10,608	\$ 2,269	\$ -	\$ 50	\$ -	\$ 20,912
Cor Commercial	\$ 280,927	\$ 116,615	\$ 85,512	\$ -	\$ 26	\$ -	\$ 483,080
Res Resale	\$ 297,445	\$ 379,227	\$ 47,886	\$ -	\$ 8	\$ -	\$ 724,566
Priv Private Fire Protection	\$ -	\$ 1,420	\$ 1,945	\$ -	\$ -	\$ 502	\$ 3,867
Total	\$ 2,569,445	\$ 2,871,433	\$ 1,346,478	\$ -	\$ 6,894	\$ 102,162	\$ 6,896,412

Table 4.17: Allocated FY22 Depreciation Expense by User Class

Customer Class	Base	Max Day	Max Hr.	Customer	Meter	Direct Fire	Total
Owners							
Res Residential	\$ 1,508,232	\$ 1,802,705	\$ 374,101	\$ -	\$ 5,406	\$ -	\$ 3,690,445
Mul Multi-Family Residential	\$ 362,768	\$ 108,399	\$ 167,107	\$ -	\$ 404	\$ -	\$ 638,679
Cor Commercial	\$ 670,989	\$ 250,624	\$ 178,320	\$ -	\$ 864	\$ -	\$ 1,100,796
Ind Industrial	\$ 8,016	\$ 2,994	\$ 710	\$ -	\$ 7	\$ -	\$ 11,727
Sea Seasonal	\$ 195,017	\$ 364,207	\$ 86,378	\$ -	\$ 134	\$ -	\$ 645,736
Pub Public Fire Protection	\$ -	\$ 354,398	\$ 471,200	\$ -	\$ -	\$ 87,900	\$ 913,498
Priv Private Fire Protection	\$ -	\$ 56,222	\$ 74,751	\$ -	\$ -	\$ 13,944	\$ 144,917
Non-Owners							
Res Residential	\$ 11,233	\$ 13,221	\$ 2,474	\$ -	\$ 50	\$ -	\$ 26,978
Cor Commercial	\$ 395,163	\$ 145,342	\$ 93,246	\$ -	\$ 26	\$ -	\$ 633,778
Res Resale	\$ 443,587	\$ 492,718	\$ 50,541	\$ -	\$ 8	\$ -	\$ 986,855
Priv Private Fire Protection	\$ -	\$ 1,761	\$ 2,111	\$ -	\$ -	\$ 500	\$ 4,372
Total	\$ 3,595,006	\$ 3,592,592	\$ 1,500,939	\$ -	\$ 6,898	\$ 102,344	\$ 8,797,779

Table 4.18: Allocated FY23 Depreciation Expense by User Class

4.5 Capital Cost Allocations

The capital-related revenue requirements were introduced in Table 3.4. Tables 4.19 and 4.20, respectively, show the capital-related revenue requirements allocated to each user class for FY22 and FY23.

Customer Class	Base	Max Day	Max Hr.	Meter	Direct Fire	Total
Owners						
Residential	\$ 2,249,412	\$ 3,428,288	\$ 1,263,697	\$ 2,537	\$ -	\$ 6,943,934
Multi-Family Residential	\$ 541,041	\$ 206,148	\$ 564,481	\$ 190	\$ -	\$ 1,311,860
Commercial	\$ 1,000,729	\$ 476,622	\$ 602,356	\$ 406	\$ -	\$ 2,080,114
Industrial	\$ 12,015	\$ 5,722	\$ 2,411	\$ 3	\$ -	\$ 20,151
Seasonal	\$ 290,853	\$ 594,676	\$ 180,103	\$ 63	\$ -	\$ 1,065,694
Public Fire Protection	\$ -	\$ (43,798)	\$ (74,362)	\$ -	\$ 118,160	\$ 0
Private Fire Protection	\$ -	\$ 92,255	\$ 156,635	\$ -	\$ 18,745	\$ 267,635
Non-Owners						
Residential	\$ 16,753	\$ 25,427	\$ 8,813	\$ 24	\$ -	\$ 51,018
Commercial	\$ 589,326	\$ 279,527	\$ 332,180	\$ 13	\$ -	\$ 1,201,046
Resale	\$ 566,350	\$ 693,011	\$ 95,241	\$ 4	\$ -	\$ 1,354,606
Private Fire Protection	\$ -	\$ 2,922	\$ 4,665	\$ -	\$ 708	\$ 8,295
Total	\$5,266,478	\$5,760,801	\$3,136,220	\$3,240	\$198,026	\$14,304,353

Table 4.19: Summary of FY22 Allocated Capital-Related Revenue Requirements

Customer Class	Base	Max Day	Max Hr.	Meter	Direct Fire	Total
Owners						
Residential	\$ 2,656,951	\$ 3,465,275	\$ 936,550	\$ 1,363	\$ -	\$ 7,060,139
Multi-Family Residential	\$ 639,065	\$ 208,372	\$ 418,348	\$ 102	\$ -	\$ 1,265,886
Commercial	\$ 1,182,036	\$ 481,765	\$ 446,418	\$ 218	\$ -	\$ 2,110,436
Industrial	\$ 14,121	\$ 5,755	\$ 1,778	\$ 2	\$ -	\$ 21,656
Seasonal	\$ 343,548	\$ 605,005	\$ 136,177	\$ 34	\$ -	\$ 1,084,763
Public Fire Protection	\$ -	\$ (31,916)	\$ (40,273)	\$ -	\$ 72,189	\$ -
Private Fire Protection	\$ -	\$ 93,393	\$ 117,846	\$ -	\$ 11,452	\$ 222,691
Non-Owners						
Residential	\$ 26,690	\$ 34,004	\$ 8,062	\$ 17	\$ -	\$ 68,774
Commercial	\$ 938,911	\$ 373,818	\$ 303,870	\$ 9	\$ -	\$ 1,616,608
Resale	\$ 1,044,445	\$ 1,067,871	\$ 83,873	\$ 3	\$ -	\$ 2,196,192
Private Fire Protection	\$ -	\$ 3,913	\$ 4,332	\$ -	\$ 550	\$ 8,796
Total	\$6,845,768	\$6,400,649	\$2,534,827	\$1,746	\$198,026	\$15,878,632

Table 4.20: Summary of FY23 Allocated Capital-Related Revenue Requirements

5.0 Results and Proposed Rates

5.1 Cost of Service Results

For FY22, the total revenue requirements to be recovered through rates or use of cash reserves total \$26,312,478. Tables 5.1 and 5.2 summarize the allocated revenue requirements by user class for FY22 and FY23, respectively. Note that the Max Day and Max Hour revenue requirements allocated to Owner and Non-Owner Residential, Commercial, and Industrial user classes include public fire protection costs. The Resale user class is not allocated fire protection charges as the Resale system provides its own fire protection. Tables 5.3 and 5.4, respectively, present the calculated unit costs of service for each user class for FY22 and FY23.

Customer Class	Base	Max Day	Max Hr.	Customer	Meter	Direct Fire	Total
Owners Cost Allocation							
Residential	\$4,060,810	\$4,697,172	\$961,237	\$737,063	\$960,725	\$0	\$11,417,008
Multi-Family Residential	\$976,729	\$282,448	\$429,376	\$22,986	\$71,918	\$0	\$1,783,456
Commercial	\$1,806,591	\$653,031	\$458,185	\$57,223	\$153,819	\$0	\$3,128,849
Industrial	\$21,690	\$7,840	\$1,834	\$161	\$1,245	\$0	\$32,771
Seasonal	\$525,069	\$948,988	\$221,946	\$10,955	\$23,776	\$0	\$1,730,733
Public Fire Protection	\$0	\$928,022	\$1,216,753	\$0	\$0	\$1,000,412	\$3,145,188
Private Fire Protection	\$0	\$147,222	\$193,026	\$0	\$0	\$158,706	\$498,953
Non-Owners							
Residential	\$33,029	\$37,456	\$6,879	\$7,387	\$9,624	\$0	\$94,375
Commercial	\$1,161,911	\$411,760	\$259,287	\$1,080	\$5,112	\$0	\$1,839,150
Resale	\$1,207,150	\$1,289,624	\$126,666	\$27	\$1,426	\$0	\$2,624,892
Private Fire Protection	\$0	\$5,013	\$5,899	\$0	\$0	\$6,192	\$17,104
Subtotal Owner and Non-Owner Cost Allocation							\$26,312,478
Public Fire Protection Adjustment							
Owners							
Residential	\$0	\$1,049,695	\$810,249	\$0	\$0	\$0	\$1,859,944
Multi-Family Residential	\$0	\$63,120	\$361,930	\$0	\$0	\$0	\$425,050
Commercial	\$0	\$145,935	\$386,215	\$0	\$0	\$0	\$532,150
Industrial	\$0	\$1,752	\$1,546	\$0	\$0	\$0	\$3,298
Public Fire Protection	\$0	-\$1,360,891	-\$1,784,297	\$0	\$0	\$0	(\$3,145,188)
Non-Owners							
Residential	\$0	\$8,370	\$5,799	\$0	\$0	\$0	\$14,169
Commercial	\$0	\$92,018	\$218,559	\$0	\$0	\$0	\$310,576
Subtotal Fire Protection Adjustment							\$0
Adjusted Cost Allocation							
Owners							
Residential	\$4,060,810	\$5,746,868	\$1,771,486	\$737,063	\$960,725	\$0	\$13,276,952
Multi-Family Residential	\$976,729	\$345,567	\$791,306	\$22,986	\$71,918	\$0	\$2,208,506
Commercial	\$1,806,591	\$798,966	\$844,400	\$57,223	\$153,819	\$0	\$3,660,999
Industrial	\$21,690	\$9,592	\$3,379	\$161	\$1,245	\$0	\$36,068
Seasonal	\$525,069	\$948,988	\$221,946	\$10,955	\$23,776	\$0	\$1,730,733
Public Fire Protection	\$0	-\$432,868	-\$567,544	\$0	\$0	\$1,000,412	\$0
Private Fire Protection	\$0	\$147,222	\$193,026	\$0	\$0	\$158,706	\$498,953
Non-Owners							
Residential	\$33,029	\$45,826	\$12,678	\$7,387	\$9,624	\$0	\$108,545
Commercial	\$1,161,911	\$503,778	\$477,845	\$1,080	\$5,112	\$0	\$2,149,726
Resale	\$1,207,150	\$1,289,624	\$126,666	\$27	\$1,426	\$0	\$2,624,892
Private Fire Protection	\$0	\$5,013	\$5,899	\$0	\$0	\$6,192	\$17,104
Total Adjusted Cost Allocation							\$26,312,478

Table 5.1: Summary of FY22 Cost of Service Results

Customer Class	Base	Max Day	Max Hr.	Customer	Meter	Direct Fire	Total
Owners Cost Allocation							
Residential	\$4,526,832	\$4,804,666	\$777,257	\$761,112	\$991,254	\$0	\$11,861,122
Multi-Family Residential	\$1,088,819	\$288,911	\$347,193	\$23,729	\$74,010	\$0	\$1,822,663
Commercial	\$2,013,917	\$667,975	\$370,489	\$59,073	\$158,376	\$0	\$3,269,830
Industrial	\$24,059	\$7,980	\$1,475	\$166	\$1,279	\$0	\$34,958
Seasonal	\$585,327	\$970,705	\$179,465	\$11,311	\$24,491	\$0	\$1,771,299
Public Fire Protection	\$0	\$944,561	\$978,996	\$0	\$0	\$983,167	\$2,906,723
Private Fire Protection	\$0	\$149,845	\$155,308	\$0	\$0	\$155,970	\$461,123
Non-Owners							
Residential	\$43,347	\$45,382	\$6,554	\$7,572	\$9,860	\$0	\$112,715
Commercial	\$1,524,860	\$498,895	\$247,044	\$1,107	\$5,237	\$0	\$2,277,144
Resale	\$1,711,120	\$1,688,965	\$116,694	\$27	\$1,460	\$0	\$3,518,267
Private Fire Protection	\$0	\$6,044	\$5,593	\$0	\$0	\$6,171	\$17,807
Subtotal Owner and Non-Owner Cost Allocation							\$28,053,652
Public Fire Protection Adjustment							
Owners							
Residential	\$0	\$1,086,176	\$657,057	\$0	\$0	\$0	\$1,743,233
Multi-Family Residential	\$0	\$65,313	\$293,501	\$0	\$0	\$0	\$358,814
Commercial	\$0	\$151,007	\$313,194	\$0	\$0	\$0	\$464,201
Industrial	\$0	\$1,804	\$1,247	\$0	\$0	\$0	\$3,051
Public Fire Protection	\$0	-\$1,427,344	-\$1,479,379	\$0	\$0	\$0	(\$2,906,723)
Non-Owners							
Residential	\$0	\$10,259	\$5,541	\$0	\$0	\$0	\$15,800
Commercial	\$0	\$112,784	\$208,840	\$0	\$0	\$0	\$321,623
Subtotal Fire Protection Adjustment							(\$0)
Adjusted Cost Allocation							
Owners							
Residential	\$4,526,832	\$5,890,843	\$1,434,314	\$761,112	\$991,254	\$0	\$13,604,355
Multi-Family Residential	\$1,088,819	\$354,225	\$640,694	\$23,729	\$74,010	\$0	\$2,181,477
Commercial	\$2,013,917	\$818,983	\$683,683	\$59,073	\$158,376	\$0	\$3,734,031
Industrial	\$24,059	\$9,784	\$2,722	\$166	\$1,279	\$0	\$38,009
Seasonal	\$585,327	\$970,705	\$179,465	\$11,311	\$24,491	\$0	\$1,771,299
Public Fire Protection	\$0	-\$482,783	-\$500,384	\$0	\$0	\$983,167	\$0
Private Fire Protection	\$0	\$149,845	\$155,308	\$0	\$0	\$155,970	\$461,123
Non-Owners							
Residential	\$43,347	\$55,642	\$12,095	\$7,572	\$9,860	\$0	\$128,515
Commercial	\$1,524,860	\$611,679	\$455,884	\$1,107	\$5,237	\$0	\$2,598,768
Resale	\$1,711,120	\$1,688,965	\$116,694	\$27	\$1,460	\$0	\$3,518,267
Private Fire Protection	\$0	\$6,044	\$5,593	\$0	\$0	\$6,171	\$17,807
Total Adjusted Cost Allocation	\$11,518,282	\$10,073,930	\$3,186,069	\$864,097	\$1,265,967	\$198,026	\$28,053,652

Table 5.2: Summary of FY23 Cost of Service Results

Customer Class	Base (\$/kgal)	Max Day (\$/kgal)	Max Hour (\$/kgal)	Customer (\$/month)	Meter (\$/month for 3/4-inch Meter)	Direct Fire (\$/month for 6-inch Meter)
Owners						
Residential	\$1.66	\$2.35	\$0.72	\$2.24	\$2.91	\$0.00
Multi-Family Residential	\$1.66	\$0.58	\$1.32	\$2.24	\$2.91	\$0.00
Commercial	\$1.66	\$0.73	\$0.78	\$2.24	\$2.91	0.00
Industrial	\$1.66	\$0.73	\$0.26	\$2.24	\$2.91	0.00
Seasonal	\$1.62	\$2.90	\$0.69	\$2.24	\$2.91	0.00
Public Fire Protection	N/A	N/A	N/A	0.00	0.00	0.00
Private Fire Protection	N/A	N/A	N/A	0.00	0.00	57.06
Non-Owners						
Residential	\$1.59	\$2.21	\$0.61	\$2.43	\$3.16	\$0.00
Commercial	\$1.59	\$0.69	\$0.66	\$2.43	\$3.16	0.00
Resale	\$1.29	\$1.37	\$0.13	\$2.22	\$2.88	0.00
Private Fire Protection	N/A	N/A	N/A	0.00	0.00	54.14

Table 5.3: Summary of FY22 Cost of Service Results – Unit Results

Customer Class	Base (\$/kgal)	Max Day (\$/kgal)	Max Hour (\$/kgal)	Customer (\$/month)	Meter (\$/month for 3/4-inch Meter)	Direct Fire (\$/month for 6-inch Meter)
Owners						
Residential	\$1.84	\$2.39	\$0.58	\$2.30	\$2.99	\$0.00
Multi-Family Residential	\$1.84	\$0.59	\$1.06	\$2.30	\$2.99	\$0.00
Commercial	\$1.84	\$0.74	\$0.62	2.30	2.99	0.00
Industrial	\$1.84	\$0.75	\$0.21	2.30	2.99	0.00
Seasonal	\$1.80	\$2.96	\$0.56	2.30	2.99	0.00
Public Fire Protection	N/A	N/A	N/A	0.00	0.00	0.00
Private Fire Protection	N/A	N/A	N/A	0.00	0.00	52.48
Non-Owners						
Residential	\$2.09	\$2.69	\$0.58	\$2.49	\$3.24	\$0.00
Commercial	2.09	0.84	0.63	2.49	3.24	0.00
Resale	1.79	1.77	0.12	2.28	2.95	0.00
Private Fire Protection	N/A	N/A	N/A	0.00	0.00	56.37

Table 5.4: Summary of FY23 Cost of Service Results – Unit Results

5.2 Resale Water Rate

Based on parameters outlined in the 2009 Memorandum of Agreement between the City of Billings and the County Water District of Billings Heights, the City’s rate model applies the utility basis cost of service approach to establish the water rate for the Resale user class. As part of this study, the functionalization, classification, and allocation assumptions upon which the analyses is based were reviewed and updated, where applicable, to reflect the current configuration and operation of the system, as well as recent historical demands on the system. Table 5.5 summarizes the FY22 and FY23 Resale rate calculations.

Resale Water Rate Summary		
	FY2022	FY2023
Projected Water Purchase (kgal)	938,998	955,900
Actual Water Sales (kgal)		
Peaking Factor - Peak Day	2.60	2.60
Peaking Factor - Peak Hour	3.83	3.83
Allocated O&M Revenue Requirements - Resale		
	FY2022	FY2023
Base	\$ 640,800	\$ 666,676
Max Day	\$ 596,613	\$ 621,094
Max Hr.	\$ 31,425	\$ 32,822
Customer	\$ 27	\$ 27
Meter	\$ 1,422	\$ 1,458
Direct Fire	\$ -	\$ -
Total Resale O&M Revenue Requirements	\$ 1,270,285	\$ 1,322,076
Debt/Equity		
	FY2022	FY2023
Total Outstanding Debt	\$ 25,887,726	\$ 95,118,503
Interest on Outstanding Debt	\$ 673,459	\$ 2,760,258
Effective Interest Rate on Outstanding Debt	2.60%	2.90%
Total Fund Equity	\$ 193,911,655	\$ 197,390,579
Rate of Return on Equity	4.41%	4.41%
Total Equity and Debt	\$ 219,799,381	\$ 292,509,082
Weighted Cost of Capital	4.20%	3.92%
Summary of Capital Revenue Requirements - Non-Owners		
	FY2022	FY2023
Net Plant in Service for Non-Owners	\$ 28,537,082	\$ 52,471,735
Share of Working Capital for Non-Owners	\$ 266,775	\$ 275,807
Total Rate Base for Non-Owners	\$ 28,803,857	\$ 52,747,542
Return on Rate Base for Non-Owners	\$ 1,208,896	\$ 2,067,492
Depreciation Less Amortization for Non-Owners	\$ 1,232,426	\$ 1,651,982
Total Capital-Based Revenue Requirements for Non-Owners	\$ 2,441,322	\$ 3,719,474
Allocated Capital Revenue Requirements - Resale		
	FY2022	FY2023
Base	\$ 566,350	\$ 1,044,445
Max Day	\$ 693,011	\$ 1,067,871
Max Hr.	\$ 95,241	\$ 83,873
Customer	\$ -	\$ -
Meter	\$ 4	\$ 3
Direct Fire	\$ -	\$ -
Total Resale Capital Revenue Requirements	\$ 1,354,606	\$ 2,196,192
Total Resale Revenue Requirements	\$ 2,624,892	\$ 3,518,267
Calculated Rate - Resale (\$/kgal)	\$ 2.80	\$ 3.69

Table 5.5: Summary of Resale Water Rate Calculations – FY22-FY23

The increase in allocated cost to the Resale user was barely inflationary from FY21 to FY22 primarily due to the reduction in the calculated cost of capital, which is used to calculate the allocable return on rate base. Based on the capital expenditures currently planned for the remainder of FY21 and FY22, the Source of Supply and Treatment components of the asset base as anticipated increase significantly by FY23. Specifically, improvements to the intake and the West End Water Treatment Plant are currently anticipated to come onto the rate base in FY23. Additionally, the West End Reservoir project is anticipated to come onto the rate based in FY24. Because these supply and treatment components of the asset base are jointly allocated to all user classes, the Resale customer will see an increase in its applicable rate base and a corresponding increase in the capital-related revenue requirements. This is demonstrated in the calculated unit costs in Tables 5.3 and 5.4, which show an increase in the base and max day unit costs of approximately 40 percent and 28 percent, respectively, from FY22 to FY23. At the projected flows for FY23, the calculated cost of service-based rate for the Resale user increases approximately 31 percent from FY22 due to an increase in the allocable rate base. It is anticipated that an additional increase will be required to the Resale rate in FY24 when the West End Reservoir project is incorporated into the rate base.

5.3 Single-Family Residential Volumetric Rate Design

Section 2.0 of this report outlined two volumetric structures evaluated for the Single-Family Residential Class:

- Scenario 1: Existing Four-Tier Inclining Block Tier Structure; and
- Scenario 2: Four-Tier Inclining Block with Reduced Tier 1 Volume.

Scenarios 1 and 2 were modeled based on FY20 Single-Family Residential water sales and are shown in Table 5.6. Rates for each tier were calculated based on the projected requirement of \$9,860,000 in volumetric rate revenue from Single-Family volumetric rates in FY22.

The results from the rate design analysis in Table 5.6 demonstrate that by reducing the volume billed at the Tier 1 rate, the resulting increased revenue generated by billing that additional volume at the Tier 2 rate would serve to reduce the rate charged for all tiers. By setting the Tier 1 volume to capture indoor water use, the City would continue to provide baseline water service, generally seen as essential for sanitary and cooking needs, at the lowest rate possible. Rate recommendations associated with both Scenarios 1 and 2 are provided in the next Sub-section.

Scenario 1: Existing Tier Structure					
	Tier Range (Kgal)	Kgal	Charge Ratio	\$/Kgal	Revenue (\$)
Tier 1	0-10	1,717,576	1.00	\$ 3.73	\$ 6,406,557
Tier 2	11-32	579,473	1.20	\$ 4.49	\$ 2,601,832
Tier 3	33-75	118,357	1.30	\$ 5.84	\$ 691,204
Tier 4	>75	17,389	1.50	\$ 8.78	\$ 152,673
Total		2,432,794			\$ 9,852,266

Scenario 2: Reduce Tier 1 to Average Indoor Usage					
	Tier Range (Kgal)	Kgal	Charge Ratio	\$/Kgal	Revenue (\$)
Tier 1	0-5	1,251,433	1.00	\$ 3.62	\$ 4,530,188
Tier 2	6-32	1,045,615	1.20	\$ 4.36	\$ 4,558,881
Tier 3	33-75	118,357	1.30	\$ 5.67	\$ 671,083
Tier 4	>75	17,389	1.50	\$ 8.52	\$ 148,152
Total		2,432,794			\$ 9,908,305

Table 5.6: Single-Family Residential Volumetric Rate Design Scenario Results

5.4 Recommended FY22 and FY23 Water Rates

Based on the results of this study, the recommended monthly meter rates for FY22 and FY23 are shown in Table 5.7. To balance the overall need for a revenue increase between the fixed and volumetric rates, meter rate increases are recommended for both FY22 and FY23. Tables 5.8 and 5.9 summarize the cost of service-based recommendations for Fire Protection charges for Owners and Non-Owners, respectively.

Meter Size	Inside City Recommended Rate FY22	Outside City Recommended Rate FY22	% Increase from FY21	Inside City Recommended Rate FY23	Outside City Recommended Rate FY23	% Increase from FY22
3/4"	\$8.30	\$8.95	1.8%	\$8.45	\$9.15	1.8%
1"	\$9.35	\$10.20	2.2%	\$9.55	\$10.40	2.1%
1-1/2"	\$11.30	\$12.30	2.0%	\$11.55	\$12.55	2.2%
2"	\$16.20	\$17.70	1.8%	\$16.50	\$18.05	1.9%
3"	\$50.50	\$54.90	2.0%	\$51.50	\$56.00	2.0%
4"	\$65.80	\$71.50	2.0%	\$67.10	\$72.95	2.0%
6"	\$98.70	\$107.25	2.0%	\$100.65	\$109.40	2.0%
8"	\$134.85	\$146.55	2.0%	\$137.55	\$149.50	2.0%

Table 5.7: Recommended FY22 and FY23 Meter Charges for Owners and Non-Owners

Meter Size	Inside City Current Rate FY21 (\$/Year)	Inside City Recommended Rate FY22	% Increase from FY21	Inside City Recommended Rate FY23 (\$/Year)	% Increase from FY22
1-1/4"	\$27.65	\$29.30	6.0%	\$30.75	5.0%
1-1/2"	\$36.90	\$39.10		\$41.05	
2"	\$59.05	\$62.60		\$65.75	
3"	\$147.50	\$156.35		\$164.15	
4"	\$258.10	\$273.60		\$287.30	
6"	\$589.85	\$625.25		\$656.50	
8"	\$1,032.25	\$1,094.20		\$1,148.90	
10"	\$1,622.05	\$1,719.35		\$1,805.30	
12"	\$2,335.80	\$2,475.95		\$2,599.75	
14"	\$3,179.25	\$3,370.00		\$3,538.50	

Table 5.8: Recommended Annual Fire Protection Charges for Owners – FY22/FY23

Meter Size	Outside City Current Rate FY21 (\$/Year)	Outside City Recommended Rate FY22 (\$/Year)	% Increase from FY21	Outside City Recommended Rate FY23 (\$/Year)	% Increase from FY22
1-1/4"	\$28.05	\$29.75	6.0%	\$31.25	5.0%
1-1/2"	\$37.35	\$39.60		\$41.60	
2"	\$59.80	\$63.40		\$66.55	
3"	\$149.55	\$158.50		\$166.45	
4"	\$261.65	\$277.35		\$291.20	
6"	\$598.05	\$633.95		\$665.65	
8"	\$1,046.60	\$1,109.40		\$1,164.85	
10"	\$1,644.65	\$1,743.35		\$1,830.50	
12"	\$2,368.25	\$2,510.35		\$2,635.85	
14"	\$3,223.50	\$3,416.90		\$3,587.75	

Table 5.9: Calculated Annual Fire Protection Charges for Non-Owners – FY22/FY23

Tables 5.10 and 5.11 present the recommended FY22 and FY23 volumetric rates for Single-Family Residential users that are Owners (within City limits) of the system under Scenarios 1 and 2, respectively. Consistent with the approach taken in the previous analysis, rate increase percentages for Non-Owner Residential users are equal to the increases recommended for the Owner Single Family Residential user class in FY22 and FY23. Tables 5.12 and 5.13 present the calculated FY22 and FY23 volumetric rates for Non-Owner Single Family Residential accounts both Scenarios 1 and 2, respectively.

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-14	0-10	\$3.56	\$3.72	4.3%	\$3.88	4.3%
Tier 2	15-43	11-32	\$4.26	\$4.45		\$4.64	
Tier 3	44-100	33-75	\$5.55	\$5.79		\$6.04	
Tier 4	>100	>75	\$8.33	\$8.69		\$9.06	

Table 5.10: Scenario 1: Recommended FY22 and FY23 Volumetric Charges for Owners

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-7	0-5	\$3.56	\$3.66	3.0%	\$3.77	2.8%
Tier 2	8-43	6-32	\$4.26	\$4.40		\$4.52	
Tier 3	44-100	33-75	\$5.55	\$5.71		\$5.87	
Tier 4	>100	>75	\$8.33	\$8.58		\$8.82	

Table 5.11: Scenario 2: Recommended FY22 and FY23 Volumetric Charges for Owners

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate	% Increase from FY22
Tier 1	0-14	0-10	\$3.69	\$3.85	4.3%	\$4.01	4.3%
Tier 2	15-43	11-32	\$4.43	\$4.61		\$4.81	
Tier 3	44-100	33-75	\$5.76	\$6.02		\$6.28	
Tier 4	>100	>75	\$8.64	\$9.01		\$9.40	

Table 5.12: Scenario 1: Recommended FY22 and FY23 Volumetric Charges for Non-Owners

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-7	0-5	\$3.69	\$3.80	3.0%	\$3.90	2.8%
Tier 2	8-43	6-32	\$4.43	\$4.56		\$4.69	
Tier 3	44-100	33-75	\$5.76	\$5.94		\$6.10	
Tier 4	>100	>75	\$8.64	\$8.89		\$9.14	

Table 5.13: Scenario 2: Recommended FY22 and FY23 Volumetric Charges for Non-Owners

Table 5.14 presents the recommended non-residential volumetric rates for FY22 and FY23 for Owner and Non-Owner user classes.

	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Owners					
Multi-Family Residential - Scenario 1	\$3.60	\$3.76	4.4%	\$3.92	4.3%
Multi-Family Residential - Scenario 2	\$3.60	\$3.70	2.8%	\$3.81	3.0%
Non-Residential	\$3.07	\$3.20	4.2%	\$3.29	2.8%
Seasonal	\$5.07	\$5.37	5.9%	\$5.48	2.0%
Non-Owners					
Non-Residential	\$3.25	\$3.38	4.0%	\$3.49	3.3%
Resale	\$2.79	\$2.81	0.7%	\$3.68	31.0%

Table 5.14: Recommended Multi-Family and Non-Residential Volumetric Rates for Owners and Non-Owners – FY22 and FY23

Table 5.15 summarizes the projected revenue adequacy of the Water Utility for FY22 and FY23 based on the recommended rates. As shown in Table 5.15, the adoption of rates for FY22 that are less than the calculated cost of service results in a projected revenue deficiency for FY22; however, as shown in Table 5.16, even with significant investment of reserve funds in capital projects in FY22, it is anticipated that utility reserves would be adequate to adsorb the projected revenue deficiency. At the recommended rates, projected revenues in FY23 are forecast to be adequate to meet revenue requirements given the current assumptions. In summary, under the projected water sales and given the current cash reserve balances, the recommended rates for FY22 and FY23 will present a stable near-term approach to rate-setting approach without significantly impacting overall revenue adequacy.

	FY2022	FY2023
Rate Revenue Requirements		
O&M-Related	\$ 13,077,025	\$ 13,466,611
Less Other Operating Revenue	\$ (1,068,900)	\$ (1,068,900)
Capital-Related	\$ 23,639,415	\$ 25,385,780
Less Cash Reserves	\$ (9,335,061)	\$ (9,729,839)
Net Rate Revenue Requirements	\$ 26,312,478	\$ 28,053,652
Projected Rate Revenues		
Owners		
Residential	\$ 12,592,485	\$ 13,129,521
Multi-Family	\$ 2,359,881	\$ 2,475,865
Non-Residential	\$ 3,865,521	\$ 3,976,538
Seasonal	\$ 1,756,760	\$ 1,800,626
Fire Protection	\$ 455,595	\$ 478,375
Non-Owners		
Residential	\$ 114,843	\$ 119,159
Non-Residential	\$ 2,474,634	\$ 2,552,770
Resale	\$ 2,638,944	\$ 3,517,113
Fire Protection	\$ 16,690	\$ 17,525
Total Projected Rate Revenue	\$ 26,275,355	\$ 28,067,492
Projected Revenue Adequacy	\$ (37,123)	\$ 13,840

Table 5.12: Net Cash-Based Rate Revenue Requirements – FY22 and FY23

	2021	2022	2023
Total Water Fund Balance	\$ 28,420,496	\$ 19,048,311	\$ 9,332,312
O&M Reserve	\$ 3,435,000	\$ 3,530,797	\$ 3,635,985
Debt Service Reserve	\$ 1,385,000	\$ 1,385,000	\$ 1,385,000
Capital/Rate Stabilization Reserve	\$ 23,600,496	\$ 14,132,515	\$ 4,311,327

Table 5.13: Projected Cash Reserve Balances – FY22 and FY23

5.5 Potential Grant-Related Modifications to FY23 Rates

The rate recommendations in Sub-section 5.4 are based on the current CIP, which does not account for any grant funding for upcoming construction projects. There is potential, however, for funding to be awarded to the projects listed in Table 5.14.

Project	Year	Cost (\$)	Potential Grant (\$)
Water - West End Intake, Pump Station, and Pipeline	FY22	\$21,000,000	\$11,998,385
Water - West End Treatment Plant	FY22	\$57,000,000	\$14,552,029
Water - West End Reservoir/City Lakes	FY23	\$34,000,000	\$23,449,586

Table 5.14: Capital Projects with Potential Grant Funding

In the event that grant funding is received for any portion of these projects, it will be appropriate to make revisions to the rates presented in Section 5.4. Specifically, the grant-funded portions of these projects would become contributed capital and thus excluded from the rate base for the purpose of calculated rates to Non-Owner customers. Tables 5.15 through 5.19 summarize the projected volumetric rates associated with a scenario in which a total of \$50M in grant funding is obtained for these projects. It is recommended that if grant funding is obtained, the calculations in the FY22/FY23 rate model be updated to conform with the City’s established rate approach.

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-14	0-10	\$3.56	\$3.70	4.0%	\$3.81	3.0%
Tier 2	15-43	11-32	\$4.26	\$4.44		\$4.57	
Tier 3	44-100	33-75	\$5.55	\$5.78		\$5.95	
Tier 4	>100	>75	\$8.33	\$8.66		\$8.92	

Table 5.15: Scenario 1: Modified FY22 and FY23 Volumetric Charge Recommendations for Owners (\$50M Grant Funding)

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-14	0-10	\$3.56	\$3.65	2.5%	\$3.70	1.5%
Tier 2	15-43	11-32	\$4.26	\$4.37		\$4.44	
Tier 3	44-100	33-75	\$5.55	\$5.68		\$5.76	
Tier 4	>100	>75	\$8.33	\$8.54		\$8.68	

Table 5.16: Scenario 2: Modified FY22 and FY23 Volumetric Charge Recommendations for Owners (\$50M Grant Funding)

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-14	0-10	\$3.69	\$3.84	4.0%	\$3.96	3.0%
Tier 2	15-43	11-32	\$4.43	\$4.60		\$4.73	
Tier 3	44-100	33-75	\$5.76	\$5.99		\$6.16	
Tier 4	>100	>75	\$8.64	\$8.98		\$9.25	

Table 5.17: Scenario 1: Modified FY22 and FY23 Volumetric Charge Recommendations for Non-Owners (\$50M Grant Funding)

Single Family Residential	Tier Volume (CCF)	Tier Volume (kgal)	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Tier 1	0-14	0-10	\$3.69	\$3.78	2.5%	\$3.84	1.5%
Tier 2	15-43	11-32	\$4.43	\$4.53		\$4.60	
Tier 3	44-100	33-75	\$5.76	\$5.91		\$6.00	
Tier 4	>100	>75	\$8.64	\$8.85		\$8.98	

Table 5.18: Scenario 1: Modified FY22 and FY23 Volumetric Charge Recommendations for Non-Owners (\$50M Grant Funding)

	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase from FY21	Recommended FY23 Rate (\$/kgal)	% Increase from FY22
Owners					
Multi-Family Residential - Scenario 1	\$3.60	\$3.74	3.9%	\$3.85	2.9%
Multi-Family Residential - Scenario 2	\$3.60	\$3.69	2.5%	\$3.74	1.4%
Non-Residential	\$3.07	\$3.20	4.2%	\$3.26	1.9%
Seasonal	\$5.07	\$5.37	5.9%	\$5.51	2.6%
Non-Owners					
Non-Residential	\$3.25	\$3.38	4.0%	\$3.45	2.1%
Resale	\$2.79	\$2.81	0.7%	\$3.46	23.1%

Table 5.19: Modified Multi-Family and Non-Residential Volumetric Rates for Owners and Non-Owners – FY22 and FY23 (\$50M Grant Funding)

6.0 Revenue Forecasting

The recommended rates presented in Section 5.4 are based on a number of assumptions outlined in this report, primarily: O&M revenue requirements, capital revenue requirements, number of users, and water sales. While actual expenditures rarely are exactly equal to the budget, utilities are very good at forecasting and managing expenditures. The most volatile variable in the forecasting model is water sales, which can be attributed to factors outside the control of the utility – primarily weather.

Rate-setting approaches generally involve making a realistic but conservative estimate of future water sales. If sales are overestimated, rates can be set too low to obtain the required revenue, while taking an overly conservative approach and greatly underestimating sales can result in rate increases that place an undue burden on the users. In the end, projecting water sales involves determining the amount of risk that can be reasonably accepted by the utility.

To assess the potential risk to the City of Billings posed by lower water sales, a probabilistic revenue forecasting model developed by the Alliance for Water Efficiency was utilized. The model evaluates the probability of varying levels of water sales and revenue based on a minimum of 15 years of monthly maximum temperature and total rainfall values and a recent year of billed water sales.

For the purpose of this analysis, actual meter and flow data (existing fire services) from FY20 was evaluated based on 20 years of weather data. Table 6.1 summarizes the total precipitation by (fiscal) year for the City of Billings and indicates that the 20-year average is 13.90 inches.

Year	Total Precipitation (Inches)	Year	Total Precipitation (Inches)
2019	19.1	2009	10.91
2018	19.01	2008	13.89
2017	17.63	2007	13.46
2016	14.89	2006	13.11
2015	12.96	2005	15.27
2014	14.03	2004	11.08
2013	16.7	2003	9.74
2012	7.13	2002	9.24
2011	19.54	2001	10.95
2010	18.75	2000	10.7

Table 6.1: Precipitation Data, City of Billings (National Oceanic and Atmospheric Administration)

A review of recent annual residential water sales as compared to precipitation found that the City of Billings’ water use patterns followed a predictable pattern – there is a general inverse relationship between water use and precipitation, as show in Figure 6.1.

Other factors considered in the revenue forecasting model included existing and projected water rates, growth factors, and demand elasticity factors. Once all data was entered, the model ran through 1,000 simulations to project the average, maximum, and minimum water sales and revenue values. The model results are shown in Figure 6.2 and Table 6.2.

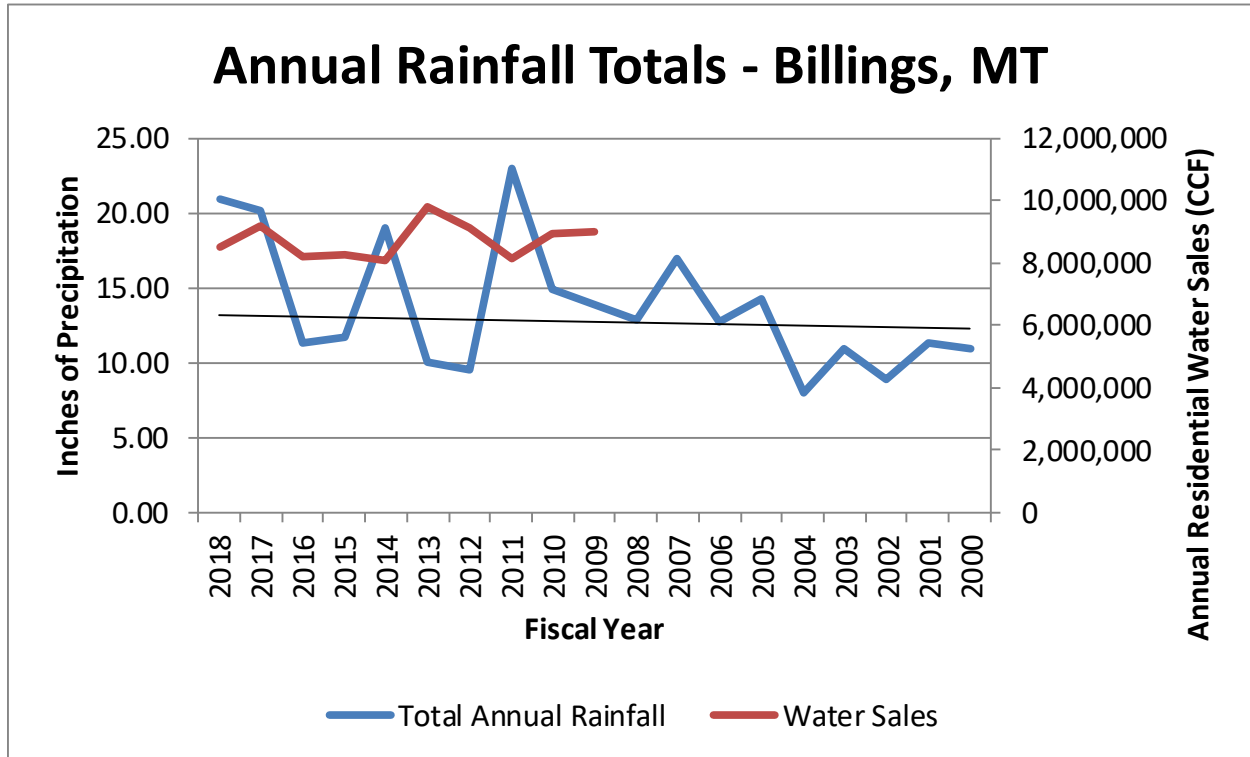


Figure 6.1: Precipitation Data vs Residential Water Sales, City of Billings

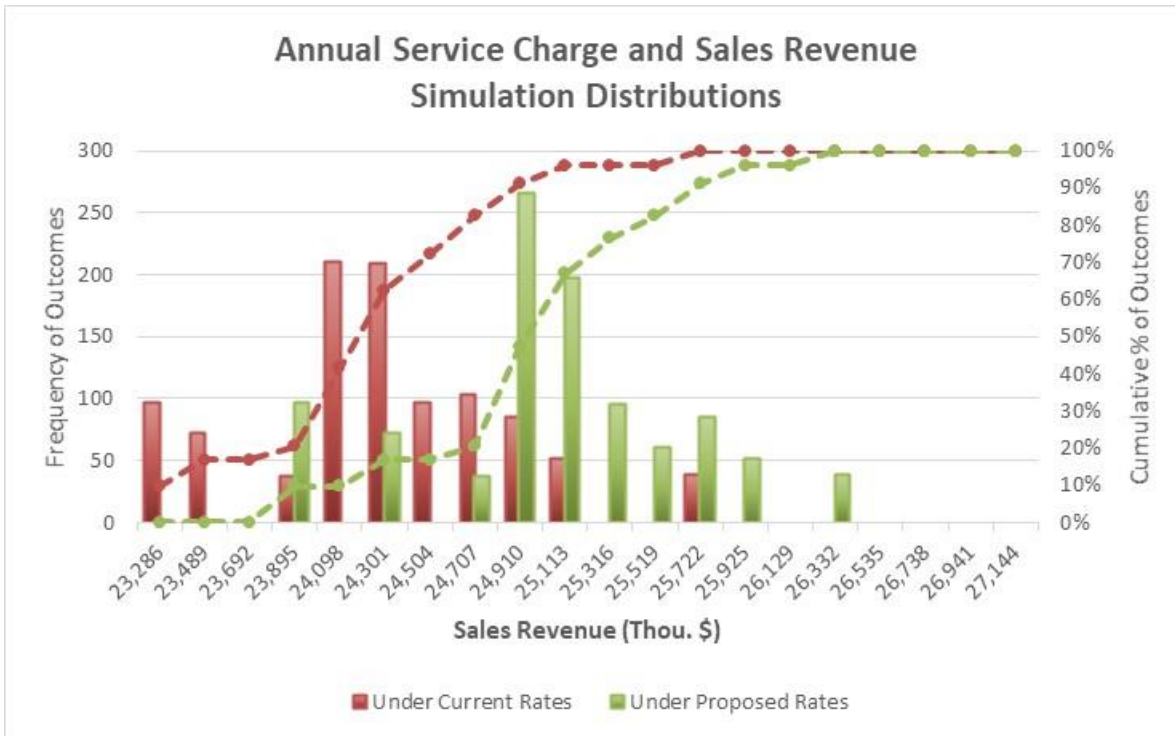


Figure 6.2: Probabilistic Revenue Forecast for FY22

	\$25.52 Million	\$25.32 Million	\$24.71 Million	\$23.69 Million
Probability to Meet/Exceed	17%	23%	79%	100%

Table 6.2: Estimated Probability of Achieving Revenue at Varying Targets (FY22)

Figure 6.2 and Table 6.2 give an illustration of the risk associated with adoption of the FY22 rates. Total FY22 rate revenues, excluding fire protection, from Table 5.12, are projected at \$25.8M. Figure 6.2 would suggest that the probability of obtaining revenues at that level is low. However, there are other factors that warrant consideration when determining the City’s comfort with the level of risk associated with the current water sales projections. Although the revenue forecasting model indicated that target revenue of \$25.8M is not achieved at a high confidence interval, it should be noted that:

- Given that the City’s O&M expenditures are typically less than budgeted (for the most recent three-year period the average was 91.3 percent), it is reasonable to assume for the purposes of the forecast modeling that total target revenue requirements for FY22 may be reduced by \$1.13M with no anticipated net impact on cash position of the

utility. If this were the case, total rate revenue requirements would be reduced to \$24.67M.

- The model projects a high probability of reaching a revenue target of that magnitude.

In summary, reducing water sales projections based solely on the outputs of the water sales forecasting from the model would require the City to implement rate increases in excess of those currently proposed, which does not seem prudent given the factors noted above. As long as the City continues its practice of evaluating rates at least once every two years and maintaining a healthy cash position, it appears that the maximum revenue shortfall as predicted by the forecasting model could be readily offset using existing cash reserves should a shortfall materialize.

Appendix A: Fixed Asset Tables

Fixed Asset	Original Cost	Annual Depreciation	Accumulated Depreciation Through FY2020	Net Fixed Assets (Book Value FY2022)	Allocated Depreciation Expense FY2022	Net Fixed Assets (Book Value FY2023)	Allocated Depreciation Expense FY2023
Booster Station - 12th Ave N & 27th	\$6,230	\$6	\$0	\$6,217	\$6	\$6,200	6
Chapple Pump Station	\$1,238,738	\$18,194	\$1,001,043	\$201,306	\$18,194	\$183,100	18,194
Christensen Pump Station	\$3,403,350	\$154	\$3,249,148	\$153,894	\$154	\$153,700	154
Fox Pump Station	\$2,420,426	\$80,681	\$87,404	\$2,171,660	\$80,681	\$2,091,000	80,681
Leavens Pump Station	\$995,805	\$8,268	\$840,698	\$138,571	\$8,268	\$130,300	8,268
Staples Pump Station #1	\$2,702,665	\$81,088	\$1,155,454	\$1,385,034	\$81,088	\$1,303,900	81,088
Staples Pump Station #2	\$39,135	\$1,957	\$9,784	\$25,438	\$1,957	\$23,500	1,957
Terrace Estates Pump Station	\$255,748	\$8,525	\$76,719	\$161,979	\$8,525	\$153,500	8,525
Thomas Pump Station	\$79,522	\$148	\$1,186	\$78,040	\$148	\$77,900	148
Voelker Pump Station	\$791,150	\$14,060	\$591,516	\$1,329,316	\$33,356	\$1,382,033	34,840
Waldo Pump Station	\$452,109	\$7,794	\$183,230	\$253,291	\$7,794	\$245,500	7,794
Walter Pumping Station	\$3,668,523	\$122,918	\$1,360,858	\$3,092,383	\$140,094	\$3,815,050	154,969
Willet Pumping St #1	\$842,465	\$0	\$842,465	\$0	\$0	\$0	0
Willet Pumping St #4	\$39,262	\$1,963	\$9,815	\$25,521	\$1,963	\$23,600	1,963
Cold Storage Building	\$188,305	\$3,206	\$135,942	\$45,951	\$3,206	\$42,700	3,206
Communication Equipment	\$487,970	\$37,738	\$379,056	\$33,438	\$37,738	\$0	33,438
Construction Equipment	\$1,076,164	\$19,307	\$996,976	\$40,574	\$19,307	\$21,300	19,307
Gas Pumps	\$18,617	\$931	\$3,646	\$13,110	\$931	\$12,200	931
Office Furniture & Equip	\$8,243	\$2,748	\$5,267	\$0	\$229	\$0	0
Office Furniture & Equipment	\$438,864	\$19,995	\$363,929	\$34,945	\$19,995	\$14,900	19,995
Rights & Licenses	\$68,101	\$0	\$68,101	\$300,000	\$15,000	\$555,000	30,000
Site Work & Landscaping	\$120,139	\$955	\$116,399	\$201,831	\$4,955	\$388,900	8,955
Tools & Working Equipment	\$502,410	\$25,577	\$401,168	\$50,088	\$25,577	\$24,500	25,577
Transportation Equipment	\$1,938,038	\$202,657	\$1,047,323	\$485,401	\$202,657	\$282,700	202,657
Utilities Service Center	\$998,292	\$23,633	\$582,258	\$1,134,552	\$34,572	\$1,666,343	42,901
Hydrants	\$3,793,051	\$98,639	\$1,932,359	\$1,663,413	\$98,639	\$1,564,800	98,639
Meters	\$2,648,535	\$6,811	\$2,595,760	\$39,154	\$6,811	\$32,300	6,811
Service Connections	\$29,182	\$0	\$29,182	\$0	\$0	\$0	0
Fox Reservoir	\$3,746,659	\$157,376	\$1,405,330	\$2,026,576	\$157,376	\$1,869,200	157,376
Leavens Reservoir	\$80,527	\$0	\$80,527	\$2,487,330	\$49,747	\$4,263,520	87,787
Logan Reservoir	\$330,763	\$0	\$330,763	\$123,200	\$2,464	\$120,700	2,464
Staples Reservoir #1	\$21,856	\$22	\$0	\$21,812	\$22	\$21,800	22
Staples Reservoir #2	\$1,804,940	\$53,294	\$1,067,713	\$630,640	\$53,294	\$969,300	61,294
Staples Reservoir #3	\$663,177	\$18,561	\$307,473	\$318,582	\$18,561	\$300,000	18,561
Staples Reservoir #4	\$33,544	\$0	\$33,544	\$0	\$0	\$0	0
Staples Reservoir #5	\$33,057	\$0	\$33,057	\$0	\$0	\$0	0
Staples Reservoir #6	\$568,098	\$0	\$568,098	\$0	\$0	\$0	0
Staples Reservoir #7	\$105,782	\$106	\$0	\$105,571	\$106	\$105,500	106
Staples Reservoir #8	\$53,163	\$0	\$53,163	\$0	\$0	\$0	0
Waldo Reservoir	\$3,555,572	\$70,301	\$327,572	\$3,087,398	\$70,301	\$3,017,100	70,301

Fixed Asset	Original Cost	Annual Depreciation	Accumulated Depreciation Through FY2020	Net Fixed Assets (Book Value FY2022)	Allocated Depreciation Expense FY2022	Net Fixed Assets (Book Value FY2023)	Allocated Depreciation Expense FY2023
Willet Pumping St #2	\$237,334	\$11,867	\$205,689	\$7,911	\$11,867	\$0	7,911
Willet Pumping St #3	\$505,359	\$0	\$505,359	\$0	\$0	\$0	0
Zone 3 Chapple Reservoir	\$6,579,214	\$131,584	\$526,337	\$5,789,708	\$131,584	\$5,658,100	131,584
Zone 4 Reservoir	\$7,478,484	\$145,235	\$1,247,346	\$5,940,668	\$145,235	\$5,795,400	145,235
Low Duty Pumping St #1	\$10,271	\$0	\$10,271	\$103,100	\$1,718	\$101,400	1,718
Low Duty Pumping St #2	\$86,793	\$0	\$86,793	\$0	\$0	\$0	0
Low Duty Pumping St #3	\$2,402,292	\$72,121	\$815,638	\$1,442,413	\$72,121	\$1,370,300	72,121
Low Duty Pumping St #4	\$118,525	\$2,777	\$57,205	\$55,766	\$2,777	\$53,000	2,777
Low Duty Pumping St #5	\$256,827	\$16,667	\$137,383	\$86,111	\$16,667	\$69,400	16,667
Low Duty Pumping St #6	\$138,233	\$3,309	\$79,215	\$52,399	\$3,309	\$49,100	3,309
River Intake #1	\$46,199	\$0	\$46,199	\$0	\$0	\$0	0
River Intake #10	\$63,356	\$634	\$10,032	\$52,057	\$634	\$51,400	634
River Intake #12	\$140,000	\$140	\$0	\$139,720	\$140	\$139,600	140
River Intake #13	\$66,188	\$3,309	\$7,170	\$52,399	\$3,309	\$49,100	3,309
River Intake #15	\$165,652	\$8,283	\$8,973	\$140,114	\$8,283	\$131,800	8,283
River Intake #2	\$199,365	\$0	\$199,365	\$0	\$0	\$0	0
River Intake #3	\$184,281	\$6	\$178,646	\$5,624	\$6	\$5,600	6
River Intake #4	\$89,140	\$0	\$89,140	\$0	\$0	\$0	0
River Intake #5	\$286,956	\$0	\$286,956	\$0	\$0	\$0	0
River Intake #6	\$1,466,906	\$48,653	\$506,000	\$863,599	\$48,653	\$814,900	48,653
River Intake #7	\$1,106,430	\$36,594	\$243,411	\$789,830	\$36,594	\$753,200	36,594
River Intake #8	\$21,827	\$22	\$0	\$21,783	\$22	\$21,800	22
River Intake #9	\$3,786,740	\$37,867	\$656,369	\$3,054,637	\$37,867	\$23,596,800	457,867
Distribution Mains < 12"	\$42,768,112	\$965,308	\$20,271,239	\$36,171,537	\$1,277,414	\$51,886,682	1,627,197
Transmission main 12" & Up-	\$41,653,320	\$906,438	\$22,591,007	\$17,249,437	\$906,438	\$16,343,000	906,438
Transmission Mains = 12"	\$19,038,107	\$380,762	\$2,478,860	\$15,797,723	\$380,762	\$15,417,000	380,762
Transmission Mains > 12"	\$19,741,645	\$394,833	\$1,772,295	\$17,197,271	\$395,185	\$18,277,000	425,285
Chemical Bldg & Treatment Basin	\$8,909,458	\$223,201	\$2,905,002	\$11,212,819	\$303,983	\$72,346,823	1,195,449
Clear Well Standpipe #1	\$641,250	\$0	\$641,250	\$0	\$0	\$0	0
Clear Well Standpipe #2	\$35,843	\$0	\$35,843	\$0	\$0	\$0	0
Clear Well Standpipe #3	\$127,594	\$0	\$127,594	\$0	\$0	\$0	0
Clear Well Standpipe #4	\$2,597,191	\$77,924	\$1,525,487	\$915,857	\$77,924	\$837,900	77,924
Clear Well Standpipe #5	\$2,425,638	\$121,282	\$818,653	\$1,364,421	\$121,282	\$1,243,100	121,282
Clear Well Standpipe #7	\$628,231	\$12,565	\$29,317	\$573,785	\$12,565	\$561,200	12,565
Filter Bldg, Clr Basin, and PS	\$29,870,635	\$993,940	\$13,836,485	\$16,423,981	\$1,027,908	\$16,857,999	1,049,280
Heated Storage Bldg & Yrd Storage	\$110,224	\$4,255	\$70,461	\$31,253	\$4,255	\$27,000	4,255
High Service Pumping Station	\$8,667,564	\$243,800	\$6,906,510	\$2,601,911	\$265,941	\$3,210,833	281,024
Laboratory & Test Equipment	\$397,164	\$24,627	\$242,445	\$105,465	\$24,627	\$80,800	24,627
Maint & Personnel Bldg	\$68,310	\$0	\$68,310	\$0	\$0	\$0	0
Plant Electrical Shop	\$559,167	\$18,639	\$234,539	\$287,350	\$18,639	\$268,700	18,639
Plant Maintenance Whse	\$17,990	\$0	\$17,990	\$0	\$0	\$0	0
UV Building	\$3,319,730	\$165,986	\$635,948	\$2,351,808	\$165,986	\$2,185,800	165,986

Fixed Asset	Original Cost	Annual Depreciation	Accumulated Depreciation Through FY2020	Net Fixed Assets (Book Value FY2022)	Allocated Depreciation Expense FY2022	Net Fixed Assets (Book Value FY2023)	Allocated Depreciation Expense FY2023
West End Reservoir	\$2,023,582	\$2,026	\$0	\$8,428,519	\$130,205	\$12,729,660	222,525
Yard Piping & Flumes	\$5,989,334	\$58,796	\$3,269,923	\$2,601,820	\$58,796	\$2,543,000	58,796
Net Fixed Assets & Depreciation	\$255,274,635	\$6,201,062	\$106,656,579	\$173,779,008	\$6,896,412	\$278,339,444	\$8,797,779

Appendix B: Detailed Allocation Tables

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Owners						
Single Family Residential	39.8%	47.2%	23.3%	88.1%	78.3%	0.0%
Multi-Family Residential	9.6%	2.8%	10.4%	2.7%	5.9%	0.0%
Commercial	17.7%	6.6%	11.1%	6.8%	12.5%	0.0%
Industrial	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%
Seasonal	5.2%	9.5%	5.4%	1.3%	1.9%	0.0%
Public Fire Protection	0.0%	9.3%	29.5%	0.0%	0.0%	85.9%
Private Fire Protection	0.0%	1.5%	4.7%	0.0%	0.0%	13.6%
Non-Owners						
Residential	0.3%	0.4%	0.2%	0.8%	0.7%	0.0%
Commercial	11.9%	4.4%	7.4%	0.1%	0.4%	0.0%
Resale	15.3%	18.1%	7.9%	0.0%	0.1%	0.0%
Private Fire Protection	0.0%	0.1%	0.2%	0.0%	0.0%	0.5%
Total - Joint	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B.1: Summary of Customer Service Characteristics - Joint

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Owners						
Single Family Residential	47.0%	57.7%	25.3%	88.1%	78.4%	0.0%
Multi-Family Residential	11.3%	3.5%	11.3%	2.7%	5.9%	0.0%
Commercial	20.9%	8.0%	12.0%	6.8%	12.6%	0.0%
Industrial	0.3%	0.1%	0.0%	0.0%	0.1%	0.0%
Seasonal	6.1%	11.6%	5.8%	1.3%	1.9%	0.0%
Public Fire Protection	0.0%	11.4%	32.0%	0.0%	0.0%	85.9%
Private Fire Protection	0.0%	1.8%	5.1%	0.0%	0.0%	13.6%
Non-Owners						
Residential	0.4%	0.5%	0.2%	0.8%	0.7%	0.0%
Commercial	14.0%	5.4%	8.1%	0.1%	0.4%	0.0%
Resale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Private Fire Protection	0.0%	0.1%	0.2%	0.0%	0.0%	0.5%
Total -All-But-Resale	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B.2: Summary of Customer Service Characteristics – All-But-Resale

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Owners						
Single Family Residential	54.9%	61.3%	27.6%	89.0%	79.3%	0.0%
Multi-Family Residential	13.2%	3.7%	12.3%	2.8%	5.9%	0.0%
Commercial	24.4%	8.5%	13.2%	6.9%	12.7%	0.0%
Industrial	0.3%	0.1%	0.1%	0.0%	0.1%	0.0%
Seasonal	7.1%	12.4%	6.4%	1.3%	2.0%	0.0%
Public Fire Protection	0.0%	12.1%	34.9%	0.0%	0.0%	86.3%
Private Fire Protection	0.0%	1.9%	5.5%	0.0%	0.0%	13.7%
Total - Owner	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B.3: Summary of Customer Service Characteristics – Owner

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Non-Owners						
Residential	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Resale	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Private Fire Protection	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total - Resale	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table B.4: Summary of Customer Service Characteristics – Resale

Line Item	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$497,351	\$497,351	\$0	\$0	\$0	\$0	\$0
All Other	3,320,224	1,509,193	1,811,032	0	0	0	0
High Service Pumping							
Utilities	1,164,683	931,747	232,937	0	0	0	0
All Other	35,701	16,228	19,473	0	0	0	0
System Pumping & Storage							
Utilities	68,961	55,169	13,792	0	0	0	0
All Other	28,855	13,116	15,739	0	0	0	0
Distribution System							
Fire Hydrants	0	0	0	0	0	0	0
All Other	633,005	186,178	223,414	223,414	0	0	0
Customer Billing & Meter	1,551,014	0	0	0	629,712	921,303	0
Admin.	2,354,173	657,521	789,026	176,340	198,124	289,866	243,297
O&M - Total	\$9,653,969	\$3,866,502	\$3,105,412	\$399,754	\$827,836	\$1,211,168	\$243,297
Less: O&M Non-Rate Rev							
Water Permits	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Misc. Revenue	0	0	0	0	0	0	0
Collection of Bad Debt	0	0	0	0	0	0	0
Sale of Material/Labor	0	0	0	0	0	0	0
Public Water Supply	0	0	0	0	0	0	0
Water Svc Line Repair	0	0	0	0	0	0	0
Water Svc Line Admin.	0	0	0	0	0	0	0
Hydrant Mtr Rental Fee	0	0	0	0	0	0	0
Charge for Services	0	0	0	0	0	0	0
Total O&M Non-Rate Rev	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Joint O&M Rev Req.	\$9,653,969	\$3,866,502	\$3,105,412	\$399,754	\$827,836	\$1,211,168	\$243,297

Table B.5: Joint O&M Costs by Functional Cost Component – FY22

Line Item	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$47,649	\$47,649	\$0	\$0	\$0	\$0	\$0
All Other	318,096	144,589	173,507	0	0	0	0
High Service Pumping							
Utilities	111,583	89,266	22,317	0	0	0	0
All Other	3,420	1,555	1,866	0	0	0	0
System Pumping & Storage							
Utilities	230,674	184,539	46,135	0	0	0	0
All Other	96,520	43,873	52,647	0	0	0	0
Distribution System							
Fire Hydrants	847,375	0	0	0	0	0	847,375
All Other	815,793	239,939	287,927	287,927	0	0	0
Customer Billing & Meter	148,596	0	0	0	60,330	88,266	0
Admin.	225,543	62,994	75,593	16,894	18,981	27,771	23,309
O&M - Total	\$2,845,249	\$814,404	\$659,991	\$304,821	\$79,311	\$116,036	\$870,685
Less: O&M Non-Rate Rev							
Water Permits	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Misc. Revenue	0	0	0	0	0	0	0
Collection of Bad Debt	0	0	0	0	0	0	0
Sale of Material/Labor	0	0	0	0	0	0	0
Public Water Supply	0	0	0	0	0	0	0
Water Srvc Line Repair	0	0	0	0	0	0	0
Water Srvc Line Admin.	0	0	0	0	0	0	0
Hydrant Mtr Rental Fee	0	0	0	0	0	0	0
Charge for Services	0	0	0	0	0	0	0
Total O&M Non-Rate Rev	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total All-But-Resale O&M Rev Req.	\$2,845,249	\$814,404	\$659,991	\$304,821	\$79,311	\$116,036	\$870,685

Table B.6: All-But-Resale O&M Costs by Functional Cost Component – FY22

Line Item	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All Other	0	0	0	0	0	0	0
High Service Pumping							
Utilities	0	0	0	0	0	0	0
All Other	0	0	0	0	0	0	0
System Pumping & Storage							
Utilities	142,967	114,373	28,593	0	0	0	0
All Other	59,821	27,191	32,630	0	0	0	0
Distribution System							
Fire Hydrants	0	0	0	0	0	0	0
All Other	291,353	85,692	102,831	102,831	0	0	0
Customer Billing & Meter	0	0	0	0	0	0	0
Admin.	0	0	0	0	0	0	0
O&M - Total	\$494,141	\$227,257	\$164,054	\$102,831	\$0	\$0	\$0
Less: O&M Non-Rate Rev							
3121 Street Sprinkling	\$1,700	\$686	\$502	\$99	\$112	\$163	\$137
3122 Sewer Flushing	\$6,000	\$2,422	\$1,771	\$351	\$394	\$577	\$484
Water Permits	\$56,000	\$22,606	\$16,531	\$3,276	\$3,681	\$5,386	\$4,520
Misc. Revenue	17,200	6,943	5,077	1,006	1,131	1,654	1,388
Collection of Bad Debt	3,000	1,211	886	176	197	289	242
Sale of Material/Labor	280,000	113,028	82,653	16,382	18,406	26,929	22,602
Public Water Supply	62,000	25,028	18,302	3,627	4,076	5,963	5,005
Water Srvc Line Repair	526,000	212,331	155,269	30,775	34,577	50,588	42,460
Water Srvc Line Admin.	25,000	10,092	7,380	1,463	1,643	2,404	2,018
Hydrant Mtr Rental Fee	23,000	9,284	6,789	1,346	1,512	2,212	1,857
Charge for Services	69,000	27,853	20,368	4,037	4,536	6,636	5,570
Total O&M Non-Rate Rev	\$1,068,900	\$431,485	\$315,527	\$62,539	\$70,264	\$102,800	\$86,285
Total Owner O&M Rev Req.	(\$574,759)	(\$204,228)	(\$151,473)	\$40,292	(\$70,264)	(\$102,800)	(\$86,285)

Table B.7: Owner O&M Costs by Functional Cost Component – FY22

Line Item	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All Other	0	0	0	0	0	0	0
High Service Pumping							
Utilities	0	0	0	0	0	0	0
All Other	0	0	0	0	0	0	0
System Pumping & Storage							
Utilities	34,132	27,306	6,826	0	0	0	0
All Other	49,534	22,516	27,019	0	0	0	0
Distribution System							
Fire Hydrants	0	0	0	0	0	0	0
All Other	0	0	0	0	0	0	0
Customer Billing & Meter	0	0	0	0	0	0	0
Admin.	0	0	0	0	0	0	0
O&M - Total	\$83,666	\$49,821	\$33,845	\$0	\$0	\$0	\$0
Less: O&M Non-Rate Rev	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Resale O&M Rev Req.	\$83,666	\$49,821	\$33,845	\$0	\$0	\$0	\$0

Table B.8: Resale O&M Costs by Functional Cost Component – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$1,540,570	\$1,466,019	\$93,073	\$729,672	\$948,713	\$0	\$4,778,046
Multi-Family Residential	\$370,547	\$88,154	\$41,575	\$22,756	\$71,019	\$0	\$594,050
Commercial	685,376	203,815	44,364	56,649	151,895	0	1,142,100
Industrial	8,229	2,447	178	160	1,230	0	12,243
Seasonal	199,198	296,185	21,490	10,845	23,479	0	551,197
Public Fire Protection	0	289,642	117,813	0	0	208,951	616,407
Private Fire Protection	0	45,949	18,690	0	0	33,148	97,787
Non-Owners							
Residential	\$13,036	\$12,405	\$788	\$6,741	\$8,759	\$0	\$41,728
Commercial	458,569	136,368	29,683	986	4,653	0	630,259
Resale	590,978	562,768	31,425	27	1,422	0	1,186,619
Private Fire Protection	0	1,660	675	0	0	1,198	3,533
Total - Joint	\$3,866,502	\$3,105,412	\$399,754	\$827,836	\$1,211,168	\$243,297	\$9,653,969

Table B.9: Allocation of Joint O&M Costs to Customer Class – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$383,037	\$380,533	\$77,025	\$69,909	\$90,999	\$0	\$1,001,502
Multi-Family Residential	\$92,130	\$22,882	\$34,406	\$2,180	\$6,812	\$0	\$158,411
Commercial	170,407	52,904	36,715	5,427	14,569	0	280,023
Industrial	2,046	635	147	15	118	0	2,961
Seasonal	49,527	76,880	17,785	1,039	2,252	0	147,484
Public Fire Protection	0	75,182	97,500	0	0	747,772	920,454
Private Fire Protection	0	11,927	15,467	0	0	118,627	146,021
Non-Owners							
Residential	\$3,241	\$3,220	\$652	\$646	\$840	\$0	\$8,599
Commercial	114,016	35,397	24,565	94	446	0	174,518
Resale	0	0	0	0	0	0	0
Private Fire Protection	0	431	559	0	0	4,286	5,276
Total - All-But-Resale	\$814,404	\$659,991	\$304,821	\$79,311	\$116,036	\$870,685	\$2,845,249

Table B.10: Allocation of All-But-Resale O&M Costs to Customer Class – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	(\$112,210)	(\$92,827)	\$11,122	(\$62,518)	(\$81,522)	\$0	(\$337,956)
Multi-Family Residential	(\$26,989)	(\$5,582)	\$4,968	(\$1,950)	(\$6,103)	\$0	(\$35,656)
Commercial	(49,920)	(12,905)	5,301	(4,854)	(13,052)	0	(75,431)
Industrial	(599)	(155)	21	(14)	(106)	0	(852)
Seasonal	(14,509)	(18,754)	2,568	(929)	(2,017)	0	(33,642)
Public Fire Protection	0	(18,340)	14,078	0	0	(74,471)	(78,733)
Private Fire Protection	0	(2,909)	2,233	0	0	(11,814)	(12,490)
Total - Owner	(\$204,228)	(\$151,473)	\$40,292	(\$70,264)	(\$102,800)	(\$86,285)	(\$574,759)

Table B.11: Allocation of Owner O&M Costs to Customer Class – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Non-Owners							
Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial	0	0	0	0	0	0	0
Resale	49,821	33,845	0	0	0	0	83,666
Private Fire Protection	0	0	0	0	0	0	0
Total - Resale	\$49,821	\$33,845	\$0	\$0	\$0	\$0	\$83,666

Table B.12: Allocation of Resale O&M Costs to Customer Class – FY22

Line Item	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$509,785	\$509,785	\$0	\$0	\$0	\$0	\$0
All Other	\$3,419,831	\$1,554,469	\$1,865,362	\$0	\$0	\$0	\$0
High Service Pumping							
Utilities	\$1,199,624	\$959,699	\$239,925	\$0	\$0	\$0	\$0
All Other	\$36,772	\$16,715	\$20,058	\$0	\$0	\$0	\$0
System Pumping & Storage							
Utilities	\$71,030	\$56,824	\$14,206	\$0	\$0	\$0	\$0
All Other	\$29,721	\$13,509	\$16,211	\$0	\$0	\$0	\$0
Distribution System							
Fire Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All Other	\$651,995	\$191,763	\$230,116	\$230,116	\$0	\$0	\$0
Customer Billing & Meter	\$1,597,545	\$0	\$0	\$0	\$648,603	\$948,942	\$0
Admin.	\$2,424,799	\$677,247	\$812,696	\$181,630	\$204,067	\$298,562	\$250,596
O&M - Total	\$9,941,101	\$3,980,011	\$3,198,574	\$411,746	\$852,671	\$1,247,503	\$250,596
Less: O&M Non-Rate Rev							
Water Permits	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Misc. Revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Collection of Bad Debt	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sale of Material/Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Public Water Supply	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Srvc Line Repair	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Srvc Line Admin.	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hydrant Mtr Rental Fee	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Charge for Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total O&M Non-Rate Rev	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Joint O&M Rev Req.	\$9,941,101	\$3,980,011	\$3,198,574	\$411,746	\$852,671	\$1,247,503	\$250,596

Table B.13: Joint O&M Costs by Functional Cost Component – FY23

Line Item	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$48,840	\$48,840	\$0	\$0	\$0	\$0	\$0
All Other	\$327,638	\$148,927	\$178,712	\$0	\$0	\$0	\$0
High Service Pumping							
Utilities	\$114,930	\$91,944	\$22,986	\$0	\$0	\$0	\$0
All Other	\$3,523	\$1,601	\$1,922	\$0	\$0	\$0	\$0
System Pumping & Storage							
Utilities	\$237,594	\$190,076	\$47,519	\$0	\$0	\$0	\$0
All Other	\$99,416	\$45,189	\$54,227	\$0	\$0	\$0	\$0
Distribution System							
Fire Hydrants	\$872,797	\$0	\$0	\$0	\$0	\$0	\$872,797
All Other	\$840,267	\$247,137	\$296,565	\$296,565	\$0	\$0	\$0
Customer Billing & Meter	\$153,053	\$0	\$0	\$0	\$62,140	\$90,914	\$0
Admin.	\$232,309	\$64,884	\$77,861	\$17,401	\$19,551	\$28,604	\$24,008
O&M - Total	\$2,930,368	\$838,598	\$679,791	\$313,966	\$81,690	\$119,518	\$896,805
Less: O&M Non-Rate Rev							
Water Permits	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Misc. Revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Collection of Bad Debt	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sale of Material/Labor	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Public Water Supply	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Srvc Line Repair	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Srvc Line Admin.	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hydrant Mtr Rental Fee	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Charge for Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total O&M Non-Rate Rev	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total All-But-Resale O&M Rev Req.	\$2,930,368	\$838,598	\$679,791	\$313,966	\$81,690	\$119,518	\$896,805

Table B.14: All-But-Resale O&M Costs by Functional Cost Component – FY23

Line Item	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
High Service Pumping							
Utilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
System Pumping & Storage							
Utilities	\$147,256	\$117,804	\$29,451	\$0	\$0	\$0	\$0
All Other	\$61,616	\$28,007	\$33,609	\$0	\$0	\$0	\$0
Distribution System							
Fire Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All Other	\$300,094	\$88,263	\$105,916	\$105,916	\$0	\$0	\$0
Customer Billing & Meter	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Admin.	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O&M - Total	\$508,965	\$234,074	\$168,975	\$105,916	\$0	\$0	\$0
Less: O&M Non-Rate Rev							
3121 Street Sprinkling	\$1,700	\$686	\$502	\$99	\$112	\$163	\$137
3122 Sewer Flushing	\$6,000	\$2,422	\$1,771	\$351	\$394	\$577	\$484
Water Permits	\$56,000	\$22,606	\$16,531	\$3,276	\$3,681	\$5,386	\$4,520
Misc. Revenue	\$17,200	\$6,943	\$5,077	\$1,006	\$1,131	\$1,654	\$1,388
Collection of Bad Debt	\$3,000	\$1,211	\$886	\$176	\$197	\$289	\$242
Sale of Material/Labor	\$280,000	\$113,028	\$82,653	\$16,382	\$18,406	\$26,929	\$22,602
Public Water Supply	\$62,000	\$25,028	\$18,302	\$3,627	\$4,076	\$5,963	\$5,005
Water Srvc Line Repair	\$526,000	\$212,331	\$155,269	\$30,775	\$34,577	\$50,588	\$42,460
Water Srvc Line Admin.	\$25,000	\$10,092	\$7,380	\$1,463	\$1,643	\$2,404	\$2,018
Hydrant Mtr Rental Fee	\$23,000	\$9,284	\$6,789	\$1,346	\$1,512	\$2,212	\$1,857
Charge for Services	\$69,000	\$27,853	\$20,368	\$4,037	\$4,536	\$6,636	\$5,570
Total O&M Non-Rate Rev	\$1,068,900	\$431,485	\$315,527	\$62,539	\$70,264	\$102,800	\$86,285
Total Owner O&M Rev Req.	(\$559,935)	(\$197,410)	(\$146,552)	\$43,377	(\$70,264)	(\$102,800)	(\$86,285)

Table B.15: Owner O&M Costs by Functional Cost Component – FY23

Line Item	Total	Base	Max Day	Max Hour	Customer	Meter	Direct Fire
Water Production							
Chemicals	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
High Service Pumping							
Utilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
System Pumping & Storage							
Utilities	\$35,156	\$28,125	\$7,031	\$0	\$0	\$0	\$0
All Other	\$51,020	\$23,191	\$27,829	\$0	\$0	\$0	\$0
Distribution System							
Fire Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Customer Billing & Meter	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Admin.	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O&M - Total	\$86,176	\$51,316	\$34,860	\$0	\$0	\$0	\$0
Less: O&M Non-Rate Rev	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Resale O&M Rev Req.	\$86,176	\$51,316	\$34,860	\$0	\$0	\$0	\$0

Table B.16: Resale O&M Costs by Functional Cost Component – FY23

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	1,583,643	1,507,645	95,968	751,621	977,674	0	4,916,551
Multi-Family Residential	380,907	90,657	42,868	23,433	72,996	0	610,861
Commercial	704,538	209,602	45,744	58,336	156,206	0	1,174,427
Industrial	8,417	2,504	182	164	1,261	0	12,528
Seasonal	204,768	304,595	22,159	11,170	24,155	0	566,847
Public Fire Protection	0	296,391	120,876	0	0	215,225	632,493
Private Fire Protection	0	47,020	19,176	0	0	34,143	100,339
Non-Owners							
Residential	\$13,333	\$12,694	\$808	\$6,910	\$8,981	\$0	\$42,726
Commercial	\$469,045	\$139,543	\$30,454	\$1,010	\$4,771	\$0	\$644,823
Resale	\$615,360	\$586,233	\$32,822	\$27	\$1,458	\$0	\$1,235,900
Private Fire Protection	\$0	\$1,690	\$689	\$0	\$0	\$1,228	\$3,607
Total - Joint	\$3,980,011	\$3,198,574	\$411,746	\$852,671	\$1,247,503	\$250,596	\$9,941,101

Table B.17: Allocation of Joint O&M Costs to Customer Class – FY23

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$394,704	\$392,324	\$79,516	\$72,012	\$93,776	\$0	\$1,032,331
Multi-Family Residential	\$94,936	\$23,591	\$35,519	\$2,245	\$7,002	\$0	\$163,293
Commercial	\$175,598	\$54,543	\$37,902	\$5,589	\$14,983	\$0	\$288,615
Industrial	\$2,098	\$652	\$151	\$16	\$121	\$0	\$3,037
Seasonal	\$51,036	\$79,263	\$18,360	\$1,070	\$2,317	\$0	\$152,046
Public Fire Protection	\$0	\$77,128	\$100,155	\$0	\$0	\$770,224	\$947,506
Private Fire Protection	\$0	\$12,236	\$15,889	\$0	\$0	\$122,188	\$150,313
Non-Owners							
Residential	\$3,323	\$3,303	\$669	\$662	\$861	\$0	\$8,819
Commercial	\$116,904	\$36,312	\$25,233	\$97	\$458	\$0	\$179,004
Resale	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Private Fire Protection	\$0	\$440	\$571	\$0	\$0	\$4,393	\$5,404
Total - All But Resale	\$838,598	\$679,791	\$313,966	\$81,690	\$119,518	\$896,805	\$2,930,368

Table B.18: Allocation of All-But-Resale O&M Costs to Customer Class – FY23

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	(\$108,466)	(\$89,874)	\$11,997	(\$62,520)	(\$81,560)	\$0	(\$330,422)
Multi-Family Residential	(\$26,089)	(\$5,404)	\$5,359	(\$1,949)	(\$6,090)	\$0	(\$34,173)
Commercial	(\$48,255)	(\$12,495)	\$5,719	(\$4,852)	(\$13,031)	\$0	(\$72,914)
Industrial	(\$576)	(\$149)	\$23	(\$14)	(\$105)	\$0	(\$822)
Seasonal	(\$14,025)	(\$18,158)	\$2,770	(\$929)	(\$2,015)	\$0	(\$32,356)
Public Fire Protection	\$0	(\$17,669)	\$15,111	\$0	\$0	(\$74,471)	(\$77,028)
Private Fire Protection	\$0	(\$2,803)	\$2,397	\$0	\$0	(\$11,814)	(\$12,220)
Total - Owner	(\$197,410)	(\$146,552)	\$43,377	(\$70,264)	(\$102,800)	(\$86,285)	(\$559,935)

Table B.19: Allocation of Owner O&M Costs to Customer Class – FY23

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Non-Owners							
Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Resale	\$51,316	\$34,860	\$0	\$0	\$0	\$0	\$86,176
Private Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total - Resale	\$51,316	\$34,860	\$0	\$0	\$0	\$0	\$86,176

Table B.20: Allocation of Resale O&M Costs to Customer Class – FY23

Fixed Asset	Joint	All But Resale	Owners	Resale	Total
Booster Station - 12th Ave N & 27th	\$0	\$6,217	\$0	\$0	\$6,217
Chapple Pump Station	\$0	\$201,306	\$0	\$0	\$201,306
Christensen Pump Station	\$0	\$0	\$153,894	\$0	\$153,894
Fox Pump Station	\$0	\$2,171,660	\$0	\$0	\$2,171,660
Leavens Pump Station	\$0	\$0	\$138,571	\$0	\$138,571
Staples Pump Station #1	\$0	\$1,385,034	\$0	\$0	\$1,385,034
Staples Pump Station #2	\$0	\$25,438	\$0	\$0	\$25,438
Terrace Estates Pump Station	\$0	\$0	\$161,979	\$0	\$161,979
Thomas Pump Station	\$0	\$0	\$78,040	\$0	\$78,040
Voelker Pump Station	\$0	\$0	\$1,329,316	\$0	\$1,329,316
Waldo Pump Station	\$0	\$0	\$253,291	\$0	\$253,291
Walter Pumping Station	\$0	\$0	\$1,855,430	\$1,236,953	\$3,092,383
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$25,521	\$0	\$0	\$0	\$25,521
Cold Storage Building	\$45,951	\$0	\$0	\$0	\$45,951
Communication Equipment	\$33,438	\$0	\$0	\$0	\$33,438
Construction Equipment	\$40,574	\$0	\$0	\$0	\$40,574
Gas Pumps	\$13,110	\$0	\$0	\$0	\$13,110
Office Furniture & Equip	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equipment	\$34,945	\$0	\$0	\$0	\$34,945
Rights & Licenses	\$0	\$0	\$300,000	\$0	\$300,000
Site Work & Landscaping	\$201,831	\$0	\$0	\$0	\$201,831
Tools & Working Equipment	\$50,088	\$0	\$0	\$0	\$50,088
Transportation Equipment	\$485,401	\$0	\$0	\$0	\$485,401
Utilities Service Center	\$1,134,552	\$0	\$0	\$0	\$1,134,552
Hydrants	\$0	\$1,663,413	\$0	\$0	\$1,663,413
Meters	\$39,154	\$0	\$0	\$0	\$39,154
Service Connections	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$2,026,576	\$0	\$0	\$0	\$2,026,576
Leavens Reservoir	\$2,487,330	\$0	\$0	\$0	\$2,487,330
Logan Reservoir	\$0	\$0	\$123,200	\$0	\$123,200
Staples Reservoir #1	\$0	\$21,812	\$0	\$0	\$21,812
Staples Reservoir #2	\$0	\$630,640	\$0	\$0	\$630,640
Staples Reservoir #3	\$0	\$0	\$318,582	\$0	\$318,582
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$0	\$105,571	\$0	\$0	\$105,571
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$0	\$3,087,398	\$0	\$0	\$3,087,398
Willet Pumping St #2	\$7,911	\$0	\$0	\$0	\$7,911
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$0	\$0	\$5,789,708	\$0	\$5,789,708
Zone 4 Reservoir	\$0	\$5,940,668	\$0	\$0	\$5,940,668
Low Duty Pumping St #1	\$103,100	\$0	\$0	\$0	\$103,100

Fixed Asset	Joint	All But Resale	Owners	Resale	Total
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$1,442,413	\$0	\$0	\$0	\$1,442,413
Low Duty Pumping St #4	\$55,766	\$0	\$0	\$0	\$55,766
Low Duty Pumping St #5	\$86,111	\$0	\$0	\$0	\$86,111
Low Duty Pumping St #6	\$52,399	\$0	\$0	\$0	\$52,399
River Intake #1	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$52,057	\$0	\$0	\$0	\$52,057
River Intake #12	\$139,720	\$0	\$0	\$0	\$139,720
River Intake #13	\$52,399	\$0	\$0	\$0	\$52,399
River Intake #15	\$140,114	\$0	\$0	\$0	\$140,114
River Intake #2	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$5,624	\$0	\$0	\$0	\$5,624
River Intake #4	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$863,599	\$0	\$0	\$0	\$863,599
River Intake #7	\$789,830	\$0	\$0	\$0	\$789,830
River Intake #8	\$21,783	\$0	\$0	\$0	\$21,783
River Intake #9	\$3,054,637	\$0	\$0	\$0	\$3,054,637
Distribution Mains < 12"	\$0	\$21,702,922	\$14,468,615	\$0	\$36,171,537
Transmission main 12" & Up- don't use	\$17,249,437	\$0	\$0	\$0	\$17,249,437
Transmission Mains = 12"	\$0	\$15,797,723	\$0	\$0	\$15,797,723
Transmission Mains > 12"	\$17,197,271	\$0	\$0	\$0	\$17,197,271
Chemical Bldg & Treatment Basin	\$11,212,819	\$0	\$0	\$0	\$11,212,819
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$915,857	\$0	\$0	\$0	\$915,857
Clear Well Standpipe #5	\$1,364,421	\$0	\$0	\$0	\$1,364,421
Clear Well Standpipe #7	\$573,785	\$0	\$0	\$0	\$573,785
Filter Bldg, Clr Basin, and PS	\$16,423,981	\$0	\$0	\$0	\$16,423,981
Heated Storage Bldg & Yrd Storage	\$31,253	\$0	\$0	\$0	\$31,253
High Service Pumping Station	\$2,601,911	\$0	\$0	\$0	\$2,601,911
Laboratory & Test Equipment	\$105,465	\$0	\$0	\$0	\$105,465
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$287,350	\$0	\$0	\$0	\$287,350
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0
UV Building	\$2,351,808	\$0	\$0	\$0	\$2,351,808
West End Reservoir	\$8,428,519	\$0	\$0	\$0	\$8,428,519
Yard Piping & Flumes	\$2,601,820	\$0	\$0	\$0	\$2,601,820
Grandtotal	\$94,831,627	\$52,739,802	\$24,970,626	\$1,236,953	\$173,779,008

Table B.21: Allocation of Net Fixed Assets to Ownership Categories – FY22

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Booster Station - 12th Ave N & 27th	\$1,829	\$2,194	\$2,194	\$0	\$0	\$0	\$6,217
Chapple Pump Station	\$91,503	\$109,804	\$0	\$0	\$0	\$0	\$201,306
Christensen Pump Station	\$69,952	\$83,942	\$0	\$0	\$0	\$0	\$153,894
Fox Pump Station	\$987,118	\$1,184,542	\$0	\$0	\$0	\$0	\$2,171,660
Leavens Pump Station	\$62,987	\$75,584	\$0	\$0	\$0	\$0	\$138,571
Staples Pump Station #1	\$629,561	\$755,473	\$0	\$0	\$0	\$0	\$1,385,034
Staples Pump Station #2	\$11,563	\$13,875	\$0	\$0	\$0	\$0	\$25,438
Terrace Estates Pump Station	\$73,627	\$88,352	\$0	\$0	\$0	\$0	\$161,979
Thomas Pump Station	\$35,473	\$42,567	\$0	\$0	\$0	\$0	\$78,040
Voelker Pump Station	\$604,235	\$725,082	\$0	\$0	\$0	\$0	\$1,329,316
Waldo Pump Station	\$115,132	\$138,159	\$0	\$0	\$0	\$0	\$253,291
Walter Pumping Station	\$1,405,629	\$1,686,754	\$0	\$0	\$0	\$0	\$3,092,383
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$11,600	\$13,920	\$0	\$0	\$0	\$0	\$25,521
Cold Storage Building	\$16,878	\$18,509	\$10,108	\$0	\$10	\$445	\$45,951
Communication Equipment	\$12,282	\$13,469	\$7,355	\$0	\$8	\$324	\$33,438
Construction Equipment	\$14,903	\$16,344	\$8,925	\$0	\$9	\$393	\$40,574
Gas Pumps	\$4,815	\$5,281	\$2,884	\$0	\$3	\$127	\$13,110
Office Furniture & Equip	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equipment	\$12,835	\$14,076	\$7,687	\$0	\$8	\$339	\$34,945
Rights & Licenses	\$110,190	\$120,844	\$65,990	\$0	\$68	\$2,908	\$300,000
Site Work & Landscaping	\$201,831	\$0	\$0	\$0	\$0	\$0	\$201,831
Tools & Working Equipment	\$18,397	\$20,176	\$11,018	\$0	\$11	\$486	\$50,088
Transportation Equipment	\$178,288	\$195,525	\$106,772	\$0	\$111	\$4,705	\$485,401
Utilities Service Center	\$416,722	\$457,011	\$249,563	\$0	\$259	\$10,997	\$1,134,552
Hydrants	\$0	\$0	\$0	\$0	\$0	\$1,663,413	\$1,663,413
Meters	\$0	\$0	\$0	\$0	\$39,154	\$0	\$39,154
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$596,052	\$715,262	\$715,262	\$0	\$0	\$0	\$2,026,576
Leavens Reservoir	\$731,568	\$877,881	\$877,881	\$0	\$0	\$0	\$2,487,330
Logan Reservoir	\$36,235	\$43,482	\$43,482	\$0	\$0	\$0	\$123,200
Staples Reservoir #1	\$6,415	\$7,698	\$7,698	\$0	\$0	\$0	\$21,812
Staples Reservoir #2	\$185,482	\$222,579	\$222,579	\$0	\$0	\$0	\$630,640
Staples Reservoir #3	\$93,700	\$112,441	\$112,441	\$0	\$0	\$0	\$318,582
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$31,050	\$37,260	\$37,260	\$0	\$0	\$0	\$105,571
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$908,058	\$1,089,670	\$1,089,670	\$0	\$0	\$0	\$3,087,398
Willet Pumping St #2	\$3,596	\$4,315	\$0	\$0	\$0	\$0	\$7,911
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$1,702,855	\$2,043,426	\$2,043,426	\$0	\$0	\$0	\$5,789,708
Zone 4 Reservoir	\$1,747,255	\$2,096,706	\$2,096,706	\$0	\$0	\$0	\$5,940,668

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Low Duty Pumping St #1	\$46,864	\$56,236	\$0	\$0	\$0	\$0	\$103,100
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$655,642	\$786,771	\$0	\$0	\$0	\$0	\$1,442,413
Low Duty Pumping St #4	\$25,348	\$30,418	\$0	\$0	\$0	\$0	\$55,766
Low Duty Pumping St #5	\$39,141	\$46,970	\$0	\$0	\$0	\$0	\$86,111
Low Duty Pumping St #6	\$23,818	\$28,581	\$0	\$0	\$0	\$0	\$52,399
River Intake #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$52,057	\$0	\$0	\$0	\$0	\$0	\$52,057
River Intake #12	\$139,720	\$0	\$0	\$0	\$0	\$0	\$139,720
River Intake #13	\$52,399	\$0	\$0	\$0	\$0	\$0	\$52,399
River Intake #15	\$140,114	\$0	\$0	\$0	\$0	\$0	\$140,114
River Intake #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$5,624	\$0	\$0	\$0	\$0	\$0	\$5,624
River Intake #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$863,599	\$0	\$0	\$0	\$0	\$0	\$863,599
River Intake #7	\$789,830	\$0	\$0	\$0	\$0	\$0	\$789,830
River Intake #8	\$21,783	\$0	\$0	\$0	\$0	\$0	\$21,783
River Intake #9	\$3,054,637	\$0	\$0	\$0	\$0	\$0	\$3,054,637
Distribution Mains < 12"	\$10,638,687	\$12,766,425	\$12,766,425	\$0	\$0	\$0	\$36,171,537
Transmission main 12" & Up- don't use	\$5,073,364	\$6,088,036	\$6,088,036	\$0	\$0	\$0	\$17,249,437
Transmission Mains = 12"	\$4,646,389	\$5,575,667	\$5,575,667	\$0	\$0	\$0	\$15,797,723
Transmission Mains > 12"	\$5,058,021	\$6,069,625	\$6,069,625	\$0	\$0	\$0	\$17,197,271
Chemical Bldg & Treatment Basin	\$5,096,736	\$6,116,083	\$0	\$0	\$0	\$0	\$11,212,819
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$416,298	\$499,558	\$0	\$0	\$0	\$0	\$915,857
Clear Well Standpipe #5	\$620,191	\$744,230	\$0	\$0	\$0	\$0	\$1,364,421
Clear Well Standpipe #7	\$260,811	\$312,973	\$0	\$0	\$0	\$0	\$573,785
Filter Bldg, Clr Basin, and PS	\$7,465,446	\$8,958,535	\$0	\$0	\$0	\$0	\$16,423,981
Heated Storage Bldg & Yrd Storage	\$11,479	\$12,589	\$6,875	\$0	\$7	\$303	\$31,253
High Service Pumping Station	\$1,182,687	\$1,419,224	\$0	\$0	\$0	\$0	\$2,601,911
Laboratory & Test Equipment	\$105,465	\$0	\$0	\$0	\$0	\$0	\$105,465
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$130,614	\$156,736	\$0	\$0	\$0	\$0	\$287,350
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UV Building	\$1,069,004	\$1,282,804	\$0	\$0	\$0	\$0	\$2,351,808
West End Reservoir	\$3,831,145	\$4,597,374	\$0	\$0	\$0	\$0	\$8,428,519
Yard Piping & Flumes	\$1,182,645	\$1,419,175	\$0	\$0	\$0	\$0	\$2,601,820
Net	63,829,174	70,000,216	38,225,529	0	39,649	1,684,441	173,779,008

Table B.22: Allocation of Net Fixed Assets to Functional Cost Component – FY22

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Booster Station - 12th Ave N & 27th	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chapple Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Christensen Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Terrace Estates Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Thomas Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Voelker Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Walter Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$11,600	\$13,920	\$0	\$0	\$0	\$0	\$25,521
Cold Storage Building	\$16,878	\$18,509	\$10,108	\$0	\$10	\$445	\$45,951
Communication Equipment	\$12,282	\$13,469	\$7,355	\$0	\$8	\$324	\$33,438
Construction Equipment	\$14,903	\$16,344	\$8,925	\$0	\$9	\$393	\$40,574
Gas Pumps	\$4,815	\$5,281	\$2,884	\$0	\$3	\$127	\$13,110
Office Furniture & Equip	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equipment	\$12,835	\$14,076	\$7,687	\$0	\$8	\$339	\$34,945
Rights & Licenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Site Work & Landscaping	\$201,831	\$0	\$0	\$0	\$0	\$0	\$201,831
Tools & Working Equipment	\$18,397	\$20,176	\$11,018	\$0	\$11	\$486	\$50,088
Transportation Equipment	\$178,288	\$195,525	\$106,772	\$0	\$111	\$4,705	\$485,401
Utilities Service Center	\$416,722	\$457,011	\$249,563	\$0	\$259	\$10,997	\$1,134,552
Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Meters	\$0	\$0	\$0	\$0	\$39,154	\$0	\$39,154
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$596,052	\$715,262	\$715,262	\$0	\$0	\$0	\$2,026,576
Leavens Reservoir	\$731,568	\$877,881	\$877,881	\$0	\$0	\$0	\$2,487,330
Logan Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #2	\$3,596	\$4,315	\$0	\$0	\$0	\$0	\$7,911
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 4 Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Low Duty Pumping St #1	\$46,864	\$56,236	\$0	\$0	\$0	\$0	\$103,100
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$655,642	\$786,771	\$0	\$0	\$0	\$0	\$1,442,413
Low Duty Pumping St #4	\$25,348	\$30,418	\$0	\$0	\$0	\$0	\$55,766
Low Duty Pumping St #5	\$39,141	\$46,970	\$0	\$0	\$0	\$0	\$86,111
Low Duty Pumping St #6	\$23,818	\$28,581	\$0	\$0	\$0	\$0	\$52,399
River Intake #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$52,057	\$0	\$0	\$0	\$0	\$0	\$52,057
River Intake #12	\$139,720	\$0	\$0	\$0	\$0	\$0	\$139,720
River Intake #13	\$52,399	\$0	\$0	\$0	\$0	\$0	\$52,399
River Intake #15	\$140,114	\$0	\$0	\$0	\$0	\$0	\$140,114
River Intake #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$5,624	\$0	\$0	\$0	\$0	\$0	\$5,624
River Intake #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$863,599	\$0	\$0	\$0	\$0	\$0	\$863,599
River Intake #7	\$789,830	\$0	\$0	\$0	\$0	\$0	\$789,830
River Intake #8	\$21,783	\$0	\$0	\$0	\$0	\$0	\$21,783
River Intake #9	\$3,054,637	\$0	\$0	\$0	\$0	\$0	\$3,054,637
Distribution Mains < 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission main 12" & Up- don't use	\$5,073,364	\$6,088,036	\$6,088,036	\$0	\$0	\$0	\$17,249,437
Transmission Mains = 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains > 12"	\$5,058,021	\$6,069,625	\$6,069,625	\$0	\$0	\$0	\$17,197,271
Chemical Bldg & Treatment Basin	\$5,096,736	\$6,116,083	\$0	\$0	\$0	\$0	\$11,212,819
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$416,298	\$499,558	\$0	\$0	\$0	\$0	\$915,857
Clear Well Standpipe #5	\$620,191	\$744,230	\$0	\$0	\$0	\$0	\$1,364,421
Clear Well Standpipe #7	\$260,811	\$312,973	\$0	\$0	\$0	\$0	\$573,785
Filter Bldg, Clr Basin, and PS	\$7,465,446	\$8,958,535	\$0	\$0	\$0	\$0	\$16,423,981
Heated Storage Bldg & Yrd Storage	\$11,479	\$12,589	\$6,875	\$0	\$7	\$303	\$31,253
High Service Pumping Station	\$1,182,687	\$1,419,224	\$0	\$0	\$0	\$0	\$2,601,911
Laboratory & Test Equipment	\$105,465	\$0	\$0	\$0	\$0	\$0	\$105,465
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$130,614	\$156,736	\$0	\$0	\$0	\$0	\$287,350
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UV Building	\$1,069,004	\$1,282,804	\$0	\$0	\$0	\$0	\$2,351,808
West End Reservoir	\$3,831,145	\$4,597,374	\$0	\$0	\$0	\$0	\$8,428,519
Yard Piping & Flumes	\$1,182,645	\$1,419,175	\$0	\$0	\$0	\$0	\$2,601,820
Net	39,634,248	40,977,689	14,161,990	0	39,580	18,119	94,831,627

Table B.23: Allocation of Net Fixed Assets to Functional Cost Component – Joint – FY22

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Booster Station - 12th Ave N & 27th	\$1,829	\$2,194	\$2,194	\$0	\$0	\$0	\$6,217
Chapple Pump Station	\$91,503	\$109,804	\$0	\$0	\$0	\$0	\$201,306
Christensen Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Pump Station	\$987,118	\$1,184,542	\$0	\$0	\$0	\$0	\$2,171,660
Leavens Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #1	\$629,561	\$755,473	\$0	\$0	\$0	\$0	\$1,385,034
Staples Pump Station #2	\$11,563	\$13,875	\$0	\$0	\$0	\$0	\$25,438
Terrace Estates Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Thomas Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Voelker Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Walter Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cold Storage Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Communication Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gas Pumps	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equip	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Rights & Licenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Site Work & Landscaping	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tools & Working Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transportation Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utilities Service Center	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hydrants	\$0	\$0	\$0	\$0	\$0	\$1,663,413	\$1,663,413
Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Logan Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #1	\$6,415	\$7,698	\$7,698	\$0	\$0	\$0	\$21,812
Staples Reservoir #2	\$185,482	\$222,579	\$222,579	\$0	\$0	\$0	\$630,640
Staples Reservoir #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$31,050	\$37,260	\$37,260	\$0	\$0	\$0	\$105,571
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$908,058	\$1,089,670	\$1,089,670	\$0	\$0	\$0	\$3,087,398
Willet Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 4 Reservoir	\$1,747,255	\$2,096,706	\$2,096,706	\$0	\$0	\$0	\$5,940,668
Low Duty Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Distribution Mains < 12"	\$6,383,212	\$7,659,855	\$7,659,855	\$0	\$0	\$0	\$21,702,922
Transmission main 12" & Up	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains = 12"	\$4,646,389	\$5,575,667	\$5,575,667	\$0	\$0	\$0	\$15,797,723
Transmission Mains > 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chemical Bldg & Treatment Basin	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Filter Bldg, Clr Basin, and PS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Heated Storage Bldg & Yrd Storage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
High Service Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Laboratory & Test Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UV Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
West End Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Yard Piping & Flumes	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net	15,629,436	18,755,323	16,691,630	0	0	1,663,413	52,739,802

Table B.24: Allocation of Net Fixed Assets to Functional Cost Component – All-But-Resale – FY22

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Booster Station - 12th Ave N & 27th	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chapple Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Christensen Pump Station	\$69,952	\$83,942	\$0	\$0	\$0	\$0	\$153,894
Fox Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Pump Station	\$62,987	\$75,584	\$0	\$0	\$0	\$0	\$138,571
Staples Pump Station #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Terrace Estates Pump Station	\$73,627	\$88,352	\$0	\$0	\$0	\$0	\$161,979
Thomas Pump Station	\$35,473	\$42,567	\$0	\$0	\$0	\$0	\$78,040
Voelker Pump Station	\$604,235	\$725,082	\$0	\$0	\$0	\$0	\$1,329,316
Waldo Pump Station	\$115,132	\$138,159	\$0	\$0	\$0	\$0	\$253,291
Walter Pumping Station	\$843,377	\$1,012,053	\$0	\$0	\$0	\$0	\$1,855,430
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cold Storage Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Communication Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gas Pumps	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equip	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Rights & Licenses	\$110,190	\$120,844	\$65,990	\$0	\$68	\$2,908	\$300,000
Site Work & Landscaping	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tools & Working Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transportation Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utilities Service Center	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Logan Reservoir	\$36,235	\$43,482	\$43,482	\$0	\$0	\$0	\$123,200
Staples Reservoir #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #3	\$93,700	\$112,441	\$112,441	\$0	\$0	\$0	\$318,582
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$1,702,855	\$2,043,426	\$2,043,426	\$0	\$0	\$0	\$5,789,708
Zone 4 Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Low Duty Pumping St #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Distribution Mains < 12"	\$4,255,475	\$5,106,570	\$5,106,570	\$0	\$0	\$0	\$14,468,615
Transmission main 12" & Up- don't use	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains = 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains > 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chemical Bldg & Treatment Basin	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Filter Bldg, Clr Basin, and PS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Heated Storage Bldg & Yrd Storage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
High Service Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Laboratory & Test Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UV Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
West End Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Yard Piping & Flumes	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net	8,003,239	9,592,501	7,371,909	0	68	2,908	24,970,626

Table B.25: Allocation of Net Fixed Assets to Functional Cost Component – Owner – FY22

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Booster Station - 12th Ave N & 27th	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chapple Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Christensen Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Terrace Estates Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Thomas Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Voelker Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Walter Pumping Station	\$562,251	\$674,702	\$0	\$0	\$0	\$0	\$1,236,953
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cold Storage Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Communication Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gas Pumps	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equip	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Rights & Licenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Site Work & Landscaping	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tools & Working Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transportation Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utilities Service Center	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Logan Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 4 Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
River Intake #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Distribution Mains < 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission main 12" & Up- don't use	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains = 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains > 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chemical Bldg & Treatment Basin	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Filter Bldg, Clr Basin, and PS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Heated Storage Bldg & Yrd Storage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
High Service Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Laboratory & Test Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UV Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
West End Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Yard Piping & Flumes	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net	562,251	674,702	0	0	0	0	1,236,953

Table B.26: Allocation of Net Fixed Assets to Functional Cost Component – Resale – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$15,791,879	\$19,344,959	\$3,297,270	\$0	\$31,003	\$0	\$38,465,111
Multi-Family Residential	\$3,798,351	\$1,163,239	\$1,472,859	\$0	\$2,321	\$0	\$6,436,770
Commercial	7,025,562	2,689,460	1,571,683	0	4,964	0	11,291,668
Industrial	84,349	32,290	6,290	0	40	0	122,968
Seasonal	2,041,916	3,908,336	761,326	0	767	0	6,712,345
Public Fire Protection	0	3,821,992	4,173,748	0	0	15,561	8,011,301
Private Fire Protection	0	606,321	662,124	0	0	2,469	1,270,914
Non-Owners							
Residential	\$133,624	\$163,688	\$27,900	\$0	\$286	\$0	\$325,498
Commercial	4,700,642	1,799,456	1,051,577	0	152	0	7,551,828
Resale	6,057,925	7,426,040	1,113,290	0	46	0	14,597,301
Private Fire Protection	0	21,908	23,924	0	0	89	45,922
Total - Joint	\$39,634,248	\$40,977,689	\$14,161,990	\$0	\$39,580	\$18,119	\$94,831,627

Table B.27: Allocation of Joint Related Net Fixed Assets to Customer Class – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$7,350,959	\$10,813,804	\$4,217,800	\$0	\$0	\$0	\$22,382,563
Multi-Family Residential	\$1,768,094	\$650,249	\$1,884,051	\$0	\$0	\$0	\$4,302,394
Commercial	\$3,270,327	\$1,503,404	\$2,010,465	\$0	\$0	\$0	\$6,784,196
Industrial	\$39,263	\$18,050	\$8,046	\$0	\$0	\$0	\$65,359
Seasonal	\$950,491	\$2,184,754	\$973,872	\$0	\$0	\$0	\$4,109,117
Public Fire Protection	\$0	\$2,136,488	\$5,338,973	\$0	\$0	\$1,428,593	\$8,904,053
Private Fire Protection	\$0	\$338,933	\$846,975	\$0	\$0	\$226,632	\$1,412,540
Non-Owners							
Residential	\$62,201	\$91,502	\$35,689	\$0	\$0	\$0	\$189,391
Commercial	\$2,188,101	\$1,005,893	\$1,345,156	\$0	\$0	\$0	\$4,539,150
Resale	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Private Fire Protection	\$0	\$12,247	\$30,603	\$0	\$0	\$8,189	\$51,039
Total - All-But-Resale	\$15,629,436	\$18,755,323	\$16,691,630	\$0	\$0	\$1,663,413	\$52,739,802

Table B.28: Allocation of All-But-Resale Related Net Fixed Assets to Customer Class – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$4,397,256	\$5,878,573	\$2,034,874	\$0	\$54	\$0	\$12,310,757
Multi-Family Residential	\$1,057,653	\$353,487	\$908,959	\$0	\$4	\$0	\$2,320,102
Commercial	1,956,271	817,277	969,947	0	9	0	3,743,503
Industrial	23,487	9,812	3,882	0	0	0	37,181
Seasonal	568,572	1,187,671	469,844	0	1	0	2,226,088
Public Fire Protection	0	1,161,432	2,575,782	0	0	2,510	3,739,724
Private Fire Protection	0	184,250	408,622	0	0	398	593,270
Total - Owner	\$8,003,239	\$9,592,501	\$7,371,909	\$0	\$68	\$2,908	\$24,970,626

Table B.29: Allocation of Owner Related Net Fixed Assets to Customer Class – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Non-Owners							
Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial	0	0	0	0	0	0	0
Resale	562,251	674,702	0	0	0	0	1,236,953
Private Fire Protection	0	0	0	0	0	0	0
Total - Resale	\$562,251	\$674,702	\$0	\$0	\$0	\$0	\$1,236,953

Table B.30: Allocation of Resale Related Net Fixed Assets to Customer Class – FY22

Fixed Asset	Joint	All But Resale	Owners	Resale	Total
Booster Station - 12th Ave N & 27th	\$0	\$6	\$0	\$0	\$6
Chapple Pump Station	\$0	\$18,194	\$0	\$0	\$18,194
Christensen Pump Station	\$0	\$0	\$154	\$0	\$154
Fox Pump Station	\$0	\$80,681	\$0	\$0	\$80,681
Leavens Pump Station	\$0	\$0	\$8,268	\$0	\$8,268
Staples Pump Station #1	\$0	\$81,088	\$0	\$0	\$81,088
Staples Pump Station #2	\$0	\$1,957	\$0	\$0	\$1,957
Terrace Estates Pump Station	\$0	\$0	\$8,525	\$0	\$8,525
Thomas Pump Station	\$0	\$0	\$148	\$0	\$148
Voelker Pump Station	\$0	\$0	\$33,356	\$0	\$33,356
Waldo Pump Station	\$0	\$0	\$7,794	\$0	\$7,794
Walter Pumping Station	\$0	\$0	\$84,056	\$56,038	\$140,094
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$1,963	\$0	\$0	\$0	\$1,963
Cold Storage Building	\$3,206	\$0	\$0	\$0	\$3,206
Communication Equipment	\$37,738	\$0	\$0	\$0	\$37,738
Construction Equipment	\$19,307	\$0	\$0	\$0	\$19,307
Gas Pumps	\$931	\$0	\$0	\$0	\$931
Office Furniture & Equip	\$229	\$0	\$0	\$0	\$229
Office Furniture & Equipment	\$19,995	\$0	\$0	\$0	\$19,995
Rights & Licenses	\$0	\$0	\$15,000	\$0	\$15,000
Site Work & Landscaping	\$4,955	\$0	\$0	\$0	\$4,955
Tools & Working Equipment	\$25,577	\$0	\$0	\$0	\$25,577
Transportation Equipment	\$202,657	\$0	\$0	\$0	\$202,657
Utilities Service Center	\$34,572	\$0	\$0	\$0	\$34,572
Hydrants	\$0	\$98,639	\$0	\$0	\$98,639
Meters	\$6,811	\$0	\$0	\$0	\$6,811
Service Connections	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$157,376	\$0	\$0	\$0	\$157,376
Leavens Reservoir	\$49,747	\$0	\$0	\$0	\$49,747
Logan Reservoir	\$0	\$0	\$2,464	\$0	\$2,464
Staples Reservoir #1	\$0	\$22	\$0	\$0	\$22
Staples Reservoir #2	\$0	\$53,294	\$0	\$0	\$53,294
Staples Reservoir #3	\$0	\$0	\$18,561	\$0	\$18,561
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$0	\$106	\$0	\$0	\$106
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$0	\$70,301	\$0	\$0	\$70,301
Willet Pumping St #2	\$11,867	\$0	\$0	\$0	\$11,867
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$0	\$0	\$131,584	\$0	\$131,584
Zone 4 Reservoir	\$0	\$145,235	\$0	\$0	\$145,235
Low Duty Pumping St #1	\$1,718	\$0	\$0	\$0	\$1,718

Fixed Asset	Joint	All But Resale	Owners	Resale	Total
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$72,121	\$0	\$0	\$0	\$72,121
Low Duty Pumping St #4	\$2,777	\$0	\$0	\$0	\$2,777
Low Duty Pumping St #5	\$16,667	\$0	\$0	\$0	\$16,667
Low Duty Pumping St #6	\$3,309	\$0	\$0	\$0	\$3,309
River Intake #1	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$634	\$0	\$0	\$0	\$634
River Intake #12	\$140	\$0	\$0	\$0	\$140
River Intake #13	\$3,309	\$0	\$0	\$0	\$3,309
River Intake #15	\$8,283	\$0	\$0	\$0	\$8,283
River Intake #2	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$6	\$0	\$0	\$0	\$6
River Intake #4	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$48,653	\$0	\$0	\$0	\$48,653
River Intake #7	\$36,594	\$0	\$0	\$0	\$36,594
River Intake #8	\$22	\$0	\$0	\$0	\$22
River Intake #9	\$37,867	\$0	\$0	\$0	\$37,867
Distribution Mains < 12"	\$0	\$766,448	\$510,966	\$0	\$1,277,414
Transmission main 12" & Up- don't use	\$906,438	\$0	\$0	\$0	\$906,438
Transmission Mains = 12"	\$0	\$380,762	\$0	\$0	\$380,762
Transmission Mains > 12"	\$395,185	\$0	\$0	\$0	\$395,185
Chemical Bldg & Treatment Basin	\$303,983	\$0	\$0	\$0	\$303,983
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$77,924	\$0	\$0	\$0	\$77,924
Clear Well Standpipe #5	\$121,282	\$0	\$0	\$0	\$121,282
Clear Well Standpipe #7	\$12,565	\$0	\$0	\$0	\$12,565
Filter Bldg, Clr Basin, and PS	\$1,027,908	\$0	\$0	\$0	\$1,027,908
Heated Storage Bldg & Yrd Storage	\$4,255	\$0	\$0	\$0	\$4,255
High Service Pumping Station	\$265,941	\$0	\$0	\$0	\$265,941
Laboratory & Test Equipment	\$24,627	\$0	\$0	\$0	\$24,627
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$18,639	\$0	\$0	\$0	\$18,639
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0
UV Building	\$165,986	\$0	\$0	\$0	\$165,986
West End Reservoir	\$130,205	\$0	\$0	\$0	\$130,205
Yard Piping & Flumes	\$58,796	\$0	\$0	\$0	\$58,796
Net	\$4,322,765	\$1,696,733	\$820,876	\$56,038	\$6,896,412

Table B.31: Allocation of Depreciation Expense to Ownership Categories – FY22

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Booster Station - 12th Ave N & 27th	\$2	\$2	\$2	\$0	\$0	\$0	\$6
Chapple Pump Station	\$8,270	\$9,924	\$0	\$0	\$0	\$0	\$18,194
Christensen Pump Station	\$70	\$84	\$0	\$0	\$0	\$0	\$154
Fox Pump Station	\$36,673	\$44,008	\$0	\$0	\$0	\$0	\$80,681
Leavens Pump Station	\$3,758	\$4,510	\$0	\$0	\$0	\$0	\$8,268
Staples Pump Station #1	\$36,858	\$44,230	\$0	\$0	\$0	\$0	\$81,088
Staples Pump Station #2	\$889	\$1,067	\$0	\$0	\$0	\$0	\$1,957
Terrace Estates Pump Station	\$3,875	\$4,650	\$0	\$0	\$0	\$0	\$8,525
Thomas Pump Station	\$67	\$81	\$0	\$0	\$0	\$0	\$148
Voelker Pump Station	\$15,162	\$18,194	\$0	\$0	\$0	\$0	\$33,356
Waldo Pump Station	\$3,543	\$4,251	\$0	\$0	\$0	\$0	\$7,794
Walter Pumping Station	\$63,679	\$76,415	\$0	\$0	\$0	\$0	\$140,094
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$892	\$1,071	\$0	\$0	\$0	\$0	\$1,963
Cold Storage Building	\$1,178	\$1,291	\$705	\$0	\$1	\$31	\$3,206
Communication Equipment	\$13,861	\$15,201	\$8,301	\$0	\$9	\$366	\$37,738
Construction Equipment	\$7,092	\$7,777	\$4,247	\$0	\$4	\$187	\$19,307
Gas Pumps	\$342	\$375	\$205	\$0	\$0	\$9	\$931
Office Furniture & Equip	\$84	\$92	\$50	\$0	\$0	\$2	\$229
Office Furniture & Equipment	\$7,344	\$8,054	\$4,398	\$0	\$5	\$194	\$19,995
Rights & Licenses	\$5,510	\$6,042	\$3,299	\$0	\$3	\$145	\$15,000
Site Work & Landscaping	\$4,955	\$0	\$0	\$0	\$0	\$0	\$4,955
Tools & Working Equipment	\$9,395	\$10,303	\$5,626	\$0	\$6	\$248	\$25,577
Transportation Equipment	\$74,436	\$81,633	\$44,578	\$0	\$46	\$1,964	\$202,657
Utilities Service Center	\$12,698	\$13,926	\$7,605	\$0	\$8	\$335	\$34,572
Hydrants	\$0	\$0	\$0	\$0	\$0	\$98,639	\$98,639
Meters	\$0	\$0	\$0	\$0	\$6,811	\$0	\$6,811
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$46,287	\$55,545	\$55,545	\$0	\$0	\$0	\$157,376
Leavens Reservoir	\$14,631	\$17,558	\$17,558	\$0	\$0	\$0	\$49,747
Logan Reservoir	\$725	\$870	\$870	\$0	\$0	\$0	\$2,464
Staples Reservoir #1	\$6	\$8	\$8	\$0	\$0	\$0	\$22
Staples Reservoir #2	\$15,675	\$18,809	\$18,809	\$0	\$0	\$0	\$53,294
Staples Reservoir #3	\$5,459	\$6,551	\$6,551	\$0	\$0	\$0	\$18,561
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$31	\$37	\$37	\$0	\$0	\$0	\$106
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$20,677	\$24,812	\$24,812	\$0	\$0	\$0	\$70,301
Willet Pumping St #2	\$5,394	\$6,473	\$0	\$0	\$0	\$0	\$11,867
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$38,701	\$46,442	\$46,442	\$0	\$0	\$0	\$131,584

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Zone 4 Reservoir	\$42,716	\$51,259	\$51,259	\$0	\$0	\$0	\$145,235
Low Duty Pumping St #1	\$781	\$937	\$0	\$0	\$0	\$0	\$1,718
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$32,782	\$39,339	\$0	\$0	\$0	\$0	\$72,121
Low Duty Pumping St #4	\$1,262	\$1,515	\$0	\$0	\$0	\$0	\$2,777
Low Duty Pumping St #5	\$7,576	\$9,091	\$0	\$0	\$0	\$0	\$16,667
Low Duty Pumping St #6	\$1,504	\$1,805	\$0	\$0	\$0	\$0	\$3,309
River Intake #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$634	\$0	\$0	\$0	\$0	\$0	\$634
River Intake #12	\$140	\$0	\$0	\$0	\$0	\$0	\$140
River Intake #13	\$3,309	\$0	\$0	\$0	\$0	\$0	\$3,309
River Intake #15	\$8,283	\$0	\$0	\$0	\$0	\$0	\$8,283
River Intake #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$6	\$0	\$0	\$0	\$0	\$0	\$6
River Intake #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$48,653	\$0	\$0	\$0	\$0	\$0	\$48,653
River Intake #7	\$36,594	\$0	\$0	\$0	\$0	\$0	\$36,594
River Intake #8	\$22	\$0	\$0	\$0	\$0	\$0	\$22
River Intake #9	\$37,867	\$0	\$0	\$0	\$0	\$0	\$37,867
Distribution Mains < 12"	\$375,710	\$450,852	\$450,852	\$0	\$0	\$0	\$1,277,414
Transmission main 12" & Up-	\$266,599	\$319,919	\$319,919	\$0	\$0	\$0	\$906,438
Transmission Mains = 12"	\$111,989	\$134,387	\$134,387	\$0	\$0	\$0	\$380,762
Transmission Mains > 12"	\$116,231	\$139,477	\$139,477	\$0	\$0	\$0	\$395,185
Chemical Bldg & Treatment Basin	\$138,174	\$165,809	\$0	\$0	\$0	\$0	\$303,983
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$35,420	\$42,504	\$0	\$0	\$0	\$0	\$77,924
Clear Well Standpipe #5	\$55,128	\$66,154	\$0	\$0	\$0	\$0	\$121,282
Clear Well Standpipe #7	\$5,711	\$6,853	\$0	\$0	\$0	\$0	\$12,565
Filter Bldg, Clr Basin, and PS	\$467,231	\$560,677	\$0	\$0	\$0	\$0	\$1,027,908
Heated Storage Bldg & Yrd Storage	\$1,563	\$1,714	\$936	\$0	\$1	\$41	\$4,255
High Service Pumping Station	\$120,882	\$145,058	\$0	\$0	\$0	\$0	\$265,941
Laboratory & Test Equipment	\$24,627	\$0	\$0	\$0	\$0	\$0	\$24,627
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$8,472	\$10,167	\$0	\$0	\$0	\$0	\$18,639
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UV Building	\$75,448	\$90,538	\$0	\$0	\$0	\$0	\$165,986
West End Reservoir	\$59,184	\$71,021	\$0	\$0	\$0	\$0	\$130,205
Yard Piping & Flumes	\$26,725	\$32,070	\$0	\$0	\$0	\$0	\$58,796
Net	\$2,569,445	\$2,871,433	\$1,346,478	\$0	\$6,894	\$102,162	\$6,896,412

Table B.32: Allocation of Depreciation Expense to Functional Cost Component – FY22

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Booster Station - 12th Ave N & 27th	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chapple Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Christensen Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Terrace Estates Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Thomas Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Voelker Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Walter Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$892	\$1,071	\$0	\$0	\$0	\$0	\$1,963
Cold Storage Building	\$1,178	\$1,291	\$705	\$0	\$1	\$31	\$3,206
Communication Equipment	\$13,861	\$15,201	\$8,301	\$0	\$9	\$366	\$37,738
Construction Equipment	\$7,092	\$7,777	\$4,247	\$0	\$4	\$187	\$19,307
Gas Pumps	\$342	\$375	\$205	\$0	\$0	\$9	\$931
Office Furniture & Equip	\$84	\$92	\$50	\$0	\$0	\$2	\$229
Office Furniture & Equipment	\$7,344	\$8,054	\$4,398	\$0	\$5	\$194	\$19,995
Rights & Licenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Site Work & Landscaping	\$4,955	\$0	\$0	\$0	\$0	\$0	\$4,955
Tools & Working Equipment	\$9,395	\$10,303	\$5,626	\$0	\$6	\$248	\$25,577
Transportation Equipment	\$74,436	\$81,633	\$44,578	\$0	\$46	\$1,964	\$202,657
Utilities Service Center	\$12,698	\$13,926	\$7,605	\$0	\$8	\$335	\$34,572
Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Meters	\$0	\$0	\$0	\$0	\$6,811	\$0	\$6,811
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$46,287	\$55,545	\$55,545	\$0	\$0	\$0	\$157,376
Leavens Reservoir	\$14,631	\$17,558	\$17,558	\$0	\$0	\$0	\$49,747
Logan Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #2	\$5,394	\$6,473	\$0	\$0	\$0	\$0	\$11,867
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Zone 4 Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #1	\$781	\$937	\$0	\$0	\$0	\$0	\$1,718
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$32,782	\$39,339	\$0	\$0	\$0	\$0	\$72,121
Low Duty Pumping St #4	\$1,262	\$1,515	\$0	\$0	\$0	\$0	\$2,777
Low Duty Pumping St #5	\$7,576	\$9,091	\$0	\$0	\$0	\$0	\$16,667
Low Duty Pumping St #6	\$1,504	\$1,805	\$0	\$0	\$0	\$0	\$3,309
River Intake #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$634	\$0	\$0	\$0	\$0	\$0	\$634
River Intake #12	\$140	\$0	\$0	\$0	\$0	\$0	\$140
River Intake #13	\$3,309	\$0	\$0	\$0	\$0	\$0	\$3,309
River Intake #15	\$8,283	\$0	\$0	\$0	\$0	\$0	\$8,283
River Intake #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$6	\$0	\$0	\$0	\$0	\$0	\$6
River Intake #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$48,653	\$0	\$0	\$0	\$0	\$0	\$48,653
River Intake #7	\$36,594	\$0	\$0	\$0	\$0	\$0	\$36,594
River Intake #8	\$22	\$0	\$0	\$0	\$0	\$0	\$22
River Intake #9	\$37,867	\$0	\$0	\$0	\$0	\$0	\$37,867
Distribution Mains < 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission main 12" & Up	\$266,599	\$319,919	\$319,919	\$0	\$0	\$0	\$906,438
Transmission Mains = 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains > 12"	\$116,231	\$139,477	\$139,477	\$0	\$0	\$0	\$395,185
Chemical Bldg & Treatment Basin	\$138,174	\$165,809	\$0	\$0	\$0	\$0	\$303,983
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$35,420	\$42,504	\$0	\$0	\$0	\$0	\$77,924
Clear Well Standpipe #5	\$55,128	\$66,154	\$0	\$0	\$0	\$0	\$121,282
Clear Well Standpipe #7	\$5,711	\$6,853	\$0	\$0	\$0	\$0	\$12,565
Filter Bldg, Clr Basin, and PS	\$467,231	\$560,677	\$0	\$0	\$0	\$0	\$1,027,908
Heated Storage Bldg & Yrd Storage	\$1,563	\$1,714	\$936	\$0	\$1	\$41	\$4,255
High Service Pumping Station	\$120,882	\$145,058	\$0	\$0	\$0	\$0	\$265,941
Laboratory & Test Equipment	\$24,627	\$0	\$0	\$0	\$0	\$0	\$24,627
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$8,472	\$10,167	\$0	\$0	\$0	\$0	\$18,639
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UV Building	\$75,448	\$90,538	\$0	\$0	\$0	\$0	\$165,986
West End Reservoir	\$59,184	\$71,021	\$0	\$0	\$0	\$0	\$130,205
Yard Piping & Flumes	\$26,725	\$32,070	\$0	\$0	\$0	\$0	\$58,796
Net	1,779,400	1,923,947	609,150	0	6,890	3,378	4,322,765

Table B.33: Allocation of Joint Related Depreciation Expense to Functional Cost Component – FY22

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Booster Station - 12th Ave N & 27th	\$2	\$2	\$2	\$0	\$0	\$0	\$6
Chapple Pump Station	\$8,270	\$9,924	\$0	\$0	\$0	\$0	\$18,194
Christensen Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Pump Station	\$36,673	\$44,008	\$0	\$0	\$0	\$0	\$80,681
Leavens Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #1	\$36,858	\$44,230	\$0	\$0	\$0	\$0	\$81,088
Staples Pump Station #2	\$889	\$1,067	\$0	\$0	\$0	\$0	\$1,957
Terrace Estates Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Thomas Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Voelker Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Walter Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cold Storage Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Communication Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gas Pumps	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equip	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Rights & Licenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Site Work & Landscaping	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tools & Working Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transportation Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utilities Service Center	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hydrants	\$0	\$0	\$0	\$0	\$0	\$98,639	\$98,639
Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Logan Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #1	\$6	\$8	\$8	\$0	\$0	\$0	\$22
Staples Reservoir #2	\$15,675	\$18,809	\$18,809	\$0	\$0	\$0	\$53,294
Staples Reservoir #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$31	\$37	\$37	\$0	\$0	\$0	\$106
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$20,677	\$24,812	\$24,812	\$0	\$0	\$0	\$70,301
Willet Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Zone 4 Reservoir	\$42,716	\$51,259	\$51,259	\$0	\$0	\$0	\$145,235
Low Duty Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Distribution Mains < 12"	\$225,426	\$270,511	\$270,511	\$0	\$0	\$0	\$766,448
Transmission main 12" & Up- don't use	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains = 12"	\$111,989	\$134,387	\$134,387	\$0	\$0	\$0	\$380,762
Transmission Mains > 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chemical Bldg & Treatment Basin	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Filter Bldg, Clr Basin, and PS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Heated Storage Bldg & Yrd Storage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
High Service Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Laboratory & Test Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UV Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
West End Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Yard Piping & Flumes	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net	499,213	599,055	499,826	0	0	98,639	1,696,733

Table B.34: Allocation of All-But-Resale Related Depreciation Expense to Functional Cost Component - FY22

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Booster Station - 12th Ave N & 27th	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chapple Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Christensen Pump Station	\$70	\$84	\$0	\$0	\$0	\$0	\$154
Fox Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Pump Station	\$3,758	\$4,510	\$0	\$0	\$0	\$0	\$8,268
Staples Pump Station #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Terrace Estates Pump Station	\$3,875	\$4,650	\$0	\$0	\$0	\$0	\$8,525
Thomas Pump Station	\$67	\$81	\$0	\$0	\$0	\$0	\$148
Voelker Pump Station	\$15,162	\$18,194	\$0	\$0	\$0	\$0	\$33,356
Waldo Pump Station	\$3,543	\$4,251	\$0	\$0	\$0	\$0	\$7,794
Walter Pumping Station	\$38,207	\$45,849	\$0	\$0	\$0	\$0	\$84,056
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cold Storage Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Communication Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gas Pumps	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equip	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Rights & Licenses	\$5,510	\$6,042	\$3,299	\$0	\$3	\$145	\$15,000
Site Work & Landscaping	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tools & Working Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transportation Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utilities Service Center	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Logan Reservoir	\$725	\$870	\$870	\$0	\$0	\$0	\$2,464
Staples Reservoir #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #3	\$5,459	\$6,551	\$6,551	\$0	\$0	\$0	\$18,561
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$38,701	\$46,442	\$46,442	\$0	\$0	\$0	\$131,584
Zone 4 Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
River Intake #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Distribution Mains < 12"	\$150,284	\$180,341	\$180,341	\$0	\$0	\$0	\$510,966
Transmission main 12" & Up- don't use	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains = 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains > 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chemical Bldg & Treatment Basin	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Filter Bldg, Clr Basin, and PS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Heated Storage Bldg & Yrd Storage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
High Service Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Laboratory & Test Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UV Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
West End Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Yard Piping & Flumes	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net	265,361	317,864	237,502	0	3	145	820,876

Table B.35: Allocation of Owner Related Depreciation Expense to Functional Cost Component – FY22

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Booster Station - 12th Ave N & 27th	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chapple Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Christensen Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Pump Station #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Terrace Estates Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Thomas Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Voelker Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Pump Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Walter Pumping Station	\$25,472	\$30,566	\$0	\$0	\$0	\$0	\$56,038
Willet Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cold Storage Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Communication Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gas Pumps	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equip	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Office Furniture & Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Rights & Licenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Site Work & Landscaping	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Tools & Working Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transportation Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Utilities Service Center	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Service Connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fox Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Leavens Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Logan Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Staples Reservoir #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Waldo Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Willet Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 3 Chapple Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Zone 4 Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Fixed Asset	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Low Duty Pumping St #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Low Duty Pumping St #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #12	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #13	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #6	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #8	\$0	\$0	\$0	\$0	\$0	\$0	\$0
River Intake #9	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Distribution Mains < 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission main 12" & Up- don't use	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains = 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transmission Mains > 12"	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Chemical Bldg & Treatment Basin	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #1	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #2	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #4	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #5	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clear Well Standpipe #7	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Filter Bldg, Clr Basin, and PS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Heated Storage Bldg & Yrd Storage	\$0	\$0	\$0	\$0	\$0	\$0	\$0
High Service Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Laboratory & Test Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maint & Personnel Bldg	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Electrical Shop	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plant Maintenance Whse	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UV Building	\$0	\$0	\$0	\$0	\$0	\$0	\$0
West End Reservoir	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Yard Piping & Flumes	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net	25,472	30,566	0	0	0	0	56,038

Table B.36: Allocation of Resale Related Depreciation Expense to Functional Cost Component – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$708,985	\$908,267	\$141,826	\$0	\$5,397	\$0	\$1,764,474
Multi-Family Residential	\$170,529	\$54,615	\$63,352	\$0	\$404	\$0	\$288,900
Commercial	315,416	126,273	67,603	0	864	0	\$510,156
Industrial	3,787	1,516	271	0	7	0	\$5,580
Seasonal	91,673	183,501	32,747	0	134	0	\$308,054
Public Fire Protection	0	179,447	179,525	0	0	2,901	\$361,873
Private Fire Protection	0	28,467	28,480	0	0	460	\$57,408
Non-Owners							\$0
Residential	\$5,999	\$7,685	\$1,200	\$0	\$50	\$0	\$14,934
Commercial	211,038	84,486	45,231	0	26	0	\$340,782
-Resale	271,974	348,661	47,886	0	8	0	\$668,528
Private Fire Protection	0	1,029	1,029	0	0	17	\$2,074
Total - Joint	\$1,779,400	\$1,923,947	\$609,150	\$0	\$6,890	\$3,378	\$4,322,765

Table B.37: Allocation of Joint Depreciation Expense to Customer Class – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$234,794	\$345,399	\$126,301	\$0	\$0	\$0	\$706,493
Multi-Family Residential	\$56,474	\$20,769	\$56,417	\$0	\$0	\$0	\$133,661
Commercial	\$104,456	\$48,020	\$60,203	\$0	\$0	\$0	\$212,678
Industrial	\$1,254	\$577	\$241	\$0	\$0	\$0	\$2,072
Seasonal	\$30,359	\$69,782	\$29,162	\$0	\$0	\$0	\$129,304
Public Fire Protection	\$0	\$68,241	\$159,874	\$0	\$0	\$84,714	\$312,829
Private Fire Protection	\$0	\$10,826	\$25,362	\$0	\$0	\$13,439	\$49,627
Non-Owners							\$0
Residential	\$1,987	\$2,923	\$1,069	\$0	\$0	\$0	\$5,978
Commercial	\$69,889	\$32,129	\$40,280	\$0	\$0	\$0	\$142,298
-Resale	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Private Fire Protection	\$0	\$391	\$916	\$0	\$0	\$486	\$1,793
Total - All-But-Resale	\$499,213	\$599,055	\$499,826	\$0	\$0	\$98,639	\$1,696,733

Table B.38: Allocation of All-But-Resale Depreciation Expense to Customer Class – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$145,799	\$194,797	\$65,558	\$0	\$3	\$0	\$406,156
Multi-Family Residential	\$35,068	\$11,713	\$29,284	\$0	\$0	\$0	\$76,066
Commercial	64,864	27,082	31,249	0	0	0	123,195
Industrial	779	325	125	0	0	0	1,229
Seasonal	18,852	39,356	15,137	0	0	0	73,345
Public Fire Protection	0	38,486	82,985	0	0	125	121,596
Private Fire Protection	0	6,105	13,165	0	0	20	19,290
Total - Owner	\$265,361	\$317,864	\$237,502	\$0	\$3	\$145	\$820,876

Table B.39: Allocation of Owner Depreciation Expense to Customer Class – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Non-Owners							
Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial	0	0	0	0	0	0	0
-Resale	25,472	30,566	0	0	0	0	56,038
Private Fire Protection	0	0	0	0	0	0	0
Total - Resale	\$25,472	\$30,566	\$0	\$0	\$0	\$0	\$56,038

Table B.40: Allocation of Resale Depreciation Expense to Customer Class – FY22

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$1,069,070	\$1,180,195	\$147,778	\$0	\$5,401	\$0	\$2,402,443
Multi-Family Residential	\$257,139	\$70,967	\$66,011	\$0	\$403	\$0	\$394,520
Commercial	\$475,612	\$164,078	\$70,440	\$0	\$863	\$0	\$710,994
Industrial	\$5,682	\$1,960	\$280	\$0	\$7	\$0	\$7,929
Seasonal	\$138,232	\$238,439	\$34,121	\$0	\$133	\$0	\$410,926
Public Fire Protection	\$0	\$232,017	\$186,134	\$0	\$0	\$2,933	\$421,084
Private Fire Protection	\$0	\$36,807	\$29,528	\$0	\$0	\$465	\$66,801
Non-Owners							\$0
Residential	\$9,001	\$9,937	\$1,244	\$0	\$50	\$0	\$20,231
Commercial	\$316,638	\$109,235	\$46,895	\$0	\$26	\$0	\$472,795
-Resale	\$415,411	\$458,907	\$50,541	\$0	\$8	\$0	\$924,867
Private Fire Protection	\$0	\$1,323	\$1,062	\$0	\$0	\$17	\$2,402
Total - Joint	\$2,686,785	\$2,503,865	\$634,035	\$0	\$6,891	\$3,415	\$5,834,991

Table B.41: Allocation of Joint Depreciation Expense to Customer Class – FY23

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$265,125	\$390,107	\$146,063	\$0	\$0	\$0	\$801,295
Multi-Family Residential	\$63,769	\$23,458	\$65,245	\$0	\$0	\$0	\$152,472
Commercial	\$117,950	\$54,235	\$69,622	\$0	\$0	\$0	\$241,808
Industrial	\$1,409	\$648	\$277	\$0	\$0	\$0	\$2,334
Seasonal	\$34,281	\$78,815	\$33,725	\$0	\$0	\$0	\$146,821
Public Fire Protection	\$0	\$76,692	\$183,973	\$0	\$0	\$84,716	\$345,382
Private Fire Protection	\$0	\$12,166	\$29,186	\$0	\$0	\$13,439	\$54,791
Non-Owners							\$0
Residential	\$2,232	\$3,284	\$1,230	\$0	\$0	\$0	\$6,746
Commercial	\$78,525	\$36,107	\$46,351	\$0	\$0	\$0	\$160,983
-Resale	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Private Fire Protection	\$0	\$437	\$1,049	\$0	\$0	\$483	\$1,970
Total - All-But-Resale	\$563,292	\$675,950	\$576,721	\$0	\$0	\$98,639	\$1,914,603

Table B.42: Allocation of All-But-Resale Depreciation Expense to Customer Class – FY23

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Owners							
Single Family Residential	\$174,037	\$232,404	\$80,261	\$0	\$5	\$0	\$486,707
Multi-Family Residential	\$41,860	\$13,975	\$35,852	\$0	\$0	\$0	\$91,687
Commercial	\$77,427	\$32,310	\$38,257	\$0	\$1	\$0	\$147,995
Industrial	\$925	\$386	\$152	\$0	\$0	\$0	\$1,463
Seasonal	\$22,503	\$46,953	\$18,532	\$0	\$0	\$0	\$87,989
Public Fire Protection	\$0	\$45,689	\$101,092	\$0	\$0	\$251	\$147,032
Private Fire Protection	\$0	\$7,248	\$16,037	\$0	\$0	\$40	\$23,325
Total - Owner	\$316,753	\$378,965	\$290,183	\$0	\$7	\$291	\$986,198

Table B.43: Allocation of Owner Depreciation Expense to Customer Class – FY23

Customer Class	Base	Max Day	Max Hour	Customer	Meter	Direct Fire	Total
Non-Owners							
Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Commercial	\$0	\$0	\$0	\$0	\$0	\$0	\$0
-Resale	\$28,176	\$33,811	\$0	\$0	\$0	\$0	\$61,988
Private Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total - Resale	\$28,176	\$33,811	\$0	\$0	\$0	\$0	\$61,988

Table B.44: Allocation of Resale Depreciation Expense to Customer Class – FY23

RETAIL WASTEWATER RATE STUDY FY22 and FY23

Billings, MT

March 31, 2021

Executive Summary

The City of Billings, Montana (City) calculates its retail wastewater rates using a cost of service rate model developed specifically for its wastewater treatment and collection system. The last rate analysis was completed in April 2019, at which time rates for FY20 and FY21 were set. This report summarizes the results of the most recent update to the wastewater rate model, including rate recommendations for FY22 and FY23. Detailed asset tables are found in the Appendices.

The City currently maintains two rate models for the Wastewater System – a cash-based model used to calculate retail rates and a utility-based model used to calculate the rates for wholesale users. The retail rate model utilizes the cash-basis approach for determining capital costs and therefore does not readily provide a mechanism for differentiating between retail and wholesale users in terms of cost allocation. The wholesale model utilizes the utility-method to better differentiate between retail and wholesale users. This model, discussed in detail in the Wastewater Wholesale Rate Study, applies a 15 percent rate of return on the asset base, which includes 12.5 percent working capital, to calculate capital costs for wholesale users. The rate of return plus depreciation forms the basis for the capital component of the revenue requirements for wholesale users.

Based on the results of this study, the recommended fixed monthly meter rates for retail users for the study period are shown in Tables ES.1 and ES.2 for Inside City Users and Outside City Users, respectively. Due to the City’s practice of rounding the wastewater fixed charge to the nearest \$0.05, the calculated cost of service-based rate changes vary slightly for some of the meters in FY22 and FY23. Overall, the projected fixed monthly rates increase roughly one (1) percent annually over the two-year period.

The recommended retail volumetric rates are shown in Table ES.3. Based on projected expenditures and wastewater flows, the cost of service model indicated the need for rate increases in both FY22 and FY23; however, these rate increases do not bring the utility into a revenue neutral state. Over the last few years, the rate strategy has been to gradually step into rate increases needed to operate the wastewater treatment facility while keeping rate adjustments at a moderate level.

Meter Size	Inside City Current FY21 Rate (\$/Month)	Recommended Inside City FY22 Rate (\$/Month)	% Increase	Recommended Inside City FY23 Rate (\$/Month)	% Increase
3/4"	\$6.85	\$6.95	1.5%	\$7.05	1.4%
1"	\$8.75	\$8.80	0.6%	\$9.00	2.3%
1-1/2"	\$10.70	\$10.80	0.9%	\$11.05	2.3%
2"	\$11.20	\$11.35	1.3%	\$11.55	1.8%
3"	\$18.10	\$18.25	0.8%	\$18.65	2.2%
4"	\$68.60	\$69.25	0.9%	\$70.65	2.0%
6"	\$87.30	\$88.15	1.0%	\$89.95	2.0%
8"	\$130.90	\$132.20	1.0%	\$134.90	2.0%
10"	\$180.80	\$182.60	1.0%	\$186.30	2.0%

Table ES.1: FY22 and FY23 Recommended Monthly Minimum Wastewater Charges – Inside City Retail Users

Meter Size	Outside City Current FY21 Rate (\$/Month)	Recommended Outside City FY22 Rate (\$/Month)	% Increase	Recommended Outside City FY23 Rate (\$/Month)	% Increase
3/4"	\$7.55	\$7.65	1.3%	\$7.75	1.3%
1"	\$9.60	\$9.65	0.5%	\$9.90	2.6%
1-1/2"	\$11.75	\$11.85	0.9%	\$12.15	2.5%
2"	\$12.30	\$12.45	1.2%	\$12.70	2.0%
3"	\$19.90	\$20.00	0.5%	\$20.50	2.5%
4"	\$75.45	\$76.20	1.0%	\$77.70	2.0%
6"	\$96.05	\$96.95	0.9%	\$98.95	2.1%
8"	\$144.00	\$145.40	1.0%	\$148.40	2.1%
10"	\$198.90	\$200.85	1.0%	\$204.95	2.0%

Table ES.2: FY22 and FY23 Recommended Monthly Minimum Wastewater Charges – Outside City Retail Users

User Class	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase	Recommended FY23 Rate (\$/kgal)	% Increase
Residential	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Large Residential	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Commercial	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Public Buildings	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Outside Retail Users	\$4.81	\$4.95	2.8%	\$5.08	2.7%

Table ES.3: FY22 and FY23 Recommended Wastewater Volumetric Rates

Lastly, strength surcharge rates are shown in Table ES.4.

	Current FY21 Rate (\$/Pound)	Calculated FY22 Rate (\$/Pound)	% Increase	Calculated FY23 Rate (\$/Pound)	% Increase
BOD	\$0.9019	\$0.9019	0.0%	\$0.9019	0.0%
TSS	\$0.5811	\$0.5811	0.0%	\$0.5811	0.0%
TKN	\$1.7217	\$1.7217	NA	\$1.7217	0.0%
	Current FY21 Rate (\$/kgal)	Calculated FY22 Rate (\$/kgal)	% Increase	Calculated FY23 Rate (\$/kgal)	% Increase
Septage	\$54.00	\$61.12	13.2%	\$61.12	0.0%

Table ES.4: Recommended FY22 and FY23 Strength Surcharge Rates

1.0 Introduction

The City of Billings (City) retained AE2S Nexus to update its wastewater rate model and recommend retail wastewater rates for the 2022 Fiscal Year (FY22), which begins July 1, 2021 and ends June 30, 2022, as well as for FY23, which begins July 1, 2022 and ends June 30, 2023. The rate model utilized by the City of Billings was last updated by AE2S Nexus in early 2019 for the purpose of developing rates for FY20 and FY21. The FY22/FY23 rate review involved a comprehensive review of assumptions and methodology upon which the analysis is based. The results of that review are described herein.

The City's cost of service wastewater rate model utilizes a cash-based approach in calculating retail rates. This approach is designed to meet all legal requirements for rate setting under Montana law (specifically, clearly tying the benefit of service received to the cost paid). Revenue requirements are functionalized to the categories of flow, biochemical oxygen demand (BOD), total suspended solids (TSS), total Kjeldahl nitrogen (TKN), and customer costs. The flow, BOD, TSS, and TKN costs are allocated to the user classes based on user-specific characteristics and respective usage of the system and form the basis for the volumetric and strength components of the user charges. Customer costs are then allocated to the user classes and form the basis for the monthly minimum component of the rate.

At the City's request, AE2S Nexus has updated the customer billing data, operating and maintenance (O&M) budget, and capital revenue requirements. To complete a comprehensive update, assumptions upon which the model calculations are based were also reviewed and verified or updated to reflect current system conditions. This report summarizes the following topics:

- Wastewater system usage parameters assumed for FY22 and FY23 (Section 2.0);
- Projected FY22 and FY23 revenue requirements and associated assumptions (Section 3.0);
- Allocation of FY22 and FY23 operating and capital-related revenue requirements (Section 4.0); and
- Calculated FY22 and FY23 costs of service by user class and recommended FY22/FY23 wastewater rates for the Retail customer classes (Section 5.0).

2.0 Customers and Usage

The City of Billings provides wastewater service to approximately 34,852 users within City limits, 20 users outside of the City, and to the wholesale customers, Lockwood, ExxonMobil, and Phillips 66. Projected FY22 and FY23 accounts and meters are based on actual meter and account data from FY20, adjusted by one half of one percent annually. As shown in Table 2.1, a growth factor of one half of one percent per year is used to project flows for FY22 and FY23 based on actual billed flow data from FY20.

Customer Class	Description	Flow Growth Factor
Residential	single family, two- and three- multi-family unit complexes	0.50%
Commercial – Domestic Strength		0.50%
Residential - Large	includes multi-family complexes with greater than three units	0.50%
Public Buildings	Includes governments and schools	0.50%
Outside City – Domestic Strength		0.50%

Table 2.1 : Flow Growth Factors

Rates for the wholesale users (Lockwood Water and Sewer District, ExxonMobil and Phillips 66) are calculated in separate rate models that apply the utility basis cost of service methodology rather than the cash-based methodology employed for retail rate analysis. For the purpose of calculating rates for the retail customers, revenue associated with the wholesale users was treated as non-rate revenue, reducing the net revenue requirements. Estimated FY22 and FY23 retail customer accounts by meter size and equivalent meters are shown in Tables 2.2 and 2.3, respectively. The equivalent meter counts are shown on a 3/4-inch meter basis. Table 2.4 summarizes the projected FY22 and FY23 billable retail flow for each user class, measured in units of million gallons (MG).

Meter Size	Residential	Commercial - Domestic	Residential- Large	Public Buildings- Domestic	Outside City	Total
3/4"	31,321	1,328	415	14	11	33,089
1"	384	366	298	5	5	1,057
1-1/2"	28	266	140	15	-	449
2"	-	135	65	21	1	222
3"	6	72	36	24	1	139
4"	1	16	18	5	1	41
6"	-	11	23	4	-	38
8"	-	2	4	2	1	9
10"	-	-	-	-	-	-
12"	-	-	1	-	-	1
Total	31,740	2,196	1,001	91	20	35,048
Equivalent Meters	31,880	2,961	1,770	283	51	36,945

Table 2.2: Projected FY22 Wastewater Customer Accounts and Equivalent Meters

Meter Size	Residential	Commercial - Domestic	Residential- Large	Public Buildings- Domestic	Outside City	Total
3/4"	31,477	1,335	417	14	11	33,254
1"	386	367	299	5	5	1,062
1-1/2"	28	267	141	15	-	451
2"	-	136	65	21	1	223
3"	6	72	37	24	1	140
4"	1	16	18	5	1	41
6"	-	11	23	4	-	38
8"	-	2	4	2	1	9
10"	-	-	-	-	-	-
12"	-	-	-	-	-	-
Total	31,898	2,206	1,004	90	20	35,218
Equivalent Meters	32,038	2,970	1,771	281	51	37,110

Table 2.3: Projected FY23 Wastewater Customer Accounts and Equivalent Meters

Customer Class	FY2022 Flow (MG)	FY2023 Flow (MG)
Residential	1,527.60	1,535.24
Large Residential	580.64	583.55
Commercial - Domestic	910.16	914.71
Public Buildings - Domestic	79.01	79.41
Outside City	40.06	40.26
Total	3,137.48	3,153.17

Table 2.4: Projected FY22 and FY23 Retail Customer Flows

Tables 2.5 and 2.6 present projected retail customer strength concentrations and loadings for FY22 and FY23, respectively. Consistent with previous analyses, BOD and TSS strengths of 200 milligrams per liter (mg/L) (the current domestic limit) were assumed for all user classes, and beginning in FY22, a TKN strength of 45 milligrams per liter (mg/L) was assumed.

Customer Class	BOD (mg/L)	TSS (mg/L)	TKN (mg/L)	BOD (pounds)	TSS (pounds)	TKN (pounds)
Residential	200	200	45	2,549,775	2,549,775	573,699
Large Residential	200	200	45	969,172	969,172	218,064
Commercial - Domestic	200	200	45	1,519,187	1,519,187	341,817
Public Buildings - Domestic	200	200	45	131,885	131,885	29,674
Outside City	200	200	45	66,862	66,862	15,044
Total				5,236,880	5,236,880	1,178,298

Table 2.5: Estimated FY22 Retail Concentrations and Loadings

Customer Class	BOD (mg/L)	TSS (mg/L)	TKN (mg/L)	BOD (pounds)	TSS (pounds)	TKN (pounds)
Residential	200	200	45	2,562,524	2,562,524	576,568
Large Residential	200	200	45	974,018	974,018	219,154
Commercial - Domestic	200	200	45	1,526,783	1,526,783	343,526
Public Buildings - Domestic	200	200	45	132,545	132,545	29,823
Outside City	200	200	45	67,196	67,196	15,119
Total				5,263,065	5,263,065	1,184,190

Table 2.6: Estimated FY23 Retail Concentrations and Loadings

3.0 Revenue Requirements

Revenue requirements consist of expenses incurred for O&M of the Wastewater Utility, as well capital-related expenses such as debt service principal, capital outlays, and contributions to reserves. These revenue requirements form the basis of costs recouped through calculated rates.

3.1 Operation and Maintenance Costs

For the purpose of developing wastewater rates for FY22 and FY23, the O&M component of revenue requirements was based on the preliminary FY22 Wastewater Operating budget. To maintain consistency with previous reports for historic tracking, the analysis grouped divisions according to the following naming system: Administration, Fiscal Services – Service Center, Wastewater Treatment Plant, Distribution and Collection, and Environmental Affairs.

The utility also generates non-rate operating revenue, which is applied to offset operating costs. For the purpose of calculating the retail rates, revenues from existing wholesale users Lockwood, ExxonMobil, and Phillips 66 are accounted for as non-rate O&M revenue. Table 3.1 summarizes total projected O&M revenue requirements for FY22 and FY23, total projected O&M non-rate revenue, and net O&M revenue requirements.

Line Item	FY2022 Total	FY2023 Total
Administrative	\$ 1,862,847	\$ 1,928,047
Utility Commercial & Meter	\$ 72,160	\$ 74,686
Wastewater Treatment	\$ 6,144,162	\$ 6,359,208
Distribution & Collection	\$ 1,602,262	\$ 1,658,341
Environmental Affairs	\$ 476,160	\$ 492,826
O&M – Total	\$ 10,157,591	\$ 10,513,107
Less: Non-Rate O&M Revenue		
Sewer Permits	\$ 50,500	\$ 51,005
Sale of Material/ Labor	\$ 10,000	\$ 10,000
Collection of Bad Debt	\$ 4,000	\$ 4,000
Wastewater Supply	\$ 45,000	\$ 45,000
Phillips 66	\$ 585,000	\$ 617,000
Lockwood	\$ 356,000	\$ 380,000
Exxon	\$ 633,000	\$ 670,000
Misc & Surcharge Revenue	\$ 90,000	\$ 90,000
Charge for Services	\$ -	\$ -
Total Non-Rate O&M Revenue	\$ 1,773,500	\$ 1,867,005
Net O&M Revenue Requirements	\$ 8,384,091	\$ 8,646,102

Table 3.1: Summary of FY22 and FY23 Wastewater O&M Revenue Requirements

3.2 Capital Costs

The City provided information related to existing and anticipated debt service requirements, the five-year Capital Improvement Plan (CIP), non-CIP capital outlays, and anticipated capital-related non-rate revenue for FY22 and FY23. Capital projects planned for FY21 total approximately \$16.9 million (M). The CIP includes \$16.5M in capital projects for FY22 and \$13.1M in FY23. The City plans to use cash reserves totaling \$15.8, in addition to anticipated System Development Fee revenue of \$2.06M, to complete capital projects in FY22 and FY23. Table 3.2 summarizes net capital revenue requirements for FY22 and FY23.

Line Item	FY2022 Total	FY2023 Total
Debt Service	\$ 5,374,653	\$ 5,329,086
Cash Funded CIP	\$ 15,499,103	\$ 10,609,600
Transfers To (from) O&M Reserve	\$ 185,610	\$ 96,554
Increase (Decrease) Operating Fund Balance	\$ (10,479,345)	\$ (5,308,774)
Capital – Total	\$ 10,580,021	\$ 10,726,467
Less: Non-Rate Capital Revenue		
Late Payment Interest	\$ 35,000	\$ 35,000
Interest Earnings	\$ 245,000	\$ 281,400
Total Non-Rate O&M Revenue	\$ 280,000	\$ 316,400
Net Capital Revenue Requirements	\$ 10,300,021	\$ 10,410,067

Table 3.2: Summary of Net Capital-Related Revenue Requirements

3.3 Total Revenue Requirements

Table 3.3 summarizes the total net revenue requirements for FY22 and FY23, which total approximately \$18.68M and \$19.05M, respectively.

Revenue Requirement	Projected FY20	Projected FY21
Net O&M	\$ 8,384,091	\$ 8,646,102
Net Capital	\$ 10,300,021	\$ 10,410,067
Total	\$ 18,684,112	\$ 19,056,168

Table 3.3: Summary of Total Projected FY22 and FY23 Wastewater Net Revenue Requirements

4.0 Cost of Service Analysis

4.1 Methodology

Following the establishment of net O&M and capital revenue requirements, costs must be allocated to each user class. To arrive at the final cost allocation to each user class, the revenue requirements were classified based on the manner in which the cost is related to user characteristics such as equivalent meters, flow, BOD, TSS, and TKN. The methodology employed for this analysis utilized the following classifications:

- Flow;
- BOD;
- TSS;
- TKN; and
- Customer.

Once classified, the costs were allocated to the user classes based on the service characteristics associated with each user class for each classification. The revenue requirements comprising the Customer classified costs result in the calculation of the fixed monthly meter charges, and those allocated to the Flow, BOD, TSS, and TKN components comprise the charges that derive the volumetric rates. The following subsections illustrate the classification and allocation of O&M and Capital-related revenue requirements.

4.2 Classification of O&M Revenue Requirements

Previously, Section 3.1 and Table 3.1 summarized the O&M net revenue requirements. Table 4.1 summarizes the O&M revenue classification percentages used for both FY22 and FY23. Tables 4.2 and 4.3, respectively, summarize the classified O&M net revenue requirements for FY22 and FY23.

Item	Flow	BOD	TSS	TKN	Customer	Total
Revenue Requirements						
Administrative	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Commercial & Meter	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Wastewater Treatment	22.8%	37.6%	21.8%	17.9%	0.0%	100.0%
Distribution and Collection	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Environmental Affairs	0.0%	33.3%	33.3%	33.3%	0.0%	100.0%
Non-Rate Revenues						
Sewer Permits	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Sale of Material/Labor	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Misc Revenue	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Collection Bad Debt	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Wastewater Supply	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Franchise Fee	29.9%	33.4%	19.4%	16.0%	1.2%	100.0%
Phillips 66	22.5%	37.1%	21.5%	17.6%	1.2%	100.0%
Lockwood	22.5%	37.1%	21.5%	17.6%	1.2%	100.0%
P66 Surcharge	22.5%	37.1%	21.5%	17.6%	1.2%	100.0%
Charge for Service	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Transfer to O&M for Pipebursting Projects	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Table 4.1: FY22-FY23 Wastewater Classification Percentages for O&M and Non-Rate Revenue

Line Item	FY2022 Total	Flow	BOD	TSS	TKN	Customer
Administrative	\$ 1,862,847	\$ -	\$ -	\$ -	\$ -	\$ 1,862,847
Utility Commercial & Meter	\$ 72,160	\$ -	\$ -	\$ -	\$ -	\$ 72,160
Wastewater Treatment	\$ 6,144,162	\$ 1,400,869	\$ 2,308,730	\$ 1,337,461	\$ 1,097,102	\$ -
Distribution & Collection	\$ 1,602,262	\$ 1,602,262	\$ -	\$ -	\$ -	\$ -
Environmental Affairs	\$ 476,160	\$ -	\$ 158,720	\$ 158,720	\$ 158,720	\$ -
O&M – Total	\$ 10,157,591	\$ 3,003,131	\$ 2,467,450	\$ 1,496,181	\$ 1,255,822	\$ 1,935,007
Less: Non-Rate O&M Revenue						
Sewer Permits	\$ 50,500	\$ 15,123	\$ 16,875	\$ 9,822	\$ 8,076	\$ 605
Sale of Material/ Labor	\$ 10,000	\$ 2,995	\$ 3,342	\$ 1,945	\$ 1,599	\$ 120
Collection of Bad Debt	\$ 4,000	\$ 1,198	\$ 1,337	\$ 778	\$ 640	\$ 48
Wastewater Supply	\$ 45,000	\$ 13,476	\$ 15,037	\$ 8,752	\$ 7,196	\$ 539
Phillips 66	\$ 585,000	\$ 131,832	\$ 217,268	\$ 125,865	\$ 103,245	\$ 6,791
Lockwood	\$ 356,000	\$ 80,226	\$ 132,218	\$ 76,595	\$ 62,829	\$ 4,133
Exxon	\$ 633,000	\$ 142,649	\$ 235,095	\$ 136,192	\$ 111,716	\$ 7,348
Misc & Surcharge Revenue	\$ 90,000	\$ 90,000	\$ -	\$ -	\$ -	\$ -
Charge for Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Non-Rate O&M Revenue	\$ 1,773,500	\$ 477,497	\$ 621,171	\$ 359,947	\$ 295,302	\$ 19,582
Net O&M Revenue Requirements	\$ 8,384,091	\$ 2,525,634	\$ 1,846,279	\$ 1,136,234	\$ 960,519	\$ 1,915,425

Table 4.2: Classified FY22 O&M Net Revenue Requirements

Line Item	FY2023 Total	Flow	BOD	TSS	TKN	Customer
Administrative	\$ 1,928,047	\$ -	\$ -	\$ -	\$ -	\$ 1,862,847
Utility Commercial & Meter	\$ 74,686	\$ -	\$ -	\$ -	\$ -	\$ 72,160
Wastewater Treatment	\$ 6,359,208	\$ 1,400,869	\$ 2,308,730	\$ 1,337,461	\$ 1,097,102	\$ -
Distribution & Collection	\$ 1,658,341	\$ 1,602,262	\$ -	\$ -	\$ -	\$ -
Environmental Affairs	\$ 492,826	\$ -	\$ 158,720	\$ 158,720	\$ 158,720	\$ -
O&M – Total	\$ 10,513,107	\$ 3,003,131	\$ 2,467,450	\$ 1,496,181	\$ 1,255,822	\$ 1,935,007
Less: Non-Rate O&M Revenue						
Sewer Permits	\$ 51,005	\$ 15,123	\$ 16,875	\$ 9,822	\$ 8,076	\$ 605
Sale of Material/ Labor	\$ 10,000	\$ 2,995	\$ 3,342	\$ 1,945	\$ 1,599	\$ 120
Collection of Bad Debt	\$ 4,000	\$ 1,198	\$ 1,337	\$ 778	\$ 640	\$ 48
Wastewater Supply	\$ 45,000	\$ 13,476	\$ 15,037	\$ 8,752	\$ 7,196	\$ 539
Phillips 66	\$ 617,000	\$ 131,832	\$ 217,268	\$ 125,865	\$ 103,245	\$ 6,791
Lockwood	\$ 380,000	\$ 80,226	\$ 132,218	\$ 76,595	\$ 62,829	\$ 4,133
Exxon	\$ 670,000	\$ 142,649	\$ 235,095	\$ 136,192	\$ 111,716	\$ 7,348
Misc & Surcharge Revenue	\$ 90,000	\$ 90,000	\$ -	\$ -	\$ -	\$ -
Charge for Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Non-Rate O&M Revenue	\$ 1,867,005	\$ 477,497	\$ 621,171	\$ 359,947	\$ 295,302	\$ 19,582
Net O&M Revenue Requirements	\$ 8,646,102	\$ 2,525,634	\$ 1,846,279	\$ 1,136,234	\$ 960,519	\$ 1,915,425

Table 4.3: Classified FY23 O&M Net Revenue Requirements

4.3 Classification of Capital Cost Revenue Requirements

The capital-related revenue requirements are shown in Table 3.2. In general, capital-related revenue requirements were classified in accordance with the composite makeup of the fixed asset base according to asset type.

Fixed assets and classification of such are summarized in detail in Appendix A. Table 4.4 summarizes FY22 and FY23 net fixed assets for the wastewater system by asset type. Tables 4.5 and 4.6 summarize fixed assets by classification, as well as capital-related revenue requirements associated with capital outlays and debt for FY22 and FY23, respectively.

Fixed Asset Type	Original Cost	Annual Depreciation	Estimated Accumulated Depreciation Through 2020	FY2021 CWIP Net Fixed Assets	Net Fixed Assets 2022	Net Fixed Assets 2023
Wastewater Treatment	\$ 13,312,941	\$ 282,172	\$ 4,547,560	\$ 692,737	\$ 9,175,946	\$ 9,973,778
Pumping & Lift Stations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection & Distribution	\$ 6,383,835	\$ 124,126	\$ 4,406,313	\$ 3,501,421	\$ 5,354,817	\$ 8,315,299
General Plant	\$ 1,811,678	\$ 64,187	\$ 1,411,980	\$ 300,000	\$ 635,511	\$ 1,621,200
Total	\$ 21,508,454	\$ 470,486	\$ 10,365,852	\$ 4,494,158	\$ 15,166,274	\$ 19,910,277

Table 4.4: Summary of FY22 and FY23 Net Fixed Assets by Asset Type

Fixed Asset Type	Flow	BOD	TSS	TKN	Customer	Total
Wastewater Treatment	\$ 3,898,544	\$ 2,924,467	\$ 1,715,787	\$ 628,701	\$ 8,446	\$ 9,175,946
Pumping & Lift Stations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection & Distribution	\$ 5,354,817	\$ -	\$ -	\$ -	\$ -	\$ 5,354,817
General Plant	\$ 421,057	\$ 92,390	\$ 74,278	\$ 47,152	\$ 633	\$ 635,511
Total - Fixed Assets	\$ 9,674,419	\$ 3,016,857	\$ 1,790,065	\$ 675,853	\$ 9,080	\$ 15,166,274
Percent Allocation - Net Plant In Service	63.8%	19.9%	11.8%	4.5%	0.1%	100.0%
Capital Outlay-Related Revenue Requirements	\$ 4,093,610	\$ 1,276,546	\$ 757,444	\$ 285,979	\$ 3,842	\$ 6,417,421
Treatment-Related Assets	\$ 56,185,952	\$ 5,575,224	\$ 7,706,289	\$ 3,465,961	\$ 9,610	\$ 72,943,036
Percent Allocation - Treatment Plant	77.0%	7.6%	10.6%	4.8%	0.0%	100.0%
Treatment Plant Debt-Related Revenue Requirements	\$ 2,990,657	\$ 296,757	\$ 410,189	\$ 184,486	\$ 512	\$ 3,882,600
Total Capital-Related Revenue Requirements (Capital Outlay + Treatment Debt)	\$ 7,084,267	\$ 1,573,303	\$ 1,167,633	\$ 470,464	\$ 4,354	\$ 10,300,021

Table 4.5: Classification of FY22 Net Fixed Assets

Fixed Asset Type	Flow	BOD	TSS	TKN	Customer	Total
Wastewater Treatment	\$ 4,088,364	\$ 3,312,598	\$ 1,904,645	\$ 659,313	\$ 8,858	\$ 9,973,778
Pumping & Lift Stations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection & Distribution	\$ 8,315,299	\$ -	\$ -	\$ -	\$ -	\$ 8,315,299
General Plant	\$ 976,451	\$ 277,767	\$ 223,316	\$ 141,761	\$ 1,904	\$ 1,621,200
Total - Fixed Assets	\$ 13,380,115	\$ 3,590,366	\$ 2,127,961	\$ 801,074	\$ 10,762	\$ 19,910,277
Percent Allocation - Net Plant In Service	67.2%	18.0%	10.7%	4.0%	0.1%	100.0%
Capital Outlay-Related Revenue Requirements	\$ 4,384,038	\$ 1,176,395	\$ 697,233	\$ 262,474	\$ 3,526	\$ 6,523,667
Treatment-Related Assets	\$ 73,530,161	\$ 7,533,373	\$ 10,783,771	\$ 4,976,382	\$ 11,262	\$ 96,834,948
Percent Allocation - Treatment Plant	75.9%	7.8%	11.1%	5.1%	0.0%	100.0%
Treatment Plant Debt-Related Revenue Requirements	\$ 2,951,423	\$ 302,382	\$ 432,849	\$ 199,747	\$ 452	\$ 3,886,400
Total Capital-Related Revenue Requirements (Capital Outlay + Treatment Debt)	\$ 7,335,460	\$ 1,478,776	\$ 1,130,082	\$ 462,221	\$ 3,978	\$ 10,410,519

Table 4.6: Classification of FY23 Net Fixed Assets

4.4 Summary of Total Classified Net Revenue Requirements

Table 4.7 summarizes the net O&M and Capital-related revenue requirements by classification. Flow, BOD, TSS, and TKN costs were all tied to actual billed discharged flow from those individual user classes as opposed to customer costs, which were considered to be related to total and sizes of meters in service. As a result, the majority of costs are flow-related.

Wastewater rate-setting analyses in previous years established a method for gradually bringing fixed charges in line with the cost of service by allocating a percentage of fixed cost to a fixed demand component. To remain consistent with this approach, a portion of the flow costs were reallocated to the fixed demand component in FY22. Table 4.8 shows the FY22 net revenue requirements reflecting this adjustment. Similarly, a portion of flow costs were reallocated to the fixed demand component in the FY23 rate calculation. Net O&M and Capital-related revenue requirements for FY23 are shown in Table 4.9, with adjusted net revenue requirements in Table 4.10.

The final step in calculating the cost of service is to allocate the classified costs to the user classes. Table 4.11 summarizes the allocation factors, derived based on customer usage characteristics, for each classified component of the revenue requirements. The allocation of revenue requirements to each user class is summarized in Section 5.0.

Line Item	Flow	BOD	TSS	TKN	Volume - Total	Customer	Total
Revenue Requirements							
O&M	\$ 2,072,466	\$ 2,063,547	\$ 1,262,099	\$ 1,063,764	\$ 6,461,876	\$ 1,922,215	\$ 8,384,091
Capital	\$ 7,213,218	\$ 1,815,772	\$ 1,266,580	\$ 98	\$ 10,295,667	\$ 4,354	\$ 10,300,021
Total	\$ 9,285,684	\$ 3,879,319	\$ 2,528,678	\$ 1,063,862	\$ 16,757,543	\$ 1,926,569	\$ 18,684,112

Table 4.7: Summary of FY22 Classified Net Revenue Requirements

Line Item	Flow	BOD	TSS	TKN	Volume - Total	Customer	Total
Revenue Requirements							
O&M	\$1,823,770	\$2,063,547	\$1,262,099	\$1,063,764	\$6,213,180	\$2,170,911	\$8,384,091
Capital	\$6,347,632	\$1,815,772	\$1,266,580	\$98	\$9,430,081	\$869,940	\$10,300,021
Total	\$8,171,402	\$3,879,319	\$2,528,678	\$1,063,862	\$15,643,261	\$3,040,851	\$18,684,112

Table 4.8: Summary of Adjusted FY22 Classified Net Revenue Requirements

Line Item	Flow	BOD	TSS	TKN	Volume - Total	Customer	Total
Revenue Requirements							
O&M	\$2,609,635	\$1,897,931	\$1,168,493	\$987,979	\$6,664,037	\$1,982,064	\$8,646,102
Capital	\$7,453,296	\$1,700,346	\$1,252,808	\$89	\$10,406,540	\$3,978	\$10,410,519
Total	\$10,062,931	\$3,598,277	\$2,421,301	\$988,068	\$17,070,578	\$1,986,042	\$19,056,620

Table 4.9: Summary of FY23 Classified Net Revenue Requirements

Line Item	Flow	BOD	TSS	TKN	Volume - Total	Customer	Total
Revenue Requirements							
O&M	\$2,309,527	\$1,897,931	\$1,168,493	\$987,979	\$6,363,929	\$2,282,172	\$8,646,102
Capital	\$6,596,167	\$1,700,346	\$1,252,808	\$89	\$9,549,411	\$861,107	\$10,410,519
Total	\$8,905,694	\$3,598,277	\$2,421,301	\$988,068	\$15,913,341	\$3,143,280	\$19,056,620

Table 4.10: Summary of Adjusted FY23 Classified Net Revenue Requirements

Customer Class	Flow	BOD	TSS	TKN	Customer (Equivalent Meters)
Residential	49%	49%	48.7%	48.7%	86%
Large Residential	19%	19%	18.5%	18.5%	5%
Commercial	29%	29%	29.0%	29.0%	8%
Public Buildings	3%	3%	2.5%	2.5%	1%
Outside City	1%	1%	1.3%	1.3%	0%
Total	100%	100%	100%	100%	100%

Table 4.11: Summary of Retail Customer Service Characteristics

5.0 Results and Proposed Rates

5.1 Cost of Service Results

The total revenue requirements to be recovered through rates for FY22 and FY23 were projected to total \$18,684,112 and \$19,056,620, respectively. Tables 5.1 and 5.2 summarize the allocated revenue requirements by user class for these respective years.

User Class	Total Meter	Total Volume	Total
Residential	\$ 1,659,729	\$ 8,160,574	\$ 9,820,303
Large Residential	\$ 92,147	\$ 3,101,843	\$ 3,193,990
Commercial	\$ 154,140	\$ 4,862,169	\$ 5,016,309
Public Buildings	\$ 14,751	\$ 422,101	\$ 436,852
Outside City	\$ 2,667	\$ 213,991	\$ 216,658
Total	\$ 1,923,435	\$ 16,760,677	\$ 18,684,112

Table 5.1: Summary of FY22 Wastewater Cost of Service Results

User Class	Total Meter	Total Volume	Total
Residential	\$ 1,722,287	\$ 8,307,128	\$ 10,029,414
Large Residential	\$ 95,198	\$ 3,157,548	\$ 3,252,745
Commercial	\$ 159,651	\$ 4,949,487	\$ 5,109,138
Public Buildings	\$ 15,081	\$ 429,681	\$ 444,762
Outside City	\$ 2,727	\$ 217,834	\$ 220,561
Total	\$ 1,994,943	\$ 17,061,677	\$ 19,056,620

Table 5.2: Summary of FY23 Wastewater Cost of Service Results

5.2 Recommended FY22 and FY23 Wastewater Rates

Based on the results of this study, the recommended rates for inside and outside City Users are shown in Tables 5.3 and 5.4, respectively. Due to the City’s practice of rounding the wastewater fixed charge to the nearest \$0.05, the cost of service-based rate increases vary slightly for some of the meters in FY22 and FY23.

Based on projected expenditures and wastewater flows, the cost of service model indicated a rate increase is necessary in FY22 and FY23; however, these rate increases do not bring the utility into a revenue neutral state. Over the last few years, the rate strategy has been to smooth into rate increases needed to operate the expansion of the wastewater treatment facility while keeping rates adjustments at a moderate level. Rate increases in FY22 and FY23 are part of the strategy to replenish those cash reserves in a fair and equitable manner for all customers. Table 5.5 outlines recommended volumetric rates based on this approach. Calculated cost of service-based rates for the outside users Lockwood, ExxonMobil, and Phillips 66 were evaluated as part of this study but are reported under separate cover.

Meter Size	Inside City Current FY21 Rate (\$/Month)	Recommended Inside City FY22 Rate (\$/Month)	% Increase	Recommended Inside City FY23 Rate (\$/Month)	% Increase
3/4"	\$6.85	\$6.95	1.5%	\$7.05	1.4%
1"	\$8.75	\$8.80	0.6%	\$9.00	2.3%
1-1/2"	\$10.70	\$10.80	0.9%	\$11.05	2.3%
2"	\$11.20	\$11.35	1.3%	\$11.55	1.8%
3"	\$18.10	\$18.25	0.8%	\$18.65	2.2%
4"	\$68.60	\$69.25	0.9%	\$70.65	2.0%
6"	\$87.30	\$88.15	1.0%	\$89.95	2.0%
8"	\$130.90	\$132.20	1.0%	\$134.90	2.0%
10"	\$180.80	\$182.60	1.0%	\$186.30	2.0%

Table 5.3: FY22 and FY23 Recommended Monthly Minimum Wastewater Charges – Inside City Retail Users

Meter Size	Outside City Current FY21 Rate (\$/Month)	Recommended Outside City FY22 Rate (\$/Month)	% Increase	Recommended Outside City FY23 Rate (\$/Month)	% Increase
3/4"	\$7.55	\$7.65	1.3%	\$7.75	1.3%
1"	\$9.60	\$9.65	0.5%	\$9.80	1.6%
1-1/2"	\$11.75	\$11.90	1.3%	\$12.10	1.7%
2"	\$12.30	\$12.45	1.2%	\$12.65	1.6%
3"	\$19.90	\$20.05	0.8%	\$20.40	1.7%
4"	\$75.45	\$76.30	1.1%	\$77.35	1.4%
6"	\$96.05	\$97.10	1.1%	\$98.40	1.3%
8"	\$144.00	\$145.60	1.1%	\$147.60	1.4%
10"	\$198.90	\$201.10	1.1%	\$203.85	1.4%

Table 5.4: FY22 and FY23 Recommended Monthly Minimum Wastewater Charges – Outside City Retail Users

User Class	Current FY21 Rate (\$/kgal)	Recommended FY22 Rate (\$/kgal)	% Increase	Recommended FY23 Rate (\$/kgal)	% Increase
Residential	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Large Residential	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Commercial	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Public Buildings	\$4.81	\$4.95	2.8%	\$5.08	2.7%
Outside Retail Users	\$4.81	\$4.95	2.8%	\$5.08	2.7%

Table 5.5: FY22 and FY23 Recommended Wastewater Volumetric Rates

5.3 Strength Surcharge Recommendations

As shown in Tables 2.4 and 2.5, a TKN strength of 45 mg/L was assumed as the concentration for all user classes.

Table 5.6 presents the recommended BOD, TSS, and TKN surcharge rates for FY22 and FY23. Based on the asset base and review of retail functionalization, no changes are recommended to strength charges. Increases are recommended to septage to bring it in line with cost of service.

	Current FY21 Rate (\$/Pound)	Calculated FY22 Rate (\$/Pound)	% Increase	Calculated FY23 Rate (\$/Pound)	% Increase
BOD	\$0.9019	\$0.9019	0.0%	\$0.9019	0.0%
TSS	\$0.5811	\$0.5811	0.0%	\$0.5811	0.0%
TKN	\$1.7217	\$1.7217	0.0%	\$1.7217	0.0%
	Current FY21 Rate (\$/kgal)	Calculated FY22 Rate (\$/kgal)	% Increase	Calculated FY23 Rate (\$/kgal)	% Increase
Septage	\$54.00	\$61.12	13.2%	\$61.12	0.0%

Table 5.6: Recommended FY22 and FY23 Strength Surcharge Rates

5.4 FY22 Bill Comparison

Finally, for the purpose of illustrating the effect of the recommended FY22 rates on varying levels of usage, Table 5.7 provides a bill comparison.

Description	Meter Size	Consumption (kgal)	Current (FY21)	Proposed (FY22)	Difference	Percent Change
Residential	3/4"	0	\$6.85	\$6.95	\$0.10	1.5%
		2	\$16.47	\$16.85	\$0.38	2.3%
		6	\$35.71	\$36.65	\$0.94	2.6%
		15	\$79.00	\$81.20	\$2.20	2.8%
Commercial/ Other	3/4"	0	\$6.85	\$6.95	\$0.10	1.5%
		6	\$35.71	\$36.65	\$0.94	2.6%
		20	\$103.05	\$105.95	\$2.90	2.8%
		75	\$367.60	\$378.20	\$10.60	2.9%
	1"	0	\$8.75	\$8.80	\$0.05	0.6%
		15	\$80.90	\$83.05	\$2.15	2.7%
		75	\$369.50	\$380.05	\$10.55	2.9%
	2"	200	\$970.75	\$998.80	\$28.05	2.9%
		0	\$11.20	\$11.35	\$0.15	1.3%
		50	\$251.70	\$258.85	\$7.15	2.8%
		200	\$973.20	\$1,001.35	\$28.15	2.9%
	3"	500	\$2,416.20	\$2,486.35	\$70.15	2.9%
		0	\$18.10	\$18.25	\$0.15	0.8%
		100	\$499.10	\$513.25	\$14.15	2.8%
		300	\$1,461.10	\$1,503.25	\$42.15	2.9%
	Outside City	3/4"	800	\$3,866.10	\$3,978.25	\$112.15
0			\$7.55	\$7.65	\$0.10	1.3%
2			\$17.17	\$17.55	\$0.38	2.2%
6			\$36.41	\$37.35	\$0.94	2.6%
		15	\$79.70	\$81.90	\$2.20	2.8%

Table 5.7: Wastewater Bill Comparison – FY21 to FY22

Appendix A: Fixed Asset Tables

Asset and Asset Group	Original Cost	Annual Depreciation	FY2021 CWIP	FY2022 Net Fixed Assets	Estimated FY2023 Net Fixed Assets
Administration Building-Building	\$523,369	\$0	\$0	\$0	\$0
Administration Building-Equipment	\$695,300	\$5,754	\$947,715	\$967,548	\$1,821,052
Administration Building-Infrastructure	\$225,075	\$12,869	\$0	\$23,460	\$10,600
Administration Building-Non Building	\$62,047	\$0	\$0	\$0	\$0
Air Flotation Thickener-Infrastructure	\$286,449	\$8,680	\$0	\$277,045	\$268,400
Black Otter Trail Land-Infrastructure	\$3,100	\$44	\$0	\$2,554	\$2,500
Chlorine Contact 1 - 10-Infrastructure	\$42,187	\$1,406	\$0	\$29,531	\$28,100
Chlorine Contact 1 - 11-Infrastructure	\$8,046	\$402	\$0	\$4,459	\$4,100
Chlorine Contact 1 - 5-Building	\$12,500	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 6-Infrastructure	\$97,290	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 9-Infrastructure	\$3,203,431	\$106,781	\$0	\$2,126,723	\$2,019,900
Cold Storage Building-Building	\$17,841	\$0	\$0	\$0	\$0
Cold Storage Building-Non Building	\$78,446	\$0	\$458,765	\$458,764	\$847,213
Communications Equip-Equipment	\$91,803	\$0	\$42,847	\$42,847	\$80,574
Construction Equipment-Equipment	\$746,667	\$30,537	\$0	\$116,757	\$86,200
Decant Pump Bldg & Tanks-Building	\$207,874	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Equipment	\$89,529	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Infrastructure	\$104,674	\$0	\$0	(\$1)	\$0
Electrical Shop-Building	\$751,292	\$30,697	\$300,000	\$491,015	\$1,510,300
Electrical Shop-Equipment	\$22,878	\$2,288	\$0	\$15,824	\$13,500
Engine Generator-Building	\$518,846	\$9,911	\$0	\$381,571	\$371,700
Engine Generator-Equipment	\$536,310	\$0	\$0	\$0	\$0
Engine Generator-Non Building	\$507,688	\$0	\$0	\$0	\$0
Five Mile Lift Station-Building	\$1,943,216	\$38,864	\$0	\$1,651,734	\$1,612,900

Asset and Asset Group	Original Cost	Annual Depreciation	FY2021 CWIP	FY2022 Net Fixed Assets	Estimated FY2023 Net Fixed Assets
Five Mile Lift Station-Infrastructure	\$993,004	\$49,650	\$0	\$630,748	\$581,100
Gas Pumps-Equipment	\$12,412	\$621	\$0	\$9,360	\$8,700
Gravity Thickening Building-Infrastructure	\$39,223	\$1,189	\$0	\$37,936	\$36,700
Grit Building-Building	\$59,625	\$2,981	\$0	\$23,863	\$20,900
Grit Building-Equipment	\$294,047	\$0	\$0	\$0	\$0
Grit Building-Infrastructure	\$42,000	\$2,100	\$0	\$29,575	\$27,500
Headworks Building-Building	\$6,211,360	\$124,227	\$0	\$4,472,182	\$4,348,000
Headworks Building-Equipment	\$36,052	\$3,605	\$15,729	\$43,970	\$53,642
Headworks Building-Infrastructure	\$3,403,753	\$108,454	\$5,939,064	\$9,167,554	\$16,228,244
Heated Storage Building-Building	\$81,270	\$2,395	\$0	\$20,355	\$18,000
Interceptor Lines-Infrastructure	\$6,383,835	\$124,126	\$3,501,421	\$5,354,817	\$8,315,299
Ironwood Lift Station-Building	\$103,455	\$14,779	\$0	\$72,665	\$57,900
Laboratory Test Equip-Equipment	\$117,872	\$8,215	\$0	\$36,396	\$28,200
Lake Hills Lift Staion-Equipment	\$67,350	\$0	\$742,001	\$742,001	\$1,395,701
Lateral Lines - Below 15"-Infrastructure	\$55,443,582	\$1,044,649	\$0	\$40,057,287	\$50,928,600
Lloyd Mangrum Lift Station-Building	\$51,728	\$7,390	\$0	\$36,332	\$28,900
Maintenance Building-Building	\$275,329	\$0	\$0	\$0	\$0
Non-Potable Waterline-Infrastructure	\$42,656	\$853	\$0	\$41,732	\$919,900
Odor Control-Building	\$181,900	\$3,638	\$0	\$44,565	\$40,900
Odor Control-Infrastructure	\$6,876,249	\$208,371	\$62,890	\$6,713,403	\$7,046,114
Office Furniture & Equip-Equipment	\$209,033	\$14,282	\$0	\$42,818	\$28,500
Outfall-Infrastructure	\$209,654	\$6,353	\$0	\$202,772	\$196,400
Primary Clarifiers 1 - 10-Infrastructure	\$601,502	\$18,047	\$0	\$442,087	\$424,000
Primary Clarifiers 1 - 11-Infrastructure	\$335,068	\$10,154	\$0	\$324,068	\$313,900
Primary Clarifiers 1 - 5-Infrastructure	\$11,859	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 6-Infrastructure	\$152,130	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 7-Infrastructure	\$565,964	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 8-Infrastructure	\$533,950	\$16,020	\$0	\$117,539	\$101,500
Primary Clarifiers 1 - 9-Infrastructure	\$862,138	\$43,107	\$0	\$377,185	\$334,100

Asset and Asset Group	Original Cost	Annual Depreciation	FY2021 CWIP	FY2022 Net Fixed Assets	Estimated FY2023 Net Fixed Assets
Primary Digesters-Building	\$1,000,203	\$0	\$0	\$0	\$0
Primary Digesters-Equipment	\$837,355	\$13,807	\$71,296	\$173,491	\$222,485
Primary Digesters-Infrastructure	\$1,140,052	\$39,640	\$0	\$260,104	\$220,500
Rehberg Ranch Lagoons-Infrastructure	\$102,267	\$10,227	\$0	\$22,158	\$11,900
Scum Pumping Station-Building	\$139,766	\$3,917	\$0	\$15,988	\$12,100
Scum Pumping Station-Equipment	\$55,669	\$0	\$0	\$0	\$0
Scum Pumping Station-Infrastructure	\$9,262	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 11-Infrastructure	\$497,790	\$14,935	\$0	\$0	\$0
Secondary Aerator 1 - 12-Infrastructure	\$47,135	\$1,414	\$0	\$3,062	\$1,600
Secondary Aerator 1 - 13-Infrastructure	\$638,530	\$19,158	\$0	\$140,459	\$121,300
Secondary Aerator 1 - 14-Infrastructure	\$1,702,429	\$51,078	\$0	\$587,805	\$536,700
Secondary Aerator 1 - 15-Infrastructure	\$149,152	\$7,458	\$0	\$112,485	\$105,000
Secondary Aerator 1 - 19-Infrastructure	\$24,397,615	\$739,322	\$0	\$23,596,683	\$22,857,400
Secondary Aerator 1 - 4-Building	\$12,500	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 6-Equipment	\$112,500	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 8-Equipment	\$83,071	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 9-Equipment	\$34,499	\$0	\$0	\$0	\$0
Secondary Digester-Equipment	\$800,000	\$0	\$0	\$0	\$0
Secondary Digester-Infrastructure	\$2,556,306	\$52,544	\$0	\$1,677,029	\$1,624,500
Secondary Final Clarifier 1-4-Equipment	\$31,250	\$0	\$0	\$0	\$0
Secondary Final Clarifier 1-6-Infrastructure	\$432,374	\$0	\$0	(\$1)	\$0
Secondary Final Clarifier 1-8-Infrastructure	\$19,967,796	\$605,085	\$0	\$19,312,288	\$18,707,200
Secondary Flotation Thickener-Building	\$237,857	\$9,482	\$0	\$64,927	\$55,400
Secondary Flotation Thickener-Equipment	\$32,500	\$0	\$59,879	\$59,879	\$112,647
Secondary Flotation Thickener-Infrastructure	\$94,166	\$0	\$0	\$0	\$0

Asset and Asset Group	Original Cost	Annual Depreciation	FY2021 CWIP	FY2022 Net Fixed Assets	Estimated FY2023 Net Fixed Assets
Secondary Pumping Station-Building	\$31,250	\$0	\$0	\$0	\$0
Secondary Pumping Station-Equipment	\$2,916,855	\$130,443	\$135,000	\$375,496	\$364,029
Secondary Pumping Station-Infrastructure	\$1,390,773	\$39,986	\$0	\$1,249,150	\$1,209,200
Sewage Lift Station #003 Bldg 517-Infrastructure	\$31,825	\$3,182	\$0	\$12,730	\$9,500
Site Work, Landscaping/Yrd-Equipment	\$9,200	\$0	\$0	\$0	\$0
Site Work, Landscaping/Yrd-Infrastructure	\$1,877,348	\$62,651	\$0	\$1,622,611	\$1,560,000
Site Work, Landscaping/Yrd-Non Building	\$633,193	\$11,544	\$0	\$125,940	\$114,400
Sludge Control Building-Building	\$57,200	\$0	\$0	\$0	\$0
Sludge Control Building-Equipment	\$12,500	\$0	\$0	\$0	\$0
Sludge Control Building-Infrastructure	\$6,486	\$0	\$0	\$0	\$0
Sludge Pumping House-Building	\$227,596	\$3,470	\$0	\$27,773	\$24,300
Sludge Pumping House-Infrastructure	\$549,929	\$5,470	\$0	\$447,145	\$441,700
Solids Processing Building-Building	\$601,410	\$12,249	\$0	\$62,901	\$50,700
Solids Processing Building-Equipment	\$2,297,075	\$5,370	\$629,847	\$678,048	\$1,211,564
	\$160,728,541	\$3,905,869	\$12,906,454	\$126,259,197	\$149,733,863

Table A.1: Net Fixed Assets

Item	Flow	BOD	TSS	TKN	Customer	Total
Administration Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Administration Building-Equipment	\$475,778	\$195,221	\$103,019	\$22	\$193,510	\$967,548
Administration Building-Infrastructure	\$11,536	\$4,734	\$2,498	\$1	\$4,692	\$23,460
Administration Building-Non Building	\$0	\$0	\$0	\$0	\$0	\$0
Air Flotation Thickener-Infrastructure	\$55,409	\$138,523	\$83,114	\$0	\$0	\$277,045
Black Otter Trail Land-Infrastructure	\$2,554	\$0	\$0	\$0	\$0	\$2,554
Chlorine Contact 1 - 10-Infrastructure	\$29,531	\$0	\$0	\$0	\$0	\$29,531
Chlorine Contact 1 - 11-Infrastructure	\$4,459	\$0	\$0	\$0	\$0	\$4,459
Chlorine Contact 1 - 5-Building	\$0	\$0	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 6-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 9-Infrastructure	\$2,126,723	\$0	\$0	\$0	\$0	\$2,126,723
Cold Storage Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Cold Storage Building-Non Building	\$458,764	\$0	\$0	\$0	\$0	\$458,764
Communications Equip-Equipment	\$21,069	\$8,645	\$4,562	\$1	\$8,569	\$42,847
Construction Equipment-Equipment	\$116,757	\$0	\$0	\$0	\$0	\$116,757
Decant Pump Bldg & Tanks-Building	\$0	\$0	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Infrastructure	\$0	\$0	\$0	\$0	\$0	-\$1
Electrical Shop-Building	\$301,435	\$123,684	\$65,269	\$14	\$614	\$491,015
Electrical Shop-Equipment	\$9,715	\$3,986	\$2,103	\$0	\$20	\$15,824
Engine Generator-Building	\$234,247	\$96,116	\$50,721	\$11	\$477	\$381,571
Engine Generator-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Engine Generator-Non Building	\$0	\$0	\$0	\$0	\$0	\$0

Item	Flow	BOD	TSS	TKN	Customer	Total
Five Mile Lift Station-Building	\$1,651,734	\$0	\$0	\$0	\$0	\$1,651,734
Five Mile Lift Station-Infrastructure	\$630,748	\$0	\$0	\$0	\$0	\$630,748
Gas Pumps-Equipment	\$9,360	\$0	\$0	\$0	\$0	\$9,360
Gravity Thickening Building-Infrastructure	\$0	\$26,555	\$11,381	\$0	\$0	\$37,936
Grit Building-Building	\$4,773	\$4,773	\$14,318	\$0	\$0	\$23,863
Grit Building-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Grit Building-Infrastructure	\$5,915	\$5,915	\$17,745	\$0	\$0	\$29,575
Headworks Building-Building	\$894,436	\$894,436	\$2,683,309	\$0	\$0	\$4,472,182
Headworks Building-Equipment	\$8,794	\$8,794	\$26,382	\$0	\$0	\$43,970
Headworks Building-Infrastructure	\$1,833,511	\$1,833,511	\$5,500,533	\$0	\$0	\$9,167,554
Heated Storage Building-Building	\$20,355	\$0	\$0	\$0	\$0	\$20,355
Interceptor Lines-Infrastructure	\$5,354,817	\$0	\$0	\$0	\$0	\$5,354,817
Ironwood Lift Station-Building	\$72,665	\$0	\$0	\$0	\$0	\$72,665
Laboratory Test Equip-Equipment	\$36,396	\$0	\$0	\$0	\$0	\$36,396
Lake Hills Lift Station-Equipment	\$742,001	\$0	\$0	\$0	\$0	\$742,001
Lateral Lines - Below 15"-Infrastructure	\$40,057,287	\$0	\$0	\$0	\$0	\$40,057,287
Lloyd Mangrum Lift Station-Building	\$36,332	\$0	\$0	\$0	\$0	\$36,332
Maintenance Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Non-Potable Waterline-Infrastructure	\$41,732	\$0	\$0	\$0	\$0	\$41,732
Odor Control-Building	\$27,358	\$11,226	\$5,924	\$1	\$56	\$44,565
Odor Control-Infrastructure	\$4,121,364	\$1,691,074	\$892,386	\$189	\$8,391	\$6,713,403
Office Furniture & Equip-Equipment	\$26,286	\$10,786	\$5,692	\$1	\$54	\$42,818
Outfall-Infrastructure	\$202,772	\$0	\$0	\$0	\$0	\$202,772
Primary Clarifiers 1 - 10-Infrastructure	\$0	\$194,518	\$247,569	\$0	\$0	\$442,087
Primary Clarifiers 1 - 11-Infrastructure	\$0	\$142,590	\$181,478	\$0	\$0	\$324,068
Primary Clarifiers 1 - 5-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0

Item	Flow	BOD	TSS	TKN	Customer	Total
Primary Clarifiers 1 - 6-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 7-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 8-Infrastructure	\$0	\$51,717	\$65,822	\$0	\$0	\$117,539
Primary Clarifiers 1 - 9-Infrastructure	\$0	\$165,962	\$211,224	\$0	\$0	\$377,185
Primary Digesters-Building	\$0	\$0	\$0	\$0	\$0	\$0
Primary Digesters-Equipment	\$0	\$121,444	\$52,047	\$0	\$0	\$173,491
Primary Digesters-Infrastructure	\$0	\$182,073	\$78,031	\$0	\$0	\$260,104
Rehberg Ranch Lagoons-Infrastructure	\$22,158	\$0	\$0	\$0	\$0	\$22,158
Scum Pumping Station-Building	\$3,198	\$3,198	\$9,593	\$0	\$0	\$15,988
Scum Pumping Station-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Scum Pumping Station-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 11-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 12-Infrastructure	\$612	\$1,531	\$919	\$0	\$0	\$3,062
Secondary Aerator 1 - 13-Infrastructure	\$28,092	\$70,229	\$42,138	\$0	\$0	\$140,459
Secondary Aerator 1 - 14-Infrastructure	\$117,561	\$293,903	\$176,342	\$0	\$0	\$587,805
Secondary Aerator 1 - 15-Infrastructure	\$22,497	\$56,243	\$33,746	\$0	\$0	\$112,485
Secondary Aerator 1 - 19-Infrastructure	\$4,719,337	\$11,798,342	\$7,079,005	\$0	\$0	\$23,596,683
Secondary Aerator 1 - 4-Building	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 6-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 8-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Digester-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Digester-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Final Clarifier 1-4-Equipment	\$0	\$1,173,920	\$503,109	\$0	\$0	\$1,677,029

Item	Flow	BOD	TSS	TKN	Customer	Total
Secondary Final Clarifier 1-6-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Final Clarifier 1-8-Infrastructure	\$0	\$0	\$0	\$0	\$0	-\$1
Secondary Flotation Thickener-Building	\$3,862,458	\$9,656,144	\$5,793,686	\$0	\$0	\$19,312,288
Secondary Flotation Thickener-Equipment	\$12,985	\$32,464	\$19,478	\$0	\$0	\$64,927
Secondary Flotation Thickener-Infrastructure	\$11,976	\$29,940	\$17,964	\$0	\$0	\$59,879
Secondary Pumping Station-Building	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Pumping Station-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Pumping Station-Infrastructure	\$375,496	\$0	\$0	\$0	\$0	\$375,496
Sewage Lift Station #003 Bldg 517-Infrastructure	\$1,249,150	\$0	\$0	\$0	\$0	\$1,249,150
Site Work, Landscaping/Yrd-Equip	\$12,730	\$0	\$0	\$0	\$0	\$12,730
Site Work, Landscaping/Yrd-Non Bldg	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Control Building-Bldg	\$1,622,611	\$0	\$0	\$0	\$0	\$1,622,611
Sludge Control Building-Equipment	\$125,940	\$0	\$0	\$0	\$0	\$125,940
Sludge Control Building-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Pumping House-Building	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Pumping House-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Solids Processing Building-Building	\$0	\$19,441	\$8,332	\$0	\$0	\$27,773
Solids Processing Building-Equipment	\$0	\$313,002	\$134,144	\$0	\$0	\$447,145
Grant Total - Net Fixed Assets	\$71,813,413	\$29,364,636	\$24,123,579	\$239	\$216,381	\$125,518,248
Percent Allocation	57.21%	23.39%	19.22%	0.00%	0.17%	100.00%
Capital Outlay-Related Costs	\$3,671,633	\$1,501,337	\$1,233,376	\$12	\$11,063	\$6,417,421
Debt -Related Costs	\$3,005,808	\$325,247	\$551,022	\$12	\$512	\$3,882,600
Total Capital-Related Costs	\$6,677,441	\$1,826,584	\$1,784,398	\$24	\$11,575	\$10,300,021

Table A.2: Classification of Net Fixed Assets – FY22

Item	Flow	BOD	TSS	TKN	Customer	Total
Administration Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Administration Building-Equipment	\$895,476	\$367,431	\$193,895	\$41	\$364,210	\$1,821,052
Administration Building-Infrastructure	\$5,212	\$2,139	\$1,129	\$0	\$2,120	\$10,600
Administration Building-Non Building	\$0	\$0	\$0	\$0	\$0	\$0
Air Flotation Thickener-Infrastructure	\$53,680	\$134,200	\$80,520	\$0	\$0	\$268,400
Black Otter Trail Land-Infrastructure	\$2,500	\$0	\$0	\$0	\$0	\$2,500
Chlorine Contact 1 - 10-Infrastructure	\$28,100	\$0	\$0	\$0	\$0	\$28,100
Chlorine Contact 1 - 11-Infrastructure	\$4,100	\$0	\$0	\$0	\$0	\$4,100
Chlorine Contact 1 - 5-Building	\$0	\$0	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 6-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Chlorine Contact 1 - 9-Infrastructure	\$2,019,900	\$0	\$0	\$0	\$0	\$2,019,900
Cold Storage Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Cold Storage Building-Non Building	\$847,213	\$0	\$0	\$0	\$0	\$847,213
Communications Equip-Equipment	\$39,621	\$16,257	\$8,579	\$2	\$16,115	\$80,574
Construction Equipment-Equipment	\$86,200	\$0	\$0	\$0	\$0	\$86,200
Decant Pump Bldg & Tanks-Building	\$0	\$0	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Decant Pump Bldg & Tanks-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Electrical Shop-Building	\$927,174	\$380,437	\$200,758	\$42	\$1,888	\$1,510,300
Electrical Shop-Equipment	\$8,288	\$3,401	\$1,795	\$0	\$17	\$13,500
Engine Generator-Building	\$228,187	\$93,629	\$49,409	\$10	\$465	\$371,700
Engine Generator-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Engine Generator-Non Building	\$0	\$0	\$0	\$0	\$0	\$0
Five Mile Lift Station-Building	\$1,612,900	\$0	\$0	\$0	\$0	\$1,612,900

Item	Flow	BOD	TSS	TKN	Customer	Total
Five Mile Lift Station-Infrastructure	\$581,100	\$0	\$0	\$0	\$0	\$581,100
Gas Pumps-Equipment	\$8,700	\$0	\$0	\$0	\$0	\$8,700
Gravity Thickening Building-Infrastructure	\$0	\$25,690	\$11,010	\$0	\$0	\$36,700
Grit Building-Building	\$4,180	\$4,180	\$12,540	\$0	\$0	\$20,900
Grit Building-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Grit Building-Infrastructure	\$5,500	\$5,500	\$16,500	\$0	\$0	\$27,500
Headworks Building-Building	\$869,600	\$869,600	\$2,608,800	\$0	\$0	\$4,348,000
Headworks Building-Equipment	\$10,728	\$10,728	\$32,185	\$0	\$0	\$53,642
Headworks Building-Infrastructure	\$3,245,649	\$3,245,649	\$9,736,947	\$0	\$0	\$16,228,244
Heated Storage Building-Building	\$18,000	\$0	\$0	\$0	\$0	\$18,000
Interceptor Lines-Infrastructure	\$8,315,299	\$0	\$0	\$0	\$0	\$8,315,299
Ironwood Lift Station-Building	\$57,900	\$0	\$0	\$0	\$0	\$57,900
Laboratory Test Equip-Equipment	\$28,200	\$0	\$0	\$0	\$0	\$28,200
Lake Hills Lift Staion-Equipment	\$1,395,701	\$0	\$0	\$0	\$0	\$1,395,701
Lateral Lines - Below 15"-Infrastructure	\$50,928,600	\$0	\$0	\$0	\$0	\$50,928,600
Lloyd Mangrum Lift Station-Building	\$28,900	\$0	\$0	\$0	\$0	\$28,900
Maintenance Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Non-Potable Waterline-Infrastructure	\$919,900	\$0	\$0	\$0	\$0	\$919,900
Odor Control-Building	\$25,109	\$10,303	\$5,437	\$1	\$51	\$40,900
Odor Control-Infrastructure	\$4,325,615	\$1,774,882	\$936,612	\$198	\$8,806	\$7,046,114
Office Furniture & Equip-Equipment	\$17,496	\$7,179	\$3,788	\$1	\$36	\$28,500
Outfall-Infrastructure	\$196,400	\$0	\$0	\$0	\$0	\$196,400
Primary Clarifiers 1 - 10-Infrastructure	\$0	\$186,560	\$237,440	\$0	\$0	\$424,000
Primary Clarifiers 1 - 11-Infrastructure	\$0	\$138,116	\$175,784	\$0	\$0	\$313,900
Primary Clarifiers 1 - 5-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 6-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0

Item	Flow	BOD	TSS	TKN	Customer	Total
Primary Clarifiers 1 - 7- Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Primary Clarifiers 1 - 8- Infrastructure	\$0	\$44,660	\$56,840	\$0	\$0	\$101,500
Primary Clarifiers 1 - 9- Infrastructure	\$0	\$147,004	\$187,096	\$0	\$0	\$334,100
Primary Digesters-Building	\$0	\$0	\$0	\$0	\$0	\$0
Primary Digesters-Equipment	\$0	\$155,739	\$66,745	\$0	\$0	\$222,485
Primary Digesters- Infrastructure	\$0	\$154,350	\$66,150	\$0	\$0	\$220,500
Rehberg Ranch Lagoons- Infrastructure	\$11,900	\$0	\$0	\$0	\$0	\$11,900
Scum Pumping Station-Bldg	\$2,420	\$2,420	\$7,260	\$0	\$0	\$12,100
Scum Pumping Station-Equip	\$0	\$0	\$0	\$0	\$0	\$0
Scum Pumping Station- Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 11- Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 12- Infrastructure	\$320	\$800	\$480	\$0	\$0	\$1,600
Secondary Aerator 1 - 13- Infrastructure	\$24,260	\$60,650	\$36,390	\$0	\$0	\$121,300
Secondary Aerator 1 - 14- Infrastructure	\$107,340	\$268,350	\$161,010	\$0	\$0	\$536,700
Secondary Aerator 1 - 15- Infrastructure	\$21,000	\$52,500	\$31,500	\$0	\$0	\$105,000
Secondary Aerator 1 - 19- Infrastructure	\$4,571,480	\$11,428,700	\$6,857,220	\$0	\$0	\$22,857,400
Secondary Aerator 1 - 4- Building	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 6- Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 8- Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Aerator 1 - 9- Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Digester- Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Digester- Infrastructure	\$0	\$1,137,150	\$487,350	\$0	\$0	\$1,624,500
Secondary Final Clarifier 1-4- Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Final Clarifier 1-6- Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0

Item	Flow	BOD	TSS	TKN	Customer	Total
Secondary Final Clarifier 1-8-Infrastructure	\$3,741,440	\$9,353,600	\$5,612,160	\$0	\$0	\$18,707,200
Secondary Flotation Thickener-Building	\$11,080	\$27,700	\$16,620	\$0	\$0	\$55,400
Secondary Flotation Thickener-Equipment	\$22,529	\$56,323	\$33,794	\$0	\$0	\$112,647
Secondary Flotation Thickener-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Pumping Station-Building	\$0	\$0	\$0	\$0	\$0	\$0
Secondary Pumping Station-Equipment	\$364,029	\$0	\$0	\$0	\$0	\$364,029
Secondary Pumping Station-Infrastructure	\$1,209,200	\$0	\$0	\$0	\$0	\$1,209,200
Sewage Lift Station #003 Bldg 517-Infrastructure	\$9,500	\$0	\$0	\$0	\$0	\$9,500
Site Work, Landscaping/Yrd-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Site Work, Landscaping/Yrd-Infrastructure	\$1,560,000	\$0	\$0	\$0	\$0	\$1,560,000
Site Work, Landscaping/Yrd-Non Building	\$114,400	\$0	\$0	\$0	\$0	\$114,400
Sludge Control Building-Building	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Control Building-Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Control Building-Infrastructure	\$0	\$0	\$0	\$0	\$0	\$0
Sludge Pumping House-Building	\$0	\$17,010	\$7,290	\$0	\$0	\$24,300
Sludge Pumping House-Infrastructure	\$0	\$309,190	\$132,510	\$0	\$0	\$441,700
Solids Processing Building-Building	\$0	\$35,490	\$15,210	\$0	\$0	\$50,700
Solids Processing Building-Equipment	\$0	\$848,095	\$363,469	\$0	\$0	\$1,211,564
Grant Total - Net Fixed Assets	\$89,512,026	\$31,375,612	\$28,452,221	\$296	\$393,708	\$149,733,863
Percent Allocation	59.78%	20.95%	19.00%	0.00%	0.26%	100.00%
Capital Outlay-Related Costs	\$3,899,897	\$1,366,986	\$1,239,618	\$13	\$17,153	\$6,523,667
Debt -Related Costs	\$2,964,812	\$327,559	\$594,019	\$10	\$452	\$3,886,852
Total Capital-Related Costs	\$6,864,709	\$1,694,544	\$1,833,637	\$23	\$17,605	\$10,410,519

Table A.3: Classification of Net Fixed Assets – FY23

City Council Work Session

Date: 04/19/2021
Title: Safe Routes to School and Trails Funding
Presented by: Jennifer Duray
Department: Public Works
Presentation: Yes

RECOMMENDATION

No formal action is expected at this work session, but staff is seeking direction from City Council on its desire to move forward with one of the funding options presented.

BACKGROUND (Consistency with Adopted Plans and Policies, if applicable)

At the December 21, 2020, Council meeting, an initiative by CM Choriki directed staff to have a future discussion with Council regarding policy and a funding source for completing sidewalks, trails, and safe routes to school. The City's sidewalk policies and funding options were presented to Council at the February 1, 2021, Council work session. The Parks and Recreation Department and Board also previously presented options for large scale parks and trail funding including a general obligation bond and mill levy option.

This presentation will focus on the safe routes to school and trails funding options. Staff will discuss the details, as well as the pros and cons of the following four funding options:

1. Opt-out fee on the utility bill
2. Opt-in fee on the utility bill
3. Increase of the street maintenance district fees
4. Creation of safe routes to school and trails special district

ALTERNATIVES

No formal action may be taken at a work session. However, staff is seeking direction regarding proceeding with any of the funding options. If Council wants staff to pursue a funding option for safe routes to school and trails, it may have budget implications that will be presented to Council during budget presentations in May, 2021.

FISCAL EFFECTS

There are no direct fiscal effects for the discussion. Fiscal effects will be determined by future action of the Council and dependent on which funding option is ultimately approved, if any.

City Council Work Session

Date: 04/19/2021
Title: Energy & Conservation Commission Annual Update
Presented by: Debi Meling
Department: Public Works
Presentation: Yes

RECOMMENDATION

The Energy and Conservation and Commission (ECC) and staff will present an update on ECC progress and inform Council of the opportunity to participate in the LEED for Cities Local Government Leadership Program which will provide recognition for the energy and conservation efforts that the City of Billings has achieved. At the April 26, 2021 City Council meeting, the Energy and Conservation Commission (ECC) will recommend acceptance of a grant from the U.S. Green Building Council to participate in the LEED for the Cities (formerly S.T.A.R. Cities) Local Government Leadership Program.

BACKGROUND (Consistency with Adopted Plans and Policies, if applicable)

The Energy and Conservation Commission (ECC) was formed in 2019. The ECC is made up of seven (7) commission members (Billings residents) and two (2) staff liaisons. The purpose of the ECC is to consider ways to conserve energy and water and reduce waste and pollution. This includes making recommendations where the City can reduce the amount of money it spends on resources and ways to limit the City's impact on the environment.

Upon completing the resource inventory, the ECC found that the City of Billings is a state and regional leader in resource conservation, while reducing costs to citizens with innovative projects such as the landfill methane capture and the West End Reservoir and Treatment Plant. However, the ECC found that the innovative resource and cost saving projects that have and continue to be implemented are not widely known or recognized.

This presentation will update City Council on ECC progress and inform Council of the opportunity to participate in the LEED for Cities Local Government Leadership Program which will provide recognition for the energy and conservation efforts that the City of Billings has achieved. This program will be utilized by the ECC as a framework to conserve energy, water, and reduce waste. Addition, the program will benchmark and recognize the extensive energy and conservation efforts that the City of Billings has already achieved.

ALTERNATIVES

No specific action is required on this item at this work session. Acceptance of a grant from the U.S. Green Building Council to participate in the LEED for Cities Local Government Leadership Program will be at the April 26th City Council meeting.

FISCAL EFFECTS

There are no direct fiscal effects for the discussion. The grant acceptance waives the LEED for Cities program fees (approximately \$10,500).

City Council Work Session

Date: 04/19/2021
Title: Property Purchase Resolution - Rewrite
Presented by: Iverson Jessica
Department: City Hall Administration
Presentation: Yes

RECOMMENDATION

City Staff is proposing a revised Property Purchasing Resolution and seeking Council discussion and input on the proposed changes.

BACKGROUND (Consistency with Adopted Plans and Policies, if applicable)

The current property purchasing resolution is 18 years old and has presented compliance challenges for city staff when pursuing property purchases. The revised resolution addresses the following issues:

- The order in which negotiations and appraisals may occur
- The number of appraisals required
- The process by which market value is determined, reviewed, and presented to Council
- Adjusting the dollar amount at which a review appraisal is required
- Clarifying that the City Administrator may approve property purchases within their signing authority
- Revising the process by which the City may negotiate a price above appraised market value

ALTERNATIVES

City Council may:

- Suggest edits and/or direct staff to bring the proposed resolution to a future Council Meeting for approval.

FISCAL EFFECTS

The revised resolution will require fewer appraisals, and will also allow for greater negotiating flexibility.

Attachments

Revised Property Purchasing Resolution Draft
Resolution 93-16740

RESOLUTION NO. _____.

A RESOLUTION REPEALING RESOLUTION 93-16740, AND ESTABLISHING A POLICY OF THE CITY OF BILLINGS, MONTANA AS IT RELATES TO THE PURCHASE OF REAL PROPERTY.

WHEREAS, from time to time the City of Billings has need to purchase real property in order to carry out the programs and projects adopted by the City Council; and

WHEREAS, the City is desirous of developing a uniform guide for the purchase of real property; and

WHEREAS, market value shall be defined as the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts regarding the property.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BILLINGS, MONTANA, AS FOLLOWS:

Resolution No. 93-16740 is hereby repealed.

- A. NEGOTIATIONS: City staff may enter into contingent acquisition negotiations with the property owner prior to determining market value. Contingencies include, but are not limited to, market value determination and City Council or City Administrator approval.
- B. GUIDE TO DETERMINE MARKET VALUE: The City of Billings shall have an appraisal performed to determine the market value prior to purchase of real property. The appraisal must be by "a disinterested, certified, general real estate appraiser" selected by staff.

Staff shall review the appraisal and bring their recommendation of market value to the City Council for approval. In cases where staff does not recommend approval of the appraisal, staff may request additional appraisals and/or that a certified appraiser reviews the appraisal(s).

Appraisals for property \$750,000 and over in value must be reviewed by a qualified review appraiser selected by the City of Billings. After the review appraiser has reviewed the appraisal(s) and arrived at a market value of the property being appraised, the city staff will present the review appraisal to the City Council for the purpose of establishing the market value.

The City may not purchase property for more than the appraised market value, except as allowed within the established negotiating flexibility, absent approval of City Council.

The City Administrator may approve real property purchases with appraised values within the limits of his/her signing authority.

- C. NEGOTIATING FLEXIBILITY: In cases of extreme need where expeditious decisions are critical to the success of the development of a public improvement project, the City Administrator will bring to the City Council an offer over the fair market value. The City Council will then determine if the amount over market value is appropriate.

For purchases within their signing authority, the City Administrator may approve a purchase price above appraised value at their discretion.

- D. THIS RESOLUTION IS INTENDED TO PROVIDE A SET OF GUIDELINES FOR THE CITY'S PURCHASE OF REAL ESTATE.

- E. THIS RESOLUTION IS NOT INTENDED FOR PROPERTY AGREEMENTS, SUCH AS EASEMENTS AND DEEDED ACCESS, WHICH DO NOT INCLUDE OWNERSHIP TRANSFER OF REAL PROPERTY.
- F. THIS RESOLUTION IS NOT INTENDED FOR CONDEMNATION OR EMINENT DOMAIN ACTIONS.
- G. WHERE THE REAL PROPERTY WILL BE PURCHASED WITH FEDERAL FUNDS, THE CITY IS REQUIRED TO FOLLOW THE UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970 AS AMENDED.
- H. IN CASES WHERE THE DEMANDS OF A PROJECT REQUIRE A VARIANCE FROM THESE GUIDELINES, THE CITY ADMINISTRATOR MAY COME TO THE CITY COUNCIL TO REQUEST A VARIANCE.

APPROVED AND PASSED by the Council of the City of Billings this _____ day of _____.

THE CITY OF BILLINGS:

BY:

MAYOR

ATTEST:

CITY CLERK

RESOLUTION NO. 93 - 16740

A RESOLUTION REPEALING RESOLUTION 86-15515, AND ESTABLISHING A POLICY OF THE CITY OF BILLINGS, MONTANA AS IT RELATES TO THE ACQUISITION OF PROPERTY.

WHEREAS, from time to time the City of Billings has need to acquire property in order to carry out the programs and projects adopted by the City Council; and

WHEREAS, the city is desirous of developing a uniform guide to determine the number and type of appraisals in the acquisition of real property.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BILLINGS, MONTANA, AS FOLLOWS:

Resolution No. 86-15515 is hereby repealed.

GUIDE TO DETERMINE THE NUMBER AND TYPE OF APPRAISALS:

Since these matters are largely governed by the magnitude of the appraised compensation for each parcel, the following rules are set forth on this basis. If these differ from requirements tied to a specific funding source, then the more rigorous standards will be used.

- A. RANGE OF VALUE: LESS THAN \$100,000:
 - 1. Appraisals required: One.
 - 2. Type of Appraisal: Short form
- B. RANGE OF VALUE FROM \$100,000 to \$200,000:
 - 1. Appraisals required: One.
 - 2. Type of Appraisal: Long form
- C. RANGE OF VALUE OVER \$200,000:
 - 1. Appraisals required: Two.
 - 2. Type of Appraisal: Long form
- D. APPRAISALS FOR PROPERTY \$100,000 AND OVER IN VALUE MUST BE REVIEWED BY A QUALIFIED REVIEW APPRAISER SELECTED BY THE CITY OF BILLINGS ACCORDING TO REQUIREMENTS SET FORTH FOR REVIEW APPRAISERS, WHICH ARE MADE A PART OF THIS RESOLUTION.
 - 1. After the review appraiser has reviewed the appraisals and arrived at a fair market value of the property being appraised, the city staff will

present the review appraisal to the City Council for the purpose of establishing the fair market value.

2. For appraisals less than \$100,000 in value, the staff will present the appraisal as reviewed by staff to the City Council for the purpose of establishing fair market value.
3. In any case, after the appraisals have been completed and reviewed, city staff may enter into contingent acquisition negotiations with the property owner prior to presenting the appraisals to the City Council to establish fair market value. However, city staff shall not acquire or enter into a binding agreement to acquire the property prior to the establishment of the fair market value by the City Council.

E. **NEGOTIATING FLEXIBILITY:** In cases of extreme need where expeditious decisions are critical to the success of the development of a public improvement project, the city administrator may authorize an offer over the fair market value established by the City Council. The offer may not exceed 5% of the fair market value or \$10,000, whichever is less.

F. **MINIMUM PAYMENT POLICY:** It is the City of Billings' policy to employ the minimum payments described below whenever the estimated just compensation, based on recognized appraisal techniques, is less than these amounts, including those instances where the estimated compensation is zero. In these cases, the appraisal report should show the property values as estimated using recognized techniques and in addition, the report should show the applicable minimum payment as described below.

1. **MINIMUM PAYMENT FOR PERMANENT PROPERTY INTERESTS:** The minimum payment for any property interest acquired by deed or easement will be \$300.
2. **MINIMUM PAYMENT FOR TEMPORARY USE OF PROPERTY:** The minimum payment for the temporary right to occupy and use property during construction, e.g., streets, waterlines, sewer lines, traffic signals, will be \$150.

Minimum payment appraisal is limited to those parcels where total compensation is \$500 or less.

G. **QUALIFICATION OF FEE AND REVIEW APPRAISERS:** The City of Billings will maintain a current list of contract fee and review appraisers in the office of the director of development services who have been approved for an appraisal assignment. Before an appraiser can be approved, they must first submit a demonstration appraisal of his/her current appraisal work which will be used to evaluate their knowledge of appraisal theory and principles and the clarity of their written communication. As a minimum, fee and review appraisers must be Montana Certified Appraisers with two or more full-time years of appraisal experience. In addition, appraisers with higher qualifications may be retained 1) to meet the needs of projects involving federal, state or local grant conditions, 2)

to participate in projects anticipated to involve eminent domain proceedings, or
3) to meet other special requirements, situations and conditions.

Appraisers meeting the above criteria will be hired as would any other
professional service provider.

- H. THIS RESOLUTION IS INTENDED TO PROVIDE A SET OF GUIDELINES.
IN CASES WHERE THE DEMANDS OF A PROJECT REQUIRE A
VARIANCE FROM THESE GUIDELINES, THE CITY ADMINISTRATOR
MAY COME TO THE CITY COUNCIL TO REQUEST A VARIANCE.

APPROVED AND PASSED by the City Council of the City of Billings this 13th day of
September 1993.

THE CITY OF BILLINGS:

BY: _____
MAYOR

ATTEST:

CITY CLERK