OLIVEHURST PUBLIC UTILITY DISTRICT

CAPITAL IMPROVEMENT PLAN FOR WATER AND WASTEWATER

FY 2023/24 – 2027/28

PREPARED FOR:

Lacey Nelson, President of the Board
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WITH TECHNICAL ASSISTANCE FROM:
Burdick & Company

FUNDING SUPPORT FROM:

California Department of Water Resources
Proposition 1 Integrated Regional Water Management
Disadvantaged Community Involvement Grant

Adopted by the Board of Directors on September 21, 2023

OLIVEHURST PUBLIC UTILITY DISTRICT

Our mission is to provide high quality services to enhance our community's quality of life.

BOARD OF DIRECTORS

Dennise Burbank John Floe MaryJane Griego Lacey Nelson Marc Perrault

GENERAL MANAGER
John Tillotson

September 21, 2023

Board of Directors
Olivehurst Public Utility District
1970 9th Avenue
Olivehurst, CA 95961

RE: 2023/24 – 2027/28 Capital Improvement Plan for Water and Wastewater

Dear Board Members:

I am pleased to present the Fiscal Year (FY) 2023/24 – 2027/28 Capital Improvement Plan for the Olivehurst Public Utility District water and wastewater systems. The Capital Improvement Plan is designed to be a financial planning tool that identifies the District's water and wastewater capital needs over the next five years and matches those needs with identified funding sources. A Capital Improvement Plan allows spending to be predictive rather than reactive, helping to promote financial and rate stability.

This Capital Improvement Plan is intended to be a living document, updated biennially, to reflect the most current infrastructure and funding needs – and to enable the District to adequately plan for those needs in order to ensure the continued delivery of safe, clean, high quality drinking water and the protection of public health.

Respectfully submitted,

John C. Tillotson, P.E.

General Manager

Olivehurst Public Utility District

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I. Introduction

This capital improvement planning process was conducted for the Olivehurst Public Utility District (OPUD, or District) water and wastewater systems with funding support from a California Department of Water Resources Proposition 1 Integrated Regional Water Management (IRWM) Disadvantaged Community Involvement Grant for the Sacramento River Funding Area, administered by the Yuba Water Agency. Technical assistance was provided by Burdick & Company (Auburn, CA).

This Capital Improvement Plan is intended to be updated on at least a biennial basis to ensure that it addresses new and changing priorities for the District's water and wastewater systems. While this Capital Improvement Plan focuses on water and wastewater, it can be expanded in future years to include additional District services, including park service, street lighting, and fire protection.

About OPUD

OPUD provides water, wastewater, and parks service to the communities of Olivehurst and Plumas Lake, currently serving a population of approximately 26,290. OPUD also provides street lighting and fire services to the community of Olivehurst. OPUD recently annexed a large service area to the east, the Industrial Sports and Entertainment Zone. The District provides fire service to this area currently and plans to bring water and wastewater services to the area in the future. Additionally, OPUD is in the process of upgrading and expanding its wastewater treatment facility to become a regional facility, allowing in the near-term for connection of service to the City of Wheatland.

Capital Improvement Plan Purpose

A Capital Improvement Plan (CIP) is a short-range plan that identifies capital projects, planning/ engineering services, and equipment purchases for major repairs or replacement of existing infrastructure, or new improvements. Capital improvements are major projects that are generally not recurring on a long-term annual basis. In this sense they are differentiated from operations and maintenance (O&M) expenditures for normal water/wastewater operations. As a general rule of thumb, capital expenditures are those that cost greater than $5,000 and have a useful life of greater than one (1) year. Conceptual projects are not included in the CIP.

A CIP allows spending to be *predictive* rather than *reactive*. The CIP identifies a timeframe and a plan for funding or financing capital improvements. The purpose of this CIP is to forecast and match projected revenues and other funding sources with major capital needs for OPUD's water and wastewater systems over the FY 2023/24 –2027/28 five-year period. In order for a project to be included in the CIP it must first be evaluated, using the criteria developed for the plan. This includes consideration of the assets' function, condition, consequence of failure and overall cost.

The Capital Improvement Plan is simply that – a plan. Priorities will change over time, as will funding opportunities and financial circumstances. The CIP does not in any way obligate the District to spending. Nor are projects included in this plan guaranteed for funding. The CIP represents a working plan intended to be updated on a regular basis. Capital planning will help the District attain financial and rate stability.

Layout of this Document

This Capital Improvement Plan is organized as follows:

- **Chapter I** provides a brief introduction to the concept of a Capital Improvement Plan, and why developing a CIP is worthwhile and important.
- **Chapter II – Overview of the CIP Five-Year Funding Plan** provides a synopsis of the five-year capital improvement funding plans for OPUD's water and wastewater systems, including a summary table of estimated costs for all projects and general recommendations for future planning.
- **Chapter III – Water System Projects and CIP Funding Strategy** focuses on OPUD's water system, providing a description of project needs, a discussion of project priorities, the identified funding source(s) for each project, and a summary table that lists the projects and project costs by anticipated funding year.
- **Chapter IV – Wastewater System Projects and CIP Funding Strategy** provides the same information for OPUD's wastewater system.
- **Chapter V – Overview of Funding Sources** describes OPUD's general funding strategy and preferences.
- **Chapter VI** provides a suggested Biennial CIP Calendar as guidance for the District's CIP planning effort going forward.

The following resources are provided in the Supplemental Information section:

- **Asset Inventory and Prioritization Spreadsheet for OPUD's Water System:** This spreadsheet provides a listing of capital project needs for the District's water system, along with a condition evaluation score for each project, estimated costs (in 2022/23 dollars), the projected year in which the replacement/repair will be needed, and the Public Works Engineer's comments.
- **Asset Inventory and Prioritization Spreadsheet for OPUD's Wastewater System**: This spreadsheet provides the same information as above, for the District's wastewater system.
- **Potential Grant and Loan Resources:** This section provides a description of grant and loan resources that may be relevant for OPUD's water and wastewater capital improvement needs.

II. Overview of the CIP Five-Year Funding Plan

Summary of Projects and Budgets by Fiscal Year

The following table provides a synopsis of aggregated costs for all recommended capital improvements for OPUD's water and wastewater systems. There are a total of 14 capital improvement projects listed for the Olivehurst Water System and six projects for the Plumas Lake Water System, and a total of 14 wastewater projects listed for the entire service area. These projects are described briefly in Chapters III and IV, along with estimated project costs and identified funding sources. Funding for these improvements will come from a variety of sources, including the District's water and wastewater Operating Budgets, Reserve Funds (for projects implemented after 2028), capacity fees, State Revolving Fund grants and/or loans, and other grant funds including grants from the Department of Water Resources and Yuba Water Agency. These and other funding sources are discussed in more detail in the Supplemental Information section, Potential Grant and Loan Resources.

Table 1. Overview of Capital Improvement Project Costs by Fiscal Year

Overview of Project Costs ($), by Fiscal Year								
System	**Fiscal Year**					**Total 2023-2028 CIP $**	**Future Costs after 2028 $**	**Total All Costs $**
	2023/24	**2024/25**	**2025/26**	**2026/27**	**2027/28**			
Water	13,434,910	4,317,500	237,313	6,880,981	89,340	24,960,044	23,841,038	48,801,082
Wastewater	53,158	30,733,691	1,788,099	25,072	294,345	32,894,366	177,295	33,071,661
TOTAL	**13,488,068**	**35,051,191**	**2,025,412**	**6,906,053**	**383,685**	**57,854,410**	**24,018,333**	**81,872,743**

General Recommendations Going Forward

The following recommendations may be useful for future planning efforts:

Recommendations for the Next Rate Study: The District's most recent water rate increase occurred on January 1, 2023 and will be in effect for five years. This rate increase was based on existing O&M needs and did not factor in large capital expenditure needs. It is strongly recommended that the next water rate study – beginning in 2027 and taking effect January 1, 2028 – take into account the system's capital improvement needs. The next rate study should also factor in the District's debt financing.

Operating and Emergency Reserves: The District Board has established an Operating Reserve Policy but has not yet begun funding the Operating Reserve. It is recommended that the Board begin funding the Operating Reserve and in addition, consider establishing separate *Emergency Reserves* for Water and Wastewater. Typically, the amount of funding in an Emergency Reserve would equal the replacement value or repair cost for the most expensive piece of equipment that, in the event of failure, would render the system inoperable. For example, for the Water System, the most expensive infrastructure is the storage tanks. Since catastrophic failure of storage tanks would be covered by insurance, the board might consider the Water Emergency Reserve target amount to be equivalent to the insurance deductible, which is $500,000.

III. Water System Projects and CIP Funding Strategy

Water System Overview

OPUD provides water to 7,540 customer connections, including single family and multi-family residential, commercial/institutional, industrial and landscape irrigation connections. In 2020, OPUD supplied 1,382 million gallons (MG) of water (equivalent to 4,241 AF) to its customers.

OPUD operates two separate public water systems:

The Olivehurst system (PWS ID# CA5810003) serves a population of approximately 16,595 through 4,642 customer connections. The Olivehurst system is provided with water supply from six groundwater wells. During the spring and summer, there are four active wells with two wells on standby. During the fall and winter, there are two active wells with four wells on standby. The Olivehurst system also has two storage tanks, two hydropneumatic tanks, eight filter vessels, three treatment facilities for the removal of iron and manganese, and a distribution system made up of steel, asbestos cement (AC) and C-900 polyvinyl chloride (PVC) pipelines. The Olivehurst system was constructed in 1951 and is currently undergoing improvements to increase efficiency. Olivehurst is a mostly urbanized, well-established community, and growth in the area is anticipated.

The District's Plumas Lake system (PWS ID# CA5805001) serves a population of approximately 9,695 through 2,898 customer connections. The Plumas Lake system was constructed between 2003 and 2007, so the system is relatively new and currently operates more efficiently than the Olivehurst system. The Plumas Lake system includes three active wells, one standby well, one storage tank, two treatment plants, and C-900 PVC distribution pipelines. Development in the Plumas Lake service area experienced significant growth from 2004 through 2010. Growth slowed due to the economic downturn but has rebounded in recent years (with a slight dip in 2020 due to the pandemic).

According to the District's 2020 Urban Water Management Plan, OPUD's current water service area is predicted to gain an additional population of approximately 7,000 people every five years from 2020 through 2030 (450 housing units/year) and 3,500 people every five years from 2030 through 2045 (225 housing units/year), for a total projected service area population of approximately 50,200 people by 2045. The District has ample groundwater available to support the continued growth of residential uses, however, existing infrastructure cannot support the predicted future development.

Note that although there are two separate, physical water systems (Plumas Lake and Olivehurst), the District operates as one water system financially. All customers are charged the same water rates.

Water System Capital Improvement Projects

OPUD's current water system capital improvement project needs, in order of priority, are as follows:

1) **Olivehurst Steel Main Replacement:** OPUD's highest priority capital improvement need is to replace the aging steel main pipeline for the Olivehurst water system. While the exact condition of the pipes is unknown, the pipeline in general is in very poor condition as evidenced by the fact that OPUD staff are constantly fixing leaks. Steel main replacement is needed in order to address regularly occurring leakage and avoid system shut-downs.

2) **Upgrade Hydropneumatic Tank at Wheeler Water Treatment Plant (WTP):** The District's second highest priority is upgrading the hydropneumatic tank at Wheeler WTP. The tank has been out of service since 2008 due to a methane influx and an order from the health department to cease operation. The upgrade will involve piping modifications that will allow the tank to be brought back online, and will minimize current water hammer and methane issues.

3) **Increasing Water Treatment Capacity at the Plumas Lake WTP:** Increasing water treatment capacity at the Plumas Lake WTP will ultimately require construction of a new 2.5MG water storage tank. An interim solution to increasing capacity is to install new manganese filters, which will increase treatment capacity sufficiently to meet the system's fire flow needs, for now. OPUD has purchased three custom-made manganese filters and plans to complete the necessary electrical work and installation by middle of 2024. The project went out to bid on June 30, 2023, with a contractor to be selected by end of July 2023. This will buy some time, enabling construction of the 2.5MG storage tank to be pushed back to 2030 if funding is not available beforehand.

4) **SCADA:** The District would like to get all treatment wells on the same SCADA and under one system. Currently SCADA is installed at Wells 31 and 32 in the Plumas Lake system. The District aims to have SCADA connected, activated, and all wells connected on the same SCADA system within the next year or two.

5) **Arboga Road Transmission Main:** A new 24-inch T-main is planned for Arboga Road from Ella Avenue to Plumas Arboga Road. The new T-main is needed to enable the Wheeler WTP to supply water to the northern portion of the Olivehurst water system while also having a looped system within the Wheeler Ranch subdivision. Current construction of nearly 550+ homes in Wheeler Ranch Phase 2 subdivision is to be developed with underground utilities to begin in the summer of 2023. Current need for the transmission line is to meet fire flow demands and peak hourly demand, which are currently compromised due to undersized pipes within the existing distribution system. The transmission main will also act as the main transmission artery that will eventually be extended to connect the Olivehurst water system to the Plumas Lake water system.

6) **Lindhurst Plant New Well:** A new well with a capacity of 2,000-3,000 gpm is planned to be drilled adjacent to the existing Lindhurst Reservoir and booster station. The water supply in certain portions of the OPUD service area experiences significant drops in chlorine, which causes water quality issues and requires OPUD to perform frequent system flushings. Certain portions of the system also experience significant low pressure. This project will address these issues by increasing the amount of water available to move into the OPUD system and avoid the need for frequent flushing. The well supply will be pumped directly to the Lindhurst Tank where the booster pumps will operate to maintain pressure in the area and increase supply reliability.

7) **Wheeler and Plumas Lake System Upgrades:** Wheeler WTP upgrades include: replacing the Programmable Logic Controller (PLC) and updating controls, methane control (install blowers and fans to the 1.64MG reservoir tank and 0.264MG backwash tank), adding variable frequency drive (VFD) to Booster Pump 4, and replacing air conditioning (AC) in the electrical room in order to keep the VFDs operating at a safe temperature. Plumas Lake water system upgrades include: adding VFD to Booster Pump 3, replacing AC to the control building (less urgent), and replacing the generator.

8) **Well 28 Upgrades:** Improvements are planned for Well 28 in the Olivehurst water system.

9) **Well Abandonment:** Another project planned for the Olivehurst water system over the next several years includes well abandonment for Wells 10 and 14.

A major project on the horizon, anticipated for 2030, is construction of a new water treatment plant for the Plumas Lake water system. This project will entail a new well, treatment plant, reservoir, and booster station. The project is needed to accommodate anticipated population growth in the Plumas Lake area, and has a projected cost of $13 million. During the next CIP planning process for FY 2025/26, the District will begin considering funding options for this major new infrastructure project.

Water System Capital Improvement Funding Strategy

The Water System Five-Year Capital Improvement Funding Strategy, outlined in Table 2, lists anticipated funding sources for the District's identified water system improvement needs between FY 2023/24 – FY 2027/28. Alternative funding options are noted where funding is uncertain or where several possible funding options exist.

Note that for this CIP, a labor cost factor of 40 percent has been added to the base cost estimates (except where not required). The CIP Funding Plan assumes an annual inflation factor of 5 percent. In general terms, the District's strategy is to pursue grant funds wherever possible, and at least for the next several years, to fund capital improvements with Operating Budget funds or internal loans rather than with reserves or external loans. The District prefers not to use reserves for capital improvement purposes at this time unless an urgent need arises, in order to build the reserves and to maintain sufficient availability of reserve funds in the event of emergency.

Olivehurst Water System Projects

According to US Census Bureau's American Community Survey 2021 five-year data, the average median household income (MHI) for the Olivehurst CDP was $60,548, as compared with the average statewide MHI during that same period, which was $84,097. With an MHI less than 80 percent of the statewide average, the Olivehurst community is considered a disadvantaged community (DAC). This economic categorization qualifies the Olivehurst Water System for certain federal and state grant funds, including the State Revolving Fund, which is administered by the State Water Resources Control Board.

For purposes of the Drinking Water State Revolving Fund (DWSRF), Olivehurst is considered an "Expanded Small DAC" (population greater than 10,000 but less than 20,000). As an Expanded Small DAC, the Olivehurst Water System is potentially eligible to receive up to 100% grant/principal forgiveness (PF) for consolidation projects or for projects that address Category A – D projects:

Priority Ranking	Description
Category A	Immediate health risk
Category B	Untreated at-risk sources
Category C	Compliance or shortage
Category D	Inadequate reliability
Category E	Secondary risks
Category F	Other projects

Many of OPUD's projects in the Olivehurst Water System are Category A – D projects. Several Olivehurst Water System projects fall within Categories E – F. For Category E – F projects, Expanded Small DACs such as Olivehurst are eligible to receive up to 100% grant/PF *if the water rates charged to their customers are greater than or equal to 1.5% of the area's MHI.* For Olivehurst this would equate to $75.69/month. Since OPUD's current water rates are $20.48/month for ¾" meter and $34.13/month for 1" meter and larger, the District is not eligible to receive DWSRF grant/PF for Category E – F projects.

Below is a description of the funding sources identified for the Olivehurst Water System projects:

Olivehurst Steel Main Replacement: OPUD has been awarded $11 million in grant funds toward completion of this approximately $13 million project, including $3 million from the Integrated Regional Water Management Implementation Grant Program and $8 million from the Urban Community Drought Relief Grant Program, both administered by the Department of Water Resources. Planning and design is expected to cost approximately $500,000. All costs beyond those awarded by grants will be paid through the Operating Budget. Plans are expected to be completed by Fall 2023, with bidding and contractor selection completed by early 2024. Construction is expected to begin early 2024 and be completed by March 2025.

SCADA: Connecting the treatment wells in the Olivehurst and Plumas Lake systems on the same SCADA system is planned for implementation in FY 2023/24. SCADA upgrades will be funded through the Water Operating Budget.

Arboga Road Transmission Main: The District was recently awarded grant funding from Yuba Water Agency in the amount of $278,250 for design of the Arboga Road Transmission Line project. OPUD intends to request additional funding from Yuba Water Agency for construction (estimated at $4,097,000). It should be noted that Yuba Water Agency does not typically provide 100% grant funds for construction projects of this type, though they may provide matching funds to another grant opportunity (or, potentially, will partially match the District's own spending). DWSRF may be a better option for grant funds. OPUD Public Works Engineer assumes the Arboga Road T-Main project to be a Category C project, and if the State Water Resources Control Board Division of Financial Assistance (DFA) agrees, and/or considers this project necessary for consolidation with the Plumas Lake system, then this $4 million+ project may qualify for up to 100% grant funding (or a combination grant/loan). It is recommended that the District discuss this project with the State Water Resources Control Board and consider submitting a DWSRF Construction Application.

Lindhurst Plant New Well: Construction of the Lindhurst New Well is planned for 2028. OPUD's Public Works Engineer assumes this project to be a Category C project, and if DFA agrees, then the project is eligible for 100% grant funding for planning ($496,500), and up to 100% grant funding for construction ($4,703,500). Otherwise, this project will be funded through Operating Budget or – since construction is not anticipated until 2028 – potentially through Water Reserve funds. If analysis shows that the project substantially addresses fire protection need, certain other grant opportunities may be relevant, including California Office of Emergency Services (Cal OES) grants.

Wheeler WTP System Upgrades: OPUD's Public Works Engineer estimates one component of the Wheeler WTP System Upgrades to be considered a Category A project (Project 4: Methane Control: Install blowers ad fans to 1.64 MG Reservoir Tank and 0.264 Backwash Tank), and two components (water treatment upgrades, and adding variable frequency drive to Booster 4) to be considered Category C projects. The Methane Control project is needed right away (2023/24), and with a cost of approximately $78,000, can be paid for through the Water Operating Budget. The other two projects

are scheduled for implementation 2028-2030. With a combined price tag of approximately $650,000, the District might apply for DWSRF grant funds, possibly combining these projects in a DWSRF Construction Application package with the Lindhurst Plant New Well project. Replacing the Electric Room air conditioning unit would likely be considered a Category F project; however, DFA may be amenable to incorporating that project into the DWSRF Construction Application package as part of the overall Wheeler WTP System Upgrades.

Well 28 Upgrades: The Well 28 upgrades are expected to be implemented in 2028. The estimated cost for that project in 2028 is approximately $1.7 million. OPUD's Public Works Engineer assumes this project to be a Category F project; in that case the project would not be eligible for DWSRF grant (unless the District were to increase its water rates above the 1.5%-of-MHI threshold). The project is expected to be paid through the Water Operating Budget, or possibly through the Water Reserve. Given the high cost, the District might also consider applying for a low-interest loan through DWSRF or another loan source.

Well Abandonment: Well Abandonment will involve abandoning Wells 10 and 14 and selling those properties. The project is expected to occur in 2030, with a combined estimated cost of approximately $207,000. The Public Works Engineers expects that DFA will consider this a Category A project. If that's the case, OPUD might consider including these projects with the Lindhurst Plant New Well and other infrastructure projects in a combined DWSRF application. Alternatively, the projects can be paid through the Water Operating Budget.

Plumas Lake Water System Projects

According to 2021 5-year American Community Survey data, Plumas Lake has an MHI of $104,021. Plumas Lake falls into the category of "Small Non-DAC with MHI < 150% of Statewide MHI," and like Olivehurst, is potentially eligible to receive up to 100% grant/ PF in DWSRF funds for consolidation projects or for projects that address Category A – D projects. As noted above, the maximum award amount is limited to $60,000 per connection, though the Deputy Director of the State Water Resources Control Board DFA may approve up to $80,000 per connection for good cause. Projects for eligible Small Non-DACs (like Plumas Lake) are eligible to receive a maximum grant of $20 million per project, unless the Deputy Director of DFA approves a case-by-case exception for good cause.

Note that DWSRF funding priority is given to projects that serve Small DACs/SDACs and Expanded Small DACs/SDACs over Small Non-DACs, therefore Category A - D projects for the Plumas Lake system would be less competitive for SRF grant/PF than comparable projects for the Olivehurst system. Plumas Lake as a Small Non-DAC is not eligible to receive grant/PF for Category E – F projects.

The US Department of Agriculture Rural Development (USDA RD) provides grants and loans to rural areas and towns with populations of 10,000 or less, with grant eligibility and loan interest rates based on economic status. Though the Plumas Lake system may be eligible for USDA RD assistance based on population (9,653, according to 2021 ACS five-year data), the system is not eligible for grants per se since it does not qualify as DAC. The system does qualify for loans, though since the community's MHI is higher than the statewide MHI, the system does not qualify for reduced interest rate loans. The USDA "market rate" interest rate would apply, which currently is 3.625% (fourth quarter FY2023, effective July 1, 2023).

Below is a description of the funding sources identified for the Plumas Lake Water System projects:

Increasing Water Treatment Capacity at the Plumas Lake WTP: Increasing water treatment capacity at the Plumas Lake WTP is a high-priority project that ultimately entails purchasing a new 2.5 MG water storage tank, with an estimated price tag of $6.6 million. As noted previously, the District recently purchased three custom-made manganese filters (approximately $900,000), which will increase capacity sufficiently to meet fire flow regulations, for now. With installation of the manganese filters, purchase of the new 2.5 MG storage tank can be deferred until FY 2026/27.

An additional $1.8 million is needed to complete installation of the manganese filters. The District Public Works Engineer expects that the 2.5 MG storage tank, as well as the manganese filter installation, would be considered Category C projects for purposes of the DWSRF, and are therefore potentially eligible for DWSRF grant/PF. Since installation of the manganese filters needs to occur relatively quickly, however, DWSRF is not considered a good option (too slow); therefore, the District intends to pay for installation of the manganese filters through capacity fees. For the storage tank, the District intends to apply to Yuba Water Agency for planning grant funds, and to the State Water Resources Control Board for DWSRF for construction (hopefully a grant). If grant funds are not awarded, the storage tank would be paid through a combination of capacity fees, Water Operating Budget, and Water Reserve funds. The District might also consider low-interest loan options through DWSRF.

VFD to Booster Pump 3: Adding a variable frequency drive to Booster Pump 3 is scheduled to occur in FY 2026/27, prior to installation of the 2.5 MG storage tank. The project has an estimated cost of $268,000. The project is likely a Category C project and can be included in the DWSRF Construction Grant application package along with the storage tank. If grant funds are not awarded, the project will be paid through capacity fees.

AC Unit for Control Room: Replacing the air conditioning unit for the control room in the Plumas Lake System is scheduled to occur in FY 2027/28, and is expected to be paid with Water Operating Budget funds ($89,000).

New Water Treatment Plant for Plumas Lake: A major infrastructure project on the horizon, anticipated for 2030, is construction of a new water treatment plant for the Plumas Lake Water System. The new treatment plant is needed to accommodate projected population growth in Plumas Lake. The plant will include a new well, treatment plant, reservoir, and booster station, and has an estimated cost of over $13 million. Potential funding mechanisms include: planning grant funds from Yuba Water Agency for design and engineering, and analysis of development fees; possible Reimbursement Agreements with developers; grant/PF funds for construction, or partial grant/loan, through DWSRF; Water Operating Budget contribution; Capital Reserve; low-interest loans.

Generator Replacement: Also scheduled for 2030 is replacement of the generator at the existing Plumas Lake WTP, which will cost an estimated $1.2 million. The Public Works Engineer assumes this project will fall into Category F, in which case DWSRF grant/PF would not be a possibility. The project will likely be funded through Water Operating Budget and Capital Reserve funds.

OPUD Water System Capital Improvement Projects and Funding Strategy

Table 2. Water System Five-Year Funding Plan FY 2023/24 – 2027/28

	Estimated Cost in 2022 $	Estimated Cost in 2022 $ + 40% labor	FY 2023-24 $	FY 2024-25 $	FY 2025-26 $	FY 2026-27 $	FY 2027-28 $	Future $	Funding Source
Olivehurst Water System									
Wheeler WTP (Well 29)									
Project 1: Replace PLC and Update Controls									
Water Treatment Upgrades	300,000	420,000						620,531	DWSRF grant (or partial grant/loan). Otherwise: Operating Budget.
Add VFD to Booster Pump 4	15,000	21,000						28,142	DWSRF grant (or partial grant/loan) – combined with above project. Otherwise: Operating Budget.
Electric Room: Replace AC	30,000	42,000						56,284	Possibly included in DWSRF grant application. Otherwise: Operating Budget.
Project 2: Wheeler WTP SCADA	25,000	35,000	36,750						Operating Budget
Project 3: Methane Control: Install Blowers and Fans to 1.64MG Reservoir Tank and 0.264MG Backwash Tank	53,000	74,200	77,910						Operating Budget
Well 4 SCADA	25,000	35,000	36,750						Operating Budget
Well 10: Abandon Well / Sell Property	50,000	70,000						103,422	DWSRF grant (or partial grant/loan), possibly combined package with Lindhurst

	Estimated Cost in 2022 $	Estimated Cost in 2022 $ + 40% labor	FY 2023-24 $	FY 2024-25 $	FY 2025-26 $	FY 2026-27 $	FY 2027-28 $	Future $	Funding Source
									New Well. Otherwise: Operating Budget.
Well 14: Abandon Well / Sell Property	50,000	70,000						103,422	DWSRF grant (or partial grant/loan), possibly combined package with Lindhurst New Well. Otherwise: Operating Budget.
Well 28 Improvements	900,000	1,260,000						1,688,521	DWSRF loan. Otherwise: Capital Reserve, and/or Operating Budget.
Well 28 SCADA	25,000	35,000	36,750						Operating Budget
Lindhurst Plant SCADA	25,000	35,000	36,750						Operating Budget
Lindhurst Plant New Well	5,200,000	5,200,000						6,968,497	DWSRF grant (or partial grant/loan). Otherwise: Operating Budget and/or Water Reserve.
Steel Main Replacement Project	13,000,000	13,000,000	13,000,000						$3M received from DWR IRWM grant, $8M from DWR Urban Drought Relief grant. Remaining costs: Operating Budget.
Arboga Rd. Transmission Main	4,097,000	4,097,000		4,097,000					YWA grant awarded for planning, engineering, and analysis, $278,250. DWSRF grant funds for construction, or partial grant/loan.
TOTAL for Olivehurst System	**23,795,000**	**24,394,200**	**13,224,910**	**4,097,000**	**0**	**0**	**0**	**9,568,819**	

	Estimated Cost in 2022 $	Estimated Cost in 2022 $ + 40% labor	FY 2023-24 $	FY 2024-25 $	FY 2025-26 $	FY 2026-27 $	FY 2027-28 $	Future $	Funding Source
Plumas Lake Water System									
Plumas Lake Water Treatment Plant (WTP): Upgrades (Wells 31 & 32)									
Manganese Filters for Water Treatment Plant (to increase capacity)	605,000	605,000	210,000	220,500	237,313				Capacity fees
2.5MG Water Storage Tank	5,440,500	5,440,500				6,612,962			YWA Grant for planning/design ($200K). DWSRF grant (or partial grant/loan). Otherwise: Capacity fees $1.25M. Remainder: Low-interest loans, Water Reserve, and/or Water Operating Budget.
Add Variable Frequency Drive (VFD) to Booster Pump 3	150,000	210,000				268,019			Include in DWSRF grant application package. If DWSRF not successful, then capacity fees.
Control Building: Replace AC	50,000	70,000					89,340		Water Operating Budget
Plumas Lake WTP: Existing Needs									
Generator Upgrade	600,000	840,000						1,241,063	Capital Reserve, Water Operating Budget
New Treatment Plant									
Plumas Lake Water System: New Well, Treatment Plant, Reservoir, and Booster Station	6,300,000	8,820,000						13,031,157	YWA Grant for design/ engineering and analysis of development fees.

	Estimated Cost in 2022 $	Estimated Cost in 2022 $ + 40% labor	FY 2023-24 $	FY 2024-25 $	FY 2025-26 $	FY 2026-27 $	FY 2027-28 $	Future $	Funding Source
									Possible Reimbursement Agreements with developers. Otherwise: DWSRF Loan, Capital Reserve, and/or Operating Budget
TOTAL for Plumas Lake System	**13,145,500**	**15,985,500**	**210,000**	**220,500**	**237,313**	**6,880,981**	**89,340**	**14,272,220**	

GRAND TOTAL	**36,940,500**	**40,379,700**	**13,434,910**	**4,317,500**	**237,313**	**6,880,981**	**89,340**	**23,841,039**	

IV. Wastewater System Projects and CIP Funding Strategy

Wastewater System Overview

OPUD is responsible for treating all sewage generated within the District's service area boundaries. The Olivehurst Wastewater Treatment Plant (WWTP, NPDES Permit CA0077836) is permitted to treat 3.0 million gallons per day (MGD). The WWTP is an activated sludge treatment plant that uses membrane filtration and ultraviolet light to clean and disinfect the water before it is discharged back into the environment. The current WWTP's unit processes include screening of solids, grit removal, two oxidation ditches (only one used in service), three secondary clarifiers, tertiary filtration, ultraviolet disinfection, post aeration, two return/waste sludge pump stations, an aerobic digester pond, a sludge storage pond, sludge drying beds, and other supporting systems.

OPUD is currently in the process of upgrading and expanding its WWTP to become a regional facility. OPUD has agreed to extend wastewater service to the City of Wheatland (population approximately 3,800). The City of Wheatland currently owns and operates a WWTP that is aging, is inadequate for future growth, and is limited in its capacity for expansion. OPUD and the City of Wheatland are working collaboratively on design, with Wheatland responsible for designing the conveyance facilities from Wheatland to OPUD's WWTP, and OPUD responsible for design of the conveyance facilities within OPUD's service district and for necessary improvements to the WWTP to accommodate the influent waste flows from Wheatland. OPUD's design also includes necessary pipeline improvements within the community of Olivehurst to avoid ongoing sanitary sewer overflows. The proposed improvements will bring total capacity of the OPUD WWTP to 1.8-2.0 MGD.

As of the writing of this CIP, 90% Design has been completed for the Wheatland wastewater conveyance to OPUD WWTP along with interties into the wastewater system. This also includes multiple new lift stations that will be needed for conveyance, upgrades to existing lift stations, and upgrades to the existing WWTP.

Wastewater System Capital Improvement Projects

OPUD's wastewater system capital improvement project needs, in order of priority, include the following:

1) **South County Regionalization Project:** The South County Regionalization Project accounts for most of the wastewater capital improvement needs listed in this CIP, and includes upgrades to OPUD's existing WWTP (including among other things upgrades to the Duperon bar screen, grit classifier, and secondary clarifier), upgrades to Lift Stations 1 and 2, and replacement of 3,420 feet of 10" force main from Pump Station No. 2 to Donald Drive.

2) **Lift Station Upgrades:** Upgrades are needed for eleven of the District's lift stations over the next several years. As noted above, Lift Stations 1 and 2 upgrades are required to support extension of service to Wheatland, and have been included in the South County Regionalization Project scope of work. These upgrades are scheduled to occur in 2024/25.

   Besides the South County Regionalization Project upgrades, the highest priority for lift station upgrades is Lift Station 14. This lift station requires re-engineering and design work as there are

occasional hydrogen/sulfide odor issues due to the cascading force main coming into the manhole prior to Lift Station 14, causing gassing issues. The lift station also needs major repairs including repairs to the pipes inside the wet well which have become corroded from gases. This upgrade is a high priority; the manholes upstream have shown corrosion due to the gassing.

Most of the remaining lift station repairs are scheduled to occur in 2025/26. The District's lift stations are between 50-70+ years old, with outdated infrastructure (including some for which replacement parts are no longer available). The lift stations are in need of general updates in order to run more smoothly and efficiently. Upgrades will include, for example: new/upgraded Vaughan chopper pump, generator, carbon scrubber, 5Missions, transfer switch, bubbler, pig launch vault.

3) **Rehabilitate Manholes:** The District seeks to rehabilitate manholes throughout the system. Manholes will be relined with Armorock polymer concrete coating in order to improve strength, stability, and integrity. This will preserve the life expectancy of the manholes in the most cost effective manner.

Wastewater System Capital Improvement Funding Strategy

The Wastewater System Five-Year Capital Improvement Funding Strategy, outlined in Table 3, lists anticipated funding sources for the District's identified wastewater system improvement needs between FY 2023/24 – FY 2027/28.

South County Regionalization Project: OPUD submitted a Clean Water State Revolving Fund (CWSRF) Construction Application to the State Water Resources Control Board in February 2023 to fund the South County Regionalization Project. The application contains a total funding request of approximately $150 million, with OPUD WWTP and sewer collection improvements totaling approximately $25 million.

The State Water Resources Control Board DFA places a high priority on funding improvements designed to alleviate financial burdens for disadvantaged communities while improving the overall water quality in the State and, concurrently, encourages regionalization of publicly owned treatment works (POTWs). Since the South County Regionalization Project constitutes a major wastewater regionalization for two DACs (Olivehurst and Wheatland), OPUD is eligible to receive up to 100% grant or principal forgiveness. It is anticipated that the Regionalization Project along with associated OPUD WWTP and sewer collection upgrades will be funded entirely with CWSRF grant funds. A Final Agreement for the CWSRF Construction Grant is expected to be signed in January 2024, with construction to begin in May 2024.

Lift Station Upgrades: The estimated total cost for lift station upgrades is approximately $6.4 million (factoring in inflation). The upgrades to Lift Stations 1 and 2, with a combined estimated cost of $4.2 million, will be part of the South County Regionalization project and is therefore expected to be covered through CWSRF grant/PF. All other lift station upgrades are expected to be paid through the District's Wastewater Operating Budget.

As noted above, the highest priority is Lift Station 14, which has an estimated cost of approximately $1.4 million. The District recently received $70,000 in grant funds from Yuba Water Agency for analysis of re-routing of 200-300 LF into a new wet well, as well as design. The $1.4 million estimated cost for

Lift Station 14 upgrades may easily increase to $5 million depending on the design. Construction will most likely occur in 2026.

Rehabilitate Manholes: The total cost to rehabilitate the District's manholes is estimated at about $120,000. This cost will be paid for with Wastewater Operating Budget funds and will be spread out over the next five years.

OPUD Wastewater System Capital Improvement Projects and Funding Strategy

Table 3. Wastewater System Five-Year Funding Plan FY 2023/24 – 2027/28

	Estimated Cost in 2022 $	Estimated Cost in 2022 $ + 40% labor	FY 2023-24 $	FY 2024-25 $	FY 2025-26 $	FY 2026-27 $	FY 2027-28 $	Future $	Funding Source
Wastewater Treatment Plant Upgrades									
Upgrades to Increase WWTP Capacity for Regionalization	25,000,000	25,000,000		25,000,000					CWSRF Construction Grant
Sewer Collection System Upgrades									
Lift Station 1	2,500,000	3,500,000		3,858,750					CWSRF Construction Grant
Lift Station 2	200,000	280,000		308,700					CWSRF Construction Grant
Lift Station 3	75,000	90,000					114,865		Wastewater Operating Budget
Lift Station 4	100,000	120,000						177,295	Wastewater Operating Budget
Lift Station 5	100,000	120,000			138,915				Wastewater Operating Budget
Lift Station 6	75,000	90,000			104,186				Wastewater Operating Budget
Lift Station 7	30,000	36,000			41,675				Wastewater Operating Budget
Lift Station 8	65,000	78,000			90,295				Wastewater Operating Budget
Lift Station 10	50,000	60,000	31,500						Wastewater Operating Budget
Lift Station 14	1,000,000	1,200,000			1,389,150				Wastewater Operating Budget. ($70K YWA grant was

	Estimated Cost in 2022 $	Estimated Cost in 2022 $ + 40% labor	FY 2023-24 $	FY 2024-25 $	FY 2025-26 $	FY 2026-27 $	FY 2027-28 $	Future $	Funding Source
									recently received for design/engineering).
Lift Station 16	100,000	120,000					153,154		Wastewater Operating Budget
Rehabilitate Manholes	73,668	103,135	21,658	22,741	23,878	25,072	26,326		Wastewater Operating Budget
Replacement of 3,420 feet of 8" force main from PS No. 2 to Donald Drive	1,000,000	1,400,000		1,543,500					CWSRF Construction Grant
GRAND TOTAL	**30,343,668**	**32,167,135**	**53,158**	**30,733,691**	**1,788,099**	**25,072**	**294,345**	**177,295**	

V. Overview of Funding Sources

This chapter describes OPUD's general funding strategy and preferences.

The funding methods considered for this CIP were:

1. Current revenues (Operating Budget)
2. Grants
3. Capacity fees
4. Reserve funds
5. Low-interest loans, specifically from the State Revolving Fund

Current Revenues: Revenues fund operation and maintenance (O&M) of OPUD's water and wastewater systems. Revenues have also been the main source of funding for OPUD's capital improvements to date.

The way in which revenues keep up with inflation is through rate increases. It is standard industry practice for water and wastewater districts to conduct a rate study every five years in order to ensure that revenues are sufficient to cover the real costs of running a system. The District's most recent water rate increase occurred on January 1, 2023 and will be in effect for five years. This rate increase was based on existing O&M needs; it did not take into account large capital expenditure needs. The next rate study process will likely begin mid-2027, with the new rates taking effect January 1, 2028. It is recommended that the next rate study take into account capital expenditure needs.

Grants: As a general rule of thumb, water and wastewater districts are cautioned not to count on grants to fund their capital improvements, though grants, or a combination of grant/loan, may be available under certain circumstances. The District aggressively pursues grant funding wherever possible. Potential grant resources are described in more detail in the Supplemental Information section.

Capacity Fees (Impact Fees): Capacity fees are charges for public facilities in existence at the time a charge is imposed, or charges for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged. Developers/builders are required to pay these fees to OPUD. When a developer plans to build a new subdivision that includes the construction of water and sewer infrastructure they can approach OPUD for capacity fee credits, where the higher profit margin on the sales offsets the cost of infrastructure construction. An alternative option is a reimbursement agreement where developers install the infrastructure and OPUD reimburses developers as capacity fees are collected with homes sold in the subdivisions.

The amount that OPUD collects in capacity fees is variable, depending on the number of new people moving into Plumas Lake each year. The capacity fee rate is increased each year based on the consumer confidence index (CCI).

Reserve Funds: The OPUD Board of Directors established Reserve Funds for Water and Wastewater in January 2019. According to the Reserve Policy:

- *Operating Reserves:* The minimum amount of Operating Reserves will equal two months of operating expenses (approximately $420,000); the maximum amount will equal three months

of operating expenses. Operating Reserves can be used at any time to meet cash flow requirements of District operations.

- *Capital Reserves:* Capital Reserves will be accumulated to fund depreciation, facility and equipment replacement, and infrastructure projects. The minimum amount of Capital Reserves will equal one year's capital spending; the maximum amount will equal two times the accumulated depreciation balance.

The Operating Reserve Funds have not yet been established, but there are separate Capital Reserve accounts each for water and for wastewater. Currently these reserves can be used for capital, operating, or emergency needs. The District also has Depreciation Reserves set up for water and for wastewater. Short-term Depreciation Reserves are unrestricted, used for whatever purpose is needed (with Board approval), including capital improvements.

For Water, $100,000 is set aside each year for Short-Term Depreciation. With the latest water rate study and new water rate increase as of January 1, 2023, the District aims to contribute an additional $500,000 into the Water Capital Reserve each year, though the actual amount will vary based on revenues received. For Wastewater, $300,000 is set aside each year for Short-term Depreciation. The amount set aside each year for the Wastewater Capital Reserve will vary based on revenues received. As of end of Fiscal Year 2021-22, the water and wastewater reserve accounts held the following:

WATER
Water Capital Reserve: $1,000,000
Water Depreciation Reserve: $300,000

WASTEWATER
Wastewater Capital Reserve: $2,395,379
Wastewater Depreciation Reserve: $2,500,000

The District prefers not to use reserves for capital improvement purposes at this time, unless an urgent need arises. The District is aiming to build the reserves for future capital needs, and to leave funds available in the short run for potential emergency or operating needs.

Low-interest Loans: The District prefers to borrow funds internally, e.g., from the Wastewater Fund to the Water Fund, if sufficient funds are available, rather than take on external loans. However, low-interest loans from federal and state agencies and from some private lenders are an option for funding capital improvements, when no other options exist. Some potential loan resources are listed in the Supplemental Information section.

VI. CIP Process and Biennial Calendar

CIP Process

The typical process for developing a Capital Improvement Plan consists of the following steps:

1. **Asset Inventory and Prioritization:** The first step in developing a CIP is to inventory the existing water and wastewater system infrastructure, perform a condition assessment, and identify infrastructure and planning needs. This step is performed by the Public Works Engineer. Each of the major infrastructure needs is listed in an Asset Inventory and Prioritization Spreadsheet and assigned a condition score (from "very poor" to "excellent"). An "impact of failure" score may also be assigned in order to help prioritize project needs. Based on the condition and urgency of need, the year for needed replacement/repair of each project or component is then determined, along with an estimated cost. Estimated costs are determined by looking up current costs of equipment/components by manufacturer, or by conferring with consulting engineers to determine typical construction costs. The Asset Inventory Spreadsheets in this CIP can be used as a foundation for future planning efforts.

2. **Five-Year Funding Plan:** Based on the cost information and estimated replacement dates provided in the asset inventory spreadsheets, the Financial Manager and Public Works Engineer work together to evaluate available and potential sources of funding, and to determine the most appropriate and/or likely funding source(s) for each project. Grant opportunities should be researched and re-evaluated at this stage and loan terms updated, in order to ensure the most up-to-date information.

3. **CIP Development and Adoption:** Finally, the CIP document is drafted, reviewed by the OPUD General Manager, and submitted to the OPUD Board of Directors for review and adoption.

Biennial CIP Calendar

The following provides a suggested calendar for updating OPUD's Capital Improvement Plan on a biennial basis. The CIP should ideally be submitted to OPUD's Board of Directors for review and recommendation during the beginning stages of the District's annual budget process.

- January – February: District Public Works Engineer updates the asset inventory and condition assessment; sets priorities for capital needs and updates replacement dates; updates capital cost estimates.
- March: Public Works Engineer coordinates with the District Financial Manager to evaluate financial capacity and determine CIP Five-Year Funding Plan; District General Manager reviews.
- Early April: District General Manager presents recommended CIP to District Board of Directors.
- End of May – mid-June: CIP/Funding Plan available for public viewing at District office.
- End of May – early June: OPUD Board of Directors reviews.
- End of June: Public hearing conducted; CIP adopted.

SUPPLEMENTAL INFORMATION

Water System Asset Inventory and Prioritization

OPUD
WATER SYSTEM

LEGEND	
	Priority 2022-2025
	Priority 2026-2027
	PLUMAS LAKE WATER SYSTEM
	OLIVEHURST SYSTEM

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
Plumas Lake Water Treatment Plant - Upgrades (Wells 31 & 32)								
Increasing Water Treatment Capacity	The project includes adding three new manganese filters, replacing the Clayton Style control valves with electrically actuating butterfly valves, removing the filter bypass, replacing the propeller meters with magnetic meters, replacing the PLC with a new PLC, and optimizing the plant's operation.	$1,505,000	1	$1,505,000	Existing filters are good. Priority is to add additional filters within next 1.5 years. (High Priority for new filters.)	2; Poor	2023	OPUD approved purchase of 3 filters for $650,000. Additional cost is for installation and rewiring.
Increasing Peak Hours Supply	Add second 2.5 MG storage tank along with a fourth booster pump that will be operated with a VFD.	$3,200,000	1	$3,200,000	Existing reservoir is good. Need an additional one to meet infrastructure being added. (High priority for new reservoir.)	3; Fair	2026	Due to demand and growth in Plumas Lake, within next two years, will need to add additional tank. Capacity fees.
Adding VFD to BP3	Add a VFD to BP3	$50,000	3	$150,000	Existing reservoir is good. Need an additional reservoir to meet added infrastructure.	3; Fair	2027	Due to demand and growth in Plumas Lake, within next two years, will need to add additional tank. Capacity fees.

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
Replace AC to the Control Building	Replace the existing ducted HVAC system with a new ductless AC System.	$50,000	1	$50,000	High Priority	1; Very Poor	2028	
SCADA System Reactivation	Reactivate the existing SCADA System that includes upgrading the existing PLC and data storage and updating to the latest version of the SCADA program.	$50,000	LS	$50,000	High Priority		2022	Currently in the process of being updated and renewed. Being coordinated with Affinity Engineering.
Chlorine Room	Prominent Diaphragm Motor driven metering pumps (4). Sigma X control type - SIGMA/ S2Cb 3/4" piping. Diaphragm requires annual maintenance. Cost of diaphragm approx $400. Cost of pump $4600. ProMinent Metering Monitor Flow Control 4&5 (4) at $845 each. Tool box with tools kept in control room due to rusting in chlorine room.	$10,000	LS	$10,000		3; Fair	2025	Part of emergency fund/reserve if need be, but can be put on hold.
Existing Improvements - Plumas Lake WTP								
Generator Upgrade	Replace existing Generator with a Generator and ATS sized for the Plant's ultimate power load.	$600,000	LS	$600,000			2030	Can be put on hold for future.
Well 34								
Well Pump VFD	VFD was replaced approximately 3 years ago and since then is tripping out due to heat on hot days in the summer. Working with TESCO to resolve the issues. The VFD Drive may be tripping on inadequate air flow or there may be an issue with the VFD itself. Worry is summer time when it gets hot and if we have to shut the plant down, it stresses wells 31 & 32 (Plumas Lake WTP) especially since we're approaching our maximum within the system as it already is.	$100,000	LS	$100,000	VFD console system needs AC upgrading ASAP. High priority of all items needing updated.	1; Very Poor	2022	Completed in end of July.
Chemical Feed System	ProMinent S1CA pump (1). Requires a second pump in the event of failure with selector switch.					2; Poor	2028	Can wait until next CIP.

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
Filter Inspection	Manganese filters should be inspected every year with new media added as needed.	$10,000	2	$20,000		4; Good	2030	
Well 30								
Soft Start	Works as required. The well is controlled via radio from the Wheeler WTP.					5; Excellent	2040	
Generator	Annual maintenance conducted by Cummins.			N/A		5; Excellent	2023	
New Well and Reservoir								
Plumas Lake Water System: New Well, Reservoir, and Booster Station	New WTP to be added to meet growth. WTP to be located in the southern area of the Plumas Lake Water System.	$6,300,000	LS	$6,300,000			2030	
Wheeler Water Treatment Plant (Well 29)								
Project 1: Replace PLC and Update Controls								
Water Treatment Upgrades	The project includes replacing the existing Clayton Style Globe valves with electrically actuating butterfly valves, replacing the propeller meters with magnetic meters, removing the surface water system, replacing the PLC, reprograming the plant operation to use well water supply for backwashing, adding a chemical containment sump and removing the existing concrete containment walls, relocating the chemical feed system into sump, removing the hydropneumatic tank.	$300,000	LS	$300,000			2030	
Add VFD to Booster 4	Add a VFD to BP4	$15,000	LS	$15,000	High Priority	1; Very Poor	2028	
Electric Room	A/C is old and should be replaced to keep VFDs operating at a safe temperature.	$30,000	LS	$30,000	Priority in order to keep plant operating during summer time.	2; Poor	2028	
Project 2: Water SCADA System								
Install SCADA System	The SCADA system will be extended to the Wheeler WTP to monitor and operate the facility remotely. The Wheeler WTP's	$25,000	LS	$25,000			2022	Currently in the works

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
	operational data will be sent to the Plumas Lake WTP where the SCADA system is located.							
Project 3 - Methane Control								
1.64 MG Reservoir Tank	Existing Tank in good condition. Requiring tank inspection April 2023. Hasn't been inspected in nearly 6 years. In the process of adding blowers and fans to reduce methane within tank. Water Board has required updates to be met by 12/31/2022. Currently in bid process.	$53,000	LS	$53,000	High Priority	1; Very Poor		Video inspection completed in April. Needs some recoating
0.264 Backwash Tank	In the process of adding blowers and fans to reduce methane within tank. Water Board has required updates to be met by 12/31/2022. Currently in bid process.				High Priority	1; Very Poor	2022	In the works for updates. Coordinating with Regional Board for alternative options to deal with issue.
General Information								
Booster Pumps	VFD ordered for booster Pump 3. Booster pump 1-2 use VFDs. Currently Booster Pumps 3-5 use RVSS.		5				2040	
Backwash Booster Pump	1 Backwash Booster Pump (2200 GPM) at facility. No updates needed.						2030	
Well Pump 29	2500 GPM (RVSS) Pump.		1				2040	
Well 1								
Well Pump Motor	Works in good condition. Use oil and grease as needed.		1				2040	
Generator	In good working condition.		1				2040	
Well 4								
Well Pump	Works well. Needs to be greased every 6 months and check oil levels as needed.		1			5; Excellent	2050	
Booster Pumps	2 booster pumps, each have a VFD. Grease and oil levels checked as needed.		2			5; Excellent	2050	

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
Filters	Two filter vessels, four cells per vessel.		2			5; Excellent	2050	
Actuators	Bray Series 90 Pneumatic Actuators/ 29 actuators in total and in working condition.		29			5; Excellent	2050	
Air compressor	Curtis Toledo Air Compressor. Check oil levels and belt wear and tear. In working condition.		1				2050	
Magnetic Flow Meters	3 total magnetic low meters. One for backflow (EMCO mag Meter), raw water (Danfoss mag meter), and treated water (Danfoss mag Meter).		3			5; Excellent	2050	
Bubbler System	Bubbler system working.					5; Excellent	2050	
UPS	Surge protector. Recently installed new one.		1			5; Excellent	2050	
Raco Verbation Auto Dialer	In good condition.		1			5; Excellent	2050	
Generator	In good condition.		1			5; Excellent	2050	
SCADA	The SCADA system will be extended to Well 4 to monitor and operate the facility remotely. Well 4's operational data will be sent to the Plumas Lake WTP where the SCADA system is located.	$25,000	LS	$25,000			2022	Goal is to have all SCADA system at each plant under one system.
Well 10								
Destroy Well		$50,000			LS		2030	
Raze Property				$50,000				
Sell Property								
Well 14								
Destroy Well		$50,000			LS		2030	
Raze Property				$50,000				
Sell Property								

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
Well 28								
Treatment Plant Upgrades	Includes replacement of the pneumatic valves with electrical actuating butterfly valves, replace propeller meters with magnetic meters, remove the surface wash system, replace the PLC with a new PLC.	$100,000	9	$900,000	High Priority	1; Very Poor	2028	Can wait until next CIP.
SCADA	The SCADA system will be extended to Well 28 to monitor and operate the facility remotely. Well 28's operational data will be sent to the Plumas Lake WTP where the SCADA system is located.	$25,000	LS	$25,000			2022	Currently in the works
Lindhurst Plant								
SCADA	The SCADA system will be extended to the Lindhurst Plant to monitor and operate the facility remotely. Lindhurst Plant's operational data will be sent to Plumas Lake WTP where the SCADA system is located.	$25,000	LS	$25,000			2022	Currently in the works
Tank Inspection	Tank Inspection every 6 years							
PLC Upgrade	PLC replaced							
New Well	Add well to directly fill Lindhurst Tank (assume property at school for well)	$1,200,000	LS	$1,200,000			2028	Can wait until next CIP

Wastewater System Asset Inventory and Prioritization

OPUD
WASTEWATER SYSTEM

LEGEND	
	Priority 2022-2025, associated with South County Regionalization
	High Priority 2023-2027
	OLIVEHURST SYSTEM
	PLUMAS LAKE WATER SYSTEM

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
WASTEWATER TREATMENT PLANT UPGRADES								
Duperon Bar Screen		$341,000	2	$682,000	High Priority		2024	CWSRF
Grit Classifier		$275,000/ grit classifier	2	$550,000	High Priority		2024	CWSRF
New Grit Motor, Controls, Pump, and Grit Auger			1					
Replacement Filter Panels	Completed	$129/panel	924	$119,196	High Priority		2022	Filters ordered
Secondary Clarifier		$1,200,000	1	$1,200,000	High Priority		2024	CWSRF
Existing Wet Well Improvements (Mixing)			1					
Replace Existing Influent Pumps			3					
5-7 MGD MBR Plant			1					
Additional Sludge Drying Beds			1					
Concrete-lined Equalization Basin			1					
Existing Oxidation Ditch Modifications			1					

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
New Shelf-Spare Aerator Components (Gearbox and Motor)			1					
Existing Motor Replacement for Oxidation Ditches			4					
Additional Filter Disks on Existing Filter Units			1					
UV System Upgrade and Additional UV Trains			1					
Upgrade Plant SCADA to Accommodate Improvements/Update CMMS			1					
Install New Utility Water Pump and Hydropneumatic Tank			1					
Expand/Upgrade Existing Control and Maintenance Building			1					
New Site Civil, Site Electrical, and Yard Piping			1					
SEWER COLLECTION SYSTEM UPGRADES								
Lift Station 1	3 Fixed Dry Pumps, Vaughan 10 HP choppers. Need upgrade of all dry/wet side and update controls. Has missions.	$2,500,000	LS	$2,500,000	High Priority	1; Very Poor	2024	**CWSRF**
Lift Station 2	2 Submersible pumps, Vaughan chopper 10 HP. Hard piped. Dry side abandoned and rotted. Well needs lining, pump put on rails and control upgrades required. Has missions.	$200,000	LS	$200,000	High Priority	1; Very Poor	2024	**CWSRF**

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
Lift Station 3	2 Submersible pumps, Vaughan chopper 5 HP. Well at edge of AC both well and vault lid needs work (hard to open and hard to get closed), control upgrades required.	$75,000	LS	$75,000		2; Poor	2027	
Lift Station 4	OFF-LINE. 2 Submersible pumps, Vaughan chopper 10 HP. Hard piped. Dry side abandoned and rotted. Well needs lining, pump put on rails and control upgrades required.	$100,000	LS	$100,000	Not Priority unless development tries to connect to it.	1; Very Poor	2030	
Lift Station 5	2 submersible, 5 HP Vaughan pumps on rails. Need full well and piping replaced and controls upgrade.	$100,000	LS	$100,000	High Priority	1; Very Poor	2025	
Lift Station 6	2 Submersible pumps, Vaughan chopper 10 HP. Hard piped. Dry side abandoned and rotted. Well needs lining, pump put on rails and control upgrades required. Missions.	$75,000	LS	$75,000	High Priority	1; Very Poor	2025	
Lift Station 7	2 Submersible pumps, Vaughan chopper 10 HP. Hard piped. Dry side abandoned and rotted. Well needs lining, pump put on rails and control upgrades required. No missions.	$30,000	LS	$30,000	High Priority	1; Very Poor	2025	
Lift Station 8	2 - 10 HP dry side. Pump 1 is Vaughan and other is rotten and off line. Need 1 new pump with valves and checks with repipe. Controls need to be upgraded.	$65,000	LS	$65,000	High Priority	1; Very Poor	2025	
Lift Station 9	1 Flygt 3 HP Pump. Hard pipe no level monitoring. Need bubbler.			$35,000	High Priority	1; Very Poor	2025	Could be considered O&M. OPUD Is currently working on this.

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
Lift Station 10	1 -5 HP Vaughan chopper pump. Hard pipe. No missions.			$50,000	High Priority - Completed the electrical due to fire but still need to do pumping, piping, and missions.	1; Very Poor	2022	Costs will be reimbursed by insurance. *July 4 2022, a girl was playing with a lighter and ended up burning down 3 homes and completely destroying lift station 10.
Lift Station 11	2 - 5 HP Vaughan chopper pumps on rails, bubbler, 5G Missions, Cummins generator.					4; Good	2050	
Lift Station 12	Set up for 3 pumps but only has 2 - Vaughan chopper pumps that we believe are 40 hp (are on rails), bubbler. Controls and Cummins generator are in a controlled building. 5G missions, underground scrubber.					4; Good	2050	
Lift Station 13	2 - 5 HP Vaughan chopper pumps on rails, Kohler Generator, 5G missions, no bubbler, has floats.					4; Good	2050	

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
Lift Station 14	3 - 75 HP Vaughan chopper pumps on rails, Cummins generator, carbon scrubber is down, pipes inside wet well are corroded from gases, bubbler, 5G Missions, backup energy floats need to be re-done. This lift station needs re-engineering and design work as there are occasional smells of hydrogen sulfide/odor issues due to cascading force main coming into manhole prior to LS 14 that causes gassing issue. There is a Calgon odor system which isn't efficient and is currently down. This is high priority. We're currently testing and collecting data and weighing options for moving forward. The manholes upstream have shown corrosion due to gassing.	$1,000,000	LS	$1,000,000	Highest Priority	1; Very Poor	2024	
Lift Station 15	2 -40 HP Vaughan chopper pumps on rails, Cummins Generator, 5G missions, bubbler, and floats.					4; Good	2050	
Lift Station 16	2 - 50 HP Vaughan chopper pumps on rails, Kohler generator, 5G Missions, repair transfer switch, bubbler, pig launch vault doesn't drain/hold water. Of the two newer lift stations (11-18) this one needs the second most attention (behind 14).	$100,000	LS	$100,000		2; Poor	2027	
Lift Station 17	2 - 5 hp Vaughan chopper pumps on rails, floats disconnected due to override on the bubbler, 5G missions, some generic generator.					4; Good	2050	
Lift Station 18	2-5hp Vaughan chopper pumps on rails, Kohler generator, bubbler, 5G Mission.					4; Good	2050	

Asset Name	Asset Information	Cost Estimate (in 2022 dollars)	Asset Quantity	Total Cost	Priority	Condition Score (1 - 5)	Priority Year	Comments
Rehabilitate Manholes	Manholes throughout district that need to be relined via Armor Rock inserts and coating via polymer concrete to improve strength, stability, and integrity of manholes with Olivehurst and Plumas Lake.	$6,139/each	12	$73,668			2027	Fund over the next 5 years
Replacement of 3,420 feet of 8" force main from PS No. 2 to Donald Drive	Part of South County Project, needs to happen before South County can come online.	$292.40/LF	3420 LF	$1,000,000	Priority	2; Poor	2025	**CWSRF**

Potential Grant and Loan Resources

This section provides a description of grant and loan resources that may be considered for OPUD's water and wastewater capital improvement needs. Note that grant and loan resources should be re-evaluated during each biennial CIP planning process, since loan terms may change, eligibility for certain grants based on DAC status may change, and new grant opportunities may become available.

Yuba Water Agency Community Impact Grants: Yuba Water Agency has been a generous provider of grant funds for projects in Yuba County that align with the Agency's Mission, Vision, and Values, which include: flood risk reduction, water supply and management, watershed resilience, water education, and water conservation. The Agency offers competitive grants for planning and design projects, will provide matching funds for other (federal and state) grants, and may offer low-interest or zero-interest loans. The Agency prioritizes applications that leverage external funding, are highest priority for the applicant, and have a robust funding strategy in place. Yuba Water Agency is an existing and a potential funding source for some of OPUD's capital improvement needs listed in this CIP.

Drinking Water State Revolving Fund (DWSRF): The DWSRF is administered by the California State Water Resources Control Board. Funds are available for both planning and construction to address water system needs.

According to US Census Bureau's American Community Survey 2021 five-year data, the average median household income (MHI) for the Olivehurst CDP was $60,548, as compared with the average statewide MHI during that same period, which was $84,097. With an MHI less than 80 percent of the statewide average, the Olivehurst community is considered a disadvantaged community (DAC).

For purposes of the DWSRF, Olivehurst is considered an "Expanded Small DAC" (population greater than 10,000 but less than 20,000). As an Expanded Small DAC, the Olivehurst Water System is potentially eligible to receive up to 100% grant/principal forgiveness (PF) for consolidation projects or for projects that address Category A – D projects.

Priority Ranking	Description
Category A	Immediate health risk
Category B	Untreated at-risk sources
Category C	Compliance or shortage
Category D	Inadequate reliability
Category E	Secondary risks
Category F	Other projects

According to 2021 5-year American Community Survey data, Plumas Lake has an MHI of $104,021. Plumas Lake falls into the category of "Small Non-DAC with MHI < 150% of Statewide MHI," and like Olivehurst, is potentially eligible to receive up to 100% grant/ PF for consolidation projects or for projects that address Category A – D projects.

For both Olivehurst and Plumas Lake, the maximum award amount is limited to $60,000 per connection, though the Deputy Director of the State Water Resources Control Board Department of Financial Assistance (DFA) may approve up to $80,000 per connection for good cause. Projects for

eligible Small Non-DACs (like Plumas Lake) are eligible to receive a maximum grant of $20 million per project, unless the Deputy Director of DFA approves a case-by-case exception for good cause. Note that DWSRF funding priority is given to projects that serve Small DACs/SDACs and Expanded Small DACs/SDACs over Small Non-DACs, therefore Category A - D projects for the Plumas Lake system would be less competitive for SRF grant/PF than comparable projects for the Olivehurst system.

For Category E – F projects, Olivehurst (as an Expanded Small DAC) would be eligible for 100% grant/PF if the water rate charged to its customers were greater than or equal to 1.5% of the area's MHI (which would equate currently to $75.69/month). OPUD's current water rates of $20.48/month – $34.13/month are significantly lower than the threshold amount; therefore, the District is not eligible to receive grant/PF for Category E – F projects. Plumas Lake as a Small Non-DAC is not eligible to receive grant/PF for Category E – F projects.

The table below, from Appendix E of the DWSRF 2023/24 Intended Use Plan, summarizes grant/PF eligibility and maximum grant amounts.

APPENDIX E: Construction Project Grant and PF Limitations for an Eligible PWS

Maximum PF, Grant or Combination Thereof Per Construction Project 39, 40

Type of Community[41]	Residential Water Rates as a Percentage of MHI[42]	Percentage of Total Eligible Project Cost	Maximum Amount Per Connection[43,44,45]
Category A – D and/or Consolidation Projects[46]			
Small DAC/SDAC; Eligible NTNC[47] That Serves a Small DAC/SDAC; Expanded Small DAC/SDAC; or Small Non-DAC[48] with MHI < 150% of Statewide MHI	N/A	up to 100%	$60,000[48]
Category A – C and/or Consolidation Projects[46]			
Medium DAC/SDAC;[49]	N/A	up to 100%	$60,000[47]
Category E – F Projects			
Small DAC/SDAC or Eligible NTNC That Serves a Small DAC/SDAC	N/A	up to 100%	$45,000[50]
Expanded Small DAC/SDAC	>=1.5%		
	<1.5%	Not Eligible for PF, Grant or Combination Thereof	

Repayable Construction Financing Terms

Type of Community	Residential Water Rates as a Percentage of MHI	Interest Rate	Maximum Financing Term[51]	Local Cost Share[52]
Small SDAC or Eligible NTNC That Serves a Small DAC	N/A	0%	40 Years	Waived
Small DAC or Expanded Small DAC/SDAC	>=1.5%			
	<1.5%	½ General Obligation Bond Rate		

The State Water Board may also award a combination of grant and low-interest loan, or offer 100% low-interest loan. The loan interest rate is updated annually on the first of the year. The standard interest rate for DWSRF financing is 50% of California's average general obligation bond rate obtained

by the State Treasurer for the previous calendar year, rounded up to the next highest ten basis points (0.10%). The DWSRF loan interest rate as of January 1, 2023 is 2.1%.

Visit the State Water Resources Control Board's website for more information about the DWSRF Program.

Clean Water State Revolving Fund (CWSRF): CWSRF is administered by the State Water Resources Control Board for projects that address wastewater, stormwater, and recycled water system needs. The table below shows the construction grant/PF limitations for eligible wastewater systems. Since the OPUD wastewater service district exceeds 20,000 people, it does not qualify as a "small community" and is therefore not eligible to receive grant/PF for most of its construction projects. However, projects that connect previously unsewered areas or join communities to regionalize wastewater treatment works are eligible for grant/PF. It is anticipated that the South County Regionalization Project will be funded entirely with CWSRF grant/PF funds.

Wastewater Construction Grant/Principal Forgiveness Eligibility

<table>
<tr><th>Community</th><th>Wastewater Rates as a % of MHI</th><th>% of Total Eligible Project Cost</th><th>Max Grant/PF Per Project</th><th>Max Grant/PF Per Household*</th></tr>
<tr><td>Small Non-DAC (MHI ≤ 150% Statewide MHI)</td><td>≥4%</td><td>50%</td><td rowspan="2">N/A</td><td rowspan="2">$45,000**
Or
$125,000 (septic-to-sewer)**</td></tr>
<tr><td>Small DAC/SDAC</td><td>N/A</td><td>100%</td></tr>
<tr><td>Septic-to-sewer only: Large DAC or Small Non-DAC</td><td>≥1.5%</td><td>50%</td><td>$25 million</td><td>$75,000</td></tr>
<tr><td colspan="5">* The Deputy Director of DFA may approve financing for construction projects with a total eligible project cost up to $6 M regardless of the amount per connection.
** Deputy Director of DFA can approve up to $60,000 or $175,000, respectively, for good cause.</td></tr>
</table>

For CWSRF loans, the most current interest rate, effective April 6, 2023, is 1.9%. Interest rates may change frequently; check here for the most current interest rate.

Visit the State Water Resource Control Board's website for more information about the CWSRF Program.

Urban Community Drought Relief Grant: The Urban Community Drought Relief Grant is administered by the California Department of Water Resources for communities with greater than 3,000 connections. This grant covers such projects as fixing or replacing leaking water lines, construction of an additional well for drought resiliency, additional water storage facilities and tanks. Unfortunately this grant program closed in early 2023, most likely for good. It is worth checking DWR's website in case the program should be re-funded.

US Department of Agriculture Rural Development (USDA RD) Water and Waste Disposal Loan & Grant Program: This program funds water and wastewater projects for rural areas and towns with

populations of 10,000 or less. The Olivehurst water system is not eligible for USDA RD grants or loans because the service area population exceeds 10,000. The Plumas Lake water system may be eligible for loans (population 9,653, according to 2021 ACS five-year data), but not for grants since it does not qualify as DAC. Since Plumas Lake's MHI is higher than the statewide MHI, the system does not qualify for reduced interest rate loans. USDA RD loan interest rates are adjusted quarterly. For Plumas Lake the "market rate" would apply, which currently is 3.625% (fourth quarter FY2023, effective July 1, 2023). See USDA RD's website for more information about the Water and Waste Disposal Loan & Grant Program.

Community Development Block Grant (CDBG): This program is administered by the California Department of Housing and Community Development. CDBG grants can be used to buy, construct, or fix public facilities such as water and sewer systems. CDBG also funds studies and plans for housing, public works, and community facilities that meet CDBG national objectives and provide principal benefit to low-income persons. A project must address one of three national objectives:

1. Benefit to low- and moderate-income persons
2. Aid in the prevention or elimination of slums and blight, or
3. To meet an urgent need

The Olivehurst Water System may potentially be eligible for CDBG grant funds. For more information about CDBG, contact Yuba County Planning Department.

US Bureau of Reclamation's WaterSMART Water and Energy Efficiency Grant (WEEG): The WEEG grant program funds AMI meter replacement and irrigation measures (including turf removal, smart irrigation controllers and high-efficiency nozzles, i.e., sprinkler heads; these measures are typically promoted by water entities through rebates or direct-install programs). There are three funding tiers: up to $500,000 for a two-year grant, up to $2 million for a three-year grant, or up to $5 million for a three-year grant. These grants are very competitive. The District would have a higher chance of success applying in the lower funding tiers. A 50% non-federal match is required. Visit the WEEG website for more information.

US Bureau of Reclamation's WaterSMART Small-Scale Water Efficiency Grant: The Small-Scale Water Efficiency Grant is similar to WEEG but funds up to $100,000 per applicant. The grant covers municipal metering, SCADA, landscape Irrigation measures, high-efficiency indoor appliances and fixtures, and other projects. The grant requires a 50% non-federal match. Total project costs should generally be $225,000 or less. For more information, visit the Small-Scale Water Efficiency Grant website.

US Bureau of Reclamation's WaterSMART Drought Resiliency Grant: This grant program supports projects that will increase the reliability of water supplies, improve water management, and provide benefits for fish, wildlife, and the environment to mitigate impacts caused by drought. Water meters and water conservation projects are not eligible under this program. Projects must be beyond routine water management activities; e.g., replacing pipeline would not be eligible unless doing so somehow improves system flexibility. There are three funding tiers: up to $500,000 for a two-year grant, up to $2 million for a three-year grant, or up to $5 million for a three-year grant. The grant requires a 50% non-federal match. Projects should generally be in the final design stage; environmental and cultural resources compliance should be initiated or already completed; and the non-federal funding, necessary permits, and other required approvals should be secured. Proposed projects that are supported by an

existing drought plan are prioritized. For more information, visit the Drought Resiliency Grant Program website.

Other Loan Programs:

US Environmental Protection Agency Water Infrastructure Finance and Innovation Act (WIFIA) loans can provide up to 49% of financing for projects that are eligible for Drinking Water or Clean Water SRF. Minimum project size for communities with populations less than 25,000 is $5 million. Minimum project size for communities with populations greater than 25,000 is $20 million.

Below-market interest rates to fund water and wastewater infrastructure projects are offered by several other lending institutions, including among others:

- California Infrastructure and Economic Development Bank: I-Bank provides up to 30-year loans for projects ranging from $1M - $65M.
- California Municipal Public Financing Authority: CalMuni PFA is statutorily authorized to issue water and wastewater revenue bonds on a stand-alone or pooled basis.
- CSDA Finance Corporation: CSDA Finance Corporation facilitates financings for special districts and other local government agencies.
- Co-Bank: Provides loans for communities with populations less than 20,000.