



**Dublin San Ramon
Services District**

Water, wastewater, recycled water

Final Report



Water Capacity Reserve Fee

April 2022





April 5, 2022

Mr. Herman Chen
Financial Services Manager
Dublin San Ramon Services District
7051 Dublin Blvd
Dublin, CA 94568

Subject: DSRSD Water Capacity Reserve Fee Final Report

Dear Mr. Chen,

HDR Engineering, Inc. (HDR) is pleased to submit the enclosed water capacity reserve fee final report to the Dublin San Ramon Services District (District). The recommendations in this report are intended to provide the District with the basis to establish cost-based water capacity reserve fees. The adoption of final water capacity reserve fees is a policy decision of the District Board.

This report has been prepared using generally accepted financial, engineering principles, and guidance from the American Water Works Association (AWWA) M1 manual (*Principles of Water Rates, Fees, and Charges*). The District's financial, budgeting, planning, and engineering data were the primary sources for much of the information contained in this report. HDR recommends that prior to implementing the fees in this report, the fees reviewed by District legal counsel for compliance with California State law.

HDR appreciates the opportunity to assist the District in this matter. We also would like to thank you and your staff for the assistance provided to us. We look forward to future opportunities to work with the District.

Sincerely yours,
HDR Engineering, Inc.

A handwritten signature in black ink, appearing to read 'Shawn Koorn', written over a light blue horizontal line.

Shawn Koorn
Associate Vice President



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Introduction

HDR Engineering, Inc. (HDR) was retained by the Dublin San Ramon Services District (District) to review and update the District's water capacity reserves fees. Capacity reserve fees bring equity between existing and new customers connecting to the District's water system, which serves a population of 91,900 in the City of Dublin and the Dougherty Valley area in the City of San Ramon. The objective of this study was to update the District's cost-based capacity reserve fees for new customers, and existing customers requesting additional capacity, that are connecting to the water system. By establishing cost-based water capacity reserve fees, the District attempts to have growth pay for growth, by having new customers pay their share of the infrastructure in place which will serve them, while also "buying into" the existing infrastructure for the available capacity in the system that benefits new customer growth on the system.

The District implements the water capacity reserve fees based on safe maximum operating capacity per dwelling unit equivalent (DUE). For the District, one DUE is equivalent to one 5/8-inch meter. A 5/8-inch meter is typically used for residential connections. The capacity reserve fee for all meters is based on the American Water Works Association (AWWA) standardized method for determining meter equivalency for larger meters based on the 5/8-inch meter equivalents. The District has a current water capacity reserve fee of \$13,963 per DUE (5/8-inch meter).

The District has historically updated capacity reserve fees annually by the Engineering News Record Construction Cost Index (ENR-CCI) for the San Francisco metropolitan area. The last water capacity reserve fee study was completed in May 2016. General industry practice recommends adjusting these fees annually for changes in the costs of construction, and to update the fees every three to five years, or whenever comprehensive planning documents, such as the District's Water Master Plan, for the systems are updated. The fees in this report are in addition to the connection fees charged by Alameda County Water Conservation and Flood Control District, Zone 7 (Zone 7).

Study Overview

The capacity reserve fees are calculated in conformance with generally accepted rate making practices and are based on the District's planning and design criteria. A buy-in (existing) and expansion (future) approach is taken in developing the fees because each component can have different planning and design criteria.

The buy-in component includes the District's existing assets at replacement cost based on the District's Asset Management program less straight-line depreciation. The value of the assets is reduced by the amount of the future principal of current Water Expansion Fund debt obligations as the principal will be recovered from the expansion component. This results in the net buy-in component.

The expansion component includes the Districts' future capital improvement needs to serve future growth. The District has a separate and distinct expansion fund to account for all expansion-related projects and their associated costs. Debt service incurred to finance those expansion projects is also accounted for within the expansion fund, with the exception of the case where a project may have some portion related to replacement. Only the portion of the project that provides expansion capacity is included in the expansion fund. The District's existing debt was incurred to pay for expansion projects; therefore, the District pays its debt service with revenues from the expansion fund (primarily through capacity reserve fee revenues). The expansion portion includes both outstanding principal and interest on debt less expansion fund reserves. To avoid double counting of the assets financed with debt, the future principal associated with those assets was deducted from the existing infrastructure calculation before the buy-in component was calculated.

Based on the sum of the components (buy-in less outstanding debt principal, expansion plus outstanding debt principal and interest, and less expansion fund reserves), the net allowable capacity reserve fee is determined. Net allowable refers to the concept that the calculated capacity reserve fee is the District's cost-based fee.

The calculations take into account the financing mechanisms of capital improvements. These fees must be implemented according to the capacity requirement each new connection places on the water system. This way, the capacity reserve fees are related to the costs the new customer places on the systems and the benefit they derive from infrastructure in place to serve them.

The capacity reserve fee analysis resulted in showing the water capacity reserve fee for one (1) DUE or 5/8-inch meter can increase from \$13,963, the current charge, to \$15,308 or an increase of \$1,345. The District Engineer may adjust the capacity factor based on revisions to the AWWA publications or other new empirical data regarding the respective flow rating for any of the meters described below. Table ES – 1, below, shows the current and calculated water capacity fees for the District.

**Table ES - 1
Current and Calculated Water Capacity Reserve Fee**

Meter Size [1]	Capacity Factor 5/8" Equivalency	Effective July 1, 2021 [2] [3]	Calculated Capacity Reserve Fee [4]
5/8"	1.0	\$13,963	\$15,308
3/4"	1.5	20,959	22,962
1"	2.5	34,931	38,270
1-1/2" (Displacement)	5.0	69,861	76,540
1-1/2" (OMNI C2)	16.0	223,555	244,928
1-1/2" (OMNI T2)	16.0	223,555	244,928
2" (Displacement)	8.0	111,777	122,464
2" (OMNI C2)	16.0	223,555	244,928
2" (OMNI T2)	20.0	279,443	306,160

[1] Meters 3" and up are determined by DSRSD based on Maximum Rate for Continuous Operation through a 5/8" meter, as defined by the American Water Works Association (AWWA)

[2] Recycled water capacity reserve fees are equivalent to potable water fees

[3] DSRSD fees are revised annually on July 1 based on changes in the Engineering News Record (ENR) Construction Cost Index and are subject to change at other times

[4] Calculated fees are in addition to Zone 7 connection fees

The calculated capacity reserve fee amount is the maximum amount the District can charge. The District, as a matter of policy, may charge any amount up to the cost-based capacity reserve fee but not over that amount. Charging an amount greater than the net allowable capacity reserve fee would not meet the practical basis of charging cost-based fees that are proportionally related to the benefit derived by the customer.

Section 3 of this report details the water capacity reserve fee analysis along with further details in the Technical Appendix.

Consultant's Recommendation

Based on our review and analysis of the District's water capacity reserve fees, HDR makes the following recommendations:

1. The District should adopt the water capacity reserve fees for new connections, which are no greater than the net allowable water capacity reserve fees as set forth in this report.
2. The District should continue to annually update the water capacity reserve fees by a local construction cost index such as the Engineering News Record Construction Cost Index (ENR-CCI) for no more than five years before a complete update of the water capacity reserve fees is completed. Industry best practice of annual inflationary adjustment can keep fees relatively current with construction pricing trends.

3. The District should update the actual calculations for the water capacity reserve fees at such time when a new capital improvement plan, public facilities plan, comprehensive system plan, or a comparable plan is approved or updated by the District, or every five years.

Summary

The water capacity reserve fees presented in this report are based on the planning and engineering design criteria of the District's water system, the value of the existing assets, past financing of system infrastructure, and generally accepted principles. The calculated capacity reserve fees will provide multiple benefits to the District and will continue the practice of establishing equitable and cost-based water capacity fees for new customers connecting to the District's water system.



1.0 Introduction and Overview

1.1 Introduction

An important starting point in establishing water capacity reserve fees is to have a basic understanding of the purpose of these fees along with the criteria and general methodologies that are used to establish cost-based capacity reserve fees. This section of the report presents an overview of capacity reserve fee methodologies that were used to develop cost-based fees for the District.

1.2 Defining Water Capacity Reserve Fees

The capacity reserve fees are a contribution of capital in order to reimburse existing customers for the immediately available capacity in the existing system, and to help finance future growth-related capacity improvements needed to serve them. Absent those fees, many utilities would likely be unwilling to build growth-related facilities (i.e., burden existing rate payers with the entire cost of growth-related capacity expansion).

1.3 Economic Theory and Water Capacity Reserve Fees

Capacity reserve fees are generally imposed as a condition of service. The objective of the capacity reserve fees is not to generate revenues for a utility, but to create fiscal balance (equity) between existing customers and new customers. That is, all customers seeking to connect to the utility's water system bear an equitable share of the cost of capacity that is invested in both the existing, and any future growth-related expansions. Through the implementation of equitable water capacity reserve fees, existing customers will not be unduly burdened with the cost of new development.

By updating the capacity reserve fees, the District continues an important step in assuring adequate infrastructure to meet growth-related needs while providing this infrastructure to new customers in a cost-based and equitable manner.

1.4 Overview of the Water Capacity Reserve Fee Methodology

Within the various generally accepted capacity reserve fee methodologies, there are a number of different steps undertaken. These steps are as follows:

1. Determination of system planning criteria
2. Determination of dwelling unit equivalents (DUEs)
3. Calculation of system component costs
4. Determination of any credits

The first step in establishing capacity reserve fees is the determination of the system planning criteria. This implies calculating the amount of water capacity required by a single-family residential customer. Generally, water demand per equivalent meter is most often used, since this represents the basis for system design, and subsequent customer demands that are placed on the system. The American Water Works Association (AWWA) has a standardized method for determining meter equivalency for larger meter sizes.

Once the system planning criteria is determined, the number of dwelling unit equivalents or DUEs can be determined. For a water system, one reasonable and rational method to determine the number of DUEs is to divide the future land use-based water demand by the average day usage per DUE. The land use-based water demand is based on future land uses as defined in the local General Plans and historical and current water demands per land use type. This provides the linkage between the amounts of infrastructure necessary to provide service to a set number of customers.

Once the number of DUEs has been determined, an analysis is undertaken to determine the capacity reserve fee in cost (\$) per DUE. The calculation of the capacity reserve fee includes both existing (buy-in) and planned future assets. Existing assets are valued (system investment) based on the replacement cost method less depreciation. The future projects (expansion) are based on the capital improvement projects in today's dollars. Once the total cost of the existing and future capital infrastructure is determined, it is then divided by the appropriate number of DUEs the infrastructure will serve to develop the cost per DUE for the system.

After each existing and future component is analyzed and a cost per DUE is determined, the cost per DUE for each existing and future component is added together. This results in a net allowable capacity reserve fee stated in dollars per DUE. The general basis of this calculation is the assumption that a DUE is equivalent to a certain level of service. Larger demands placed on a system are then imposed fees based on the size of meter (number of DUEs) for a given demand based on operating capacity.

1.5 Disclaimer

HDR, in its calculation of the capacity reserve fees for the District, as presented in this report, has used generally accepted engineering and capacity reserve fee principles. This should not be construed as a legal opinion with respect to California State law. HDR recommends that the District have its legal counsel review the capacity reserve fee as set forth in this report to ensure compliance with California State law.

1.6 Summary

This section of the report has provided an overview of capacity reserve fees; the basis for establishing the fees, considerations in establishing capacity reserve fees and the relationship (practical basis) which must be established between new development and the new or expanded facilities required to accommodate new development, and appropriate apportionment of the cost to the new development in relation to benefits reasonably to be received.



2.0 Legal Considerations in Establishing Capacity Reserve Fees

2.1 Introduction

An important consideration in establishing capacity reserve fees is any legal requirements at the state or local level. The legal requirements often establish the methodology around which the capacity reserve fees must be calculated or how the funds must be used. Given that, it is important for the District to understand these legal requirements and develop and adopt their capacity reserve fees in compliance with those legal requirements.

This section of the report provides an overview of the legal requirements for establishing water capacity reserve fees. This summary represents HDR's understanding of the relevant California State law as it relates to establishing capacity reserve fees. It in no way constitutes a legal interpretation of the state law by HDR.

2.2 Requirements under California State Law

Many states have specific laws regarding the establishment, calculation, and implementation of capacity reserve fees. The main objective of most state laws is to assure that these fees are established in such a manner that they are fair, equitable, and cost-based. In other cases, state legislation may have been needed to provide the legislative powers to the utility to establish the fees.

The laws for the enactment of capacity reserve fees in California are codified in California Government Code sections 66013, 66016, and 66022, which are interspersed within the 'Mitigation Fee Act.' The Mitigation Fee Act is comprehensive legislation dealing mainly with fees imposed as a condition of development (development fees), although the above sections set forth the various requirements for imposition of capacity reserve fees in California: calculation of the fees, noticing, accounting and reporting requirements, and processes for judicial review. Although contained within the Mitigation Fee Act, capacity reserve fees are not development fees.

A summary of the relevant statutes required in the calculation of capacity reserve fees is as follows:

"66013 (a) Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount of the fee or charge imposed in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue."

"66013 (b) (3) 'Capacity charge' means a charge for facilities in existence at the time a charge is imposed or charges for new facilities to be constructed in the future that are of benefit to the person or property being charged, including supply or capacity

contracts for rights or entitlements, real property interests, and entitlements and other rights of the local agency involving capital expense relating to its use of existing or new public facilities. A “capacity charge” does not include a commodity charge.”

In addition to the determination of “the estimated reasonable cost of providing the service for which the fee is imposed,” California law also requires the following:

- That notice (of the time and place of the meeting, including a general explanation of the matter to be considered) and a statement that certain data is available be mailed to those who filed a written request for such notice;
- That certain data (the estimated cost to provide the service and anticipated revenue sources) be made available to the public;
- That the public agency provide an opportunity for public input at an open and public meeting to adopt or modify the fee; and
- That revenue in excess of actual cost be used to reduce the fee creating the excess.

The basic principle that needs to be followed under California law is that the fee be based on a proportionate share of the costs of the system required to provide service and that the requirements for adoption and accounting be followed in compliance with California law.

2.3 Propositions 218 and 26 and Capacity Reserve Fees

In 1996, the voters of California approved Proposition 218, which required that the imposition of certain fees and assessments by municipal governments require a vote of the people to change or increase the fee or assessment. Of interest in this particular study is the applicability of Proposition 218 to the establishment of capacity reserve fees for the District.

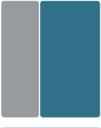
In *Richmond v. Shasta Community Services Dist.*, 32 Cal.4th 409 (2004), the California Supreme Court held that capacity reserve fees are not “assessments” under Proposition 218 because they are imposed only on those who are voluntarily seeking service, rather than being charged to particular identified parcels, and therefore such fees are not subject to the procedural or substantive requirements of Proposition 218. Additionally, the court held that a capacity reserve fee is not a development fee. The court also held that such fees can properly be enacted by either ordinance or resolution.

In November 2010 the voters of California passed Proposition 26, an initiative based state constitutional amendment, which provided a new definition of the term “tax” in the California Constitution. Under Proposition 26 a fee or charge imposed by a public agency is a tax unless it meets one of seven exceptions. Capacity reserve fees fall within exception 2 – i.e., it is a fee imposed for a specific government service. Provided that a capacity reserve fee does not charge one fee payor more in order to charge another fee payor less (i.e., a cross-subsidy), and it does not exceed the reasonable costs to the local government of providing the service, then the fee is not a tax within the meaning of Proposition 26. Under Proposition 26, the local government bears the burden of proving, by a preponderance of the evidence, that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor’s burdens on, or benefits received from, the governmental activity.

In the case of the District’s water capacity reserve fee, the District does not charge one fee payer more in order to charge another fee payer less (i.e., a cross-subsidy), and it does not exceed the reasonable costs to the local government of providing the service. Given this, the fee is not a tax within the meaning of Proposition 26.

2.4 Summary

This section of the report reviewed the legal basis for establishing water capacity reserve fees in the State of California, and in particular for the District. This summary represents HDR’s understanding of the relevant California State law as it relates to establishing capacity reserve fees. It in no way constitutes a legal interpretation of the state law by HDR. HDR recommends that the District have its legal counsel review the capacity reserve fee as set forth in this report to ensure compliance with California State law. The next section of the report provides a detailed discussion of the specific calculation of the water capacity reserve fee for the District.



3.0 Development of the Water Capacity Reserve Fees

3.1 Introduction

This section of the report presents the key assumptions and details used in calculating the District's water capacity reserve fee. The calculation is based on District-specific financial and planning information. Specifically, the water capacity reserve fee is based upon the District's asset management program, Capital Improvement Plan (CIP), DSRSD/EBMUD Recycled Water Authority (DERWA) costs related to the District's proportional share of the assets and debt, and other planning related data. To the extent that the cost and timing of future capital improvements change, then the water capacity reserve fee presented in this section of the report should be updated to reflect the changes.

The methodology used in this analysis for the District contains an existing or buy-in cost component, and a future or incremental cost component. In other words, the District's existing assets are divided by the existing number of DUEs while the future or incremental expansion-related capital projects are divided by the future DUEs. Both calculations are summed, and the result is the total net allowable water capacity reserve fee.

3.2 Overview of District's Water System

The District is the water retailer for residents in the City of Dublin and the Dougherty Valley portion of the City of San Ramon. The District buys wholesale potable water from Alameda County Flood Control and Water Conservation District Zone 7 (Zone 7). Zone 7 obtains water from the State Water Project (SWP), from a local watershed, and from groundwater aquifers under the valley. Normally, about 80 percent of the valley's water comes from the SWP, traveling from the Sierra Nevada Mountains through Lake Oroville and the Sacramento-San Joaquin Delta. The water is then pumped into the South Bay Aqueduct near Tracy, where it enters the Tri-Valley. Droughts and regulatory restrictions decrease the amount of SWP water available to the Tri-Valley and increases reliance on local groundwater.

To improve the reliability of the valley's water supply, the District is a member agency (along with East Bay Municipal Utility District (EBMUD)) in the DSRSD-EBMUD Recycled Water Authority (DERWA), a joint powers authority formed in 1995 to plan, design, construct, own and operate various facilities which together maximizes the volume of recycled water deliveries while recovering its costs. Two directors from each agency serve on the DERWA board of directors. The Authority began its operations on June 28, 1995. DERWA constructed a water recycling system, including treatment, conveyance, and pumping and storage facilities which became operational on February 1, 2006. Capital costs, including debt service, are allocated based on each member's proportional share of capital assets. This study includes only those costs related to the District's proportional share of these assets and debt. In addition to DERWA, the District has constructed and operates a recycled system for delivery of recycled water within the Dublin and San Ramon service areas. Costs related to projects that benefit only District customers are fully allocated to the cost of this service.

The District operates its water system as a single, pressurized, and integrated system. The District has viewed capacity reserve fees as a single fee (\$/DUE), regardless of the location of the new development in the service area. The cost of projects and DUEs, both potable and recycled, are summed to develop a single water capacity reserve fee paid by each new connection to the system.

3.3 Current Water Capacity Reserve Fees

The District’s current capacity reserve fee is based on the safe operating capacity of a 5/8-inch meter (or 1 DUE) as compared with the respective safe operating capacities of other meter sizes. The District engineer may adjust the Capacity Factor set forth in the table based on revisions to the AWWA publications. The District’s current capacity reserve fees are shown below in Table 3 - 1.

Table 3 - 1 Current Water Capacity Reserve Fees		
Meter Size [1]	Meter Ratio for a 5/8" Equivalency	Effective July 1, 2021 [2] [3] [4]
5/8"	1.0	\$13,963
3/4"	1.5	20,959
1"	2.5	34,931
1-1/2" (Displacement)	5.0	69,861
1-1/2" (OMNI C2)	16.0	223,555
1-1/2" (OMNI T2)	16.0	223,555
2" (Displacement)	8.0	111,777
2" (OMNI C2)	16.0	223,555
2" (OMNI T2)	20.0	279,443

[1] Meters 3" and up are determined by DSRSD based on Maximum Rate for Continuous Operation through a 5/8" meter, as defined by the American Water Works Association (AWWA)

[2] Recycled water capacity reserve fees are equivalent to potable water fees

[3] DSRSD fees are revised annually on July 1 based on changes in the Engineering News Record (ENR) Construction Cost Index and are subject to change at other times

[4] Calculated fees are in addition to Zone 7 connection fees

3.4 Key Assumptions

In developing the capacity reserve fees for the District’s water system, a number of key assumptions were utilized. These are as follows:

- The District provided the planning criteria.
- The methodology used is the combined methodology. The buy-in and expansion component are added together for a net allowable fee.
- The District’s Asset Management program records were used to determine the existing plant assets, based on replacement cost.
- The base year for calculations is Jan. 1, 2022.

- The District provided the CIP for future improvements.
- The District determined and/or reviewed the portion of future improvements that were growth related. The future improvements were identified in the 2016 Water Master Plan Update and/or were reflected in the FYE 2022-2031 Capital Improvement Program Ten Year Plan.

3.5 District's System Planning Criteria

The process of calculating capacity reserve fees is based on a four-step process. In summary form, these steps are as follows:

- Determination of system planning criteria
- Determination of dwelling unit equivalents (DUEs)
- Calculation of the capacity reserve fee by system component costs
- Determination of capacity reserve fee credits

Each of these steps is discussed in more detail below.

3.5.1 System Planning Criteria

System planning criteria typically involves calculating the amount of water required by a single-family residential customer (hence the term “Dwelling Unit Equivalent” or “DUE”). Water demand per DUE represents the basis for system design. The planning period utilized in the 2016 capacity reserve fee study was based on the District’s adopted 2016 Water Master Plan Update which extended through 2035. By year 2035, the District anticipates development within its service area would be completed (commonly referred to as “build out”). The District updated the projected DUEs from the 2016 study based on actual DUEs that occurred from 2016 to 2021, along with updated projected future water demands.

3.5.2 Dwelling Unit Equivalents

The current and projected number of dwelling units is important for the study in that certain costs may be proportionally assigned to existing or future DUEs. A projection of the number of new DUEs from 2021 through 2035 was prepared by the District using updated development plans from the City of Dublin. Since the last study, the projected build out number of DUEs has been revised to reflect these updated development plans. The analysis developed by the District was very detailed in that it considered both the remaining available land area within the District’s service area, as well as the type(s) of customers that may develop within a particular area. This approach to forecasting DUEs is far more reasonable and accurate than simply projecting future DUEs by taking the existing number of DUEs and applying an assumed growth rate. It should also be noted that the development of the DUEs includes both potable and recycled water DUEs. A summary of the projected total DUEs used in the development of the study are presented in Table 3 - 2. Details of the projected DUEs, by year, are provided on Exhibit 1 of the Technical Appendix.

**Table 3 - 2
Water System Dwelling Unit Equivalents (DUEs)**

Description	Dwelling Unit Equivalents (DUEs) ^[1]
Existing 2021	35,991
Net Future DUEs 2022 - 2035	<u>6,567</u>
Projected 2035 Total DUEs (build out)	42,558

[1] DUE figures contain decimals and rounding; totals may not equal the sum of the actual values.

3.6 Calculation of the District’s Water Capacity Reserve Fees

The next step of the analysis is to review each major infrastructure asset class in service and determine the capacity reserve fee for that class. In calculating the capacity reserve fees, existing infrastructure (including District investment in DERWA assets), planned future capital projects, and outstanding debt were included. The major infrastructure asset classes of the District’s water system that were reviewed for purposes of calculating the water capacity reserve fees were as follows:

- Source
- Water Treatment (DERWA)
- Pump Stations
- Reservoirs
- Administration Offices
- Transmission/Distribution (Potable (PW) and Recycled (RW))
- Facilities & Equipment

For purposes of this study, the component of the water capacity reserve fee associated with existing infrastructure is referred to as the “buy-in component,” the component of the water capacity reserve fee associated with future capital projects is referred to as the “expansion component”. The outstanding debt principal is deducted from the “buy-in” component since both the outstanding principal and interest is on the buy-in portion of the fee. The expansion portion is further adjusted by the expansion reserves for a total net expansion component.

Based on the sum of the component costs (buy-in less outstanding debt principal), expansion plus outstanding debt (principal and interest), and less expansion reserves, the net allowable water capacity reserve fee is determined. The term net allowable refers to the concept that the calculated water capacity reserve fee is the District’s cost-based (i.e., maximum) fee.

The calculations take into account the financing mechanisms of capital improvements. These fees must be implemented according to the capacity requirement each new connection places on the water system. This way, the water capacity reserve fees are related to the costs the new customer places on the systems and the benefit they derive from infrastructure in place to serve them.

3.6.1 Buy-In Component

The District provided asset listings for the various infrastructure asset classes and their replacement values based on the District's Asset Management program. The assets were reduced by accumulated depreciation based on engineering estimate of service life and installation date calculated at straight-line depreciation. This is referred to as Replacement Cost New Less Depreciation (RCNLD). For this study, the District determined transmission/distribution assets greater than or equal to 12 inches as major infrastructure that provides system capacity to accommodate future development and will be included in the buy-in component calculation. Contributed assets are developer contributed assets which were not included in the water capacity reserve fee calculation. In contrast to this, non-contributed assets were included as 100 percent (%) eligible. Given the value of the water capacity reserve fee eligible assets, they were sum totaled for each system component and divided by the total existing number of DUEs.

Below is a brief summary of the infrastructure asset classes that comprise the District's water system:

Source

The District receives all of its potable water from the Zone 7 Water Agency. The District's total cost for its potable water also includes fluoride treatment assets, as well as other miscellaneous source-related assets. The portion of the capacity reserve fee for source-related facilities (RCNLD) is \$12 per DUE. Details of the calculation are provided in Exhibit 3 of the Technical Appendix.

Pump Stations

The District currently has seventeen potable and three recycled water pump stations. Future improvements are to provide pump station upgrades for increased capacity and reliability to serve growth. The portion of the capacity reserve fee for pump stations (RCNLD) is \$362 per DUE. Details of the calculation are provided in Exhibit 4 of the Technical Appendix.

Reservoirs

The District currently has fourteen reservoirs with a capacity of approximately 27.05 million gallons (mg) for the potable system and for the recycled system has two reservoirs with a capacity of approximately 10.95 mg. The portion of the capacity reserve fee for distribution storage (RCNLD) is \$891 per DUE. Details of the calculation are provided in Exhibit 5 of the Technical Appendix.

Administration Offices

The replacement cost for the District's administration office at 7051 Dublin Boulevard in Dublin and the Field Operations Department Administrative Office is based on insured value, as determined by CSRMA/Alliant in their valuation dated February 2019. Insured value serves as a readily accessible proxy for RCN value based on construction costs. The District office and Field Operations office provides support not only to the water operations and treatment activities, but also to the District's other activities (i.e., local and regional wastewater collection and treatment), therefore, we have included 31% of the total value of the District office and 85% of the Field Operations office, which is the water asset value as a percentage of total District assets. The portion of the capacity reserve fee at insured value for the water

system's share of administration facilities is \$194 per DUE. Details of the calculation are provided in Exhibit 6 of the Technical Appendix.

Transmission & Distribution

Transmission & Distribution is the District's largest infrastructure asset class. The District operates and maintains 331 miles of potable and 69 miles of recycled water pipelines ranging from 1" to 36" of which pipelines 12" and greater are considered major infrastructure and included in the buy-in component calculation. The portion of the capacity reserve fee for potable (\$4,251) and recycled (\$1,036) water pipelines (RCNLD) is a total of \$5,287 per DUE. Details of the calculation are provided in Exhibit 7-8 of the Technical Appendix.

DERWA Assets

The District does not manage the records of DERWA assets and was reliant on the JPA's 2021 audited financial statements and other financial reports to determine the value of the District's share of JPA assets (\$39.7 million). The share of DERWA assets was reported on the District's 2021 Annual Comprehensive Financial Report (ACFR) as "Investment in JPA". The total DSRSD share of DERWA assets divided by the total existing number of DUEs results in a buy-in component for the District's share of DERWA assets of \$1,104 per DUE..

The summed total of the existing DSRSD and DERWA share of assets for the buy-in component is \$7,851. Exhibit 11, of the Technical Appendix details the buy-in component.

Table 3 – 3 is a summary of the total buy-in assets.

Table 3 - 3 Summary of the Buy-In Costs					
Assets	Asset-base (\$)		Existing DUEs ^[1]	=	Total Buy-In CRF \$/DUE ^[2]
DSRSD Assets	(RCNLD)				
Source	\$419,761	÷	35,991	=	\$12
Pump Stations	13,032,788	÷	35,991	=	362
Reservoirs	32,067,440	÷	35,991	=	891
Administration Offices	6,983,486	÷	35,991	=	194
Transmission & Distribution - PW	153,010,810	÷	35,991	=	4,251
Transmission & Distribution – RW	<u>37,273,345</u>	÷	35,991	=	<u>1,036</u>
Total DSRSD Assets	\$242,823,068				\$6,746
Total DERWA Infrast. – DSRSD Investment	\$39,733,435		35,991		\$1,104
Total Buy-in Costs	\$282,556,503				\$7,850

[1] See Exhibit 1 in Technical Appendix for DUE details. DUE figures contain decimals and rounding; totals may not equal the sum of the actual values.

[2] Figures contain decimals and rounding; totals may not equal the sum of the actual values.

The calculated value of the existing assets was reduced by the outstanding principal portion of the debt associated with the assets. This inclusion of a deduction of the outstanding principal on the buy-in component avoids double counting the asset value in the existing or buy-in component of the water capacity reserve fee, as well as in the debt service portion of the expansion component. The principal portion of the debt service balance on existing assets is removed from the value of the fee. The outstanding debt principal was summed and divided by the total existing number of DUEs. The result is the deduction of outstanding debt principal per DUE for DSRSD existing assets of \$886 and equity in existing DERWA asset of \$93 for a total outstanding debt principal of \$978. Table 3 - 4 is a summary of the deduction of outstanding debt principal.

Table 3 – 4
Summary of the Buy-In Debt Principal Deduction

Outstanding Debt Principal	Debt Principal (\$)		Existing DUEs ^[1]	=	Total Debt Deduct \$/DUE ^[3]
Debt (Principal Only)^[2]					
2017 Rev. Ref. Water	(\$31,870,000)	÷	35,991	=	(\$886)
DERWA State Loan	<u>(\$3,329,747)</u>	÷	35,991	=	<u>(93)</u>
Total Buy-In Deduction	(\$35,199,747)				(\$978)

[1] See Exhibit 1 in Technical Appendix for DUE details. DUE figures contain decimals and rounding; totals may not equal the sum of the actual values.

[2] See Exhibit 10 in Technical Appendix for debt schedules.

[3] Figures contain decimals and rounding; totals may not equal the sum of the actual values.

Given the buy-in costs for existing DSRSD and share of DERWA assets of \$7,850 per DUE, less the outstanding debt principal of \$978 per DUE, the total capacity reserve fee net buy-in component is \$6,872 per DUE. Table 3 - 5 is a summary of the net buy-in component.

Table 3 - 5
Summary of the Buy-In Component

	Asset-base (\$)	Total Buy-In CRF \$/DUE ^[1]
Total Buy-in Cost	\$282,521,066	\$7,850
Less: Debt Credits	<u>(35,199,747)</u>	<u>(978)</u>
Net Buy-in Component	\$247,356,756	\$6,872

[1] Figures contain decimals and rounding; totals may not equal the sum of the actual values.

3.6.2 Expansion Component

For the expansion component, the District’s future capital improvement needs were reviewed to determine what portion of planned future projects is required to serve future growth. The

growth-related portion of each project was summed to determine the total eligible future project value, which was then divided by projected DUEs through build out 6,567 (2022 – 2035). This approach is equitable and proportional in that these facilities will be built to serve the customers connecting during this time.

District growth-related capital projects are based on the adopted Ten-year Capital Improvement Plan for Fiscal Years 2022-2031. The District will invest approximately \$47 million over the planning period of which \$39 million were originally identified in the 2016 Water Master Plan Update prepared by West Yost & Associates. Since the last study in 2016, project cost estimates for certain projects have been updated. Particularly, the Reservoir 10A project increased over \$10.0 million from the 2016 estimate of \$7.6 million to \$18.5 million. The Turnout 6 project increased by \$6.9 million from the 2016 estimate of \$2.0 million to \$8.9 million. The capital improvement projects are provided on Exhibit 2 of the Technical Appendix. Highlighted below are certain expansion projects by functions:

Source

Long-Term Water Resiliency Program (CIP No. 00-W002). This program will develop long-term projects to meet the objectives of the Water Resiliency Policy adopted by the Board of Directors on April 20, 2021. The program will focus on building water resiliency by working collaboratively with regional partners to implement a diverse portfolio of supply, storage and conveyance projects. The program may include a potable reuse project; participation in regional storage; desalination, and intertie projects; and/or supplemental groundwater projects to expand the recycled water program. The Water Expansion fund portion of these efforts has a budgeted cost of \$10.0 million.

Turnout 6 (CIP No. 20-W015). The District receives its treated water supply from the Zone 7 Water Agency through turnouts on the Zone 7 water transmission system. This project will provide water supply for development in eastern Dublin by constructing a new turnout from Zone 7 Cross Valley Pipeline south of I-580 at Pimlico Drive. Construction of the turnout adds redundancy and improves reliability of the distribution system by having a secondary source turnout to supply newly developing eastern Dublin should there be a failure of Zone 7 Water Agency's Santa Rita Pipeline. This project is funded from the Water Expansion fund with a total estimated cost of \$8.9 million. This project was identified as a needed expansion project in the 2016 Water Master Plan Update, and is reflected in the FYE 2022-2031 Capital Improvement Program Ten Year Plan.

Storage

Reservoir 20B (CIP No. 14-W008). This project will construct a new 1.3-million-gallon potable water reservoir in eastern Dublin to provide potable water storage capacity for eastern Dublin and potable water to Dougherty Valley. The project is funded from the Water Expansion fund with a total estimated cost of \$7.0 million and is expected to be completed by Fiscal Year 2024.

Reservoir 10A (CIP No. 11-W003). This project will replace the existing 3.0-million-gallon reservoir with a new 4.1-million-gallon reservoir. The existing Reservoir 10A was constructed in the 1940s and currently serves Zone 1 in central Dublin. The project will gain additional storage to serve developing Eastern Dublin, and was identified as a needed expansion project in the 2016 Water Master Plan Update. The project is funded from the Water Expansion fund with a total estimated cost of \$18.5 million.

Transmission & Distribution

Dublin Boulevard Extension – Water Facilities (CIP 20-W027). This project will construct a 1.5 mile potable water line to accommodate future development, based on the City of Dublin’s General Plan. The project is funded from the Water Expansion fund with a total estimated cost of \$2 million.

DERWA Projects

DERWA projects include the District’s share of the capital projects in FY 2022 for 46% or \$16,100 of \$35,000 expansion project, and 58% of the Recycled Water Plant Phase 2 or \$1,096,200 of the total \$1,890,000 project. This is a total of \$1,112,300 District’s share of the costs.

Debt Service and Fund Reserve Components

The District has a separate and distinct expansion fund to account for all expansion-related projects and their associated costs. Since the District’s existing debt was incurred to pay for expansion projects, debt service incurred to finance those expansion projects is also accounted for within the expansion fund, and the District pays its debt service with revenues from the expansion fund (primarily through capacity reserve fee revenues). However, in cases where a portion of a project is allocated to replacement, only that portion of the project that provides expansion capacity is included in the expansion fund and used in the calculation of the expansion component. To avoid double counting of assets financed with debt, the future principal associated with those assets was deducted from the existing infrastructure calculation before the buy-in component was calculated.

2017 Revenue Refunding Bond

The District issued 2017 Water Revenue Refunding Bonds with proceeds used to advance refund the outstanding portion of the 2011 Water Revenue Refunding Bonds. The 2011 Revenue Refunding Bond was the refunded WaterReuse and Commercial Paper debt issued by DERWA. In prior studies, debt was allocated to align individual assets (both District assets and the District share of DERWA assets) to debt. The two refundings have made it near impossible to allocate debt to specific assets. Instead, this study proposes viewing assets on a “system-wide” basis and dividing outstanding debt by future DUEs. The “system-wide” basis is the generally accepted methodology for water systems nearing buildout. The current outstanding debt principal is approximately \$31.9 million.

DERWA State Loan

The DERWA JPA received two state loans in order to finance construction of recycled water facilities that were completed in 2005 and 2006. The portion of the debt attributed to the District has been included in the expansion component. The current outstanding loan principal is \$3.3 million.

Detailed worksheets of the debt service payment schedules can be found in Exhibit 10 in the Technical Appendix.

Fund Reserves

Reserves reflects the funds available in the District’s expansion fund that have been funded through past reserve capacity fee revenues. Given this balance of funds, which can be used to fund future expansion related improvements, it is deducted to provide a credit against the available cash to fund future expansion costs. The expansion fund reserve balance from the

District’s current fund balance was based on recent financial statements and transfers as of 2022, which includes recycled water rate transfers and COVID 19 fiscal relief funding. The reserves are included to recognize the revenue that has already been contributed by growth towards the remaining capital expansion projects and DERWA debt service payments. The current fund reserve is approximately \$45.6 million.

Table 3 – 6 is a summary of the expansion costs of \$8,436 per DUE. Exhibit 11, of the Technical Appendix details the future component for capital projects.

Table 3 - 6 Summary of the Expansion Costs					
Expansion Costs	Future Cost (\$)		Future DUEs^[1]	Total Future CRF \$/DUE^[3]	
DSRSD Projects					
Source	\$19,861,206	÷	6,567	=	\$3,024
Reservoirs	25,430,494	÷	6,567	=	3,872
Trans. & Distrib. - PW	<u>2,040,000</u>	÷	6,567	=	<u>311</u>
Total DSRSD Projects	\$47,331,700				\$7,207
DERWA Projects - DSRSD Share					
DERWA Expansion Projects	<u>1,112,300</u>	÷	6,567	=	<u>169</u>
Total Expansion Projects	\$48,444,000				\$7,376
Total Debt					
2017 Revenue Bond ^[2]	\$48,970,594	÷	6,567	=	\$7,457
DERWA State Loan	<u>3,559,655</u>	÷	6,567	=	<u>542</u>
Total Exp.-Related Debt	\$54,422,061				\$7,999
Less Exp. Fund Reserves	<u>(\$45,569,400)</u>		6,567		<u>(\$6,939)</u>
Total Expansion Costs	\$56,184,361				\$8,436

[1] See Exhibit 1 in Technical Appendix for DUE details.

[2] DUE figures contain decimals and rounding; totals may not equal the sum of the actual values.

[3] Figures contain decimals and rounding; totals may not equal the sum of the actual values.

The expansion component of the capacity reserve fee is reduced by the expansion fund reserves to calculate the net expansion cost component of the fee.

3.7 Net Allowable Water Capacity Reserve Fee

The methodology used to establish the water capacity reserve fee is a combined approach. The combined approach adds the buy-in component and the expansion component together. Table 3 - 7 shows the net allowable water capacity reserve fee.

**Table 3 - 7
Summary of the Capacity Reserve Fee by Component**

	Buy-In		Expansion		Total CRF \$/DUE ^[1]
DSRSD	\$5,768	+	\$8,267	=	\$14,035
DERWA - DSRSD Investment	<u>1,104</u>	+	<u>169</u>	=	<u>1,273</u>
Total Allowable Fee	\$6,872	+	\$8,436	=	\$15,308

[1] Figures contain decimals and rounding; totals may not equal the sum of the actual values.

As can be seen in Table 3 - 7, the maximum allowable water capacity reserve fee is \$15,308 per DUE. From the calculated allowable water capacity reserve fee, the fee is then placed in the context of the size and type of meter. The capacity reserve fee varies based upon the safe operating capacity of the customer’s meter. Table 3 - 8 provides a summary of the calculated and allowable capacity reserve fee by meter type and size.

**Table 3 - 8
Current and Calculated Water Capacity Reserve Fee**

Meter Size ^[1]	Capacity Factor 5/8" Equivalency	Effective July 1, 2021 ^{[2] [3]}	Calculated Capacity Reserve Fee ^[4]
5/8"	1.0	\$13,963	\$15,308
3/4"	1.5	20,959	22,962
1"	2.5	34,931	38,270
1-1/2" (Displacement)	5.0	69,861	76,540
1-1/2" (OMNI C2)	16.0	223,555	244,928
1-1/2" (OMNI T2)	16.0	223,555	244,928
2" (Displacement)	8.0	111,777	122,464
2" (OMNI C2)	16.0	223,555	244,928
2" (OMNI T2)	20.0	279,443	306,160

[1] Meters 3" and up are determined by DSRSD based on Maximum Rate for Continuous Operation through a 5/8" meter, as defined by the American Water Works Association (AWWA)

[2] Recycled water capacity reserve fees are equivalent to potable water fees

[3] DSRSD fees are revised annually on July 1 based on changes in the Engineering News Record (ENR) Construction Cost Index and are subject to change at other times

[4] Calculated fees are in addition to Zone 7 connection fees

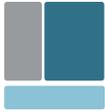
3.8 Consultant's Recommendations

Based on our review and analysis of the District's water system, HDR recommends:

1. The District should adopt the water capacity reserve fees for new connections which are no greater than the net allowable water capacity reserve fees as set forth in this report.
2. The District should continue to annually update the water capacity reserve fees by a local construction cost index such as the Engineering News Record Construction Cost Index (ENR-CCI) for no more than five years before a complete update of the water capacity reserve fees is completed. Industry best practice of annual inflationary adjustment can keep the fees (plant investment) relatively current with construction pricing practices.
3. The District should update the actual calculations for the water capacity reserve fees at such time when a new capital improvement plan, public facilities plan, comprehensive system plan, or a comparable plan is approved or updated by the District, or every five years.

3.9 Summary

The water capacity reserve fees developed and presented in this report are based on the planning and engineering design criteria of the District's water system, the value of the existing assets, and generally accepted ratemaking principles. Consistently updating the charge annually based on the Engineering New Record cost index and reviewing the capacity reserve fees every five years will continue to create equitable and cost-based fees for new customers connecting to the District's water system.



Technical Appendix

DSRSD
Capacity Reserve Fees Study
DUE Projections
Exhibit 1

Fiscal Year End	DUE Credits	Historical DUEs [1]	Cumulative DUEs [1]	Fiscal Year End	Projected DUEs [1]	DUE Credits	Cumulative DUEs [1]
2002			15,566	2020	535	0	35,696
2003		3,588	19,154	2021	295	0	35,991
2004		2,426	21,580	2022	512	0	36,502
2005		2,583	24,163	2023	743	0	37,246
2006		1,747	25,910	2024	632	0	37,878
2007		1,544	27,454	2025	337	0	38,215
2008		890	28,344	2026	946	0	39,161
2009		30	28,374	2027	1,132	0	40,293
2010		10	28,384	2028	913	0	41,207
2011	(177)	1,928	30,135	2029	451	0	41,657
2012	(73)	249	30,311	2030	259	0	41,917
2013	(5)	321	30,627	2031	253	0	42,170
2014	(10)	340	30,956	2032	97	0	42,267
2015		566	31,522	2033	97	0	42,364
2016		1,071	32,593	2034	97	0	42,461
2017		642	33,235	2035	97	0	42,558
2018		958	34,193				
2019		968	35,161				

		19,860					

Summary Totals	DUEs			
Total DUEs 2021	35,991	Total DUEs 2021 - 2035	6,567	0
Projected 2035 Total DUEs	42,558			42,558

Notes:

[1] Except where noted, data obtained From DSRSD's DUE Projections WY 06.23.2021

DSRSD
Capacity Reserve Fees Study
Capital Improvement Projects
Exhibit 2

	[1] Total 2021\$	CF Eligible [2]	Cost 2021\$	Cost 2021\$	Source
Future Source Related Assets					
08-6202 Pump Station 20A Improvements	\$470,000	100%	\$470,000	\$470,000	<i>From CIP Water Expansion Projects</i>
20-WO15 Turnout 6	8,916,206	100%	8,916,206	8,916,206	<i>From CIP Water Expansion Projects</i>
20-WO17 Water System Master Plan and Operations Plan Update	100,000	100%	100,000	100,000	<i>From CIP Water Expansion Projects</i>
00-W002 Long-Term Water Resiliency Program	10,000,000	100%	10,000,000	10,000,000	<i>From CIP Water Expansion Projects</i>
22-WO20 2021 Alternative Water Supply Study	375,000	100%	375,000	375,000	<i>From CIP Water Expansion Projects</i>
	\$19,861,206		\$19,861,206	\$19,861,206	
Future Reservoir					
14-W008 Reservoir 20B	\$6,959,269	100%	\$6,959,269	\$6,959,269	<i>From CIP Water Expansion Projects</i>
17-W003 Reservoir 10A	18,471,225	100%	18,471,225	18,471,225	<i>From CIP Water Expansion Projects</i>
	\$25,430,494		\$25,430,494	\$25,430,494	
Future Transmission/Distribution					
T20-13 Gleason Drive Property Planning Study	60,000	100%	60,000	60,000	<i>From CIP Water Expansion Projects</i>
20-WO27 Dublin Boulevard Extension Water Facilities	1,980,000	100%	1,980,000	1,980,000	<i>From CIP Water Expansion Projects</i>
	\$2,040,000		\$2,040,000	\$2,040,000	
Total Future Capital Improvements	\$47,331,700		\$47,331,700	\$47,331,700	

Notes:

[1] Ten Year Capital Improvement Program, 2022-2031, Table 13, page 48 of 175.

[2] District staff provided estimates on Capacity Reserve Fee related percentage.

DSRSD
Capacity Reserve Fees Study
Source
Exhibit 3

Install. Year	Repl. Year	Useful Life	In Service		Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCN
Existing Source Related Assets									
1976	2026	50	46	TURNOUT	\$263,327	\$242,261	\$21,066	100%	\$21,066
1984	1999	15	38	60-132-1954-ESE-01: TO 2 EMERGENCY SHOWER AND EYEWASH STATION	5,000	5,000	0	100%	0
1984	2034	50	38	TURNOUT	557,942	424,036	133,906	100%	133,906
1999	2014	15	23	60-134-1955-ESE-01: TO 4 EMERGENCY SHOWER AND EYEWASH STATION	5,000	5,000	0	100%	0
1999	2049	50	23	TURNOUT	426,424	196,155	230,269	100%	230,269
2007	2022	15	15	60-135-1958-EEW-01: TO 5 EMERGENCY EYEWASH STATION	5,000	5,000	0	100%	0
2011	2021	10	11	60-9400ACU: AIR CONDITIONER FOR ZONE 7 TURNOUT 5 RTU	7,700	7,700	0	100%	0
2013	2023	10	9	60-131-1001-PMP-01: TO 1 FLUORIDE TRANSFER PUMP	600	540	60	100%	60
2013	2023	10	9	60-132-1001-PMP-01: TO 2 FLUORIDE TRANSFER PUMP	600	540	60	100%	60
2013	2023	10	9	60-134-1001-PMP-01: TO 4 FLUORIDE TRANSFER PUMP	600	540	60	100%	60
2013	2028	15	9	60-131-1953-ESE-01: TO 1 EMERGENCY SHOWER AND EYEWASH STATION	5,000	3,000	2,000	100%	2,000
2018	2043	25	4	60-0100RTU: TO 1 RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-132-0200-RTU-01: TO 2 RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-134-1600-RTU-01: TO 4 RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-135-4000-RTU-01: TO 5 RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-9400RTU: RTU FOR ZONE 7 / TURNOUT 5	7,700	1,232	6,468	100%	6,468
					\$1,315,693	\$895,932	\$419,761		\$419,761
Total DUEs 2021									35,991 Existing
Total Source Buy-in CRF (\$/DUE)									\$11.66
Future Source Related Assets									
Pump Station 20A Improvements					\$470,000			100%	\$470,000
Turnout 6					8,916,206			100%	8,916,206
Water System Master Plan and Operations Plan Update					100,000			100%	100,000
Long-Term Water Resiliency Program					10,000,000			100%	10,000,000
2021 Alternative Water Supply Study					375,000			100%	375,000
Total Future Source Related Assets					\$19,861,206				\$19,861,206
Net Future DUEs 2020 - 2035									6,567 Future
Total Future Source Related Expansion CRF (\$/DUE)									\$3,024.29
Total Source-Related Buy-in and Expansion CRF (\$/DUE)									\$3,035.95
Notes:									

[1] Costs are in 2021 replacement cost dollars based on DSRSD asset management program.

DSRSD
Capacity Reserve Fees Study
Pump Stations
Exhibit 4

Install. Year	Repl. Year	Useful Life	In Service		Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCN
Existing Pump Station Assets									
1965	2040	75	57	Pump Station 2A Yard Piping	\$17,166	\$13,046	\$4,120	100%	\$4,120
1965	2021	56	57	Pump Station 2A Bldg Piping	18,069	18,069	0	100%	0
1965	2040	75	57	Pump Station 2B Yard Piping	24,031	18,264	5,767	100%	5,767
1965	2021	56	57	Pump Station 2B Bldg Piping	25,297	25,297	0	100%	0
1965	2015	50	57	PUMP STATION 2A BUILDING	389,268	389,268	0	100%	0
1965	2015	50	57	PUMP STATION 2B BUILDING	389,268	389,268	0	100%	0
1983	2003	20	39	Pump Station 3C Fence	5,351	5,351	0	100%	0
1983	2003	20	39	Pump Station 3C Landscaping	10,703	10,703	0	100%	0
1983	2008	25	39	Pump Station 3C PAVING	14,296	14,296	0	100%	0
1983	2058	75	39	Pump Station 3C Yard Piping	63,856	33,205	30,651	100%	30,651
1983	2033	50	39	Pump Station 3C Bldg Piping	233,539	182,161	51,379	100%	51,379
1985	2060	75	37	Pump Station 2C Yard Piping	126,975	62,641	64,334	100%	64,334
1985	2035	50	37	Pump Station 2C Bldg Piping	144,556	106,971	37,585	100%	37,585
1985	2035	50	37	PUMP STATION 3C BUILDING	294,503	217,932	76,571	100%	76,571
1985	2035	50	37	PUMP STATION 2C BUILDING	585,599	433,343	152,256	100%	152,256
1986	2061	75	36	Pump Station 3B Yard Piping	17,166	8,239	8,926	100%	8,926
1986	2036	50	36	Pump Station 3B Bldg Piping	18,069	13,010	5,059	100%	5,059
1986	2036	50	36	PUMP STATION 3B BUILDING	318,268	229,153	89,115	100%	89,115
1990	2065	75	32	Pump Station 3A Yard Piping	17,166	7,324	9,842	100%	9,842
1990	2040	50	32	Pump Station 3A Bldg Piping	18,069	11,564	6,505	100%	6,505
1990	2040	50	32	PUMP STATION 3A BUILDING	389,268	249,131	140,136	100%	140,136
1991	2006	15	31	60-132-1951-ESE-01: TO 2 EMERGENCY SHOWER STATION	5,000	5,000	0	100%	0
1991	2011	20	31	Pump Station 1A Landscaping	33,998	33,998	0	100%	0
1991	2016	25	31	Pump Station 1A PAVING	45,410	45,410	0	100%	0
1991	2021	30	31	60-111-1000-MCC-01: PS 1A MOTOR CONTROL CENTER	77,000	77,000	0	100%	0
1991	2041	50	31	Pump Station 1A Vault	101,996	63,238	38,759	100%	38,759
1991	2066	75	31	Pump Station 1A Yard Piping	202,832	83,837	118,995	100%	118,995
1991	2041	50	31	Pump Station 1A Bldg Piping	240,837	149,319	91,518	100%	91,518
1991	2041	50	31	PUMP STATION 1A BUILDING	935,448	579,978	355,470	100%	355,470
1998	2013	15	24	60-214-1100-HST-01: PS 20A ELECTRIC HOIST	3,100	3,100	0	100%	0
1998	2023	25	24	60-214-1001-MTR-01: PS 20A PUMP 1 MOTOR	8,300	7,968	332	100%	332
1998	2023	25	24	60-214-1002-MTR-01: PS 20A PUMP 2 MOTOR	8,300	7,968	332	100%	332
1998	2023	25	24	60-214-1003-MTR-01: PS 20A PUMP 3 MOTOR	8,300	7,968	332	100%	332
1998	2018	20	24	Pump Station 20A Landscaping	26,450	26,450	0	100%	0
1998	2023	25	24	Pump Station 20A PAVING	40,189	38,581	1,608	100%	1,608
1998	2023	25	24	60-214-1001-PMP-01: PS 20A PUMP 1	55,900	53,664	2,236	100%	2,236
1998	2023	25	24	60-214-1002-PMP-01: PS 20A PUMP 2	55,900	53,664	2,236	100%	2,236
1998	2023	25	24	60-214-1003-PMP-01: PS 20A PUMP 3	55,900	53,664	2,236	100%	2,236
1998	2028	30	24	60-214-1000-MCC-01: PS 20A MOTOR CONTROL CENTER	77,000	61,600	15,400	100%	15,400
1998	2048	50	24	Pump Station 20A Vault	79,352	38,089	41,263	100%	41,263
1998	2073	75	24	Pump Station 20A Yard Piping	157,801	50,496	107,305	100%	107,305
1998	2048	50	24	Pump Station 20A Bldg Piping	240,837	115,602	125,235	100%	125,235
1999	2019	20	23	Pump Station 4B Fence	13,225	13,225	0	100%	0
1999	2024	25	23	Pump Station R20 Pavement	21,363	19,654	1,709	100%	1,709
1999	2019	20	23	Pump Station 4B Landscaping	26,450	26,450	0	100%	0

Install. Year	Repl. Year	Useful Life	In Service		Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCN
1999	2024	25	23	Pump Station 4B PAVING	35,329	32,503	2,826	100%	2,826
1999	2049	50	23	Pump Station R20 Vault	47,984	22,073	25,912	100%	25,912
1999	2049	50	23	PUMP STATION R20A BUILDING	48,600	22,356	26,244	100%	26,244
1999	2049	50	23	Pump Station 4B Vault	79,352	36,502	42,850	100%	42,850
1999	2074	75	23	Pump Station 4B Yard Piping	157,801	48,392	109,409	100%	109,409
1999	2074	75	23	Pump Station R20 Yard Piping	170,927	52,418	118,510	100%	118,510
1999	2049	50	23	Pump Station 4B Bldg Piping	240,837	110,785	130,052	100%	130,052
1999	2049	50	23	Pump Station R20 Bldg Piping	240,837	110,785	130,052	100%	130,052
1999	2049	50	23	PUMP STATION 20A BUILDING	727,773	334,776	392,997	100%	392,997
1999	2049	50	23	PUMP STATION 4B BUILDING	1,012,687	465,836	546,851	100%	546,851
2000	2020	20	22	60-214-2015-PRV-01: Discharge pressure reducing valve 10"	4,600	4,600	0	100%	0
2000	2020	20	22	60-214-2016-PRV-01: Discharge pressure reducing valve 3"	4,600	4,600	0	100%	0
2000	2020	20	22	60-216-2001-PRV-01: PS 200A pressure reducing valve	4,600	4,600	0	100%	0
2000	2020	20	22	60-315-3001-PRV-0: PS 300A pressure reducing valve	4,600	4,600	0	100%	0
2000	2020	20	22	60-315-3002-PRV-0: PS 300A pressure reducing valve	4,600	4,600	0	100%	0
2000	2020	20	22	Pump Station R300A Fence	6,344	6,344	0	100%	0
2000	2020	20	22	Pump Station R300A Landscaping	12,687	12,687	0	100%	0
2000	2020	20	22	Pump Station 300A Fence	14,325	14,325	0	100%	0
2000	2025	25	22	Pump Station R300A Pavement	16,945	14,912	2,033	100%	2,033
2000	2020	20	22	Pump Station 200A Fence	17,293	17,293	0	100%	0
2000	2025	25	22	60-214-1001-CTV-01: PS 20A PUMP 1 CONTROL VALVE	26,100	22,968	3,132	100%	3,132
2000	2025	25	22	60-214-1002-CTV-01: PS 20A PUMP 2 CONTROL VALVE	26,100	22,968	3,132	100%	3,132
2000	2025	25	22	60-214-1003-CTV-01: PS 20A PUMP 3 CONTROL VALVE	26,100	22,968	3,132	100%	3,132
2000	2020	20	22	Pump Station 300A Landscaping	28,650	28,650	0	100%	0
2000	2020	20	22	Pump Station 200A Landscaping	34,586	34,586	0	100%	0
2000	2050	50	22	Pump Station R300A Vault	38,061	16,747	21,314	100%	21,314
2000	2025	25	22	Pump Station 300A PAVING	38,268	33,676	4,592	100%	4,592
2000	2025	25	22	Pump Station 200A PAVING	46,195	40,651	5,543	100%	5,543
2000	2030	30	22	50-311-1000-MCC-01: PS R300A MOTOR CONTROL CENTER	77,000	56,467	20,533	100%	20,533
2000	2050	50	22	Pump Station 300A Vault	85,953	37,819	48,134	100%	48,134
2000	2050	50	22	Pump Station 200A Vault	103,758	45,653	58,104	100%	58,104
2000	2075	75	22	Pump Station 300A Yard Piping	170,927	50,139	120,789	100%	120,789
2000	2075	75	22	Pump Station R300A Yard Piping	170,927	50,139	120,789	100%	120,789
2000	2075	75	22	Pump Station 200A Yard Piping	206,336	60,525	145,811	100%	145,811
2000	2050	50	22	Pump Station 200A Bldg Piping	240,837	105,968	134,869	100%	134,869
2000	2050	50	22	Pump Station 300A Bldg Piping	240,837	105,968	134,869	100%	134,869
2000	2050	50	22	Pump Station R300A Bldg Piping	240,837	105,968	134,869	100%	134,869
2001	2051	50	21	PUMP STATION 300A BUILDING	788,307	331,089	457,218	100%	457,218
2001	2051	50	21	PUMP STATION 200A BUILDING	951,610	399,676	551,934	100%	551,934
2002	2022	20	20	60-314-1101-FAN-01: PS 30A EXHAUST FAN	500	500	0	100%	0
2002	2017	15	20	60-314-1100-HST-01: PS 30A CHAIN FALL HOIST	1,500	1,500	0	100%	0
2002	2027	25	20	60-314-1003-MTR-01: PS 30A PUMP 3 MOTOR	4,800	3,840	960	100%	960
2002	2027	25	20	60-314-1002-MTR-01: PS 30A PUMP 2 MOTOR	4,800	3,840	960	100%	960
2002	2027	25	20	60-314-1001-MTR-01: PS 30A PUMP 1 MOTOR	4,800	3,840	960	100%	960
2002	2027	25	20	Pump Station R300B Pavement	6,907	5,525	1,381	100%	1,381
2002	2012	10	20	60-314-1004-PMP-01: PS 30A SUMP PUMP	7,800	7,800	0	100%	0
2002	2077	75	20	Pump Station R300B Yard Piping	13,392	3,571	9,821	100%	9,821

Install. Year	Repl. Year	Useful Life	In Service		Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCN
2002	2052	50	20	Pump Station R300B Vault	15,513	6,205	9,308	100%	9,308
2002	2022	20	20	Pump Station 30A Landscaping	19,034	19,034	0	100%	0
2002	2022	20	20	60-314-1001-PMP-01: PS 30A PUMP 1	23,500	23,500	0	100%	0
2002	2022	20	20	60-314-1002-PMP-01: PS 30A PUMP 2	23,500	23,500	0	100%	0
2002	2022	20	20	60-314-1003-PMP-01: PS 30A PUMP 3	23,500	23,500	0	100%	0
2002	2027	25	20	Pump Station 30A PAVING	25,422	20,338	5,084	100%	5,084
2002	2027	25	20	60-314-1001-CTV-01: PS 30A PUMP 1 CONTROL VALVE	26,100	20,880	5,220	100%	5,220
2002	2027	25	20	60-314-1002-CTV-01: PS 30A PUMP 2 CONTROL VALVE	26,100	20,880	5,220	100%	5,220
2002	2027	25	20	60-314-1003-CTV-01: PS 30A PUMP 3 CONTROL VALVE	26,100	20,880	5,220	100%	5,220
2002	2027	25	20	60-314-3104-CTV-01: Control Valve	31,600	25,280	6,320	100%	6,320
2002	2052	50	20	Pump Station 30A Vault	57,102	22,841	34,261	100%	34,261
2002	2032	30	20	60-314-1000-MCC-01: PS 30A MOTOR CONTROL CENTER	77,000	51,333	25,667	100%	25,667
2002	2052	50	20	Pump Station R300B Bldg Piping	112,824	45,130	67,695	100%	67,695
2002	2077	75	20	Pump Station 30A Yard Piping	113,553	30,281	83,272	100%	83,272
2002	2052	50	20	Pump Station 30A Bldg Piping	240,837	96,335	144,502	100%	144,502
2002	2052	50	20	PUMP STATION 30A BUILDING	864,000	345,600	518,400	100%	518,400
2003	2028	25	19	60-216-1101-MTR-01: PS 200A AIR HANDLING UNIT MOTOR	800	608	192	100%	192
2003	2028	25	19	60-315-1101-MTR-01: PS 300A AIR HANDLING UNIT MOTOR	800	608	192	100%	192
2003	2018	15	19	60-216-1100-HST-01: PS 200A CHAIN FALL HOIST	1,500	1,500	0	100%	0
2003	2018	15	19	60-315-1100-HST-01: PS 300A CHAIN FALL HOIST	1,500	1,500	0	100%	0
2003	2018	15	19	60-216-1101-AHU-01: PS 200A AIR HANDLING UNIT	6,200	6,200	0	100%	0
2003	2018	15	19	60-315-1101-AHU-01: PS 300A AIR HANDLING UNIT	6,200	6,200	0	100%	0
2003	2028	25	19	60-315-1003-MTR-01: PS 300A PUMP 3 MOTOR	8,300	6,308	1,992	100%	1,992
2003	2028	25	19	60-315-1002-MTR-01: PS 300A PUMP 2 MOTOR	8,300	6,308	1,992	100%	1,992
2003	2028	25	19	60-315-1001-MTR-01: PS 300A PUMP 1 MOTOR	8,300	6,308	1,992	100%	1,992
2003	2028	25	19	60-216-1004-MTR-01: PS 200A PUMP 4 MOTOR	9,800	7,448	2,352	100%	2,352
2003	2028	25	19	60-216-1002-MTR-01: PS 200A PUMP 2 MOTOR	9,800	7,448	2,352	100%	2,352
2003	2028	25	19	60-216-1001-MTR-01: PS 200A PUMP 1 MOTOR	9,800	7,448	2,352	100%	2,352
2003	2023	20	19	60-315-1001-PMP-01: PS 300A PUMP 1	55,900	53,105	2,795	100%	2,795
2003	2023	20	19	60-315-1002-PMP-01: PS 300A PUMP 2	55,900	53,105	2,795	100%	2,795
2003	2023	20	19	60-315-1003-PMP-01: PS 300A PUMP 3	55,900	53,105	2,795	100%	2,795
2003	2028	25	19	60-216-1001-PMP-01: PS 200A PUMP 1	76,700	58,292	18,408	100%	18,408
2003	2028	25	19	60-216-1002-PMP-01: PS 200A PUMP 2	76,700	58,292	18,408	100%	18,408
2003	2028	25	19	60-216-1003-PMP-01: PS 200A PUMP 3	76,700	58,292	18,408	100%	18,408
2003	2028	25	19	60-216-1004-PMP-01: PS 200A PUMP 4	76,700	58,292	18,408	100%	18,408
2003	2033	30	19	60-315-1000-MCC-01: PS 300A MOTOR CONTROL CENTER	77,000	48,767	28,233	100%	28,233
2003	2033	30	19	60-216-1000-MCC-01: PS 200A MOTOR CONTROL CENTER	77,000	48,767	28,233	100%	28,233
2004	2019	15	18	50-312-1100-HST-01: PS R300B CHAIN FALL HOIST	1,500	1,500	0	100%	0
2004	2019	15	18	60-317-1100-HST-01: PS 300C CHAIN FALL HOIST	1,500	1,500	0	100%	0
2004	2029	25	18	50-311-1001-MTR-01: PS R300A PUMP 1 MOTOR	3,800	2,736	1,064	100%	1,064
2004	2029	25	18	50-311-1002-MTR-01: PS R300A PUMP 2 MOTOR	3,800	2,736	1,064	100%	1,064
2004	2029	25	18	50-312-1001-MTR-01: PS R300B PUMP 1 MOTOR	3,800	2,736	1,064	100%	1,064
2004	2029	25	18	50-312-1002-MTR-01: PS R300B PUMP 2 MOTOR	3,800	2,736	1,064	100%	1,064
2004	2029	25	18	50-312-1003-MTR-01: PS R300B PUMP 3 MOTOR	3,800	2,736	1,064	100%	1,064
2004	2029	25	18	60-213-1002-MTR-01: PS 2C PUMP 2 MOTOR	4,600	3,312	1,288	100%	1,288
2004	2024	20	18	60-215-1210-PRV-01: 14 IN PRESSURE REDUCING VALVE	4,600	4,140	460	100%	460
2004	2019	15	18	60-311-1100-AHU-01: PS 3A AIR HANDLING UNIT	6,200	6,200	0	100%	0
2004	2019	15	18	50-311-1100-AHU-01: PS R300A AIR HANDLING UNIT	6,200	6,200	0	100%	0

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Install. Year	Repl. Year	Useful Life	In Service		Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCN
2004	2034	30	18	60-317-1002-RVS-01: PS 300C PUMP 2 MOTOR SOFT STARTER	6,200	3,720	2,480	100%	2,480
2004	2029	25	18	50-311-3600-RTU-01: PS R300A RTU	7,700	5,544	2,156	100%	2,156
2004	2014	10	18	60-311-1004-PMP-01: PS 3A SUMP PUMP	7,800	7,800	0	100%	0
2004	2029	25	18	60-317-1001-MTR-01: PS 300C PUMP 1 MOTOR	8,300	5,976	2,324	100%	2,324
2004	2029	25	18	60-317-1002-MTR-01: PS 300C PUMP 2 MOTOR	8,300	5,976	2,324	100%	2,324
2004	2029	25	18	60-317-1003-MTR-01: PS 300C PUMP 3 MOTOR	8,300	5,976	2,324	100%	2,324
2004	2016	12	18	50-311-1001-VFD-01: PS R300A PUMP 1 MOTOR VARIABLE FREQUENCY DRIVE	15,600	15,600	0	100%	0
2004	2016	12	18	50-311-1002-VFD-01: PS R300A PUMP 2 MOTOR VARIABLE FREQUENCY DRIVE	15,600	15,600	0	100%	0
2004	2016	12	18	60-317-1001-VFD-01: PS 300C PUMP 1 MOTOR VARIABLE FREQUENCY DRIVE	24,300	24,300	0	100%	0
2004	2016	12	18	60-317-1003-VFD-01: PS 300C PUMP 3 MOTOR VARIABLE FREQUENCY DRIVE	24,300	24,300	0	100%	0
2004	2024	20	18	Pump Station 10A Landscaping	31,754	28,579	3,175	100%	3,175
2004	2029	25	18	60-213-1001-PMP-01: PS 2C PUMP 1	38,800	27,936	10,864	100%	10,864
2004	2029	25	18	60-213-1002-PMP-01: PS 2C PUMP 2	38,800	27,936	10,864	100%	10,864
2004	2029	25	18	60-213-1003-PMP-01: PS 2C PUMP 3	38,800	27,936	10,864	100%	10,864
2004	2029	25	18	50-311-1001-PMP-01: PS R300A PUMP 1	38,800	27,936	10,864	100%	10,864
2004	2029	25	18	50-311-1002-PMP-01: PS R300A PUMP 2	38,800	27,936	10,864	100%	10,864
2004	2024	20	18	50-312-1001-PMP-01: PS R300B PUMP 1	38,800	34,920	3,880	100%	3,880
2004	2024	20	18	50-312-1002-PMP-01: PS R300B PUMP 2	38,800	34,920	3,880	100%	3,880
2004	2024	20	18	50-312-1003-PMP-01: PS R300B PUMP 3	38,800	34,920	3,880	100%	3,880
2004	2029	25	18	Pump Station 10A PAVING	42,414	30,538	11,876	100%	11,876
2004	2024	20	18	60-317-1001-PMP-01: PS 300C PUMP 1	55,900	50,310	5,590	100%	5,590
2004	2024	20	18	60-317-1002-PMP-01: PS 300C PUMP 2	55,900	50,310	5,590	100%	5,590
2004	2024	20	18	60-317-1003-PMP-01: PS 300C PUMP 3	55,900	50,310	5,590	100%	5,590
2004	2034	30	18	60-311-1000-MCC-01: PS 3A MOTOR CONTROL CENTER	77,000	46,200	30,800	100%	30,800
2004	2034	30	18	60-317-1000-MCC-01: PS 300C MOTOR CONTROL CENTER	77,000	46,200	30,800	100%	30,800
2004	2034	30	18	60-213-1000-MCC-01: PS 2C MOTOR CONTROL CENTER	77,000	46,200	30,800	100%	30,800
2004	2054	50	18	Pump Station 10A Vault	95,265	34,295	60,969	100%	60,969
2004	2079	75	18	Pump Station 10A Yard Piping	189,445	45,467	143,978	100%	143,978
2004	2054	50	18	Pump Station 10A Bldg Piping	301,201	108,432	192,769	100%	192,769
2005	2030	25	17	50-211-1004-MTR-01: PS R20 AIR COMPRESSOR MOTOR	1,100	748	352	100%	352
2005	2020	15	17	50-211-1100-HST-01: PS R20 ELECTRIC CHAIN FALL HOIST	1,500	1,500	0	100%	0
2005	2025	20	17	60-215-1211-PRV-01: PS 20B PRESSURE REGULATING VALVE	4,600	3,910	690	100%	690
2005	2030	25	17	50-211-2400-RTU-01: PS R20 RTU	7,700	5,236	2,464	100%	2,464
2005	2025	20	17	60-112-1141-MOV-01: PS 10A Electric Actuator/Positioner 141	9,200	7,820	1,380	100%	1,380
2005	2025	20	17	60-112-1142-MOV-01: PS 10A Electric Actuator/Positioner 142	9,200	7,820	1,380	100%	1,380
2005	2025	20	17	60-112-1143-MOV-01: PS 10A Electric Actuator/Positioner 143	9,200	7,820	1,380	100%	1,380
2005	2020	15	17	50-211-1004-ACO-01: PS R20 AIR COMPRESSOR	10,500	10,500	0	100%	0
2005	2025	20	17	Pump Station 300C Fence	12,237	10,402	1,836	100%	1,836
2005	2030	25	17	50-211-1001-MTR-01: PS R20 PUMP 1 MOTOR	13,300	9,044	4,256	100%	4,256
2005	2030	25	17	50-211-1002-MTR-01: PS R20 PUMP 2 MOTOR	13,300	9,044	4,256	100%	4,256
2005	2030	25	17	50-211-1003-MTR-01: PS R20 PUMP 3 MOTOR	13,300	9,044	4,256	100%	4,256
2005	2025	20	17	Pump Station 300C Landscaping	24,476	20,805	3,671	100%	3,671
2005	2030	25	17	Pump Station 300C PAVING	32,692	22,230	10,461	100%	10,461
2005	2055	50	17	Pump Station 300C Vault	73,428	24,966	48,463	100%	48,463
2005	2030	25	17	50-211-1001-PMP-01: PS R20 PUMP 1	95,900	65,212	30,688	100%	30,688
2005	2030	25	17	50-211-1002-PMP-01: PS R20 PUMP 2	95,900	65,212	30,688	100%	30,688
2005	2030	25	17	50-211-1003-PMP-01: PS R20 PUMP 3	95,900	65,212	30,688	100%	30,688
2005	2055	50	17	PUMP STATION R300B BUILDING	142,277	48,374	93,903	100%	93,903

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Install. Year	Repl. Year	Useful Life	In Service		Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCN
2005	2080	75	17	Pump Station 300C Yard Piping	146,021	33,098	112,923	100%	112,923
2005	2055	50	17	Pump Station 300C Bldg Piping	240,837	81,884	158,952	100%	158,952
2005	2055	50	17	PUMP STATION 300C BUILDING	243,000	82,620	160,380	100%	160,380
2005	2055	50	17	PUMP STATION R300A BUILDING	349,074	118,685	230,389	100%	230,389
2005	2055	50	17	PUMP STATION 10A BUILDING	873,712	297,062	576,650	100%	576,650
2006	2026	20	16	60-112-1101-FAN-01: PS 10A EXHAUST FAN	500	400	100	100%	100
2006	2031	25	16	60-112-1001-MTR-01: PS 10A PUMP 1 MOTOR	2,300	1,472	828	100%	828
2006	2031	25	16	60-112-1002-MTR-01: PS 10A PUMP 2 MOTOR	2,300	1,472	828	100%	828
2006	2031	25	16	60-112-1003-MTR-01: PS 10A PUMP 3 MOTOR	2,300	1,472	828	100%	828
2006	2021	15	16	60-112-1100-HST-01: PS 10A ELECTRIC CHAIN HOIST	3,100	3,100	0	100%	0
2006	2018	12	16	60-112-1001-VFD-01: PS 10A PUMP 1 MOTOR VARIABLE FREQUENCY DRIVE	12,800	12,800	0	100%	0
2006	2018	12	16	60-112-1002-VFD-01: PS 10A PUMP 2 MOTOR VARIABLE FREQUENCY DRIVE	12,800	12,800	0	100%	0
2006	2018	12	16	60-112-1003-VFD-01: PS 10A PUMP 3 MOTOR VARIABLE FREQUENCY DRIVE	12,800	12,800	0	100%	0
2006	2026	20	16	60-112-1001-PMP-01: PS 10A PUMP 1	19,400	15,520	3,880	100%	3,880
2006	2026	20	16	60-112-1002-PMP-01: PS 10A PUMP 2	19,400	15,520	3,880	100%	3,880
2006	2026	20	16	60-112-1003-PMP-01: PS 10A PUMP 3	19,400	15,520	3,880	100%	3,880
2006	2031	25	16	60-112-1001-CTV-01: PS 10A PUMP 1 CONTROL VALVE	31,600	20,224	11,376	100%	11,376
2006	2031	25	16	60-112-1002-CTV-01: PS 10A PUMP 2 CONTROL VALVE	31,600	20,224	11,376	100%	11,376
2006	2031	25	16	60-112-1003-CTV-01: PS 10A PUMP 3 CONTROL VALVE	31,600	20,224	11,376	100%	11,376
2006	2026	20	16	Pump Station 20B Landscaping	37,181	29,745	7,436	100%	7,436
2006	2031	25	16	Pump Station 20B PAVING	49,662	31,783	17,878	100%	17,878
2006	2036	30	16	60-112-1000-MCC-01: PS 10A MOTOR CONTROL CENTER	77,000	41,067	35,933	100%	35,933
2006	2036	30	16	50-312-1000-MCC-01: PS R300B MOTOR CONTROL CENTER	77,000	41,067	35,933	100%	35,933
2006	2056	50	16	Pump Station 20B Vault	111,545	35,694	75,850	100%	75,850
2006	2081	75	16	Pump Station 20B Yard Piping	228,006	48,641	179,365	100%	179,365
2006	2056	50	16	Pump Station 20B Bldg Piping	278,673	89,176	189,498	100%	189,498
2006	2056	50	16	PUMP STATION 20B BUILDING	1,023,025	327,368	695,657	100%	695,657
2007	2027	20	15	60-215-1101-FAN-01: PS 20B EXHAUST FAN	500	375	125	100%	125
2007	2022	15	15	60-215-1100-HST-01: PS 20B ELECTRIC CHAIN HOIST	3,100	3,100	0	100%	0
2007	2027	20	15	60-411-0001-PRV-01: PS 4A Pressure Relief and Surge Anticipator Valve	4,600	3,450	1,150	100%	1,150
2007	2022	15	15	60-135-1959-ESE-01: TO 5 EMERGENCY SHOWER AND EYEWASH STATION	5,000	5,000	0	100%	0
2007	2032	25	15	60-215-4100-RTU-01: PS 20B RTU	7,700	4,620	3,080	100%	3,080
2007	2032	25	15	60-411-1001-CTV-01: PS 4A PUMP 1 CONTROL VALVE	19,900	11,940	7,960	100%	7,960
2007	2032	25	15	60-411-1002-CTV-01: PS 4A PUMP 2 CONTROL VALVE	19,900	11,940	7,960	100%	7,960
2007	2032	25	15	60-411-1003-CTV-01: PS 4A PUMP 3 CONTROL VALVE	19,900	11,940	7,960	100%	7,960
2007	2037	30	15	60-215-1000-MCC-01: PS 20B MOTOR CONTROL CENTER	77,000	38,500	38,500	100%	38,500
2008	2038	30	14	60-411-1000-MCC-01: PS 4A MOTOR CONTROL CENTER	77,000	35,933	41,067	100%	41,067
2008	2058	50	14	PUMP STATION 4A BUILDING	651,280	182,358	468,922	100%	468,922
2009	2029	20	13	60-316-1005-FAN-01: PS 300B EXHAUST FAN 1	500	325	175	100%	175
2009	2029	20	13	60-316-1006-FAN-01: PS 300B EXHAUST FAN 2	500	325	175	100%	175
2009	2024	15	13	60-313-1100-HST-01: PS 3C CHAIN FALL HOIST	1,500	1,300	200	100%	200
2009	2034	25	13	60-212-1001-MTR-01: PS 2B PUMP 1 MOTOR	2,100	1,092	1,008	100%	1,008
2009	2034	25	13	60-212-1002-MTR-01: PS 2B PUMP 2 MOTOR	2,100	1,092	1,008	100%	1,008
2009	2034	25	13	60-312-1001-MTR-01: PS 3B PUMP 1 MOTOR	2,300	1,196	1,104	100%	1,104
2009	2034	25	13	60-312-1002-MTR-01: PS 3B PUMP 2 MOTOR	2,800	1,456	1,344	100%	1,344
2009	2034	25	13	60-312-1003-MTR-01: PS 3B PUMP 3 MOTOR	2,800	1,456	1,344	100%	1,344
2009	2034	25	13	60-313-1001-MTR-01: PS 3C RES 2A PUMP 1 MOTOR	4,800	2,496	2,304	100%	2,304
2009	2034	25	13	60-313-1002-MTR-01: PS 3C RES 2A PUMP 2 MOTOR	4,800	2,496	2,304	100%	2,304
2009	2034	25	13	60-313-1003-MTR-01: PS 3C RES 2A PUMP 3 MOTOR	4,800	2,496	2,304	100%	2,304

DSRSD
Capacity Reserve Fees Study
Pump Stations
Exhibit 4

Install. Year	Repl. Year	Useful Life	In Service		Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCN
2009	2034	25	13	60-411-1001-MTR-01: PS 4A PUMP 1 MOTOR	5,800	3,016	2,784	100%	2,784
2009	2034	25	13	60-411-1002-MTR-01: PS 4A PUMP 2 MOTOR	5,800	3,016	2,784	100%	2,784
2009	2034	25	13	60-411-1003-MTR-01: PS 4A PUMP 3 MOTOR	5,800	3,016	2,784	100%	2,784
2009	2024	15	13	60-411-1100-AHU-01: PS 4A AIR HANDLING UNIT	6,200	5,373	827	100%	827
2009	2034	25	13	60-211-0300-RTU-01: PS 2A RTU	7,700	4,004	3,696	100%	3,696
2009	2034	25	13	60-212-0400-RTU-01: PS 2B RTU	7,700	4,004	3,696	100%	3,696
2009	2034	25	13	60-111-1500-RTU-01: PS 1A RTU	7,700	4,004	3,696	100%	3,696
2009	2019	10	13	60-312-1004-PMP-01: PS 3B SUMP PUMP	7,800	7,800	0	100%	0
2009	2019	10	13	60-313-1004-PMP-01: PS 3C RES 2A SUMP PUMP	7,800	7,800	0	100%	0
2009	2034	25	13	60-316-1001-MTR-01: PS 300B PUMP 1 MOTOR	8,600	4,472	4,128	100%	4,128
2009	2034	25	13	60-316-1002-MTR-01: PS 300B PUMP 2 MOTOR	8,600	4,472	4,128	100%	4,128
2009	2034	25	13	60-316-1003-MTR-01: PS 300B PUMP 3 MOTOR	8,600	4,472	4,128	100%	4,128
2009	2034	25	13	60-216-1003-MTR-01: PS 200A PUMP 3 MOTOR	9,800	5,096	4,704	100%	4,704
2009	2029	20	13	Pump Station 4A Landscaping	14,499	9,424	5,075	100%	5,075
2009	2034	25	13	Pump Station 4A PAVING	19,365	10,070	9,295	100%	9,295
2009	2034	25	13	60-212-1001-PMP-01: PS 2B PUMP 1	25,200	13,104	12,096	100%	12,096
2009	2034	25	13	60-212-1002-PMP-01: PS 2B PUMP 2	25,200	13,104	12,096	100%	12,096
2009	2034	25	13	60-312-1001-PMP-01: PS 3B PUMP 1	25,200	13,104	12,096	100%	12,096
2009	2034	25	13	60-312-1002-PMP-01: PS 3B PUMP 2	25,200	13,104	12,096	100%	12,096
2009	2034	25	13	60-312-1003-PMP-01: PS 3B PUMP 3	25,200	13,104	12,096	100%	12,096
2009	2034	25	13	60-411-1001-PMP-01: PS 4A PUMP 1	29,300	15,236	14,064	100%	14,064
2009	2034	25	13	60-411-1002-PMP-01: PS 4A PUMP 2	29,300	15,236	14,064	100%	14,064
2009	2034	25	13	60-411-1003-PMP-01: PS 4A PUMP 3	29,300	15,236	14,064	100%	14,064
2009	2029	20	13	Pump Station 300B Landscaping	34,627	22,508	12,119	100%	12,119
2009	2059	50	13	Pump Station 4A Vault	43,497	11,309	32,188	100%	32,188
2009	2034	25	13	60-313-1001-PMP-01: PS 3C RES 2A PUMP 1	51,700	26,884	24,816	100%	24,816
2009	2034	25	13	60-313-1002-PMP-01: PS 3C RES 2A PUMP 2	51,700	26,884	24,816	100%	24,816
2009	2034	25	13	60-313-1003-PMP-01: PS 3C RES 2A PUMP 3	51,700	26,884	24,816	100%	24,816
2009	2034	25	13	60-316-1001-PMP-01: PS 300B PUMP 1	76,700	39,884	36,816	100%	36,816
2009	2034	25	13	60-316-1002-PMP-01: PS 300B PUMP 2	76,700	39,884	36,816	100%	36,816
2009	2034	25	13	60-316-1003-PMP-01: PS 300B PUMP 3	76,700	39,884	36,816	100%	36,816
2009	2039	30	13	60-211-1000-MCC-01: PS 2A MOTOR CONTROL CENTER	77,000	33,367	43,633	100%	43,633
2009	2039	30	13	60-316-1000-MCC-01: PS 300B MOTOR CONTROL CENTER	77,000	33,367	43,633	100%	43,633
2009	2039	30	13	60-212-1000-MCC-01: PS 2B MOTOR CONTROL CENTER	77,000	33,367	43,633	100%	43,633
2009	2039	30	13	60-312-1000-MCC-01: PS 3B MOTOR CONTROL CENTER	77,000	33,367	43,633	100%	43,633
2009	2039	30	13	60-313-0001-MCC-01: PS 3C RES 2A MOTOR CONTROL CENTER	77,000	33,367	43,633	100%	43,633
2009	2034	25	13	Pump Station 300B PAVING	90,320	46,967	43,354	100%	43,354
2009	2084	75	13	Pump Station 300B Yard Piping	94,516	16,383	78,133	100%	78,133
2009	2059	50	13	Pump Station 300B Vault	97,123	25,252	71,871	100%	71,871
2009	2059	50	13	Pump Station 300B Bldg Piping	115,519	30,035	85,484	100%	85,484
2009	2084	75	13	Pump Station 4A Yard Piping	225,205	39,036	186,169	100%	186,169
2009	2059	50	13	Pump Station 4A Bldg Piping	275,251	71,565	203,686	100%	203,686
2009	2059	50	13	PUMP STATION 300B BUILDING	1,633,163	424,622	1,208,541	100%	1,208,541
2010	2035	25	12	60-211-1001-MTR-01: PS 2A PUMP 1 MOTOR	2,800	1,344	1,456	100%	1,456
2010	2035	25	12	60-211-1002-MTR-01: PS 2A PUMP 2 MOTOR	2,800	1,344	1,456	100%	1,456
2010	2035	25	12	60-211-1001-PMP-01: PS 2A PUMP 1	25,200	12,096	13,104	100%	13,104
2010	2035	25	12	60-211-1002-PMP-01: PS 2A PUMP 2	25,200	12,096	13,104	100%	13,104
2011	2041	30	11	60-315-1001-LSS-01: PS 300A PUMP 1 MOTOR STARTER	6,200	2,273	3,927	100%	3,927
2011	2041	30	11	60-315-1002-LSS-01: PS 300A PUMP 2 MOTOR STARTER	6,200	2,273	3,927	100%	3,927

Install. Year	Repl. Year	Useful Life	In Service		Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCN
2011	2041	30	11	60-315-1003-LSS-01: PS 300A PUMP 3 MOTOR STARTER	6,200	2,273	3,927	100%	3,927
2012	2042	30	10	60-216-1003-LSS-01: PS 200A PUMP 3 MOTOR STARTER	6,200	2,067	4,133	100%	4,133
2013	2033	20	9	60-211-1100-FAN-01: PS 2A EXHAUST FAN	500	225	275	100%	275
2013	2033	20	9	60-212-1100-FAN-01: PS 2B EXHAUST FAN	500	225	275	100%	275
2014	2039	25	8	60-412-1001-CKV-01: PS 4B RES 3B PUMP 1 CONTROL VALVE	4,600	1,472	3,128	100%	3,128
2014	2039	25	8	60-412-1002-CKV-01: PS 4B RES 3B PUMP 2 CONTROL VALVE	4,600	1,472	3,128	100%	3,128
2014	2039	25	8	60-412-1001-MTR-01: PS 4B RES 3B PUMP 1 MOTOR	4,800	1,536	3,264	100%	3,264
2014	2039	25	8	60-412-1002-MTR-01: PS 4B RES 3B PUMP 2 MOTOR	4,800	1,536	3,264	100%	3,264
2014	2024	10	8	60-111-1004-PMP-01: PS 1A TO 2 SUMP PUMP	7,800	6,240	1,560	100%	1,560
2014	2024	10	8	60-211-1003-PMP-01: PS 2A SUMP PUMP	7,800	6,240	1,560	100%	1,560
2014	2024	10	8	60-212-1003-PMP-01: PS 2B SUMP PUMP	7,800	6,240	1,560	100%	1,560
2014	2024	10	8	60-213-1004-PMP-01: PS 2C SUMP PUMP	7,800	6,240	1,560	100%	1,560
2014	2029	15	8	60-412-1101-ACO-01: PS 4B RES 3B AIR COMPRESSOR	12,000	6,400	5,600	100%	5,600
2014	2039	25	8	60-412-0002-CTV-01: PS 4B PRESSURE CONTROL VALVE 2	12,600	4,032	8,568	100%	8,568
2014	2039	25	8	60-412-1001-PMP-01: PS 4B RES 3B PUMP 1	23,500	7,520	15,980	100%	15,980
2014	2039	25	8	60-412-1002-PMP-01: PS 4B RES 3B PUMP 2	23,500	7,520	15,980	100%	15,980
2014	2039	25	8	60-412-0001-CTV-01: PS 4B PRESSURE CONTROL VALVE 1	26,100	8,352	17,748	100%	17,748
2017	2042	25	5	60-213-1001-MTR-01: PS 2C PUMP 1 MOTOR	4,600	920	3,680	100%	3,680
2017	2042	25	5	60-213-1003-MTR-01: PS 2C PUMP 3 MOTOR	4,600	920	3,680	100%	3,680
2017	2047	30	5	60-216-1001-LSS-01: PS 200A PUMP 1 MOTOR STARTER	6,200	1,033	5,167	100%	5,167
2017	2047	30	5	60-216-1004-LSS-01: PS 200A PUMP 4 MOTOR STARTER	6,200	1,033	5,167	100%	5,167
2017	2042	25	5	50-312-3700-RTU-01: PS R300B RTU	7,700	1,540	6,160	100%	6,160
2018	2028	10	4	60-412-4203-PMP-01: PS 4B ammonia pump skid	300	120	180	100%	180
2018	2028	10	4	60-412-4204-PMP-01: PS 4B chlorine pump skid	300	120	180	100%	180
2018	2048	30	4	60-216-1002-LSS-01: PS 200A PUMP 2 MOTOR STARTER	6,200	827	5,373	100%	5,373
2018	2043	25	4	60-213-0500-RTU-01: PS 2C RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-311-0600-RTU-01: PS 3A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-312-0700-RTU-01: PS 3B RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-313-0800-RTU-01: PS 3C RES 2A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-412-1200-RTU-01: PS 4B RES 3B RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-112-1300-RTU-01: PS 10A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-214-1700-RTU-01: PS 20A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-216-1900-RTU-01: PS 200A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-315-2000-RTU-01: PS 300A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-314-2800-RTU-01: PS 30A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-317-3300-RTU-01: PS 300C RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-411-5000-RTU-01: PS 4A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-9000RTU: RTU FOR MAIN DATA CONCENTRATOR	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-9100RTU: RTU FOR WEST DUBLIN DATA CONCENTRATOR	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-9300RTU: RTU FOR DOUGHERTY VALLEY DATA CONCENTRATOR	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-316-2700-RTU-01: PS 300B RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-8800RTU: RTU-IGS FOR FOD FRONT END PROCESSOR	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	60-8900RTU: RTU-IGS2 FOR FOD FRONT END PROCESSOR	7,700	1,232	6,468	100%	6,468
2018	2058	40	4	60-412-4205-TNK-01: AMMONIA HYDROXIDE (AMMONIA) STORAGE TANK	27,700	2,770	24,930	100%	24,930
2018	2058	40	4	60-412-4206-TNK-01: SODIUM HYPOCHLORITE (CHLORINE) STORAGE	39,100	3,910	35,190	100%	35,190
2018	2048	30	4	60-412-1000-MCC-01: PS 4B MOTOR CONTROL CENTER	77,000	10,267	66,733	100%	66,733
Total Existing Pump Station Assets					\$25,814,955	\$12,782,168	\$13,032,788		\$13,032,788
Total DUEs 2021									35,991 Existing
Total Pump Station Buy-in CRF (\$/DUE)									\$362.12
Future Pump Station									
Total Future Pump Station					\$0				\$0
Net Future DUEs 2020 - 2035									6,567 Future
Total Future Pump Station Expansion CRF (\$/DUE)									\$0.00
Total Pump Station Buy-in and Expansion CRF (\$/DUE)									\$362.12

Notes:

[1] Costs are in 2021 replacement cost dollars based on DSRSD asset management program.

Install. Year	Repl. Year	Useful Life	In Service			Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCN
Existing Reservoir										
1950	1965	15	72	RESERVOIR 10A (CAMP PARKS)	Reservoir 10A Yard Lighting	\$36,527	\$36,527	\$0	100%	\$0
1950	1975	25	72	RESERVOIR 10A (CAMP PARKS)	Reservoir 10A Fencing	109,581	109,581	0	100%	0
1950	2000	50	72	RESERVOIR 10A (CAMP PARKS)	Reservoir 10A Yard Electrical	268,233	268,233	0	100%	0
1950	1975	25	72	RESERVOIR 10A (CAMP PARKS)	Reservoir 10A Paving	328,743	328,743	0	100%	0
1950	2025	75	72	Reservoir 10A-CAMP PARKS	UndergroundReservoir	6,285,600	6,034,176	251,424	100%	251,424
1961	1976	15	61	Reservoir 1A	60-121-1952-ESE-01: RES 1A EMERGENCY SHOWER AND EYEWASH STATION	5,000	5,000	0	100%	0
1961	1976	15	61	RESERVOIR 1A	Reservoir 1A Yard Lighting	24,547	24,547	0	100%	0
1961	1986	25	61	RESERVOIR 1A	Reservoir 1A Fencing	73,641	73,641	0	100%	0
1961	2011	50	61	RESERVOIR 1A	Reservoir 1A Yard Electrical	180,260	180,260	0	100%	0
1961	2036	75	61	Reservoir 1A	Above GroundReservoir	3,996,000	3,250,080	745,920	100%	745,920
1964	1989	25	58	RESERVOIR 2A	Reservoir 2A ACCESS ROAD	4,698	4,698	0	100%	0
1964	1979	15	58	RESERVOIR 2A	Reservoir 2A Yard Lighting	9,572	9,572	0	100%	0
1964	1989	25	58	RESERVOIR 2A	Reservoir 2A Fencing	28,717	28,717	0	100%	0
1964	2014	50	58	RESERVOIR 2A	Reservoir 2A Yard Electrical	70,293	70,293	0	100%	0
1964	1989	25	58	RESERVOIR 2A	Reservoir 2A Paving	86,151	86,151	0	100%	0
1964	2039	75	58	Reservoir 2A	Above GroundReservoir	1,498,500	1,158,840	339,660	100%	339,660
1969	1984	15	53	RESERVOIR 3B	Reservoir 3B Yard Lighting	4,540	4,540	0	100%	0
1969	1984	15	53	Reservoir 3B	60-322-1956-ESE-01: RES 3B EMERGENCY SHOWER AND EYEWASH STATION	5,000	5,000	0	100%	0
1969	1994	25	53	RESERVOIR 3B	Reservoir 3B Fencing	13,622	13,622	0	100%	0
1969	2019	50	53	RESERVOIR 3B	Reservoir 3B Yard Electrical	33,344	33,344	0	100%	0
1969	1994	25	53	RESERVOIR 3B	Reservoir 3B ACCESS ROAD	81,000	81,000	0	100%	0
1969	2044	75	53	Reservoir 3B	Above GroundReservoir	659,340	465,934	193,406	100%	193,406
1983	1998	15	39	RESERVOIR 1B (DOUGHERTY)	Reservoir 1B Yard Lighting	48,507	48,507	0	100%	0
1983	2033	50	39	RESERVOIR 1B (DOUGHERTY)	Reservoir 1B Yard Electrical	356,206	277,840	78,365	100%	78,365
1983	2058	75	39	Reservoir 1B-DOUGHERTY	Above GroundReservoir	7,992,000	4,155,840	3,836,160	100%	3,836,160
1985	2000	15	37	RESERVOIR 3A	Reservoir 3A Yard Lighting	8,374	8,374	0	100%	0
1985	2010	25	37	RESERVOIR 3A	Reservoir 3A Fencing	25,123	25,123	0	100%	0
1985	2035	50	37	RESERVOIR 3A	Reservoir 3A Yard Electrical	61,495	45,506	15,989	100%	15,989
1985	2060	75	37	Reservoir 3A-BLACK	Above GroundReservoir	1,298,700	640,692	658,008	100%	658,008
1991	2021	30	31	RESERVOIR 1A	Reservoir 1A ACCESS ROAD	52,405	52,405	0	100%	0
1999	2024	25	23	RESERVOIR 20A	Reservoir 20A ACCESS ROAD	39,204	36,068	3,136	100%	3,136
1999	2014	15	23	RESERVOIR 20A	Reservoir 20A Yard Lighting	40,121	40,121	0	100%	0
1999	2024	25	23	RESERVOIR 20A	Reservoir 20A Fencing	120,363	110,734	9,629	100%	9,629
1999	2049	50	23	RESERVOIR 20A	Reservoir 20A Yard Electrical	294,625	135,528	159,098	100%	159,098
1999	2074	75	23	Reservoir 20A	Above GroundReservoir	6,593,400	2,021,976	4,571,424	100%	4,571,424
2001	2016	15	21	RESERVOIR 200A	Reservoir 200A Yard Lighting	36,495	36,495	0	100%	0
2001	2026	25	21	RESERVOIR 200A	Reservoir 200A Fencing	109,486	91,968	17,518	100%	17,518
2001	2026	25	21	RESERVOIR 200A	Reservoir 200A ACCESS ROAD	140,567	118,077	22,491	100%	22,491
2001	2051	50	21	RESERVOIR 200A	Reservoir 200A Yard Electrical	268,000	112,560	155,440	100%	155,440
2001	2076	75	21	Reservoir 200A	Above GroundReservoir	5,194,800	1,454,544	3,740,256	100%	3,740,256
2002	2027	25	20	RESERVOIR 10B	Reservoir 10B Access Road	3,281	2,625	656	100%	656
2002	2017	15	20	RESERVOIR 30A	Reservoir 30A Yard Lighting	14,004	14,004	0	100%	0
2002	2017	15	20	RESERVOIR 10B	Reservoir 10B Yard Lighting	42,007	42,007	0	100%	0
2002	2027	25	20	RESERVOIR 30A	Reservoir 30A Fencing	42,014	33,611	8,403	100%	8,403
2002	2027	25	20	RESERVOIR 30A	Reservoir 30A ACCESS ROAD	83,851	67,081	16,770	100%	16,770
2002	2052	50	20	RESERVOIR 30A	Reservoir 30A Yard Electrical	102,843	41,137	61,706	100%	61,706
2002	2027	25	20	RESERVOIR 10B	Reservoir 10B Fencing	126,019	100,815	25,204	100%	25,204
2002	2052	50	20	RESERVOIR 10B	Reservoir 10B Yard Electrical	308,467	123,387	185,080	100%	185,080
2002	2077	75	20	Reservoir 30A	Above GroundReservoir	2,237,760	596,736	1,641,024	100%	1,641,024
2002	2077	75	20	Reservoir 10B	UndergroundReservoir	6,285,600	1,676,160	4,609,440	100%	4,609,440
2004	2029	25	18	RESERVOIR 3A	Reservoir 3A ROADWORK	29,125	20,970	8,155	100%	8,155
2005	2020	15	17	RESERVOIR 300B	Reservoir 300B Yard Lighting	26,852	26,852	0	100%	0

Install. Year	Repl. Year	Useful Life	In Service			Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCN
2005	2020	15	17	RESERVOIR 300A	Reservoir 300A Yard Lighting	32,362	32,362	0	100%	0
2005	2030	25	17	RESERVOIR 300B	Reservoir 300B ACCESS ROAD	45,490	30,933	14,557	100%	14,557
2005	2030	25	17	RESERVOIR 300A	Reservoir 300A ACCESS ROAD	66,258	45,055	21,203	100%	21,203
2005	2030	25	17	RESERVOIR 300B	Reservoir 300B Fencing	80,555	54,777	25,778	100%	25,778
2005	2030	25	17	RESERVOIR 300A	Reservoir 300A Fencing	97,087	66,019	31,068	100%	31,068
2005	2055	50	17	RESERVOIR 300B	Reservoir 300B Yard Electrical	197,181	67,042	130,139	100%	130,139
2005	2055	50	17	RESERVOIR 300A	Reservoir 300A Yard Electrical	237,649	80,801	156,848	100%	156,848
2005	2080	75	17	Reservoir 300B	UndergroundReservoir	3,561,840	807,350	2,754,490	100%	2,754,490
2005	2080	75	17	Reservoir 300A	Above GroundReservoir	4,595,400	1,041,624	3,553,776	100%	3,553,776
2007	2032	25	15	RESERVOIR 200B	Reservoir 200B ACCESS ROAD	21,036	12,622	8,414	100%	8,414
2007	2022	15	15	RESERVOIR 200B	Reservoir 200B Yard Lighting	22,719	22,719	0	100%	0
2007	2032	25	15	RESERVOIR 200B	Reservoir 200B Fencing	68,156	40,893	27,262	100%	27,262
2007	2057	50	15	RESERVOIR 200B	Reservoir 200B Yard Electrical	166,831	50,049	116,782	100%	116,782
2007	2082	75	15	Reservoir 200B	Above GroundReservoir	3,196,800	639,360	2,557,440	100%	2,557,440
2008	2083	75	14	Reservoir 4A	Above GroundReservoir	1,394,604	260,326	1,134,278	100%	1,134,278
2009	2034	25	13	Reservoir 4A	60-421-5100-RIO-01: RES 4A RIO	4,600	2,392	2,208	100%	2,208
2009	2034	25	13	Reservoir 1A	60-121-1000-RTU-01: RES 1A RTU	7,700	4,004	3,696	100%	3,696
2009	2034	25	13	RESERVOIR 4A	Reservoir 4A ACCESS ROAD	8,740	4,545	4,195	100%	4,195
2009	2024	15	13	RESERVOIR 4A	Reservoir 4A Yard Lighting	8,974	7,777	1,196	100%	1,196
2009	2034	25	13	RESERVOIR 4A	Reservoir 4A Fencing	26,920	13,998	12,922	100%	12,922
2009	2059	50	13	RESERVOIR 4A	Reservoir 4A Yard Electrical	65,894	17,132	48,762	100%	48,762
2015	2040	25	7	Reservoir 30A	60-323-2900-RIO-01: RES 30A RIO	4,600	1,288	3,312	100%	3,312
2015	2040	25	7	RESERVOIR 3A	Reservoir 3A ACCESS ROAD	23,189	6,493	16,696	100%	16,696
2015	2040	25	7	RESERVOIR 1B (DOUGHERTY)	Reservoir 1B ACCESS ROAD	36,769	10,295	26,473	100%	26,473
2017	2042	25	5	Recycled Reservoir R20	50-221-2500-RIO-01: RES R20 RIO	4,600	920	3,680	100%	3,680
2017	2042	25	5	Recycled Reservoir R300	50-321-2200-RTU-01: RES R300 RTU	7,700	1,540	6,160	100%	6,160
2018	2043	25	4	Reservoir 3A	60-321-1100-RTU-01: RES 3A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	Reservoir 20A	60-222-1800-RTU-01: RES 20A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	Reservoir 200A	60-224-2100-RTU-01: RES 200A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	Reservoir 10B	60-125-2300-RTU-01: RES 10B RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	Reservoir 300A	60-324-2600-RTU-01: RES 300A RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	Reservoir 300B	60-325-3400-RTU-01: RES 300B RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	Reservoir 10A	60-124-9200-RTU-01: RES 10A CAMP PARKS DATA CONCENTRATOR RTU	7,700	1,232	6,468	100%	6,468
2018	2043	25	4	Reservoir 200B	60-225-4300-RTU-01: RES 200B RTU	7,700	1,232	6,468	100%	6,468
Total Existing Reservoir Assets						\$59,829,857	\$27,762,416	\$32,067,440		\$32,067,440
Total DUEs 2021										35,991
Total Reservoir Related Buy-in CRF (\$/DUE)										\$891.00
Future Reservoir										
Reservoir 20B						\$6,959,269			100%	\$6,959,269
Reservoir 10A						18,471,225			100%	18,471,225
Total Future Reservoir						\$25,430,494				\$25,430,494
Net Future DUEs 2020 - 2035										6,567
Total Future Reservoir Expansion CRF (\$/DUE)										\$3,872.33
Total Reservoir Buy-in and Expansion CRF (\$/DUE)										\$4,763.33

Notes:

[1] Costs are in 2021 replacement cost dollars based on DSRSD asset management program.

DSRSD
Capacity Reserve Fees Study
Administrative Offices
Exhibit 6

Year		Insured Cost [1]	CRF Eligible	Total	
Existing District Administration Offices					
1990	District Administration Offices	\$7,716,694	31%	\$2,392,175	
1997	Fields Operations Department	5,401,542	85%	4,591,311	
		<u>\$13,118,236</u>		<u>\$6,983,486</u>	
	Total DUEs 2021			35,991	Existing
	Total Admin Offices Related Buy-in CRF (\$/DUE)			\$194.04	
Future Admin Offices					
		\$0	0%	\$0	
		0	0%	0	
	Total Future Admin Offices	<u>\$0</u>		<u>\$0</u>	
	Net Future DUEs 2020 - 2035			6,567	Future
	Total Future Admin Offices Expansion CRF (\$/DUE)			\$0.00	
	Total Admin Offices Buy-in and Expansion CRF (\$/DUE)			\$194.04	

Notes:

[1] Costs are CSRMA valuation based on DSRSD information asset management program.

DSRSD
Capacity Reserve Fees Study
Transmission & Distribution - PW
Exhibit 7

Year	Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCNLD	
Transmission/Distribution Lines						
12-inch Lines	\$133,236,129	\$45,161,284	\$88,074,845	100%	\$88,074,845	
14-inch Lines	46,385,877	14,189,257	32,196,620	100%	32,196,620	
16-inch Lines	32,550,071	11,439,923	21,110,148	100%	21,110,148	
18-inch Lines	3,913,985	1,324,402	2,589,583	100%	2,589,583	
20-inch Lines	11,652,547	2,612,932	9,039,615	100%	9,039,615	
Total Existing Transmission/Distribution System	\$227,738,609	\$74,727,799	\$153,010,810		\$153,010,810	
Total DUEs 2021					35,991	Existing
Total Transmission/Distribution System Buy-in CRF (\$/DUE)					\$4,251.42	
Future Transmission/Distribution						
Gleason Drive Property Planning Study	\$60,000			100%	\$60,000	
Dublin Boulevard Extension Water Facilities	1,980,000			100%	1,980,000	
Total Future Transmission/Distribution	\$2,040,000				\$2,040,000	
Net Future DUEs 2020 - 2035					6,567	Future
Total Future Transmission/Distribution System Expansion CRF (\$/DUE)					\$310.63	
Total Transmission/Distribution System Buy-in and Expansion CRF (\$/DUE)					\$4,562.06	

Notes:

[1] Costs for 12-inch to 20-inch pipe in 2021 replacement cost dollars based on DSRSD asset management program.

DSRSD
Capacity Reserve Fees Study
Transmission & Distribution - RW
Exhibit 8

Year	Replacement Cost [1]	Accumulated Depreciation	RCNLD \$	CRF Eligible	CRF RCNLD
Transmission/Distribution Lines					
12-inch Lines	\$25,640,500	\$6,280,111	\$19,360,389	100%	\$19,360,389
14-inch Lines	6,277,500	1,804,329	4,473,171	100%	4,473,171
16-inch Lines	4,185,000	1,399,206	2,785,794	100%	2,785,794
20-inch Lines	11,044,000	3,316,946	7,727,054	100%	7,727,054
24-inch Lines	3,958,000	1,211,712	2,746,288	100%	2,746,288
30-inch Lines	263,000	82,350	180,650	100%	180,650
Total Existing Transmission/Distribution System	\$51,368,000	\$14,094,655	\$37,273,345		\$37,273,345
Total DUEs 2021					35,991
					Existing
Total Transmission/Distribution System Buy-in CRF (\$/DUE)					\$1,035.64
Future Transmission/Distribution					
	\$0			0%	\$0
	0			0%	0
	0			0%	0
	0			0%	0
Total Future Transmission/Distribution	\$0				\$0
Net Future DUEs 2020 - 2035					6,567
					Future
Total Future Transmission/Distribution System Expansion CRF (\$/DUE)					\$0.00
Total Transmission/Distribution System Buy-in and Expansion CRF (\$/DUE)					\$1,035.64

Notes:

[1] Costs for 12-inch pipe and larger are in 2021 replacement cost dollars based on DSRSD asset management program.

DSRSD
Capacity Reserve Fees Study
DERWA
Exhibit 9

Year		CRF Eligible	Total	
Existing DERWA Related Assets				
	Total DERWA Assets - DSRSD Share 50.30% ^[1]	\$39,733,435	100%	\$39,733,435
	Total DUEs 2021			35,991
	Existing DERWA Related, Buy-in CRF (\$/DUE)			\$1,104
	Net DERWA-Related Buy-in CRF (\$/DUE)			\$1,104.00
Future DERWA Related Assets^[2]				
	DERWA RWTP Phase 2	\$16,100	100%	\$16,100
	DERWA RWTP Phase 2	1,096,200	100%	1,096,200
	Total Future DERWA Related Assets [2]	\$1,112,300		\$1,112,300
	Net Future DUEs 2020 - 2035			6,567
	Total Future DERWA Related Expansion CRF (\$/DUE)			\$169.37
	Net DERWA-Related Buy-in and Expansion CRF (\$/DUE)			\$1,273.37

Notes:

[1] As of June 30, 2021, District's share of the JPA, page 37 of the ACFR.

[2] As of June 30, 2021, DSRSD share of projects.

**DSRSD
Capacity Reserve Fees Study
Debt Service Schedule
Exhibit 10**

DERWA State Loan
Dublin San Ramon Services District

2017 Bond (Refunding 2011 Bond)
Dublin San Ramon Services District

Period Ending	Principal	Interest	Debt Service	Period Ending	Principal	Interest	Debt Service
6/1/2022	\$726,843	\$83,244	\$810,087	8/1/2022	\$475,000	\$1,414,063	\$1,889,063
6/1/2023	745,014	65,073	810,087	8/1/2023	500,000	1,390,313	1,890,313
6/1/2024	763,639	46,447	810,087	8/1/2024	525,000	1,365,313	1,890,313
6/1/2025	782,730	27,356	810,087	8/1/2025	550,000	1,339,063	1,889,063
6/1/2026	311,521	7,788	319,309	8/1/2026	1,020,000	1,311,563	2,331,563
6/1/2027				8/1/2027	1,360,000	1,260,563	2,620,563
6/1/2028				8/1/2028	1,420,000	1,192,563	2,612,563
6/1/2029				8/1/2029	1,495,000	1,121,563	2,616,563
6/1/2030				8/1/2030	1,570,000	1,046,813	2,616,813
6/1/2031				8/1/2031	1,645,000	968,313	2,613,313
6/1/2032				8/1/2032	1,725,000	886,063	2,611,063
6/1/2033				8/1/2033	1,815,000	799,813	2,614,813
6/1/2034				8/1/2034	1,905,000	709,063	2,614,063
6/1/2035				8/1/2035	1,995,000	613,813	2,608,813
6/1/2036				8/1/2036	2,100,000	514,063	2,614,063
6/1/2037				8/1/2037	2,200,000	409,063	2,609,063
6/1/2038				8/1/2038	2,290,000	299,063	2,589,063
6/1/2039				8/1/2039	2,355,000	227,500	2,582,500
6/1/2040				8/1/2040	2,425,000	153,906	2,578,906
6/1/2041				8/1/2041	2,500,000	78,125	2,578,125
	\$3,329,747	\$229,908	\$3,559,655		\$31,870,000	\$17,100,594	\$48,970,594

Notes:

[1] District's portion of outstanding debt as of June 2021.

DSRSD
Capacity Reserve Fees Study
Allowable Water Distribution Capacity Reserve Fees
Exhibit 11

Component	Total RCNLD	Existing DUEs	Buy-in	Future Cost	Future DUEs	Expansion	Debt Component	Total Water Capacity Reserve Fee (\$/DUE)	
Equity in Existing DSRSD Assets ^[1]									
Source	\$419,761	35,991	\$12	\$19,861,206	6,567	\$3,024		\$3,036	See Exhibit 2 & 3
Pump Stations	13,032,788	35,991	362	0	6,567	0		362	See Exhibit 2 & 4
Reservoirs	32,067,440	35,991	891	25,430,494	6,567	3,872		4,763	See Exhibit 2 & 5
Administration Offices	6,983,486	35,991	194	0	0	0		194	See Exhibit 2 & 6
Transmission & Distribution - PW	153,010,810	35,991	4,251	2,040,000	6,567	311		4,562	See Exhibit 2 & 7
Transmission & Distribution - RW	37,273,345	35,991	1,036	0	6,567	0		1,036	See Exhibit 2 & 8
Total DSRSD Assets	\$242,787,631		\$6,746	\$47,331,700		\$7,207		\$13,953	
Total DERWA Assets - DSRSD Share 50.30% ^[2]	\$39,733,435	35,991	\$1,104	\$1,112,300	6,567	\$169		\$1,273	See Exhibit 9
Debt Service DSRSD ^[3]									
Outstanding Debt 2017 Water Bond (Principal)	(\$31,870,000)	35,991	(\$886)	\$48,970,594	6,567	\$7,457		\$6,571	See Exhibit 10
Outstanding Debt DERWA State Loan (Principal)	(3,329,747)	35,991	(93)	3,559,655	6,567	542		450	See Exhibit 10
Total Expansion-related Debt Obligations	(\$35,199,747)		(\$978)	\$52,530,249		\$7,999		\$7,021	
Less:									
Expansion Reserves Fund 620 ^[4]				(\$45,569,400)	6,567	(\$6,939)		(\$6,939)	
Total Debt Service	(\$35,199,747)		(\$978)	\$6,960,849		\$1,060		\$82	
Total CRF	\$247,321,319		\$6,872	\$55,404,849		\$8,436		\$15,308	
Current Fee			\$4,358			\$5,530	\$4,075	\$13,963	
\$ Change			\$2,514			\$2,906	(\$4,075)	\$1,345	

[1] DSRSD asset listing based on District's Lucity asset reports at replacement cost value, less useful life depreciation.

[2] DERWA Assets based on DSRSD share at 50.3%, from DERWA F/S 10_8_2021, page 18 of 23. See Exhibit 9.

[3] DSRSD debt based on outstanding principal and interest as of 2021 for 2017 Refunding Bond, and 2022 for DERWA State Loan. See Exhibit 10.

[4] Current Fund 620 reserve balance.

Water Distribution Capacity Reserve Fees				
Meter Size	Weighting Factor	Present CRF (\$/DUE)	Calculated CRF (\$/DUE)	\$ Difference
5/8"	1.0	\$13,963	\$15,308	\$1,345
3/4"	1.5	20,959	22,962	2,003
1"	2.5	34,931	38,270	3,339
1-1/2"	5.0	69,861	76,540	6,679
2"	8.0	111,777	122,464	10,687
1-1/2" OMNI C2	16.0	223,555	244,928	21,373
1-1/2" OMNI T2	16.0	223,555	244,928	21,373
2" OMNI C2	16.0	223,555	244,928	21,373
2" OMNI T2	20.0	279,443	306,160	26,717