SAN DIEGUITO WATER DISTRICT

Water Capacity Charge Report

FINAL REPORT / DECEMBER 2, 2025

RAFTELIS

San Dieguito Water District

RAFTELIS

December 2, 2025

Elmer Alex, PE
Principal Engineer
San Dieguito Water District/City of Encinitas
160 Calle Magdalena
Encinitas, CA 92024

Subject: Water Capacity Charge Report

Dear Mr. Alex,

Raftelis is pleased to submit this Water Capacity Charge report to the San Dieguito Water District. Our recommendations are based on industry-standard methodologies for setting capacity charges, which result in fair and equitable charges that reflect the system's current value.

We enjoyed working with you and your staff during this study. Please do not hesitate to call should you have any questions.

Sincerely,

Steve Gagnon, PE (AZ)
Vice President

Jeremy Tamargo, PE (OR)
Manager

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1. Executive Summary

This document describes the purpose, methodology and calculation of water capacity charges for the San Dieguito Water District (District). This section summarizes the study's results.

1.1. Background

The District engaged Raftelis to calculate capacity charges for the water utility. Capacity charges are one-time capital charges imposed on new water connections to pay for the facilities needed to provide water service. Other common terms for capacity charges are connection fees, impact fees, system development charges, development impact fees, plant and facility connection charges and capital facility charges. The District currently charges a capacity charge for connection to and use of capacity in the water systems for both domestic water service and private fire protection. The charge is charged to new water connections or customers requesting additional capacity compared to their current capacity (as measured by meter size).

1.2. Economic and Legal Framework

Capacity charges are imposed on new connections. The purpose of a capacity charge is to charge new customers their share of the cost of the facilities required to provide service. The fundamental rationale behind capacity charges is to uphold the "equity principle" in utility finance. This principle states that new growth should pay its proportionate share of the costs required to provide adequate service, preventing the burden of expansion and historical capital investment from falling unfairly upon existing customers.

The legal grounds for establishing capacity charges are in Government Code Sections 66013, 66016, 66022, and 66023. Per Section 66013, capacity charges imposed by an agency "shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed…"

1.3. Approach

There are three methodologies to calculate capacity charges. The two that are most prevalent are the **buy-in** approach and the **incremental cost** approach. The third is a hybrid of these two approaches. The buy-in approach is most appropriate for agencies with spare capacity in their current facilities. It ensures new connections pay their share of the cost for existing facilities. By contrast, the incremental approach is most appropriate for agencies anticipating the construction of new facilities to meet new demand. The costs of the new facilities are distributed to customers based on their expected utilization of the new facilities. All methodologies ensure that "growth pays for growth."

In this study, the District directed Raftelis to develop capacity charges for both domestic water meter connections and private fire meter connections. Raftelis utilized the **buy-in** approach to determine the District's domestic water meter capacity charges since it has capacity in existing facilities for new domestic connections in the near term. Essentially, new domestic users are "buying into" the current system. In other words, new customers are paying the replacement cost less depreciation, which recognizes that system assets are not new.

For new private fire meter connections, Raftelis utilized the **incremental** approach to determine the District's private fire meter capacity charges. This method is typically used when there are specific capital improvements needed to provide capacity for new development. In this case, the District has specific capital improvement projects required to meet fire flow demand requirements from anticipated new users. Under the incremental approach, growth related capital improvements are allocated to new development based on their estimated usage or capacity requirements, irrespective of the value of past investments made by existing customers.

1.4. Buy-in Approach Calculation – Domestic Meters

Raftelis utilized the system buy-in approach for calculating the water capacity charges for domestic meters. The system buy-in uses buildout equivalent meter units (or the ultimate system capacity). Raftelis first calculated the District's water system asset value using Replacement Cost Less Depreciation (RCLD). We divided the system value by an estimate of the buildout equivalent meter units. **Table 1-1** shows the resulting domestic meter water capacity charges by meter size utilizing the system buy-in approach.

Table 1-1: Water Capacity Charges – Domestic Meters

Line	Meter Size	Proposed System Buy-In Capacity Charge by Meter Size	Existing Capacity Charge by Meter Size	Difference ($)	Difference (%)
1	5/8"	$10,094	$9,140	$954	10.4%
2	3/4"	$10,094	$9,140	$954	10.4%
3	1"	$16,150	$14,624	$1,526	10.4%
4	1.5"	$30,281	$27,420	$2,861	10.4%
5	2"	$52,486	$47,527	$4,959	10.4%
6	3"	$96,898	$87,744	$9,154	10.4%
7	4"	$165,534	$149,895	$15,639	10.4%
8	6"	$302,806	$274,199	$28,607	10.4%
9	8"	$524,864	$475,278	$49,586	10.4%
10	10"	$787,296	$712,917	$74,379	10.4%
11	12"	$1,332,346	N/A	N/A	N/A

1.5. Incremental Approach Calculation – Private Fire Meters

Raftelis utilized the incremental approach for calculating the water capacity charges for private fire meters. The District has specific capital improvement projects required to meet fire flow demand requirements from anticipated new users. Under the incremental approach, growth related capital improvements are allocated to new development based on their estimated capacity requirements, irrespective of the value of past investments made by existing customers.

Raftelis calculated the total value of capital improvement projects attributable to new private fire meter connections. The value of capital improvement projects attributable to new private fire meter connections was then divided by the number of equivalent 2" private fire connections anticipated by the District over the 10-year Master Plan horizon in order to calculate the charge per fireline equivalent. The charges were then scaled by meter equivalency factor. **Table 1-2** shows the resulting private fire water capacity charges by meter size utilizing the incremental approach.

Table 1-2: Water Capacity Charges – Private Fire Meters

Line	Meter Size	Proposed Incremental Capacity Charge by Meter Size	Existing Capacity Charge by Meter Size	Difference ($)	Difference (%)
1	2" and below	$1,612	$660	$952	144%
2	3"	$2,975	N/A	N/A	N/A
3	4"	$5,083	$1,265	$3,818	302%
4	6"	$9,298	$1,265	$8,033	635%
5	8"	$16,117	$1,265	$14,852	1174%
6	10"	$24,175	$1,265	$22,910	1811%
7	12"	$40,912	$1,265	$39,647	3134%

2. Capacity Charge Economic and Legal Environment

For publicly owned utilities, capital facilities, or a portion of capital facilities, are often funded by existing customers through (monthly or bimonthly) rate and charge revenue. As new development connects to the system, the excess capacity in the existing utility, funded by rate revenue from previous/existing customers, is available to new customers. Existing customers' investment in the existing system capacity allows newly connecting customers to take advantage of unused surplus capacity. By implementing capacity charges, new customers pay their fair share of the cost of existing (excess) system capacity needed to serve new customers - so that existing customers are not subsidizing capital costs for new customers. This effectively puts new customers on par with existing customers regarding the capital costs to build the utility. In other words, the new users are ***buying into*** the existing system on an equal basis as the utility's existing customers.

2.1. Economic Basis

The economic philosophy behind capacity charges is that water capital facility costs should be paid by those using the utility. To fairly distribute these costs, the capacity charge should reflect the cost to provide capacity to new users and not unduly burden existing users who continue to maintain the full capacity of the utility through their user charges. Accordingly, many utilities make this philosophy one of their primary guiding principles when developing their capacity charge structure.

The philosophy that those using the capacity should pay for the cost of capacity is often referred to as "growth-should-pay-for-growth." The principal is summarized in the American Water Works Association (AWWA) *Manual M1, Principles of Water Rates and Charges* in the Section on System Development Charges.

2.2. Legal Framework[1]

The District has authority to price and implement water capacity charges. The most salient limitation on this authority is the requirement that the charge on new development bear a reasonable relationship to the costs brought about by the development. Courts have long used a standard of reasonableness to evaluate the legality of capacity charges. The basic statutory standards governing water and wastewater capacity charges are embodied by Government Code Sections 66013, 66016, 66022 and 66023. Government Code Section 66013, in particular, contains requirements specific to pricing water and wastewater capacity charges:

> *"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*

[1] Raftelis does not practice law nor does it provide legal advice. The above discussion is to provide a general review of state institutional constraints and is labeled "legal framework" for literary convenience only. The District should consult with its counsel for clarification of any of the topics discussed in this section.

reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount the fee or charge 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."

Section 66013 also includes the following general requirements:

- Local agencies must follow a process set forth in the law, making certain determinations regarding the purpose and use of the charge; they must establish a nexus or relationship between a development project and the public improvement being financed with the charge.
- The capacity charge revenue must be segregated from the general fund to avoid commingling of capacity charges and the general fund.
- Section 66013 also requires annual reporting requirements for capacity charges revenue.

3. Methodology – Domestic Meters

Raftelis used the **buy-in** methodology to calculate domestic meter capacity charges since the water system has excess capacity to serve new domestic meter connections. The Buy-in approach starts with valuing the water system. There are several ways to establish the value of a utility including:

1) Original Cost (also known as book cost or historical cost)
2) Original Cost Less Depreciation (which subtracts depreciation)
3) Replacement Cost
4) Replacement Cost Less Depreciation

Original Cost (OC). Original cost is the amount paid when initially purchased. The main advantage of using this method is its simplicity and it may provide a basis for lower capacity charges if an agency is hoping to entice new connections. The drawback is that it does not accurately reflect current costs of constructing the assets and therefore may not properly value the past investment by current customers.

Replacement Cost (RC). The replacement cost represents the cost of replacing existing utility facilities at current prices. Unlike the original cost approach, the replacement cost recognizes construction cost changes since the original construction date. Replacement cost is often calculated by using a cost index such as the Engineering News Record Construction Cost Index, to inflate original costs to current costs. Replacement cost does not account for the fact that the facilities are not new (or depreicated) and could require reinvestment to extend their useful life.

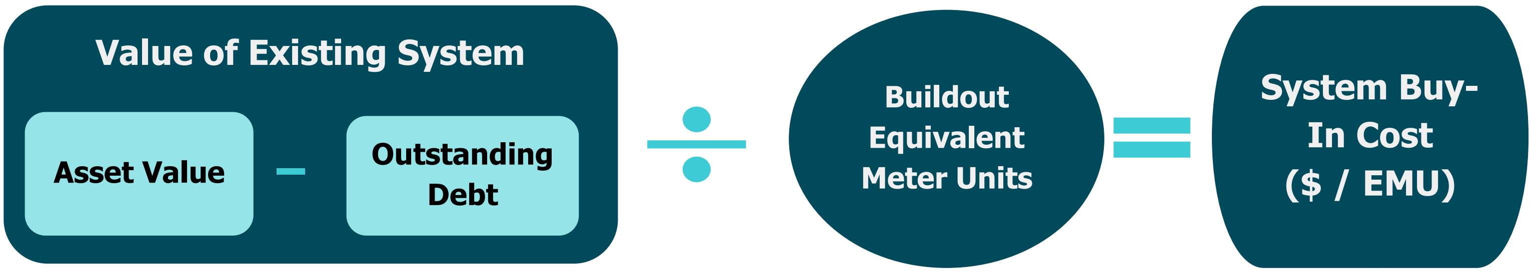
Original Cost Less Depreciation (OCLD) or Replacement Cost Less Depreciation (RCLD). OCLD or RLCD subtracts depreciation. Depreciation estimates the loss in system value due to wear and tear, decay, inadequacy, and obsolescence. Accumulated depreciation is computed for each asset based on its age and deducted from the respective total original cost or replacement cost to determine the OCLD or RCLD. RCLD is most often used to provide an estimate of utility value.

3.1. System Buy-in Approach

The calculation of the system buy-in methodology is shown in Figure 3-1. This buy-in method is utilized when existing users have developed and maintained a utility system that can accommodate further growth for domestic customers. Existing customers have financed the costs for the existing system. New connections will pay their respective portion of the net investment. The net equity investment, or value of the existing system, is divided by the buildout equivalent meter units to determine the system buy-in capacity charge.

For example, if the buildout system has 1,000 equivalent meter units and the new connection would need one meter unit, the buy-in would be 1/1,000 of the total value of the system. The new connection has bought into the system by paying their portion of the system value in proportion to their meter units. This places them in an equal financial position to the preexisting customers.

Figure 3-1: System Buy-In Approach



As shown, the system's value subtracts outstanding debt principal since we must value system equity. It is noted that for this study, the District has no outstanding debt for the water utility.

4. Capacity Charge Calculation – Domestic Meters

The initial step in the system buy-in method is to determine the system's value. As described in Section 3, the system buy-in subtracts outstanding debt principal. The District currently has no outstanding debt for the water utility. The system value is divided by buildout Equivalent Meter Units (EMUs).

4.1. Utility System Valuation Methodology

Raftelis recommends Replacement Cost Less Depreciation (RCLD) to value the water system. RCLD is commonly used and often preferred to alternative methods such as Original Cost Less Depreciation (OCLD), Original Cost (OC), and Replacement Cost (RC) because of its defensibility. In most cases – barring, for example, instances of water systems that have depreciated significantly due to lack of replacement and repair – RCLD is more defensible because the replacement cost: 1) is inflation-adjusted and thus more accurately reflects the cost of replacing capacity in current dollars; and 2) accounts for depreciation and thus addresses the fact that the system is not new and equipment and facilities have depreciated in value.

4.1.1. Utility System Value

The District provided asset listings, which included the date of acquisition, asset life, and original cost. Developer-contributed assets included in the asset data provided by the District were removed for this study. The replacement cost was calculated using the 20 City Engineering News Record Construction Cost Index (ENR – CCI)[2]. Raftelis subtracted accumulated depreciation[3] for each asset to yield the RCLD.

For certain assets, the accounting useful life is substantially lower than the known engineering useful life. Raftelis revised accounting useful lives to engineering useful lives. The assumed useful lives are shown in Appendix A. The asset list and corresponding RCLD calculations are provided in **Appendix A**.

[2] The 20 City Engineering News Record Construction Cost Index surveys construction cost inflation for 20 cities in the United States and creates one index reflecting the average increase in the 20 cities.

[3] Depreciation was calculated assuming the straight line depreciation method

Table 4-1 shows the summary of system value. As noted above, the District does not have debt attributable to the water utility.

Table 4-1: Summary of Water Utility System Value

Line	Line Item	Value (RCLD)
1	Land	$11,925,040
2	Distribution Storage	$5,008,423
3	Transmission & Distribution	$176,502,942
4	Meter	$1,531,844
5	General & Admin	$1,702,738
6	Treatment	$18,987,554
7	**Total Water System Valuation**	**$215,658,541**

Table 4-2 shows the derivation of equivalent meters for the current year 2025. The District provided current total meter counts by meter size. Raftelis determined the number of equivalent meters by multiplying each meter size by the San Diego County Water Authority (SDCWA) meter equivalency factors.

Table 4-2: Equivalent Meter Derivation – Domestic Meters

Line	Meter Size	Meter Equivalency Factor	Number of Meters (2025)	Equivalent Meters (2025)
1	5/8"	1.0	3,209	3,209
2	3/4"	1.0	6,379	6,379
3	1"	1.6	3,885	6,216
4	1.5"	3.0	437	1,311
5	2"	5.2	472	2,454
6	3"	9.6	9	86
7	4"	16.4	6	98
8	6"	30.0	1	30
9	8"	52.0	1	52
10	10"	78.0	0	0
11	12"	132.0	0	0
12	**Total**		**14,399**	**19,836**

Table 4-3 shows the calculation of the equivalent meters at buildout in 2035. Table 3-6 of San Dieguito Water District 2022 Water System Master Plan estimates an increase of domestic water demand between 2025 to 2035 of 7.71%. As shown in **Table 4-3**, this equates to an additional

estimated demand of approximately 1,530 additional EMU's for the system. As such, the estimated total number of EMU's at buildout in 2035 is estimated to be approximately 21,366 equivalent meters.

Table 4-3: Estimated Buildout Equivalent Meter Derivation – Domestic Meters

Line	Line Item	Value
1	Total EMU's (2025)	19,836
2	Increase in Potable Water Demand (2025-2035)	7.71%
3	Additional EMU's (2025-2035)	1,530
4	**Total Estimated EMU's (2035)**	**21,366**

4.1.2. System Buy-in Capacity Charge Calculation

The capacity charge is calculated in **Table 4-4**, by dividing the water system's value calculated in **Table 4-1** by the number of equivalent meters from **Table 4-3**. The capacity charge for larger meters is derived in **Table 4-5**.

Table 4-4: Equity Buy-in Capacity Charge Calculation – Domestic Meters

Line	Line Item	Value
1	Total Water System Valuation	$215,658,541
2	Total Estimated EMU's (2035)	21,366
3	**Buy-in Charge per Equivalent Meter**	**$10,094**

4.2. Proposed Water Capacity Charges by Meter Size – Domestic Meters

Table 4-5 shows the domestic meter water capacity charges for all meter sizes, which we determined by multiplying the charge for the 5/8-inch and 3/4-inch meter calculated in **Table 4-4** by the San Diego County Water Authority (SDCWA) meter equivalency factors.

Table 4-5: Water Capacity Charges by Meter Size – Domestic Meters

Line	Meter Size	Proposed System Buy-In Capacity Charge by Meter Size	Existing Capacity Charge by Meter Size	Difference ($)	Difference (%)
1	5/8"	$10,094	$9,140	$954	10.4%
2	3/4"	$10,094	$9,140	$954	10.4%
3	1"	$16,150	$14,624	$1,526	10.4%
4	1.5"	$30,281	$27,420	$2,861	10.4%
5	2"	$52,486	$47,527	$4,959	10.4%
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8	6"	$302,806	$274,199	$28,607	10.4%
9	8"	$524,864	$475,278	$49,586	10.4%
10	10"	$787,296	$712,917	$74,379	10.4%
11	12"	$1,332,346	N/A	N/A	N/A

5. Methodology – Private Fire Meters

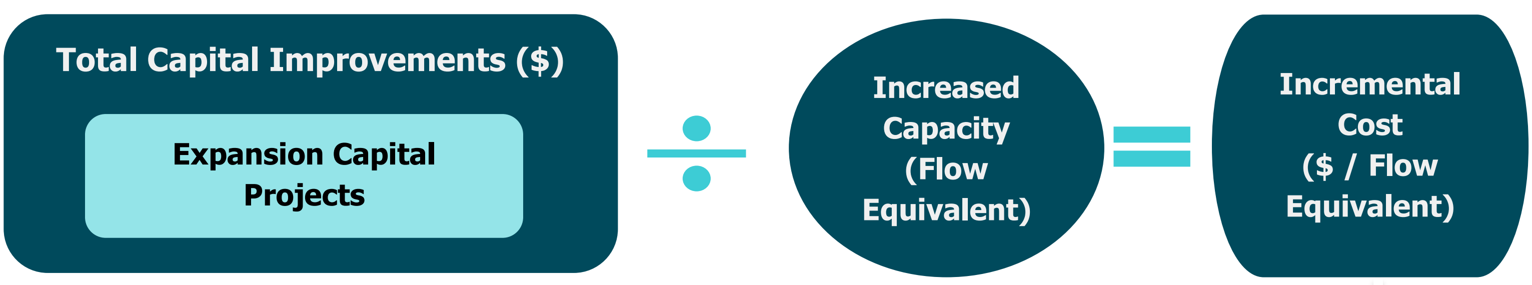
Raftelis utilized the incremental approach for calculating the water capacity charges for private fire meters. The District has specific capital improvement projects required to meet fire flow demand requirements from anticipated new users. Growth related capital improvements for fire flow demand requirements are allocated to new private fire meter connections based on their capacity requirements.

5.1. Incremental Approach

The incremental approach states that new development (new users) should pay for the additional capacity and expansions necessary to accommodate them. This method is typically used when there are specific capital improvements needed to furnish growth for new development. Under the incremental approach, growth related capital improvements are allocated to new development based on their estimated capacity requirements, irrespective of the value of past investments made by existing customers.

For instance, if it costs X dollars ($X) to provide water service for 100 additional equivalent meter units and a new connector uses one of those equivalents, then the new user would pay $X/100 to connect to the system. In other words, new customers pay the incremental cost of capacity based on the estimated cost of the new infrastructure. This method is generally used when detailed facilities are identified for the capacity required to serve new customers and little to no existing system capacity is available for development. While California Code 66013 (b)(3) does not define a specific period over which to include future projects, these periods can be as long as a master planning period. Figure 3-2 shows the framework for calculating an incremental cost capacity charge.

Figure 5-1: Incremental Approach



6. Capacity Charge Calculation – Private Fire Meters

The initial step in the incremental approach is to determine the value of the expansion capital projects attributable to new private fire meter connections.

6.1. Capital Improvement Projects Valuation Methodology

Raftelis utilized Table 8-9 of San Dieguito Water District 2022 Water System Master Plan to determine the valuation of fire flow related capacity-based capital improvement projects for the District over the 10-year planning horizon. The total valuation of fire related capacity-based capital improvements in the Master Plan is approximately $8.5 million in 2021 dollars. Raftelis used the Construction Cost Index (CCI) to adjust the capital improvement costs found in the Master Plan to 2025 dollars. Based on the CCI, the valuation of capacity-based capital improvements in the Master Plan adjusted for inflation is approximately $10.6 million in 2025 dollars. The full listing of capacity-based capital improvement projects from the 2022 Water System Master Plan utilized for the valuation is found in **Appendix B**.

6.1.1. Value of Private Fire Flow Improvements

As noted above, the District's capital improvement program is approximately $10.6 million for improvements to meet fire flow (both public fire flow demand from fire hydrants and private fire flow capacity) demand requirements for new connections. **Table 6-1** shows the proportion of total fire flow improvement costs that are attributable to private fire flow. Private fire flow is water that is provided to a private business or apartment complex to fight fires as opposed to fire flow provided through public hydrants. The District's 2024 Water & Recycled Water Rate Study allocated 82.9% of fire flow costs to public fire protection and 17.1% of fire flow costs to private fire meters. **Table 6-1** shows the value of private fire flow improvements equal to approximately $1.8 million.

Table 6-1: Value of Private Fire Flow Improvements

Line	Line Item	Value
1	Value of Total Fire Flow Improvements	$10,608,832
2	Private Fire Flow Percent of Total Fire Flow Requirements	17.1%
3	**Value of Private Fire Flow Improvements**	**$1,812,977**

Table 6-2 shows the calculation of the number of private two-inch fireline equivalents anticipated over the 10-year Master Plan horizon. Based on current development levels provided by the District, the Study estimated the number of equivalent 2" private fire connections between 2025 to 2035 to be approximately 1,125. Based on a 2" private fire meter capacity ratio of 5.20 (San Diego County Water Authority (SDCWA) meter equivalency factors), this equates to 5,849 new private fireline equivalents being added to the water utility system between 2025-2035.

Table 6-2: Calculation of Private Fireline Equivalents

Line	Line Item	Value
1	No. of Equivalent 2" Private Fire Connections (2025-2035)	1,125
2	2" Private Fireline Demand Ratio	5.20
3	**Private Fireline Equivalents**	**5,849**

6.1.2. Incremental Approach Capacity Charge Calculation

The capacity charge per fireline equivalent is calculated in **Table 6-3** by dividing the value of the private fire flow improvements in **Table 6-1** by the number of private fireline equivalents from **Table 6-2**.

Table 6-3: Charge per Fireline Equivalent

Line	Line Item	Value
1	Value of Private Fire Flow Improvements	$1,812,977
2	Private Fireline Equivalents	5,849
3	**Charge per Fireline Equivalent**	**$310**

6.2. Proposed Water Capacity Charges by Meter Size – Private Fire Meters

Table 6-4 below shows the private fire meter water capacity charges by meter size, which were determined by multiplying the charge per fireline equivalent in **Table 6-3** by the San Diego County Water Authority (SDCWA) meter equivalency factors. The costs for larger meters take into account the hydraulic ability to draw water at a higher flow rate from the system, which places a larger burden on the entire system infrastructure.

Table 6-4: Water Capacity Charges by Meter Size – Private Fire Meters

Line	Meter Size	Proposed Incremental Capacity Charge by Meter Size	Existing Capacity Charge by Meter Size	Difference ($)	Difference (%)
1	2" and below	$1,612	$660	$952	144%
2	3"	$2,975	N/A	N/A	N/A
3	4"	$5,083	$1,265	$3,818	302%
4	6"	$9,298	$1,265	$8,033	635%
5	8"	$16,117	$1,265	$14,852	1174%
6	10"	$24,175	$1,265	$22,910	1811%
7	12"	$40,912	$1,265	$39,647	3134%

7. Conclusion

The report derives water capacity charges that reflect the cost of providing service to new customers. The proposed domestic meter water capacity charges are based on the cost to "buy in" to the water utility so that new connections are on par with contributions from existing customers. The proposed private fire meter water capacity charges are based on the specific growth-related capital improvements for new development based on their estimated capacity requirements in proportion to fire meters.

APPENDIX A:

Water Assets

	A	B	C	D	E	F	G	H
Line	Asset Description	Raftelis Assigned Asset Category	Original Cost	Raftelis Assigned Useful Life (Yrs)	Acquisition Year	Replacement Cost (RC)	RC Depreciation	Replacement Cost Less Depreciation (RCLD)
1	ENCINITAS RANCH RESERVOIR	Distribution Storage	$5,054,232	50	1998	$8,627,000	$4,486,040	$4,140,960
2	ENCINITAS RANCH RESERVOIR IMPROV FY00-01	Distribution Storage	$649,937	50	2001	$1,045,383	$480,876	$564,507
3	RESERVOIR IMPROVEMENTS	Distribution Storage	$22,189	50	1999	$37,131	$18,566	$18,566
4	BALOUR RESERVOIR	Distribution Storage	$41,018	50	2000	$67,294	$32,301	$34,993
5	BALOUR RESERVOIR PRESSURE REDUCTION STN	Distribution Storage	$51,808	50	2003	$80,094	$33,640	$46,455
6	CW17H BALOUR RESERVOIR REHAB	Distribution Storage	$183,353	50	2018	$230,617	$27,674	$202,943
7	2 CARPORTS FOR SW YARD	General & Admin	$11,913	50	2020	$13,153	$1,052	$12,101
8	NON-DESTRUCTIVE PIPELINE ASSESSMENT	General & Admin	$239,246	50	2018	$300,918	$36,110	$264,808
9	SCADA AUTOMATION UPGRADE PROG	General & Admin	$726,878	50	2018	$914,250	$109,710	$804,540
10	AIR CONDITIONING	General & Admin	$5,085	50	1995	$12,932	$7,500	$5,431
11	CONCRETE SAW	General & Admin	$7,797	50	1994	$20,060	$12,036	$8,024
12	FINDERS-SYSE PB44 LINE LOCATION TOOL	General & Admin	$1,088	50	1987	$3,434	$2,541	$893
13	FORKLIFT #FM167	General & Admin	$23,355	50	2001	$51,231	$23,566	$27,665
14	HYDRAULIC TOOLS	General & Admin	$14,603	50	2006	$26,213	$9,437	$16,776
15	METER EXCHANGE	General & Admin	$52,314	50	2006	$93,907	$33,806	$60,100
16	GATE AUTOMATIC AT CALLE MAGDALENA	General & Admin	$4,441	50	2009	$7,209	$2,163	$5,047
17	CONCRETE MIXER	General & Admin	$3,219	50	2010	$5,090	$1,425	$3,665
18	METROTECH LINE LOCATOR	General & Admin	$9,915	50	2011	$15,209	$3,954	$11,255
19	PRESSURE TEST EQUIPMENT	General & Admin	$2,862	50	2012	$4,278	$1,027	$3,251
20	VAC CON TRAILER MOUNTED	General & Admin	$57,834	50	2014	$82,059	$16,412	$65,648
21	FM309 VALVE EXERCISING ERV-750	General & Admin	$28,462	50	2014	$40,385	$8,077	$32,308
22	BOBCAT TRAILER REP TOWMASTER	General & Admin	$12,743	50	2015	$17,668	$3,180	$14,488
23	REPLACE WATER TANK SYSTEM ON FM 248	General & Admin	$21,492	50	2015	$29,799	$5,364	$24,435
24	EMERGENCY POWER GENERATOR	General & Admin	$131,323	50	2018	$165,175	$19,821	$145,354
25	UTILITY BILLING SYSTEM-PROJ CW12R	General & Admin	$145,307	50	2017	$188,296	$26,361	$161,934
26	LEAK DETECTION EQUIPMENT	General & Admin	$32,487	50	2021	$37,251	$2,235	$35,016
27	HCD BUILDING 12X40 CLASROOM (1/2)	Land	$11,007	NA	2012	$14,239	$0	$14,239
28	HCD BLDG 12X14 CLASSROOM (1/2)	Land	$11,007	NA	2012	$14,239	$0	$14,239
29	CAPACITY RIGHTS	Land	$323,190	NA	1996	$573,935	$0	$573,935
30	IMPROV-DONATED SCRIPPS PARKING GARAGE	Land	$0	NA	2011	$0	$0	$0
31	WATER EASEMENTS MAP 16609	Land	$125,921	NA	2024	$127,706	$0	$127,706
32	LAND EASEMENT FY09-10	Land	$2,713,834	NA	2010	$4,291,281	$0	$4,291,281
33	LAND EASEMENT FY10-11	Land	$263	NA	2011	$403	$0	$403
34	PW-CALLE MAGDELENA YARD RIGHT-OF-WAY	Land	$3,378,700	NA	2007	$5,901,282	$0	$5,901,282
35	LAND EASEMENT FY 12-13 (4 EASEMENTS)	Land	$211,583	NA	2013	$308,354	$0	$308,354
36	LAND EASEMENTS FY12-13 (2 EASEMENTS)	Land	$12,165	NA	2014	$17,261	$0	$17,261
37	LAND EASEMENT FY13-14 (9 EASEMENTS)	Land	$109,306	NA	2014	$155,092	$0	$155,092
38	WATER EASEMENT-MAP 16070-WINDSOR ESTATES	Land	$12,192	NA	2016	$16,409	$0	$16,409
39	WATER EASEMENT-MAP 16115	Land	$36,753	NA	2016	$49,464	$0	$49,464
40	WATER EASEMENT-PM 21298	Land	$10,706	NA	2016	$14,408	$0	$14,408
41	ENC COMMUNITY PARK EASEMNT 2015-0109706	Land	$112,500	NA	2016	$151,409	$0	$151,409
42	WATER EASEMENT COC 2010-55174	Land	$10,347	NA	2017	$13,408	$0	$13,408
43	WATER EASEMENT LAUREL COVE PM16176	Land	$33,030	NA	2017	$42,802	$0	$42,802
44	TM 14-111 MACKINNON AVE. MAP 16239	Land	$9,923	NA	2018	$12,480	$0	$12,480
45	TM 15-064 CLARK AVE. ENCINITAS MAP 16267	Land	$28,331	NA	2018	$35,634	$0	$35,634
46	SCRIPPS HEALTH DOC APN 258-241-33	Land	$8,040	NA	2019	$9,916	$0	$9,916
47	ENCINITAS BEACH LAND VENT 216-041-26-00	Land	$33,900	NA	2019	$41,811	$0	$41,811
48	TM 16-211-710 & 714 REQUEZA ST,ENCINITAS	Land	$28,950	NA	2018	$36,413	$0	$36,413
49	TM 16-151-1528 N COAST HWY 101,ENCINITAS	Land	$8,649	NA	2019	$10,667	$0	$10,667
50	EASEMENT LEUCADIA BLVD TM 14-069-764,782	Land	$32,850	NA	2019	$40,516	$0	$40,516

	A	B	C	D	E	F	G	H
Line	Asset Description	Raftelis Assigned Asset Category	Original Cost	Raftelis Assigned Useful Life (Yrs)	Acquisition Year	Replacement Cost (RC)	RC Depreciation	Replacement Cost Less Depreciation (RCLD)
51	TM18-074 BIRMINGHAM & LAKE DR ENCINITAS	Land	$37,224	NA	2019	$45,911	$0	$45,911
52	METER AUTOMATION FY06-07	Meter	$850,468	35	2007	$1,214,678	$589,986	$624,691
53	METER AUTOMATION	Meter	$140,848	35	2008	$197,221	$90,158	$107,063
54	METER AUTOMATION	Meter	$13,532	35	2009	$18,577	$7,961	$10,615
55	METER REPLACEMENT PROGRAM CW16E FROM 15E	Meter	$27,212	35	2016	$36,623	$8,371	$28,252
56	METER CAPITALIZATION 2005	Meter	$891,139	35	2005	$1,665,173	$903,951	$761,222
57	2022 SDWD DONATED TRANSMISSION LINES	Transmission & Distribution	$0	50	2022	$0	$0	$0
58	WATER VALVE REPLACEMENT CW22X	Transmission & Distribution	$1,175,824	50	2024	$1,199,340	$0	$1,199,340
59	TRANSMISSION & DISTRIB EQUIP	Transmission & Distribution	$15,407,519	50	1979	$38,312,511	$34,481,260	$3,831,251
60	1993 ADDITIONS	Transmission & Distribution	$248,898	50	1993	$469,059	$290,817	$178,242
61	1994 ADDITIONS	Transmission & Distribution	$634,219	50	1994	$1,171,776	$703,066	$468,711
62	1996 ADDITIONS	Transmission & Distribution	$370,479	50	1996	$657,913	$368,431	$289,482
63	1997 ADDITIONS	Transmission & Distribution	$377,465	50	1997	$657,176	$354,875	$302,301
64	TRANSMISSION & DISTRIB EQUIP; ADDON 2002	Transmission & Distribution	$55,750	50	2002	$87,912	$38,681	$49,231
65	DISTRIBUTION IMPROVEMENTS	Transmission & Distribution	$955,681	50	1999	$1,599,254	$799,627	$799,627
66	PIPELINES	Transmission & Distribution	$121,887	50	1999	$203,968	$101,984	$101,984
67	EL CAMION DEL NORTE BRIDGE-WATERLINE	Transmission & Distribution	$323,194	50	2001	$519,837	$239,125	$280,712
68	FY00-01 DISTRIBUTION IMPROVEMENTS	Transmission & Distribution	$35,823	50	2001	$57,620	$26,505	$31,115
69	FLAME SPRAY VALVES	Transmission & Distribution	$95,240	50	2002	$150,184	$66,081	$84,103
70	SANTA FE DR PR STATION & 16" MAIN	Transmission & Distribution	$1,059,751	50	2002	$1,671,121	$735,293	$935,828
71	MANCHESTER\I5 PIPELINE EX	Transmission & Distribution	$14,109	50	2002	$22,248	$9,789	$12,459
72	COLLECTION/DISTRIBUTION LINE ADJ 2005	Transmission & Distribution	$620,256	50	2005	$921,668	$350,234	$571,434
73	COLLECTION/DISTRIBUTION LINES 2005	Transmission & Distribution	$659,715	50	2005	$1,232,737	$468,440	$764,297
74	WATER DISTRIB LINE UPGRADES FY06-07	Transmission & Distribution	$1,083,735	50	2007	$1,892,866	$643,574	$1,249,291
75	WATER DISTRIB LINE UPGRADES 08	Transmission & Distribution	$4,497	50	2008	$7,529	$2,409	$5,120
76	WATER DISTRIBUTION & METER UPGRADES	Transmission & Distribution	$962,798	50	2009	$1,563,117	$468,935	$1,094,182
77	WATER DISTRIB LINE UPGRADES 10	Transmission & Distribution	$17,651	50	2010	$27,911	$7,815	$20,096
78	TRANSMISSION & DISTRIB LINE UPGRADE FY11	Transmission & Distribution	$307,156	50	2011	$471,182	$122,507	$348,675
79	2012 ADDITIIONS	Transmission & Distribution	$1,412,330	50	2012	$2,111,139	$506,673	$1,604,466
80	2013 ADDITIONS	Transmission & Distribution	$943,014	50	2013	$1,374,321	$302,351	$1,071,971
81	2013 TRANSMISSION LINES - DONATED	Transmission & Distribution	$0	50	2014	$0	$0	$0
82	2014 TRANSMISSION LINES-DONATED	Transmission & Distribution	$0	50	2014	$0	$0	$0
83	2014 COLLECT& DISTRIBUTION LINES	Transmission & Distribution	$653,405	50	2014	$927,102	$185,420	$741,682
84	COLLECTION/DISTRIBUTION LINES	Transmission & Distribution	$547,196	50	2015	$758,687	$136,564	$622,123
85	NEPTUNE/DOWNTOWN VALVE REPLACEMENT CW15D	Transmission & Distribution	$558,534	50	2016	$751,710	$120,274	$631,436
86	WATER INFRASTRUCTURE IMPROVEMENTS CW16C	Transmission & Distribution	$30,108	50	2016	$40,521	$6,483	$34,038
87	TRANSMISSION LINES-CORAL COVE-W06-060	Transmission & Distribution	$120,640	50	2016	$162,365	$25,978	$136,386
88	TRANSMISSION LINES-FIORE-W13-010	Transmission & Distribution	$66,900	50	2016	$90,038	$14,406	$75,632
89	TRANSMISSION LINES-EATON BCH-W10-130	Transmission & Distribution	$14,910	50	2016	$20,067	$3,211	$16,856
90	TRANSMISION LINES-EDINBURGH-W14-050	Transmission & Distribution	$9,860	50	2016	$13,270	$2,123	$11,147
91	TRANSMISSION LINES -DEVONSHIRE-W11-010	Transmission & Distribution	$26,600	50	2017	$34,470	$4,826	$29,644
92	TRANSMISSION LINES-ALTA (SHEA) W11-140	Transmission & Distribution	$217,000	50	2017	$281,199	$39,368	$241,831
93	TRANSMISSION LINES-DIANA STREET-W14-120	Transmission & Distribution	$6,840	50	2017	$8,864	$1,241	$7,623
94	TRANSMISSION LINES-WINDSOR EST-W15-060	Transmission & Distribution	$8,500	50	2017	$11,015	$1,542	$9,473
95	TRANSMISSION LINE MAINTENANCE CW01	Transmission & Distribution	$18,150	50	2017	$23,520	$3,293	$20,227
96	WATER INFRASTRUCTURE IMPROV-CW17C	Transmission & Distribution	$62,039	50	2017	$80,393	$11,255	$69,138
97	WATER INFRASTRUCTURE IMPROVE-CW18C	Transmission & Distribution	$195,136	50	2018	$245,437	$29,452	$215,985
98	WATER TRANSMISSION LINES-CW18D	Transmission & Distribution	$224,824	50	2018	$282,778	$33,933	$248,845
99	CW16D 30" TRANSMISSION MAIN	Transmission & Distribution	$362,733	50	2018	$456,237	$54,748	$401,488
100	CW16X NCTD WATER MAIN REPLACEMENT	Transmission & Distribution	$131,331	50	2018	$165,185	$19,822	$145,363

	A	B	C	D	E	F	G	H
Line	Asset Description	Raftelis Assigned Asset Category	Original Cost	Raftelis Assigned Useful Life (Yrs)	Acquisition Year	Replacement Cost (RC)	RC Depreciation	Replacement Cost Less Depreciation (RCLD)
101	1264 LAKE DR-CANTON CT W11-120	Transmission & Distribution	$31,850	50	2019	$39,282	$3,928	$35,354
102	560 REQUEZA ST-MANZANITA COVE W15-120	Transmission & Distribution	$35,720	50	2019	$44,056	$4,406	$39,650
103	147 QUAIL DR-PACIFIC VIEW LN W17-060	Transmission & Distribution	$8,700	50	2019	$10,730	$1,073	$9,657
104	CARDIFF VALVE REPLACEMENT PROJ CW18I	Transmission & Distribution	$681,220	50	2019	$840,189	$84,019	$756,170
105	1412 MACKINNON AVE (NEW POINTE) W14-070	Transmission & Distribution	$7,250	50	2019	$8,942	$894	$8,048
106	720 BALOUR DR - LAUREL COVE W16-040	Transmission & Distribution	$38,570	50	2019	$47,571	$4,757	$42,814
107	2021 SDWD DONATED TRANSMISISON LINES	Transmission & Distribution	$0	50	2021	$0	$0	$0
108	ANODE BED REPLACEMENT PROJECT CW20K	Transmission & Distribution	$149,596	50	2020	$181,532	$14,523	$167,010
109	CLA-VAL REBUILD PARTS FOR SYSTEMS	Transmission & Distribution	$7,485	50	2022	$8,006	$320	$7,686
110	WATER VALVE REPLACEMENTS FY 06-07	Transmission & Distribution	$277,866	50	2007	$485,324	$165,010	$320,314
111	Encinitas Valve Replacement	Transmission & Distribution	$1,125,996	50	2024	$1,141,961	$0	$1,141,961
112	Emergency Repairs to 36-inch Transmission Main	Transmission & Distribution	$190,000	50	2025	$190,000	($3,800)	$193,800
113	Air Release and Blow Off Phase 1A	Transmission & Distribution	$575,446	50	2024	$583,605	$0	$583,605
114	Air Release and Blow Off Phase 1B	Transmission & Distribution	$725,000	50	2025	$725,000	($14,500)	$739,500
115	PRV Improvements	Transmission & Distribution	$660,000	50	2025	$660,000	($13,200)	$673,200
116	Cardiff Looping Project	Transmission & Distribution	$955,000	50	2025	$955,000	($19,100)	$974,100
117	1967 N Vulcan Ave	Transmission & Distribution	$106,685	50	2025	$106,685	($2,134)	$108,819
118	389 Requeza St	Transmission & Distribution	$20,000	50	2025	$20,000	($400)	$20,400
119	555 N Vulcan Ave	Transmission & Distribution	$30,000	50	2025	$30,000	($600)	$30,600
120	1749 San Elijo Ave	Transmission & Distribution	$10,000	50	2025	$10,000	($200)	$10,200
121	735 Santa Fe Drive	Transmission & Distribution	$87,085	50	2023	$90,707	$1,814	$88,892
122	Transmission Mains with Cost	Transmission & Distribution	$49,411,521	50	2021	$49,411,521	$38,333,425	$11,078,096
123	Mains with Cost	Transmission & Distribution	$626,761,024	50	2021	$626,761,024	$486,240,789	$140,520,235
124	Facilities Valuation	Treatment	$84,690,000	50	2021	$84,690,000	$65,702,446	$18,987,554

APPENDIX B:

Capital Improvement Program Projects

	A	B	C	D	E
Line	Project #	Type	Capital Improvement Project Name	Estimated Capital Costs ($)	Phase
1	NT-4	Capacity-based	Alley/Montgomery	$541,000	2022-2027
2	NT-5	Capacity-based	Andrew/Leucadia Scenic	$416,000	2022-2027
3	NT-6	Capacity-based	Avocet Ct	$131,000	2022-2027
4	NT-7	Capacity-based	Eolus Ave	$736,000	2022-2027
5	NT-8	Capacity-based	Noma Ln	$118,000	2022-2027
6	NT-9	Capacity-based	Via Tiempo	$498,000	2022-2027
7	NT-10	Capacity-based	Edinburg Ave	$256,000	2022-2027
8	NT-11	Capacity-based	Gascony Road	$1,027,000	2022-2027
9	NT-12	Capacity-based	Devonshire Drive	$482,000	2022-2027
10	NT-13	Capacity-based	2nd 3rd St Alley	$417,000	2022-2027
11	NT-14	Capacity-based	4th St	$471,000	2022-2027
12	NT-15	Capacity-based	I St & HWY 101	$69,000	2022-2027
13	NT-16	Capacity-based	Regal Road	$1,206,000	2022-2027
14	NT-17	Capacity-based	HWY 101, 2nd Alley	$426,000	2022-2027
15	NT-18	Capacity-based	Union Street	$267,000	2022-2027
16	NT-19	Capacity-based	Mozart Ave	$112,000	2022-2027
17	LT-1	Capacity-based	La Veta Ave	$167,000	2028-2032
18	LT-2	Capacity-based	W J Street	$55,000	2028-2032
19	LT-3	Capacity-based	Soho Road	$61,000	2028-2032
20	LT-4	Capacity-based	Stater Brothers	$106,000	2028-2032
21	LT-5	Capacity-based	C St	$47,000	2028-2032
22	LT-9	Capacity-based	Burgundy Ave	$692,000	2028-2032
23	LT-10	Capacity-based	Kennington Road	$166,000	2028-2032
24	LT-11	Capacity-based	Cornish Dr & HWY 101	$61,000	2028-2032
			Total Project Costs	**$8,528,000**	