

Diablo Water District

2025 Facility Reserve Charge and MERA Update

This technical memorandum describes the 2025 update of the existing funding mechanisms used by Diablo Water District (DWD) to finance required capital improvements to serve new development. These mechanisms are DWD's Facility Reserve Charge (FRC) and Main Extension Reimbursement Assessment (MERA). This memorandum documents the updated FRC schedule based on year 2024 and 2025 values using the methodologies, potable water use history and projections, and related facility information presented in DWD's 2020 Facilities Plan. With each FRC update, DWD's goal is to properly prepare for funding future growth-related capital improvements; as such, DWD will add new projects, modify previously identified projects, and remove planned facilities that are no longer necessary.

The technical analysis supporting this update is provided in the **Appendix A** tables, which describe the assumptions, findings, and recommended update of charges. A list of abbreviations used in the study is also included in **Appendix A**.

Summary

The historical and updated FRC schedule is presented in **Table 1**.

Table 1 Historical and Updated FRC

Year	West of Jersey Island Road (JIR) ¹		East of JIR		Bethel Island ²		Delta Coves ²	
	5/8-Inch Meter ³		5/8-Inch Meter ³		5/8-Inch Meter ³		5/8-Inch Meter ³	
Pre-2011	\$9,251		\$13,456		\$6,607		\$6,607	
2011	\$5,366		\$9,296		\$5,366		\$5,366	
2013	\$5,113	-5%	\$8,929	-4%	\$5,113	-5%	\$5,113	-5%
2015	\$6,548	28%	\$8,918	0%	\$4,816	-6%	\$4,816	-6%
2016	\$6,865	5%	\$9,316	4%	\$5,072	5%	\$5,072	5%
2018	\$8,248	20%	\$10,864	17%	\$5,920	17%	\$5,920	17%
2020	\$7,880	-4%	\$12,911	19%	\$8,034	36%	\$8,034	36%
2022	\$11,457	45%	\$17,271	34%	\$12,297	53%	\$12,297	53%
2025	\$13,247	16%	\$19,415	12%	\$15,891	29%	\$15,891	29%

¹ The systemwide FRC amount for 2025 is equal to that of the area west of Jersey Island Road since currently there are no new FRC-funded capital improvements west of Jersey Island Road.

² A significant driver for the increase in FRC amounts for 2025 for Bethel Island and Delta Coves is the reduction in potential new connections available on the island.

³ An equivalent meter (EM) represents a single-family dwelling (SFD) 5/8-inch meter service demand.

The FRC values for all areas have increased percentagewise, ranging from 12 percent (%) in the area east of JIR to 29% for Bethel Island and Delta Coves.

Unlike the changes to the FRC from 2020 to 2022, increases in the cost of FRC-funded capital improvements are not the principal driver of the increase in FRC values. As summarized in **Table 2**, overall future FRC-funded capital improvements increased from \$124.4 million in 2022 to \$138.3 million in 2025, an increase of 8%. Increases in projected capital costs from 2022 to 2025 were somewhat attenuated by a slight overall decrease in construction costs within the San Francisco Bay region of 2% from July 2022 to May 2025.

Table 2 Summary of FRC-Funded Capital Improvement Costs 2022–2025

FRC-Funded Capital Improvement Plan (CIP) Expansion Projects	2022 Values	2025 Values	Difference	
Systemwide Projects (including Delta Coves)	\$104,724,500	\$112,744,000	\$8,019,500	8%
West of JIR	\$0	\$0	\$0	
East of JIR (not including Bethel Island and Delta Coves)	\$18,035,700	\$20,879,000	\$2,843,300	16%
Bethel Island and Delta Coves	\$1,800,000	\$4,697,000	\$2,897,000	161%
Totals	\$124,560,200	\$138,320,000	\$13,759,800	11%
Engineering News Record (ENR) Construction Cost Index (CCI) for San Francisco	15,640	15,276		-2%

The main contributing factors for the FRC value increases between 2022 and 2025 appear to be the 13% increase in the future costs to be recovered through the FRC, and the projected 4% decrease in the number of future new equivalent connections remaining available across which the future costs are to be recovered. **Table 3** shows these contributing factors.

Table 3 Factors Contributing to FRC Value Increases 2022–2025

	2022	2025	Difference	
Future Costs to Recover through the FRC*	\$237,540,285	\$269,010,310	\$31,470,025	13%
Number of Future New Equivalent Meters (EMs)	17,040	16,393	(647)	-4%

*Includes remaining current debt and new debt resulting from the financing of future capital improvements.

Calculation of the FRCs is based on DWD's future debt service costs associated with funding for system capacity that is or will be available for new services. The unit FRC value is based on the number of anticipated future developer connections (EMs) that will support the expansion-related future costs. An EM represents an SFD 5/8-inch meter service demand (or 1-inch meter for a home with a fire sprinkler system). The updated FRCs are based on cost values, existing DWD customer demand as of 2024, and reduced overall buildout water demands as a result of water conservation. The values should be annually escalated for equity under inflationary impact using the ENR CCI for the San Francisco region, at a minimum, unless

project-specific estimated costs are available. Bethel Island FRCs must be determined on a case-by-case basis depending on requests for service, even though the FRC value shown for that DWD service area now reflects both the systemwide (base) FRC and a dedicated project serving both Bethel Island and Delta Coves.

Purpose of the Charge

The FRC is a funding mechanism for capital improvements constructed by DWD to serve new development. The funds collected from the program are used to finance new construction and retirement of bonded debt for capital facilities required to serve growth. This program ensures that growth is responsible for its fair share of the capital improvements needed within DWD's service area.

DWD's policy is that existing customers should not pay higher water rates attributable to increases in water supply treatment and distribution facility costs related to serve growth. Through the FRC, DWD collects revenue from new water connections to finance the contractually related debt service on existing but unused water facilities' capacity, and the financing of construction costs for new water facilities required to serve the new development within the DWD service area. The FRC uses a meter-capacity-based schedule of charges to equitably share in the costs of new capacity.

All FRC proceeds, as well as interest earned on the balance of funds, are accounted for in a Facility Reserve Fund that is used solely for growth-related capital project and financing costs as authorized by state law. DWD's Regulation No. 3 specifies that these uses include "...planning, designing, and construction of facilities that increase the District's water supply or the capacity of its water treatment, storage and distribution system; for payment of principal and interest on indebtedness incurred for said facilities; and for payment of expenses of enlarging or relocating facilities to accommodate growth..."

DWD Service Areas

The FRC schedule is based on the division of the DWD sphere of influence into the following four service areas highlighted in **Figure 1**: West of JIR, East of JIR, Bethel Island (not including Delta Coves), and Delta Coves. The 2025 current and ultimate maximum water demands, and the facilities required to serve each of the four areas are identified in the detailed FRC calculations tables in **Appendix A**.

Each service area will pay a base FRC for systemwide projects benefiting the entire system of water supply, transmission, and storage capacities. In addition to the base FRC, each area will pay a supplemental FRC for the specific distribution storage and pumping facilities to serve that particular area. However, all of the potential facilities and financing requirements of future Bethel Island water services are not known or identified in the FRC for that area and will be determined on a case-by-case basis depending on the specific service requested.

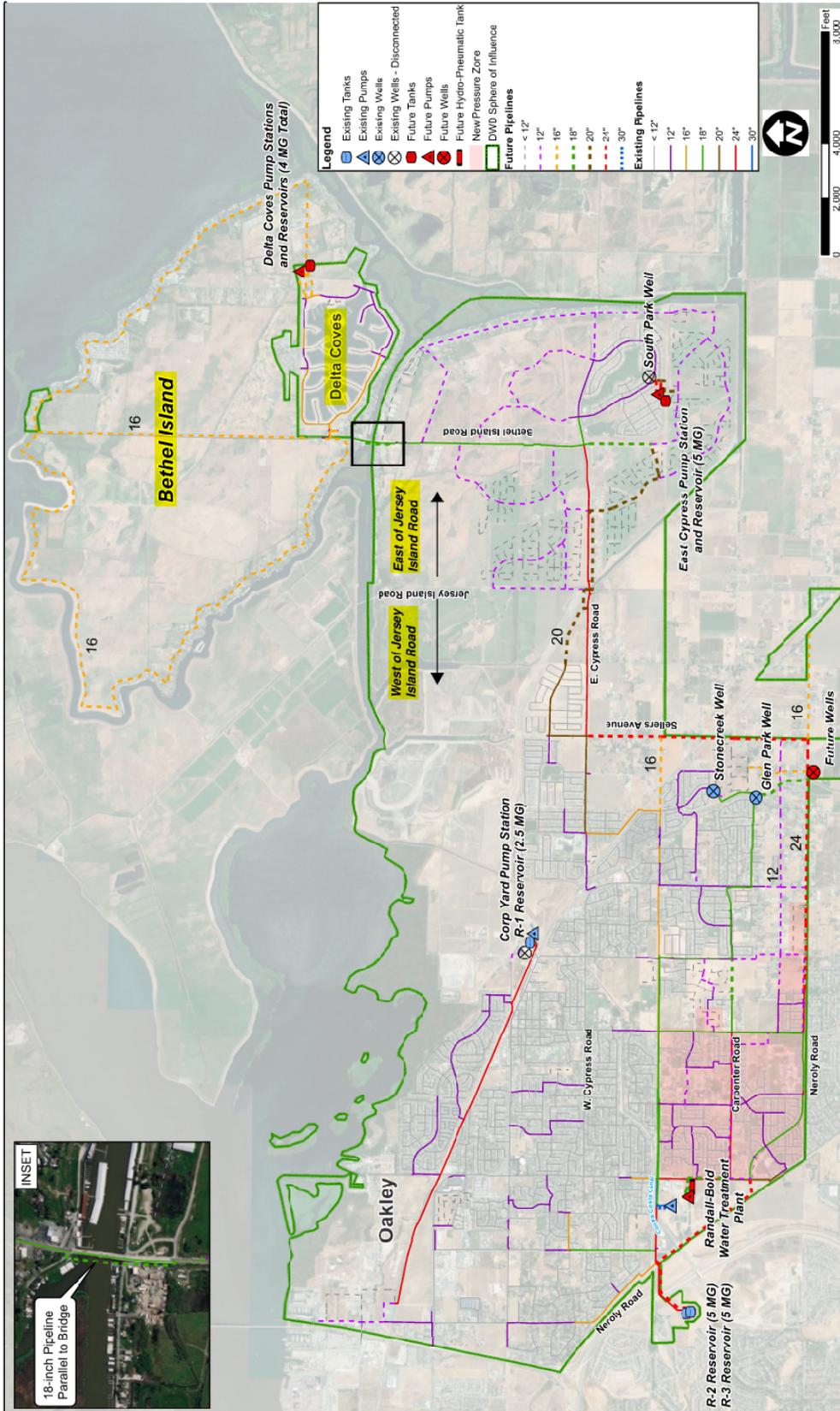


Figure 1
 Diablo Water District
 Ultimate Water Distribution System for
 DWD Sphere of Influence and Bethel Island

Basis for the Facilities Reserve Charge

The FRC is based on the general methodology provided in state law as applicable to county water districts and the current CIP costs for projects developed by DWD. The expansion-related project costs, the annual payments for unused water facilities' capacity, and the projected future development requirements establish the link between the FRC and the DWD facility costs.

Appendix A Table A-1 shows the tabulation of the CIP expansion-related water supply costs and projects required for DWD's ultimate service area using the costs developed in the 2020 Facilities Plan, updated to present value costs, plus the additional costs and projects identified by DWD since 2020. These new facilities and capacity-related projects include major transmission pipeline projects that provide systemwide transmission capacity; additional production well and groundwater treatment to help meet fire protection and peak demand requirements; supervisory control and data acquisition system expansion; updating of facilities plan, data, and distribution maps; and management of growth-related projects. Table A-1 also includes details of the primary elements of each project and how the total capital cost is related to growth.

With each FRC update, DWD actively adds new projects, modifies and "right sizes" previously identified projects, and removes planned facilities that are no longer necessary. DWD also considers the remaining existing system capacity in the calculations, for those capital improvements that benefit both existing customers and future connections. Based on 2024 water use data, approximately 47% of DWD's existing system is available for future growth, considering the number of EMs currently connected versus the total number of EMs projected within the district at buildout.

The FRC-funded CIP projects in Table A-1 are based on the facility capacities required to serve growth-related customer demands at buildout in each of the DWD service areas. The calculations of these capacity requirements are described below:

- **Current DWD service customers.** The number of future growth-related capacity requests by developers is estimated from the difference between the numbers of water customers at buildout versus the number of current customers. The water use conditions of DWD service customers in 2024 (the base year for this analysis) is assumed to be representative of the water use conditions of customers in early 2025. **Appendix A** Table A-2 tabulates that as of December 31, 2024, there were 13,991 active service connections with a maximum day demand (MDD) of 8.65 million gallons per day (MGD) of systemwide services. The current estimated maximum daily water use of an SFD is 502 gallons per day (gpd) as shown in **Appendix A** Table A-3, which represents one EM of DWD capacity demand. As such, DWD's current 2025 water demand is assumed to be 18,474 EMs, with 93% of active service connections attributed to the West of JIR service area.
- **DWD buildout (ultimate) water supply requirements.** DWD's buildout water supply requirements are based on the ultimate number of customers multiplied by their projected unit water demand. Per the 2020 Facilities Plan, the projected ultimate average day demand was 12.6 MGD. When multiplied by 1.72, DWD's projected systemwide future maximum to average day water demand ratio, the DWD buildout MDD is 17.5 MGD (the source numbers are included in Table A-3).

- **Future development requirements.** The effect of DWD’s ongoing and future conservation practices is anticipated to result in a maximum daily water use of 502 gpd per EM, with the number of DWD customers at buildout projected to be 34,868 EMs. As provided in Appendix Table A-3, the difference between current and buildout customers is approximately 16,393 EMs.

Appendix A Table A-4 identifies DWD’s capacity requirements at system buildout. These capacity requirements will first be served by existing but unused system capacities, as associated with each service area, and then by new capacity built from the CIP projects listed in Table A-1. As shown, the total buildout capacity with standby and blending reserves is 21.6 MGD and the total requirement from DWD centralized sources of supply and districtwide distribution facilities is 17.5 MGD, which provides for some standby water supply if disruption occurs during high-demand periods at buildout. As provided in Table A-4, this total buildout capacity will serve 34,868 EMs, including 16,393 future EMs to be connected.

- **Future water supplies.** The historical (2024) MDD of DWD’s Randall-Bold Water Treatment Plant (RBWTP) is 7.4 MGD MDD of the current net capacity of 14.6 MGD. In addition, DWD currently uses up to 1.4⁴ MGD from groundwater production wells capable of supplying up to 4.0 MGD. Therefore, DWD has determined that its additional water supply requirement for buildout is 3 MGD of groundwater supply well capacity. The costs of the 3 MGD of future capacity, anticipated new 1.7 MGD groundwater treatment facility, plus the contractual payments on the debt service for the existing but unused capacity at the RBWTP will be funded from future FRC proceeds.
- **Costs of financing capacity for future development.** To provide DWD with flexibility in implementing projects, as required for development, the FRC is based on the financing of the expansion-related capital projects provided in **Appendix A** Table A-1. This is in contrast to a pay-as-you-go approach, where it would be necessary to wait until all required funds were accumulated to construct development projects, which would inhibit DWD’s ability to serve new development.

Future annual debt service payments for FRC-funded CIP expansion projects are summarized in **Table 4**.

⁴ Maximum day well utilization in 2024 was 1.42 MGD on June 6.

Table 4 CIP Expansion Project Financing

	Systemwide Projects (including Delta Coves)	West of JIR	East of JIR (not including Bethel Island and Delta Coves)	Bethel Island and Delta Coves	Grand Total
<i>Principal Amounts from Table 1</i>					
Principal Amount	\$112,744,000	\$0	\$20,879,000	\$4,697,000	\$138,320,000
First Year of Debt Service	2025	2025	2025	2025	
Last Year of Debt Service	2049	2049	2049	2049	
Annual Debt Service ^a	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
Total DWD Debt Service for 2025–2049 ^b	\$205,986,194	\$0	\$38,146,471	\$8,581,540	\$252,714,205

a. DWD debt service for 2025 CIP projects is based on a 25-year financing term with a 5% level payment bond and a 3% cost of issuance (COI).

b. Assumes that CIP capital costs for 2025 will be funded through the 2025 Certificate of Participation (CIP).

Table 5 details these cash flows based on a projected 25-year financing term for the future CIP projects with a 5% level payment bond at a 3% cost of issuance whereby the cumulative total debt service is \$206.0 million for the systemwide projects, \$38.1 million for the East of JIR Area projects, and \$8.6 million for the Bethel Island and Delta Coves Area projects. These costs, net of interest earnings, are recovered from FRC proceeds based on the calculations of unit FRC rates.

Table 5 Summary Derivation of Recommended 2025 FRC by Service Area

Service Area	Future Equivalent Meters		Systemwide FRC			Less Facilities Reserve Fund Fee Reduction ⁵	Net System-wide Costs
			Future FRC Financing	Remaining Debt Service	Subtotal Systemwide		
	Quantity	%	\$205,986,194	\$16,296,104	\$222,282,298	(\$5,125,567)	
West of JIR	6,965	42%	\$12,565	\$994	\$13,559	(\$313)	\$13,247
East of JIR	6,184	38%	\$12,565	\$994	\$13,559	(\$313)	\$13,247
Bethel Island	2,990	18%	\$12,565	\$994	\$13,559	(\$313)	\$13,247
Delta Coves	254	2%	\$12,565	\$994	\$13,559	(\$313)	\$13,247
Total	16,393	100%	\$12,565	\$994	\$13,559	(\$313)	\$13,247
Service Area	Plus, Incremental Area Specific Costs				Total Cost per Future EMs		
	West of JIR	East of JIR	Bethel Island	Delta Coves			
	\$0	\$38,146,471	\$7,909,419	\$672,121			
West of JIR	\$0				\$13,247		
East of JIR		\$6,169			\$19,415		
Bethel Island			\$2,645		\$15,891		
Delta Coves				\$2,645	\$15,891		

⁵ The District’s Fund Reserve balance was \$5,125,567 as of 2/28/25. This value, representing the unspent proceeds of past FRC payments, is divided by the total number of future EMs and used to offset the unit cost of the systemwide FRC.

The allocation of remaining outstanding debt to FRC-funded CIP capacity expansion projects is shown in **Appendix A** Table A-6. The outstanding debts shown in Table A-6 reflect DWD’s recent refinancing of older debt and projected 2025 borrowing through CIPs. As also shown in Table A-6, approximately 70% of DWD’s outstanding and projected debt is reimbursable (i.e., subject to recovery through the FRC).

Update of Facilities Reserve Charges

The derivation of the recommended 2025 FRC charges shown in **Table 1** is summarized in **Table 5** and presented in more detail in **Appendix A** Table A-7. The net value of the Base and supplemental FRCs for each service area is calculated by dividing the financing costs of DWD system capacity for future customers by the number of future customers expressed as EMs. Offsetting the unit cost of the base FRC are the unspent proceeds of past FRC payments in the Facilities Reserve Fund, which totals \$5.12 million as of February 28, 2025.

Appendix A Tables A-8 through A-11 summarize the 2011, 2013, 2015, 2016, 2018, 2020, 2022, and updated 2025 FRC schedules by service area, as specified in DWD Regulation No. 3. The tables also provide the FRCs for all water connections with meter sizes from 5/8 of an inch to 8 inches based on the meter capacity ratio factors defined by the American Water Works Association (AWWA) Manual M1 “Water Rates”.

CDM Smith recommends that on an annual basis, DWD increase the FRC charges to reflect inflation, based on the increase in the ENR CCI for San Francisco, any changes in the annual CIP, and any other system changes that would materially affect the FRC.

MERA Update

The MERA obligations are meant to estimate the reimbursement owed to developers because DWD requires a pipe to be sized larger than is needed strictly to serve a particular new development. **Table 6** summarizes the historical and updated MERA.

Table 6 Historical and Updated MERA

Update of MERA Charges	
Year	MERA Incremental Unit Payments, \$/EM (based on 5/8-inch EMs on SFDs)
Pre-2011	\$488
2011	\$488
2015	\$488
2016	\$488
2018	\$562
2020	\$615
2022	\$1,212
2025	\$1,613

The derivation of the 2025 MERA is summarized in **Table 7**.

Table 7 Derivation of 2025 MERA

Description	Value
Outstanding MERA Reimbursement Obligations	\$283,404
Future MERA Project Reimbursements	\$26,164,909
Total MERA Obligations	\$26,448,312
Future Development Customers Paying FRC (EM)	16,393
Calculated 2025 MERA Incremental Unit Payments (\$/EM or 5/8-inch EMs on SFDs)	\$1,613

Appendix A Tables A-12 and A-13 detail the outstanding DWD obligation at the end of 2021, the MERA projects, and the calculation of the updated 2025 MERA. DWD has \$283,404 in currently outstanding MERA-related obligations.

Appendix A – Abbreviations and Detailed Calculation Worksheets

Abbreviations

‰: percent

20×2020: Refers to the conservation goal in DWD's 2015 Urban Water Management Plan

ADD: average day demand

AWWA: American Water Works Association

BSNF: Burlington Northern Santa Fe

CCI: Construction Cost Index

CCWD: Contra Costa Water District

CIP: capital improvement plan

COI: bond cost of issuance (%)

COM: commercial, business, and light industrial

COP: certificate of participation

CY: calendar year

DU: dwelling unit

DWD: Diablo Water District

DWR: Department of Water Resources

EDU: equivalent dwelling unit

EM: equivalent meter ($\frac{5}{8}$ -inch connected to SFD)

ENR: Engineering News Report

FRC: Facility Reserve Charge

FY: fiscal year

gpcd: gallons per capita per day

gpd: gallons per day

ID: inside diameter

IND: industrial accounts

INS: institutional accounts (schools, public service)

IRR: irrigation accounts

JIR: Jersey Island Road

LF: linear foot

MDD: maximum day demand

MERA: Main Extension Reimbursement Assessment

MFD: multiple-family dwelling

MG: million gallon

MGD: million gallons per day

RBWTP: Randall-Bold Water Treatment Plant

SCADA: supervisory control and data acquisition

SF: San Francisco

SFD: single-family dwelling

SOI: sphere of influence

TIC: true interest cost

WTP: water treatment plant

Detailed Worksheets

Appendix Table A-1	Summary of Recommended Capital Improvement Projects for Ultimate DWD System
Appendix Table A-2	Current Water Use
Appendix Table A-3	Buildout Water Demands and Equivalent Meters
Appendix Table A-4	Future Development
Appendix Table A-5	CIP Expansion Project Financing
Appendix Table A-6	Current DWD Debt Amortization Schedule
Appendix Table A-7	2025 FRC Update
Appendix Table A-8	West of Jersey Island Road 2025 FRC
Appendix Table A-9	East of Jersey Island Road 2025 FRC
Appendix Table A-10	Bethel Island 2025 FRC
Appendix Table A-11	Delta Coves 2025 FRC
Appendix Table A-12	Main Extension Reimbursement Assessment-Related DWD Obligations
Appendix Table A-13	Pipeline Projects Funded by Developers

**Table A-1
Summary of Recommended Capital Improvement Projects for Ultimate DWD System**

Type of Project and Area Served	Project	Estimated Cost (May 2025) (1)						
		Base Construction Cost	Total Construction Cost (2)	Project Implementation Allowance (3)	Land Cost	Total Capital Cost (May 2025 dollars) (1)	% Related to Growth (16)	Applied Amount
Systemwide Projects (Including Delta Coves)								
Centralized GW Treatment Facility	Centralized GW Treatment facility located near the DWD Corp Yard. Assumed new facilities include: 1.7 MGD RO Facility; Two Brine Injection Wells; Pipeline to/from RO Facility; Solar Farm	\$20,349,790	\$27,500,000	\$6,900,000	\$0	\$34,400,000	85%	\$29,240,000
Well Water Iron and Manganese Removal System (14)	Package treatment system to be installed as part of RO Facility. Treatment system quote of \$350k received in 2020 was sized for just one well; double to account for larger capacity required for placement at centralized RO Facility. Also assume additional improvements required will result in 2x construction price; inflation also added. Base Cost assumes 33% of the RO system costs will be grant funded.	\$1,112,244	\$1,500,000	\$380,000	\$0	\$1,880,000	85%	\$1,598,000
Treated Water Supply (4,11)	Projects between 2025-2034 at Randall-Bold WTP associated with maintaining existing 15 mgd capacity available for near-term development. Costs obtained from CCWD's RBWTP Ops and CIP Overview Table dated February 22, 2024. Ultimate Total Capital Costs shown herein reflect DWD's portion of the total identified by CCWD (w/o sed basins) of \$43.6M.	NA	NA	NA	\$0	\$14,527,000	47%	\$6,779,000
Groundwater Supply (5,12,13)	Groundwater Well #3: New well at 1.5 mgd average capacity. Well and pump station costs based on Stonecreek Well and Pump Station. Includes treatment system at \$842k and generator at \$237k. Assumes Land cost for 1 acre per site at up to \$400,000 per acre for developable land.	\$2,900,000	\$3,900,000	\$980,000	\$0	\$4,880,000	100%	\$4,880,000
	Pipeline to connect new well to Blending Facility Well Water Pipeline. Well Pipeline anticipated to consist of installation of 18-inch DI pipe w/ 7,360 ft paved construction (unit cost of \$574 per LF in paved roads).	\$4,200,000	\$5,700,000	\$1,430,000	\$0	\$7,130,000	100%	\$7,130,000
	Pipelines to connect existing well-supplied area to DWD potable system. Potable Pipelines consist of 3,000 ft of 24-inch DI pipe (at unit cost of \$751 per LF in paved roads) and 3,000 ft of 16-inch DI pipe (at unit cost of \$531 per LF in paved roads)	\$3,800,000	\$5,100,000	\$1,280,000	\$0	\$6,380,000	50%	\$3,190,000
Transmission Capacity (6,13)	Transmission pipeline in Neroly/Delta Roads, Sellers Avenue to Cypress Road (21,700 linear feet [LF] of 24-inch pipe at \$751 per LF assuming paved unit costs; plus 400 LF total for two cased crossings at Marsh Creek and Railroad at \$1,527 per LF). Does not include 1,566 LF installed under MERA for Riata project.	\$16,900,000	\$22,800,000	\$5,700,000	\$0	\$28,500,000	100%	\$28,500,000
Transmission Capacity (6,13)	Transmission pipeline from Reservoirs R-2 and R-3 to Neroly Road (approx OPCC of \$3,400,000).	NA	\$3,400,000	\$850,000	\$0	\$4,250,000	47%	\$1,998,000
Transmission Capacity (6,13)	Transmission pipeline coming out of Randall-Bold WTP (500 LF of 30-inch steel pipe at \$65/in/LF assuming paved unit cost).	\$1,000,000	\$2,000,000	\$500,000	\$0	\$2,500,000	47%	\$1,175,000
Recycled Water Transmission to East Cypress, Initial Studies (6)	Includes predesign, 100% plan development, environmental compliance, and initial District capital costs associated with future installation of the following recycled water components: 16" pipeline (4 miles) and other major project components (2.8 MGD pump station, 3MG steel tank).	\$4,500,000	\$0	\$4,500,000	\$0	\$4,500,000	100%	\$4,500,000
Towable Generators at Existing Wells and Pump Station (14)	New towable 500kW generator placed at Existing Corp Yard Pump Station.	\$500,000	\$700,000	\$180,000	\$0	\$880,000	47%	\$414,000
	New towable generator placed at either Glen Park or Stonecreek Pump Station: 350kVA	\$400,000	\$500,000	\$130,000	\$0	\$630,000	47%	\$296,000
Towable Generator at New Corp Yard (14)	New towable 500kW generator placed at New Corp Yard.	\$500,000	\$700,000	\$180,000	\$0	\$880,000	100%	\$880,000
Permanent Generator at RBWTP for DWD Pumps	Includes: 500kW generator and additional installation costs.	NA	NA	NA	\$0	\$1,500,000	47%	\$705,000
SCADA System Expansion (7,14)	Upgrade main SCADA control system (PLC's and HMI workstations) for future expansion to serve ultimate system facilities. Assumes system upgrade completed by 2025, and additional replacement of all equipment prior to buildout.	\$130,000	\$180,000	\$50,000	NA	\$230,000	47%	\$108,000
		\$260,000	\$400,000	\$100,000	NA	\$500,000	25%	\$125,000
Facilities Plan Updates; Distribution System Map Updates (15)	Periodic updates of DWD's facilities plan and FRC/MERA to reflect actual growth and adjust facilities requirements for future growth; and periodic updates of the distribution system maps and facilities database to add new facilities as growth occurs.	NA	NA	NA	NA	\$1,050,000	100%	\$1,050,000
Growth Related Project Management (15)	Pre-planning, planning and related staff labor for growth projects. Assumed to be constant for ten years. Budgeted based on FY 24-25 Facilities Reserves and MERA staff support costs of \$1,408,780. (10 x \$1,408,780 = \$14,087,800)	NA	NA	NA	NA	\$14,100,000	100%	\$14,100,000

**Table A-1
Summary of Recommended Capital Improvement Projects for Ultimate DWD System**

Type of Project and Area Served	Project	Estimated Cost (May 2025\$) (1)						Applied Amount
		Base Construction Cost	Total Construction Cost (2)	Project Implementation Allowance (3)	Land Cost	Total Capital Cost (May 2025 dollars) (1)	% Related to Growth (16)	
Systemwide Projects (Including Delta Coves)								
Carbon Mitigation (15)	Based on cost information provided by DWD from its Fund 02 Special Projects. Includes solar and/or other similar offsetting projects.	NA	NA	NA	NA	\$2,000,000	100%	\$2,000,000
Seismic Upgrades R1 and R2 (15)	Based on cost information provided in 2022 Seismic Evaluation Study and R2 improvements design.	\$2,700,000	\$3,600,000	\$900,000	NA	\$4,500,000	47%	\$2,116,000
DWD Spec Book Updates	Assumed to occur every 3 years over a 10 year period (3 upgrade cycles)	\$150,000	NA	\$40,000	NA	\$190,000	100%	\$190,000
Vehicles (15)	Based on cost information provided by DWD from its Fund 02 Special Projects.	NA	NA	NA	NA	\$525,000	100%	\$525,000
Asset Management System/GIS/Mapping Update (15)	Based on cost information provided by DWD from its Fund 02 Special Projects. Includes annual costs for CM software, Procor, and MMS for a total of ten years.	NA	NA	NA	NA	\$740,070	100%	\$740,000
Capacity Preservation Fee	Represents remaining cost to District of historic projects implemented to maintain overall system capacity that were not previously captured in the FRC.	NA	NA	NA	NA	\$504,658	100%	\$505,000
Subtotal for Systemwide Projects (Including Delta Coves)						\$137,176,728		\$112,744,000
East of Jersey Island Road - Expansion Facilities (Not Including Bethel Island & Delta Coves)								
Storage and Pumping Facilities (8,9,15)	Cypress Reservoir & Pump Station: First phase including all site work, 2.5 MG tank, and pump station building with capacity for 5 x 60 HP pumps (4 duty + 1 standby pumps, each at 1,200 gpm and 150 total dynamic head design point). Also assumes chemical storage @ \$120k, tank mixer @ \$66k, and generator @ \$276k. Land cost for 3.7 acres at \$400k per acre.	\$4,800,000	\$6,500,000	\$1,600,000	\$1,480,000	\$9,580,000	100%	\$9,580,000
	Cypress Reservoir & Pump Station: Second phase with second 2.5 MG tank, add additional pump at pump station as needed, up to 5 duty pumps at build out.	\$3,700,000	\$5,000,000	\$1,250,000	\$0	\$6,250,000	100%	\$6,250,000
Transmission Capacity (6,13)	City will install and pay for new transmission pipeline parallel to Cypress Road (3,100 LF of 20-inch pipe). Reflect's District's anticipated inspection fee for new pipeline.	NA	NA	\$100,000	\$0	\$100,000	100%	\$100,000
High Hazard Zone Transmission Capacity Restoration	Additional flushing and repairs required to maintain service.	NA	NA	NA	NA	\$4,948,908	100%	\$4,949,000
Subtotal for East of Jersey Island Road - Expansion Facilities (Not Including Bethel Island & Delta Coves)						\$20,878,908		\$20,879,000

**Table A-1
Summary of Recommended Capital Improvement Projects for Ultimate DWD System**

Type of Project and Area Served	Project	Estimated Cost (May 2025\$) (1)						% Related to Growth (16)	Applied Amount
		Base Construction Cost	Total Construction Cost (2)	Project Implementation Allowance (3)	Land Cost	Total Capital Cost (May 2025 dollars) (1)			
Bethel Island and Delta Coves									
Transmission Capacity (6, 13)	Transmission pipeline in Bethel Island Road (500 LF of 18-inch pipe at \$597 per LF assuming paved unit costs and 650 LF of 18-inch pipe assuming trenchless unit cost of \$1,108 per LF). Assumes 50% implementation allowance.	\$1,020,000	\$1,400,000	\$700,000	\$0	\$2,100,000	100%	\$2,100,000	
High Hazard Zone Transmission Capacity Restoration	Additional flushing and repairs required to maintain service.	NA	NA	NA	NA	\$2,596,620	100%	\$2,597,000	
<i>Subtotal for Bethel Island & Delta Coves</i>						<i>\$4,696,620</i>		<i>\$4,697,000</i>	
GRAND TOTAL FOR ALL RECOMMENDED PROJECTS						\$162,752,256		\$138,320,000	

(1) All costs in these columns as marked are in May 2025 dollars, ENR CCI for San Francisco of 15276.48.
 (2) Unless noted otherwise, Total Construction Cost equals the base construction cost plus a 35% construction contingency to cover required work not yet identified at the planning level, unforeseen conditions, bid climate, and change orders during construction.
 (3) Project implementation allowance equals 25% of total construction cost for all projects except the Randall-Bold WTP expansion to cover engineering design, construction services, environmental, permitting, and legal. The implementation allowance for the Randall-Bold WTP expansion project is 35% of total construction cost to include an additional 10% for CCWD project administration.
 (4) Due to existing and planned DWD groundwater wells and treatment systems, current financial plan anticipates DWD owned capacity of Randall-Bold WTP will remain at 15 mgd, with no capacity expansion required.
 (5) Groundwater well costs include standby power capability for use as emergency storage. Costs are based on the Stonecreek Well and Pump Station construction.
 (6) Pipeline unit construction costs include valves and appurtenances, pavement removal and replacement, traffic control, and an average allowance for correction of utility interferences.
 (7) Costs of projects for supply and distribution storage and pumping include the costs of replacement SCADA equipment for those facilities. Work associated with this item assumed to include: new Monitoring panel PLC at the Corp Yard; new PLC at the DWD/Randall-Bold WTP control panel; new PLC at the Blending Facility, new Ethernet switch at the Corp Yard, radio system upgrades/replacement, Local Operating Panel replacements at South Park PS, Glen Park Well PS, and Blending Facility. Capital cost reflects rough estimate for all work to be performed.
 (8) Reservoir costs assume above-ground concrete tanks, and include site work, valve vault, telemetry, piping and appurtenances. Costs for reservoirs east of Jersey Island Road include a soil/foundation allowance due to the poor soils in those areas.
 (9) Distribution pump station costs assume an above-ground building, and include standby pump, standby power, and telemetry.
 (10) Existing customers receive benefit from pump replacement and treatment upgrades. Estimated 85% for growth.
 (11) Costs based on parametric project costs, as substantiated by CCWD.
 (12) Costs based on vendor-provided values or recent costs of similar projects.
 (13) Costs based on AACE-licensed estimator's construction cost estimate of primary elements of future project, based on July 2022 local material and goods pricing.
 (14) Costs based on ENR CCI-based updated of historic vendor pricing obtained by DWD.
 (15) DWD estimate based on projected or historic costs.
 (16) Based on 2024 water use data, approximately 47% of the District's existing system is available for future growth.

**Table A-2
Current Water Use**

Description	Customer Classifications					Total		
	Single Family Dwelling	Multi-Family Dwelling ^a	Business / Commercial / Other ^b	Irrigation	Industrial			
Ratio of Maximum to Average Water Demand in Million Gallons / Day (MGD) (a)								
Average Day Demands (MGD)	3.78	0.20	0.36	0.54	0.00	4.87		
Daily Average of Max. Month (MGD)	5.33	0.27	0.59	1.08	0.00	7.27		
Ratio of Daily Average of Max. Month to Average Day Demand	1.41	1.31	1.66	2.01	0.00			
Maximum Day Demands (MGD, MDD) ^c	Max day of max month					8.65		
Active Service Connections^d								
West of JIR	12,586	25	182	186	0	12,979	92.8%	
East of JIR (excludes 215 accounts on local wells)	656	0	10	11	0	677	4.8%	
Bethel Island (excludes unmetered local wells) ^e	23	2	0	0	0	25	0.2%	
Delta Coves	295	0	5	10	0	310	2.2%	
Total Active Service Connections (excluding fire)	13,560	27	197	207	0	13,991	100.0%	
Percentage of Customer Classes by Service Areas								
West of JIR	92.8%	92.6%	92.4%	89.9%		92.8%		
East of JIR (excludes 215 accounts on local wells)	4.8%	0.0%	5.1%	5.3%		4.8%		
Bethel Island & Delta Coves (excludes unmetered local wells) ^e	0.2%	7.4%	0.0%	0.0%		0.2%		
Delta Coves	2.2%	0.0%	2.5%	4.8%		2.2%		
Total Active Service Connections (excluding fire)	100%	100.0%	100.0%	100.0%	0.0%	100.0%		
Calculation of Active Equivalent Meters								
Estimated average gallons per day use per dwelling unit (DU)	278.4							
Average Day of Max Month usage by single family dwelling (gallons).	393.4							
Equivalent Meters		((Daily average of Max month for user class in MGD) / Average day of max month for single family dwelling) x % of customers in each service area by class						
West of JIR [Backconnect]	12,586	625	1,386	2,461	0	17,058	92.3%	
East of JIR (excludes 215 accounts on local wells)	656	0	76	146	0	878	4.8%	
Bethel Island (excludes unmetered local wells) ^e	23	50	0	0	0	73	0.4%	
Delta Coves	295	0	38	132	0	465	2.5%	
Total Active Equivalent Meters (excluding fire)	13,560	675	1,500	2,739	0	18,474	100.0%	
Estimated Average Daily Demand by Service Area								
West of JIR (MGD)	3.50	0.19	0.33	0.48	0.00	4.50		
East of JIR (MGD)	0.18	0.00	0.02	0.03	0.00	0.23		
Bethel Island (MGD)	0.01	0.02	0.00	0.00	0.00	0.02		
Delta Coves	0.08	0.00	0.01	0.03	0.00	0.12		
Total Average Day Demands (MGD)	3.78	0.20	0.36	0.54	0.00	4.87		
Maximum Day of Maximum Average Month								
RBWTP	07/26/24					7.42	86%	
Wells					24Source->	1.24	14%	
Total						8.65	100%	
Current Sources of Supply								
	Capacity in Use	Existing System Net Capacity (MGD)	Max Day Demand MGD ^e	Average Day Demand				
				(MGD)	(MG/yr)			
RBWTP Surface Water	51%	14.6	7.42	4.64	1,692			
Groundwater	31%	4.0	1.24	0.72	263.4			
Total	82%	18.6	8.65	5.36	1,955			
Unaccounted for Water				9.1%	0.49			
Total Metered Water Use				4.87				

a Includes apartments, condominiums and mobile home counts.

b Includes business, churches, clubs, and public.

c Demand values used for FRC and MERA are Maximum Day Demands (MDD) which for this study occurred July 26, 2024, at 8.65 MG.

d As of December 31, 2024.

e Bethel Island data on this tab includes Delta Coves current uses.

**Table A-3
Buildout Water Demands and Equivalent Meters**

Description	Customer Classes					Total
	Single Family Dwelling	Multi-Family Dwelling	Commercial / Other	Irrigation	Industrial	
Customer Average Day Demands at Buildout (a)	Values from 2024 GIS-based evaluations					
West of Jersey Island Road (MGD)	5.00	0.27	0.48	0.73	0.26	6.74
East of Jersey Island Road (MGD)	1.73	0.35	0.09	0.03	0.00	2.19
Bethel Island (MGD) (includes Delta Coves)	0.49	0.52	0.16	0.04	0.00	1.21
Total Diablo Water District (MGD)	7.22	1.14	0.73	0.80	0.26	10.15
						17.5
Single Family Average Day Unit Demand, gpd/du (a)	303					
Future Ratio of Max Day to Avg Daily Demand Peaking Factor	1.653	1.276	1.927	2.745	1.927	1.724
Maximum Day Demands (MGD) [= avg day x peaking factor]	11.9	1.455	1.40843	2.2	0.5	17.5
System Demand at Buildout (EM)	23,781	2,901	2,808	4,390	987	34,868
Estimated average gallons per day use per dwelling unit (DU) at maximum day demand (MDD). This equals gallons per day per Equivalent Meter (EM) as the Maximum Daily Demand	502					
Maximum Day Demands at Buildout (MGD)						
West of JIR	8.3	0.3	0.9	2.0	0.5	12.1
East of JIR	2.9	0.4	0.2	0.1	0.0	3.5
Bethel Island (includes Delta Coves)	0.8	0.7	0.3	0.1	0.0	1.9
Total System	11.9	1.5	1.4	2.2	0.5	17.5
Current System Demand						8.65
New System Demand (MGD @ MDD)	11.9	1.5	1.4	2.2	0.5	8.8
Maximum Day Demands at Buildout (Equivalent Meters (EM))						
West of JIR	16,469	693	1,854	4,020	987	24,023
East of JIR	5,691	881	344	146	0	7,062
Bethel Island	1,127	1,283	561	92	0	3,063
Delta Coves (c)	494	44	49	133	0	720
Total System EM at Buildout	23,781	2,901	2,808	4,390	987	34,868
Current System EM	13,560	675	1,500	2,739	0	18,474
New (Future) Demands	10,221	2,226	1,307	1,651	987	16,393
New (Future) Equivalent Meters by Area (EM) (a)						
West of JIR	3,883	68	467	1,560	987	6,965
East of JIR	5,035	881	268	0	0	6,184
Bethel Island	1,104	1,233	561	92	0	2,990
Delta Coves	199	44	11	0	0	254
Total	10,221	2,226	1,307	1,651	987	16,393

a. Future (new) demand in DWD service areas at buildout (2040) per CDM Smith memorandum DWD Water Demand Projection Memo, dated December 13, 2024.
 b. DWD no longer anticipates providing potable water for irrigation on Bethel Island, as shown in the 2020 Facilities Plan, Table 5-9. Future irrigation values on Bethel Island have been significantly reduced.
 c. Delta Coves EM values are based on the following information provided by Yousra Tilden (BKF) on October 18, 2013:
 Single family residential = 494 units
 Condominiums = 96 units
 Commercial establishments = 6 units over 7 acres, plus 5.8 acres for the Yacht Club, totals 13 acres.
 To convert the number of condominium units to equivalent meters (EMs), we have presumed that MFD customers have an average of 8 dwelling units (DU) per account at buildout. Buildout MFD accounts total 600 (2020 Facilities Plan, Table 5-3), or 4,800 DU. Estimate one MFD DU equals 0.45 EDUs based on the 2019 and 2020 water use and EMs data. Therefore, 96 MFD equates to 44 EM.
 To convert the commercial acres to EMs, we used the approach identified in the DWD Water Demand Projection Memo, dated December 13, 2024.
 DWD indicated that ten irrigation connections already exist in Delta Coves at the end of 2024. No additional irrigation services in Delta Coves are anticipated.

Table A-4
Future Development

Description	Planned Buildout Capacity	FY 2024 Used System Capacity	Existing System Capacity (2024)	Future Development (New Customers) (EM)
Total System Water Sources of Supply	Per 2020 Facilities Plan			
Current RBWTP Capacity (MGD) (a)	15.0		15.0	
Future RBWTP Capacity (MGD) (a)	<u>0.0</u>			
Total RBWTP Capacity (MGD) (a)	15.0			
Less current in-plant water uses of 3% (a)	(0.45)		(0.45)	
Net Capacity (MGD)	14.6			
WTP at Maximum Day (MGD)	14.6	7.42	14.6	7.1
Groundwater Supply at Max Day (MGD) (b)	7.0	1.24	4.0	5.8
Total Capacity (MGD with standby and blending reserves)	21.6	8.65	18.6	12.9
Customer Buildout Demands (EM)	Planned Buildout Demands	Existing Active Demands (EM)		Future Development (New Customers) (EM)
West of JIR	24,023	17,058		6,965
East of JIR	7,062	878		6,184
Bethel Island	3,063	73		2,990
Delta Coves	<u>720</u>	<u>465</u>		254
Total Equivalent Meters (EM)	34,868	18,474		16,393
Peak Water Use per EM (gpd/EM, MDD)	502			
Total Demand (MDD, MGD)	17.5			

Equivalent Meter (EM) provides water service to one single-family dwelling.

- a. Current net DWD capacity at Randall-Bold WTP less in-plant water uses of 3%, per 2020 Facilities Plan Section 9.3.1.
- b. Total groundwater supply as of 2020 includes 2 MGD from the Stonecreek Well, 2 MGD for the Glen Park Well, and that the Bethel Island residential wells will be retired before buildout.

**Table A-5
CIP Expansion Project Financing**

	Systemwide Projects (Including Delta Coves)	West of Jersey Island Road	East of Jersey Island Rd. (Not Including Bethel Island & Delta Coves)	Bethel Island & Delta Coves	Grand Total
	<i>Principal Amounts from Table 1</i>				
Principal Amount	\$112,744,000	\$0	\$20,879,000	\$4,697,000	\$138,320,000
First Year of Debt Service	2025	2025	2025	2025	
Last Year of Debt Service	2049	2049	2049	2049	
Annual Debt Service ^a	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2024	\$0	\$0	\$0	\$0	\$0
2025	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2026	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2027	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2028	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2029	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2030	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2031	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2032	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2033	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2034	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2035	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2036	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2037	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2038	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2039	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2040	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2041	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2042	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2043	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2044	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2045	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2046	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2047	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2048	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2049	\$8,239,448	\$0	\$1,525,859	\$343,262	\$10,108,568
2050	\$0	\$0	\$0	\$0	\$0
Total DWD Debt Service for 2025 - 2049 ^b	\$205,986,194	\$0	\$38,146,471	\$8,581,540	\$252,714,205

a. DWD Debt Service for 2024 CIP Projects is based on 25 year Bonds, Level Payments at 5% TIC and 3% COI.

b. Assumes that CIP capital costs for 2024 will be funded through 2024 Certificate of Participation.

Table A-6
Current DWD Debt Amortization Schedule

Year	2019 Certificate of Participation - New Corporation Yard			2019 Refinance - 2010 Stonecreek			2014 Restructure (Admin Building)			2013 Refinance - Glenn Park / Blending			2022 Capital 1 Loan - New Corporation Yard \$5m & capital projects (solar) \$2.5m			Roll-Up All Existing Debt			
	Total Annual	General	Reimbursable	Total Annual	General	Reimbursable	Total Annual	General	Reimbursable	Total Annual	General	Reimbursable	Total Annual	General	Reimbursable	Total Annual	General	Reimbursable	
		0%	100%		0%	100%		57.50%	42.50%		24%	76%		50%	50%		30.1%	69.9%	
1	2025	\$211,600	\$0	\$211,600	\$237,200	\$0	\$237,200	\$255,300	\$146,798	\$108,503	\$436,542	\$104,770	\$331,772	\$481,206	\$240,603	\$240,603	\$1,621,848	\$492,171	\$1,129,678
2	2026	\$213,600	\$0	\$213,600	\$231,000	\$0	\$231,000	\$256,900	\$147,718	\$109,183	\$438,090	\$105,141	\$332,948	\$481,243	\$240,622	\$240,622	\$1,620,833	\$493,481	\$1,127,352
3	2027	\$215,400	\$0	\$215,400	\$234,800	\$0	\$234,800	\$253,200	\$145,590	\$107,610	\$438,256	\$105,181	\$333,074	\$480,975	\$240,488	\$240,488	\$1,622,631	\$491,259	\$1,131,372
4	2028	\$212,000	\$0	\$212,000	\$238,200	\$0	\$238,200	\$254,200	\$146,165	\$108,035	\$439,040	\$105,370	\$333,671	\$481,384	\$240,692	\$240,692	\$1,624,824	\$492,227	\$1,132,598
5	2029	\$213,600	\$0	\$213,600	\$231,200	\$0	\$231,200	\$254,800	\$146,510	\$108,290	\$437,459	\$104,990	\$332,469	\$481,449	\$240,725	\$240,725	\$1,618,508	\$492,225	\$1,126,284
6	2030	\$215,000	\$0	\$215,000	\$234,200	\$0	\$234,200	\$255,000	\$146,625	\$108,375	\$435,542	\$104,530	\$331,012	\$481,172	\$240,586	\$240,586	\$1,620,914	\$491,741	\$1,129,173
7	2031	\$211,200	\$0	\$211,200	\$231,800	\$0	\$231,800							\$480,552	\$240,276	\$240,276	\$923,552	\$240,276	\$683,276
8	2032	\$212,400	\$0	\$212,400	\$234,200	\$0	\$234,200							\$480,570	\$240,285	\$240,285	\$927,170	\$240,285	\$686,885
9	2033	\$213,400	\$0	\$213,400	\$236,200	\$0	\$236,200							\$480,206	\$240,103	\$240,103	\$929,806	\$240,103	\$689,703
10	2034	\$214,200	\$0	\$214,200	\$232,800	\$0	\$232,800							\$480,443	\$240,222	\$240,222	\$927,443	\$240,222	\$687,222
11	2035	\$214,800	\$0	\$214,800	\$239,200	\$0	\$239,200							\$480,261	\$240,130	\$240,130	\$934,261	\$240,130	\$694,130
12	2036	\$215,200	\$0	\$215,200										\$479,659	\$239,830	\$239,830	\$694,859	\$239,830	\$455,030
13	2037	\$215,400	\$0	\$215,400										\$479,620	\$239,810	\$239,810	\$695,020	\$239,810	\$455,210
14	2038	\$215,400	\$0	\$215,400										\$479,123	\$239,561	\$239,561	\$694,523	\$239,561	\$454,961
15	2039	\$215,200	\$0	\$215,200										\$479,150	\$239,575	\$239,575	\$694,350	\$239,575	\$454,775
16	2040	\$214,800	\$0	\$214,800										\$478,682	\$239,341	\$239,341	\$693,482	\$239,341	\$454,141
17	2041	\$214,200	\$0	\$214,200										\$478,699	\$239,349	\$239,349	\$692,899	\$239,349	\$453,549
18	2042	\$213,400	\$0	\$213,400										\$478,183	\$239,091	\$239,091	\$691,583	\$239,091	\$452,491
19	2043	\$212,400	\$0	\$212,400										\$478,114	\$239,057	\$239,057	\$690,514	\$239,057	\$451,457
20	2044	\$211,200	\$0	\$211,200										\$477,474	\$238,737	\$238,737	\$688,674	\$238,737	\$449,937
21	2045	\$214,800	\$0	\$214,800										\$477,244	\$238,622	\$238,622	\$692,044	\$238,622	\$453,422
22	2046	\$213,000	\$0	\$213,000										\$476,403	\$238,202	\$238,202	\$689,403	\$238,202	\$451,202
23	2047	\$216,000	\$0	\$216,000										\$476,915	\$238,458	\$238,458	\$692,915	\$238,458	\$454,458
24	2048	\$213,600	\$0	\$213,600													\$213,600		\$213,600
25	2049	\$211,000	\$0	\$211,000													\$211,000		\$211,000
26	2050	\$213,200	\$0	\$213,200													\$213,200		\$213,200
Totals through 2050		\$5,556,000	\$0	\$5,556,000	\$2,580,800	\$0	\$2,580,800	\$1,529,400	\$879,405	\$649,995	\$2,624,929	\$629,983	\$1,994,946	\$11,028,727	\$5,514,364	\$5,514,364	\$23,319,856	\$7,023,751	\$16,296,104

Table A-6
Current Debt Amortization Schedule

Table A-7
2025 FRC Update

Description	Facilities Reserve Fund for Fee Reduction (c)	FRC Financing of Expansion Projects (From CIP)	Remaining Debt Service for Expansion-Related Systemwide Facilities					Subtotal	Total Future FRC Financing Debt Service + Remaining Debt Service	
			2019 Certificate of Participation - New Corporation Yard	2019 Refinance - 2010 Stonecreek	2014 Restructure (Admin Building)	2013 Refinance - Glenn Park / Blending	2022 Capital 1 Loan - New Corporation Yard \$5m & capital projects (solar) \$2.5m			
			% Reimbursable	% Reimbursable	% Reimbursable	% Reimbursable	% Reimbursable			
			100%	100%	43%	76%	50%			
DWD Assets, Costs & Contractual Obligations										
Base Systemwide	(\$5,125,567)	\$205,986,194	\$5,556,000	\$2,580,800	\$649,995	\$1,994,946	\$5,514,364	\$16,296,104	\$222,282,298	
West of JIR		\$0						\$0	\$0	
East of JIR		\$38,146,471						\$0	\$38,146,471	
Bethel Island ^a		\$7,909,419						\$0	\$7,909,419	
Delta Coves ^a		\$672,121						\$0	\$672,121	
Total		\$252,714,205	\$5,556,000	\$2,580,800	\$649,995	\$1,994,946	\$5,514,364	\$16,296,104	\$269,010,310	
Future Development Customers Paying FRCs (EM)	Future Equivalent Meters									
West of JIR	6,965									
East of JIR	6,184									
Bethel Island	2,990									
Delta Coves	254									
	16,393									
Incremental Unit Payments (\$/EM, Future Customers)		FRC Projects (\$ per EM)	FRC Debt Service Payments (\$ per EM)					Total FRC Cost per Equivalent Meter^d	Less Facilities Reserve Fund for Fee Reduction^e	Net FRC Cost per Equivalent Meter
Systemwide Base FRC		\$12,565	\$339	\$157	\$40	\$122	\$336	\$13,559	(\$313)	\$13,247
Supplemental FRCs										
West of JIR		\$0						\$13,559	(\$313)	\$13,247
East of JIR		\$6,169						\$19,728	(\$313)	\$19,415
Bethel Island ^b		\$2,645						\$16,204	(\$313)	\$15,891
Delta Coves		\$2,645						\$16,204	(\$313)	\$15,891

The 2025 FRC Update is based on Future Cashflows Associated with Facility Expansion.

a. Allocated the Bethel Island/ Delta Coves project based on buildout equivalent meters.

b. The Bethel Island Supplemental FRC for Distribution Storage & Pumping Facilities will be determined on a case-by-case basis depending on requests for service.

The Total FRC for Bethel Island will be the Base Fee plus the Supplemental Fee identified on a case-by-case basis.

c. Facilities Reserve Fund balance as of 2/28/25 per DWD.

d. System-wide base FRC + the supplemental FRC amounts for the respective service areas.

e. Reserve fund reduction is calculated by dividing the amount in the facilities reserve fund by the base system-wide future equivalent meters.

Table A-8
West of Jersey Island Road 2025 FRC

Meter Size (inches) ^a	Capacity Ratio Factors ^a	2011 FRC Charges	2013 FRC Charges	2015 FRC Charges	2016 FRC Charges	2018 FRC Charges	2020 FRC Charges	2022 FRC Charges	2025 FRC Charges
⁵ / ₈ -inch (EM)	1.0	\$5,366	\$5,113	\$6,548	\$6,865	\$8,248	\$7,880	\$11,457	\$13,247
1	1.4	\$7,512	\$7,158	\$9,167	\$9,611	\$11,547	\$11,032	\$16,039	\$18,545
1.5	1.8	\$9,658	\$9,203	\$11,786	\$12,357	\$14,847	\$14,184	\$20,622	\$23,844
2	2.9	\$15,560	\$14,828	\$18,989	\$19,909	\$23,920	\$22,852	\$33,224	\$38,415
3	11.0	\$59,021	\$56,243	\$72,025	\$75,516	\$90,730	\$86,680	\$126,023	\$145,712
4	14.0	\$75,118	\$71,582	\$91,669	\$96,112	\$115,475	\$110,320	\$160,393	\$185,452
6	21.0	\$112,677	\$107,373	\$137,503	\$144,168	\$173,212	\$165,480	\$240,589	\$278,178
8	29.0	\$155,602	\$148,277	\$189,885	\$199,088	\$239,197	\$228,520	\$332,242	\$384,151

a. All meter capacity ratio factors are from AWWA Manual M1. Charges for meters greater than 8 inches are to be determined by DWD on a case-by-case basis. The charge for a 1-inch meter for residential services, which is made necessary for the installation of a fire sprinkler system, is the same as the charge for a 5/8-inch meter for one- and two-family residential systems.

Table A-9
East of Jersey Island Road 2025 FRC

Meter Size (inches) ^a	Capacity Ratio Factors ^a	2011 FRC Charges	2013 FRC Charges	2015 FRC Charges	2016 FRC Charges	2018 FRC Charges	2020 FRC Charges	2022 FRC Charges	2025 FRC Charges
⁵ / ₈ -inch (EM)	1.0	\$9,296	\$8,929	\$8,918	\$9,316	\$10,864	\$12,911	\$17,271	\$19,415
1	1.4	\$7,512	\$12,501	\$12,485	\$13,043	\$15,210	\$18,075	\$24,180	\$27,181
1.5	1.8	\$9,658	\$16,072	\$16,052	\$16,769	\$19,556	\$23,240	\$31,088	\$34,948
2	2.9	\$15,560	\$25,894	\$25,861	\$27,017	\$31,507	\$37,442	\$50,086	\$56,304
3	11.0	\$59,021	\$98,219	\$98,095	\$102,478	\$119,507	\$142,021	\$189,983	\$213,568
4	14.0	\$75,118	\$125,006	\$124,848	\$130,427	\$152,100	\$180,754	\$241,796	\$271,814
6	21.0	\$112,677	\$187,509	\$187,273	\$195,640	\$228,151	\$271,131	\$362,694	\$407,721
8	29.0	\$155,602	\$258,941	\$258,614	\$270,170	\$315,065	\$374,419	\$500,864	\$563,044

a. All meter capacity ratio factors are from AWWA Manual M1. Charges for meters greater than 8 inches to be determined by DWD on a case-by-case basis. The charge for a 1-inch meter for residential services, which is made necessary for the installation of a fire sprinkler system, is the same as the charge for a 5/8-inch meter for one- and two-family residential systems.

Table A-10
Bethel Island 2025 FRC

Meter Size (inches) ^a	Capacity Ratio Factors ^a	2011 FRC Charges	2013 FRC Charges	2015 FRC Charges	2016 FRC Charges	2018 FRC Charges	2020 FRC Charges	2022 FRC Charges	2025 FRC Charges
⁵ / ₈ -inch (EM)	1.0	\$5,366	\$5,113	\$4,816	\$5,072	\$5,920	\$8,034	\$12,297	\$15,891
1	1.4	\$7,512	\$7,158	\$6,742	\$7,100	\$8,288	\$11,248	\$17,216	\$22,248
1.5	1.8	\$9,658	\$9,203	\$8,669	\$9,129	\$10,656	\$14,461	\$22,135	\$28,605
2	2.9	\$15,560	\$14,828	\$13,966	\$14,708	\$17,169	\$23,299	\$35,663	\$46,085
3	11.0	\$59,021	\$56,243	\$52,975	\$55,789	\$65,122	\$88,374	\$135,272	\$174,806
4	14.0	\$75,118	\$71,582	\$67,422	\$71,004	\$82,883	\$112,476	\$172,165	\$222,481
6	21.0	\$112,677	\$107,373	\$101,133	\$106,506	\$124,324	\$168,714	\$258,247	\$333,721
8	29.0	\$155,602	\$148,277	\$139,660	\$147,080	\$171,685	\$232,986	\$356,627	\$460,853

a. All meter capacity ratio factors are from AWWA Manual M1. Charges for meters greater than 8 inches to be determined by DWD on a case-by-case basis. The charge for a 1-inch meter for residential services, which is made necessary for the installation of a fire sprinkler system, is the same as the charge for a 5/8-inch meter for one- and two-family residential systems.

Table A-11
Delta Coves 2025 FRC

Meter Size (inches) ^a	Capacity Ratio Factors ^a	2011 FRC Charges	2013 FRC Charges	2015 FRC Charges	2016 FRC Charges	2018 FRC Charges	2020 FRC Charges	2022 FRC Charges	2025 FRC Charges
5/8-inch (EM)	1.0	\$5,366	\$5,113	\$4,816	\$5,072	\$5,920	\$8,034	\$15,891	\$15,891
1	1.4	\$7,512	\$7,158	\$6,742	\$7,100	\$8,288	\$11,248	\$22,248	\$22,248
1.5	1.8	\$9,658	\$9,203	\$8,669	\$9,129	\$10,656	\$14,461	\$28,605	\$28,605
2	2.9	\$15,560	\$14,828	\$13,966	\$14,708	\$17,169	\$23,299	\$46,085	\$46,085
3	11.0	\$59,021	\$56,243	\$52,975	\$55,789	\$65,122	\$88,374	\$174,806	\$174,806
4	14.0	\$75,118	\$71,582	\$67,422	\$71,004	\$82,883	\$112,476	\$222,481	\$222,481
6	21.0	\$112,677	\$107,373	\$101,133	\$106,506	\$124,324	\$168,714	\$333,721	\$333,721
8	29.0	\$155,602	\$148,277	\$139,660	\$147,080	\$171,685	\$232,986	\$460,853	\$460,853

a. All meter capacity ratio factors are from AWWA Manual M1. Charges for meters greater than 8 inches to be determined by DWD on a case-by-case basis. The charge for a 1-inch meter for residential services, which is made necessary for the installation of a fire sprinkler system, is the same as the charge for a 5/8-inch meter for one- and two-family residential systems.

Table A-12

Main Extension Reimbursement Assessment-Related DWD Obligations

Developer	Development	Date Accepted	MERA Total		Jul-22	Jul-23	Jul-24	Jul-25	Jul-26	Jul-27	Jul-28	Jul-29	Jul-30	Jul-31
City of Oakley	CIP 92	7/1/2016	\$35,360	Year End Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
				Payments	\$5,360	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SDC Delta Coves LLC	6013 - Delta Coves - 18" Offsite	4/24/2019	\$810,606	Year End Balance	\$486,364	\$405,303	\$324,242	\$243,182	\$162,121	\$81,061	\$0	\$0	\$0	\$0
				Payments	\$81,061	\$81,061	\$81,061	\$81,061	\$81,061	\$81,061	\$81,061			
Brookfield Emerson Land, LLC	9032, 9349, 9350, & 9351 Emerson Ranch	2/26/2020	\$30,250	Year End Balance	\$15,250	\$10,250	\$5,250	\$0	\$0	\$0	\$0	\$0	\$0	\$0
				Payments	\$5,000	\$5,000	\$5,000	\$5,250	\$0	\$0	\$0	\$0	\$0	\$0
AD Seeno Construction	8760/9027 - Carpenter Road Improvements - 18" Waterline	Pending Acceptance	\$54,350	Year End Balance	\$48,915	\$43,480	\$38,045	\$32,610	\$27,175	\$21,740	\$16,305	\$10,870	\$5,435	\$0
				Payments	\$5,435	\$5,435	\$5,435	\$5,435	\$5,435	\$5,435	\$5,435	\$5,435	\$5,435	\$5,435
Totals			\$930,566	Year End Balance	\$558,141	\$466,645	\$375,149	\$283,404	\$196,908	\$110,413	\$23,917	\$18,482	\$13,047	\$7,612
				Payments	\$96,856	\$91,496	\$91,496	\$91,746	\$86,496	\$86,496	\$86,496	\$5,435	\$5,435	\$5,435

**Table A-13
Pipeline Projects Funded by Developers**

Source of pipe capacities and lengths - Table 8-1 2020 Facilities Plan

General Location	Pipe Capacity Reqd for Build out (Inch ID)	Fully Burdened Unit Cost (2024 per LF)	Pipe Length Reqd for Buildout (LF)	Construction Contingency	Est Pipe Distribution Cost	Pipe Capacity Reqd for Current Developers (Inch ID)	Current Developer Reimbursement Unit Cost (\$ per LF)	DWD Payments to Developer for Oversizing Reimbursement (10 yr payment)
West of Jersey Island Road Area								
12" pipelines (initially unpaved conditions)	12	\$258	24,000	25%	\$7,750,000	8	\$205	\$2,824,240
16" pipelines (initially unpaved conditions)	16	\$419	9,150	25%	\$4,790,000	8	\$205	\$2,912,054
18" pipelines (initially unpaved conditions)	18	\$464	3,850	25%	\$2,230,000	8	\$205	\$1,439,826
Subtotal West of Jersey Island Road Area			37,000		\$14,770,000			\$7,176,120
East of Jersey Island Road Area								
12" pipelines (initially unpaved conditions)	12	\$270	56,200	25%	\$19,000,000	8	\$220	\$6,615,206
18" pipelines (initially unpaved conditions)	18	\$487	2,250	25%	\$1,370,000	8	\$220	\$874,168
20" pipelines (initially unpaved conditions)	20	\$542	8,800	25%	\$5,960,000	8	\$220	\$4,020,744
24" pipelines (initially unpaved conditions)	24	\$663	1,400	25%	\$1,160,000	8	\$220	\$851,482
Contra Costa Canal Crossing just northwest of Jersey Island Road & East Cypress Rd. (pipe and casing) (initially unpaved conditions)	20	\$1,483	200	25%	\$370,000	8	\$866	\$196,774
Subtotal East of Jersey Island Road Area			68,850		\$27,860,000			\$12,558,374
Bethel Island								
16" pipelines on Bethel Island (DIP) (initially paved condition)	16	\$552	24,500	25%	\$16,900,000	12	\$427	\$6,430,415
Subtotal Bethel Island			24,500		\$16,900,000			\$6,430,415
Summary								
Subtotal West of Jersey Island Road Area			37,000		\$14,770,000			\$7,176,120
Subtotal East of Jersey Island Road Area			68,850		\$27,860,000			\$12,558,374
Subtotal Bethel Island			24,500		\$16,900,000			\$6,430,415
Total DWD Sphere of Influence			130,350		\$59,530,000			\$26,164,909

These projects represent the remaining facilities required to buildout. Distribution pipes already constructed are listed in the fixed assets.

Note: The MERA calculation is for DWD's Sphere of Influence, including service to Delta Coves on Bethel Island. Specific requirements for service to other parts of Bethel Island will be determined on a case-by-case basis.

All costs in this table are in September 2024 dollars. Unit costs for pipes include pipes, fittings, valves and corrosion protection. The unit costs are average values including both simple and difficult projects. Unit costs do not include any construction contingency. Paved unit costs are used for major transmission projects. The estimated construction cost includes a 25 percent contingency.

Applicable costs for potential reimbursement are calculated as: 1) For SOI except Delta Coves, the estimated construction cost minus the cost for an 8-inch pipeline using unit costs of 8-inch pipeline (unpaved) and for 8-inch pipe in casing; and 2) For Bethel Island as the estimated construction cost of 16-inch DIP minus the cost for a 12-inch DIP pipeline using unit costs specifically developed by CDM Smith in September 2024 dollars. Unit costs by CDM Smith do not include mobilization, restoration, patching, or other ancillary items/activities. Specific reimbursement amounts are determined on a case-by-case basis for each development based on DWD's MERA policy. New development is reimbursed for the difference between the cost of the required waterline and the cost of either an 8-inch or 12-inch pipeline depending on what is required to provide adequate service, including fire flows, for the development.