Docket	:	A.21-07-002
Exhibit Number	:	Cal Adv - 5R
Commissioner	:	Darcie L. Houck
Administrative Law Judge	:	Charles Ferguson
Public Advocates Office	:	Suliman Ibrahim
Witness(es)	:	



PUBLIC ADVOCATES OFFICE CALIFORNIA PUBLIC UTILITIES COMMISSION

AMENDED

PUBLIC

REPORT ON ALLOCATIONS AND PLANT FOR CSS & RDOM DISTRICT, PIPELINE REPLACEMENT, AND PHYSICAL SECURITY

Testimony Updated with Corrected Errata (Red Line) and Referenced Source Materials in Addenda

California Water Service Company Test Year 2023 General Rate Case A.21-07-002

San Francisco, California March 30, 2022

TABLE OF CONTENTS

MEM	ORANI	DUM iv
CHAP	TER 1	EXECUTIVE SUMMARY1-1
I.	INTR	ODUCTION1-1
II.	SUMN	MARY OF RECOMMENDATIONS1-1
CHAP	TER 2	ALLOCATIONS
I.	INTR	ODUCTION2-1
II.	SUMN	MARY OF RECOMMENDATIONS2-1
III.	ANAI	_YSIS2-1
	A.	Unregulated Revenue Allocations2-1
	B.	Affiliate Allocations2-5
IV.	CONC	CLUSION2-11
СНАР	TER 3	CUSTOMER SUPPORT SERVICES
I.	INTR	ODUCTION
II.	SUMN	MARY OF RECOMMENDATIONS
III.	ANAI	_YSIS
	A.	CSS PC Refresh
	B.	Uninterruptable Power Supplies ("UPS") and Storage
		Replacement
	C.	Meter Reading Handheld Replacement
	D.	Campus Security Fencing
	E.	PeopleSoft FS & PeopleTools Upgrade

	F.	Procurement Process Improvements
	G.	Inventory Management System
	H.	Identity Management Access System
	I.	Next Generation Data Loss Prevention
	J.	Zoom Video Conference
	K.	Customer Care and Billing Cloud Upgrade3-21
	L.	Customer Service Omni-Channel Solutions
	M.	Water Resources Monitoring and Adaptation Plan3-23
	N.	Energy Efficiency Improvement – Heating Ventilation Air
		Conditioning ("HVAC") Optimization
	0.	RDOM Second Floor Improvements
	P.	Water Quality Satellite Drinking Water Lab – ELA3-29
	Q.	UPS and SAN Array Replacements (PID#00116250)
		Previously Funded but Not Complete Project
	R.	CSS Database Encryption Software3-32
	S.	CSS GPS Base Stations
	Т.	Install Cover Over Spoils/Dump Area and Car Port/Cover for
		Vehicle Maintenance
	U.	Projects Retired Early
IV.	CON	CLUSION
CHA	PTER 4	PIPELINE REPLACEMENT 4-1
I.	INTR	ODUCTION4-1
II.	SUM	MARY OF RECOMMENDATIONS4-1

III.	ANAI	LYSIS
	A.	Historical Replacement Rates4-3
	B.	System Condition
IV.	CONC	CLUSION4-11
CHAP	TER 5	PHYSICAL SECURITY
I.	INTR	ODUCTION5-1
II.	SUM	MARY OF RECOMMENDATIONS
III.	ANAI	LYSIS
	A.	CWS Completed Upgrades
	B.	CWS Incident Tracking
IV.	CONC	CLUSION
ATTA	CHME	ENT 1-1: QUALIFICATIONS OF WITNESS A-1
ATTA	CHME	ENT 1-2: CAPITAL BUDGET SUMMARIES A-3
ATTA	CHME	ENT 1-3: DATA REQUEST RESPONSES A-9
ADDE	ENDA I	LIST ADD-1

MEMORANDUM

1

2	The Public Advocates Office at the California Public Utilities Commission ("Cal
3	Advocates") examined application material, data request responses, and other
4	information presented by California Water Service Company ("CWS") in Application
5	A.21-07-002 to provide the California Public Utilities Commission ("Commission" or
6	"CPUC") with recommendations in the interests of ratepayers for safe and reliable
7	service at the lowest cost. Mr. Suliman Ibrahim prepared this report under the general
8	supervision of Program Manager Richard Rauschmeier, and Program & Project
9	Supervisor Syreeta Gibbs, and Project Lead Brian Yu. Marybelle Ang and Caryn
10	Mandelbaum are Cal Advocates legal counsel.
11	Although every effort was made to comprehensively review, analyze, and provide
12	the Commission with recommendations on each ratemaking and policy aspect presented
13	in the Application, the absence from Cal Advocates' testimony of any issue connotes
14	neither agreement nor disagreement with the underlying request, methodology, or policy
15	position related to that issue.

iv

1

CHAPTER 1 EXECUTIVE SUMMARY

2 I. INTRODUCTION

This report presents analysis and recommendations on allocations, Customer Support Services ("CSS") and Rancho Dominguez ("RDOM") Plant in Service, Pipeline Replacement, and Physical Security Capital Projects in General Rate Case Application (A.) 21-07-002 filed by California Water Service Company (Cal Water or CWS). The recommendations herein also reflect recommendations in Cal Advocates' Report on Common Plant which address issues affecting plant estimates for CWS' districts.

9 II. SUMMARY OF RECOMMENDATIONS

Chapter 2 discusses allocations. Chapters 3 through 5 present plant analysis and
recommendations for CSS and RDOM district, pipeline replacement, and physical
security capital budgets respectively. Attachment 1-3 is a compilation of all CWS data
responses to Cal Advocates' data requests referenced in this report.

1

CHAPTER 2 ALLOCATIONS

2 I. INTRODUCTION

3

This chapter presents analyses and recommendations for Allocations.

4 II. SUMMARY OF RECOMMENDATIONS

The Commission should require CWS to increase its base year 2020 revenue
sharing on foreseeable revenue increases. The Commission should also require CWS to
incorporate all available information into its forecasts to ensure the fairest possible rates.
The Commission should require CWS to remove 5.7% of total Customer Support
Services ("CSS") expenses and 0.71% of CSS rate base to account for affiliate activity.
These assets are used by all CWS affiliates and each company should pay its fair share.

11 III. ANALYSIS

12

A. Unregulated Revenue Allocations

CWS uses the "excess capacity" of its regulated assets to provide services to various entities. These services include water operations, billing, customer service contracts, and water quality testing. These services are also known as non-tariffed products and services ("NTPS"), unregulated, or non-regulated revenues.¹

17 Commission Rule X of Appendix A in D.10-10-019 specify the rules for NTPS 18 revenue sharing. The rules classify these unregulated revenues as active or passive. The 19 Commission requires the utility to share revenues from active projects at a 90/10 split 20 between shareholders and ratepayers. The Commission requires the utility to share 21 revenues from passive activities at a 70/30 split between shareholders and ratepayers.²

¹CWS General Report July 2021, p.131, lines 3 to 7.

² Standard Practice U-21-W Non-Tariffed Service Offerings and Information on Affiliate Transactions, p.7.

1 CWS forecasts its revenue sharing using 2020 recorded amounts escalated to test 2 year 2023.³ In most cases, CWS' forecast method, is reasonable but using 2020 revenue 3 sharing amounts does not account for expected increases in revenues from two 4 nonregulated revenue sources.

5 CWS leases and operates water systems for the City of Commerce, and the City of 6 Hawthorne.⁴ The 2020 revenues from both sources were understated as discussed in 7 greater detail below. The Commission should require CWS to update the 2020 recorded 8 revenues used to forecast revenue sharing for both sources to more accurately reflect the 9 revenue increases projected for the coming years.

10

1. City of Commerce Lease

11 CWS leases and operates the City of Commerce water system. This lease is 12 classified as an active source of unregulated revenue and as such the Commission 13 requires a 90/10 revenue sharing between shareholders and ratepayers. Commission rules 14 also allow for the removal of certain costs known as passthrough costs. Standard Practice 15 U-21-W states "costs for purchased water, purchased power, pump taxes, and postage are 16 removed from the revenues to be shared."⁵ Removal of these costs can result in revenue 17 sharing below the 90/10 of total revenue threshold.

18 The table below shows revenue sharing in total dollars and as a percentage of total 19 revenue for the Commerce lease between the years 2016 and 2020. As the table clearly 20 shows, revenue sharing from the lease decreased considerably in 2020. CWS stated that 21 this reduction in revenue was a result of PFOS detections in the city's wells which

 $[\]frac{3}{2}$ CWS Response to Public Advocates Office Data Request SIB-002, #2.a.

⁴ CWS Application Attachment B Financial Reports 2020 Annual Report, p.6.

⁵Standard Practice U-21-W Non-Tariffed Service Offerings and Information on Affiliate Transactions, p.8.

1 required CWS to shift to more purchased water which in turn nearly doubled the

2 passthrough costs from previous years.⁶

3

 Table 2-A City of Commerce Lease Revenue Sharing 2016 to 20207

Year	2016	2017	2018	2019	2020
Total Revenues	\$2,541,712.95	\$3,436,867.14	\$2,997,488	\$2,886,637	\$2,908,923
Revenue Sharing	\$158,818.43	\$236,452.43	\$193,750	\$169,941	\$79,240
Revenue Sharing as % of Total Revenue	6.25%	6.88%	6.46%	5.89%	2.72%

4

As the table above clearly shows, revenue sharing as a percentage of total revenue remained stable at between 6% and 7% for the years 2016 through 2019. Total revenues also remained relatively stable for all five years. Revenue sharing dropped sharply in 2020 because of increased passthrough costs that resulted in lower sharable revenue for the year.

10 CWS states in its 2020 annual report that its agreement with the City of Commerce 11 allows CWS to request a rate change annually to recover costs.⁸ CWS further states, in 12 response to discovery, that it is in discussions with the City about recovery resulting from 13 increased costs due to PFOS contamination.⁹ Based on this information it is only fair to 14 account for these cost increases in future revenue sharing projections.

15 The Commission should require CWS to use 6.37% of the total 2020 revenue as a

16 basis for future revenue sharing as opposed to the current 2.72%. This change would

17 result in a \$106,053 increase in the 2020 base revenue sharing value. The average annual

18 revenue sharing as percentage of revenues for the years 2016 to 2019 is 6.37%. The

19 2.72% value for 2020 represents an outlier due to the increased passthrough costs

 $[\]frac{6}{2}$ CWS Response to Public Advocates Office Data Request SIB-002, #2.c.

⁷CWS Report on Unregulated and Affiliate Operations, pp.41 to 45

⁸ CWS Application Attachment B Financial Reports 2020 Annual Report, p.6.

² CWS Response to Public Advocates Office Data Request SIB-002, #2.e.

resulting from PFOS contamination. Given these costs will be mitigated when CWS
 receives its rate change, the 2016 to 2019 average represents a more accurate revenue
 sharing percentage.

4

2. City of Hawthorne Lease

5 CWS also leases and operates the City of Hawthorne water system. This lease is 6 classified as an active source of unregulated revenue and as such the Commission 7 requires a 90/10 revenue sharing between shareholders and ratepayers. Similar to the 8 City of Commerce lease, the City of Hawthorne lease revenues include passthrough costs 9 that lower revenue sharing below the 90/10 threshold. 10 The table below shows the total revenue and the revenue sharing for the

Hawthorne lease between the years 2016 and 2020.¹⁰ CWS is using the 2020 revenue
sharing value as a basis for its projects for this rate case. The 2020 City of Hawthorne
lease number does not account for two previously approved increases for the years 2021
and 2022.¹¹

15

 Table 2-B City of Hawthorne Lease Revenue Sharing 2016 to 2020¹²

Year	2016	2017	2018	2019	2020
Total Revenues	\$8,545,694.06	\$10,001,514.61	\$10,122,598	\$9,509,261	\$10,458,289
Revenue Sharing	\$509,744.43	\$613,602.99	\$591,559	\$441,946	\$515,946

16

17 In its annual report, CWS states it requested a rate increase of 11.6% in 2021 and

18 11.6% in 2022. CWS further states these rate increases were approved via City of

19 Hawthorne resolution 8123.¹³ CWS did not account for these rate increases in its

 $[\]frac{10}{10}$ CWS Report on Unregulated and Affiliate Operations p.41 to 45.

¹¹ CWS Response to Public Advocates Office Data Request SIB-002, #2.d.

¹² CWS Report on Unregulated and Affiliate Operations p.41 to 45

¹³ CWS Application Attachment B Financial Reports 2020 Annual Report p.13.

forecasting because CWS considers the impact of revenue sharing on revenue
 requirements to be relatively small.¹⁴

These revenue increases are known and already approved and should be included in CWS' revenue sharing projections. CWS may consider a \$100,000 reduction a relatively small change to revenue requirement, but ratepayers are entitled to their fair share of revenue sharing. There is no reason to deprive ratepayers of any revenue requirement reductions that they are entitled to.

8 The Commission should require CWS to add both 11.6% increases to the 2020 9 base City of Hawthorne revenue sharing. This would increase the revenue sharing 10 amount used for projections from \$515,946 to \$642,588 which is a more appropriate 11 amount to base projections as it considers both 11.6% increases scheduled for 2021 and 12 2022.

13

B. Affiliate Allocations

14 CWS has five regulated affiliates in addition to its parent company. Those 15 affiliates are Washington Water Service Company ("WWSCO"), Hawaii Water Service 16 Company ("HWSCO"), New Mexico Water Service Company ("NMWSCO"), Texas 17 Water Service Company ("TWSCO"), and BVRT Holding Utility Company ("BVRT"). There are shared costs that are applicable to all these operations. $\frac{15}{15}$ To ensure these costs 18 19 are distributed among the affiliates accurately and fairly, the Commission uses a four-20 factor approach to distribute the shared expenses. CWS initially proposed to remove 21 1.92% of expenses and 0.70% of rate base from California customers' rates to account for usage by its affiliates.¹⁶ CWS later updated its calculations and proposed an affiliate 22 allocation of 1.86% for expenses and 0.71% for rate base.¹⁷ After Cal Advocates pointed 23

¹⁴ CWS Response to Public Advocates Office Data Request SIB-002, #2.d.

¹⁵ CWS General Report July 2021, p.128, lines 3 to 7.

¹⁶ CWS General Report July 202,1 p.128, lines 19 to 21.

¹⁷ CWS Response to Public Advocates Office Data Request SIB-033, #1.d. Attachment 1 Affiliate

out a significant mistake in CWS' calculation, CWS increased its proposed affiliate
 allocation of shared expenses to 2.45%.¹⁸

Standard Practice U-6-W ("SP U-6-W") "Allocation of Administrative and 3 4 General Expenses and Common Utility Plant and the Four-Factor Method" describes the standard procedures for the allocation of administrative and general expenses and 5 common utility plant among departments, districts, and states.¹⁹ CWS uses a slightly 6 modified four-factor calculation from the one set forth in SP U-6-W to calculate its 7 allocations.²⁰ 8 9 There are several issues with CWS' affiliate allocation calculations. CWS bases its forecast on 2019 and 2020 recorded numbers; however, these were based on the 2018 10 11 modified four factor and not the 2021 modified four-factor. In 2018 the modified four factor calculated portion for CWS was 94.5%. In 2021 the modified four factor 12 calculated portion for CWS reduced to 93.2%. Tables 2-C and 2-D below show the 2018 13

14 and 2021 four factor calculations.

Allocation_2021 GRC v2 (003).

¹⁸ CWS Affiliate Allocation_2021 GRC v3 provided in an email from Patrick Alexander dated 11/1/2021.

¹⁹Standard Practice U-6-W Allocation of Administrative and General Expenses and Common Utility Plant and the Four-Factor Method, p.2

²⁰ CWS General Report July 2021, p.128, lines 11 to 14.

Modified Four Factor Calculation used in exp						
		CWSCO	WWSCO	NMWSCO	HWSCO	
Active Meter Size Equivalence	100%	95.90%	2.02%	0.98%	1.10%	
Per Business Unit count						
2018 Budget Op Revenues	725,271	683,446	11,770	4,491	25,563	
Per 2018 Budget	100%	94.23%	1.62%	0.62%	3.52%	
Net Utility Plant Per 11/30/2017	2,010,093	1,869,896	31,263	16,471	92,463	
Balance Sheet	100%	93.03%	1.56%	0.82%	4.60%	
2018 Budgeted Direct Operating Expenses	502,259	476,466	7,148	2,649	15,996	
Per 2018 Budget	100%	94.86%	1.42%	0.53%	3.18%	
Modified Four Factor %	100%	94.50%	1.66%	0.74%	3.10%	

Table 2-C CWS 2018 Modified Four Factor Calculation²¹

2

1

3

Table 2-D CWS 2021 Modified Four Factor Calculation²²

		CWSCO	wwsco	NMWSCO	HWSCO
Active Meter Size Equivalence	100%	93.40%	4.30%	0.99%	1.31%
Per Business Unit count	912,441.0	852,235	39,224	9,071	11,911
2021 Operating Revenues	100%	92.86%	2.83%	0.59%	3.72%
Per 2021 Budget	800,400,415	743,287,848	22,625,258	4,737,310	29,750,000
Net Utilit Plant Per 11/30/2020	100%	92.93%	2.69%	0.66%	3.72%
Balance Sheet	2,623,093,119	2,437,549,101	70,586,844	17,349,950	97,607,223
2021 Direct Operating Expenses	100%	93.59%	2.66%	0.50%	3.26%
Per 2021 Budget	538,403,387	503,890,524	14,295,556	2,691,398	17,525,908
		93.20%	3.12%	0.69%	3.00%

4 5

Additionally, CWS does not include TWSCO and BVRT in its calculations.²³

6 These companies became affiliates in May $2021.^{24}$ CWS states that there is no historical

²¹ CWS Response to Public Advocates Office Data Request SIB-033, #3.d. Attachment 3 Modified Four Factor Calc_2021 (with TSWC).xls.

²² CWS Response to Public Advocates Office Data Request SIB-033, #3.d. Attachment 3 Modified Four Factor Calc_2021 (with TSWC).xls.

²³ CWS General Report July 2021, p.128, line 22.

²⁴ CWS General Report July 2021, p.128, lines 22 to 23.

1 data to base additional allocations and that CWS anticipates any costs attributable to

2 TWSC and BVRT to be de minimis. $\frac{25}{2}$

Since CWS has estimates of all the inputs necessary for a modified four factor calculation²⁶, Cal Advocates requested that CWS recalculate its four-factor analysis while including the new companies. CWS initially refused the request stating it believed the addition was improper.²⁷ Cal Advocates again requested that CWS provide the calculation and CWS provided an update calculation including TWSC, which owns 55% of BVRT. The updated modified four factor percentage is 92.98%. Table 2-E below shows the updated calculation.

10

 Table 2-E CWS 2021 Four Factor Calculation including TWSCO²⁸

		cwsco	wwsco	NMWSCO	HWSCO	TWSCO (Only 55% of BVRT)
Active Meter Size Equivalence	100%	93.15%	4.29%	0.99%	1.30%	0.27%
Per Business Unit count	914,941	852,235	39,224	9,071	11,911	2,500
2021 Operating Revenues	100%	92.79%	2.82%	0.59%	3.71%	0.08%
Per 2021 Budget	801,073,473	743,287,848	22,625,258	4,737,310	29,750,000	673,058
Net Utilit Plant Per 11/30/2020	100%	92.79%	2.69%	0.66%	3.72%	0.15%
Balance Sheet	2,626,983,259	2,437,549,101	70,586,844	17,349,950	97,607,223	3,890,141
2021 Direct Operating Expenses	100%	93.19%	2.64%	0.50%	3.24%	0.43%
Per 2021 Budget	540,727,548	503,890,524	14,295,556	2,691,398	17,525,908	2,324,160
		92.98%	3.11%	0.69%	2.99%	0.23%

11

12 CWS should forecast its affiliate sharing based on the most current information 13 available. To do so, CWS must forecast using the latest four factor calculations that 14 include the recently acquired companies. CWS cannot simply state it anticipates costs to 15 be negligible and remove affiliates from the calculation. Moreover, the Commission's 16 SP-U-6W provides clear instructions on the parameters that are to be used to calculate the

²⁵ CWS General Report July 2021, p.129, lines 1 to 3.

 $[\]frac{26}{10}$ CWS Response to Public Advocates Office Data Request SIB-033, #3.c.

²⁷ CWS Response to Public Advocates Office Data Request SIB-033, #3.d.

²⁸ CWS Response to Public Advocates Office Data Request SIB-033, #3.d. Attachment 3 Modified Four Factor Calc_2021 (with TSWC).xls.

four factor allocations. CWS deviation from SP-U-6W results in additional expenses
 being unfairly applied to California ratepayers.

SP-U-6W states "the purpose of this Standard Practice is to set forth procedures
 for the allocation of administrative and general expenses and common utility plant among
 departments, districts and states."²⁹ The Standard Practice also states that indirect
 expenses can be prorated based on an arithmetic average of four factors. The four factors
 are direct operating expenses, gross plant, number of employees and number of
 customers.³⁰

Following SP-U-6W results in a CWS four factor of 89.28% as shown in Table 2F. As the calculation shows, applying the methods described in SP-U-6W results in
significantly different four factor allocations. Based on the Commission adopted
Standard Practice, CWS ratepayers should be responsible for 5.22%,³¹ less in expenses
than CWS is proposing. CWS unfairly increases ratepayer burden by using its proposed
modified four factor approach. The Commission should require CWS to follow the
standards established in SP-U-6W and reject CWS' modified four factor calculation.

16

 Table 2-F Four Factor Allocation According to SP-U-6W

		cwsco	HWSCO	NMWSC	TWSCO	WWSCO
Direct Expenses	309,857,832	289,137,968	12,709,646	1,276,999	335,482	6,397,736
	100.00%	93.31%	4.10%	0.41%	0.11%	2.06%
Gross Plant	3,904,087,657	3,612,935,679	128,124,913	30,344,601	14,235,378	118,447,086
	100.00%	92.54%	3.28%	0.78%	0.36%	3.03%
Number of Employees	755	612	55	14	0	74
	100.00%	81.06%	7.28%	1.85%	0.00%	9.80%
Number of Customers	548,203	494,442	6,194	8,621	2,500	36,446
	100.00%	90.19%	1.13%	1.57%	0.46%	6.65%
	100.00%	89.28%	3.95%	1.15%	0.23%	5.39%

17

31 94.5% - 89.28% = 5.22%

²⁹ Standard Practice U-6-W Allocation of Administrative and General Expenses and Common Utility Plant and the Four-Factor Method p.2

³⁰ Standard Practice U-6-W Allocation of Administrative and General Expenses and Common Utility Plant and the Four-Factor Method p.2

CWS also has made a significant error in its overall calculation method. CWS
 estimates the portion of each of four different expenses paid by CWS and by its affiliates.
 The four expenses are payroll and benefits, ad valorem taxes, payroll taxes, and other.³²
 CWS then takes the calculated portions and divides them by the total CSS expenses.
 Since CWS divides these portions by the total expenses, the addition of all four expense
 percentages should equal the total percentage of total CSS expenses paid by the affiliates.

7 What is especially concerning is that CWS then takes the portion paid by affiliates 8 and multiplies that number by the total allocable expense ratio. This additional step does 9 not make sense. The percentage of the shared CSS expenses paid by the affiliates is 10 already calculated before the division step. The amounts paid are divided by the total 11 expenses and not just the shared expenses and as such, the percent is based on the total 12 expense amount and not only the shared amount. Multiplying the percent of total 13 expenses paid by affiliates by the total allocable expense ratio serves no purpose other 14 than to unfairly increase the burden of shared expenses placed on CWS customers. This 15 additional incorrect step reduces the portion of expenses paid by affiliates by half. CWS 16 has included this step in its calculations since at least the last rate case. In discussions 17 with Cal Advocates, CWS agreed that this step was not appropriate and submitted updated calculations removing the step. $\frac{33}{2}$ CWS' updated calculations result in an 18 affiliate allocation factor of 2.45%.³⁴ 19 20 CWS' proposed 2.45% calculation however still includes several mistakes. It

underestimates the portion of the shared expense by not including construction overhead
 in the allocated expenses.³⁵ It also uses an out-of-date 2018 four factor of 94.5%. The

³² CWS Response to Public Advocates Office Data Request SIB-033, #1.d. Attachment 1 Affiliate Allocation_2021 GRC v2.

³³ CWS Affiliate Allocation_2021 GRC v3 provided in an email from Patrick Alexander dated 11/1/2021.

<u>34</u> CWS Affiliate Allocation_2021 GRC v3 provided in an email from Patrick Alexander dated 11/1/2021.

³⁵ Email from Patrick Alexander RE: [EXTERNAL] Re: Affiliate Allocations Calculation Follow-up

proposed calculation below corrects these mistakes by calculating the correct percentage
 of allocable expenses and using the SP-U-6W derived four factor of 89.28%.

3 Based on the calculations CWS provided, approximately 53.19% of total expenses are allocable.³⁶ That would mean that the allocable portion of the total CSS expense 4 would be approximately $$58,010,120,\frac{37}{2}$ and the non-allocable portion would be 5 \$51,046,680.³⁸ According to the four-factor allocation calculation, CWS should be 6 allocated 89.28% of the allocable amount. CWS' portion would then be \$51,791,435.³⁹ 7 Based on these updated numbers, the affiliate allocation should be 5.7%.⁴⁰ 8 9 The Commission should require CSS to remove 5.70% of total CSS expenses and 0.71% of CSS rate base from its California rates. These percentages are based on the 10

11 latest available four-factor calculations.

12 IV. CONCLUSION

13 The Commission should require CWS to calculate future revenue sharing using 14 the most accurate means possible. Information that would result in more accurate 15 estimates should not be ignored, regardless of the magnitude of the impact on overall 16 revenue requirement. The Commission has a duty to ensure ratepayers are paying the

<u>38</u> \$109,056,800 - \$58,010,120= \$51,046,680.

Questions dated Monday 11/1/2021 at 12:33 PM.

 $[\]frac{36}{2020}$ CWS Response to Public Advocates Office Data Request SIB-033, #1.d. Attachment 1 Affiliate Allocation_2021 GRC v2. (003) Allocable expenses for 2019 are sum of K6, L6, M6, K5, L5, M5, and C57. Allocable expenses for 2020 are sum of P6, Q6, R6 P5, Q5, R5, and D57. Dividing the 2019 and 2020 allocable expenses by the total expenses in cells C58 and D58 respectively and averaging the two amounts results in an average allocable expense percentage of 53.19%.

 $[\]frac{37}{(109,056,800 \times 53.19)/100} = $58,010,120$. CWS proposes \$109,056,800 as the 2023 total CSS expenses on p.130 of its General Report.

³⁹ \$58,010,120 x 89.28/100 = \$51,791,435.

 $[\]frac{40}{53,936,263}$ 1 - (Allocable Expense + Non-Allocable Expense) / Total CSS Expense which is (1 - (\$51,791,435 + $\frac{53,936,263}{51,046,680})$ / \$109,056,800) x 100 = 5.70%.

fairest prices possible. Accurately forecasting revenues and expenses using all available
 information is the best way to ensure fair and equitable rates.

3 The Commission should require that the CWS remove 5.70% of total CSS 4 expenses and 0.71% of CSS rate base to account for affiliate usage. These assets are used 5 by all CWS affiliates; therefore, each company should pay its fair share of the costs 6 associated. CWS' failure to use current factors in its calculation results in ratepayers 7 paying more than their fair share under CWS' proposed affiliate allocations. The 8 recommended affiliate allocations take the most recent information into account. 9 Forecasting affiliate allocations using the most current information is necessary to ensure just and equitable rates. 10

1

CHAPTER 3 Customer Support Services

2 I. INTRODUCTION

- 3 This chapter presents analyses and recommendations for Plant in Service for
- 4 CWS' Customer Support Services and Rancho Dominguez District. This district includes
- 5 departments that support all operating districts. $\frac{41}{2}$

6 II. SUMMARY OF RECOMMENDATIONS

7 • The Commission should include \$241,462 in 2022, \$992,770 in 2023, and 8 \$485,450 in 2024 in rates for technological device replacement. • The Commission should deny CWS' proposal to include \$543,332 in rates for 9 10 SAN controller replacement. • The Commission should include \$251,000 in rates for handheld meter 11 12 replacements. 13 • The Commission should deny CWS' proposal to include \$1,232,121 in direct costs 14 in rates to raise the height of perimeter fencing at its Customer Support Services 15 Campus by one to three feet. 16 • The Commission should deny CWS' proposal to include \$616,107 in direct costs 17 in rates for the PeopleSoft FS and PeopleTools upgrades. 18 The Commission should deny CWS' proposal to include \$917,525 in direct costs • 19 in rates for PeopleSoft procurement process improvements. • The Commission should deny CWS' proposal to include \$603,784 in direct costs 20 21 in rates to implement an inventory management system. 22 • The Commission should deny CWS' proposal to include \$710,892 in direct costs 23 rates to install IDAM. 24 • The Commission should deny CWS' proposal to include \$592,410 in direct costs 25 in rates for a new DLP system. 26 • The Commission should deny CWS' proposal to include \$612,511 in direct costs 27 in rates for the installation of Zoom Rooms. 28 • The Commission should include \$7,055,381 in rates for the proposed customer 29 care and billing cloud upgrade project.

<u>41</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.9.

1 2	•	The	Commission should deny CWS' proposal to include \$750,308 in direct cost to establish omni-channel solutions
2	•	The	Commission should deny CWS' proposal to include \$427,284 in direct costs
<u>ј</u>	•	in ra	tes to undate its Climate Change Water Resources Monitoring and Adaption
5		Plan	tes to update its chinate change water resources womtoring and reaption
6	•	The	Commission should deny CWS' proposal to include \$756.046 in direct costs
7	-	in ra	tes for HVAC optimization.
8	•	The	Commission should deny CWS' proposal to include \$582,937 in direct costs
9		in ra	tes to fund improvements to the RDOM building.
10	•	The	Commission should deny CWS' proposal to include \$3.668.420 in direct costs
11		in ra	tes to build a satellite lab in its East Los Angeles district.
12	•	The	Commission should deny CWS' proposal for \$432,503 in carryover budget
13		for U	JPS and SAN array replacements.
14	•	The	Commission should include \$641,772 for database encryption software.
15	•	The	Commission should include \$149,877 in direct costs in rates for CSS GPS
16		base	stations.
17	•	The	Commission should include \$63,037 and \$42,025 in direct costs in rates for
18		the i	nstall cover over spoils/dump area and car port/cover for vehicle maintenance
19		proje	ects respectively.
20	•	The	Commission should increase CWS' depreciation reserve by \$6,220,891 to
21		acco	unt for early retired projects.
22		Thes	e recommendations form the basis of the capital budget summary
23	recon	nmend	ations presented in Attachment 1-2 Capital Budget Summaries. Cal
24	Advo	cates'	estimated plant additions also reflect recommendations in its Common Plant
25	Issue	s testir	nony regarding vehicle replacements and non-specific projects.
26	III.	ANA	ALYSIS
27		А.	CSS PC Refresh
28		In re	sponse to discovery, CWS provided a list of devices it intends to replace, the

29 year it intends to replace them, and the original purchase price. $\frac{42}{10}$ The devices being

⁴² CWS Response to Public Advocates Office Data Request SIB-004, #1.a.

- 1 replaced according to this updated list differ from those proposed in CWS' original
- 2 testimony. Table 3-A below shows the updated device replacement list.
- 3

Device	2022	2023	2024	Total
Workstation	4	2	3	9
Desktop	109	543	14	666
Laptop	73	212	18	303
Toughbook	0	0	45	45
iPad	30	185	141	356
iPhone	55	46	72	173
Sonim	0	0	246	246

Table 3-A Updated Device Replacement List

4

5 CWS' vendor quotes for the different devices vary greatly from the recorded costs 6 provided in discovery.⁴³ It is reasonable to expect replacement devices to cost roughly 7 the same as the devices they are replacing. A slight increase to account for inflation is 8 reasonable but there should not be significant increases in prices.

9 In discovery, CWS stated it receives bulk purchase discounts from suppliers but did not indicate if these discounts were reflected in the quotes. $\frac{44}{10}$ Further, for items such 10 as iPads, CWS' recorded costs vary greatly. For example, CWS provided cost 11 12 information for 482 iPads purchased between 2014 and 2021. The cost of these iPads vary between \$580 and $$1,100.\frac{45}{10}$ It is important to note that these price variations are not 13 based on the year the iPads were purchased, but on the specifications of each device. $\frac{46}{2}$ 14 15 In the quotes CWS only provided costs for one iPad specification and one cost 16 (\$1,221.12) for all its replacement iPads. Including the cost of the most expensive iPad

⁴³ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office ,pp.20 to 27.

⁴⁴ CWS Response to Public Advocates Office Data Request SIB-004, #9.d.

 $[\]frac{45}{10}$ CWS Response to Public Advocates Office Data Request SIB-004, #1.a. Attachment Q1 – GRC Inventory.

 $[\]frac{46}{10}$ CWS Response to Public Advocates Office Data Request SIB-004, #1.a. Attachment Q1 – GRC Inventory.

easily inflates overall costs especially when CWS estimates it will replace 213 iPads over
 three years.

This discrepancy is not isolated to iPads. Between 2011 and 2021, CWS purchased 821 iPhones from Verizon and 12 iPhones from AT&T.⁴⁷ The average price for these iPhones was \$110.85. Out of the 788 iPhones for which CWS provided cost data, 774 cost \$100. 14 Phones purchased between 2003 and 2019 each had a cost greater than \$100. In the last two decades, the price CWS pays for iPhones has not changed much, remaining relatively steady at roughly \$100. It is unreasonable to estimate the cost of new iPhones at \$436.99.⁴⁸

Table 3-B below shows the recommended device costs based on recorded
 averages compared to CWS' proposed costs.⁴⁹

12

Table 3-B Proposed Unit Cost Vs Recommended Unit Cost

Device	Propose	ed Unit Cost	Rec	commended Unit Cost	Dif	ference
Desktop	\$	1,082.57	\$	805.64	\$	276.93
Laptop	\$	1,643.18	\$	1,367.55	\$	275.63
Toughbook	\$	4,358.81	\$	4,195.49	\$	163.32
iPad	\$	1,221.12	\$	1,008.00	\$	213.12
iPhone	\$	436.99	\$	110.84	\$	326.15

13

14

15 Table 3-C shows recommend replacement estimates based on the updated 16 replacement schedule and the average escalated costs. These estimates do not include 17 contingency allowances which is discussed in greater detail elsewhere.

⁴⁷ CWS Response to Public Advocates Office Data Request SIB-004, #1.a. Attachment Q1 – GRC Inventory.

⁴⁸ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.19.

 $[\]frac{49}{10}$ The table does not include a comparison for workstations or Sonim phones as these two items were not included in CWS' original estimate.

	2022	Unit Cost	2023	Unit Cost	2024	Unit Cost
Laptop	73	\$ 1,436.78	212	\$ 1,472.70	18	\$ 1,509.52
Desktop	109	\$ 846.43	543	\$ 867.59	14	\$ 889.28
Toughbook	0	\$ 4,407.88	0	\$ 4,518.08	45	\$ 4,631.03
iPhone	55	\$ 116.45	46	\$ 119.36	73	\$ 122.35
iPad	30	\$ 1,059.03	185	\$ 1,085.51	141	\$ 1,112.64
Sonim	0	\$ 258.38	0	\$ 264.84	246	\$ 271.46
WorkStation	4	\$ 1,535.16	2	\$ 1,573.54	3	\$ 1,612.88
Total		\$241.462.16		\$992.770.12		\$485,449,78

 Table 3-C Recommended Technological Devices Annual Budgets

2

1

3

The Commission should adopt \$241,462 in 2022, \$992,770 in 2023, and \$485,450 in 2024 for technological device replacement. These costs are more accurate as they are based on an actual replacement schedule and the average recorded equipment costs escalated to current years.

8 9

B. Uninterruptable Power Supplies ("UPS") and Storage Replacement

In response to discovery, CWS indicted that the End of Life ("EOL") of a SAN controller is at six to seven years.⁵⁰ The SAN controllers in question were installed in June 2018 making the end of life between June 2024 and June 2025. Given the standard life of SAN controllers and the considerable costs involved in replacing them, it is reasonable to expect CWS to maximize use before replacement.

15 CWS should wait until 2025 to replace its current SAN controllers, as they are still 16 within the estimated life expectancy. In response to a data request asking that CWS 17 provide documents demonstrating why the SAN controller use cannot be extended, CWS 18 did not provide support and instead responded that "from past experience with NetApp 19 (OEM), it will be more beneficial if Cal Water purchases new controllers rather than 20 keeping the old ones."⁵¹ CWS also failed to provide any documentation or calculations

⁵⁰ CWS Response to Public Advocates Office Data Request SIB-005, #1.a.

⁵¹ CWS Response to Public Advocates Office Data Request SIB-005, #1.a.i.

to substantiate that assertion despite the request for documentation to show the SAN lifecould not be extended.

3 CWS' proposal is premature based on the information it provided. The 4 Commission should deny CWS' proposal to include \$543,332.42 in rates for SAN 5 controller replacement. The current controllers are still within their six-to-seven-year life 6 expectancy. The Commission should require CWS to maximize the use of these 7 expensive assets.

8

C. Meter Reading Handheld Replacement

9 .--The cost of an iOS device is approximately half the cost of a CN80 handheld
10 devices.⁵² CWS states that iOS devices are the "preferred meter reading alternative based
11 on cost, ease of use and manageability by support staff."⁵³ Despite this fact, a data
12 request response revealed that almost half of CWS' proposed replacement devices are
13 CN80 handheld devices.⁵⁴

Purchasing additional CN80 devices does not make sense. CN80 handhelds cost more, are specialized devices that have limited alternative uses, and provide little if any meter reading benefits over the iOS devices. CWS itself states that iOS devices are its preferred meter reading alternative. It is unclear why CWS chose to propose a budget based on replacing 44% of the current meters with a more expensive and less-preferred option.

Moreover, CWS states that implementing AMI in its system would negate the need for handheld devices and that these devices would be phased out as AMI meters are installed and put into service.⁵⁵ In its general report, CWS states it is in the process of

⁵² CWS Response to Public Advocates Office Data Request SIB-006, #2.c.

⁵³ CWS Response to Public Advocates Office Data Request SIB-006, #2.c.

⁵⁴ CWS Response to Public Advocates Office Data Request SIB-006, #5.a.

⁵⁵ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.33.

refining a proposal for a more comprehensive, company-wide AMI program that is
 currently scheduled for filing in the fourth quarter of 2021.⁵⁶ Considering this, it makes
 even less sense to invest in expensive limited use meters as opposed to iOS devices that
 can be used for alternative purposes.

5 To maximize the life of current assets and accomplish meter reading at the lowest 6 reasonable cost, it would be more reasonable for CWS to purchase the 75 iOS devices 7 requested and use those to begin replacing the FC300 meters. The FC300 meters will no 8 longer be supported starting December 2021 but that does not mean the meters will no 9 longer be functional. CWS can continue using the FC300 meters to supplement the new 10 iOS devices it will acquire.

11 CWS can also use its current inventory of iOS devices to read meters. CWS states 12 that ITRON provides an application that is supported on its currently owned devices that 13 allow it to be used as a valid replacement for the FC300s.⁵⁷ CWS further states that the 14 application requires the use of ITRON's mobile radios which are included in the project 15 proposal.⁵⁸

Removing the CN80 Handhelds and their related accessories reduces the estimated cost by \$239,520. The estimated cost of the iPads and accessories are \$94,125, the mobile radios are \$124,800, and the labor cost for installation is \$20,000.⁵⁹ This results in a total 2020 direct cost of \$238,925. CWS is requesting a 10% contingency for this project that should not be included as further discussed in greater detail in the contingency section of the Report on Common Plant. Escalating the updated 2020 direct cost to 2022 using CWS' factors results in a total of approximately \$251,000.

⁵⁶ CWS General Report July 2021, p.12.

 $[\]frac{57}{2}$ CWS Response to Public Advocates Office Data Request SIB-006, #2.a.

⁵⁸ CWS Response to Public Advocates Office Data Request SIB-006, #2.a.

⁵⁹ CWS Response to Public Advocates Office Data Request SIB-006, #5.a.

1 The Commission should include \$251,000 in rates for handheld meter 2 replacements. This amount will allow CWS to purchase new iOS devices and mobile 3 radios. The new devices can be supplemented with CWS' existing inventory of meters as 4 well as its current inventory of iOS devices. The Commission should not add any costs 5 related to ITRON CN80 handheld meter readers into rates. These devices are more 6 expensive than iOS devices and do not provide any added benefits. The CN80 meters 7 will also be rendered obsolete if CWS moves to AMR/AMI meters whereas the iOS 8 devices can be repurposed.

9

D. Campus Security Fencing

10 The main issue with CWS' proposal to increase the San Jose Customer Support 11 Service Campus fence height between 1 to 3 feet, is that it is unlikely to fully deter or 12 prevent trespassing issues. No matter how high a fence is, it can always be easily 13 bypassed. Fences can be climbed over, or cut, a determined intruder could even find 14 other points to enter like vehicle gates for example. **Second Equation Second** 2000 14 other points to enter like vehicle gates for example.

15

16 equally critical that any funds ratepayers are asked to pay a return on be spent in a way
 18 that maximizes effectiveness.

During recent field visits in 2021, Cal Advocates discovered CWS uses camera
monitoring to prevent trespassing at several sites. CWS monitors these closed caption
TV ("CCTV") cameras using CWS Staff.⁶¹ In some cases, CWS also uses third party
providers to monitor the cameras.⁶² The employees monitoring the cameras do so as part
of their current duties and there are no employees whose sole job is to monitor CCTV.⁶³

⁶⁰ CWS Response to Public Advocates Office Data Request SIB-038, #1.c.

⁶¹ CWS Response to Public Advocates Office Data Request SIB-031, #6.a.

⁶² CWS Response to Public Advocates Office Data Request SIB-031, #6.a.

⁶³ CWS Response to Public Advocates Office Data Request SIB-031, #6.c.

This means additional employees are not needed to monitor cameras. Each camera
 system costs approximately \$4,060.⁶⁴ CWS could install approximately 303 cameras
 with the funds it proposes to spend on perimeter fencing.

Cameras provide a viable solution to dealing with trespassers and are less prone to many of the issues a hard barrier like a fence suffers. Cameras can be easily hidden and placed out of reach to prevent tampering. CCTV monitoring would enable CWS employees to contact police directly whenever a trespassing incident occurs ensuring the safety of CWS employees and customers at a much lower price point than the cost of extending the fence by a few feet.

10 CWS provided four examples of trespassing incidents at the campus. In one 11 incident, an intruder being chased by police, passed through the property, entering through the North fence and exited through the South.⁶⁵ For reference the current 12 13 northside fence is between five to seven feet and the southside fence is between 5.5 to 6 14 feet. $\frac{66}{10}$ In two incidents, facility staff were able to get the intruder to leave. In the last incident police were called and the intruder fled. $\frac{67}{100}$ All of these incidents could have 15 16 easily been solved through camera monitoring. Camera monitoring technology is less 17 expensive and accessible as anyone familiar with a Ring Doorbell can attest. Cameras 18 can even be setup to detect motion and alert only once they do so.

<u>64</u> CWS Capital Project Justifications, Physical Security Justifications and Other Matters Public Version, p.20

⁶⁵ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.50.

⁶⁶ CWS Response to Public Advocates Office Data Request SIB-008, #1.b.

⁶⁷ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.50.

1	<< BEGIN CONFIDENTIAL >>
2	
3	
4	
5	
6	
7	<< END CONFIDENTIAL >>
8	The Commission should deny CWS' proposal to include \$1,232,120 in direct costs
9	in rates to raise the height of perimeter fencing at its Customer Support Services Campus
10	by one to three feet. Instead, CWS can monitor its existing CCTV cameras at the facility.
11	CCTV cameras are cost effective, less prone to tampering, and can be monitored using
12	existing resources.
13	E. PeopleSoft FS & PeopleTools Upgrade
14	CWS proposes \$616,106 in 2024 to upgrade its PeopleSoft Financials
15	("PeopleSoft FS") and PeopleTools program. CWS estimates 2000 hours of consulting

16 services and 2000 hours of internal labor effort annually for the years 2022 through 2024

17 to accomplish the upgrades. The upgrades will add new functionalities to the system.

18 CWS states Oracle has committed to supporting its version of PeopleSoft until

19 2027.⁷² CWS also states the proposed upgrades will help extend the life of PeopleSoft

20 FS for at least one more rate cycle.^{$\frac{73}{7}$} The proposed upgrades are therefore a stop-gap

⁶⁸ CWS Response to Public Advocates Office Data Request SIB-038, #1.d.

⁶⁹ CWS Response to Public Advocates Office Data Request SIB-038, #1.a.

 $[\]frac{70}{10}$ CWS Response to Public Advocates Office Data Request SIB-038, #1.c.

⁷¹ CWS Response to Public Advocates Office Data Request SIB-031, #6.a.

<u>72</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.71.

<u>73</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.70.

measure intended to only serve ratepayers for a few years. CWS estimates the project
completion date as December 31, 2024,⁷⁴ meaning best case scenario, CWS will be able
to utilize the full upgrades for a maximum of three years.

Spending funds on a software that will be obsolete in a few years is not an
efficient use of resources. In discovery, CWS was asked to provide a cost benefit
analysis comparing replacement of PeopleSoft with alternative software. CWS was also
asked to consider the projected lack of support after 2027. CWS responded "the
Company plans to perform the evaluation of financial ERP⁷⁵ systems, including
PeopleSoft before the next rate case."⁷⁶

10 CWS should have evaluated other systems before deciding to spend money on 11 upgrades. The issue is magnified by the fact CWS is asking for additional funds to 12 upgrade other aspects of PeopleSoft (Procurement Process Improvements and Inventory 13 Management System). These projects are discussed in greater detail in their respective sections. Both projects are scheduled to be completed on December 31, 2024, 77 78 and 14 cost a combined \$1,521,309. This would bring the total investment in PeopleSoft 15 16 upgrades from these three projects to \$2,137,415 in direct costs. 17 If CWS decides to use an alternative software after its evaluation or Oracle

18 decides to discontinue support of CWS' version after 2027, ratepayers would have spent

19 over two million dollars on projects with a maximum life expectancy of three years.

<u>74</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.72.

⁷⁵ Enterprise Resource Planning

⁷⁶ CWS Response to Public Advocates Office Data Request SIB-009, #1.b.

<u>77</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.72.

<u>78</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.86.

CWS should evaluate its other software options and decide on an appropriate cost effective solution instead of investing in a software it knows has limited remaining life.

The Commission should deny CWS' proposal to include \$616,106 in direct costs into rates for the PeopleSoft FS and PeopleTools upgrades. CWS' PeopleSoft software has limited remaining life with Oracle, the software provider, only committing to support the program till 2027. CWS should instead evaluate its other software options and invest in a software that will not need to be replaced in three years.

8

F. Procurement Process Improvements

9 CWS proposes an upgrade to its PeopleSoft system. PeopleSoft will no longer be 10 supported after 2027 and will need to be replaced. CWS proposes a total direct cost of 11 \$2,137,415. The proposed upgrades are due to be completed in 2024 and will only serve 12 till 2027. Spending over two million dollars on software improvements to a program we 13 already know has limited remaining life expectancy makes no sense.

CWS states it is likely to replace the system at some point once PeopleSoft is no longer supported.⁷⁹ CWS also states this is a decision that has to be made in coordination with other departments using PeopleSoft financials.⁸⁰ CWS further states its current PeopleSoft ERP system is aging and there is a need to replace the system in the future.⁸¹ Given the need to replace PeopleSoft in the near future, it does not make sense for CWS to heavily invest in a system that has limited remaining life. CWS states the magnitude and effort to replace PeopleSoft P2P system including

21 eProcurement, Purchasing, Inventory, Expense Report and Accounts Payable is like

22 replacing a human resources management system. CWS also states it recently completed

a replacement of its human resources management system for a total cost of \$5.6

⁷⁹ CWS Response to Public Advocates Office Data Request SIB-011, #4.e.

⁸⁰ CWS Response to Public Advocates Office Data Request SIB-011, #4.e.

<u>81</u> CWS Response to Public Advocates Office Data Request SIB-011, #4.a.

million.⁸² Based on this information, the money CWS is proposing to spend on just improving three facets of its PeopleSoft system could have covered almost half of the cost to replace the entire system with a new more efficient system that will serve CWS and ratepayers much longer than the limited time PeopleSoft will still be in service.

5 It is unclear why CWS chose to delay the PeopleSoft system changeout and 6 instead focused on spending funds on improvements that will soon be obsolete and, 7 therefore, provide limited benefits. These PeopleSoft projects will not be complete until 8 December 2024 and the program may no longer be supported starting in 2027. CWS 9 should investigate its system replacement options and present its findings in its next rate 10 case. In the meantime, CWS should continue to use its current systems and not invest 11 funds in something that will need to be replaced in the immediate future.

12 The Commission should deny CWS' proposal to include \$917,524 in direct costs 13 in rates for PeopleSoft procurement process improvements. PeopleSoft has limited 14 remaining life and it does not make sense to continue to invest into the program only to 15 replace it next rate case.

16

G. Inventory Management System

17 CWS' proposed inventory management system is an enhancement to its current 18 PeopleSoft inventory system. CWS proposes to implement PeopleSoft Mobile Inventory 19 Management.⁸³ The issue with this approach, as mentioned in previous sections, is 20 PeopleSoft as an application will no longer be supported after 2027. In response to 21 discovery regarding the likelihood of replacing the PeopleSoft system after it is no longer 22 supported in 2027, CWS states "we are likely to replace the system at some point."⁸⁴

⁸² CWS Response to Public Advocates Office Data Request SIB-011, #4.a.

⁸³ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.90.

<u>84</u> CWS Response to Public Advocates Office Data Request SIB-012, #2.d.

This project is scheduled for completion on December 31, 2024.⁸⁵ That would mean the system will only be operational for approximately three years. It does not make sense for ratepayers to fund a system that will soon be non-functional. CWS states the decision to replace PeopleSoft needs to be made in coordination with other departments using PeopleSoft Financials.⁸⁶ CWS also states that it will evaluate alternative systems before the next rate case.⁸⁷ CWS should have evaluated its options before deciding to invest in its current limited life PeopleSoft software.

8 In the case of inventory management, CWS has a viable alternative to the 9 proposed PeopleSoft upgrade. CWS could use a material-supplier based inventory 10 system. A material-supplier based inventory system would directly cost CWS little if 11 anything. The main issue with a material-supplier based system, according to CWS, is 12 that it would limit future negotiation power as the company could be locked to a single 13 supplier.⁸⁸

While this may be an issue, CWS always has the option to purchase from other suppliers and record certain items using its current inventory management system if the cost savings justify switching suppliers. It is unclear how many suppliers CWS uses. A substantial portion of the projects reviewed had only one vendor quote attached. For example, CWS states they obtained quotes from one vendor because the vendor provided the best pricing compared to other projects CWS has done,⁸⁹ or that they only obtained verbal quotes from other vendors because CWS has found a certain vendor is consistently

⁸⁵ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.92.

⁸⁶ CWS Response to Public Advocates Office Data Request SIB-012, #2.d.

⁸⁷ CWS Response to Public Advocates Office Data Request SIB-009, #1.b.

<u>88</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, 89.

⁸⁹ Public Advocates Data Request SIB-019, #4.c.

lower in cost than other vendors.⁹⁰ Based on this, it is logical to expect CWS to choose a
 material-supplier it knows by experience is generally more cost effective to use.

3 Conversely, CWS could always continue to use its current system if it believes this 4 is the more cost-effective option. Either solution would only have to last until CWS' next 5 rate case. By then, CWS will have investigated alternative software programs that can 6 replace PeopleSoft and can invest in upgrades that will serve the Company and ratepayers 7 for many years to come.

8 The Commission should deny CWS' proposal to include \$603,784 in rates to 9 implement an inventory management system. The PeopleSoft program on which the 10 proposed system is based will no longer be supported after 2027. Ratepayers should not 11 have to pay for the return CWS would make on a capital investment with a limited 12 remaining life only to pay again for the return CWS would make on a capital investment 13 to install an alternative, replacement solution one rate case later.

14

H. Identity Management Access System

15 CWS proposes \$710,892 in 2024 to install a centralized Identity and Access
16 Management System ("IDAM"). IDAM software would allow employees to log in using
17 a central portal and be "authenticated to all other internal systems and applications
18 automatically."⁹¹

Because a substantial portion of this request rests on the increased efficiency resulting from IDAM software, Cal Advocates requested that CWS provide a cost benefit analysis "comparing the cost of IDAM software to the cost of increased work Cal Water anticipates in its absence."⁹² CWS responded by stating on average, the helpdesk

<u>90</u> Public Advocates Data Request SIB-004, #9.f.

⁹¹ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.93.

⁹² Public Advocates Data Request SIB-013, #2.a.

processes 670 password reset requests each month manually.⁹³ CWA further stated the
 cost of these password resets is approximately \$11,166 per month or \$134,000 per year.⁹⁴
 CWS provided no other costs associated with not installing the IDAM software.

4 CWS only has approximately 1250 employees. For there to be 670 password reset 5 requests a month, about half of CWS' employees would have to lose their password 6 every month. Combining each employee's accounts into one may lessen the number of 7 password reset requests but with half of CWS' employees losing a password each month, 8 the number of password reset requests is likely to still be substantial and likely points to a 9 greater problem amongst CWS staff.

Instead of spending money on software and increasing rates, CWS should focus on providing training to its employees to retain their passwords. It does not make sense for a company with 1250 employees to have 670 password reset requests a month. Ratepayers should not see their rates go up due to what can only be described as negligence.

14 CWS is currently in compliance with all federal, state, and local laws, regulations, and requirements related to its employee network access.²⁵ As an added redundancy, as 15 part of this rate case, CWS is proposing to install database encryption.⁹⁶ Cal Advocates 16 17 agrees that installing database encryption is a key part of safeguarding any sensitive 18 customer or employee information in CWS' possession. Database encryption would 19 render any information obtained by gaining unauthorized access to the system 20 meaningless. CWS states "for example if a hacker is able to download the entire 21 database of our customer billing system, database encryption will obfuscate the data and

⁹³ CWS Response to Public Advocates Office Data Request SIB-013, #2.a.

⁹⁴ CWS Response to Public Advocates Office Data Request SIB-013, #2.b.

⁹⁵ CWS Response to Public Advocates Office Data Request SIB-013, #1.a.

<u>96</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office p.45.

make it meaningless and useless to the hackers."⁹⁷ The Commission should include
\$641,772 in rates for database encryption software.

However, the Commission should deny CWS' proposal to include \$710,892 in
rates to install IDAM. CWS failed to justify the need for this software. CWS is
compliant with laws and regulations related to data base access. Instead of increasing
customer rates to install IDAM, CWS should focus on providing proper password
management training to its employees.

8

I. Next Generation Data Loss Prevention

9 CWS proposes to spend \$592,410 in 2024 for a next generation data loss 10 prevention system ("DLP"). CWS installed its current DLP system three years ago. CWS claims the current system generating too many "false positives" which refers to the 11 12 DLP incorrectly reporting sharing of confidential data with unauthorized parties.⁹⁸ 13 To understand the magnitude of the false positives issue, CWS was asked via data 14 request to provide the monthly number of false positives generated by the system since it 15 came into service. CWS stated it only had data for 2021 and did not share any data from 2018 to 2020.99 The 2021 data included the months of January through August and 16 showed a total 33 cases of false positives from 48 overall cases. $\frac{100}{100}$ 17

Because CWS does not have data for the first three years the system was in service, it is difficult to verify CWS' claim that the system is generating increased false positives. Based on the information available, the system is not exhibiting a trend of increasing false positives as shown in figure 3-A below. More importantly, the system

⁹⁷ CWS Response to Public Advocates Office Data Request SIB-013, #3.

⁹⁸ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.98.

⁹⁹ CWS Response to Public Advocates Office Data Request SIB-018, #1.b.

¹⁰⁰ CWS Response to Public Advocates Office Data Request SIB-018, #1.b.

1 does not fail to detect true positives meaning the system is doing its job protecting

2 sensitive information.¹⁰¹



4

3

5 CWS did not track the labor hours associated with dealing with the above incidents.¹⁰² CWS did estimate the cost of dealing with false positives at \$45,000.¹⁰³ 6 7 CWS arrived at this cost using estimates of the time it takes employees to deal with a 8 false positive (three employees spending two hours each). $\frac{104}{104}$ Since CWS did not track the actual amount of time spent dealing with false positives, CWS' assumptions cannot 9 10 be verified. Even if these costs were accurate, the savings benefits do not justify the costs 11 associated with the increased revenue requirement resulting from this project. 12 CWS states it expects the number of false positives to decrease with the new

13 system but did not provide the number of false positives it anticipates in a month. $\frac{105}{105}$

 $[\]frac{101}{100}$ CWS Response to Public Advocates Office Data Request SIB-018, #2.d.

 $[\]frac{102}{102}$ CWS Response to Public Advocates Office Data Request SIB-018, #2.g.

 $[\]frac{103}{100}$ CWS Response to Public Advocates Office Data Request SIB-018, #3.a.

¹⁰⁴ CWS Response to Public Advocates Office Data Request SIB-018, #3.b.

¹⁰⁵ CWS Response to Public Advocates Office Data Request SIB-018, #2.c.
Even if false positives were reduced by half, there would still be a cost associated with 1 2 false positives under the new system. Further, CWS estimates the yearly revenue requirement from this project as $\$84,104.\frac{106}{100}$ That means to save the \$45,000 cost of 3 dealing with false positives, ratepayers would have to pay \$84,104. In other words, 4 5 ratepayers would pay an extra \$39,104 for no demonstrated incremental benefit. This is 6 assuming the new system will eliminate false positives, which cannot be verified. CWS 7 did not state the new DLP will eliminate false positives, stating, instead, that it expects 8 the number of false positives to "reduce" with the new system. $\frac{107}{10}$

9 The current DLP system is doing its job correctly. It accurately detects true 10 positives,¹⁰⁸ thereby helping reduce unauthorized access to sensitive information. CWS 11 has the added protection of data encryption, as previously discussed, to help additionally 12 safeguard valuable information. The possible savings resulting from an upgraded DLP 13 system do not justify the corresponding revenue requirement increase.

The Commission should deny CWS' proposal to include \$592,410 in rates for a new DLP system. The current system is only a few years old and does its job correctly. CWS further protects its valuable information using encryption which renders any stolen data useless. The added revenue requirement resulting from the new DLP system would not justify the possible savings projected.

19

J. Zoom Video Conference

20 CWS proposes \$612,511 in 2024 to install Zoom Rooms in 30 small/medium

21 conference Rooms and six large conference Rooms.¹⁰⁹ Zoom Room consists of

22 equipping an existing Room of any size, large television screen and mount, video camera,

 $[\]frac{106}{100}$ CWS Response to Public Advocates Office Data Request SIB-038, #3.a.

 $[\]frac{107}{100}$ CWS Response to Public Advocates Office Data Request SIB-018, #2.c.

¹⁰⁸ CWS Response to Public Advocates Office Data Request SIB-018, #2.e.

¹⁰⁹ CWS Response to Public Advocates Office Data Request SIB-019, #4.a.

wireless set up, iPad, laptop and Zoom software.¹¹⁰ CWS states Zoom Room allows
 multiple employees to join, participate, and collaborate.¹¹¹

3 Zoom Room differs from a Zoom meeting. Zoom Room refers specifically to the 4 hardware and software necessary to setup a conference Room for Zoom meetings. CWS currently has Zoom installed on employee work devices.¹¹² According to CWS "any 5 Windows computer and Apple iOS device can be installed with Zoom software."¹¹³ 6 7 Employees can and are currently using Zoom to meet remotely regardless of this project. 8 Given that CWS employees currently have Zoom capabilities on their work 9 devices, it does not make sense to ask ratepayers to fund over \$600,000 in expenditures 10 to install Zoom Rooms. Besides with the ongoing pandemic, it is unclear when CWS 11 would even be able to take advantage of the proposed Zoom Rooms given social

12 distancing requirements.

13 There is no reason CWS employees cannot continue to meet on Zoom using their14 current company devices.

15 If CWS employees need to be in the same Room when they meet, they always 16 have the option to connect a laptop to a computer screen in the meeting Room and meet 17 from there. They could also meet using a conference call instead of Zoom. Customer 18 rates should not include unnecessary expenditures. CWS has simple options to achieve 19 the same function as the proposed Zoom rooms at no additional cost to ratepayers. 20 In testimony, CWS states "the Zoom Room will help contain travel costs and

21 increase productivity by reducing drive and flight time."¹¹⁴ During discovery, CWS was

¹¹⁰ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.103.

¹¹¹ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.103.

¹¹² CWS Response to Public Advocates Office Data Request SIB-019, #1.a.

¹¹³ CWS Response to Public Advocates Office Data Request SIB-019, #1.b.

¹¹⁴ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office,

1 asked to quantify the expected savings. CWS responded "it's difficult to quantify the 2 impact to travel costs since the number of in person/Zoom videos varies."¹¹⁵ Since CWS 3 did not quantify these savings, it also means they are not reflected in the current revenue 4 requirement. Again, most anything that can be accomplished by a Zoom Room can also 5 be accomplished through a phone call, and CWS employees already have access to Zoom 6 on their devices without the proposed Zoom Room project. Any theoretical travel cost 7 savings are not dependent on Zoom Room as CWS currently has the technology to meet 8 remotely without the requested Zoom Rooms.

9 The Commission should deny CWS' proposal to include \$612,511 in rates for the 10 installation of Zoom Rooms. CWS already possesses the technology necessary for its 11 employees to meet remotely. Most of the benefits Zoom Rooms provide can be 12 replicated using Zoom on current company devices or even a conference phone. It is 13 unreasonable to require ratepayers to fund projects that are not necessary to CWS' core 14 mission of providing safe, reliable water to customers.

15

K. Customer Care and Billing Cloud Upgrade

16 CWS proposes \$14,119,325 in 2024 to implement a customer care and billing 17 ("CCB") cloud upgrade. CWS' current CCB was installed in 2016.¹¹⁶ CWS spent a total 18 of \$23.3M on its current CCB.¹¹⁷ The net book value of the CCB at the end of 2023 (the 19 total cost remaining in rates) will be \$5,780,370.¹¹⁸ Despite the significant sums of 20 money CWS spent on the current CCB, ratepayers only received a limited benefit.

21 Ratepayers should have benefited from CWS' use of the CCB for much longer than seven

p.103.

 $[\]underline{115}$ CWS Response to Public Advocates Office Data Request SIB-019, #3.a.

¹¹⁶ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.132.

¹¹⁷ CWS Response to Public Advocates Office Data Request SIB-023, #1.d.

 $[\]frac{118}{10}$ CWS Response to Public Advocates Office Data Request SIB-040, #1.a. attachment #1 – NBV CC&B Tab modified for end of 2023 net book value.

years (2016 to 2023) as indicated by the 2023 net book value of the current CCB. The
 fact that there is so much remaining value in the asset shows that it did not reach its
 projected service life.

Now CWS proposes to retire the asset early and pass the considerable cost of a
new CCB onto ratepayers. Regulated monopolies are not subject to normal market
forces. One of the main roles of the Commission is to act as a substitute for competition.
In normal circumstances, a company would not be able to simply pass on the costs of a
poor investment onto customers. The Commission should not reward CWS for its failure
to properly plan and maximize the service life of its investments.

10 The Commission should include \$7,055,381 in rates for the proposed CCB project. 11 This value is calculated by subtracting the net book value of current CCB from the 12 proposed CCB cost (excluding contingency). By doing so the Commission will prevent 13 CWS from unfairly charging ratepayers for its failure to fully utilize its assets. The 14 Commission would also incentivize CWS to maximize the service life of its assets 15 moving forward.

16

L. Customer Service Omni-Channel Solutions

Omni-channel capabilities allow customers the option to start a transaction on one
channel, for example a website, and continue or complete the transaction on another
channel, for example a phone.¹¹⁹ CWS states that there is an "insatiable" demand from
customers for this service.¹²⁰

During discovery, CWS was asked to present data to demonstrate that customers had an "insatiable" demand for the ability to start a transaction on one platform and finish it on another. CWS stated it conducts customer focus groups and feedback programs and uses the information to identify technologies to improve customer experience and

<u>119</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.158.

¹²⁰ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.158.

satisfaction.¹²¹ CWS also provided a copy of its current "voice of the customer" survey
 research findings. These findings did not mention omni-channel transaction capabilities.

CWS was also asked if it informed customers about the cost increase that would result from this capability when they surveyed them. CWS responded that any attempt to quantify the cost increase would be very difficult and they did not inform customers.¹²²

6 CWS states the expectation of the proposed technology is that any transaction a 7 customer initiates in one medium could be completed in another.¹²³ CWS did not 8 provide any support showing customers are demanding this feature. CWS also stated that 9 any customers had not been informed of the increase in price associated with this limited 10 use capability. The lack of complete information would make it difficult for a consumer 11 to make an informed decision.

12 The purported benefits of this project simply do not justify the costs. CWS is 13 asking ratepayers to fund \$750,308 in additional rate base to provide a capability that 14 CWS has failed to provide sufficient evidence is necessary or even wanted by customers. 15 The Commission should deny CWS' proposal to include \$750,308 in rate base to 16 establish omni-channel solutions. The limited proposed benefits related to this project do 17 not justify the costs.

18

M. Water Resources Monitoring and Adaptation Plan

19 CWS proposes \$427,283 in direct costs in 2023 to update its currently "in 20 development" Climate Change Water Resources Monitoring and Adaption Plan ("Plan") 21 in response to the CPUC's rulemaking on climate adaptation. CWS proposes to use the 22 funds to hire outside consultants to provide technical support to implement any 23 requirements mandated as a result of the CPUC rulemaking.¹²⁴

¹²¹ CWS Response to Public Advocates Office Data Request SIB-025, #1.b.

¹²² CWS Response to Public Advocates Office Data Request SIB-025, #1.c.

¹²³ CWS Response to Public Advocates Office Data Request SIB-025, #1.d.

¹²⁴ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office,

1 Phase 1 of CPUC's Order Instituting Rulemaking (R18-04-019) is currently 2 underway.¹²⁵ Phase 1 focuses on energy utilities and is expected to contain detailed 3 requirements for conducting climate vulnerability assessments and designing adaptation plans. $\frac{126}{126}$ CWS did not participate directly in this phase of the rulemaking. $\frac{127}{127}$ 4 Phase 2, which addresses Water utilities, is scheduled to be completed by 5 December 31, 2022.¹²⁸ As such, it is impossible to know what if any updates will be 6 7 necessary to CWS' Plan. CWS' detailed project scope for this proposed project includes 8 two items: review final CPUC rulemaking on Climate Adaptation and Revise CWS' Plan to meet any CPUC requirements.¹²⁹ 9 10 Because the requirements resulting from R.18-04-019 will not be released until the 11 end of next year at the earliest, it is impossible to know what kind of changes to CWS' 12 Plan will be required or the amount of work that will be necessary to accomplish them. Regarding its proposed budget for this project CWS states, "given current unknowns 13 14 (e.g., final recommendations resulting from the Climate Change Water Resources Monitoring and Adaptation Plan, Phase 2 of R.18-04-019)"¹³⁰ CWS based its projected 15

16 costs on the costs of the current Plan.

- 17 CWS has not obtained any vendor quotes for this work because CWS states it
- 18 "will fully scope this work upon completion of the Climate Change Water Resources and

p.175.

¹²⁵ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.174.

<u>126</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.175.

¹²⁷ CWS Response to Public Advocates Office Data Request SIB-028, #1.a.

¹²⁸ CWS Response to Public Advocates Office Data Request SIB-028, #2.a.

¹²⁹ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.175.

 $[\]underline{130}$ CWS Response to Public Advocates Office Data Request SIB-028, #4.b.

Monitoring Plan with additional input from the status of R.18-04-019 at that time."¹³¹
 Given that CWS cannot support its estimates since it does not yet know what work will
 be necessary, proposing this project is premature.

The Commission requires utilities to justify every dollar to be included in revenue requirements.¹³² Given the lack of information on the specific requirements, CWS cannot possibly do that for this request. Without knowing what, if any, changes are necessary it is impossible for CWS to accurately estimate, and the Commission to accurately review CWS' proposed costs.

9 The Commission should deny CWS' proposal to include \$427,283 in rates to 10 update its Plan. This request is premature as the precise requirements of CPUC's 11 rulemaking have not been developed. CWS should wait until the requirements are in 12 place and then present a project based on complete information.

13 14

N. Energy Efficiency Improvement – Heating Ventilation Air Conditioning ("HVAC") Optimization

15 CWS proposes \$756,045 in 2022 to improve the efficiency of existing HVAC 16 units in its San Jose CSS facility. CWS states the proposed efficiency upgrades would 17 result in a savings of \$74,035 in the first year and a cumulative savings of \$417,342 over 18 five years.¹³³ CWS also states "the vendor will guarantee the savings within a maximum 19 return on investment period of eight (8) years."¹³⁴ 20 While an annual savings of \$76,900¹³⁵ is a substantial amount, it is important to

21 consider44 all the cost aspects of a project when doing a cost benefit analysis. CWS

¹³¹ CWS Response to Public Advocates Office Data Request SIB-028, #4.e.

<u>132</u> D.96-12-066 p.5.

¹³³ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office p.208.

¹³⁴ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office p.208.

¹³⁵ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office

presents this project as risk-free since the vendor is "guaranteeing the savings", however, the vendors' guarantee does not include CWS' substantial contingency. The eight-year return on investment period is based on the vendor cost of \$592,276, not on CWS' total direct cost of \$756,045.84.¹³⁶ Once construction overhead and Allowance for Funds Used During Construction ("AFUDC") costs are added, the total proposed project estimate increases to \$867,043.¹³⁷ Using CWS' proposed total cost would increase the return-on-investment period to over 11 years.¹³⁸

8 Even this 11-year return on investment period is not accurate. CWS, like other 9 regulated investor-owned utilities, earns a rate of return based on its rate base. In other 10 words, the more money a utility puts into rate base the greater its profit. This is very 11 different from how most other businesses operate. While a traditional business has every 12 incentive to reduce capital costs to increase its profits, in the case of CWS a reduction in 13 capital costs would mean a reduction in profit. It is important to take this fact into 14 account when analyzing the financial benefits of any proposed project.

15 The revenue requirement resulting from each project is based on several factors. 16 Revenue requirement for the project can be approximated by multiplying the cost of the 17 project by the adopted rate of return (7.48%) and the adopted Net-to-Gross Multiplier 18 (1.207). Depreciation expense should also be included. The total annual revenue 19 requirement for this project is approximately \$113,193.¹³⁹ Taking this annual revenue 20 requirement into account, it is clear this project is not justified.

p.214.

 $[\]frac{136}{100}$ CWS Response to Public Advocates Office Data Request SIB-030, #1.b.

¹³⁷ CWS Response to Public Advocates Office Data Request SIB-030, #1.c.

^{138 \$867,043} divided by \$76900 per year equals 11.27 years.

¹³⁹ CWS Response to Public Advocates Office Data Request SIB-030, #1.c.

Ratepayers would lose approximately \$36,293 a year by funding this project.¹⁴⁰
 While the project is projected to save approximately \$76,900 a year, the annual cost of
 those savings would be \$113,193. The math simply does not support moving forward.
 CWS would have to substantially reduce the proposed costs of this project for it to make
 financial sense for ratepayers.

It is important to note that CWS did not include the estimated savings in its
Results of Operations ("RO") model. While CWS is scheduled to complete the project in
2022, CWS did not include the annual savings in 2023 and beyond.¹⁴¹ Therefore, if the
proposed project is rejected, there will be no need to adjust CWS' proposed electrical
costs.

11 The Commission should deny CWS' proposal to include its HVAC optimization 12 project in rates. The numbers simply do not add up. It does not make sense to spend 13 \$113,193 a year to save \$76,900. CWS should investigate the possibility of reducing the 14 upgrade costs and request the project in its next rate case if it still considers it necessary.

15

O. RDOM Second Floor Improvements

16 CWS proposes \$582,937 in 2023 to complete second floor improvements in its 17 RDOM building. CWS wants to create an Human Resources ("HR") suite for improved 18 communications within the HR group and more confidential meetings with employees 19 and applicants.¹⁴² CWS also proposes to pre-plan the space for an anticipated future 20 HVAC update and to establish a secondary emergency operations center.¹⁴³ 21 The two figures below show the current layout of the HR offices and the proposed

22 new layout. The green line in Figure 3-B shows the current location of the HR offices.

 $\frac{140}{13,193} = $76,900 = $36,293.$

¹⁴¹ CWS Response to Public Advocates Office Data Request SIB-030, #1.h.

<u>142</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.220.

¹⁴³ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.221.

- 1 The marked area in Figure 3-C shows the proposed new location of the HR offices.
- 2 Essentially CWS is requesting ratepayers fund an additional \$582,937 in rate base to
- 3 move three offices from one end of the building to another.

Figure 3-B Current Office Layout¹⁴⁴

Figure 3-C Proposed Office Layout¹⁴⁵



7 8

4

5

6

CWS could simply move the current HR offices to the other side of the building

9 without making any changes to the existing office layout and without burdening

¹⁴⁴ CWS Response to Public Advocates Office Data Request SIB-031, #5.b. Attachment #2 RDOM Second Floor HR Offices.

¹⁴⁵ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office,

ratepayers with additional unnecessary costs. CWS could also hold private meetings in
 one of the many available spaces in the building. CWS has multiple vacant offices that
 are currently used by employees for individual meeting spaces and break/lunch areas.¹⁴⁶
 Any of these offices could be used to have confidential meetings with current or
 prospective employees without requiring any additional funds.

6 CWS is also proposing to create a secondary Emergency Operations Center 7 ("EOC") in the space. CWS already has a companywide EOC in San Jose.¹⁴⁷ CWS also 8 has district level EOC including a district EOC in RDOM.¹⁴⁸ A secondary companywide 9 EOC would be redundant and would not justify the expenditures CWS is proposing. If 10 CWS believes a secondary EOC is necessary, it should explore installing one at a 11 property that requires minimum construction or modification and present its 12 recommendations for review in the next rate case.

13 The Commission should deny CWS' proposal to include \$582,937 in rates to fund 14 improvements to the RDOM building. These improvements are not necessary as the 15 same goals can be accomplished using little to no additional funding.

16

P. Water Quality Satellite Drinking Water Lab – ELA

17 CWS proposes \$3,668,420 in 2023 to reconfigure space at an existing property in 18 the East Los Angeles district into a satellite laboratory. The proposed cost includes the 19 construction and laboratory equipment costs necessary to build the lab.¹⁴⁹ The proposed

p.221.

¹⁴⁶ CWS Response to Public Advocates Office Data Request SIB-031, #5.d.

¹⁴⁷ CWS Response to Public Advocates Office Data Request SIB-031, #2.b.

¹⁴⁸ CWS Response to Public Advocates Office Data Request SIB-031, #2.a.

¹⁴⁹ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.253.

cost does not include the estimated \$574,200 in additional expenses needed to staff and
 supply the proposed lab.¹⁵⁰

CWS states the proposed lab would offset some of CWS' annual contract lab costs.¹⁵¹ CWS estimates that Phase I will result in cost savings of \$658,410 and Phase II in cost savings of \$136,125.¹⁵² While these savings are substantial, they are significantly less than the overall increased revenue requirement resulting from building the lab. Given this fact, the project is not cost-effective and should not be funded by customer rates.

According to CWS, Phase I of the project (currently proposed) would add
\$510,606 to the annual revenue requirement.¹⁵³ This increase considers the revenue
requirement as a result of the return on capital cost of the project as well as depreciation.
The \$510,606 number does not factor in the added expenses resulting from staffing the
lab and providing consumables. CWS states the estimated annual internal operating cost
will be \$574,200.¹⁵⁴

Combined, these costs result in an annual revenue requirement increase of
\$1,084,806.¹⁵⁵ ¹⁵⁶ This would be offset by an estimated savings of \$658,410 from the
completion of Phase I. In layman terms, ratepayers would have to pay an extra
\$1,084,806 a year to save \$658,410. Instead of reducing the burden on ratepayers, this

 $\frac{155}{510,606} + \frac{574,200}{100} = \frac{1,084,806}{100}.$

¹⁵⁰ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.251.

<u>151</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.250.

 $[\]underline{^{152}}$ CWS Response to Public Advocates Office Data Request SIB-032, #2.c.

¹⁵³ CWS Response to Public Advocates Office Data Request SIB-032, #4.

¹⁵⁴ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.251.

¹⁵⁶ CWS Response to Public Advocates Office Data Request SIB-036, #1.a.

project would add \$426,396 to the annual revenue requirement without corresponding
 benefit.¹⁵⁷ The math does not justify implementing this project.

These calculations also assume CWS can complete this lab at its estimated costs. CWS is adding \$550,608.50¹⁵⁸ (16%)¹⁵⁹ in contingency to this project. 16% is a significant amount of leeway and would seem to indicate CWS is not very confident in its estimates. If the costs of Phase I exceed the projected \$3,668,420.04, the math would be even worse, which, given the amount of money involved, should also be taken into consideration.

9 The Commission should deny CWS' proposal to include \$3,668,420 in rates to 10 build a satellite lab in its East Los Angeles district. The savings from the proposed lab 11 pale in comparison to the added costs. It does not make sense for ratepayers to pay a 12 million dollars to save six hundred thousand.

13 14

Q. UPS and SAN Array Replacements (PID#00116250) Previously Funded but Not Complete Project

15 CWS revised its cost for its 2021 UPS and San Array Replacements 16 PID#00116250 project. CWS increased the cost from the adopted budget of \$360,882 to 17 \$432,503.¹⁶⁰ Cal Advocates requested additional information regarding the increase in 18 budget and CWS responded that "upon further evaluation, Cal Water believes the original 19 authorized estimate of \$360,882 is achievable."¹⁶¹ Since the original authorized budget is 20 achievable, the increased budget is not necessary. The Commission should deny CWS'

 $[\]frac{157}{1,084,806} - \$658,410 = \$426,396.$

¹⁵⁸ CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.253.

 $[\]frac{159}{($550,608.50/$3,448,547.98)} \ge 100 = 15.966\%.$

¹⁶⁰ CWS Report on the Results of Operation Customer Services Attachment A, p.169.

¹⁶¹ CWS Response to Public Advocates Office Data Request SIB-003, #5.a.

proposal for \$432,503 in increased budget for UPS and SAN array replacements and only
 allow the original cost of \$360,882.

3

R. CSS Database Encryption Software

4 The Commission should include \$641,772 for database encryption software. As 5 previously discussed, database encryption is a key aspect of protecting customer 6 information. However, CWS overestimates the total cost of the project by including four years of software support.¹⁶² CWS states it will complete this project by the end of 2022.¹⁶³ 7 This means that only two years of support should be included as part of this rate case (2023, 8 and 2024). The annual support cost is 93,324.¹⁶⁴ Removing the two additional years 9 would lower the project estimate by \$186,648. The \$641,772 budget also excludes 10 11 contingency as discussed elsewhere.

12

S. CSS GPS Base Stations

13 The Commission should include \$149,877 in direct costs in rates for CSS GPS base 14 stations. In discovery, CWS provided support to justify a direct cost of \$149,877¹⁶⁵ for the 15 project cost and not the \$159,433 included in its application.

16 17

T. Install Cover Over Spoils/Dump Area and Car Port/Cover for Vehicle Maintenance

18 CWS incorrectly includes \$1320 and \$880 in construction overhead in its direct 19 costs for the install cover over spoils/dump area and car port/cover for vehicle maintenance 20 projects respectively.¹⁶⁶ CWS clearly states direct costs should exclude construction

 $[\]frac{162}{100}$ CWS Response to Public Advocates Office Data Request SIB-007, #3.i.

<u>163</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.48.

¹⁶⁴ CWS Response to Public Advocates Office Data Request SIB-007, #3.i.

<u>165</u> CWS Response to Public Advocates Office Data Request SIB-016, #1.a. Attachment 1 Project Justifications.pdf, p.52.

<u>166</u> CWS Response to Public Advocates Office Data Request SIB-039, #1.a. Attachment

overhead.¹⁶⁷ The Commission should require CWS to remove these costs from the project
 estimates.

The Commission should include \$63,037 and \$42,025 in direct costs in rates for the install cover over spoils/dump area and car port/cover for vehicle maintenance projects respectively. This amount excludes the included construction overhead. This amount also excludes contingency as recommended elsewhere.

7

U. Projects Retired Early

8 In ratemaking, assets are depreciated based on their expected service life. In 9 normal retirements, i.e. cases where an asset serves its useful life, there is no gain or loss. 10 However early retirements provide utilities with unfair gains at ratepayers' expense. 11 CWS has a significant number of projects that have a net book value ("NBV") despite 12 being retired meaning they were retired early and not fully depreciated. CWS continues 13 to earn returns on these projects even though they no longer benefit ratepayers because 14 the projects are no longer used and useful.

15 Standard Practice U-4-W ("SP U-4-W"), "Determination of Straight-Line 16 Remaining Life Depreciation Accruals", states "a basic depreciation object is that of 17 recovering the original cost of fixed capital (less estimated net salvage) over the useful 18 life of the property."¹⁶⁸ Theoretically, using the straight-line depreciation method should 19 result in the asset being fully depreciated at the end of its useful life. Every year the 20 depreciation expense is added to the depreciation reserve. Rate base is then calculated by 21 subtracting the depreciation reserve from plant in service.

Early retirements are problematic and unfair to ratepayers. When an asset is
retired, its total cost is subtracted from both plant in service and depreciation reserve. SP

3-33

¹²⁵¹⁷⁰_Cost_Estimate and 125171 Cost_Estimate.

<u>167</u> CWS Capital Project Justifications Book Customer Support Services and Rancho Dominguez Office, p.vii.

¹⁶⁸ Standard Practice U-4-W Determination of Straight-Line Remaining Life Depreciation Accruals, p.4.

U-4-W states that for a "historical cost on retirement from service" transaction a debit entry is made to the depreciation reserve account and a credit entry is made into the plant account (reduces the asset balance).¹⁶⁹ When an asset is retired early, its entire balance is deducted from the depreciation reserve. This has the net effect of unfairly increasing rate base and consequently rates.

6 For example, if a plant item costs \$100 and is supposed to be useful for 10 years, 7 the annual depreciation would be \$10. At the end of ten years the depreciation reserve 8 balance would be \$100. When the plant is retired \$100 would be removed from plant in 9 service and \$100 would be removed from the depreciation reserve. The net effect on rate 10 base would be zero. Now imagine the utility uses the plant for only 5 years and retires it 11 early. Only \$50 would have been added to the depreciation reserve but \$100 would be 12 removed on retirement. Because of this there would be a \$50 increase in rate base that 13 lasts in perpetuity.

Early retirement has been recognized as an issue by the Commission and other experts on utility ratemaking. According to SP U-4-W the assumption is, "a deficiency due to early retirement of a particular unit is made up through greater accruals on a unit which outlives the average."¹⁷⁰ In general, given the nature of group depreciation, this approach makes sense when discussing projects that are retired a little earlier than expected. However, SP U-4-W also recognizes what is called "extraordinary obsolescence".

SP U-4-W states, "occasionally instances of extraordinary obsolescence such as the unexpected early retirement of a major unit of property may require some form of adjustment." Price Waterhouse Cooper also states that regular utility retirements should have no net gain or loss but in cases of extraordinary retirements a gain or loss should be

 ¹⁶⁹ Standard Practice U-4-W Determination of Straight-Line Remaining Life Depreciation Accruals, p.5.
 170 Standard Practice U-4-W Determination of Straight-Line Remaining Life Depreciation Accruals, p.8.

considered.¹⁷¹ These cases of extraordinary retirement result in significant effects to rate
 base and as such require further scrutiny.

In response to discovery, CWS provided a list of CSS projects booked to rates 3 between 2010 and 2015 and their current NBV.¹⁷² Of these projects, 32 had an NBV 4 over 100,000.¹⁷³ Of these 14 have already been retired despite the fact they have a 5 6 significant remaining NBV. Table 3-D below contains a breakdown of the projects in question. These projects had between 39% and 84% of their original cost remaining in 7 NBV at retirement. This indicates that these projects were retired significantly earlier 8 9 than their depreciation rates anticipated. In fact, one of the projects was retired after only 10 two years in service.

¹⁷¹ Price Waterhouse Coopers Questions and Answers Interpretations for the Utility Industry Accounting for Property, Plant and Equipment, Asset Retirement Obligations and Depreciation p.5.

¹⁷² CWS Response to Public Advocates Office Data Request SIB-040, #2. Attachment 1 - NBV

¹⁷³ CWS originally reported 28 projects in its response to Public Advocates Office Data Request SIB-044, #1. Attachment 1-List of CSS & RDOM Projects (2010-2015). CWS added four additional projects in its response to Public Advocates Office Data Request SIB-045, #1.

Year	Work	Retirement	Years in	Actual Cost	NBV at	% NBV/Cost
	Order	Date	Service		Retirement	at
	Number					retirement
2015	00017901	12/22/20	5	\$ 1,485,427.35	\$ 749,891.58	50%
2014	20942	10/15/20	6	\$ 487,271.12	\$ 200,582.01	41%
2014	21104	12/22/20	6	\$ 3,964,778.72	\$ 1,690,551.64	43%
2013	60832	12/28/15	2	\$ 907,776.54	\$ 762,895.40	84%
2015	00063312	12/10/20	5	\$ 678,527.47	\$ 345,099.07	51%
2015	00063315	10/13/20	5	\$ 706,231.97	\$ 330,778.88	47%
2014	64374	12/22/20	6	\$ 660,882.72	\$ 283,386.51	43%
2015	00064481	12/22/20	5	\$ 612,413.76	\$ 297,102.33	49%
2015	00064504	12/22/20	5	\$ 479,652.85	\$ 235,296.73	49%
2015	00074953	12/22/20	5	\$ 848,922.22	\$ 398,414.15	47%
2013	75513	12/31/18	5	\$ 638,395.04	\$ 364,061.53	57%
2014	92179	12/31/18	4	\$ 376,523.65	\$ 245,342.81	65%
2015	00096537	10/13/20	5	\$ 297,435.48	\$ 151,275.69	51%
2015	00021130	10/15/20	5	\$ 434,262.30	\$ 170,507.66	39%

1 Table 3-D Early Retirement CSS Projects with an NBV above \$100,000 as of 202	21. <u>174</u>
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Because these projects were retired significantly earlier than planned, they represent extraordinary circumstances as defined in SP U-4-W and elsewhere.

5 Ratepayers should not be required to pay higher costs to fund projects that are no longer

6 in service and thus not providing benefit. Adding insult to injury, these early retired
7 projects are often replaced by other expensive projects (as discussed in the proposed

8 Customer Care and Billing Cloud Upgrade earlier). The net effect is the ratepayer is

9 forced to pay increased rates for both the project that did not provide its estimated service

10 life and its replacement.

11 The Commission acts as a substitute for competition in the case of regulated

12 monopolies. In competitive business environments, a business would not be able to

13 benefit from a poor investment in an asset that does not meet its projected service life

14 expectations. In fact, when this loss of asset value happens for a competitive business, an

<u>174</u> CWS Response to Public Advocates Office Data Request SIB-045, #1 Attachment 1 Retired CSS & RDOM Projects.

1 asset write-off is required and a loss must be reported. Assets not serving their expected
2 lifetime is a normal risk of conducting business. Utilities are compensated for the risk of
3 doing business through their Commission approved rate of return. Allowing the utility to
4 not only fully recuperate but also benefit from assets that are retired early is in direct
5 contradiction with the Commission's role as a substitute for competition.

6 The Commission should increase CWS' depreciation reserve by \$6,225,186 to 7 account for the early retired projects identified above.¹⁷⁵ CWS' application presents 8 proposed rate base and profits calculated for multiple projects that were retired 9 prematurely. This should not be allowed by the Commission. Retired projects, by 10 definition, are not used and useful and as such ratepayers should not be burdened with 11 higher rates because of them.

Increasing the depreciation reserve as recommended above will not result in
"retroactive ratemaking" because the increase would only be applicable to customer rates
moving forward and not impact prior collections.

15 IV. CONCLUSION

16 The Commission should adopt the recommendations presented above which have 17 been incorporated in the calculations for Cal Advocates' recommended Utility Plant in Service 18 as shown in Table 7-1 in Cal Advocates RO Tables.

 $[\]frac{175}{175}$ Sum of NBV at retirement from table.

CHAPTER 4 Pipeline Replacement

2 I. INTRODUCTION

3 This chapter presents analyses and recommendations for CWS' pipeline
4 replacement requests.

5 II. SUMMARY OF RECOMMENDATIONS

6 The Commission should authorize a direct cost of \$57,388,618 in 2022,

7 \$58,823,334 in 2023, and \$60,293,917 for 2024 for pipeline replacement.

8 The Commission should require CWS to shift its pipeline replacement approach

9 from a mostly age-based analysis to an actual condition-based approach in the next rate

10 case. The table below shows recommended physical pipeline replacement budget

11 compared to CWS' proposed budgets.

12

Table 4-A: Capital Budget Summary – Pipeline Replacements

Pipeline Replacement	2022	2023	2024	Annual Average
Proposed	\$100,835,819	\$103,481,318	\$106,196,525	\$103,504,554
Recommended	\$57,388,618	\$58,823,334	\$60,293,917	\$58,835,290
Difference	\$43,447,201	\$44,657,984	\$45,902,608	\$44,669,264
Cal Advocates as % of CWS	57%	57%	57%	57%

13 III. ANALYSIS

14 CWS developed its current main replacement program in 2015.^{<u>176</u>} CWS states its

15 proposed mainline replacement program in the current GRC is a continuation of this 2015

16 program.¹⁷⁷ Prior to 2016 CWS' average pipeline replacement rate was approximately

¹⁷⁶ CWS Capital Project Justifications Book Common Plant p.11.

¹⁷⁷ CWS Capital Project Justifications Book Common Plant p.11.

0.3% per year.¹⁷⁸ CWS states, starting in 2016 it increased the rate to approximately
 0.5%.¹⁷⁹ In the current GRC, CWS is proposing an annual average pipeline replacement
 rate of 0.7%.¹⁸⁰ Table 4-B below shows CWS' pipeline replacement request by district.

	Proposed		Avorago	Direct Cost				
Districts	Replacement Rate (%/yr)	Unit Cost (\$/ft)	Replaced (ft/yr)	2022	2023	2024		
AV	0.60%	\$236.00	1,057	\$288,289	\$295,496	\$302,883		
BAY	0.75%	\$421.60	20,832	\$10,150,139	\$10,403,892	\$10,663,990		
BG	1.00%	\$503.08	17,774	\$10,333,862	\$10,592,208	\$10,857,014		
ВК	0.70%	\$357.26	35,969	\$14,850,914	\$15,222,187	\$15,602,741		
СН	0.60%	\$285.30	12,901	\$4,253,687	\$4,360,030	\$4,469,030		
DIX	0.60%	\$413.42	1,097	\$262,590	\$671,418	\$688,204		
DOM	0.50%	\$444.00	9,664	\$4,958,842	\$5,082,813	\$5,209,884		
ELA	0.60%	\$331.41	8,354	\$3,199,635	\$3,279,626	\$3,361,617		
HR	0.60%	\$472.58	6,641	\$3,627,014	\$3,717,689	\$3,810,632		
КС	0.60%	\$534.39	1,102	\$680,582	\$697,596	\$715,036		
KRV	0.60%	\$200.03	3,159	-	\$1,497,059	\$767,243		
LAS	0.70%	\$418.77	10,686	\$5,171,674	\$5,300,966	\$5,433,490		
LIV	0.60%	\$650.81	7,051	\$5,303,290	\$5,435,872	\$5,571,769		
MRL	0.40%	\$375.67	1,122	\$365,560	\$499,303	\$639,959		
ORO	0.30%	\$375.76	943	\$409,509	\$419,746	\$430,240		
PV	0.51%	\$444.84	8,989	\$2,310,862	\$5,920,793	\$6,068,812		
RDV	0.60%	\$310.15	1,056	\$378,509	\$387,972	\$397,671		
SEL	0.50%	\$219.20	2,349	\$595,064	\$609,941	\$625,190		
SLN	0.60%	\$369.89	10,720	\$4,582,556	\$4,697,120	\$4,814,548		
STK	1.56%	\$411.89	43,394	\$20,656,244	\$21,172,650	\$21,701,966		
VIS	0.40%	\$243.83	12,437	\$3,504,638	\$3,592,254	\$3,682,060		
WIL	0.40%	\$346.72	796	\$318,957	\$326,931	\$335,104		
WLK	0.25%	\$774.65	1,487	\$1,331,242	\$1,364,523	\$1,398,636		
Total		-	219,582	\$100,835,819	\$103,481,318	\$106,196,525		

Table 4-B Proposed Pipeline Replacement Rate by District¹⁸¹

5

4

¹⁷⁸ CWS Capital Project Justifications Book Common Plant, p.11.

¹⁷⁹ CWS Capital Project Justifications Book Common Plant, p.12.

 $[\]frac{180}{219,582}$ Average annual replacement rate = Average Replacement length / Total Pipeline Length which equals 219,582 feet / 31,521,284 feet = 0.6966%.

¹⁸¹ CWS Capital Project Justifications Book Common Plant, p.10.

A. Historical Replacement Rates

To better understand CWS' pipeline replacement needs, Cal Advocates requested CWS provide recorded pipeline replacement rates for the past 10 years. CWS only provided data for the past five years (2016-2020).¹⁸² CWS stated it could not provide data for earlier years because mainline replacements were handled differently prior to 2016 and as such the data is unavailable.¹⁸³

7 The data clearly show CWS has consistently failed to meet its Commission 8 adopted replacement rates. Table 4-C below provides a breakdown of CWS' adopted and 9 recorded replacement rates. The table also shows the difference in recorded and adopted 10 rates. Negative numbers indicate that CWS did not meet its adopted rates for that district 11 for that year. These instances are highlighted in red. As the table clearly shows, CWS 12 consistently underperforms its authorized replacement rates.

Table 4-C Adopted and Recorded Pipeline Replacement Rates and the Difference Between Them.¹⁸⁴

District		2016		2017			2018		2019			2020			
District	Adopted	Recorded	Difference												
Antelope Valley	0.50%	0.00%	-0.50%	0.50%	0.00%	-0.50%	0.50%	0.00%	-0.50%	0.50%	0.00%	-0.50%	0.55%	0.00%	-0.55%
Bakersfield	0.50%	0.15%	-0.35%	0.50%	0.58%	0.08%	0.50%	0.34%	-0.16%	0.50%	0.09%	-0.41%	0.60%	0.46%	-0.14%
Bear Gulch	0.50%	0.11%	-0.39%	0.50%	1.47%	0.97%	0.50%	0.14%	-0.36%	1.00%	0.35%	-0.65%	1.25%	1.07%	-0.18%
Bayshore	0.50%	0.41%	-0.09%	0.50%	0.10%	-0.40%	0.50%	0.73%	0.23%	0.50%	0.40%	-0.10%	0.67%	0.46%	-0.21%
Chico	0.50%	0.27%	-0.23%	0.50%	0.72%	0.22%	0.50%	0.17%	-0.33%	0.50%	0.27%	-0.23%	0.55%	0.63%	0.08%
Dixon	0.49%	0.46%	-0.03%	0.49%	0.91%	0.42%	0.49%	0.00%	-0.49%	0.50%	0.00%	-0.50%	0.55%	0.96%	0.41%
Dominguez	0.50%	0.17%	-0.33%	0.50%	0.27%	-0.23%	0.50%	0.48%	-0.02%	0.50%	0.00%	-0.50%	0.50%	0.00%	-0.50%
East Los Angeles	0.58%	0.58%	0.00%	0.58%	0.29%	-0.29%	0.58%	0.23%	-0.35%	0.50%	0.61%	0.11%	0.55%	0.38%	-0.17%
Hermosa Redondo	0.50%	0.00%	-0.50%	0.50%	0.30%	-0.20%	0.50%	0.35%	-0.15%	0.50%	0.42%	-0.08%	0.55%	1.09%	0.54%
Kern River Valley	0.50%	0.22%	-0.28%	0.50%	0.12%	-0.38%	0.50%	0.49%	-0.01%	0.50%	0.12%	-0.38%	0.55%	0.38%	-0.17%
King City	0.50%	0.27%	-0.23%	0.50%	0.00%	-0.50%	0.50%	0.71%	0.21%	0.50%	0.00%	-0.50%	0.55%	0.97%	0.42%
Los Altos	0.50%	0.41%	-0.09%	0.50%	0.48%	-0.02%	0.50%	0.43%	-0.07%	0.50%	0.98%	0.48%	0.60%	0.64%	0.04%
Livermore	0.50%	0.00%	-0.50%	0.50%	0.13%	-0.37%	0.50%	0.39%	-0.11%	0.50%	0.69%	0.19%	0.55%	1.14%	0.59%
Marysville	0.50%	0.00%	-0.50%	0.50%	0.62%	0.12%	0.50%	0.60%	0.10%	0.50%	0.81%	0.31%	0.55%	0.00%	-0.55%
Oroville	0.50%	0.78%	0.28%	0.50%	0.87%	0.37%	0.50%	0.00%	-0.50%	0.50%	0.00%	-0.50%	0.55%	1.04%	0.49%
Palos Verdes	0.50%	0.09%	-0.41%	0.50%	0.16%	-0.34%	0.50%	0.89%	0.39%	0.50%	0.00%	-0.50%	0.55%	0.18%	-0.37%
Redwood Valley	0.50%	0.00%	-0.50%	0.50%	0.00%	-0.50%	0.50%	3.43%	2.93%	0.50%	0.00%	-0.50%	0.55%	0.00%	-0.55%
Salinas	0.50%	0.16%	-0.34%	0.50%	0.69%	0.19%	0.50%	0.46%	-0.04%	0.50%	0.49%	-0.01%	0.55%	0.57%	0.02%
Selma	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.50%	0.00%	-0.50%	0.50%	0.00%	-0.50%
Stockton	1.50%	1.43%	-0.07%	1.50%	1.33%	-0.17%	1.50%	1.31%	-0.19%	1.50%	0.75%	-0.75%	1.50%	0.63%	-0.87%
Visalia	2.20%	0.31%	-1.89%	2.20%	0.15%	-2.05%	0.22%	0.00%	-0.22%	0.22%	0.00%	-0.22%	0.30%	0.05%	-0.25%
Westlake	0.10%	0.00%	-0.10%	0.10%	0.00%	-0.10%	0.10%	0.20%	0.10%	0.10%	0.00%	-0.10%	0.25%	0.38%	0.13%
lv ‰ illows	0.50%	0.31%	-0.19%	0.50%	0.70%	0.20%	0.50%	0.00%	-0.50%	0.50%	1.37%	0.87%	0.65%	0.00%	-0.65%

182 CWS Response to Public Advocates Office Data Request SIB-014, #1.a.

183 CWS Response to Public Advocates Office Data Request SIB-014, #1.a.

184 Adopted and recorded data are from CWS Response to Public Advocates Office Data Request SIB-

1 CWS' performance in the past three years is no exception to this trend. As part of 2 its filling, CWS provided a memorandum outlining a summary of all pipeline projects agreed in settlement for the 2018 GRC and their status as of June 2021.¹⁸⁵ This 3 memorandum shows that of the 618,581¹⁸⁶ feet CWS was supposed to replace between 4 2019 and 2021, it replaced only 262,977 feet or approximately 42.5%¹⁸⁷. 5 6 In its September 1, 2021, Main Replacement Program presentation, CWS provided 7 the following table showing adopted, installed to date, and forecast replacement footages. 8 According to the table, as of September 1st 2021, CWS had completed an additional 18,174 feet for a total of 281,151 feet or 45.5% of its adopted replacement footage.¹⁸⁸ 9 10 CWS forecasts a total replacement footage of 433,651 feet by the end of the year. This 11 information cannot be verified as of the date of this report. Assuming CWS' forecast to 12 be accurate, the company would have only completed 70.1% of its adopted pipeline 13 replacements.

^{014 #1.}a. Attachment 1_Summary of Pipes Info in Districts Attachment 5_Replacement rates and costs.

¹⁸⁵ CWS Capital Project Justifications Book Common Plant p.10.

¹⁸⁶ D.20-12-007 Attachment 1 Exhibit A Settlement Agreement of California Water Service Company and the Public Advocates Office 2018 General Rate Case A.18-07-001 p.108.

 $[\]frac{187}{(262,977 \text{ feet } / 618,581 \text{ feet}) \times 100} = 42.51\%$

 $[\]frac{188}{(281,151 \text{ feet } / 618,581 \text{ feet})} \times 100 = 45.45\%$

District	2018 GRC Settlement (ft)	2018 GRC Installed to Date (ft)	2018 GRC Footage Forecast (ft)		
AV	2,614	0	3,020		
BAY	52,918	29,457	51,970		
BG	69,062	30,675	47,625		
BK	90,383	34,927	58,404		
CH	33,367	22,606	22,606		
DIX	2,875	1,764	1,764		
DOM	28,987	4,159	13,924		
ELA	22,913	11,051	19,726		
HR	18,121	10,018	16,088		
KC	2,962	1,786	3,188		
KRV	8,015	3,240	6,115		
LAS	27,562	26,587	28,977		
LIV	19,079	11,491	11,491		
MRL	4,704	4,436	4,436		
ORO	5,140	5,128	5,128		
PV	28,662	4,599	13,599		
RDV	2,842	0	574		
SEL	6,811	1,068	5,341		
SLN	29,272	22,406	27,380		
STK	127,126	46,103	77,095		
VIS	26,960	2,679	8,229		
WIL	3,810	4,701	4,701		
WLK	4,396	2,270	2,270		
Total	618,581	281,151	433,651		

Table 4-D CWS' Adopted, Recorded, and Forecast Pipeline Replacement Footage as ofSeptember 1, 2021.

3

In the previous rate case, CWS proposed an annual replacement rate of 0.88%,¹⁸⁹
or approximately 271,611 feet.¹⁹⁰ Over three years that would amount to 814,833 feet.
Cal Advocates proposed an annual replacement rate of 0.47% or 145,065 feet. Over
three years that would amount to 435,195 feet. The settlement awarded CWS 619,581
feet. CWS is forecasting it will complete 433,651 feet or 1,544 feet less than the amount
Cal Advocates recommended.
As previously shown, the underperformance goes back as far as recorded data is

11 available. It cannot be blamed on recent events such as the Covid-19 pandemic for

example. In fact, in the three years following the 2015 GRC (2016, 2017, 2018) CWS

13 replaced 403,606 feet of pipeline. CWS' adopted replacement was 569,451 feet. That

¹⁸⁹ D.20-12-007 Attachment 1 Exhibit A Settlement Agreement of California Water Service Company and the Public Advocates Office 2018 General Rate Case A.18-07-001, p.108.

 $^{190 0.88\% \}times 30,864,874$ feet = 271,611 feet.

puts CWS' completion rate at 70.88% of the adopted pipeline replacement or 0.78%
 better than its most recent performance.¹⁹¹

For at least the past six years, CWS has been under-replacing pipeline. In other 3 4 words, for at least six years, CWS ratepayers have been funding pipeline replacements 5 that were not completed. It is unfair for ratepayers to fund projects that do not 6 materialize according to the authorized schedule. At this point, there is enough historical 7 data to accurately predict the pipeline replacement rate which CWS can perform. 8 Cal Advocates used CWS' recorded performance over all the years available to 9 calculate a recommended pipeline replacement rate. The results are show in Table 4-E below. Cal Advocates used CWS' proposed district rates were also used.¹⁹² These rates 10 are based on historical recorded costs escalated to the appropriate year. $\frac{193}{100}$ 11

 $[\]frac{191}{70.88\%} - 70.1\% = 0.78\%.$

¹⁹² CWS Response to Public Advocates Office Data Request SIB-014, #8.

 $[\]frac{193}{100}$ Costs shown in the table are base year 2020 costs. The annual cost was then escalated and included in the final recommendation.

	Historical	Total Length	Replacement Feet	Per Foot Cos	Total Annual Budget
	Replacement				
Antelope Valley	0.00%	176,161	-	\$ 236.00	\$-
Bakersfield	0.32%	5,138,481	16,609.44	\$ 357.26	\$ 5,933,889.95
Bear Gulch	0.63%	2,777,629	17,450.13	\$ 421.60	\$ 7,356,972.89
Bayshore	0.42%	1,777,430	7,428.85	\$ 503.08	\$ 3,737,303.87
Chico	0.41%	2,150,129	8,888.82	\$ 285.30	\$ 2,535,981.16
Dixon	0.47%	182,834	854.17	\$ 413.42	\$ 353,129.48
Dominguez	0.18%	1,932,870	3,569.52	\$ 444.00	\$ 1,584,866.98
East Los Angeles	0.42%	1,392,414	5,842.10	\$ 331.41	\$ 1,936,132.00
Hermosa Redondo	0.43%	1,106,784	4,792.10	\$ 472.58	\$ 2,264,652.14
Kern River Valley	0.27%	526,548	1,421.12	\$ 200.03	\$ 284,266.42
King City	0.39%	183,690	716.97	\$ 534.39	\$ 383,140.09
Los Altos	0.59%	1,175,156	6,914.30	\$ 650.81	\$ 4,499,897.21
Livermore	0.47%	1,526,525	7,154.08	\$ 418.77	\$ 2,995,915.96
Marysville	0.41%	280,534	1,136.21	\$ 375.67	\$ 426,840.63
Oroville	0.54%	314,325	1,695.67	\$ 375.76	\$ 637,165.25
Palos Verdes	0.26%	1,762,484	4,668.13	\$ 444.84	\$ 2,076,571.68
Redwood Valley	0.69%	176,030	1,207.03	\$ 310.15	\$ 374,360.91
Salinas	0.47%	1,786,691	8,415.81	\$ 369.89	\$ 3,112,923.39
Selma	0.00%	469,759	-	\$ 219.20	\$-
Stockton	1.09%	2,781,693	30,356.86	\$ 411.89	\$ 12,503,688.45
Visalia	0.10%	3,109,201	3,122.90	\$ 243.83	\$ 761,455.61
Westlake	0.12%	594,897	690.51	\$ 774.65	\$ 534,899.90
Willows	0.48%	199,019	949.64	\$ 346.72	\$ 329,258.96
Total	0.42%	31,521,284	133,884.36	NA	54,623,312.92

Table 4-E Annual Budgets based on Historical Replacement Rate	es
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Using CWS' recorded replacement rates and proposed per foot costs, the total yearly replacement budget in 2020 dollars would be \$54,623,312.92. Escalating this amount yields budgets of \$57,388,618 in 2022, \$58,823,333 in 2023, and \$60.293.916. in 2024. The proposed budgets would allow a yearly companywide replacement rate of 0.42% or 133,884 feet. This replacement is in line with the recorded CWS performance for all available years as shown in Table 4-F below.

9

Table 4-F Yearly Pipeline Replacement Miles and Replacement Rates

Year	2016	2017	2018	2019	2020	Average
Miles Replaced	102,623	157,859	143,124	98,820	152,859	131057
Replacement Rate	0.33%	0.51%	0.46%	0.31%	0.48%	0.42%

10

B. System Condition

CWS bases its pipeline replacement needs on pipeline material, age, and diameter.
CWS also factors in break records in some cases.¹⁹⁴ CWS determines a pipeline's
likelihood of failure based on the expected lifespan of a particular material and the
pipeline installation date. CWS then adds a point for pipes with more than two recorded
breaks, provided these pipes are not already at the highest score based on age alone.¹⁹⁵

7 The main issue with such an age-based approach is it does not consider key factors 8 that help determine pipeline life such as operating pressures and soil conditions. When 9 making pipeline replacement decisions based solely on a single criterion such as age, a 10 utility replace a pipe that still has extensive service life. Conversely, a pipe that needs 11 replacement due to other factors may go unnoticed resulting in serious disruptions to 12 service if the pipeline fails and requires expensive repairs.

13 The American Water Works Association's ("AWWA") manual M77 discusses 14 condition assessment of water mains. Discussing the key benefits of conducting pipeline 15 replacement based on actual conditions of the pipeline, AWWA states that by using 16 condition assessment "utilities can focus renewal efforts on pipelines that need repair 17 rather than basing decisions on general characteristics that may not correlate to actual 18 conditions such as age."¹⁹⁶

AWWA states "in many cases, condition assessment efforts reveal that most of the pipeline is in good condition."¹⁹⁷ By relying on a solely age-based approach, CWS risks spending considerable funds on replacing pipeline that still have plenty of life remaining. Those funds could be spent more strategically benefiting ratepayers and CWS if the information to make more informed decisions were available.

¹⁹⁴ CWS Response to Public Advocates Office Data Request SIB-014, #4.

¹⁹⁵ CWS Response to Public Advocates Office Data Request SIB-014, #5.

¹⁹⁶ American Water Works Association Manual M77, p.4.

¹⁹⁷ American Water Works Association Manual M77, p.4.

In discovery, CWS provided information on 752,896¹⁹⁸ feet of pipe it is proposing to replace this rate case. 60,199¹⁹⁹ feet of pipeline have had zero leaks. 169,101²⁰⁰ feet of pipeline have had one leak. CWS does not factor break rates into its replacement criteria until a pipeline breaks at least twice.²⁰¹ CWS proposes to remove 229,300 feet of pipeline that has at most exhibited one leak.²⁰² In other words, 30%²⁰³ of CWS' proposal is based on one factor that according to the AWWA may not correlate to actual pipeline conditions.²⁰⁴

8 According to AWWA, condition assessment can also help utilities focus their 9 repair efforts. If only a small part of a pipeline needs repair, utilities can focus their repair efforts on these areas and benefit from extended use of the sections of pipeline that 10 are in good condition.²⁰⁵ Pipes with only two leaks account for 100,467 feet or another 11 13% of CWS' proposal. Approximately 44% or almost half of CWS' proposal is made 12 up of pipeline that could have plenty of service life left in them. Removing these 13 pipelines from the projected replacements results in 423,129 feet to be replaced. $\frac{206}{100}$ This 14 15 number is comparable to Cal Advocates recommended replacement of 401,653 feet based 16 on CWS' demonstrated past performance.

¹⁹⁸ CWS Response to Public Advocates Office Data Request SIB-014, #2 Attachment 7 2021 GRC MRP Project List - Risk Assessment, sum of column H.

¹⁹⁹ CWS Response to Public Advocates Office Data Request SIB-014, #2 Attachment 7 2021 GRC MRP Project List - Risk Assessment, sum of column H for pipeline with zero leaks.

²⁰⁰ CWS Response to Public Advocates Office Data Request SIB-014, #2 Attachment 7 2021 GRC MRP Project List - Risk Assessment, sum of column H for pipeline with one leak.

²⁰¹ CWS Response to Public Advocates Office Data Request SIB-014, #5.

 $[\]frac{202}{60,199}$ feet + 169,101 feet = 229,300 feet.

 $[\]frac{203}{2}$ (229,300 / 752,896 feet) x 100 = 30.46%.

²⁰⁴ American Water Works Association Manual M77, p.4.

²⁰⁵ American Water Works Association Manual M77, p.4.

 $[\]frac{206}{752,896}$ feet - 60,199 feet - 169,101 feet - 100,467 feet = 423,129 feet.

1 The benefits of condition assessments to overall system pipeline management are 2 not just theoretical. Aside from AWWA dedicating an entire manual to the subject, real 3 world examples have shown the usefulness to the approach. The Mesa District in Orange 4 County California, for example, found that using a condition-based program as opposed 5 to age-based estimates will save the district \$231 million in unnecessary pipe replacement 6 over the next 30 years.²⁰⁷

The Mesa District also found that the average life of its asbestos cement pipes, the focus of the study, was 142 years.²⁰⁸ The average life for asbestos cement pipe according to the AWWA's buried no longer report, which CWS cites and uses in its remaining life estimates,²⁰⁹ is 65-105 years.²¹⁰ 54% of CWS pipelines are asbestos cement.²¹¹ A condition-based assessment may show that CWS pipeline lives are shorter than the age-based approach indicates and result in higher pipeline replacement program costs.

13 Either way, the Commission and CWS would have the benefit of actual conditions and

14 not simply guesswork when making decisions. This would benefit ratepayers and CWS

15 in the long run and result in a more robust, well-run water system.

16 Aside from basing its replacement mainly on age, CWS also does not record the 17 amount of water lost due to each break.²¹² This information is essential in calculating the

²⁰⁷ Pipeline Integrity Testing to Assess the Useful Life of Pipeline Infrastructure (Mesa Study) AWWA Journal September 2019 Vol. 111 No. 9.

²⁰⁸ Pipeline Integrity Testing to Assess the Useful Life of Pipeline Infrastructure (Mesa Study) AWWA Journal September 2019 Vol. 111 No. 9

²⁰⁹ CWS Response to Public Advocates Office Data Request SIB-014, #5.

²¹⁰ Pipeline Integrity Testing to Assess the Useful Life of Pipeline Infrastructure (Mesa Study) AWWA Journal September 2019 Vol. 111 No. 9

²¹¹ CWS Capital Project Justifications Book Common Plant, p.15.

²¹² CWS Response to Public Advocates Office Data Request SIB-014, #7.

financial impact of break events to the utility. CWS states it is currently in working on
 initiatives that would make this data available in the future.²¹³

3 IV. CONCLUSION

The Commission should authorize a direct cost of \$57,388,618 in 2022, \$58,823,334 in 2023, and \$60,293,917 for 2024 for pipeline replacement. This budget is based on CWS' recorded historical performance over the lifetime of its current pipeline replacement program. The Commission should also require CWS to move from an agebased replacement approach to a condition-based approach to allow targeted replacement where necessary and avoid the waste associated with replacing fully functional pipelines.

²¹³ CWS Response to Public Advocates Office Data Request SIB-014, #7.

CHAPTER 5 Physical Security

2 I. INTRODUCTION

3 This chapter presents analyses and recommendations for CWS' physical security4 requests.

5 II. SUMMARY OF RECOMMENDATIONS

6 The Commission should authorize \$5,257,336 in direct costs for physical security
7 upgrades for the years 2022 to 2024. The table below shows the recommended physical
8 security budgets compared to CWS' proposed budgets.

9

16

Table 5-A: Capital Budget Summary – Physical Security Additions

Physical Security	2022	2023	2024	Annual Average		
CWS Proposed	\$5,483,051	\$5,511,498	\$5,264,492	\$5,419,680		
Cal Advocates Recommended	\$1,709,355	\$1,752,089	\$1,795,891	\$1,752,445		
Difference	\$3,773,696	\$3,759,409	\$3,468,601	\$3,667,235		
Cal Advocates as % of CWS	31%	32%	34%	32%		

10 III. ANALYSIS

A.

11 CWS began its current security program in the 2018 GRC. In 2017 CWS hired 12 Navigant to perform an assessment of its overall physical security program. Navigant's 13 report formed the basis of CWS' proposals in A.18-07-001. Recognizing the importance 14 of physical security, the Commission authorized \$10,893,719, or 94% of CWS' requested 15 amount of \$11,649,068 in D.20-12-007.

Despite receiving approval and customer funding to complete most of its
requested projects, CWS only completed a small portion of the budget authorized by the
Commission. Table 5-B below shows CWS' proposed, approved, recorded, and

CWS Completed Upgrades

forecasted budgets for the years 2019, 2020, and 2021. As the table clearly shows, CWS
 only completed a small portion of the projects it requested. The Commission authorized
 \$12,752,288 (including direct costs, overhead, etc.) but CWS only spent \$1,053,609. Cal
 Water is also forecasted to spend \$4,778,479 in 2021. The total security expenditure as
 of the end of 2021 would be \$5,832,087, or 45.7% of the authorized amount.

6 Table 5-B shows CWS failed to complete any improvements in several districts. 7 These include Bakersfield, Bear Gulch, Dixon, Stockton, Antelope Valley, and Redwood 8 Valley (Lucerne and Coast Springs). CWS also failed to complete a substantial number 9 of the projects authorized in other districts. In fact, based on the information CWS 10 provided, the only districts where it is scheduled to spend all its approved budget are East 11 LA, Hermosa Redondo, King City, Selma, Visalia, Palos Verdes, and Dominguez. There 12 are seven areas where spending is between 9% and 55% and three with spending between 13 75% and 90%. This information is summarized in Table 5-C.

Ratepayers already paid for a substantial number of upgrades CWS considered necessary for physical security. CWS failed to complete physical security upgrade projects that were authorized in the previous rate case. The Commission should not reward CWS with additional funds to complete additional projects when it has proven unable to complete those previously authorized and funded by ratepayers.

19 CWS has little reason to minimize capital costs. The more CWS spends on capital 20 projects, the more its shareholders are rewarded. This fact is recognized by CWS. The 21 Company rewards executives for utility plant investment.²¹⁴ CWS states "investment in 22 utility plant, property, and equipment is a driver of stockholder return."²¹⁵ Given the 23 nature of regulated monopolies and how they earn a profit, CWS has very little incentive 24 to control its capital expenditure. It is therefore incumbent on the Commission to fulfill

²¹⁴ CWS Application Attachment B Financial Reports 2020 Proxy Statement, p.47.

²¹⁵ CWS Application Attachment B Financial Reports 2020 Proxy Statement, p.47.

its role as a substitute for competition in determining what is a necessary and reasonable
 capital budget.

Table 5-D shows CWS' previously approved budget, amount it spent or is forecasted to spend, and proposed amount in this rate case. In the Bakersfield, Bear Gulch, Dixon, and Stockton districts, the Commission authorized \$4,026,263. It spent zero dollars for all four districts meaning ratepayers have funded the authorized amount without receiving any benefit. CWS now requests \$5,519,342 to perform security upgrades in the same districts.

9 Overall CWS only recorded \$1,053,609 and is forecasted to complete \$4,778,479 10 for a total cost of \$5,832,088. The Commission previously authorized \$12,752,288 in 11 total costs. CWS now requests approximately \$19,038,337 in additional capital spending.²¹⁶ Based on CWS' track record on physical security, it makes no sense for the 12 13 Commission to award CWS anywhere near that amount. 14 The Commission should instead base CWS' physical security budget on the 15 amount of work CWS has shown itself capable of performing. CWS completed 16 \$5,832,088 in work in the years 2019, 2020, and 2021. Converting that number into direct costs results in a total of approximately $4,880,967.\frac{217}{2}$ Escalating this number by 17 to the appropriate years results in a total of \$5,257,336 in direct costs.²¹⁸ 18

 $[\]frac{217}{10}$ The Commission authorized CWS \$10,893,719 in direct costs which translate into \$12,752,288 in total costs. Therefore to move from total costs to direct costs multiply by \$10,893,719/\$12,752,288 = 0.85. CWS completed \$255,883 in 2019, \$460,256 in 2020 and \$337,470 in 2021. CWS is also forecasted to complete \$4,778,478.72 in 2021. These numbers translate into \$218,589, \$393176, \$288,286, and \$4,082,044 in direct costs respectively. Changing everything to a base year value of 2020 results in direct costs of \$224,054, \$393,176, \$281,255, and \$3,982,482 respectively. Summing the base year 2020 costs results in a total direct cost of \$4,880,967.

 $[\]frac{217}{10}$ The Commission authorized CWS \$10,893,719 in direct costs which translate into \$12,752,288 in total costs. Therefore to move from total costs to direct costs multiply by \$10,893,719/\$12,752,288 = 0.85. CWS completed \$255,883 in 2019, \$460,256 in 2020 and \$337,470 in 2021. CWS is also forecasted to complete \$4,778,478.72 in 2021. These numbers translate into \$218,589, \$393176, \$288,286, and \$4,082,044 in direct costs respectively. Changing everything to a base year value of 2020 results in direct costs of \$224,054, \$393,176, \$281,255, and \$3,982,482 respectively. Summing the base year 2020 costs results in a total direct cost of \$4,880,967.

 $[\]frac{218}{10}$ Dividing the total 2020 direct cost of \$4,880,967 by 3 results in an annual cost of \$1,626,989.

1 The Commission should authorize \$5,257,336 in physical security improvements. 2 This number more accurately reflects CWS' capacity based on its actual track record of 3 completing these projects. Reducing the physical security budget will also serve the 4 added benefit of allowing the Commission to review the effectiveness of the program 5 more thoroughly before committing additional customer resources.

Escalating to the years 2022, 2023, and 2024 results in an annual cost of \$1,709,355, \$1,752,089, and \$1,795,892 respectively for a total of \$5,257,336. The annual escalated costs were divided evenly over each physical security PID for inclusion in the RO model.

Table 5-B CWS Physical Security Upgrades 2019, 2020, and 2021²¹⁹

			Total Co		
PID Description	Year (Settlement)	CWS Application	Settlement	Recorded	Forecasted
117207 BK 2019 Physical Security Upgrades	2019	\$ 380,795	\$ 373,509	\$ -	
117208 BK 2020 Physical Security Upgrades	2020	\$ 547,331	\$ 540,743	\$ -	
117213 BK 2021 Physical Security Upgrades	2021	\$ 508,663	\$ 510,202	Ş -	
117232 BG 2019 Physical Security Upgrades	2019	\$ 329,522	\$ 324,137	ې - د	
117234 BG 2020 Physical Security Upgrades	2020	\$ 333,197	\$ 330,138	> - ¢ .	
117237 BG 2021 Physical Security Upgrades	2021	\$ 384,110	\$ 500,500	> - \$ 94.007	
117228 2020 CH Physical Security Upgrades	2019	\$ 144 157	\$ 142,609	\$ 84,007	
117230 CH 2021 Physical Security Upgrades	2020	\$ 121 245	\$ 121 772	с. с.	
117142 DIX 2019 Physical Security Upgrades	2019	\$ 30,028	\$ 29,469	\$ -	
117143 DIX 2020 Physical Security Upgrades	2020	\$ 68,421	\$ 67,636	\$ -	
117144 DIX 2021 Physical Security Upgrades	2021	\$ 84,066	\$ 84,369	\$ -	
117173 ELA 2019 Physical Security Upgrades	2019	\$ 130,595	\$ 127,735	\$ 144,103	
117179 ELA 2020 Physical Security Upgrades	2020	\$ 33,898	\$ 33,399	\$ 45,541	
117182 ELA 2021 Physical Security Upgrades	2021	\$ 156,044	\$ 156,093	\$ -	\$177,559.39
117185 HR 2019 Physical Security Upgrades	2019	\$ 410,078	\$ 334,687	\$ -	\$460,636.00
117187 HR 2020 Physical Security Upgrades	2020	\$ 290,855	\$ 287,442	\$ -	\$296,297.00
117188 HR 2021 Physical Security Upgrades	2021	\$ 398,769	\$ 400,099	\$ -	\$408,596.25
117042 KC 2019 Physical Security Upgrades	2019	\$ 78,495	\$ 77,481	\$ -	\$ 86,038.00
117043 KC 2020 Physical Security Upgrades	2020	\$ 23,096	\$ 22,958	ş -	\$ 24,494.00
117044 KC 2021 Physical Security Upgrades	2021	\$ 1,567	\$ 1,582	Ş -	* • • • • • • • • • • • • • • • • • • •
117039 LIV 2019 Physical Security Upgrades	2019	\$ 339,269	\$ 333,053	Ş -	\$335,000.00
117040 LIV 2020 Physical Security Upgrades	2020	\$ 295,208	\$ 291,911	ې - د	\$ 302, 142.00
117041 LIV 2021 Physical Security Upgrades	2021	\$ 330,117 \$ 299,702	\$ 221,252	> - ¢ 250 214	
117219 LAS 2019 Physical Security Upgrades	2019	\$ 288,793	\$ 204,134	\$ 259,514	
117225 LAS 2020 Physical Security Upgrades	2020	\$ 318 737	\$ 320,693		
117216 MBL 2019 Physical Security Upgrades	2019	\$ 57,160	\$ 56,230	с. с.	\$ 61 511 49
117217 MRI 2020 Physical Security Upgrades	2020	\$ 79.173	\$ 78,446	š -	\$ 01,011.10
117218 MRL 2021 Physical Security Upgrades	2021	\$ 25,294	\$ 25,444	÷ -	\$ 25.948.23
117224 ORO 2020 Physical Security Upgrades	2020	\$ 83,807	\$ 82,939	\$ -	\$ 65,000.00
117226 ORO 2021 Physical Security Upgrades	2021	\$ 116,933	\$ 117,485	\$ -	
117238 SLN 2019 Physical Security Upgrades	2019	\$ 186,377	\$ 183,090	\$ -	\$190,000.00
117249 SLN 2020 Physical Security Upgrades	2020	\$ 240,523	\$ 237,995	\$ -	
117251 SLN 2021 Physical Security Upgrades	2021	\$ 177,988	\$ 74,556	\$ -	
117257 SEL 2019 Physical Security Upgrades	2019	\$ 19,992	\$ 19,649	\$ 36,510	
117259 SEL 2020 Physical Security Upgrades	2020	\$ 56,826	\$ 56,249	\$ 121,944	
117269 SEL 2021 Physical Security Upgrades	2021	\$ 68,103	\$ 68,440	\$ -	\$ 69,587.00
116837 STK 2019 Physical Security Upgrades	2019	\$ 392,369	\$ 384,725	\$ -	
117176 STK 2020 Physical Security Upgrades	2020	\$ 407,852	\$ 402,840	\$ -	
117195 STK 2021 Physical Security Upgrades	2021	\$ 590,473	\$ 592,109	\$ -	
117229 VIS 2019 Physical Security Upgrades	2019	\$ 227,302	\$ 222,980	Ş -	\$230,138.00
117233 VIS 2020 Physical Security Upgrades	2020	\$ 139,961	\$ 138,293	\$ 131,519	# 400 000 00
117235 VIS 2021 Physical Security Upgrades	2021	\$ 143,672	\$ 144,124	> - ¢	\$ 160,880.00
117258 WIL 2021 Physical Security Upgrades	2021	\$ 30,347	\$ 50,490		\$ 31,188.00
117313 WIL 2020 Physical Security Upgrade	2019	\$ 33,800	\$ 32,845		\$ 41,000.00
117192 PV 2019 Physical Security Upgrades	2019	\$ 135,956	\$ 133 149	с. с.	\$ 137 160 00
117193 PV 2020 Physical Security Upgrades	2020	\$ 287.563	\$ 283,682	ŝ -	\$ 293,856.00
117194 PV 2021 Physical Security Upgrades	2021	\$ 322.754	\$ 323,253	ŝ -	\$331,737,93
117196 WLK 2019 Physical Security Upgrades	2019	\$ 41,662	\$ 40,915	\$ -	\$ 30,789.00
117197 WLK 2020 Physical Security Upgrades	2020	\$ 152,209	\$ 150,554	\$ 118,890	
117198 WLK 2021 Physical Security Upgrades	2021	\$ 73,797	\$ 74,108	\$ -	\$ 90,000.00
117200 DOM 2019 Physical Security Upgrades	2019	\$ 315,188	\$ 308,974	\$ -	\$357,638.26
117203 DOM 2020 Physical Security Upgrades	2020	\$ 261,156	\$ 257,866	\$ -	\$266,450.26
117211 DOM 2021 Physical Security Upgrades	2021	\$ 111,271	\$ 111,545	\$ -	\$114,188.17
116308 Antelope Valley SCADA Implementation	2019	\$ 336,713	\$ 330,536	\$ 57,722	
117183 AV 2019 Physical Security Upgrades	2019	\$ 26,721	\$ 26,230	Ş -	
117186 AV 2020 Physical Security Upgrades	2020	\$ 30,463	\$ 30,120	\$ -	
117189 AV 2021 Physical Security Upgrades	2021	\$ 62,400	\$ 62,637	\$ -	
117243 KRV 2019 Physical Security Upgrades	2019	\$ 97,404	\$ 91,507	Ş -	\$112,970.75
117256 KRV 2020 Physical Security Upgrades	2020	> 133,998	> 132,553	 -	
117256 KRV 2021 Physical Security Opgrades	2021	\$ 85,168	\$ 85,534	ې - د	
117263 RDV 2019 Physical Security Upgrades	2019	\$ 21 526	\$ 21 226	\$ _	
117265 RDV 2020 Physical Security Upgrades	2019	\$ 77 111	\$ 76.547	\$ -	
117268 LUC-147 2021 Physical Security Upgr	2021	\$ 92.654	\$ 93.378	\$ -	
117357 RDV 2019 Security - LUC CSC	2019	\$ 60.391	\$ 59.521	\$ -	
117342 COS-148 2020 Physical Security Upgr	2020	\$ 20,371	\$ 20,215	\$ -	
117162 BAY 2019 Physical Security Upgrades	2019	\$ 55,340	\$ 54,417	\$ 54,057	
117165 MPS 2020 Physical Security Upgrades	2020	\$ 134,913	\$ 133,630	\$ -	
117169 SSF 2021 Physical Security Upgrades	2021	\$ 372,983	\$ 375,069	\$ -	
117282 SSF 2020 Physical Security Upgrades	2020	\$ 3,180	\$ 3,150	\$ -	
117284 MPS 2021 Physical Security Upgrades	2021	\$ 64,765	\$ 65,127	\$ -	
117341 ARM-148 2020 Physical Security Upgr	2020	\$ 73,091	\$ 72,696	\$ -	\$ 77,674.99
117344 HKN-150 2020 Physical Security Upg	2020	\$ 786	\$ 782	Ş -	
117345 RDV-ARM 2021 Physical Security Upgr	2021	\$ 94,731	\$ 95,655	Ş -	A
		\$ 13,141,503	\$12,752,288	\$ 1,053,609	5 4,778,479

²¹⁹ CWS Response to Public Advocates Office Data Request SIB-015, Attachment #2 2018 GRC

District/Region	Sett	lement Approved	Red	corded	Foi	recasted	Tot	al	Total as % of Settlement
Bakersfield	\$	1,424,454	\$	-	\$	-	\$	-	0%
Bear Gulch	\$	1,040,661	\$	-	\$	-	\$	-	0%
Chico	\$	341,497	\$	84,007	\$	-	\$	84,007	25%
Dixon	\$	181,474	\$	-	\$	-	\$	-	0%
East Los Angeles	\$	317,227	\$	189,645	\$	177,559	\$	367,204	116%
Hermosa Redondo	\$	1,022,228	\$	-	\$1	,165,529	\$1	,165,529	114%
King City	\$	102,021	\$	-	\$	110,532	\$	110,532	108%
Livermore	\$	846,216	\$	-	\$	637,142	\$	637,142	75%
Los Altos	\$	930,778	\$	259,314	\$	-	\$	259,314	28%
Marysville	\$	160,120	\$	-	\$	87,460	\$	87,460	55%
Oroville	\$	200,424	\$	-	\$	65,000	\$	65,000	32%
Salinas	\$	495,641	\$	-	\$	190,000	\$	190,000	38%
Selma	\$	144,338	\$	158,455	\$	69,587	\$	228,042	158%
Stockton	\$	1,379,674	\$	-	\$	-	\$	-	0%
Visalia	\$	505,397	\$	131,519	\$	391,018	\$	522,537	103%
Willows	\$	96,622	\$	-	\$	72,186	\$	72,186	75%
Palos Verdes	\$	740,084	\$	-	\$	762,754	\$	762,754	103%
Westlake	\$	265,577	\$	118,890	\$	120,789	\$	239,679	90%
Dominguez	\$	678,385	\$	-	\$	738,277	\$	738,277	109%
Antelope Valley	\$	449,523	\$	57,722	\$	-	\$	57,722	13%
Kern River Valley	\$	309,594	\$	-	\$	112,971	\$	112,971	36%
Redwood Valley (RDV)	\$	48,940	\$	-	\$	-	\$	-	0%
RDV - Lucerne	\$	250,672	\$	-	\$	-	\$	-	0%
RDV - Coast Springs	\$	20,215	\$	-	\$	-	\$	-	0%
Bayshore	\$	631,393	\$	54,057	\$	-	\$	54,057	9%
RDV - Unified Area	\$	169,133	\$	-	\$	77,675	\$	77,675	46%
Total	\$	12,752,288	\$1	,053,609	\$4	,778,479	\$5	5,832,087	46%

 Table 5-C Settlement Budget vs Recorded/Forecasted²²⁰

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Recorded and Forecasted Projects.

²²⁰ CWS Response to Public Advocates Office Data Request SIB-015, Attachment #2 2018 GRC Recorded and Forecasted Projects.
	a		_		-	
District/Region	Settlem	ent Approved	For	ecast+Recorded	Re	quested
Bakersfield	\$	1,424,454	\$	-	\$	2,408,192
Bear Gulch	\$	1,040,661	\$	-	\$	1,408,395
Chico	\$	341,497	\$	84,007	\$	386,301
Dixon	\$	181,474	\$	-	\$	249,766
East Los Angeles	\$	317,227	\$	367,204	\$	516,575
Hermosa Redondo	\$	1,022,228	\$	1,165,529	\$	614,979
King City	\$	102,021	\$	110,532	\$	222,018
Livermore	\$	846,216	\$	637,142	\$	1,174,730
Los Altos	\$	930,778	\$	259,314	\$	2,002,218
Marysville	\$	160,120	\$	87,460	\$	172,556
Oroville	\$	200,424	\$	65,000	\$	158,848
Salinas	\$	495,641	\$	190,000	\$	968,746
Selma	\$	144,338	\$	228,042	\$	268,504
Stockton	\$	1,379,674	\$	-	\$	1,452,989
Visalia	\$	505,397	\$	522,537	\$	764,578
Willows	\$	96,622	\$	72,186	\$	108,571
Palos Verdes	\$	740,084	\$	762,754	\$	964,216
Westlake	\$	265,577	\$	239,679	\$	311,342
Dominguez	\$	678,385	\$	738,277	\$	333,453
Antelope Valley	\$	449,523	\$	57,722	\$	100,764
Kern River Valley	\$	309,594	\$	112,971	\$	591,578
Redwood Valley (RDV)	\$	488,960	\$	77,675	\$	218,573
Bayshore	\$	631,393	\$	54,057	\$	861,149
Total	\$	12,752,288	\$	5,832,087	\$	16,259,041

 Table 5-D Previous vs Currently Requested Physical Security Budgets^{221,222}

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B. CWS Incident Tracking

While CWS only completed a portion of the work it was supposed to, CWS did finish some security upgrades. To understand the effectiveness of CWS' physical security program, Cal Advocates requested a breakdown of security incidents before and after security measures were installed at various sites. Cal Advocates expected data to be available showing the effectiveness of past projects. However, CWS responded to this

²²¹ CWS Response to Public Advocates Office Data Request SIB-015, Attachment #2 2018 GRC Recorded and Forecasted Projects.

²²² CWS Capital Project Justifications, Physical Security Justifications and Other Matters Public Version p.vi

request for information by casually noting that it "thoroughly recognizes the need to
 document and track physical security incidents."²²³

3 Despite recognizing the importance of documenting and tracking physical security 4 incidents, CWS did not deploy a tracking tool until January 2021. CWS further stated 5 that prior to the activation of the tool "the company did not have a formal tracking system which could be audited."²²⁴ Given this lack of data, it is impossible for Cal Advocates to 6 make an objective assessment of CWS' physical security program. CWS agrees that an 7 8 objective source of data on physical security incidents is necessary as it stated repeatedly 9 in its data request responses that it "recognizes the importance" of accurate physical security incident tracking data.²²⁵ 10

By reducing the physical security budget, the Commission would give CWS time to obtain the necessary data and present it to the Commission in its next GRC. The data would allow the Commission to make a more informed recommendation on CWS' need for security upgrades and further adjustments to its proposed capital budgets.

15 IV. CONCLUSION

16 The Commission should authorize \$5,257,336 in direct costs for physical security 17 upgrades for the years 2022 to 2024. This amount is reasonable based on CWS' actual 18 completion of physical security projects. The Commission should also require CWS to 19 collect information demonstrating the effectiveness of its completed security measures as 20 a condition of authorizing additional increases in customer funding.

²²³ CWS Response to Public Advocates Office Data Request SIB-015, #3.e.

²²⁴ CWS Response to Public Advocates Office Data Request SIB-015, #3.e.

²²⁵ CWS Response to Public Advocates Office Data Request SIB-015, #3.e.

 1
 Attachment 1-1: Qualifications of Witness

 2

1		QUALIFICATIONS AND PREPARED TESTIMONY
2		OF
3		Suliman Ibrahim
4		
5	Q.1	Please state your name and address.
6	A.1	My name is Suliman Ibrahim and my business address is 320 West 4 th Street, Suite
7		500, Los Angeles, California 90013.
8		
9	Q.2	By whom are you employed and what is your job title?
10	A.2	I am a Utilities Engineer in the Water Branch of the Public Advocates Office.
11		
12	Q.3	Please describe your educational and professional experience.
13	A.3	I am a licensed Professional Civil Engineer. I graduated from the Illinois Institute
14		of Technology with a Bachelor of Science Degree in Biology. I also have a
15		Master of Science degree in Civil Engineering from California State University,
16		Fullerton. I have been employed at the CPUC since May 2019. Prior to joining
17		the CPUC, I worked in the environmental remediation field and have worked on
18		various treatment systems and remediation projects.
19		
20	Q.4	What is your area of responsibility in this proceeding?
21	A.4	I am responsible for Allocations and Plant for CSS & RDOM District, Pipeline
22		Replacement, and Physical Security.
23		
24	Q.5	Does that complete your prepared testimony?
25	A.5	Yes

Attachment 1-2: Capital Budget Summaries

Table 1-2-A: Capital Budget Summary

Customer Support Services District Plant Additions, including Carryovers and Non-Specifics

Customer Support Services	2022	2023	2024	Annual Average
Cal Advocates	\$ 4,264,161	\$ 7,984,312	\$19,122,257	\$ 10,456,910
CWS	\$20,709,070	\$15,472,466	\$33,496,615	\$ 23,226,050
CWS > Cal Advocates	\$16,444,909	\$ 7,488,154	\$14,374,357	\$ 12,769,140
Cal Advocates as % CWS	20.59%	51.60%	57.09%	43.09%

Table 1-2-B: Capital Budget Summary

Rancho Dominguez District Plant Additions, including Carryovers and Non-Specifics

Rancho Dominguez	2022	2023	2024	Annual Average		
Cal Advocates	\$ 1,235,124	\$ 399,475	\$ 341,898	\$ 658,833		
CWS	\$ 1,451,535	\$ 593,592	\$ 475,307	\$ 840,145		
CWS > Cal Advocates	\$ 216,411	\$ 194,117	\$ 133,409	\$ 181,312		
Cal Advocates as % CWS	85.09%	67.30%	71.93%	74.77%		

2022	Work Order #	Project Description	Cal Advocates	cws	CWS > Cal Advocates	Cal Advocates / CWS
2022	00125327	CSS Survey Equipment for Eng South	\$ 35,574	\$ 35,574	\$ -	100.00%
2022	00124403	CSS 2022 AM Large Tools	\$ 99,809	\$ 99,809	\$ -	100.00%
2022	00125030	CSS Dist. System Integrity Tools	\$ 74,369	\$ 81,806	\$ 7,437	90.91%
2022	00125062	CSS Tank Inspection Tools ROV	\$ 34,580	\$ 38,038	\$ 3,458	90.91%
2022	00125096	CSS 2022 Portable Large Test Meter	\$ 26,266	\$ 28,892	\$ 2,627	90.91%
2022	00125097	CSS Portable SCADA Radio Tower	\$ 62,614	\$ 62,614	\$ -	100.00%
2022	00125041	CSS AutoCAD AECC Subscriptions	\$ 42,051	\$ 42,051	\$ -	100.00%
2022	00125055	CSS Bluebeam Software	\$ 28,660	\$ 28,660	\$ -	100.00%
2022	00124816	CSS CAMPUS SECURITY FENCING	\$ -	\$ 1,232,121	\$ 1,232,121	0.00%
2022	00124853	CSS Energy Efficiency - HVAC	\$ -	\$ 756,046	\$ 756,046	0.00%
2022	00124968	CSS-SC RCC PHASE 2 OFFICE SP. BUILD	\$ 330,960	\$ 397,152	\$ 66,192	83.33%
2022	00124855	CSS Media Center - Furniture	\$ 47,465	\$ 52,211	\$ 4,746	90.91%
2022	00124543	CSS PC Refresh 2022	\$ 241,462	\$ 789,710	\$ 548,248	30.58%
2022	00123734	CSS 2022 Vehicle Replacemnt Program	\$ 182,731	\$ 541,718	\$ 358,986	33.73%
2022	00124667	CSS Meter Reading Handheld Replace	\$ 251,000	\$ 552,933	\$ 301,933	45.39%
2022	00124562	CSS 2022 Network Hardware Replacmt.	\$ 296,907	\$ 326,597	\$ 29,691	90.91%
2022	00124605	CSS SCADA Server & Network Replace	\$ 304,681	\$ 335,149	\$ 30,468	90.91%
2022	00124615	CSS Database Encryption Software	\$ 641,772	\$ 921,657	\$ 279,885	69.63%
2022	00124547	CSS 2022 Website Enhancements	\$ 105,062	\$ 115,569	\$ 10,506	90.91%
2022		Specific Total	\$ 2,805,963	\$ 6,438,306	\$ 3,632,343	43.58%
2022	330-NON-SP	Non-specific Total	\$ 1,458,198	\$ 1,822,748	\$ 364,550	80.00%
2022		Carry-Over Total	\$ -	\$ 12,448,017	\$ 12,448,017	0.00%
		TOTAL 2022	\$ 4,264,161	\$ 20,709,070	\$ 16,444,909	20.59%

Table 1-2-C: Capital Budget Summary Customer Support Services 2022

2023	Work Order #	Project Description	Cal Advocates	CWS	CWS > Cal Advocates	Cal Advocates / CWS
2023	00124888	LIV Portable Booster Pump	\$ 97,008	\$ 97,008	\$ -	100.00%
2023	00124406	CSS 2023 AM Large Tools	\$ 102,305	\$ 102,305	\$ -	100.00%
2023	00125065	CSS GPS Basestations	\$ 149,877	\$ 159,433	\$ 9,556	94.01%
2023	00125068	CSS Three Dimensl. (3D) GIS - Pilot	\$ 61,272	\$ 61,272	\$ -	100.00%
2023	00125099	CSS 2023 Portable Large Test Meter	\$ 26,922	\$ 29,615	\$ 2,692	90.91%
2023	00125007	CSS Hydraulic Model Rebuild	\$ 897,385	\$ 897,385	\$ -	100.00%
2023	00124815	CSS OPEN OFFICE ACOUSTICS	\$ 470,318	\$ 564,382	\$ 94,064	83.33%
2023	00124817	CSS ADDITIONAL EV CHARGERS	\$ 258,113	\$ 309,736	\$ 51,623	83.33%
2023	00124818	CSS BLDG A SPACE IMPROVEMENTS	\$ 1,291,592	\$ 1,549,910	\$ 258,318	83.33%
2023	00124856	CSS Replace Building Eaves	\$ 227,835	\$ 273,402	\$ 45,567	83.33%
2023	00124857	CSS Access Control System	\$ 211,777	\$ 254,133	\$ 42,355	83.33%
2023	00124909	CSS - RDOM 2ND FLOOR IMPROVEMENTS	\$ -	\$ 582,937	\$ 582,937	0.00%
2023	00124910	CSS-WATER QUALITY SATELLITE LAB	\$ -	\$ 3,668,420	\$ 3,668,420	0.00%
2023	00123737	CSS 2023 Vehicle Replacemnt Program	\$ 579,476	\$ 1,079,207	\$ 499,731	53.69%
2023	00124576	CSS 2023 Network Hardware Replacmt.	\$ 304,329	\$ 334,762	\$ 30,433	90.91%
2023	00124609	CSS 2023 SCADA Server Replacement	\$ 305,837	\$ 336,421	\$ 30,584	90.91%
2023	00124544	CSS PC Refresh 2023	\$ 992,770	\$ 789,549	\$ (203,221)	125.74%
2023	00124551	CSS 2023 Website Enhancements	\$ 107,689	\$ 118,458	\$ 10,769	90.91%
2023	00125088	CSS RO Model Improvements	\$ 267,069	\$ 293,776	\$ 26,707	90.91%
2023	00125105	CSS Install high volume printer	\$ 13,120	\$ 14,432	\$ 1,312	90.91%
2023	00124445	CSS Climate Change Study	\$ -	\$ 427,284	\$ 427,284	0.00%
2023	CSSCompVeh	CSS Vehicle for Proposed Complement	\$ -	\$ -	\$ -	0.00%
2023	00124754	CSS Recycled Water Strategic Plan	\$ 124,972	\$ 137,469	\$ 12,497	90.91%
2023		Specific Total	\$ 6,489,667	\$ 12,081,295	\$ 5,591,628	53.72%
2023	330-NON-SP	Non-specific Total	\$ 1,494,645	\$ 1,868,306	\$ 373,661	80.00%
2023		Carry-Over Total	\$ -	\$ 1,522,864	\$ 1,522,864	0.00%
		TOTAL 2023	\$ 7,984,312	\$ 15,472,466	\$ 7,488,154	51.60%

Table 1-2-D: Capital Budget Summary Customer Support Services 2023

2024	Work Order #	Project Description	Cal Advocates			CWS	CWS > Cal Advocates	Cal Advocates / CWS
2024	00124633	CSS Portable Booster Pumps	\$	187,737	\$	187,737	\$ -	100.00%
2024	00124409	CSS 2024 AM Large Tools	\$	104,862	\$	104,862	\$ -	100.00%
2024	00125100	CSS 2024 Portable Large Test Meter	\$	27,595	\$	30,355	\$ 2,760	90.91%
2024	00124978	CSS Energy Management System	\$	439,940	\$	527,928	\$ 87,988	83.33%
2024	00123739	CSS 2024 Vehicle Replacement Progrm	\$	172,850	\$	427,145	\$ 254,295	40.47%
2024	00124273	CSS PeopleSoft FS&PeopleTools Upgr.	\$	-	\$	616,107	\$ 616,107	0.00%
2024	00124278	CSS Workday Ongoing Enhancements	\$	282,203	\$	310,423	\$ 28,220	90.91%
2024	00124473	CSS Automate HR Bidding Process	\$	282,203	\$	310,423	\$ 28,220	90.91%
2024	00124483	CSS Digitize Hist. Personnel Rec.	\$	242,350	\$	266,585	\$ 24,235	90.91%
2024	00124485	CSS Integrate Data- Dashboard Tool	\$	565,482	\$	622,031	\$ 56,548	90.91%
2024	00124488	CSS Procurement Process Improvm.	\$	-	\$	917,525	\$ 917,525	0.00%
2024	00124489	CSS Inventory Management System	\$	-	\$	603,784	\$ 603,784	0.00%
2024	00124669	CSS EAM GIS Modernization	\$	1,061,944	\$	1,168,138	\$ 106,194	90.91%
2024	00124682	CSS Cust. Serv. Analytics Software	\$	198,651	\$	218,516	\$ 19,865	90.91%
2024	00124691	CSS EWWM-Buildout of Integration	\$	799,179	\$	879,097	\$ 79,918	90.91%
2024	00124692	CSS EAM-Work Digitization,Analytics	\$	1,817,053	\$	1,998,759	\$ 181,705	90.91%
2024	00124693	CSS CC&B Cloud Upgrade	\$	7,055,380	\$	14,119,326	\$ 7,063,945	49.97%
2024	00124696	CSS Omni-channel Customer Serv. SW	\$	-	\$	750,308	\$ 750,308	0.00%
2024	00124699	CSS Customer Feedback Mngmt. System	\$	538,555	\$	592,410	\$ 53,855	90.91%
2024	00124700	CSS Compliance Monitorng Analytics	\$	107,453	\$	118,198	\$ 10,745	90.91%
2024	00124702	CSS Op. Data Management System	\$	1,646,110	\$	1,810,721	\$ 164,611	90.91%
2024	00124703	CSS LIMS Software Enhancements	\$	269,277	\$	296,205	\$ 26,928	90.91%
2024	00124601	CSS 2024 Network Hardware Replacem.	\$	311,937	\$	343,131	\$ 31,194	90.91%
2024	00124611	CSS 2024 SCADA Server Replacement	\$	314,587	\$	346,045	\$ 31,459	90.91%
2024	00124612	CSS UPS and Storage Replacement	\$	30,452	\$	576,836	\$ 546,384	5.28%
2024	00124496	CSS Zoom Video Conference	\$	-	\$	612,511	\$ 612,511	0.00%
2024	00124545	CSS PC Refresh 2024	\$	485,450	\$	809,288	\$ 323,838	59.98%
2024	00124552	CSS 2024 Website Enhancements	\$	110,381	\$	121,419	\$ 11,038	90.91%
2024	00124491	CSS Identity Access Managmt. System	\$	-	\$	710,892	\$ 710,892	0.00%
2024	00124492	CSS SCADA security system	\$	215,422	\$	236,964	\$ 21,542	90.91%
2024	00124493	CSS Next Gen. Data Loss Prevention	\$		\$	592,410	\$ 592,410	0.00%
2024	00124805	CSS Next Generation Vulnerab. Scan	\$	323,133	\$	355,446	\$ 32,313	90.91%
2024		Specific Total	\$	17,590,188	\$	31,581,528	\$ 13,991,340	55.70%
2024	330-NON-SP	Non-specific Total	\$	1,532,070	\$	1,915,087	\$ 383,017	80.00%
2024		Carry-Over Total	\$	-	\$	-	\$ -	0.00%
		TOTAL 2024	\$	19,122,257	\$	33,496,615	\$ 14,374,357	57.09%

 Table 1-2-E: Capital Budget Summary Customer Support Services

2022	Work Order #	Project Description	Cal Advocates		Cal Advocates CWS		CWS > Cal Advocates		Cal Advocates / CWS
2022	00124137	RD Office Improvements 2022	\$	16,705	\$	18,375	\$	1,670	90.91%
2022	00124312	RD Replace Signage	\$	42,250	\$	46,475	\$	4,225	90.91%
2022	00125170	Car Port/Cover For Vehicle Maint.	\$	42,025	\$	47,152	\$	5,127	89.13%
2022	00125171	Install Cover Over Spoils/Dump Area	\$	63,037	\$	70,728	\$	7,691	89.13%
2022	00125490	RD Replace 1st floor bathrooms	\$	15,759	\$	17,335	\$	1,576	90.91%
2022	00125543	RD Refurbish/Replace Clarifier	\$	71,443	\$	71,443	\$	-	100.00%
2022	00123765	RD 2022 Vehicle Replacement Program	\$	89,890	\$	184,481	\$	94,591	48.73%
2022	00123882	RD 2022 CARB Vehicle Replacement	\$	664,316	\$	730,748	\$	66,431	90.91%
2022	00125186	RD Purch. Meter Reading Handhelds	\$	62,407	\$	69,341	\$	6,934	90.00%
2022	00125195	RD 2022 Hand Tools	\$	10,506	\$	10,506	\$	-	100.00%
2022	00125198	RD 2022 Air Tools	\$	31,519	\$	31,519	\$	-	100.00%
2022	00125532	RD New Copier For Operations	\$	21,012	\$	23,114	\$	2,101	90.91%
2022		Specific Total	\$	1,130,870	\$	1,321,217	\$	190,347	85.59%
2022	151-NON-SP	Non-specific Total	\$	104,255	\$	130,319	\$	26,064	80.00%
2022		Carry-Over Total	\$	-	\$	-	\$	-	0.00%
		TOTAL 2022	\$	1,235,124	\$	1,451,535	\$	216,411	85.09%

 Table 1-2-F: Capital Budget Summary Rancho Dominguez District 2022

 Table 1-2-G: Capital Budget Summary Rancho Dominguez District 2023

2023	Work Order #	Project Description	Cal Advocates	CWS	CWS > Cal Advocates	Cal Advocates / CWS
2023	00124224	RD Office Improvements 2023	\$ 17,123	\$ 18,835	\$ 1,712	90.91%
2023	00124260	RD Slurry /Re-Stripe Back Park. Lot	\$ 23,907	\$ 26,298	\$ 2,391	90.91%
2023	00123766	RD 2023 Vehicle Replacement Program	\$ 208,572	\$ 371,887	\$ 163,314	56.08%
2023	00125196	RD 2023 Hand Tools	\$ 10,769	\$ 10,769	\$ -	100.00%
2023	00125199	RD 2023 Air Tools	\$ 32,307	\$ 32,307	\$ -	100.00%
2023		Specific Total	\$ 292,677	\$ 460,095	\$ 167,417	63.61%
2023	151-NON-SP	Non-specific Total	\$ 106,798	\$ 133,497	\$ 26,699	80.00%
2023		Carry-Over Total	\$ -	\$ -	\$ -	0.00%
		TOTAL 2023	\$ 399,475	\$ 593,592	\$ 194,117	67.30%

Table 1-2-H:	Capital Budget Summary	v Rancho Dominguez	District 2024

2024	Work Order #	Project Description	Cal Advocates	cws	CWS > Cal Advocates	Cal Advocates / CWS
2024	00124228	RD Office Improvements 2024	\$ 17,551	\$ 19,306	\$ 1,755	90.91%
2024	00123768	RD 2024 Vehicle Replacement Program	\$ 170,724	\$ 275,011	\$ 104,286	62.08%
2024	00125197	RD 2024 Hand Tools	\$ 11,038	\$ 11,038	\$ -	100.00%
2024	00125200	RD 2024 Air Tools	\$ 33,114	\$ 33,114	\$ -	100.00%
2024		Specific Total	\$ 232,428	\$ 338,469	\$ 106,041	68.67%
2024	151-NON-SP	Non-specific Total	\$ 109,471	\$ 136,839	\$ 27,368	80.00%
2024		Carry-Over Total	\$ -	\$ -	\$ -	0.00%
		TOTAL 2024	\$ 341,898	\$ 475,307	\$ 133,409	71.93%

Attachment 1-3: Data Request Responses



RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office								
	Brian Yu, P.E.	Phone: (213) 576-7075							
	Project Coordinator	Email: <u>byu@cpuc.ca.gov</u>							
	Suliman Ibrahim	Phone: (213) 226-4714							
	Utilities Engineer	Email: suliman.ibrahim@cpuc.ca.gov							
	Marybelle Ang	Phone: (415) 696-7329							
	Attorney for CPUC	Email: marybelle.ang@cpuc.ca.gov							
	Carvn L. Mandelbaum	Phone: (213) 620-6456							
	Attorney for CPUC	Email: <u>caryn.mandelbaum@cpuc.ca.gov</u>							
F									
From:		Phone: (408) 367-8489							
	Vice President, California Rates	Email: gmilleman@calwater.com							
	Natalie D. Wales	Phone: (408) 367-8566							
	Director, Regulatory Policy &	Email: <u>nwales@calwater.com</u>							
	Compliance								
	Patrick Alexander	Phone: (108) 367-8230 ext 78230							
	General Rate Case Manager	Email: nalevander@calwater.com							
	General Nate Case Manager								
Date:	August 5, 2021	Request Received from CPUC: July 26, 2021							
Re:	Partial Response #2 (Final) to SIB-002								
		Requested Due Date: August 3, 2021							
Subj:	Non-Regulated Revenue	Partial Extension: August 5, 2021							

Comments:

- No information in this response is identified as confidential.
- Adds responses for Question 1 regarding West Basin, and for Question 2(f) regarding Commerce.

Data Requests and Responses

- 1. On page 46 of Cal Water's Unregulated and Affiliate Report, Cal Water states "Ten Percent (10%) of gross revenues from activities classified as "active" must be shared with rate payers." In Section III of the same report on pages 41 to 45, Cal Water includes Non-Regulated Operating Income Statements for the years 2016 to 2020. These income statements classify activities as active or passive and provide revenue and revenue sharing amounts. For several of the active activities listed, revenue sharing is less than 10% of gross revenue. For example, in 2020, revenue from the City of Hawthorne Lease is listed as \$10,458,289 and revenue sharing is only \$515,946 or approximately 5% of gross revenue. Revenue sharing for the City of Commerce Lease is even lower at approximately 3% of gross revenue. For each activity between 2016 and 2020 including but not limited to, the City of Commerce Lease for all the years, the Bakersfield Treatment Plant for all the years, West Basin in 2018 and 2019, Crane Ridge in 2020, and any other instance between 2016 and 2020 where revenue sharing is less than 10% of gross revenue sharing is less than 10% of gross revenue sharing is less than 10% of gross revenue sharing is less than 2016 and 2020 where revenue sharing is less than 10% of gross revenue sharing is less than 2016 and 2020 where revenue sharing is less than 10% of gross revenue sharing is less than 2018 and 2019, Crane Ridge in 2020, and any other instance between 2016 and 2020 where revenue sharing is less than 10% of gross revenue, please:
 - a. Explain why revenue sharing is less than the 10% set by the Commission.
 - b. Provide a complete accounting in Microsoft Excel format of how Cal Water arrived at its revenue sharing numbers.
 - c. Identify any pass-through costs that are deducted from gross revenues.
 - d. Provide support for why the costs from part (c) above are identified as pass-through costs, including the specific contract identifying the costs as pass-through costs, and proof that the costs do not include any cost "mark-up" such as invoices.

Responses to (a) through (d): Cal Water identified the following contracts that have a revenue-sharing amount that is less than 10% of revenues in 2016-2020. Cal Water responds to the sub-parts of this question as they apply to each contract.

Note that the actual revenue sharing for the below contracts is higher than the amounts provided in the attached workpapers. This is because the first \$100K of unregulated revenues Cal Water receives each year is shared fully (100%) with customers through an allocation across all active contracts. The revenue sharing of 10% or 30% is then added on top.

- City of Commerce (2016-2020):
 - Attachment "Q1a 2016-2020 Revenue Share-HAW & COM" shows how the revenue sharing associated with the Commerce contract was calculated for each year. The costs for pump taxes, purchased water, and purchased power are separately identified and removed from the revenue subject to the 10% revenue sharing.
 - These exclusions are consistent with Section 6.1(b)(ii) in the contract provided as attachment "Q1a Contract - City of Commerce," where "pass through costs" over which Cal Water "has no substantial control" are specifically identified.



- A list of the pump tax, purchased water, and purchased power charges in 2020 are provided in attachment "Q1a 2020 Commerce - pass-through cost detail." To the extent Cal Advocates would like to view individual invoices, please identify the invoices and Cal Water can pull them. Similarly, please indicate if the same data lists for previous years are requested.
- City of Hawthorne (2016-2020):
 - Attachment "Q1b 2016-2020 Revenue Share-HAW & COM" shows how the revenue sharing associated with the Hawthorne contract was calculated for each year. The costs for pump taxes, purchased water, and purchased power are separately identified and removed from the revenue subject to the 10% revenue sharing.
 - These exclusions are consistent with Section 6 in the contract provided as attachment "Q1b Contract - City of Hawthorne," where "pass through costs" are specifically identified as "costs of water, power, and City-imposed fees."
 - A list of the pump tax, purchased water, and purchased power charges in 2020 are provided in attachment "Q1b 2020 Hawthorne pass-through cost detail."
 To the extent Cal Advocates would like to view individual invoices, please identify the invoices and Cal Water can pull them. Similarly, please indicate if the same data lists for previous years are requested.
- Bakersfield Treatment Plant (also known as the Northwest Treatment Plant) (2016-2020):
 - Attachment "Q1c 2016-2020 Revenue share for NWTP" are the workpapers that show how the revenue sharing associated with the NWTP contract was calculated. This contract is unusual in that Cal Water and the City of Bakersfield jointly constructed the assets at the station as described in attachment "Q1c Contract - NWTP Joint Use 7.9.2003."
 - Sections 4.2 and 4.3 of attachment "Q1c Contract NWTP Amended Joint Use 7.19.2006" describe how compensation goes to Cal Water and the City, respectively. The costs of operations are effectively shared between Cal Water and the City. Section 4.3 indicates that the price the City pays Cal Water reflects, in part, "actual operations and maintenance expenses" with no mention of a markup. (By contrast, the same section specifically allows the Commissionauthorized rate of return to be applied to capital costs).
 - Consistent with the contract, the workpapers separately identify the costs of purchased water and purchased power, a portion of which are allocated to the City based on the water used each month. (The actual allocation is done on a monthly basis; the workpapers show the monthly average for the year.) After the pass-through expenses are removed, 10% of the revenue is shared.



- Details of the purchased water and power charges are not as easily obtained for the NWTP operations. *To the extent Cal Advocates wants a list of these charges, please identify what year(s) is requested.*
- Crane Ridge (2019-2020):
 - In early 2020, the Commission approved Cal Water's acquisition of Crane Ridge and incorporated those customers into the company's regulated Livermore District.
 - Cal Water completed a larger than usual number of "job orders" for Crane Ridge that were invoiced in 2019, resulting in annual revenue and revenue-sharing that was unusually high.
 - In early 2020, Crane Ridge disputed several invoices. An example is provided in attachment "Q1d Crane Ridge disputed invoices. As a result, Cal Water reversed some invoices in 2020, and because the contract ended with Cal Water's acquisition of Crane Ridge, the net result is negative "revenue" for 2020. This also reversed a portion of the revenue shared with ratepayers in 2019.
 - Attachment "Q1d Crane Ridge Revenue Share 2019-2020" shows several job orders highlighted in yellow in the tab for 2019. Portions of those job orders are shown as reversed in 2020. (Note that these workpapers were put together for illustrative purposes. Amounts in the "revenue sharing" column are not directly related to the specific line item they are listed on, but instead were added to the given month in which the amount was shared. Similarly, the Journal Line Descriptions are not filled in for all rows. *Please let Cal Water know if additional detail is desired*.)
- HomeServe (2016):
 - Before 2007, the unregulated California affiliate of Cal Water, CWS Utility Services (CWSUS) provided an "extended service protection" ("ESP") service to Cal Water customers to provide for emergency repairs for residential water lines. In 2007, HomeServe, an unrelated third party, purchased CWSUS's customer base and paid approximately \$1.5M over the course of 10 years through monthly installments of \$11,532.81.
 - After the Commission's affiliate/unregulated rules were adopted, Cal Water and Cal Advocates (the Division of Ratepayer Advocates, at the time) entered into a settlement resolving how the new rules would apply to Cal Water's relationship with HomeServe.
 - As shown in attachment "Q1e HomeServe D.13-02-026," the parties agreed on a one-time payment of \$2M to ratepayers (Section V of the settlement), and specified how revenues would be shared going forward (Section IV.B). Section IV.B(1) of the settlement provides for a 10% revenue sharing of the monthly



revenues Cal Water receives from HomeServe (Section IV.B(1)). Section IV.B(2) also indicates that 10% of HomeServe's ongoing "annual payment" to Cal Water would be shared. Although known to the parties at the time, however, the settlement did <u>not</u> include revenue sharing of the original transfer cost of \$1.5M that was paid over 10 years, ending in 2016.

• Attachment "Q1e 2016 Homeserve Revenue Sharing" shows how the revenue shared in 2016 is more than 10% of the annual revenue when the monthly installments for the purchase price is removed.

• West Basin (2018): 8/5/21 Response

- Attachment "Q1f West Basin Revenue Share (2018)" shows how the revenue sharing associated with the West Basin contract was calculated in 2018. In addition to a \$3000 monthly service fee, Cal Water performed operations and maintenance work as needed on a "time and materials" basis. The contract ended on June 30, 2021 and therefore is not included in the forecasted revenue sharing in the 2021 GRC.
- West Basin paid a mark-up on all costs for time and materials. As shown in Exhibit B of the contract provided as attachment "Q1f Contract - West Basin 8-1-16 to 6-30-21," the labor markup was 10%, and then an overall "administrative" mark-up of 24% was applied to all charges – labor, materials, and service charges.
- Attachment "Q1f West Basin Revenue Detail (2018)" shows that the revenue identified as subject to sharing consisted of the monthly service charge and the mark-ups of 10% and 24% discussed above. The costs of time and materials, before markup, were excluded from the revenue category as pass-through costs. In addition, there were \$38K in construction billing charges In 2018 identified as revenue that were deemed to not be subject to sharing.
- As with all incremental costs, when the costs for time and materials were incurred, they were charged directly to the non-regulated account for the West Basin contract, rather than to a regulated account.
- On page 70 of Cal Water's "General Report," Cal Water states in reference to revenue sharing, "Cal Water used the 2020 balance in this account as the basis for the projections to 2023." Please provide:
 - a. A detailed explanation of how exactly Cal Water projected revenue sharing for this rate case.

Response: Cal Water projected revenue sharing for this rate case using 2020 recorded amounts, escalated to the expense Test Year 2023. Cal Water used 2020 instead of a 5-year escalated average as its basis for forecasting because the revenue sharing amounts in 2020 are more reflective of what the latest revenue sharing is for each district.



b. Detailed copies in Microsoft Excel of the revenue sharing projections for each contract/service for each year covered by the rate case. One Excel Sheet containing all the projects is fine.

Response: Please see attachment "Q2b 2020-2023 Admin Transfer Projections." "Calw Jos" refers to Cal Water Job Orders. "Allocate manual payers commiss" refers to the commission HomeServe provides to Cal Water for those Cal Water customers who pay HomeServe directly rather than through Cal Water's billing system. "To record 10% revenue sharing" in Department 101 (BKD) is for the O&M contract with the City of Bakersfield.

c. Based on the revenue sharing from the past 5 years, revenue sharing percentage decreased significantly in 2020 for the City of Commerce lease. In 2016, 2017, 2018, and 2019 revenue sharing was between 6% and 7% of gross revenue. In 2020 revenue sharing was only 3% of gross revenue. Please explain this significant decrease in revenue sharing percentages.

Response: Early in 2020, Cal Water had to begin shifting to more purchased water as a result of PFOS detections in Commerce's well water. Over the course of the year, Cal Water discussed options with the City regarding treatment, and cost recovery for the higher purchased water costs incurred until treatment is implemented. In the meantime, attachment "Q1a 2016-2020 Revenue Share-HAW & COM" shows the significant increase in purchased water/power/pump taxes costs in 2020 (\$2,196K, as compared to \$1,200K and \$1,173K in 2019 and 2018, respectively).

d. Cal Water states on page 13 of its 2020 "Annual Report", with regards to the City of Hawthorne Lease, that "Cal Water requested rate increases of 11.7% in 2020, 11.6% in 2021, and 11.6% in 2022. On August 27, 2019, the rate increases were approved via resolution 8123." Did Cal Water factor in these rate increases when projecting City of Hawthorne Revenue sharing? If so, how did Cal Water factor in these rate increases? If not, why not?

Response: Cal Water did not factor in the rate increases into its projection for the City of Hawthorne's revenue sharing. Because of Cal Water's numerous contracts for nontariffed services, and the relatively small impact revenue sharing has on revenue requirements, Cal Water opted for a consistent and transparent methodology that could be applied across the board to all unregulated contracts.

Cal Water would consider other methodologies, but notes that, with contracts like the City of Hawthorne that have significant pass-through costs, calculations based on rate increases may need to account for changes in pass-through costs.

e. Cal Water states on page 6 of its 2020 "Annual Report", with regards to the City of Commerce Lease, that the agreement with the City of Commerce "allows us to request a rate change annually in order to recover costs." Please list all the rate increases Cal Water has requested from the City of Commerce since 2016.



Response: Attachment "Q2e Commerce Contract Rates" shows the rate changes that went into effect on October 1, 2015, July 1, 2016, and July 1, 2017, identified as Years 1, 2, and 3 (effective date appears in lower right-hand corner). Cal Water has not changed any changes in rates since then, but has recently been in discussions about recovery for increased costs due to PFOS contamination, as discussed in response to Question 2.c.

f. Does Cal Water plan to ask for rate increases from the City of Commerce during the period covered by this rate case? If so, please explain why. If not, please explain why not.

8/5/21 Response: In 2018, the parties renewed the lease for 15 years without changing rates. As a result of negotiations since 2017, the City Council approved moving forward with the Proposition 2018 process for 3 years of proposed rate adjustments that would start on September 1, 2021 after a public hearing now scheduled for August 17, 2021. See attachments "*Q2f 7.20.21 Agenda Report on Water Rate Adjustment,*" "*Q2f 8.2.21 Agenda Report rescheduling to 8.17.21,*" and "*Q2f 8.2.21 Resolution setting public hearing for 8.17.21.*"

In addition, as discussed in response to Question 2.c, above, water production costs have been increasing due to a necessary shift in the water mix to more purchased water. The City previously agreed to a memo account to track the incremental increase in purchased water. The balance in that account is approximately \$1.3 million (about \$700K in 2020 and \$600K in 2021). It appears that the rates currently subject to the public hearing include recovery for these costs.

As discussed in response to Question 2.d above with regard to the City of Hawthorne contract, Cal Water is open to considering other methodologies for forecasting revenue in this case.

g. Does Cal Water factor in City of Commerce rate increases when forecasting revenue sharing? If so, how does Cal Water Factor in these rate increases? If not, why not.

Response: Cal Water has treated the City of Commerce contract the same way it has treated the City of Hawthorne contract as described in response to Question 2.d, above.

End Response



RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office			
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	Natalie D. Wales Director, Regulatory Policy & Compliance	Phone: Email:	(408) 367-8566 <u>nwales@calwate</u>	<u>r.com</u>
	Patrick Alexander General Rate Case Manager	Phone: Email:	(408) 367-8230 e <u>palexander@calv</u>	xt.78230 <u>vater.com</u>
Date:	August 18, 2021	Request Received from CPUC: July 29, 2021		
Re:	Partial Response #3 to SIB-003	Requested Due Date: August 5, 2021		
Subj:	CSS Previous Projects	Extension for Q5d: August 13, 2021		
Comments:				
 Amended response to Question 1a and 1b 				

- Amended response to Question 5d included below.
- Does not contain confidential information.
- This response refers to the following attachments included separately:
 - Attachment 1 Technology Master Plan
 - Attachment 2 Support for 00114430
 - Attachment 3 Support for 00116854

Data Requests and Responses

- 1. In its "CSS & RDOM Project Justification Book", Cal Water constantly describes equipment and software as "obsolete". For example, Cal Water states, "this project replaces obsolete computer equipment and accessories" (p. 12) and "the current DLP system is now obsolete and needs a replacement." (p. 98)
 - a. Is obsolete or no longer useful hardware removed from rate base once it is replaced? PARTIAL Response #3: Yes. Obsolete or longer useful hardware is removed from Cal Water's continuing property records after it is replaced. As noted on page 96 of the General Report, Cal Water forecasts retirements for prospective years based on average retirements over the last three years. The retirements for each district are calculated by asset account. The recorded and forecasted retirements for each district and asset account are located on the Fcst PLT Retirements WS 2.8 tab in the CH07_RO_RB_PLT file. A listing of the asset accounts and their corresponding descriptions is found on the REF_Asset Accounts by District tab in the same file.
 - b. Is obsolete or no longer useful software removed from rate base once it is replaced?
 PARTIAL Response #3: Yes. Obsolete or longer useful software is removed from Cal Water's continuing property records after it is replaced. Please refer to response to 1a for an explanation of how Cal Water forecasts retirements in the rate case.
 - c. Can obsolete hardware be recycled or traded in?
 Response: It depends on the type of hardware, vendor and or age. If we can recycle or trade in the hardware we will do so. Other items may be multi-purposed for other uses such as testing, donated. In some cases, destroying the hardware is the only viable option.
- If obsolete or replaced hardware is not removed from rate base, please provide in Microsoft Excel format a list of any obsolete or replaced hardware still included in rate base.
 Response: N/A
- If obsolete or replaced software is not removed from rate base, please provide in Microsoft Excel format a list of any obsolete or replaced software still included in rate base.
 Response: N/A
- In its "CSS & RDOM Project Justification Book" Cal Water constantly refers to a "Cal Water Technology Master Plan" refreshed in 2020. Please provide a copy of the document.
 Response: Please see Attachment 1 – Technology Master Plan.
- 5. In "Table 3:" of "Attachment A" of Cal Water's "Report on the Results of Operation Customer Support Services" Cal Water lists several carryover projects. "PID 00114330 Bakersfield WV Office Improve" has an adopted budget of \$177,753 and a revised cost of \$409,955. "PID 00116250 UPS and SAN Array Replacements" has an adopted budget of \$360,882 and a revised cost of \$432,503. "PID 0116854 Network Reconfiguration – Cloud App" has an adopted budget of \$417,155 and a revised cost of \$646,704. For each of these projects please:



a. Provide a detailed explanation of why the project budgets were increased. If there were any changes to the project scope, please provide the justification for the scope changes as well.

PARTIAL Response #2: in blue font below

Bakersfield WV Office Improve (00114330) – Cal Water's capital needs and program has grown over the years and had demanded expansion of engineering and project management resources to execute this growing program. As Cal Water has grown its engineering department it has considered strategic placement of the resources and identified an opportunity to develop an engineering presence in the Central Valley to more effectively and efficiently service districts in this region in an area that has a lower cost of living. What started as a small team of 3 has now grown to 13. In 2015, Cal Water was made aware of an opportunity to lease a property that is adjacent to its operations center in Bakersfield. The property, known as the WV Property, was needed mostly for the open space for parking and equipment but also included a small building. This project was originally scoped to fund minor improvements to that building such as carpet and paint to house the engineering team. The property is now under lease and as improvements to the building were being planned the team continued growing, necessitating expansion of the building, which would have triggered extensive ADA and other improvements all to a property that is leased/not owned.

Leasing a triple wide trailer was considered for an alternative for the engineering team. We explored the option of leasing a trailer that could be placed on the leased West Valley property. A double wide trailer would not be large enough at the start, and a triple-wide would not provide sufficient work and storage space for day to day activities, nor allow for the expected team growth and the larger footprint would reduce the much needed parking capacity. This coupled with the 7 year lease term and set-up costs were determined to not be a good fit for this team, nor the district over the long term.

At the same time, Cal Water was moving forward with its Regional Call Center Initiative and leased a property offsite that resulted in space being made available within the existing BK operations office. This project was then utilized to fund the improvements needed to that existing space. Additionally, given the size of the group, it was determined that the WV building would also need minor improvements to accommodate additional staff. A summary of total project scope is noted below. Cal Water believes that its investments here were necessary, prudent and that it selected the best alternative to meet this critical staff need at the lowest cost.

Renovated 1,276 SF office structure on leased property for EMT team

Paint, carpet, light fixtures, data connection, and furniture





Considered Trailer for Engineering Team

Double-wide trailer, shown below, insufficient workspace

Triple-wide trailer, no growth space, and impact on available parking







Renovated Customer Service building for engineering team following opening of Central Valley RCC

• Paint, carpet, light fixtures, minor ADA improvements to restrooms, furniture, and high density storage, portable restrooms during construction





<u>UPS and SAN Array Replacements (00116250)</u> – This effort proved to be a much more labor-intensive project than was originally scoped. Integration with other systems and vendors, as well installing more disk space and shelving, took additional time and resources. Upon further evaluation, Cal Water believes the original authorized estimate of \$360,882 is achievable.

<u>Network Reconfiguration – Cloud App (00116854)</u> – Increased efforts for network integration of mobile devices and the transition from email/exchange to cloud computing was more complex than originally estimated. Scope change also occurred when Cal Water had to replace its core switch due to a failure.

b. Provide documentation to support the above explanations. This includes but is not limited to, vendor quotes, invoices, internal company communications, etc.

PARTIAL Response #1: Please find Attachment 2 for support for Project 00114330. Cal Water will provide the support for Projects 00116250 and 00116854 in a subsequent response.

PARTIAL Response #2: Please find Attachment 3 for support for Project 0016854.



RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office		
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	Patrick Alexander	Phone:	(408) 367-8230 ext.78230
	General Rate Case Manager	Email:	palexander@calwater.com
Date: Re: Subj:	Jul 29, 2021 SIB-004 CSS PC Refresh	Request Received from CPUC:July 29, 2021Requested Due Date:August 09, 2021	

Comments:

- Full response attached.
- Response provided by Engineering.
- Does not contain confidential information.
- This response refers to the following attachments included separately:
 - SIB-004 Q1 GRC Inventory
 - SIB-004 Q2b WiPro PC Upgrade Industry
 - SIB-004 Q3a Personal Device Replacement



Data Requests and Responses

 Referring to "CSS & RDOM Project Justification Book", Cal Water states it "has over 4,000 technology devices." (p. 12) Please provide a complete list of company owned technology devices referenced. Include the month and year the device was purchased and the original price for each device. Also include the year the device is planned to be replaced. Provide the information in an Excel format.

Response: See attached "Q1 - GRC Inventory."

- 2. Also referring to "CSS & RDOM Project Justification Book", Cal Water states "Cal Water has found it is most efficient to take a proactive approach and currently employs an annual replacement project to upgrade a quarter of the devices every year." (p. 12)
 - a. Why has Cal Water "found it most efficient" to upgrade a quarter of its devices every year as opposed to a fifth, for example?

Response: With current staffing we have found it only possible to replace a quarter of our devices each year. Reliable technology tends to maximize worker productivity (due to lower rates of down-time), and minimize calls for IT staff assistance in responding to problems. Many agencies have experienced more support costs and productivity loss when personal computers age beyond four years. PC's begin to fail, requiring more intervention of IT support staff, greater costs of parts and labor to repair, and the loss of productivity of program staff during down time or repeated re-booting.

b. Provide a cost-benefit analysis that shows a four-year replacement cycle is optimum.

Response: See attachment "Q2b - WiPro PC Upgrade – Industry" regarding the use of total cost of ownership to determine optimal PC refresh lifecycles.

c. Provide support that substantiates any assumptions, numbers, or calculations provided in the above requested cost-benefit analysis.

Response: See attachment "Q2b - WiPro PC Upgrade – Industry."

- 3. In "CSS & RDOM Project Justification Book", Cal Water states "today's average life cycles for computers, monitors and printers is between three to five years." (p. 14) Cal Water bases this claim on standards published by Excelsior Institute and Statista.
 - a. Please provide copies of these standards and best practices as referenced in the Project Justification Book.

Response: See attachment "Q3a - Personal Device Replacement."

b. Cal Water states it considered studies by Excelsior Institute and Statista. Why did Cal Water not consider other studies in determining average life cycles for its equipment?

Response: Statista is an online portal providing data on the global digital economy, industrial sectors, consumer markets, public opinion, media, demography and



macroeconomics trends. Quantitative data from 425 economic sectors in 50 countries are provided with a range of infographic tools for analysis and visualization.

c. Given the quoted life cycle, why did Cal Water choose a four-year life cycle as opposed to a five-year life cycle.

Response: Our goal is to take a proactive approach to limit our vulnerability and breakdown of hardware, therefore reducing effort and costly repairs.

4. What happens to old computer equipment once it is replaced? For example, can old computer hardware be traded in for a discount on replacement or sold to help offset replacement costs? Has Cal Water explored such opportunities? Please explain.

Response: We repurpose the laptops to be used in our loaner laptop pool. Other hardware is picked up by an e-waste recycling company which is a WMDVLGBTBE business. They also are partnered with the City of San Jose and its work2future employment initiative to provide training and employment opportunities for at-risk young adults through its Green Cadre program for which GreenMouse, Inc., received the Community Builder Award from the City of San Jose for its contributions and leadership.

- 5. Cal Water is requesting replacement of several iPhones and iPads.
 - a. Has Cal Water explored using alternative, lower-cost options from competing manufacturers such as Microsoft or Lenovo? Yes, we have
 - i. If Cal Water has explored alternatives, please explain why the lower-cost options were not chosen.

Response: After complete review the cost differences are very similar. Considering this, we find that our enterprise apps such as Kloudgin & Clear SCADA work more efficiently on iPads. Applications load faster, navigation and learning are more efficient, and backups and security enhancements are more manageable.

ii. If Cal Water has not explored alternatives, please explain why not.

Response: N/A

- 6. Cal Water is requesting to replace several Panasonic Toughbooks.
 - a. Has Cal Water explored using alternative, lower-cost options from competing manufacturers such as Microsoft or Lenovo? Yes, we have
 - i. If Cal Water has explored alternatives, please explain why the lower-cost options were not chosen.



Response: Having a dedicated serial port is necessary for our field technicians; screen brightness in indirect sunlight, fully integrated keyboard, Windows operating system (some applications used by field technicians are only available on Windows), and device ruggedness were key factors in choosing the Panasonic Toughbook over the Microsoft and Apple devices.

ii. If Cal Water has not explored alternatives, please explain why not.

Response: N/A

7. Given that monitors do not contain any hardware critical to cybersecurity or computer processing powers, why do monitors need to be replaced on a four-year basis?

Response: Benefits from newer monitors are improved ergonomics, adjustable viewing angle, increased USB ports, clearer picture, and larger space to open additional screens and side by side compares. Overall, we have found this increases productivity, reduces stress and time, and creates a better environment for increased production.

8. Why is Cal Water requesting replacement of 230 desktop computers and 355 monitors? Shouldn't the number of replaced monitors match the number of replaced desktop computers?

Response: The majority of our support staff have dual monitors to provide a more streamlined and efficient working space that allows for multiple applications to be open and viewable at the same time. This provides a more productive operation with the ability to multitask.

- 9. Cal Water provides several quotes from Tri Nguyen at CDW in support of its request.
 - d. Does Cal Water receive a discount on bulk purchases from CDW?

Response: Yes

e. How many vendors other than CDW has Cal Water explored?

Response: 2 – SHI and Zones

f. If Cal Water explored vendors other than CDW, please provide the quotes received from those vendors.

Response: These are usually verbal quotes for comparison pricing. We have found that CDW is consistently lower in cost than other vendors.

g. If Cal Water did not explore vendors other than CDW, please explain why not.

Response: N/A

h. The quotes also include a "1 year – 4th year extended service agreement". Provide the details of this service agreement.



Response: The systems we usually purchase come with a 3-year warranty. We purchase an additional 1 year to provide coverage for 4 years total or the length of our life cycle.

i. Manufacturers usually have a minimum one-year warranty on electronic products. Does the above extended service agreement overlap with the manufacturer's warranty?

Response: No, this is an extension of the manufacturer's warranty.

10. Does Cal Water receive a discount on bulk purchases from Verizon?

Response: Yes.

11. The iPhone quote from Verizon on page 23 of the "CSS & RDOM Project Justification Book" states "you will be receiving a promo credit in 1-2 billing cycles". This promo credit is not reflected in Cal Water's price estimate. Please explain why not.

Response: To qualify for the promo credit you are required to establish a new line of service with a new phone number. We do not purchase new lines of service since we are replacing already existing devices with the same phone number and service plan. Therefore we do not qualify for promo credits.

12. Cal Water declined device protection on the iPhones but purchased device protection for other equipment. Please explain why.

Response: We have found that iPhones typically do not have hardware or software issues that require a warranty replacement. Most of the time the device is damaged by user which is not covered by the standard warranty, or the device is lost.

13. What is the purpose of the "Lenovo ThinkPad Basic Docking Station" included in the Lenovo laptop quote on page 25 of the "CSS & RDOM Project Justification Book"?

Response: Docking stations allow laptop users to reconnect their PC peripherals such as monitors, keyboard, mouse, and direct network connection, etc., by simply placing their laptop on the docking station while located in their office. This provides the full experience of a desktop while still allowing for portability. Laptop users bring their computers into meetings, to offsite office visits, or home to do work.



RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office			
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Date:	Jul 29, 2021	Request Received from CPUC: July 29, 2021		
Re:	SIB-005	Requested Due Date: August 11, 2021		
Subj:	UPS and Storage Replacement			
Comments:				
•	Full response attached. Response provided by IT.			



- Does not contain confidential information.
- This response refers to the following attachments included separately:
 - Attachment #1 UPS Devices
 - Attachment #2 CDW PO Jan-Aug 2021
 - Attachment #3 CDW PO Jan-Dec 2020
 - Attachment #4 Invoices Jan-Aug 2021



Data Requests and Responses

- 1. Referring to "CSS & RDOM Project Justification Book", Cal Water states it will be "replacing Storage Area Network (SAN) controllers due to end of life support." (p. 30)
 - a. What does end of life support mean?

Response: OEM (Original Equipment Manufacturer) no longer sells, provide updates, or renews hardware support contracts for the system. Furthermore, the vendor will not send Cal Water a replacement part in the event of a hardware failure. SAN controllers are being replaced every six to seven years because of EOL (End of Life). NetApp hard drives will last between nine to ten years before being retired or EOL so Cal Water does not have to replace them at the same time.

i. Provide supporting documents to show why SAN controller use cannot be extended.

Response: From past experience with NetApp (OEM), it will be more beneficial if Cal Water purchases new controllers rather than keeping the old ones because it will cost more to renew our support contract with the old controllers. Cal Water is in need to replace the Storage Area Network (SAN) with a newer model to accommodate additional storage requirements and the lifecycle upkeep of the hardware. The newer software supports additional features that will allow enhanced operability to reduce administrative burden and support future cloud initiatives (the ability to deploy virtual servers to the cloud easily). Cal Water could choose to leave equipment as is but performance issues affect productivity as hardware ages. Older hardware is more likely to develop mechanical problems over time due to wear and tear. Even if the hardware is fine for the tasks, it will likely become less reliable and more expensive to maintain over time, along with provide the inability to secure against cyber-attacks in the future.

- b. What is the function of a SAN controller?
 Response: It provides a shared pool of storage space and computers. It managers the aggregate of disk shelves and is responsible for the operations of the SAN system.
- c. On page 30, Cal Water's detailed project scopes only list replacement of the SAN controllers. Will Cal Water only be replacing SAN controllers for \$458,578?
 Response: Yes
- d. If the answer to the above (1.c.) is no, please provide a detailed scope of what the SAN controller replacement projects entails.
 Response: N/A
- e. How many SAN controllers will Cal Water be replacing? Response: Six controllers – Four controllers in San Jose and two controllers in Torrance
- f. When were the current SAN controllers replaced or installed? **Response: June 2018**



g. Does Cal Water have one SAN that serves all districts or are there multiple SAN locations throughout the districts?

Response: The SAN in San Jose serves all districts and the other SAN in Torrance serves all districts for disaster recovery purposes

h. Given Cal Water is moving most of its storage to cloud-based solutions, why is a SAN still necessary?

Response: The majority of Cal Water systems are virtual machines that live on the Net App SAN system. For example, Water Quality, Engineering Files, all working department files, Accounting & Financial systems to name a few. A SAN gives the ability to pool storage and dynamically allocate exactly what each server requires, allowing for efficient operation. Given Cal Water's multiple locations, users can store and access files at a single centralized location regardless of where they are located, creating cost efficiency and ease of use. SAN works independently from the business' servers. This means that if there are issues with any of the servers, SAN will be unaffected and the data they store are still accessible. Additionally, it helps performance through improved disk utilization. The storage availability contained within a centralized manner allows everything to be managed as one single entity. This reduces the stress on our Local area network bandwidth by minimizing bottle necks that reduce performance. It also allows for improved security, simplified data backup across multiple locations, increased scalability, and for adding capacity and upgrading when needed. Reliable disaster recovery is another benefit, as critical business data from multiple applications can be easily accessed and used to bring up another location. Without SAN storage, we would have to maintain this storage at a higher cost at each server location making it more costly and less efficient.

- In its list of carryover projects Cal Water includes UPS and SAN Array Replacements as having a revised completion year of 2021. What exactly does this project entail? Response: This project will allow for additional storage shelves (SAN disks) to meet projections of data utilization. Uninterruptible Power Supplies (UPS) hardware is being replaced every four years based on the initial installation date. Not replacing this crucial equipment can lead to significant loss in capital investment, such as network hardware and servers. If a power outage occurs and there is not backup power, this can cause the equipment to be damaged.
- j. Why are SAN arrays being replaced in 2021 if the SAN is being upgraded? Response: For any SAN controllers under the initial warranty, Cal Water will be installing the newest software on the SAN system so all disk drives can be reused if they are not at the end of their lifecycle. With the increased cost to a support contract, it is beneficial to replace any of the older out of warranty SAN controllers in order to reduce costs. Rather than purchase support at a higher cost, these will be replaced at a lower cost benefit.
- k. On page 28, Cal Water states, "SAN are refreshed using the IT industry best practice lifecycles for these hardware devices." Please provide support that substantiates this statement regarding the "IT industry best practices lifecycle."



Response: If equipment is no longer supported by the manufacturer it will be updated so that it is supported to reduce repair delays, operational outages, lost productivity and security vulnerabilities. (For best practice, reference the ISO 55001 in response #3 below)

- Provide a list, in Excel format, of all Cal Water owned UPS devices including date of installation (month and year) and original cost. Also indicate which of these devices are to be replaced under this requested project.
 Response: Please reference attachment 1.
- Please provide a copy of ISO 55001-Asset Management hardware lifecycle recommendations.
 Response: This can be found on the website: iso.org (iso.55000. asset management)

https://www.iso.org/obp/ui/es/#iso:std:iso:55000:en

- Provide support for Cal Water's UPS costs such as a vendor's quote, invoice, etc. Please include quotes/invoices from all vendors Cal Water obtained prices from.
 Response: Please reference attachments 2 through 4.
- 5. Is Cal Water receiving a discount for bulk UPS purchases? **Response: No**
- 6. Cal Water provides a vendor quote from Groupware Technology for NetApp Storage Area Network replacement on page 32 of the "CSS & RDOM Project Justification Book".
 - a. How many vendor quotes did Cal Water obtain other than Groupware Technology? **Response: Two**
 - b. If Cal Water did not obtain any additional vendor quotes, please explain why Cal Water did not investigate the possibility of lower prices.
 Response: N/A



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office				
	Brian Yu	Phone:	(213) 576-7075		
	Project Coordinator	Email:	<u>byu@cpuc.ca.gov</u>		
	Suliman Ibrahim	Phone:	(213) 226-4714		
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	Caryn L. Mandelbaum	Phone:	(213) 620-6456		
	Attorney	Email:	<u>caryn.mandelbaum@cpuc.ca.gov</u>		
From:	California Water Service Company				
	Greg Milleman	Phone:	(408) 367-8498		
	Vice President, California Rates	Email:	gmilleman@calwater.com		
	Natalie D. Wales	Phone:	(408) 367-8566		
	Director, Regulatory Policy & Compliance	Email:	<u>nwales@calwater.com</u>		
	Patrick Alexander	Phone:	(408) 367-8230 ext.78230		
	General Rate Case Manager	Email:	palexander@calwater.com		
Date:	Jul 30, 2021	Request Rec	ceived from CPUC: July 30, 2021		
Re:	SIB-006	Requested Due Date: August 13, 2021			
Subj:	Meter Reading Handheld Replacement				
Comments: Full response attached. Response provided by IT. Does not contain confidential information. 					



- This response refers to the following attachments included separately:
 - Attachment #1 ITRON FC300 Inventory
 - Attachment #2 2014 ITRON FC300 Quote
 - Attachment #3 FC300 End of Life Notification from ITRON
 - Attachment #4_FCS with Itron Mobile brochure
 - Attachment #5_Itron Mobile Radio 2 WEB
 - Attachment #6_CN80handheldcomputerdatasheet
 - Attachment #7_FCS Upgrade Quote


- 1. On page 33 of its "CSS & RDOM Project Justification Book", Cal Water states "the current FC300 handhelds provided by ITRON will be at end of life."
 - a. What is the expected life expectancy for an FC300 handheld meter? Response: Five years is the lifecycle standard for these and similar electronic devices.
 - b. What is the average age of the FC300 handheld meters in Cal Waters inventory? Response: The current inventory age is greater than five years and no longer manufactured by the vendor since 2016.
 - c. Provide, in Excel format, a list of FC300 handheld meters in Cal Waters inventory. Please include purchase year and original purchase price.
 Response: Cal Water has an inventory list which is provided as attachment #1.
 However, it was unable to locate a list which also contained the individual purchase price and year. This spreadsheet inventory of FC300 units deployed in the districts was reviewed and updated during a recent effort to upgrade the ITRONS MVRS collection system to their latest software Field Collection System (FCS) in 2020. Based upon a search of the companies Power Plan system, the last mass purchase of FC300 handheld devices occurred in 2014 for 51 units and related accessories such as docking units, chargers and communications cables. The total purchase amount was \$205,149 for a unitized average cost of \$4,022. Attachment #2 2014 ITRON FC300 Quote for this purchase is included.
 - d. Does ITRON have a trade-in program since they are discontinuing the device?
 Response: ITRON does offer a trade-in program to offset the cost of purchasing new equipment or a replacement device. The value is based on age, condition and volume of the existing devices.
 - e. Please provide support substantiating Cal Water's assertion that ITRON will no longer support these devices after December 31, 2021.
 Response: Please refer to the notice from Cal Water's ITRON Account Executive provided as attachment #3.
 - f. Does support for these existing FC300 handheld devices exist outside of ITRON?
 Response: ITRON does not have specified partners that support these devices that Cal Water is aware of.
- 2. On page 33 of its "CSS & RDOM Project Justification Book", Cal Water suggests replacing current meter readers with Apple iOS units since they are "lighter, provide more functionality, secure and more cost effective."
 - a. Cal Water already owns many iPads, iPhones, etc. Can these existing units be used to read the meters? If not, explain why not.
 Response: Yes, ITRON provides an application that is supported on these devices that allow it to be used as a valid replacement for the FC300's. Cal Water has piloted these in several areas with good success. The application does require use of ITRON's

mobile Radio (IMR) to support getting radio frequency reads for AMR meters which are included in the project proposal.

- What criteria does Cal Water use when comparing different meter reader choices?
 Response: Criteria used for meter reader choices include cost, functionality, ergonomics and compatibility with existing network, server and software solutions. The solution must be able to interface with Cal Water's meter data management and customer billing systems.
- **c.** Please provide a cost-benefit analysis showing Cal Water's proposed purchase of Apple iOS units is more cost effective than alternative options such as purchasing other meter readers.

Response: Cal Water currently supports several mobile devices which include iOS, Android, laptops and the existing ITRON FC300 and CN80 handheld devices. In 2020, Cal Water piloted the CN80 and Apple iPad with the ITRON mobile application installed and paired with the ITRON Mobile Radio Device to pick up AMR reads and provide communication in the field with the FCS software. At the time the project proposal was developed, Cal Water estimated around a 55/45 allocation for iOS versus the ITRON CN80 as provided in the estimate in question 5 below. This was based on the assumption that larger districts have dedicated meter readers and the specialized handhelds are the device most commonly used. In smaller districts, field workers may perform multiple duties other than meter reading and the iOS devices provide the functionality to perform meter reading as well as other activities. Cal Water's has standardized on iOS devices for other mobile applications and is our preferred meter reading alternative based on cost, ease of use and manageability by support staff. The iOS devices are about half the cost of the specialized handhelds as seen in the cost estimate below. However, the CN80 devices are a more ruggedized unit and ergonomically designed for continual handheld meter use. Refer to question 5 for cost comparison between these devices.

- 3. On page 34 of its "CSS & RDOM Project Justification Book", Cal Water provides a detailed project scope that simply states, "Replace 135 meter reading handhelds throughout the 26 operating districts with new devices to replace the FC300 which will be de-supported by ITRON December 31, 2021."
 - a. What criteria does Cal Water use to chose determine its choice of meter readers? Response: The primary determinant for meter reading device of choice is compatibility with the specific headend meter reading solution. Many of the meter reading software companies have specific devices and technology that are certified and compatible with their solutions. Cal Water also takes into consideration cost, ergonomics and functionality to determine its reading device based on compatibility with the headend read system.
 - b. What are the new devices Cal Water is proposing to purchase?
 Response: Cal Water is proposing to leverage iOS devices (iPhones, iPads) as the primary device. ITRON also provides a newer handheld, referred to as the CN80, that

have also been acquired and used in the field by Cal Water Meter Readers and this device is being considered as a secondary option.

- c. Provide documentation/literature for the devices described above in part 3(a.) Response: Cal Water uses ITRON's Field Collection System (FCS) as one of its main Meter Data Management system for collecting meter reads manually and from AMR and ITRON AMI end points. AMR and AMI end points installed are less than 2% of total meters installed. Vendor literature for the devices being proposed under this project include FCS with ITRON Mobile (attachment #4), ITRON Mobile Radio (attachment #5), and ITRON CN80 Handheld (attachment #6).
- d. Is Cal Water asking to replace its entire inventory of FC300 handheld meter readers as part of this project?
 Response: Yes. The project funding being requested will allow Cal Water to replace all FC300's over the course of the 3 year rate case.
- e. What is the time frame for the replacement? For example, will all the meters in Cal Water inventory be replaced in one year?
 Response: The replacement plan is to systematically replace the FC300's by district over the course of the 3 year rate case with expectation to replace majority of devices in the first year and as they fail given the limited support and replacement of the devices by ITRON.
- 4. On page 12 of its "General Report" Cal Water states "Cal Water is in the process of refining a proposal for a more comprehensive, company-wide AMI program that is currently scheduled for filing in the 4th quarter of 2021."
 - a. Please provide the latest draft copy of Cal Water's company-wide AMI program proposal.

Response: Cal Water is in process of implementing the approved pilot project to install an estimated 10,000 meters in the Dominguez District. The company is in the assessment, evaluation, and planning stages of a potential company-wide AMI program. The analysis and evaluation of a potential company-wide AMI program has not yet been completed. Future submittal of a proposal for a company-wide AMI program will be determined based on the results and completion of the analysis.

b. How will this proposed project (replacing handheld meter readers) be affected by Cal Water's AMI proposal?

Response: As mentioned in response 4a, the company is in the assessment, evaluation and planning stages of a potential company-wide AMI program. If the company proceeds, it is possible the transition to AMI would occur over multiple rate cases to complete a program once approved. Therefore, it is expected AMI will not impact the immediate need to purchase replacement technology for the existing handhelds since they are at the end of their life. The iOS devices can be leveraged for other applications within company operations if AMI were expanded to these areas.



c. How long will the requested devices be in service if Cal Water begins the transition to AMI?

Response: As noted above in 1a, the lifecycle of these and similar devices being considered is 5 years. It is possible a company-wide AMI program could span multiple rate cases to complete and the company would get full value from this proposed project to replace the existing ITRON FC300 devices.

- d. Does Cal Water currently have AMR meters in its system?
 Response: Yes. Cal Water currently has AMR meters installed in several districts.
- e. If Cal Water is currently using AMR meters, why are these handheld meters necessary? Response: AMR meters collect and store data locally to the meter end point and requires pulling that data via radio frequency using an electronic device such as a handheld, ruggedized laptop, tablet or smart phone. Several of the current handheld devices have built in radios that can be used to pull the reads for the AMR meters without physically removing the meter lid. The project proposal for replacing the handhelds includes technology to continue to read meters using existing radio frequency.
- f. Has Cal Water explored purchasing devices that can be more easily adapted to AMI usage as an alternative to this project's proposed devices? Response: Cal Water has explored and evaluated several devices and alternatives as identified in the proposal. The primary device of choice is an iOS based device such as an iPad or iPhone paired with the ITRON mobile application and radio. The iOS devices are used for other field operations, reducing the need for field employees to carry multiple specialized devices to perform their work. These devices can also be used for Cal Water's existing AMI solutions.
- On page 35 of its "CSS & RDOM Project Justification Book" Cal Water provides a "Capital Project Cost Estimate". This estimate only includes "meter reading handheld replacements" at \$478,445 and "contingency" at \$47,845.
 - a. Please provide a detailed cost estimate that itemizes how the proposed funds will be spent.

Response:

Estimated Unit Cost for iPad and accessories (based on recent purchases)



Equipment and Accessories	Unit Cost	Estimated Number of Units	Estimated Cost
iPad	\$1,055	75	\$79,125
Rugged Case with Handstrap	\$100	75	\$7,500
Portable Charger	\$100	75	\$7,500
Total Est. Cost			\$94,125

Estimated Unit Cost for ITRON CN80 Handhelds and Accessories (based on ITRON Quote)

Equipment and Accessories	Unit Cost	Estimated Number of Units	Estimated Cost
CN80 Handhelds	\$2,650	60	\$159,000
CN80 Complete Repair	\$995	60	\$59,700
Mobile Radio	\$2,080	60	\$124,800
Docking station – 4 slot	\$770	16	\$12,320
Docking station – single slot	\$425	4	\$1,700
CN80 Battery Packs	\$135	32	\$4,320
Battery Charging Station	\$310	8	\$2,480
Total Est.			\$364,320

Estimated Labor Cost for Installation: 160 hours X \$125 = \$20,000

Replacement and Installation Cost \$478,445

Contingency – Class 4 (10%) for \$478,445 = \$47,845



- b. Please provide support in the form of sales quotes or invoices substantiating the cost estimate requested in part 5 (a.).
 Response: ITRON Quote is provided as attachment # 7.
- c. Please provide support for how Cal Water determined the contingency for this proposed project.

Response: Cal Water used the standard capital budgeting program contingency for Class 4 projects (routine replacements), which is 10%.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office			
	Brian Yu	Phone:	(213) 576-7075	
	Project Coordinator	Email:	byu@cpuc.ca.gov	1
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	Caryn L. Mandelbaum	Phone:	(213) 620-6456	
	Attorney	Email:	caryn.mandelbau	m@cpuc.ca.gov
From:	California Water Service Company			
	Greg Milleman	Phone:	(408) 367-8498	
	Vice President, California Rates	Email:	gmilleman@calwa	ater.com
	Natalie D. Wales	Phone:	(408) 367-8566	
	Director, Regulatory Policy & Compliance	Email:	<u>nwales@calwater</u>	r.com
	Patrick Alexander	Phone:	(408) 367-8230 ex	xt.78230
	General Rate Case Manager	Email:	palexander@calw	<u>vater.com</u>
Date:	Jul 30, 2021	Request Rec	eived from CPUC:	July 30, 2021
Re:	SIB-007			
C	Database Enormation Software	Requested D	Due Date:	August 13, 2021
Subj:	Database Encryption Software			
Comm				
Comm	Ents: Full response attached			
•	Response provided by IT.			

• Does not contain confidential information.



- 1. On page 47 of its "CSS & RDOM Project Justification Book", Cal Water states "the current Oracle database at Cal Water is not encrypted."
 - a. How does Cal Water currently protect customer information and other sensitive data? Response: From a computer application perspective, data is protected/encrypted via SSL traffic from load balancer to browser/browser to Weblogic side, however data is not protected/encrypted on the database/storage side.
 - b. Is Cal Water currently in compliance with all governing Federal, State, and local database protection laws and regulations such as, for example, the California Consumer Privacy Act? Please explain.

Response: Yes, we are in compliance with the California Consumer and Privacy Act (CCPA).

We have a process in place for a customer who request to have their sensitive data purged. If they meet the conditions to remove data (inactive customer for 3 years), a Change Request will be created to have the data purged from Customer Care & Billing (CC&B).

c. What options other than database encryption exist to safeguard consumer data? Please describe in detail.

Response: For Oracle DB/data encryption, using Oracle Advanced Security is a recommended method for Customer Care & Billing (CCB) application.

- 2. On page 46 of its "CSS & RDOM Project Justification Book", Cal Water proposes to "implement Oracle Advanced Security."
 - a. Will the proposed Oracle Advanced Security upgrade bring Cal Water into compliance with all industry standards, as well as legal, and insurance requirements on how data can be handled?

Response: Yes, using Oracle Advanced Security is a preferred method to protect/encrypt CCB data from a cyberattack on the database/storage level.

It also provides data encryption and strong authentication services to the Oracle database, safeguarding sensitive data against unauthorized access from the network and the operating system. It also protects against theft, loss, and improper decommissioning of storage media and database backups

This will also bring Cal Water into compliance with industry standards.

b. What is the estimated useful life of the proposed Oracle Advanced Security upgrade?
 Response: It will be ongoing and we will need to renew for annual/extended support.

Why did Cal Water choose Oracle Advanced Security as the proposed database encryption software?

Response: It is a recommended approach for protecting/encrypting Oracle databases and highly recommended by Oracle and our CCB expert/consultant. It provides data encryption for data at rest, for data in transit, and for data on backup tapes.



c. What other encryption software did Cal Water consider? Why were these options not chosen?

Response: Because Customer Care & Billing runs on Oracle, Oracle Advanced Security is tailored for this type of environment and this method is recommended by Oracle and our CCB expertise/consultant, we did not consider other options.

d. Please provide a cost benefit analysis showing Oracle Advanced Security as the most economical and beneficial encryption software option.
 Response: Due to the unique nature of the Cal Water environment, we did not consider other options, hence, there is no cost/benefit comparison.

Oracle Advanced Security includes multiple features including Oracle Database Vault, Oracle Data Redaction, Oracle Data Masking and Subsetting, and Oracle Label Security. It protects data at rest -- Transparent Data Encryption (TDE) stops would-be attackers from bypassing the database and reading sensitive information directly from storage by enforcing data-at-rest encryption in the database layer. It encrypts individual data columns, entire tablespaces, database exports, and backups to control access to sensitive data. Other benefits are there is no additional storage overhead and the performance overhead is typically in the single digits, making Oracle Advanced Security/TDE tablespace encryption a 'near-zero impact' encryption solution. TDE is transparent to business applications and does not require application changes. Encryption and decryption occur at the database storage level, with no impact to the SQL interface that applications use. TDE protects against malicious parties who try to restore stolen database files, such as the data, logs, backups, snapshots, and database copies.

- 3. On page 49 of its "CSS & RDOM Project Justification Book", Cal Water provides a quote from Oracle for the Advanced Security program.
 - e. Can the Oracle software be purchased from an alternative source? **Response: No, since this is an Oracle component.**
 - f. Why does Cal Water need 48 of the Advanced Security software?
 Response: CCB runs on 3 databases and each DB runs on 16 CPUs. Oracle Advanced
 Security is licensed per CPU so → 16 (CPUs) x 3 (Database servers) = 48 CPUs requiring
 Advanced Security software.
 - g. What does the support fee cover and why is it necessary?
 Response: The support fee covers the support/maintenance of our current Oracle databases with TDE database encryption in place. If we should run into any issues with this component, Oracle will assist with reaching resolution.
 - Please explain in detail why Cal Water chose to treat the support fee as an "expense" as opposed to "capital" from a rate making perspective?
 Response: Cal Water treats software renewal as an operating expense because, as a general matter, a capital asset is something that has economic benefit for more than



one year, while an expense provides benefits just for the current period. The development or purchase of software is generally capitalized because the period of use is usually more than one year, however the subsequent ongoing maintenance and support costs are more comparable to normal day-to-day costs that are expensed, and so not appropriate for capitalization.

The quote lists the 1st year net cost at \$517,524. This \$517,524 includes \$93,324 for support and \$424,200 in license fees. The 3-year TCO is listed as \$797,495. Based on the numbers provided in the quote, the 3-year cost should be \$424,200 + \$93,324 + \$93,324 + \$93,324 = \$704,172 or \$93,323 less than the total price of \$797,495 listed. Please explain.

Response: The quote contains a typo. This is good for four years

Net License Fees	\$424,200
1 st year support	\$93 , 324
1 st year Net Cost	\$517,524
2 nd year support	\$93 <i>,</i> 324
3 rd year support	\$93 , 324
4 th year support	\$93 <i>,</i> 324

Total

\$797,495 (this should be the final number)



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office					
	Brian Yu	Phone:	(213) 576-7075			
	Project Coordinator	Email:	<u>byu@cpuc.ca.gov</u>			
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	Utilities Engineer	Email:	<u>suliman.ibrahim@cpuc.ca.gov</u>			
	Marybelle Ang	Phone:	(415) 696-7329			
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	Caryn L. Mandelbaum	Phone:	(213) 620-6456			
	Attorney	Email:	<u>caryn.mandelbaum@cpuc.ca.gov</u>			
From:	California Water Service Company					
	Greg Milleman	Phone:	(408) 367-8498			
	Vice President, California Rates	Email:	gmilleman@calwater.com			
	Natalie D. Wales	Phone:	(408) 367-8566			
	Director, Regulatory Policy & Compliance	Email:	<u>nwales@calwater.com</u>			
	Patrick Alexander	Phone:	(408) 367-8230 ext.78230			
	General Rate Case Manager	Email:	palexander@calwater.com			
Date:	August 4, 2021	Request Rec	ceived from CPUC: July 30, 2021			
Re:	SIB-008	Requested [Due Date: August 6, 2021			
Subj:	Campus Security Fencing					
Comm • •	Comments: Full response attached. Contains Confidential (Category 1) information This response refers to the following attachments included separately: 					



- SIB-008 CONFIDENTIAL Attachment 1 CSS Vulnerability Assessment
- SIB-008 Attachment 2 COBE Fence ROM Estimate



- 1. On page 50 of its "CSS & RDOM Project Justification Book", Cal Water states "current CSS campus perimeter fences are lower than the recommended height in the Cal Water physical security assessment conducted by a third-party security company in 2017."
 - a. Please provide the 2017 third-party security assessment.
 Response: See Confidential Attachment 1. This contains the first 24 pages of the study, which includes the study parameters and results specific to the CSS campus in San Jose.
 - b. What is the height of the existing fence?
 - i. Is the height of the existing fence uniform throughout? If, not, provide the height variances.

Response: No.

West side	6'H
North side	ranges 5'H – 7'H
East side	ranges 7'H to 6'H
South side	ranges 5'5"H – 6'H

c. What material is the existing fence made of? **Response:**

West	wrought iron
North	chain link
East	chain link with angled barbed wire topper
South	chain link

- d. Can the current fence be retrofitted to increase height, using extensions and barbed wire for example, as opposed to replacement? If not, why not.
 Response: The existing Westside wrought iron fencing and gates could be retrofitted to increase the height. This has been factored into the cost estimate. The balance of the existing fence is chain link. The footings for this fencing is not large/deep enough to support extensions.
- e. On page 51 of it "CSS & RDOM Project Justification Book", Cal Water states it investigated adding on-site security and it was rejected because it "proved to be too expensive." Please provide a cost benefit analysis comparing the currently proposed project with adding on-site security.
 Response:



HR/Wk	\$/HR		Tot	al/Wk	Wks/YR	Regular	Holiday Pr	remium	Annua	al Estimate
168	\$	28	\$	4,704	52	\$244,608	\$	10,080	\$	254,688
									\$	9,000
						Total Alte	ernate 1		\$	263,688
	HR/Wk 168	HR/Wk \$/HR 168 \$	HR/Wk \$/HR 168 \$ 28	HR/Wk \$/HR Tot 168 \$ 28 \$	HR/Wk \$/HR Total/Wk 168 \$ 28 \$ 4,704	HR/Wk \$/HR Total/Wk Wks/YR 168 \$ 28 \$ 4,704 52	HR/Wk \$/HR Total/Wk Wks/YR Regular 168 \$ 28 \$ 4,704 52 \$244,608 168 \$ 168 \$ 168 \$ 168 \$ 168 \$ \$ 168 \$	HR/Wk \$/HR Total/Wk Wks/YR Regular Holiday Product 168 \$ 28 \$ 4,704 52 \$244,608 \$ 168 \$ 28 \$ 4,704 52 \$244,608 \$ 168 \$ 1 1 1 1 1 168 \$ 28 \$ 4,704 52 \$244,608 \$ 168 \$ 1 1 1 1 1	HR/Wk \$/HR Total/Wk Wks/YR Regular Holiday Premium 168 \$ 28 \$ 4,704 52 \$244,608 \$ 10,080 168 \$ 28 \$ 4,704 52 \$244,608 \$ 10,080 168 \$ 168 \$ 168 \$ 10,080 168 \$ 168 \$ 10,080 \$ 10,080 168 \$ 168 \$ 10,080 \$ 10,080	HR/Wk \$/HR Total/Wk Wks/YR Regular Holiday Premium Annual 168 \$ 28 \$ 4,704 52 \$244,608 \$ 10,080 \$ 168 \$ 28 \$ 4,704 52 \$244,608 \$ 10,080 \$ 168 \$ 168 \$ 10 \$

f. Please provide support justifying the numbers and assumptions used in the answer to question 1(e).

Response: Developed cost estimate based on one (1) security guard 24/7 with a small golf cart type vehicle to patrol the 10 acre site. This would be an on-going annual cost that would increase with then current labor rates. Based on year 1 costs, the return on investment of the perimeter fencing improvement would be less than 4 years.

This option is not ideal as it would not provide full coverage. Multiple buildings and the significant vegetation along the property perimeter provide numerous hiding places for intruders.

- 2. On page 50 of its "CSS & RDOM Project Justification Book", Cal Water states "Per preliminary feedback from the City of San Jose Planning Department, we could install the 8-foot-tall fencing, with anti-climb features, on the North, West, and East sides of the property."
 - g. Will the Southside fence also be upgraded?
 Response: Yes, but per the City's planning department comments the Southside fence needs to be a solid fence, constructed of either wood or concrete.
 - h. Is the cost for the Southside fence also included in the current proposed project?
 Response: Yes, however both cost proposals were generated prior to receiving the preliminary feedback from the planning department, so the cost is currently based on a single wrought iron solution. In reviewing with the general contractor the material cost may be lower, but labor costs may be higher due to a more labor intensive installation process. The overall cost is expected to be comparable.
- 3. On page 63 of its "CSS & RDOM Project Justification Book", Cal Water provides a price quote by Gordon Prill.
 - i. Please define and explain the "general conditions by %" that is included in the quote? Response: As this is a rough order magnitude (ROM) budget, Gordon Prill estimated general conditions as a percentage of project budget. General conditions could include items such as jobsite trailer, jobsite utilities, superintendent salaries, safety costs, project accounting. This cost would be more accurately calculated once project scope is fully defined.
 - **j.** Did Cal Water obtain quotes other than the one from Gordon Prill? If so, please provide these additional quotes.



Response: Additional ROM quote obtained from COBE construction October 2020. See attached. Does not include architectural, permitting fees, and landscaping.

k. If Cal Water did not obtain any additional vendor quotes, please explain why Cal Water did not investigate or pursue lower prices.
 Response: N/A



RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office		
	Brian Yu Project Coordinator	Phone: Email:	(213) 576-7075 <u>byu@cpuc.ca.gov</u>
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	Marybelle Ang Attorney	Phone: Email:	(415) 696-7329 <u>marybelle.ang@cpuc.ca.gov</u>
	Caryn L. Mandelbaum Attorney	Phone: Email:	(213) 620-6456 <u>caryn.mandelbaum@cpuc.ca.gov</u>
From:	California Water Service Company		
	Greg Milleman Vice President, California Rates	Phone: Email:	(408) 367-8498 gmilleman@calwater.com
	Natalie D. Wales Director, Regulatory Policy & Compliance	Phone: Email:	(408) 367-8566 <u>nwales@calwater.com</u>
	Patrick Alexander General Rate Case Manager	Phone: Email:	(408) 367-8230 ext.78230 palexander@calwater.com
Date:	August 19, 2021	Request Rec	ceived from CPUC: August 12, 2021
Re:	SIB-009	Requested [Due Date: August 19, 2021
Subj:	PeopleSoft FS & People Tools Upgrade		
Comm	ents:		
•	Full response attached.		
•	Response provided by IT.		
-	Does not contain connuential information.	•	



The page numbers referenced in the below questions are from the "CSS & RDOM Project Justification Book."

- 1. On page 70, Cal Water states the proposed upgrade "will help extend the life of PeopleSoft FS for at least one more rate cycle." On page 71 it also states "Oracle has committed to support our version until 2027."
 - a. Will PeopleSoft need to be replaced after 2027?
 Response: The Company is not proposing to replace PeopleSoft but to ensure the Company stays current with the underlying software framework (Peopletools) for support, functionality, and cybersecurity objectives.
 - b. Please provide a cost benefit analysis comparing replacement of PeopleSoft with alternative software. Please take into account the possible lack of support after 2027 and the fact the lifetime will possibly only be extended by one more rate cycle.
 Response: The Company plans to perform the evaluation of financial ERP systems, including PeopleSoft before the next rate case.
 - c. Please provide support to substantiate any of the assumptions or calculations made in the cost benefit analysis requested in question 1.b.
 Response: Not applicable
 - d. What are the alternative programs to PeopleSoft?
 Response: Potential candidates include SAP, Workday, and Oracle Fusion.
 - e. Has Cal Water obtained any quotes for alternative programs? If so, please provide quotes obtained.
 Besternative the Company has not obtained quotes for alternative programs.

Response: No, the Company has not obtained quotes for alternative programs.

- 2. On page 72, Cal Water includes a project cost estimate that includes 2000 hours at \$110 hourly rate for "internal labor effort. On page 73, Cal Water provides a "Proposal for Annual PeopleTools Upgrade" from Gefira Business Solutions. The proposal estimates it will require "three Calwater developers with 25% time allocated to the project" and a "Calwater Functional Lead/Project Manager". The proposal also estimates a yearly 4-month upgrade period. 4 months equates to approximately 16 weeks or 640 hours. 25% of 640 hours is 160 hours. For three employees that would amount to approximately 480 hours per year/1440 hours over 3 years.
 - a. How did Cal Water determine 2000 hours for its internal labor effort?

 Response:

				Total
		Hours/	Total	Hours
Team Members	Resources	Resource	Hours/ Year	(3 Years)
Project Manager	1	20	20	60
Functional Lead's	3	25	75	225
Subject Matter Expert's for				
Testing	3	35	105	315



CALIFORNIA WATER SERVICE COMPANY

Data Request SIB-009 Response (2021 GRC, A.21-07-002) - Page 3

Developers	3	160	480	1,440
				2,040

The Company plans to resource this project with 50% consultants and 50% internal labor, which will help us know the project status and learn functionality to reduce training costs.

- b. Do the 2000 hours include Cal Water's Functional Lead/Project manager? **Response: Yes**
- c. How did Cal Water calculate the \$110 hourly rate? Response: It's a fully loaded cost.

```
$65/ hour (Wages) + $45 (Benefits) = $110
```

- d. Isn't internal labor already covered through Cal Water's payroll?
 Response: No, this work would be for capital. As noted on page 111 of the General
 Report, Cal Water forecasts payroll expenses based upon 2020 recorded actuals with a few minor adjustments. Employees will allocate their time between expenses and capital projects at each pay period. By only using 2020 actuals, employee time spent on capital projects is excluded from payroll expenses.
- e. Cal Water also states on page vii that direct costs exclude construction overhead. Why doesn't Cal Water consider internal labor as part of overhead in this case? Response: Internal labor in this case is the time spent by employees directly working on this project and who will charge their time accordingly. Construction overhead represents general costs associated with capital projects that are not directly charged to individual projects. These include indirect labor (general engineering supervision, administrative salaries and expenses associated with construction activities, and general construction supervision), benefit costs associated with such labor, and other indirect expenses that are capital in nature. For example, instead of charging a specific capital project for the time spent processing an invoice that is related to that project, an accounts payable clerk allocates a portion of their time to the construction overhead account commensurate to the overall time spent on capital related activity. Please refer to General Report chapter seven for a discussion on how construction overhead is applied to capital projects.
- f. Did Cal Water obtain quotes other than the one from Gefira Business Solutions? If so, please provide these additional quotes.
 Response: No, not at this time.
- g. If Cal Water did not obtain any additional vendor quotes, please explain why Cal Water did not investigate the possibility of lower prices.
 Response: Once the project is approved, CalWater will go for the proper RFP process.
 During the RFP process, the prices will be negotiated.
- 3. Why is the entirety of the project added to rates in 2024 if the project is a yearly upgrade? **Response:** The estimated project duration will be three years, starting in 2022 and completing in 2024.



CALIFORNIA WATER SERVICE COMPANY Data Request SIB-009 Response (2021 GRC, A.21-07-002) –Page 4

4. On page 74, Cal Water includes a cost estimate from Gefira Business Solutions. Gefira proposes a fixed cost estimate of \$100,000 per year for a 3-year total of \$300,000. Gefira does not escalate. Why is Cal Water escalating its cost estimate?
Response: PowerPlan, the estimating software Cal Water uses to estimate and track projects,

applies escalation to all direct costs.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office						
	Brian Yu	Phone:	(213) 576-7075				
	Project Coordinator	Email:	byu@cpuc.ca.gov				
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	Attorney	Email:	<u>caryn.mandelbaum@cpuc.ca.gov</u>				
From:	California Water Service Company						
	Greg Milleman	Phone:	(408) 367-8498				
	Vice President, California Rates	Email:	gmilleman@calwater.com				
	Natalie D. Wales	Phone:	(408) 367-8566				
	Director, Regulatory Policy & Compliance	Email:	nwales@calwater.com				
	Patrick Alexander	Phone:	(408) 367-8230 ext.78230				
	General Rate Case Manager	Email:	palexander@calwater.com				
Date:	August 19, 2021	Request Rec	ceived from CPUC: August 12, 2021				
Re:	SIB-011	Requested [Due Date: August 19, 2021				
Subj:	Procurement Process Improvements						
Comm	ients:						
•	Full response attached.						
•	Does not contain confidential information.						
•	This response refers to the following attac	hments inclu	ded separately:				
	 Allachment #1 – 00124488 Procurement Attachment #2 – 00124488 Cost Avoidate 	i Process imp	provements justification				



The page references in the following questions are from the "CSS & RDOM Project Justification Book."

- 1. On page 80, Cal Water states "The current system processes in PeopleSoft that support Procurement are convoluted, non-user-friendly and labor intensive." Cal Water goes on to further describe the problems inherent in the current PeopleSoft software.
 - a. Given the myriad of issues described by Cal Water, why did Cal Water choose its current procurement system?

Response: The final draft of the Justification for this project was inadvertently omitted from the GRC filing. The version intended to be submitted provides more details, including some of the information requested in the Data Request. This is included as Attachment 1.

The procurement system Cal Water uses is part of the PeopleSoft Financials system. The system was originally chosen in 1999 to replace the Main Frame system with a Client-Server based ERP system. The strategy was to choose one ERP vendor for both HR and Financials systems to avoid complicated integrations between systems and simplify the vendor support. PeopleSoft had the best HR system and good financial functionalities in general. Therefore, weighing in all factors, PeopleSoft was chosen as the ERP vendor even though it does not have the best procurement functionalities on the market.

- How old is Cal Water's current procurement system?
 Response: Over 20 years. It was implemented in 1999.
- c. Have upgrades to the current procurement system been previously performed? Response: There were major upgrades in 2005, 2011, 2016. There were additional modules (eProcurement, Expense Report, Contract Authorization and Workflow) implemented in 2012.
- d. What is the total cost of the procurement system currently in rate base? Response: The total investments in implementation, upgrade and enhancement of the system from 1999-2013 was \$4.69 million. All of the costs associated with this should be fully depreciated. There have been \$1.192 million investments in system upgrade and enhancements since 2013. These depreciate over time based on current depreciation rates authorized by the CPUC during the respective years.
- e. If the total cost in question 1.d. includes multiple improvements/purchases, please provide a breakdown of the costs describing each cost and showing the year the cost was incurred.

Response: See table, below.



CALIFORNIA WATER SERVICE COMPANY Data Request SIB-011 Response (2021 GRC, A.21-07-002) –Page 3

	In Service	
Description	Year	Cost
		\$ 1,000,000.00
PeopleSoft Implementation (including Procurement)	1999	(est)
PeopleSoft Upgrade to V8	2004	\$ 58,304.69
System Enhancement (Contract Tracking)	2009	\$ 38,413.83
P2P System Automation (Implemented eProcurement,		
Expense Report, Contract Authorization, Workflow)	2012	\$ 2,852,196.22
PeopleSoft Upgrade to V9	2013	\$ 750,031.60
PeopleSoft Upgrade to V9.2	2016	\$ 475,650.24
Integration for Supplier Management	2017	\$ 140,743.37
xPO for Master Contracts	2018	\$ 460,220.00
Integration for Insurance Tracking	2019	\$ 114,609.24

- 2. Cal Water states on page 80 "Currently, an excessive amount of time is spent by the Procurement team as well as by requestors to manage these documents while complying with policies using the underlying business processes."
 - a. How much time does Cal Water anticipate saving as a result of the proposed system upgrade?
 Response: We estimate 4,432 hours of time saving for various employees. Please see the Time Saving Analysis under Question 3.a.
 - b. Given the improved efficiency and decreased time requirements, does Cal Water anticipate reducing its IT workforce requirement once this project is implemented? Response: No, the efficiency gain and decreased time requirements will benefit primarily the functional users. The system support tasks that need IT's support, such as reporting, data analysis, troubleshooting, minor system updates, still stay the same. We anticipate the same IT workforce requirement to support the Procurement system after the project is implemented.
- 3. On page 80, Cal Water states it estimates an "annual cost avoidance of \$223,274 per year."
 - a. On page 80, Cal Water references an ROI worksheet. Please provide the referenced worksheet.
 Response: As noted in Cal Water's response to Question 1.a., the justification that was included in Cal Water's filing was an older draft. The figure provided on page 80 of \$223,274 was not substantiated. Please see Attachment 2 for Cal Water's estimation of annual cost avoidance.
 - b. Are these cost reductions currently reflected in Cal Water's RO model? If so, how so? Response: No. As noted above, the efficiencies gain and decreased requirements will be dispersed through a group of functional users. However, these employees will be able to dedicate the time saved from this improvement to higher value work.
- 4. On page 81, Cal Water provides three alternatives. Cal Water says it can replace PeopleSoft, upgrade PeopleSoft, or do nothing.



a. Please provide a cost benefit analysis comparing the three alternatives and showing a financial benefit to ratepayers resulting from Cal Water recommended upgrade solution. **Response:**

	Replace PeopleSoft with a different ERP system	Utilize upgraded PeopleSoft Application	Do Nothing
Investment	\$5.6 million	\$851,840.00	None
Support data	The magnitude of effort to replace PeopleSoft P2P system (including eProcurement, Purchasing, Inventory, Expense Report and AP) is similar to the scale of replacing a Human Resource Management system. Cal Water recently completed the replacement of Human Resource Management system with total cost of \$5.6 million. Therefore we estimate the replacement of a P2P system will be similar.	See Attachment 1	
Cost Avoidance	To be determined	\$444,580.00, annually	None
Evaluation	Replacing an ERP system requires tremendous financial investment and stakeholders' time, it adds financial burden on customers. With the aging of the current ERP system, although there is a need to replace the system in the future, we will be taking careful measures to determine the right timing of the replacement. For now it is best to leverage the existing ERP and maximize the value of	This is a great solution to as we can enhance the current PeopleSoft System to streamline the P2P process and enable workforce mobility, while avoiding expensive migration/implementation of a new system to add financial burden to our customers.	Under this scenario, field operations will continue spending a large amount of time in office handling administrative work instead of being in field supporting customers. Efficiencies cannot be gained in the P2P processes and ever- growing volume of work will necessitate additional headcount(s) in order to maintain high level of customer service.



CALIFORNIA WATER SERVICE COMPANY Data Request SIB-011 Response (2021 GRC, A.21-07-002) –Page 5

it with continued	
enhancements to the	
system.	

- Please provide support for any assumptions or calculations used in the cost benefit analysis requested in question 4.a.
 Response: See the chart in 4.a.
- c. If PeopleSoft is such a problematic software, as Cal Water stated on page 80, why is Cal Water proposing upgrading PeopleSoft instead of replacement?
 Response: See the evaluations in the chart in 4.a.
- d. Cal Water previously stated on page 71 regarding PeopleSoft "Oracle has committed to support our version until 2027." Will the proposed upgrade investment become obsolete if PeopleSoft is no longer supported after 2027?
 Response: No. We anticipate the system can still be supported by other third-parties on the market for a period of time if Oracle does not provide support any more.
- e. If PeopleSoft is no longer supported after 2027, will Cal Water be required to invest in an alternative procurement process i.e., replace PeopleSoft?
 Response: Yes we are likely to replace the system at some point and the decision needs to be made in coordination with other departments using Peoplesoft Financials as well.
- 5. Starting on page 87, Cal Water provides a cost estimate from Gefira Business Solutions.
 - a. Did Cal Water obtain quotes other than the one from Gefira Business Solutions? If so, please provide these additional quotes.

Response: Gefira is our designated service provider for PeopleSoft support and enhancements. We have a master service agreement (MSA) with Gefira which we negotiate every 3-5 years to make sure the pricing in the contract is competitive. Although we did not obtain other quotes for this particular project, we know Gefira's billing rates in the MSA are very competitive comparing to other agencies we work with. Besides as the designated service provider to support our PeopleSoft system, Gefira is very familiar with our business processes and system configuration. If we were to engage another service provider, more time and costs will be spent to have the service provider get familiar with our business and system therefore the cost for the project will be higher.

- b. If Cal Water did not obtain any additional vendor quotes, please explain why Cal Water did not investigate the possibility of lower prices.
 Response: The total cost for implementing the project also includes the internal labor and contingency. Please see the answer to 5.d for the cost information on internal labor and contingency.
- c. On page 88, Cal Water states that Gafira includes a proposed subtotal of \$580,000 to complete the project. Cal Water's proposed cost on page 86 is \$774,400. Cal Water does not explain why its estimate is substantially higher than the cost estimate provided



CALIFORNIA WATER SERVICE COMPANY Data Request SIB-011 Response (2021 GRC, A.21-07-002) –Page 6

by Gafira. Please explain this discrepancy.

Response: The total cost for implementing the project also includes the internal labor and contingency. Please see the answer to 5.d for the cost information on internal labor and contingency.

d. Please provide support to substantiate the answer to question 5.c. above. **Response:**

Internal Labor

	Duration	Total			
Tasks	Months	Hours	Per Hour	Estimates	
PeopleSoft Mobile Requisition,					
Approval & Receiving	3	240	\$ 110.00	\$ 26,400.00	
Supplier Contract Management	6	480	\$ 110.00	\$ 52,800.00	
Supplier Portal	6	480	\$ 110.00	\$ 52,800.00	
Supplier 360	2	160	\$ 110.00	\$ 17,600.00	
Supplier Scorecarding	2	160	\$ 110.00	\$ 17,600.00	
Chatbot for Requester Inquiries	3	240	\$ 110.00	\$ 26,400.00	
			Sub Total	\$ 193,600.00	

Total:	
Professional Consulting Services - Anoushka Inc.	\$ 580,800.00
Internal Labor	\$ 193,600.00
IT Standard Contingency (10%)	\$ 77,440.00
Grand Total:	\$ 851,840.00

e. Gafira's cost estimate extends over several month totaling over a year and yet Gafira does not escalate costs. Given this fact, why is Cal Water escalating costs in its proposed cost estimate?

Response: The time Gefira will spend working on each of the tasks will occur concurrently. The maximum duration for their work is 6 months.

END RESPONSE



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office						
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From:	California Water Service Company						
	Greg Milleman	Phone:	(408) 367-8498				
	Vice President, California Rates	Email:	gmilleman@calwater.com				
	Natalie D. Wales	Phone:	(408) 367-8566				
	Director, Regulatory Policy & Compliance	Email:	nwales@calwater.com				
	Patrick Alexander	Phone:	(408) 367-8230 ext.78230				
	General Rate Case Manager	Email:	palexander@calwater.com				
Date:	August 20, 2021	Request Rec	eived from CPUC: August 12, 2021				
Re:	SIB-012						
Cubi	Inventory Monogoment System	Requested Due Date:August 20, 2021					
Subj:	ents:						
•	Full response attached.						
•	Response provided by Procurement and IT						
•	Does not contain confidential information						
•	This response refers to the following attac	hments inclu	ded separately:				
	 Attachment 1_Quote_Inventory Management System 						



The page references in the following questions are from the "CSS & RDOM Project Justification Book."

- 1. On page 89, Cal Water states "The proposed upgrade to the inventory management system will increase productivity and reduce operational cost per employee by an estimated 6%, along with an annual inventory reduction cost of approximately 2%. The combination of these will provide an estimated annual cost avoidance of \$210,000."
 - a. How did Cal Water calculate the cost avoidance of \$210,000?
 Response: This is based on three factors, employee productivity, inventory cost and depreciation.

Employee productivity is based on a 6% time saving for 40 employees at the districts to repurpose time from managing inventory (4 hours of work each day) to crucial tasks such as processing contractors' insurance or issuing purchase orders for infrastructure upgrades.

Inventory cost savings is based on a 2% reduction of material waste, as a streamlined management system allows to curtail buffer inventory used to mitigate current process deficiencies.

Depreciation expenses are due to a reduction in the value of an asset with the passage of time, due to advances in technology.

 Please provide support to substantiate any assumptions or calculations used in answering part 1.a. above.
 Response:

Employee Productivity+\$177,408 (savings)
((((\$70/hr * 0.06) * 4hr) *22 days) * 12 mo) * 40 emply
((((\$70/hr * 0.06) * 4hr) *22 days) * 12 mo) * 40 emplyInventory Cost Savings+\$146,000 (savings)
\$7.3M Inventory x 2%System Depreciation-\$112,112 (expenses)

Total \$211,296

- c. Does Cal Water anticipate a reduction in its payroll requirement given the aforementioned increase in productivity?
 Response: No, the increase in productivity would allow us to focus on other critical processes such as processing contractors' insurance or issuing purchase orders for infrastructure upgrades.
- d. Cal Water states on page 91 "project duration will be approximately six months with a start in Q1 2022 and go-live in Q3 2022." Is Cal Water reflecting the estimated annual



cost savings of \$210,000 starting in 2022 in its RO model and revenue requirements? If so, please explain how.

Response: No, they are not reflected since these are avoided costs.

- 2. On pages 89 and 90, Cal Water provides several alternative options to deal with inventory management. Use of a material-supplier based inventory system, enhancement of current PeopleSoft inventory system, and do nothing.
 - a. Please provide a cost benefit analysis comparing the three alternatives and showing a financial benefit to ratepayers resulting from Cal Water recommended upgrade solution.
 Response:

Material-Supplier Inventory System	Mobile Inventory (PeopleSoft Financials)	Do Nothing
Loss of negotiation power, no subsequent RFP for material purchases	See 1b.	Current Inventory-Management System Deficiency Labor Demand
Average Yearly Inventory Material Purchases *		\$177,408
Average Savings on an RFP event		((((\$70/hr * 0.06) * 4hr) *22 days) * 12 mo) * 40
\$7.3M * 8%		emply
	See 1b.	System Deficiency Inventory Buffer Demand
		\$146,000
		\$7.3M Inventory x 2%
\$584,000 (Savings Forfeiture)	\$211,296 (Cost Avoidance)	\$323,408 (Deficiency Forfeiture)

- Please provide support for any assumptions or calculations used in the cost benefit analysis requested in question 2.a.
 Response: Included in 2.a.
- c. Cal Water previously stated on page 71 regarding the PeopleSoft that "Oracle has committed to support our version until 2027." Will the proposed inventory management upgrade investment become obsolete if PeopleSoft is no longer supported after 2027?

Response: No, we can continue to get extended (limited) support for the product from Oracle but will at some point need to upgrade the system in order to gain new functionalities and security improvements..

- d. If PeopleSoft is no longer supported after 2027, will Cal Water be required to invest in an alternative inventory management system i.e., replace PeopleSoft?
 Response: Yes, we are likely to replace the system at some point and the decision needs to be made in coordination with other departments using Peoplesoft Financials as well.
- 3. On page 92, Cal Water includes a project cost estimate.
 - a. What is this cost estimate based on?
 Response: The cost estimate is based on a previously submitted quote.



b. Please provide support to substantiate the cost estimate.
 Response: See attached quote for \$330,000.00 and breakdown below totaling \$560,560.00 as submitted:

Tasks	Source	Total Hours	Per Hour	Travel Expenses	Estimates
Professional Consulting Services	Gefira	2000	\$165.00		\$330,000.00
Business Consulting Fees	Estimate	160	\$362.50	\$11,600	\$69,600.00
Internal labor effort		1000	\$110.00		\$110,000.00
Contingency Cost [10%]		\$50,960.00			
		\$560,560.00			

c. Has Cal Water obtained any quotes regarding this project? If so, please provide the quotes.

Response: Please see response 3.b.

d. If Cal Water has not obtained any consultant quotes, please explain why not. Response: Gefira is our designated service provider for PeopleSoft support and enhancements. We have a master service agreement (MSA) with Gefira which we negotiate every 3-5 years to make sure the pricing in the contract is competitive. Although we did not obtain other quotes for this particular project, we know Gefira's billing rates in the MSA are very competitive comparing to other agencies we work with. Besides as the designated service provider to support our PeopleSoft system, Gefira is very familiar with our business processes and system configuration. If we were to engage another service provider, more time and costs will be spent to have the service provider get familiar with our business and system therefore the cost for the project will be higher.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office		
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	Project Coordinator	Email:	<u>byu@cpuc.ca.gov</u>
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From:	California Water Service Company		
	Greg Milleman	Phone:	(408) 367-8498
	Vice President, California Rates	Email:	gmilleman@calwater.com
	Natalie D. Wales	Phone:	(408) 367-8566
	Director, Regulatory Policy & Compliance	Email:	<u>nwales@calwater.com</u>
	Patrick Alexander	Phone:	(408) 367-8230 ext.78230
	General Rate Case Manager	Email:	palexander@calwater.com
Date:	August 20, 2021	Request Rec	ceived from CPUC: August 12, 2021
Re: Subi:	SIB-013 Identity Access Management System	Requested [Due Date: August 20, 2021
Comm • •	ents: Full response attached. Response provided by IT. Does not contain confidential information.		



The page references in the following questions are from the "CSS & RDOM Project Justification Book."

- On page 93, Cal Water states Identity and Access Management ("IDAM") will "enable MFA to satisfy Defense Federal Acquisition Regulations Supplement (DFARS), National Institute Standards and Technology (NIST), and Payment Card Industry Data Security Standards (PCI DSS) requirements." On page 94, Cal Water goes on to state not purchasing IDAM will result in "flagrant violation of federal regulations such as DFARS, NIST, PCI DSS, and Sarbanes Oxley (SOX)."
 - a. Is Cal Water currently in violation of any federal, state, or local laws, regulations or requirements related to its employee network access? Please explain.
 Response: No
 - b. If Cal Water is in violation of any of the laws or regulations mentioned above, what are the penalties and legal ramifications of such violations?
 Response: N/A
 - c. If Cal Water is in violation of any of the laws or regulations mentioned above, what is Cal Water's plan to come into compliance with these laws and regulations while it awaits the implementation of IDAM?
 Response: N/A
 - d. Do the laws or regulations mentioned above specifically require Cal Water to implement the proposed changes to its existing system? Please also provide supporting documentation.

Response: NIST 800 (DFARS) compliance requirement 3.5.3 requires the use of multifactor authentication for local and network access to privileged accounts and for network access to non-privileged accounts. According to PCI DSS 8.3.1 Administrators should use MFA for non-console access to the cardholder data environment (CDE). PCI SSC defines non-console access as access to the system component over a network interface rather than through a direct physical connection.

- 2. On page 94, Cal Water states it will have "more work for the Helpdesk with forgotten or expire password" if IDAM is not implemented.
 - a. Please provide a cost benefit analysis comparing the cost of IDAM software to the cost of increased work Cal Water anticipates in its absence.
 Response: The helpdesk on avg. processes 670 password reset requests each month manually. Utilizing this IDAM software will replace this manual cost effort that occurs each month, allowing us to shift resources to other critical efforts and reducing the need to add additional headcount at this time. These requests are also "high" priority, as users are unable to access systems when waiting on a password request. This assumption does not take into consideration of the cost of employee down time,



while waiting for this task to be completed. If a current request occurs during off hours, an employee must wait till the next business day to complete their work.

b. Please provide support for any assumptions or calculations used in the cost benefit analysis requested in question 2.a.
 Response: Avg. time to reset a password = 10 Minutes, Avg cost of employee = \$100 loaded with benefits,

[(670 requests X 10 min) / 60] X \$100 = \$11,166 per month or approximately \$134K per year

3. On page 94, Cal Water states not implementing IDAM "will increase the Company's chance to suffer a data security breach that severely tarnish the Company's reputation and lose customer trust." On pages 45 through 49, Cal Water discusses its proposal to purchase database encryption software. One of the benefits of database encryption according to Cal Water is it will prevent unauthorized personnel from accessing encrypted data and protect against situations such as breaches. Please explain why IDAM is necessary if data encryption already serves to protect the data.

Response: Access control (e.g. IDAM) and database encryption are two different cyber security disciplines that are complimentary. Access control prevents unauthorized access including brute force attempts by a hacker to gain access to Cal Water's critical systems such as SCADA, Customer Care and Billing (CCB), Workday, and PeopleSoft. It's considered one of the initiate level of I.T. security. Data encryption takes place at the database level of the system architecture to protect sensitive information only from both external and internal users. For example, if a hacker is able to download the entire database of our customer billing system, database encryption will obfuscate the data and make it meaningless and useless to the hackers. Both access control and database encryption are important, but they serve different purposes as part of the larger cyber security program.

- 4. On page 96, Cal Water includes a project cost estimate. On page 97, Cal Water includes a quote from Optiv as a support.
 - a. Optiv's quote provides very little detail. Please provide an itemized cost breakdown of the \$600,000 presented in the quote.
 Response: This is a preliminary quote based on high level requirements provided by Cal Water. The actual quote can vary quite a bit depending on the detailed needs identified by Cal Water. The itemized quote can only be obtained once we have gone through the RFP process. Most vendors will also not provide a detailed quote unless the purchase is imminent since software and labor cost can fluctuate from year to year.
 - b. Did Cal Water obtain quotes from providers other than Optiv? If so, please provide the quotes.

Response: No, Optiv is one of the most respected cyber security firms in the market and has a great reputation for the goods and services they provide. The full RFP will involve multiple vendors.



c. If Cal Water has not obtained any quotes other than the one from Optiv, please explain why not.

Response: Please see explanation under item 4a and b. Optiv is an existing vendor Cal Water uses, and we are grateful they are cooperating with us to provide a high level estimate for the project.

- d. Has Cal Water decided on which IDAM software it wishes to install? **Response: No.**
- e. How many types of IDAM software did Cal Water explore?

Response: Due to the availability of several possible solutions, we will begin exploring those from the top right quadrant of the Gartner Magic Quadrant for Identity Access Management. Gartner is a global research and advisory firm providing information, advice, and tools for leaders in IT, finance, HR, customer service and support, communications, legal and compliance, marketing, sales, and supply chain functions.





Source: Gartner (November 2020)



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office				
	Brian Yu Project Coordinator		Phone: Email:	(213) 576-7075 <u>byu@cpuc.ca.gov</u>	
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	Marybelle Ang Attorney	Marybelle Ang Attorney		(415) 696-7329 <u>marybelle.ang@cpuc.ca.gov</u>	
	Caryn L. Mandelbaum Attorney	Caryn L. Mandelbaum Attorney		(213) 620-6456 <u>caryn.mandelbaum@cpuc.ca.gov</u>	
From:	California Water Service Compan	У			
	Greg Milleman Vice President, California Rates		Phone: Email:	(408) 367-8498 gmilleman@calwater.com	
	Natalie D. Wales Director, Regulatory Policy & Com	pliance	Phone: Email:	(408) 367-8566 <u>nwales@calwater.com</u>	
	Patrick Alexander General Rate Case Manager		Phone: Email:	(408) 367-8230 ext.78230 palexander@calwater.com	
Date: Re: (Final) Subj:	September 3, 2021 SIB-014 – Partial Response # 2 Pipeline Replacement	Request Received from CPUC:August 27, 2021Requested Due Date:September 03, 2021Extension for 3,4,5,6,8,9, and 10:September 10, 2021Extension for 1,2, and 7:September 13, 2021			
Comme	ents: Partial response # 2 identified in bl	lue font			



CALIFORNIA WATER SERVICE COMPANY

Data Request SIB-014 Partial Response #2 (Final) (2021 GRC, A.21-07-002) - Page 2

- Response provided by Engineering.
- Does not contain confidential information.
- The first response refers to the following attachments included separately for partial response #1 on September 10:
 - Attachment #1 Summary of Pipes Info in Districts
 - Attachment #2 AWWA Buried No Longer BNL
 - Attachment #3 Asset Plan for Pipelines
 - Attachment #4 2021 GRC MRP Unit Cost Calculations
- This response refers to the following attachments included separately:
 - Attachment #5 Replacement Rates and Costs
 - Attachment #6 2021 GRC MRP Project List Existing Material
 - Attachment #7 2021 GRC MRP Project List Risk Assessment
 - Attachment #8 Break Count 2010 2020 by District

CALIFORNIA WATER SERVICE COMPANY



Data Request SIB-014 Partial Response #2 (Final) (2021 GRC, A.21-07-002) - Page 3

Data Requests and Responses

1. Please provide in Microsoft Excel format a table showing Cal Water's: requested pipeline replacement rate, Commission adopted pipeline replacement rate, completed pipeline replacement rate, requested cost, Commission adopted cost, and actual recorded cost per district for the past 10 years from 2010 to 2020. See example table below:

District	Year	Requested Replacement	Commission Adopted	Completed Replacement	Requested Cost	Commission Adopted	Recorded Cost
		Rate	Replacement	Rate		Cost	
			Rate				

Response: The data requested is included in Attachment 5. Please note that prior to 2016 (the 2015 GRC), pipeline requests, approvals, and replacement rates were handled differently, and Cal Water did not have the Mainline Replacement Program that we currently have. Prior to 2016, pipeline projects were requested individually within each district, rather than a combined program, and thus replacement rates and costs are not available in the same way. Data for requested and adopted replacement rates and costs are provided for the program after 2016. Hence, completed replacement rate and recorded costs are shown for 2016-2020.

Please note that replacement rates and recorded costs per year can be misleading, as in many instances, there is a zero value in one year, followed by a larger value the next year. In many cases, it makes sense to combine the footage per year into a larger project that is done the following year. This was especially true in districts like Antelope Valley, Chico, Dixon, Marysville, Oroville, Redwood Valley, Visalia, Willows, and Westlake. Additionally in some of these districts, due to rising costs, work was stopped once the budget was reached and the current project was completed, to avoid further additional costs. Please also note that in some cases, costs are shown as direct costs rather total costs.

2. As part of its pipeline justification Cal Water includes pipeline replacement schematics in each of its district project justification books. For example, Attachment B starting on page 20 of the Bay Area Region Capital Projects Justifications Book. Please provide a table in Microsoft Excel Format that illustrates this information for all the various districts. This table should include the district, Project ID, budget year, number of leaks, likelihood of failure (numerical score), consequence of failure (numerical score), business risk exposure, install footage, retirement footage, and water system. Also include the pipeline's diameter, age, current material, and proposed replacement material. See example template attached.

Response: The data requested is included in Attachments 6 and 7. The proposed projects and existing pipe information are maintained in separate databases and therefore are provided as separate attachments. Attachment 6 is the risk assessment and preliminary recommended pipe material. Attachment 7 is the data for the existing material, including pipe size, material and age. Within the GIS system, these two databases are overlaid visually, as shown on the maps in the Justification Books. This data is not easily combined because in most cases there


CALIFORNIA WATER SERVICE COMPANY Data Request SIB-014 Partial Response #2 (Final) (2021 GRC, A.21-07-002) –Page 4

are many small pipe segments of different materials that make up each project. The two lists can be cross referenced through the columns "MRP ID" in Attachment 6, and column "Map ID" in Attachment 7, as well as by looking at the visual maps provided in the Justification Books.

3. For each district, please provide in Microsoft Excel Format, a breakdown that shows the total length of each material by pipe size and vintage.

Response: Please see Attachment 1, tab "Summary Table". Please note tab "Material Definitions" explains the acronyms used in the summary table. Also, please note 9999 and -99 are placeholders for an unknown or missing installation date and pipe size, respectively.

4. Please explain in detail what factors Cal Water uses other than material, age, and break history such as (but not limited to) operating pressures, soil conditions, shrink-swell factor, water corrosively, etc. when determining remaining useful life of pipelines. If Cal Water does not take other factors into consideration, please explain why not.

Response: Cal water uses material, age, and diameter to determine the remaining useful life of pipelines. This industry approach is further augmented by Cal Water's historical pipeline break records as an indicator of condition. While other factors such as ground movement and soil types can influence service life, Cal Water currently analyzes the impacts of such factors as they manifest in actual breaks.

5. Please provide and explain the formulas Cal Water uses to develop likelihood of failure and consequence of failure. Include all factors that go into each formula.

Response:

Likelihood of Failure (LoF): The AWWA's Buried No Longer report (See Attachment 2) is referenced for the expected lifespan of a particular pipeline material. Using each pipes installation date, an initial score of 1-5 (<20% = 5, 20%-40% = 4, 40%-60% = 3, 60%-80% = 2, >80% = 1) is assigned based on the percentage of remaining life the pipe is expected to have (example: a pipe with 50% remaining life would be assigned a 3). The pipe is then assessed for its break history. If the pipe segment has two or more breaks, the LoF score is increased by 1 (exception is if the pipe is already a 5 as it is the highest score possible).

Consequence of Failure (CoF): The development of the CoF is highly complex as it uses multiple data points such as pipe size, zoning, road classes, environmentally sensitive areas, fire hazard zones, and other weighted elements to determine a score. The elements were selected to reflect a Triple Bottom Line approach which is an established methodology for developing CoF. This method attempts to balance social, environmental, and financial impact. The formulation used in Cal Water's analysis was developed by a third party contractor (Kayuga Solution), experienced with the development of business risk exposure methodologies (See Attachment 3).



- 6. Please confirm and explain whether Cal Water follows AWWA manual M77 "Condition Assessment of Water Mains".
 - Provide a copy of the manual.

Response: Cal Water does not use the AWWA reference manual M77 directly in the Main Replacement Program (MRP). However, there is some incidental overlap with Cal Water's Pipeline Asset Management program and M77. This similarity mainly derives from Cal water's adherence to the industry norms and practice.

Cal Water does not have an electronic copy of the AWWA reference manual M77. Cal Water can loan a hard copy of the manual to Cal Advocates.

7. For each of Cal Water's districts please provide in Microsoft Excel available water main leak data for years 2010 through 2020, including number of leaks, quantity of water associated with each leak, cost of lost water associated with each leak event, and associated cost of repair of each leak.

Response: The attached Excel spreadsheet contains the break count for the years 2010 – 2020 by District (See Attachment 8). There is not a current process to capture cost associated to repair each break, however; the total dollar figure for the general ledger account that break repair is charged to have been included for each year. This data can be found in Section II, Subsection Letter E, and Item 8 of the Minimum Data Requirement Response Form for the last three rate cases.

The amount of water lost due to each break event is not collected since it typically is not known and has to be estimated. Cal Water's Water Resources Sustainability team is currently working on initiatives that could make this data available in the future. Since the amount of water lost due to breaks is unknown, the cost associated with lost water is also unknown.

8. How did Cal Water determine its district pipeline replacement per foot costs?

Response: District pipeline replacement per foot costs were calculated based on the total historical actual costs for each main replacement program project completed between 2016 and 2020 for each district. Overhead was subtracted from these total costs, and then the totals were divided by the quantity of main installed on a per year basis to achieve a cost per foot per year per district. These yearly average per foot costs for 2016-2020 were then escalated to 2020 dollars for each year, and then averaged over the five years to get an average cost of replacement for each district.

9. Please, provide all related supporting documents explaining the estimated cost for each district proposed in the current General Rate Case ("GRC") A.21-07-002. The supporting documents should include, but should not be limited to, project description, engineering



CALIFORNIA WATER SERVICE COMPANY Data Request SIB-014 Partial Response #2 (Final) (2021 GRC, A.21-07-002) –Page 6

reports, requests for bids, bid results, contractor estimates, and any internal company communications or memorandums.

Response: As described in Question #8, the cost per foot values were developed using historical project costs between 2016 and 2020, rather than specific bids or additional reports. Once these costs per foot were developed, the total main replacement project costs per district were found by first determining the yearly footage by multiplying the footage of pipe in a district by the replacement rate, and then multiplying the result by the pipeline replacement per foot cost. Overhead and escalation are then calculated and added to the estimate to arrive at the total cost per district per year for all of the combined projects in that district (see Attachment 4 for additional details).

10. On page 21 of the Common Plant Justification Book Cal Water states, it submits pipelines with a certain LOF and COF to the MRP manager as candidates for replacement "along with the recommended replacement rate range from the AWWA Pipeline Replacement Tool." What is the AWWA pipeline replacement tool? Please provide an in-depth explanation.

Response: The AWWA Pipeline Replacement Tool (also known as the Buried No Longer Tool or the BNL Tool) was developed by AWWA and accompanied the Buried No Longer report published in 2012 (See Attachment 2). The tool uses inventory data and other water system attributes to develop a forecast of a water systems pipeline replacement needs. Around 2018, AWWA discontinued access to the tool as it became unsupported. It is understood that AWWA was having trouble supporting and updating the tool and was attempting to replace it with a newly developed tool, however; an updated tool has yet to be published.

The tool provides a multiyear projection of its results. Cal Water has maintained the past results of the tools recommended replacement rates as a reference for future planning.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

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	General Rate Case Manager	Email:	palexander@calwater.com	
Date:	September 3, 2021	Request Rec	ceived from CPUC: August 27, 2021	
Re:	SIB-015	Requested [Due Date: September 3, 2021	
Subj:	Physical Security			
Comments: Full response attached. Response provided by Engineering. Contains Confidential (Category #1) information. 				



- This response refers to the following attachments included separately:
 - Attachment #1 Navigant Report 2017 Confidential (Category #1)
 - Attachment #2 2018 GRC Recorded and Forecasted Projects



Data Requests and Responses

All page numbers referenced, unless otherwise noted, refer to Cal Water's "Physical Security Project Justification Book",

- 1. On page 8 Cal Water references a 2017 Navigant security assessment report. On page 11 Cal Water further states that in the fall of 2020 it reviewed and updated the recommendations presented in the 2017 report.
 - a. Please provide a copy of the original 2017 Navigant report.
 Response: See Attachment 1 for the original 2017 Navigant report.
 - b. Please provide a copy of the updated Cal Water report.
 Response: As discussed in the second paragraph on page 11 of the "Physical Security Project Justification and Other Matters Book", for the 2021 GRC filing Cal Water conducted a review of the remaining projects recommended in the 2017 Navigant report but updated this with the help of the district staff to ensure the recommendations in the 2021 GRC filing were still appropriate (e.g., some stations had been retired or were no longer as critical). These updates are reflected in the proposed costs estimates, scopes of work, and stations identified for each district in the "Physical Security Project Justification and Other Matters Book" of the 2021 GRC filing.
 - c. Please describe Navigant's role, if any, in updating the report? Response: The original Navigant report from 2017 formed the basis for all recommended projects presented in the 2021 GRC filing. The proposed projects included in the 2021 GRC filing were updated as recommended by district staff to accommodate changes (e.g. some stations had been retired or were no longer critical). Navigant was not involved in any updated projects presented in the 2021 GRC filing. However, Cal Water hired an independent consultant with extensive physical security experience to review the project justifications/budget and lead the security improvement projects.
- 2. Cal Water provides capital project cost estimates in support of its physical security requests, for example on page 18. These estimates seem to be prepared by Navigant and Cal Water.
 - a. Please explain how Cal Water calculates/estimates each cost it uses in these estimates? Response: Costs presented for the physical security requests are based primarily on Navigant's estimates as subject matter experts. Cal Water escalated these costs to 2020 dollars using the yearly inflation rates presented in the Cal Advocates Inflation Memorandums (see "Common Plant Project Justification Book" page PJ 121). Cal Water also included Cal Water labor required to complete design, installation, and/or manage the project, as well as other costs such as permitting fees and surveying. Unit costs for additional items were obtained from the cost catalogue (see "Common Plant Project Justification Book" page PJ-119) or from contractor cost quotes and a cost basis was included for those costs (e.g. surveying). Cal Water also incorporated additional cost factors where appropriate and the final total direct costs were then escalated to the project completion year assuming a 2.5% inflation rate.



b. Please provide supporting details for the numbers used in Cal Water's security improvement estimates. This support includes but is not limited to, vendor quotes, invoices, etc.

Response: The quantity of improvements required at a given site was based primarily on the original recommendations from the Navigant report (see Attachment 1). These numbers were modified based on discussion with Operations staff in each district after reviewing the proposed projects from the Navigant Report for 2022, 2023, and 2024. The results of those verbal discussion are presented in the 2021 GRC project justification Attachment A included within the "Physical Security Project Justification and Other Matters Book".

- c. Please provide vendor quotes for any of the costs included in its cost estimates Cal Water obtained. If none, why not?
 Response: Costs provided were primarily obtained from the Navigant report (see Attachment 1). Any costs adjusted by Cal Water from the Navigant report are from SKUs presented in the Cost Catalog or invoices presented as attachments in the "Physical Security Project Justification and Other Matters Book".
- 3. In its 2018 GRC filling Cal Water similarly requested various physical security improvement projects.
 - a. Please provide a table in Microsoft Excel format for each district showing the yearly requested physical security improvement budget, the Commission approved yearly budget, the actual recorded yearly budget, the yearly work proposed, and the yearly work completed.

Response: Please see Attachment 2. In addition to the recorded project closings to date, Cal Water also included the anticipated close for 2021 for projects not yet closed (Forecasted). Cal Water has completed a number of critical physical security projects to date (as further discussed in subsequent responses); however, Cal Water has also had to mature its Physical Security Program in parallel by hiring subject matter experts and developing new physical security standards. Given the success Cal Water has achieved developing these standards, coupled with the aggressive leadership that has been put in place, Cal Water anticipates an increased ability to close projects more systematically and at a higher volume for 2021 and beyond.

- b. Please explain whether the completed physical security projects resulted in a tangible improvement in Cal Water's security. Please provide concrete examples.
 Response: Cal Water continues to complete physical security site improvement projects and has realized the effectiveness of these enhanced security measures in a number of its stations. Below are 7-examples of security enhancements which have increased the safety and security of the facility, the customers that the facility supports, and the Cal Water employees that work in these facilities.
 - i. Visalia District Office Example

Before the fence upgrade, vagrants consistently cut the aged fence at this location, which included a reservoir, station, pumps, and motors. Access was gained quickly to this location to sleep, steal, or dump trash. Once the new fence was installed in



compliance with our new fencing standard, there have been no further incidents (see Figure 1).



Figure 1. Visalia Elevated Tank New Fencing

ii. Westlake District

There were no cameras at this location in the past. Before cameral installation, homeless persons were sleeping behind the building which is in an industrial park. The cameras have served as a deterrent, and have caused the homeless to move elsewhere (see Figures 2 and 3).



Figure 2. Security Camera Installation



Figure 3. View of Security Camera Footage



iii. Hermosa Redondo Station HR-9

This is considered a very critical facility supporting a significant amount of the Cal Water coastal zone. This project consisted of replacing 1,925 linear feet of fencing. Before the fence was replaced it was very easy to walk through the damaged areas of the fence. Typically is was just children, however, Cal Water does store and use sodium hypochlorite on site which poses a risk if a child were to get into the chemical storage building. According to the District Manager, Cal Water often received anecdotal information from neighbors that children would enter the facility. Chalk graffiti was fairly common as well. With the installation of the new fence, the District is not aware of any unauthorized entry to the site. The neighbors have also voiced their appreciation of having a nice new fence, opposed to the dilapidated one (see Figures 4 - 7).



Figure 4. Fencing Before Improvements



Figure 5. Fencing Before Improvements (see broken slates)



Figure 6. New Fencing



Figure 7. Another view of New Fencing



iv. East LA District Station 62

This location previously did not have any lighting, cameras, or intercom, and the homeless had an encampment in an adjacent easement. Before the security upgrades, the homeless jumped the fence, walked throughout to property to access power, steal anything they could recycle, and dump trash.

Following the District's security enhancements, which included new LED lights with motion detection, security cameras, and an intercom speaker to communicate with intruders via our 24/7 Pump Operator who monitors all facilities live from the District's Operations Center, they have had no further incidents (see Figures 8 – 14).



Figure 8. View of Homeless Encampment near station



Figure 10. New Fencing Around Station Perimeter



Figure 9. View of Homeless Encampment through new Fencing



Figure 11. View of Station CCTV and Alarms



Figure 12. View of Station Lighting Pole





Figure 13. Station Lighting Pole and CCTV



Figure 14. Close-up view of Lights and CCTV

v. East LA Customer Service Center

The Customer service center is located in an industrial area and homeless are an issue, and as such homeless have entered the facility and walked through the property to steal from company or personal vehicles. They have also been observed to be walking around the exterior perimeter which is at times is dangerous for all employees accessing or leaving the property.

The installation of new remote control access on all gates which enter the property makes the location much safer to enter and leave as employees do not have to get out of their vehicles to enter into the parking lot. Interior cameras have also been installed at all exits so that employees can see everything outside of the door before walking out, this also makes a safe exit for all employees. In addition the cameras outside are monitored by the 24/7 Pump Operator at the ELA Operations Center.

All employees now feel safe to come to work and leave work and ELA has not had any further incidents following these physical security enhancements.



Figure 15. CCTV Camera View outside Door (see Figure 17)





Figure 16. Fenced Gate and Card Reader



Figure 17. CCTV Camera Outside Door and Card Reader

vi. Selma Station 20

Station 20 had issues in the past with people cutting the fencing and/or digging under it (very sandy/easy digging). The fence was replaced which is depicted below. The photos show a much taller fence, thicker chain link, and barbed wire. You'll also notice 3'-wide concrete at the base of the fence. It was decided to add this 6"-thick concrete to prevent people from digging under the new fence.



Figure 18. New Fencing and Concrete berm



Figure 19. Additional View of New Fencing



vii. Selma District Office

Old cameras were out dated and did not function well and didn't record. This office houses SCADA and Customer servers. Photos below depict new camera system which provides enhance viewing and recording capabilities.



Figure 20. New CCTV Camera



Figure 21. Camera Along Building Exterior



Figure 22. CCTV Camera Along Building Exterior



c. Please provide support to justify any claims made regarding an improvement in Cal Water's security.

Response: Staff at Cal Water have worked diligently to buildout the company's Physical Security Program. This effort is exemplified by the following:

In 2017, Cal Water hired a security company call Navigant to assess its physical security program. An extensive report was issued by Navigant detaining vulnerabilities as well as deficiency solutions and made recommendations for physical security program development. Since the Navigant review Cal Water has hired a full time consultant to oversee physical security. Cal water staff have prioritized and updated physical security standards, to include; Fencing, Lighting, Risk Criticality Rating, Vegetation Management and are currently developing company standards for CCTV, Intrusion Detection Systems, Access Control/Locks.

Since 2019, Cal Water has worked persistently to complete site improvement projects despite the many challenges the last two years has presented. These efforts are ongoing. Cal Water has deployed an incident reporting tool and process which is aligned with the DHS Nationwide Suspicious Activity Reporting Initiative (NSI), the National Fusion Center Network and other State and local law enforcement entities. It has initiated a Physical Security Awareness Training Program and updated its incident Response Procedure to include the deployment of an incident response team and protocol, which is regularly exercised. Representatives from Cal Water have established relationships with Department of Homeland Security (DHS), FBI and various key members of the law enforcement members across the State and the Country. Cal Water has cultivated a strong working relationship with the Water Information Sharing Analysis Center (W-ISAC) as well as with other physical security professionals from similar organizations in the water industry for the purpose of sharing best practices. As of recent Cal Water has reengaged with Navigant, which is now called Guidehouse, to continue its efforts to identify and address physical security vulnerabilities within its stations and offices.

d. Has Cal Water seen a reduction in the number of trespassing incidents or break-ins since the security improvements were implemented?
Response: Implementation of Cal Water Security improvements began in CY 2019 and are ongoing. During this timeframe the threat landscape in the majority of Cal Water Districts has significantly increased. This increase correlates with the significant rise in homelessness and homeless encampments, unemployment, reduced criminal penalties, early incarceration release program, bail reduction policies, and the significant reduction in law enforcement services and resources. With this being the case, Cal Water has actually experienced a significant spike in trespassing incidents, break-in, vandalism, theft and other criminal activity. Since the beginning of January 2021, Cal Water Districts have reported 100+ Physical Security incidents, many of which required law enforcement involvement.

Below are photos taken this year at Cal Water Facilities as recent as September 2021:





Figure 23. Homeless Encampment Near Cal Water Station



Figure 24. Closer View of Homeless Encampment



Figure 25. Trespassers Blocking the View of CCTV Cameras



Figure 26. Trespassers Damaging and Dumping Cal Water Equipment



e. For sites in which the improved security measures have already been installed, please provide the number and a description of each security incident that occurred before the measures were implemented and after.

Response: Cal Water thoroughly recognizes the need to document and track physical security incidents. As mentioned is response 3c, Cal Water has deployed an incident reporting tool and process, called "Incident Reporter" which is located on the Cal Water Intranet and is accessible to all company employees. Incident Reporter facilitates the collection of data that can be used to measure the effectiveness of its security measures, direct resources and support additional security and law enforcement efforts. This tool was not deployed until January 2021, and such prior to its activation the company did not have a formal tracking system which could be audited. Based on a lack of historical information Cal Water is unable to site specific details or statistics to address this question specifically; however, information consistent with this request is cited in question 3b, where examples of given of the effectiveness of recently implemented security measures. In closing, Cal water recognizes the importance of this element of review and has already built it into its ongoing security efforts.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

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	,					
From:	California Water Service Company					
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	General Rate Case Manager	Email:	palexander@calwater.com			
	<u> </u>					
Date:	September 10, 2021	Request Rec	eived from CPUC: August 31, 2021			
Re:	SIB-016	Requested [Due Date: September 8, 2021			
Subj:	Projects Below District Threshold	Extension R	equest: September 10, 2021			
Comm	Comments:					
•	Full response attached.					
•	Response provided by CSS.					



CALIFORNIA WATER SERVICE COMPANY

Data Request SIB-016 Response (2021 GRC, A.21-07-002) - Page 2

- Does not contain confidential information.
- This response refers to the following attachments included separately:
 - Attachment 1_Project Justifications

CALIFORNIA WATER SERVICE COMPANY



Data Request SIB-016 Response (2021 GRC, A.21-07-002) – Page 3

Data Requests and Responses

- On page 10 of its "CSS & RDOM Project Justification Book", Cal Water states "Detailed written justifications have been provided for all specific projects greater than \$400,000 direct cost in order to demonstrate the necessity of the capital investment proposed for the District in the 2021 GRC." On pages v through vii Cal Water also included Table 1. Capital Budget Summary – Customer Support Services and Rancho Dominguez. Based on this table, \$9,293,387 of Cal Water's total \$59,618,634 budget falls below this \$400,000 threshold.
 - a. Please provide detailed project justifications for all CSS & RDOM projects with a proposed direct cost of greater than \$100,000 included in Table 1. referenced above.
 Response: Please see Attachment 1.
 - b. Please provide support to substantiate any claims or assumptions provided in response to 1.a.

Response: Please see Attachment 1.

c. Please provide support for the costs of each project. This includes but is not limited to detailed cost breakdown for each proposed project, vendor invoices/estimates, receipts, bid results, etc.

Response: Please see Attachment 1.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office		
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Date:	September 08, 2021	Request Rec	eived from CPUC: August 31, 2021
Re:	SIB-018	Requested [Due Date: September 08, 2021
Subi:	Next Generation Data Loss Prevention		
Comm	ents:		
•	Full response attached.		
•	Response provided by IT.		



- Does not contain confidential information.
- This response refers to the following attachments included separately:
 - o Attachment #1 SHI_Quote-1533290.pdf
 - Attachment #2 300_morelicense.pdf
 - Attachment #3 IBM Cost of Data Breach Report 2021.pdf

Data Requests and Responses

Please refer to Cal Water's "Customer Support Service and Rancho Dominguez Office Capital Projects Justifications Book".

- 1. On page 98 Cal Water states regarding its data loss prevention ("DLP") system "the current DLP system is now obsolete and needs a replacement."
 - a. Why is Cal Water's Current DLP system now obsolete?
 Response: As recent technologies emerge, products adopt these technologies to better cover the security environment's needs. Some key technologies that new DLP system leverage are Artificial Intelligence (AI), Machine Learning (ML), and Cloud data exfiltration monitoring. The existing solution does not have these capabilities.
 - b. What is the average service life of a DLP system?
 Response: There is no metric for this since it depends on the current security environment, considering threat actors, recent technologies, malware variants, etc. The existing DLP solution was put in place early 2018.
 - c. What did Cal Water's current DLP system cost?
 Response: \$199, 664

\$169,717.50 + \$29,946.50 for annual maintenance and support

- d. Please provide documentation to substantiate each of Cal Water's responses to questions 1.a, 1.b. and 1.c. above.
 Response: Reference Attachment#1_SHI Quote-15335290" for the initial system with 1,000 users. An additional 300 users were added under Attachment#2_300_morelicense which equals the 169,717.50 in response 1c. above.
- 2. On page 98 Cal Water states "since Cal Water's current DLP system is over three years old, it is generating too many "false positives.""
 - a. What is the industry standard number of false positives per month for a DLP system? Response: Unfortunately, there's no industry standard since each company's security environment is different. It depends on the number of devices (e.g. servers) being monitored and the critical infrastructure sector the company belongs to. Some sectors experience more attacks than others, which may also increase the number of false positives.
 - b. Please provide the monthly number of false positives generated by Cal Water's current DLP system for each month it has been in service.
 Response: The below table are the monthly false positives, year to date for 2021.

Response: The below table are the monthly false positives, year to date for 2021. Please note that data is not available for prior years.

Month	Cases	FP	Percentage
January	13	6	46%
February	4	2	50%
March	5	3	60%

CALIFORNIA WATER SERVICE COMPANY



Data Request SIB-018 Response (2021 GRC, A.21-07-002) – Page 4

April	4	4	100%
Мау	3	3	100%
June	7	5	71%
July	7	7	100%
August	5	3	60%
Total	48	33	69%

- c. How many false positives per month does Cal Water expect its proposed updated system to generate over its expected lifetime?
 Response: We expect this number to reduce because of the Artificial Intelligence and Machine Learning capabilities of the Next Generation Data Loss Prevention system. Using AI and ML, the DLP will now be able to "learn" over time that a user regularly accesses a specific type of restricted data; therefore, it will not flag it as a policy violation.
- d. Has Cal Water's current system ever failed to detect true positives?
 Response: Not yet. However, false positives are timely to investigate since it takes valuable resources away from dealing with real threats and productive work.
- e. Please explain whether Cal Water's current system accurately detects "true positives" i.e., reports violations of confidential data shared with unauthorized parties or whether it has ever failed to detect true positives.
 Response: The current system accurately detects true positives

Response: The current system accurately detects true positives.

f. What are the consequences of false positives?

Response: False positives can have the unintended effect of hobbling business efficiency. An example of a false positive is when an employee/contractor working in Finance copies files to an external drive to take home to work. The existing DLP will recognize those are restricted data, and it will alert the security team this is a violation of the policy. The security will follow up with the Finance team to learn this employee/contractor is authorized to access that data. The team will communicate with the Security Operations Center (SOC) that this is a regular activity, and the user is allowed to access that data. The SOC will then close the case. Time is wasted for the security team, the SOC, and the end-user to follow up on an incident that is a nonincident.

- g. Please provide documentation to substantiate each of Cal Water's responses to questions 2.a through 2.g. above.
 Response: Cal Water did not track the labor involved in these incidents, however, it was able to estimate an approximate impact in response 3a.
- 3. On page 98 Cal Water states "the latest DLP system has enhanced capabilities and will result in a lower total cost of ownership versus staying with the outdated version of the software."
 - a. Please provide a cost benefit analysis to substantiate the claim that switching to a new DLP system will result in financial benefits to the rate payer.



Response: Per response 2c and f, it costs approximately \$45,000 per year to address false positives (see assumptions in 3b). Additionally, many regulatory laws, such as the California Consumer Privacy Act (CCPA), Health Insurance Portability and Accountability Act (HIPAA), and the Payment Card Industry Data Security Standard (PCI DSS), require the DLP to maintain compliance. The DLP will help the Company adequately protect confidential customer data against unauthorized access and leaving the Company network. The average cost of a data breach is \$4.24 million according to a new report from IBM and the Ponemon Institute. That report titled "IBM Cost of Data Breach Report 2021" is attachment #3 for your reference

 Please provide support for any assumptions or calculations used in the cost benefit analysis requested in question 3.a.
 Response:

3 employees spending 2 hours each to address a false positive.

The average cost to pay these employees and the SOC is \$150/hour.

33 false positives year to date averages out to 4.125 false positive per month.

4.125 x 4 more months till end of year = 16.5 more false positives, round up to 17

17 + 33 = 50 false positives per year

50 false positives per year x 6 hours spent per false positive x \$150 per hour = \$45,000 per year

- 4. On page 99 Cal Water lists "Define the Next-Generation DLP system's requirements" as one of its project implementation strategies.
 - a. Has Cal Water decided on which DLP system it will install? Response: No
 - b. What DLP systems has Cal Water explored or intends to explore?
 Response: Due to the availability of several workable solutions, we will begin exploring those in 2022.
 - c. What is the service life of the DLP systems Cal Water is considering?
 Response: The service life is unknown due to the changing threat landscape, emerging technology, and malware variants. We need to continuously improve Cal Water's security posture by implementing a relevant security tool to combat the fast-evolving threat landscape.
 - d. Please provide documentation to substantiate each of Cal Water's responses to questions 4.a, 4.b. and 4.c. above.
 Response: We don't have documentation now because the requirements may change.
- 5. Cal Water is currently requesting to encrypt its databases as part of PID#124615 as presented on pages 45 to 49.



- a. How does Cal Waters encryption request affect the DLP system?
 Response: Encryption and Data Loss Prevention are two different cybersecurity disciplines that will build defense in depth to protect sensitive data better. Refer to 5b for more information on how the two solutions work together to build defense in depth.
- **b.** How do the two system relate to one another? Please explain with supporting documents.

Response: Data encryption takes place at the database level of the system architecture to protect sensitive information so that unauthorized users cannot read the content of the data if the user does not have the decryption key. Database encryption will obfuscate the data and make it meaningless and useless to the hackers. For example, suppose a hacker can download the entire database of our customer billing system that does not have encryption. In that case, they can read the data then exfiltrate that data externally if there is no Data Loss Prevention to stop that action. Both DLP and database encryption are important, but they serve different purposes as part of the larger cyber security program to build defense in depth to protect sensitive customer data.

- c. Will Cal Water need to take additional steps to ensure encryption? If so, please provide details.
 Response: Yes, restricted data at rest, in progress, and in transit must be encrypted.
- 6. On page 101 Cal Water includes a project cost estimate. On page 102 Cal Water includes a quote from Optiv as support.
 - a. Please provide an itemized cost breakdown of exactly how the \$500,000 will be spent, along with supporting documentation.
 Response: This is a preliminary quote based on high level requirements provided by Cal Water. The actual quote can vary quite a bit depending on the detailed needs identified by Cal Water. The itemized quote can only be obtained once we have gone through the RFP process. Most vendors will also not provide a detailed quote unless the purchase is imminent since software and labor costs can fluctuate from year to year.
 - b. Please provide quotes from providers other than Optiv the quotes obtained by Cal Water.

Response: Many vendors will not provide a detailed quote unless the purchase is imminent since software and labor costs can fluctuate from year to year. Optiv is one of the most respected cyber security firms in the market and has a great reputation for the goods and services they provide. The full RFP will involve multiple vendors.

c. If Cal Water has not obtained any quotes other than the one from Optiv, please explain why not.

Response: Please see explanation under item 6a and b. Optiv is an existing vendor Cal Water uses, and we are grateful they are cooperating with us to provide a high-level estimate for the project.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office		
	Brian Yu	Phone:	(213) 576-7075
	Project Coordinator	Email:	byu@cpuc.ca.gov
	Suliman Ibrahim	Phone:	(213) 266-4714
	Utilities Engineer	Email:	suliman.ibrahim@cpuc.ca.gov
	Marybelle Ang	Phone:	(415) 696-7329
	Attorney	Email:	marybelle.ang@cpuc.ca.gov
	Caryn L. Mandelbaum	Phone:	(213) 620-6456
	Attorney	Email:	caryn.mandelbaum@cpuc.ca.gov
From:	California Water Service Company		
	Greg Milleman	Phone:	(408) 367-8498
	Vice President, California Rates	Email:	gmilleman@calwater.com
	Natalie D. Wales	Phone:	(408) 367-8566
	Director, Regulatory Policy & Compliance	Email:	nwales@calwater.com
	Patrick Alexander	Phone:	(408) 367-8230 ext.78230
	General Rate Case Manager	Email:	palexander@calwater.com
Date:	September 13, 2021	Request Rec	eived from CPUC: August 31, 2021
Re:	SIB-019	Requested D	Due Date: September 13,
Subj:	Zoom Video Conference	2021	
Carr		<u> </u>	
Comm	ients: Full response attached.		
•	Response provided by IT.		



Data Request SIB-019 Response (2021 GRC, A.21-07-002) - Page 2

• Does not contain confidential information.

Data Requests and Responses

Please refer to Cal Water's "Customer Support Service and Rancho Dominguez Office Capital Projects Justifications Book".

- 1. On page 108 Cal Water states "remote workers are also using Zoom as their primary videoconferencing system."
 - a. Does every Cal Water employee currently have Zoom capabilities on their personal work devices (laptops, tablets, phones, etc.)?
 Response: Cal Water employees have Zoom capabilities on their laptops and phones.
 Employees with desktops require a USB camera for video and headset for mic/audio.
 - b. Can Cal Water currently install Zoom on all its work devices?
 Response: Any Windows computer and Apple iOS device can be installed with Zoom software.
 - c. Does Cal Water have to pay for Zoom software license per computer? If so, please provide details of the cost breakdown per licenses.
 Response: Zoom software is licensed per user/room, not per computer. The cost of a Zoom Meeting license is \$12 per user/month. The cost of Zoom Rooms license is \$30 per room/month.
- On page 104 Cal Water provides a detailed project scope. This scope includes procuring and upgrading 30 small/medium rooms and procuring and upgrading six large media centers. On page 103 Cal Water states it already has Zoom Rooms installed in the CSS campus.
 - a. Does Cal Water already have Zoom Room installed in any other locations? Please explain.

Response: Zoom Rooms have been installed in two CSS conference rooms and the Bakersfield Regional Customer Center as a proof of concept. The pilot is working out really well since users are able to get together for larger regional or companywide meetings without contending for bandwidth. As an example, the Zoom room establishes one connection for 15 people versus 15 people logging in separately from their desk/cubicle.

- b. Does Cal Water currently have video conferencing equipment installed in any of its locations? Please explain whether this equipment can be adapted to Zoom Room.
 Response: We plan to re-use the display screens. The other components of the current system is outdated and uses proprietary hardware.
- c. Why does Cal Water need to purchase new equipment such as iPad and laptops for the proposed Zoom Rooms? Why can't Cal Water simply use existing hardware such as already purchased employee laptops.

Response: iPads are used as Zoom Room controllers. Laptops are not required for Zoom Rooms, but a dedicated mini desktop computer will be. For Zoom Meetings, employees will use their existing computers; hardware is only required for Zoom Rooms.



d. Can Cal Water employees currently use Zoom using their personal and/or Cal Water issued devices?

Response: Yes, Zoom Meetings is currently being used by Cal Water employees on their company issued devices. However, it doesn't work as well when you have a companywide meeting such as our CEO's COVID update since everyone has to log in separately and it degrades the internet connection for the whole district/department location.

- e. What other video conferencing options did Cal Water explore? Response: We reviewed offerings from WebEx, GoToMeeting and Microsoft Teams.
- f. Please explain why Cal Water chose Zoom Room over other alternatives.

Response: We choose Zoom Room because it works seamlessly with Zoom Meetings, which we were already using for our employees. Keeping things on the same platform makes it easy and efficient for our employees to join meetings hosted by Zoom Room or join a meeting from a Zoom Room. Zoom also offers the best user experience at a reasonable price compared to other whole conference room solutions.

g. Please provide documentation to substantiate each of Cal Water's responses to the questions above.

Response:

Vendor	Meeting	Rooms	Capacity	Recording capabilities
Cisco WebEx	\$15/month - 2	\$100/month	1 to 200 - 1	√ - 10GB - 2
GotoMeeting	\$19/month -1	\$49/month	1 to 250 - 2.5	√ - Unlimited - 4
Microsoft Teams	Included in E3 (\$20/month) - 4	\$50/month	1 to 250 - 2.5	√ - OneDrive - 3
Zoom	\$12/month - 3	\$30/month	1 to 300 - 4	√ - 1GB - 1

- 3. On page 103 Cal Water states "Even in a post COVID environment, the Zoom Room will help contain travel costs and increase productivity by reducing drive and flight time."
 - a. Please provide a cost benefit analysis that show the financial benefits to rate payers resulting from Cal Water's proposed Zoom Room installations.

Response: We expect video conferencing will continue to be used in a post pandemic environment due to the convenience of the technology. However, it's difficult to quantify the impact to travel costs since the number of in person/Zoom videos varies by the current business environment such as the adoption of a new water quality standard, federal privacy law, Department of Labor audit, etc. We can track and report the usage of the Zoom rooms as an indicator of the cost/benefit analysis, but a Zoom meeting can replace a phone call, which also doesn't have any travel costs associated with it.

- b. Please provide documentation to substantiate each of Cal Water's responses to questions 3.a. above.
 Response: See response 3a.
- 4. On page 105 Cal Water provides a proposed cost for the project.



a. Please provide a detailed cost breakdown of how Cal Water arrived at these costs. The cost breakdown should detail proposed costs for each of the 36 rooms Cal Water plans to install Zoom Room in.

Response: There are 30 small/medium conference rooms and 6 large conference rooms.

Conference Room Name	Location ~	Room Details ~	Cost Est.
antelopevalley	Antelope Valley	small size room	10,888.03
Colma Creek	Bayshore	small size room	10,888.03
Cordilleras Creek	Bayshore	medium size room	10,888.03
Polhemus Creek	Bayshore	large size room	37,492.22
beargulchcs	Bear Gulch CS	small size room	10,888.03
beargulchops	Bear Gulch Ops	small size room	10,888.03
chicomediacenter	Chico	large size room	37,492.22
chico	Chico	small size room	10,888.03
Board Room	CSS	large size room	37,492.22
Los Angeles River	CSS	medium size room	10,888.03
Kern River	CSS	small size room	10,888.03
Sacramento River	CSS	medium size room	10,888.03
Engineering Conference	CSS	small size room	10,888.03
dixon	Dixon	small size room	10,888.03
eastlacs	East LA	small size room	10,888.03
Media Center	CSS	large size room	37,492.22
guerneville	guerneville	small size room	10,888.03
kernrivervalley	Kern River Valley	small size room	10,888.03
kingcity	King City	small size room	10,888.03
livermorecs	Livermore CS	small size room	10,888.03
losaltos	Los Altos	small size room	10,888.03
lucerne	Lucerne	small size room	10,888.03
marysville	Marysville	small size room	10,888.03
oroville	Oroville	small size room	10,888.03
palosverdes	Palos Verdes	small size room	10,888.03
rdomconfroom	RDOM Conf Room	medium size room	10,888.03
Rdom	conf room	small size room	10,888.03
rdomeng	RDOM	small size room	10,888.03
rdommedia	RDOM	large size room	37,492.22
salinas	Salinas	large size room	37,492.22
selma	Selma	small size room	10,888.03
stocktoncs	Stockton Customer	small size room	10,888.03
stocktonops	Stockton Operations	medium size room	10,888.03
visalia	Visalia	medium size room	10,888.03
westlake	West Lake	small size room	10,888.03
willows	Willows	small size room	10,888.03
			551,594.22
	Small/Medium	Large	-
Camera + Mic/Speaker + Install	\$8,987.28	\$35,591.47	
PC + iPad	\$1,561.75	\$1,561.75	
Mount + PoE	\$339.00	\$339.00	
	\$10,888.03	\$37,492.22	
Subtotal	\$326,640.90	\$224,953.32	
Total	\$551,594.22		

b. Please provide documentation to substantiate each of Cal Water's responses to questions 3.a, above.

Response: See attached quotes at the end of this response. The responses in 4a are estimates based on quotes we received for similar sized conference rooms. We had originally estimated the large room costing \$30,000 but the actual quote came in at \$35,591.47 which is why the total cost differs from the initial justifications.

c. Cal Water provides a quote from Stage 7 for the BK engineering office in the amount of \$8,987.28. How many vendor quotes did Cal Water obtain in support of its proposed budget?

Response: We used quote from Stage7 as they provided the best pricing compared to other vendors on other projects we have done. This information was gathered during COVID shutdown, it was difficult to bring different vendors on site to give estimates.

- d. Please provide quotes for offices other than BK engineering office obtained by Cal Water.
 Response: We did not get other quotes at the time.
- e. Is the BK engineering office an example of a small/medium room or a large media center? Please explain the distinction.
 Response: Small/medium room
- f. Cal Water provides a quote from CDW for computer equipment in the amount of \$1,531.75. How many vendor quotes did Cal Water obtain in support of its proposed budget?

Response: Cal Water only received a quote from CDW. CDW regularly provides pricing for these type purchases and is a regular supplier to Cal Water.

g. Please list all vendors Cal Water obtained quotes from for both hardware's and technical services.

Response: CDW for hardware, Stage7 for audio/video

- h. If Cal Water did not obtain quotes from other vendors, please explain why not.
 Response: Based on previous experience and our established relationship with CDW, they typically provide us with the most competitive pricing.
- i. Please provide any quotes that were not included as part of the project justification. Response: Updated quote from CDW and new quote from PC Connection. Added quote from Stage7AV for the CSS Media Center.







DEAR TRI NGUYEN,

Thank you for considering CDW LLC for your computing needs. The details of your quote are below. <u>Click here</u> to convert your quote to an order.

QUOTE #	QUOTE DATE	QUOTE REFERENCE	CUSTOMER #	GRAND TOTAL
1C5W5XM	9/8/2021	GRC 2021 - CDW - ZOOM ROOM	3386799	\$1,561.34

IMPORTANT - PLEASE READ

Fees applied to item(s): 5497005

QUOTE DETAILS							
ITEM	QTY	CDW#	UNIT PRICE	EXT. PRICE			
<u>HP EliteDesk 800 G6 - mini desktop - Core i5 10500 3.1 GHz - vPro - 8 GB -</u> Mfg. Part#: 20J09UT#ABA	1	6350372	\$952.53	\$952.53			
HP Next Business Day On-Site Coverage for CPU 4-Year Mfg. Part#: U7897E UNSPSC: 81112307 Electronic distribution - NO MEDIA	1	573011	\$51.99	\$51.99			
Apple IPad mini 5 Wi-Fi - 5th generation - tablet - 64 GB - 7.9" Mfg. Part#: MUQW2LL/A UNSPSC: 43211509	1	5497005	\$394.71	\$394.71			
RECYCLING FEE DETAILS							
ITEM	QTY	CDW#	UNIT PRICE	EXT. PRICE			
RECYCLING FEE 4" TO LESS THAN 15" Fee Applied to Item: 5497005	1	654809	\$4.00	\$4.00			

PURCHASER BILLING INFO	SUBTOTAL	\$1,399.23		
Billing Address:	SHIPPING \$31.			
ACCOUNTS PAYABLE	RECYCLING FEE	\$4.00		
1720 N 1ST ST SAN JOSE, CA 95112-4598	SALES TAX	\$126.30		
Phone: (408) 367-8200 Payment Terms:	GRAND TOTAL	\$1,561.34		
DELIVER TO	Please remit payments to:			
Shipping Address: CALIFORNIA WATER SERVICE COMPANY ATTN:TRI NGUYEN 1720 N 15T ST SAN JOSE, CA 95112 Phone: (408) 367-8200 Shipping Method: UPS Ground (2-3 days)	CDW Direct P.O. Box 75723 Chicago, IL 60675-5723			



CALIFORNIA WATER SERVICE COMPANY

Data Request SIB-019 Response (2021 GRC, A.21-07-002) - Page 8

Tri Nguyen Cart: 1660705496				
Billing Information	Shipping	Information		
Billing Address:	Shipping A	ddress:		
Tri Nguyen California Water Service 1720 N 1st St SAN JOSE, CA 95112 Billing Method:				
Credit Card: Visa				
Product		Unit Price	Qty	Total
HP EliteDesk 800 G6 DM vPro Core i5-10500 256GB SSD UHD630 ax BT USB-C MiO 90W Temporarily Out-of-Stock Call for next availab Item#: 41197796 Mfg. Part#: 20J09UT#ABA	3.1GHz 8GB W10P64 le delivery	\$1,031.10	1	\$1,031.10
HP 4-Year CarePack 9x5 Next Business Day Support - CPU Only In Stock Virtual delivery Item#: 4743418	Hardware	\$49.92	1	\$49.92
Mfg. Part#: U7897E				
Apple iPad mini 64GB, WiFi, Space Gray Temporarily Out-of-Stock Call for next availab Item#: 36794210 Mfg. Part#: MUQW2LL/A	le delivery	\$399.00	1	\$399.00

Subtotal:		\$1,480.02
Shipping & Handling:	Best Way - Ground	\$0.00
Tax:	\$0.00	
Total:		\$1,480.02



Stage 7, Inc. Estimate 1057 3057 Teagarden St. San Leandro, CA 94577-5720 US 510-575-9902 info@stage7av.com www.stage7av.com San Leandro, CA 94577-5720 US						STAGE 7 AV
ADDRESS	SHIP TO	-				
California Water Service	California Water Service					EXPIRATION
Company	Company		DATE 01/04/2021	TOTAL		DATE
PO Box 49033	PO Box 49033		01/04/2021	\$35,561.	*/	02/04/2021
San Jose, CA 95161 United States	San Jose, CA 95161 United States					
SHIP VIA ground	CLIENT PO # Pending	JOB 1619		STAGE 7 REP: Enrique Ochoa		
ПЕМ				QTY	RATE	AMOUNT
Logitech Rally Camera				3	1,244.44	3,733.32T
Vaddio - Camera Wall Mount				3	197.37	592.11T
Hall Research - USB 3.0 Extender				3	421.43	1,264.29T
Shure - MXA910W w/P300 Mixer Combo				2	4,997.44	9,994.88T
QSC - Digital Sound Processor Core 110				1	2,500.00	2,500.00T
D-Link PoE Dante Switch				1	237.96	237.96T
Extron - 2 Channel 70V Amp				1	928.57	928.57T
Crestron - Control Processor CP3N				1	1,857.14	1,857.14T
Crestron - Keypad Interface				2	500.00	1,000.00T
Crestron - Expansion Module Crestnet				1	648.86	648.86T
Crestron - Partition Sensor				1	500.00	500.00T
Heckler - iPad10.2 Wall + Network Interface PoE				2	360.00	720.00T
Rough In Cables, patch Cables, etc.				1	446.43	446.43T
Miscellaneous hardware, mounts, plates, etc.				1	982.14	982.14T
Allowance audio & video specialty cables, accessories, adapters, etc.				1	357.14	357.14T

Please send PO's to info@stage7av.com

Shipping

Technical Services, Labor, PM, Engineering, CAD & Programming

TOTAL

SUBTOTAL

TAX

\$35,591.47

6,320.00

1,030.27T

33,113.11

2,478.36

1 6,320.00

1 1,030.27

THANK YOU.



CALIFORNIA WATER SERVICE COMPANY

Data Request SIB-019 Response (2021 GRC, A.21-07-002) - Page 10

Scope of Work

3

BK Engineering Office

This space shall consist of a single OFE Display with a Nureva Microphone/Sound Bar Installed on top and a Logitech Rally video conferencing camera installed below per CAL Water Standards for conferencing spaces.

	BK Engineering	
OFE 65-75" Display Setup	J	
Dual 75" Display Setup	•	
Logitech Rally Camera	1	
OFE Heckler Table Mount w/PoE	1	
OFE iPad Mini Zoom Controller	1	
OFE PC for Zoom Room	1	
Wireless Presentation Only	1	
Power Amplifier 200W 70V		
Ceiling Speakers		
Digital Sound Processor		
Dante 8 port Switch		
Dual Shure MXA Table Mics		
Single MXA Ceiling Mic		
Nureva HDL Microphone	√	
Crestron Room Scheduler		
TOTAL Per Room	\$8,987.28	\$00.00

TOTAL INVESTMENT \$8,987.28



CALIFORNIA WATER SERVICE COMPANY



Data Request SIB-019 Response (2021 GRC, A.21-07-002) - Page 11




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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office				
	Brian Yu	Phone:	(213) 576-7075		
	Project Coordinator	Email:	byu@cpuc.ca.gov		
	Suliman Ibrahim	Phone:	(213) 266-4714		
	Utilities Engineer	Email:	suliman.ibrahim@cpuc.ca.gov		
	Marybelle Ang	Phone:	(415) 696-7329		
	Attorney	Email:	marybelle.ang@cpuc.ca.gov		
	Caryn L. Mandelbaum	Phone:	(213) 620-6456		
	Attorney	Email:	caryn.mandelbaum@cpuc.ca.gov		
From:	California Water Service Company				
	,				
	Greg Milleman	Phone:	(408) 367-8498		
	vice rresident, Camornia Rates	Eman.	gimieman@caiwater.com		
	Natalie D. Wales	Phone:	(408) 367-8566		
	Director, Regulatory Policy & Compliance	Email:	nwales@calwater.com		
	Patrick Alexander	Phone:	(408) 367-8230 ext.78230		
	General Rate Case Manager	Email:	palexander@calwater.com		
Date:	September 24, 2021	Request Rec	eived from CPUC: September 08,		
Re:	SIB-023	2021			
Subj:	Customer Care and Billing Cloud Upgrade	Requested E Requested E	Due Date: September 17, 2021 Extension Date: September 24, 2021		
Comm	Comments:				
•	Full response attached.				
•	Response provided by IT.				
•	Does not contain confidential information.				
-	 Attachment #1 – CCB Asset Listing 		ucu separatery.		



- Attachment #2 DR SIB-023 Oracle Lifetime Support Application List
- Attachment #3 DR SIB-023 Oracle Lifetime Support Summary
- Attachment #4 DR SIB-023 IT Asset Management Policy

Data Requests and Responses

Please refer to Cal Water's "Customer Support Service and Rancho Dominguez Office Capital Projects Justifications Book".

- 1. On page 132 Cal Water states "version of CCB 2.4 is on limited life support as Oracle has released significant upgrades and versions since original go-live in Feb 2016."
 - a. When did Cal Water's current Customer Care and Billing "CCB" application go into service? **Response: The current version of CCB was put into service in 2016.**
 - b. What is the expected service life of Cal Water's current CCB?
 Response: The typical life of a new software release is 3-5 years. Contingent on the PUC's approval, Cal Water is expected to launch the new version of CCB on the Cloud in 2023, which give the current version of CCB a shelf life of seven years.
 - c. Is Cal Water's current CCB no longer functional? Please explain.
 - Response: Cal Water is on CCB v2.4 SP2 which is several versions behind current releases. This version is functional to provide existing billing and customer account management. However, the current version does not provide support for present cyber security risks as the version and underlying technology platform cannot be patched to meet current security standards. Thus Cal Water is higher risk of potential data breach or other cyber security attacks of the CCB system which contains PII data and is required to be protected by state and federal privacy laws. A data breach could result in significant financial impact and negative public perception.

<u>New Feature</u>	Description_	Importance to CWS
Mobile Digital Self Service for Customers	Bill Notification, Usage Alerts, Data Virtualization, etc.	Delivers new functionalities to customers via mobile and desktop in the age of mega droughts and climate change.

The table below outlines additional new features or the proposed cloud upgrade and the impact to Cal Water.



CALIFORNIA WATER SERVICE COMPANY Data Request SIB-023 Response (2021 GRC, A.21-07-002) –Page 3

Rate Engine and Credit Management	Sophisticated approach to calculate service and quantity charges and mange credit and collections.	Drought and COVID may force CWS to reconfigure business processes related to bill calc and credit and collections.
AMI/Smart Meter Integration	Built in integration point for Smart Meter solutions.	Assists CWS from having to purchase a 3rd party, stand- alone product. Easier and cheaper to maintain in the long run.
Improved Security and Integration	New security architecture and integration platform.	Current CCB system will be over 7 years old; helps CWS stay current on security patches and on a platform fully supported by the vendor.
The new version of CCB is on the Cloud	The Cloud version of CCB helps reduce the need for expensive, recurring software upgrades. This has proven to work based on past implementations of Kloudgin and Workday.	Reduces total cost of ownership for customers in the long run and the frustration of employees having to learn a new system.

- d. What is the total cost of Cal Water's current CCB application?
 Response: Based on DR SIB-023 Attachment #1 CCB Asset Listing, \$23.3M.
- e. Please provide a breakdown of Cal Water's current CCB application costs and how they are included in rate base.
 Response: Refer to DR SIB-023 Attachment #1 CCB Asset Listing.
- f. Please provide support to substantiate Cal Water's answers to questions 1.a., 1.b., 1.c., 1.d., and 1.e. above.
 Response: Refer to DR SIB-023 Attachment #1 CCB Asset Listing.
- 2. On page 132 Cal Water states "the hardware that supports the CCB system is beyond its useful life and require a replacement."



- a. When was the hardware that supports the CCB application placed into service? Response: The hardware supporting CCB was put into service 2016 along with the CCB application.
- b. What is the expected life of the hardware?
 Response: Cal Waters' current expected life for servers is 4 years per current IT Asset
 Management Policy standards. The current hardware supporting CCB is beyond expected life.
- c. Please provide support to substantiate Cal Water's assertion that the hardware needs replacement.

Response: Refer to DR SIB-023 Attachment #4 – IT Asset Management Policy.

- d. What was the total cost of the hardware?
 Response: The cost of the current hardware supporting CCB is included in Line 2 of SIB DR-023 Attachment #1 CCB Asset Listing as part of the overall cost of the original system implementation. Cal Water does not have the detailed breakout of these costs.
- e. How much would the hardware cost to replace?

Response: The underlying physical servers are older technology that will be upgraded through support IT projects Network Hardware Replacements which are included separately as part of the 2021 GRC. The exact cost would depend on requirements to meet existing system requirements. The project proposal recommends migrating CC&B to the cloud which would eliminate the need for new hardware to support the system.

f. Please provide support to substantiate the projected hardware questions from question 2.f.

Response: See response to 2.e.

- 3. On page 134 Cal Water lists four alternatives for the current project.
 - a. Please provide a cost-benefits analysis comparing the financial aspects of the four alternatives.
 Response: Reference the Oracle Presentation, pages 139 157 included in the project

proposal.
b. Please provide support to substantiate any assumptions or calculations used in the answer to question 3.a.
Response: Costs are based on the Technology Master Plan and the Oracle presentation

Response: Costs are based on the Technology Master Plan and the Oracle presentation included in the project proposal.

 c. Alternative 4 states "continue to operate with existing application framework." Why did Cal Water reject this option?
 Response: Refer to 1.c. for additional reasons related to cyber security risks. The version will no longer be enhanced or updated by Oracle which will continue to hamper Cal Water's ability to meet customer demands. As an example, AMI is the



future of meter reading, and it's logical to have a billing system that can handle smart metering without customizing the system before the implementation of AMI.

- 4. Cal Water states on page 134 "Oracle will not provide software or security updates on the limited Software support."
 - a. When will Oracle stop providing software or security update from the current CCB application?

Response: Cal Water's current version of Customer Care and Billing is 2.4 SP2. Support for this version is categorized as Sustaining Support as of November 2020. The support category limits software and security updates to those pre-existing the November 2020 date.

- b. Please provide support from Oracle to substantiate this claim.
 Response: Attachment 2 and 3 are documents from Oracles support website.
 Attachment 2, page 49, identifies Cal Water's CC&B version 2.4 support status as
 Sustaining. Attachment 3 provides summary of Oracle support offerings as relates to Cal Waters current version.
- c. Is there any other source of software support available to Cal Water outside of Oracle? Response: Cal Water is not aware of any third party providers of support beyond technical and consulting resources.
- 5. On page 137 Cal Water provides a Capital Project Cost Estimate.
 - a. For each item provided in the cost estimate, please explain in detail how Cal Water arrived at the estimated cost.
 Response: Estimated costs are based on the Technology Master Plan and the Oracle presentation included in the project proposal.
 - b. Please provide support to substantiate Cal Water's estimated costs. This support includes but is not limited to, vendor quotes, invoices, etc.
 Response: The Technology Master Plan and Oracle Presentation document have been provided.
 - c. Did Cal Water obtain any vendor quotes or estimates for this project? If so, please provide the quotes.
 Response: Cal Water did not obtain direct quotes as vendors do not provide quotes for a project 2-3 years out since the business environment can change rapidly as we saw with COVID-19. The estimated costs were provided by a well known consulting firm working with many utilities.
 - d. If Cal Water has not obtained any quotes, please explain why not. Response: Actuals for this work will require issuing a Request for Proposal to get accurate cost for specific scope of work related to requirements outlined in the project proposal.
- 6. Cal Water includes a presentation from Oracle regarding cloud upgrade options starting on page 138. This presentation shows a total cost of over \$50 million for each of the three options listed. Cal Water is proposing a much lower cost of approximately \$14 million.



- a. What is the total cost of the proposed cloud upgrade including costs projected to be incurred in upcoming GRCs?
 Response: The \$14 million estimated capital cost being proposed in thhis rate case is based on option 3 in the project proposal to move to the cloud. The project proposal only specifies that portion of the cloud migration that is to be capitalized.
- b. Why is there such a substantial cost difference between Oracle's estimated cost and Cal Water's?

Response: Oracle's projected costs are for both Capital and Expense for an eight year period. The project proposal only specifies the amount to be capitalized under the upcoming rate case. The expenses are composed of internal labor and software licensing fees to Oracle. Both of these are already included in Cal Water's expenses.

- c. Please provide a detailed cost breakdown of the CCB upgrade project including any costs projected to be incurred after 2024.
 Response: Refer to pages 150, 152 and 154 for cost breakdown from discussion with Oracle for estimating each option. These estimates include estimates through 2027.
- d. Please provide support to substantiate any assumptions or calculations made in the responses to questions 6.a., 6.b., and 6.c. above.
 Response: Refer to Oracle presentation included in the project proposal pages 139 to 157.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office			
	Brian Yu	Phone:	(213) 576-7075	
	Project Coordinator	Email:	byu@cpuc.ca.gov	
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	<u> </u>			
	Marybelle Ang	Phone:	(415) 696-7329	
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	Caryn L. Mandelbaum	Phone:	(213) 620-6456	
	Attorney	Email:	caryn.mandelbaum@cpuc.ca.gov	
From:	California Water Service Company			
	Greg Milleman	Phone:	(408) 367-8498	
	Vice President, California Rates	Email:	gmilleman@calwater.com	
	Natalle D. Wales	Phone:	(408) 367-8566	
	Director, Regulatory Policy & Compliance	Lillall.	<u>Inwales@calwater.com</u>	
	Patrick Alexander	Phone:	(408) 367-8230 ext.78230	
	General Rate Case Manager	Email:	palexander@calwater.com	
Date:	September 21, 2021	Request Rec	eived from CPUC: September 08,	
Re:	SIB-025	2021		
Subj:	Customer Service Omni-Channel	Requested [Due Date: September 17, 2021	
	Solutions	Extension Due Date: September		
Comm	ients:	Extension D		
•	Full response attached.			
•	Response provided by IT.			
•	Does not contain confidential information			
•	This response refers to the following attac	hments inclu	ded separately:	



o Attachment #1 – Cal Water Voice of the Customer Research Results

Data Requests and Responses

Please refer to Cal Water's "Customer Support Service and Rancho Dominguez Office Capital Projects Justifications Book".

- 1. On page 158 Cal Water states regarding Omni-Channel solutions "There's an insatiable demand from our customers for this service as it relates to start/stop service and making payment arrangements"
 - a. How does Cal Water define "insatiable demand"? Please explain and quantify. Response: A customer's experience may vary between channels and to be great at customer service, every interaction at every customer touchpoint must be excellent. Customers are requesting additional channels such as smartphone, smart device, chat and voice assistant technology to perform business transactions such as start/service and payment arrangements. Today, customers are limited to Integrated Voice Response, Web and directly contacting customer service representatives via phone for these services.
 - b. How did Cal Water determine there is an "insatiable demand" for this service from its customers?

Response: Cal Water conducts customer focus group and feedback programs through partnership with firms that specialize in this area. Another source is benchmarking with what the utility and other industries are doing to improve the customer experience and increase satisfaction. The information provided from these are used to identify programs and supporting technologies Cal Water can implement to improve our customer's experience and satisfaction.

- c. Were customers made aware, in writing or other documented methods, of the potential increase in costs associated with omni-channel services? Please explain. For example, when Cal Water was surveying customers for their desire to be able to "start service request on the phone, get distracted by a real estate agent or move, and want to complete the transaction afterhours on the internet", did Cal Water mention to the customer the cost increase required to give the customer that capability? Response: No. It would be very difficult for Cal Water to attempt to quantify the increase in the cost to an individual customer for a project with a relatively small budget that is allocated across all of its customers. This is complicated further by the revenue split between residential and non-residential customers, fixed and usage charges, meter size and ultimately usage per customer.
- d. Does this project only give customers the ability to start payment on one medium and finish on another? If not, what other capabilities does this proposed project provide?
 Response: The expectation of the technology is any transaction a customer initiates in one medium could be completed on another. This would include but not limited to start/stop service, payment extensions and payment arrangements, scheduling an appointment, updating emergency contact info, setting up auto pay, or selecting the

communication preferences. This seamless transition is paramount for customers in the COVID and post COVID environment as customers migrate to digital channels.

- e. Please provide support included but not limited internal company correspondence, survey results, customer feedback forms, etc., to substantiate Cal Water's answers to questions 1.a., 1.b., 1.c., and 1.d. above.
 Response: Refer to Cal Water's Technology Master Plan. Attachment 1 is current Voice of the Customer Research Findings.
- 2. On page 160 Cal Water lists three alternatives for the current project.
 - a. Please provide a cost-benefits analysis comparing the financial aspects of the three alternatives.

Response: Alternative 1 cost is provided in the project proposal and is based on the Technology Master Plan cost analysis included in the plan. Cal Water did not cost out Alternative 2 and 3 as cost will be based on set of specific requirements in the form of a Statement of Work. These requirements have not yet been detailed out to obtain estimates from vendors. Furthermore, vendors do not engage in detailed pricing discussions for a project that will take place in the future since the business environment (e.g. # of active projects) changes from month to month.

- b. Please provide support to substantiate any assumptions or calculations used in the answer to question 2.a.
 Response: The estimates are based on cost analysis performed as part of the Technology Master Plan.
- c. Alternative 3 states "continue with current service and channels, making incremental improvements through upgrades and new capabilities of specific software in place for these channels." Why did Cal Water reject this option? Please explain. Response: Cal Water is proposing Alternative 1 to build out additional channels for customers to interact. We do expect to continue to use and enhance current channels such as website and IVR within current service agreements with vendors. The main difference between these two options are the addition and integration of new channels to work with existing options available to our customers.
- 3. On page 162 Cal Water provides a Capital Project Cost Estimate.
 - a. For each item provided in the cost estimate, please explain in detail how Cal Water arrived at the estimated cost.
 Response: The cost estimate is based on metrics and calculations used to produce Cal Waters Technology Master Plan.
 - b. Please provide support to substantiate Cal Water's estimated costs. This support includes but is not limited to, vendor quotes, invoices, etc.
 Response: Cal Water's Technology Master Plan has been provided as part of other data requests for reference.



- c. Did Cal Water obtain any vendor quotes or estimates for this project? If so, please provide the quotes.
 Response: Cal Water did not obtain specific vendor quotes. See 2.a. for more detail.
- d. If Cal Water has not obtained any quotes, please explain why not. **Response: Refer to 2.a. for response.**



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office				
	Brian Yu	Phone:	(213) 576-7075		
	Project Coordinator	Email:	byu@cpuc.ca.gov		
	Suliman Ibrahim	Phone:	(213) 266-4714		
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	Attorney	Email:	caryn.mandelbaum@cpuc.ca.gov		
From:	California Water Service Company				
	Greg Milleman	Phone:	(408) 367-8498		
	Vice President, California Rates	Email:	gmilleman@calwater.com		
	Natalie D. Wales	Phone:	(408) 367-8566		
	Director, Regulatory Policy & Compliance	Email:	nwales@calwater.com		
	Patrick Alexander	Phone:	(408) 367-8230 ext.78230		
	General Rate Case Manager	Email:	palexander@calwater.com		
Date: Re:	September 20, 2021 SIB-028	Request Rec 2021	eived from CPUC: September 09,		
Subj:	Water Resources Monitoring and Adaptation Plan	Requested [Due Date: September 20, 2021		
Comm	Comments:				
•	Full response attached.				
•	Response provided by Water Resource Sustainability.				
•	Response 3D. contains contidential information.				
•	 Attachment #1 – PED 				



- Attachment #2 Scope of Work
- Attachment #3 icf_professional_services_contract_072920
- Attachment #3a icf_incorporated_amendment 1

Data Requests and Responses

Please refer to Cal Water's "Customer Support Service and Rancho Dominguez Office Capital Projects Justifications Book".

- On page 174 Cal Water states "The Order Instituting Rulemaking (R18-04-019), initiated in May 2018, has focused its first phase on CPUC-regulated energy utilities. The ruling on Phase 1 will be released by September 2021 and will contain detailed requirements for conducting climate vulnerability assessments and designing adaptation plans."
 - a. Is Cal Water participating in R.18-04-019?
 Response: Cal Water did not participate directly in Phase 1 of R.18-04-019 as it was focused on energy, but our climate change consultant tracked the process for elements that will be foreseeably applicable to regulated water utilities. We plan to participate in Phase 2 of the Rulemaking.
 - b. If yes, to what extent and in what capacity?
 Response: We plan to engage in all facets of Phase 2 that are applicable to water utilities including, but not limited to, providing input and comments.
 - c. If Cal Water is not participating in R.18-04-019, please explain why not. **Response: Please see response to 1a.**
- 2. On page 175 Cal Water Cal Water states the Phase 1 results "will also contain elements that will be taken forward to Phase 2 of the rulemaking covering CPUC-related water utilities, including Cal Water."
 - a. When does Cal Water anticipate Phase 2 of the rulemaking will be complete? Response: Per recent CPUC communications, Phase 2 rulemaking in R.18-04-019 is scheduled to be completed by 12/31/22.
 - b. Please provide support to justify Cal Water's answer to question 2.a. above. Response: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M404/K113/404113062.PD F
- 3. On page 175 Cal Water lists two action items in its detailed project scope. The first is "review final CPUC rulemaking on Climate Adaptation" and "Revise Climate Change Water Resources Monitoring and Adaptation Plan to meet any CPUC requirements."
 - a. Has Cal Water chosen a consultant to work on this project?
 Response: We anticipate that ICF, which is our current consultant on climate change, would continue. We will evaluate and make a final decision prior to this work being completed.



b. If yes, please identify the consultant and provide any related request(s) for proposals and resultant bids.

Response: Please reference Attachments 1 through 2 and the following tables -

***Begin confidential



***End confidential

- c. What happens if a final CPUC rulemaking on Climate Adaptation is not available before the end of this rate case? Please explain.
 Response: Given the immediate importance of Climate Change Mitigation and Adaptation, we would move forward with additional work that is needed as identified in our Climate Change Water Resources Monitoring and Adaptation Plan.
- d. What if there are no additional CPUC requirements that require revisions to the Climate Change Water Resources Monitoring and Adaptation Plan? Please explain.
 Response: While such a ruling is highly unlikely given the R.18-04-019 process to date, Cal Water anticipates that there would still be significant additional work necessary to plan for and mitigate against/adapt to the climate change threats identified and assessed in Cal Water's initial work.
- 4. On page 177 Cal Water provides a Capital Cost Estimate.



a. Given the lack of information on the exact amount of work for this project since the results of the rulemaking are not yet known, how can Cal Water provide a reasonable estimate of costs?

Response: The types of climate change threats and related potential responses are known to a great degree. The estimated costs are based foundationally on the work currently being conducted as part of the Climate Change Water Resources Monitoring and Adaptation Plan.

b. For each item provided in the worksheet, please explain in detail how Cal Water arrived at the estimated cost.

Response: Given current unknowns (e.g. final recommendations resulting from the Climate Change Water Resources Monitoring and Adaptation Plan, Phase 2 of R.18-04-019), the consultancy cost of \$300,000 is based on approximately 50% of the cost of the Climate Change Water Resources Monitoring and Adaptation Plan (\$99,968.82: Phase 1 + 507,347: Phase 2 = 607,315.82:Total). We expect to see direct labor cost of approximately \$61,000 based on the quantity of hours and unit cost shown in the project justification estimate.

- c. Please provide support to substantiate Cal Water's estimated costs. This support includes but is not limited to, vendor quotes, invoices, etc.
 Response: Attachments 3 and 3a are included for current work which formed the basis for the cost estimate.
- d. Did Cal Water obtain any vendor quotes or estimates for this project? If so, please provide the quotes.
 Response: Please reference the response to 4c.
- e. If Cal Water has not obtained any quotes, please explain why not. Response: We will fully scope this work upon completion of the Climate Change Water Resources and Monitoring Plan with additional input from the status of R.18-04-019 at that time.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office			
	Brian Yu	Phone:	(213) 576-7075	
	Project Coordinator	Email:	byu@cpuc.ca.gov	
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Eromi	California Water Service Company			
	Camornia water Service Company			
	Greg Milleman	Phone:	(408) 367-8498	
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	General Rate Case Manager	Email:	palexander@calwater.com	
Date: Re:	October 1, 2021 SIB-030	Request Rec 2021	ceived from CPUC: September 09,	
Subj:	Energy Efficiency Improvement HVAC	Requested [Due Date: September 17, 2021	
	Optimization	Partial Resp	onse #1: September 20, 2021	
		Partial Resp	onse #2 (Final): October 1, 2021	
Comm	Comments:			
	 Partial Response #2 (final) attached. Updates in blue font. 			
	 Response provided by Facilities. 			
	• Does not contain confidential infor	mation.		
	 This response refers to the following 	ig attachmen	ts included separately:	



- Attachment #1 2018 GRC Settlement Appx V Page 6 (CSS Net-to-Gross)
- Attachment #2 CSS Depr Rates Current and Proposed 2021 GRC
- Attachment #3 PG&E electricity 02 2016 to 02 2018
- Attachment #4 PG&E electricity 09 2018 to 09 2020 Meter 1
- Attachment #5 PG&E PG&E electricity 09 2018 to 09 2020 Meter 2
- Attachment #6 Cumulative cost savings graph

Data Requests and Responses

Please refer to Cal Water's "Customer Support Service and Rancho Dominguez Office Capital Projects Justifications Book".

- 1. On page 208 Cal Water states the proposed HVAC upgrades will result in a "forecasted electricity savings of \$74,035 in the first year, yielding cumulative savings of \$417,342 over five years." Cal Water also states "the vendor will guarantee the savings within a maximum return on investment period of eight (8) years."
 - a. Please define what is meant by maximum return on investment?
 Response: The maximum period of time needed to realize energy savings equal to the total cost of the HVAC upgrades.
 - b. Cal Water mentions a maximum return on investment period of eight years. The estimated yearly savings is around \$75,000. The cost of the project is \$756,045.84. Dividing the cost of the project by eight would mean a yearly savings of approximately \$95,000 would be required for an eight-year return on investment period. Please explain this discrepancy.

Response: The estimated yearly energy savings will cover the total cost from the vendor within a maximum of eight years. This does not include the Cal Water added contingency.

c. What is the annual revenue requirement for the proposed project? Please show calculations.

Response: Based on a simplified revenue requirement calculation, the annual revenue requirement for 2023 associated with this project is \$113,193. This is calculated by multiplying the Accumulated Depreciation net plant in 2023 for this project (\$835,743) by the adopted Rate of Return (7.48%), and adopted Net-to-Gross Multiplier for CSS from the 2018 GRC (1.207) and adding the Depreciation Expense (\$31,400). The Depreciation Expense for this project is calculated by multiplying the Total Proposed Project Estimate (\$867,043, including Construction Overhead and AFUDC) by the proposed Depreciation Rate for CSS (3.61%). The Accumulated Depreciation net plant in 2023 is calculated by subtracting the Depreciation Expense from the Total Proposed Project Estimate. Please keep in mind that this calculation assumes that all capital is approved in the 2021 GRC as proposed, the Depreciation Rate for CSS is approved as proposed, and the Rate of Return in 2023 remains as adopted.

d. Please provide support to substantiate Cal Water's assumptions and calculations used in the answer to question 1.c. above.



Response: For the Total Proposed Project Estimate, please refer to page 162 of Attachment A to the RO Book for Customer Support Services. Please see Attachment 1 for a copy of the adopted Net-to-Gross Multiplier from the 2018 GRC and Attachment 2 for the Proposed Depreciation Rates for CSS in the 2021 GRC. Assumptions are listed in Cal Water's response, above.

e. On page 214 the contractor provides an estimated energy costs savings of \$76,900 per year. The contractor does not explain how they arrived at this number. Please explain in detail how the estimated savings were calculated.

Partial Response #1: We have requested the details from the contractor and are anticipating a response by October 1. If the contractor is willing to share their calculations we will provide them. Please note that the contractor is guaranteeing the savings within the identified timeframe.

Update – The following information was provided by the contractor - Estimated savings for the four Cal Water buildings are based on saving 282,208 kWh at 24.8 cents/kWh and 3,558 therms at \$1.15 per therm.

f. Please provide support to substantiate Cal Water's assumptions and calculations used in the answer to question 1.e. above.

Response: Please reference response in 1e. These are not Cal Water's calculations. The contractor provided them as part of their proposal.

Update: The following information was provided by the contractor - The savings estimates were calculated using industry assumptions applied to the various building systems:

i. kWh per ton for adding an integrated economizer to an office AC unit that now has fixed outside air intake, in San Jose.

ii. Percent saving for adding a variable fan drive (VFD) to a chilled water pump (to vary flow with load, following the pump affinity laws)

iii. kWh savings per square foot for full direct digital controls (DDC) optimization (optimum start-stop, grouping rooftop units to reduce heat-cool fighting over setpoint conflicts, morning pre-cool, etc.).

iv. PG&E along with the other utilizes will have rate increases of 6-7+ percent for the foreseeable future due to their extensive infrastructure upgrades and the State of California commitment to Zero net.

g. The contractor's guarantee is based on a proposed project with total cost of \$592,276 and not Cal Water's proposed project costing \$756,045.84. Will the contractor guarantee apply to the project contemplated by Cal Water's full requested amount of \$756,045.84? Please explain.

Response: The return on investment guarantee is based on the contractor project cost and resulting projected energy savings.

h. Are the projected electrical costs savings currently reflected in the rate case? If not, why not?



Response: The approximate annual cost savings of \$75K were inadvertently not included in the RO model. Since the project is anticipated to be in service at the end of 2022, the annual savings would begin in 2023. Given it's a CSS item, the savings would then get allocated to the various rate making areas at that time. If the project is accepted, Cal Water will include the savings in the RO Model.

- If these savings are reflected in the current rate case, please indicate where in the RO model and testimony these savings are shown.
 Response: Please refer to response 1h.
- 2. On page 121 Cal Water includes a table showing building utilities total electricity usage and costs. This table is dated 2016.
 - a. Please provide a similar table for the years 2017, 2018, 2019, and 2020.
 Response: The table was created by Impact Group as part of an energy study performed for Cal Water. Cal Water does not have a similar table for the requested years. However, please refer to the following attachments that contain usage and cost information for those years.

Attachment #3 – PG&E electricity 02 2016 to 02 2018

Attachment #4 – PG&E electricity 09 2018 to 09 2020 Meter 1

Attachment #5 – PG&E electricity 09 2018 to 09 2020 Meter 2

- b. Has Cal Water seen a reduction in its energy usage as a result of work from home activity? If not, please provide specific reasons.
 Response: No, the majority of staff remained working on-site.
- 3. On page 213 Cal Water provides a cumulative cost savings graph comparing current annual costs and projected baseline costs.
 - a. Please provide this graph in Microsoft Excel format. **Response: Refer to response to question #1f.**

Update: Please refer to Attachment #6 – Cumulative cost savings graph.

b. Please include the raw data used to prepare the graph. Response: Refer to response to question #1 f

Update: Please refer to Attachment #6 – Cumulative cost savings graph.

- c. Please provide an explanation for how Cal Water calculated these numbers.
 Response: The contractor calculated these numbers. Refer to response to question #1 f.
- d. Please provide support to substantiate any assumptions or calculations used in the answer to question 3.c.
 Response: Refer to response to question #1 f



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office			
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	Suliman Ibrahim Utilities Engineer	Phone: Email:	(213) 266-4714 <u>suliman.ibrahim</u> (@cpuc.ca.gov
	Marybelle Ang Attorney	Phone: Email:	(415) 696-7329 <u>marybelle.ang@</u>	cpuc.ca.gov
	Caryn L. Mandelbaum Attorney	Phone: Email:	(213) 620-6456 <u>caryn.mandelbau</u>	um@cpuc.ca.gov
From:	California Water Service Company			
	Greg Milleman Vice President, California Rates	Phone: Email:	(408) 367-8498 gmilleman@calw	vater.com
	Natalie D. Wales Director, Regulatory Policy & Compliance	Phone: Email:	(408) 367-8566 <u>nwales@calwate</u>	er.com
	Patrick Alexander General Rate Case Manager	Phone: Email:	(408) 367-8230 e palexander@calv	ext.78230 water.com
Date:	October 05, 2021	Request Rec 2021	eived from CPUC:	September 24,
Re:	SIB-031	Desuceted	Nue Deter	Ostakar 01 2021
Subj:	RDOM Second Floor Improvements	Extended Du	ie Date:	October 01, 2021 October 05, 2021
Comm •	ents: Full response attached. Response provided by Facilities and Engine	eering.		



- Does not contain confidential information.
- This response refers to the following attachments included separately:
 - DR SIB-031 Attachment #1 RDOM Second Floor Clean Floorplan
 - DR SIB-031 Attachment #2 RDOM Second Floor HR Offices
 - $\,\circ\,\,$ DR SIB-031 Attachment #3 Area listing 2780 Skypark Dr Torrance, CA 90505
 - DR SIB-031 Attachment #4 Area Listing 3701 Skypark Dr Torrance, CA 90505



Data Requests and Responses

Please refer to Cal Water's "Customer Support Service and Rancho Dominguez Office Capital Projects Justifications Book".

- 1. On page 220 Cal Water states "the Cal Water Human Resources (HR) department staff in southern California does not have an appropriate area for confidential discussions and interviews. There is also not enough meeting space to accommodate the needs of various corporate departments in the building."
 - a. How many corporate departments are located in the building?
 Response: 8
 - b. What are the departments?
 Response: Engineering, Employee Relations & Development (HR), Conservation, Corporate Communications, Supplier Diversity, Community Affairs & Government Relations, Water Quality, and Safety occupy the second floor.
 - c. How many employees work out of the building?Response: 143
 - i. RDOM District Operations 96
 - ii. CSS Engineering (31), Employee Relations & Development (HR) (3), Conservation (5), Corporate Communications (4), Supplier Diversity (1), Community Affairs & Government Relations (1), Water Quality (1), Safety (1)
 - d. Will all these employees be permanent reporting or are some teleworking? Please provide the number of permanent reporting and teleworking employees.
 Response: All corporate employees report to the site.
 - e. Does Cal Water have plans to establish or retain a hybrid workforce as a result of its experiences during the COVID-19 pandemic?
 Response: No current plans.
 - f. Has Cal Water explored or does Cal Water have any plan to use office or desk sharing? Response: No, with all corporate employees reporting to the site, there is no opportunity for desk sharing.
 - g. Please provide support to show there is not enough meeting space to accommodate employee needs.
 Response:
 - i. First floor two meeting rooms seating 10 and 6, Media Center seats 75
 - ii. Second floor one meeting room seats 10
 - h. Where are employees currently meeting?
 Response: Currently employees are meeting online from their desks, or if necessary socially distanced in meeting rooms.
 - i. What are the closest Cal Water facilities in the vicinity of the building? Please list facilities by distance for a 20-mile radius.



Response: All these facilities are located in metropolitan area that are heavily congested with traffic that Cal PA would have experienced during the tours. For example, ELA is only 17 miles, but it could easily take anywhere from 30 to 90 minutes depending on the time of day.

- i. 17.3 miles ELA District Office 2000 S Tubeway Avenue, Commerce, CA
- ii. 5.4 miles PV 5837 Crest Road West, Ranch Palos Verdes , CA
- iii. 10.1 miles Hawthorne 12540 Ramona Avenue, Hawthorne, CA
- j. Do any of these facilities have meeting space available?
 Response: ELA has only one meeting room, PV has one small meeting/file room, HAW does not have any meeting spaces
- 2. On page 220 Cal Water states "the company also needs to build a space for a second Emergency Response Center "EOC"."
 - a. Does Cal Water currently have an EOC in Southern California? **Response: There is a District EOC in RDOM.**
 - b. When an emergency occurs in Southern California, where does Cal Water currently conduct emergency operations?
 Response: San Jose EOC.

The current District EOC set-up can only support the RDOM District and commandeers a conference room for the duration of the event, impacting normal daily operations. This is particularly challenging during long term emergency events that do not impact all 3 districts or only a portion of one district.

c. Can Cal Water manage emergency operations from the San Jose EOC? If not, why not? Please explain in detail.

Response: Cal Water has been managing emergency operations from the San Jose EOC, however, if there was an event that disabled the San Jose location, there is no back-up that could support California. Additionally, with increasing frequency of events in California (fire and drought) a second EOC in Southern California could be used to provide support throughout the state, as necessary.

d. Does Cal Water have any alternative spaces for a secondary EOC in Southern California? Please list.

Response: No. The RDOM site is logical due to the proximity of critical corporate functions – Engineering, Human Resources, and Corporate Communications.

- e. Are these potential spaces owned or leased? Please list. Response: Cal Water only considered this location due to co-location with critical corporate departments.
- f. Do any of these potential alternative spaces require renovation? Please list. **Response: N/A**
- g. What are the estimated costs for renovating each of these potential spaces? **Response: N/A**

CALIFORNIA WATER SERVICE COMPANY

Data Request SIB-031 Response (2021 GRC, A.21-07-002) - Page 5

- 3. On page 220 Cal Water states "the vacated tenant space previously occupied by JCC."
 - a. Please provide a brief description of this building history including ownership, use, renovations, etc.

Response: The operational and administrative consolidation of Dominguez So. Bay, Hermosa Redondo and Palos Verdes was authorized in D. 00-05-047 (merger of California Water Service Company, Dominguez Water Company, Kern River Valley Water Company and Antelope Valley Water Company).

Section 2.22 of the 2012 GRC Settlement Agreement (D. 04-04-041) had the following discussion –

"In connection with the merger, Cal Water transferred properties which it claims are no longer used and useful to its affiliate CWS (Relinquished Properties). CWS exchanged the Relinquished Properties tax-free with a real estate developer, JCC Holmes Inc. for a build-to-suit office center which currently houses the combined district operations of Palos Verdes, Hermosa Redondo and Dominguez districts.

The office center is owned and operated by CWS Utilities Inc., a non-regulated affiliate of Cal Water. Cal Water leases approximately 60% of the office and 75% of the land for use as its Regional office. The remainder of the office center leased to a third party (JCC Holmes, Inc.)."

Renovations related to the Regional Office were proposed and authorized in subsequent GRCs. Renovations related to the districts were proposed and authorized as Rancho Dominguez capital additions (allocated to Dominguez, Hermosa Redondo and Palos Verdes based on four-factor methodology) and renovations related to Corporate Departments were proposed and authorized as CSS/GO capital additions.

- b. How long was JCC a tenant?
 Response: January 2005 August 2019
- c. What was JCC's monthly rent?

Response:

Date	Description	SF	Мо	nthy Rent	An	nual Rent
Jan-05	Lease	6085	\$	9,639	\$	115,668
Dec-09	First Amendment	4156	\$	5,687	\$	68,244
Sep-12	Second Amendment	4156	\$	2,500	\$	30,000
May-16	Third Amendment	3844	\$	2,313	\$	27,754

- d. Why did JCC vacate the space?
 Response: JCC was winding down their business and no longer had need for the space.
- e. Has the space been listed for rent since JCC vacated? **Response:** No.
- 4. On pages 220 and 221 Cal Water provides three alternative options to the current project.



CALIFORNIA WATER SERVICE COMPANY Data Request SIB-031 Response (2021 GRC, A.21-07-002) –Page 6

a. Please provide a cost-benefits analysis comparing the financial aspects of the three alternatives.

Response: The first alternative, Re-Arrange to Use As-Is, was not estimated since it did not meet the criteria for new Human Resource (HR) offices to allow confidential discussions and interviews. Additionally, the current HVAC system cannot handle any additional zones.

For the second alternative, Lease Space, this was not estimated because of the reduced available square footage and limited window line, the appeal to tenants of this location in this market would be reduced. Parking on the site is also limited with the increase of employees reporting to this site. Moreover, two corporate real estate brokers indicated the market was flooded with similarly sized suites that have been improved, are in more desirable locations, have available parking, offer on-site property management services, and are available immediately.

In doing nothing, Cal Water is not addressing the undesirable dynamics that currently exist for employees and applicants interacting with HR at this location. The current central location of the HR offices does not afford any privacy for meetings or interviews in these offices. Further, with a recent expansion of the engineering team, there are now desks situated immediately adjacent to the Director, Employee Relations & Development's office. Developing a long term vision for the second floor enables Cal Water to more efficiently and accurately plan, schedule, and budget changes going forward.

The initial investment requested for the project will enable Cal Water to meet the needs of employees and applicants interacting with HR, address EOC reliability, and develop a long-term use plan for the second floor. These actions will also enable the design of a new HVAC mechanical system that will more effectively and efficiently support the current and future developments within the building. The replacement of the HVAC is a future project as the current system is approaching the end of its useful life.

b. Please provide support to substantiate any assumptions or calculations used in the answer to question 3.a.

Response: The map below shows the current listing for spaces in the Torrance area similar in size to the JCC space. Additionally, the examples of local listings and features shown in Attachment #3 and Attachment #4 are within 1. 5 miles of the Cal Water location. These are comparably sized spaces, both have been on the market for almost a year, have been updated, and offer substantial parking, onsite property management, and views.



CALIFORNIA WATER SERVICE COMPANY Data Request SIB-031 Response (2021 GRC, A.21-07-002) –Page 7



c. Alternative 3 states "continuing to use the space as-is will result in inefficient use of the building." What financial impact does this inefficient use have on Cal Water? Please explain.

Response: There are no tangible financial impacts as the question is stated, however, one could assume a level of lower productivity under the current configuration. As mentioned in the project justification, the project provides an opportunity to effectively meet needs of the HR department, while not disrupting the day-to-day activities of others.

- d. Cal Water states in alternative 2 "discussions with realtors identified that the cost of tenant fit-out would essentially negate the value of the likely rentable income." Please provide support to substantiate this statement.
 Response: Cal Water spoke with two corporate real estate brokers over the telephone who indicated the market was flooded with suites similar in size to the JCC space in more desirable locations with more parking. They indicated Cal Water would need to offer tenant improvement funds to update this space for an incoming tenant, with lower rents due to the volume of space on the market. Also, with growth in the District and corporate presence, the site is not able to offer an attractive parking spot to square foot ratio.
- e. If leasing the space provides no financial benefit, why did Cal Water previously lease the space? Please explain.
 Response: It was part of the initial agreement with JCC and Cal Water did not have a need for this particular space at that time.
- 5. On page 221 Cal Water includes figure 1 Second floorplan for 2632 W 237th Street.



CALIFORNIA WATER SERVICE COMPANY Data Request SIB-031 Response (2021 GRC, A.21-07-002) –Page 8

- a. Please provide a clean (unmarked) copy of the plan.
 Response: Attachment #1 RDOM Second Floor Clean Floorplan
- b. Please provide another copy of the plan with the current location of the HR offices marked.

Response: Attachment #2 – RDOM Second Floor HR Offices

- c. What will the current HR offices be used for when they are moved?Response: Initial use is expected to meet private office needs for other departments.
- d. Please provide a description of what the space directly under the area labeled "develop HR suite and multipurpose room" is currently used for.
 Response: The offices are currently used by employees for individual meeting spaces and break/lunch areas due to current COVID protocols. Some of the open rooms are used for storage.
- 6. During Southern California Field visits on Cal Water discussed its camera monitoring program at several sites. Cal Water indicated the properties are monitored by camera by Cal Water employees 24/7. Cal Water also stated one of the properties is equipped with a speaker that allows the operator to communicate with any trespassers.
 - a. Please provide a description of Cal Water's camera monitoring program.
 Response: There are two existing methods in which Cal Water monitors closed caption TV (CCTV) These methods include using Cal Water Staff employees as a collateral duty during business hours and the use of a third party provider which can include 24/7 services based on the terms of the contract.
 - b. Who monitors Cal Water's cameras?

Response: In some cases, CCTVs are monitored by CWS employees during business hours as a collateral duty. In most cases this is tied to SCADA monitoring responsibilities. IF CCTVs are monitored after hours it is normally done by a third party provider. The exception would be the ELA district where we have an around the clock Pump Operator who monitors SCADA along with a number of other collateral duties, one of which is to occasionally observe the CCTVs for several ELA facilities. The ELA program is not operated as a "Security Operations Center" (SOC), where the total focus is directly on physical and cyber security, rather it is a collateral responsibility.

c. Do employees monitoring cameras have other duties?
 Response: Yes, there are no CWS employees whose sole responsibility is to monitor security CCTV.

The ELA staff that monitors the CCTV operates the SCADA for ELA and Westlake, answer all after-hour phone calls, assist with production reporting, calibration of water quality equipment, various inputting of programmatic data, drawings and other duties as assigned.

d. Please provide a list of all Cal Water properties that currently have a camera monitoring system in place.

Response: Currently Cal Water does not have a formal inventory available on which

Districts or stations have camera monitoring systems. In addition to ELA, Salinas and Los Altos have third party contracts for CCTV monitoring, with other districts considering this option.

- On page 223 Cal Water provides a Cost Estimate. This cost estimate estimates the improvements costing \$456,665. On page 224 Cal Water provides a cost basis worksheet. The sum of the costs included in this worksheet total \$480,700.
 - a. Please explain the difference in total prices.
 Response: A location factor of -5% was originally applied, reducing the subtotal of Direct Costs from \$480,700 to \$465,665. However based on quote received, the higher cost estimate is accurate.
 - b. What is the correct total price? Response: \$480,700
- 8. On page 225 Cal Water provides a quote from Nelson Architecture.
 - a. Did Cal Water obtain any additional architectural vendor quotes or estimates for this project? If so, please provide the quotes.
 Response: No.
 - b. If Cal Water has not obtained any quotes, please explain why not.
 Response: This proposal was obtained for budgetary purposes. Cal Water will follow procurement requirements for competitive bids once this project is ready to move forward.
- 9. On page 235 Cal Water provides a quote from Roebbelen.
 - a. Did Cal Water obtain any additional construction vendor quotes or estimates for this project? If so, please provide the quotes.
 Response: No.
 - b. If Cal Water has not obtained any quotes, please explain why not.
 Response: This quote was requested as an initial rough order of magnitude construction budget based on the initial design. Following completion of architectural drawings, Cal Water would begin a competitive RFP process for construction services.
- 10. On page 236 Cal Water provides a quote from Resource Design Interiors.
 - Did Cal Water obtain any additional furniture quotes or estimates for this project? If so, please provide the quotes.
 Response: No.
 - b. If Cal Water has not obtained any quotes, please explain why not.
 Response: RDI is our current designated furniture vendor.
 - c. The total order cost listed in the quote is \$82,736.82 for furniture. Cal Water is estimating \$130,000 cost for furniture. Please explain the discrepancy.
 Response: The original rough order of magnitude budget was estimated at \$130K, which included both furniture and audio visual equipment. The furniture plan was



refined and quoted in the amount of \$82,736.82. The remainder is an estimate for audio visual equipment and installation, for which the design has yet to be developed.

d. If the \$130,000 is the correct cost, please provide additional support to substantiate the estimated cost.

Response: Please refer to 10c.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office		
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From:	California Water Service Company		
	Greg Milleman	Phone:	(408) 367-8498
	Vice President, California Rates	Email:	gmilleman@calwater.com
	Natalie D. Wales	Phone:	(408) 367-8566
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	Patrick Alexander	Phone:	(408) 367-8230 ext.78230
	General Rate Case Manager	Email:	palexander@calwater.com
Date:	October 01, 2021	Request Rec 2021	eived from CPUC: September 24,
Re:	SIB-032	Requested D	Due Date: October 01, 2021
Subj:	Water Quality Satellite Drinking Water Lab ELA		
Comm	ents: Full response attached.		



- Response provided by Water Quality.
- Does not contain confidential information.
- This response refers to the following attachments included separately:
 - Attachment #1 CSS Depr Rates Current and Proposed 2021 GRC
 - Attachment #2 Ricoh Copier
 - Attachment #3 WQ Lab Architectural Proposal
 - Attachment #4 ROM WQ Infrastructure Update
 - Attachment #5 INORG_IC MS
 - Attachment #6 INORG_IC System
 - Attachment #7 ORG_Solid Phase Extractor
 - Attachment #8 Micro Autoclave
 - Attachment #9 ORG_GC MS MS



Data Requests and Responses

Please refer to Cal Water's "Customer Support Service and Rancho Dominguez Office Capital Projects Justifications Book".

- 1. On page 248 Cal Water states it "has identified an opportunity to reconfigure 4499 square feet (SF) of an existing property into a satellite laboratory located in Cal Water's East Los Angeles district to increase capacity."
 - a. What is the building currently used for?
 Response: The 3.8-acre Cal Water property includes a 32,000-square-foot commercial office building and two producing groundwater wells. The East Los Angeles (ELA) district operations team and Southern Regional Customer Center co-locate in this facility.
 - b. Will whatever function the building is currently being used for no longer be necessary once the building is converted?
 Response: No, this is an active district operations site with ongoing regional service functions. The proposed Water Quality satellite lab would be developed in approximately 4,500 SF of undeveloped, unused available space within the existing warehouse that was observed by Cal PA during the district tour.
 - c. Can Cal Water lease out the current building? Please explain.
 Response: No, this site is an active district office and regional customer center.
 Existing open warehouse space is currently in development under approved GRC project 116988 to consolidate operations, regional customer service, field operations, and management in this location.
 - d. What is the current lease cost per square foot of a comparable space?
 - Response: Please note that leases are generally expensed and not capitalized. Expensing would have a negative effect on customer rates since expenses are included dollar for dollar in the revenue requirement, whereas capital costs are included based on the rate of return grossed up for taxes. Additionally, this site was selected for it's good location, Cal Water's ownership of the property, it has suitable available space for a satellite lab, there is infrastructure to support back-up power and access control system, and perimeter security are already in place. If Cal Water were to lease another property, these capital improvements would likely be needed on top of incurring the lease expense.
- 2. On page 248 Cal Water states it will be developing the project in two phases.
 - a. Please provide a detailed explanation of what each phase will entail.
 Response: Phase I will include separating the lab space from the warehouse space, constructing the Microbiology Lab, Inorganics Lab, Shipping & Receiving, Glass Wash area, Storage Room, Cubicle Work area, a Private Office and exterior access doors.

Phase II would include the build out of an extraction room, and expansion of lab space (organic lab), glass wash, and shipping and receiving areas.



- b. When is Phase II scheduled for development?
 Response: The development would be predicated upon the increase in volume of currently outsourced testing brought in-house, business growth in Southern California, and new regulatory developments.
- c. On page 248 Cal Water states it anticipates saving \$794,535 annually in reduced lab costs. Will these savings be achieved as a result of the work done in Phase I or both Phases? Please explain.
 Response: Both. Phase 1 annual savings are expected to be \$658,410, and Phase 2

Response: Both. Phase 1 annual savings are expected to be \$658,410, and Phase 2 \$136,125

- d. Are the \$794,535 savings currently reflected in the RO model? Please explain. Response: Yes, Cal Water made an adjustment to reduce outside services by \$802,000 in the CH05_OM_FDR_Purchased Services file (tab: Purch Services Adj WS-1) to reflect savings for work that would be done in-house as a result of the water quality lab. Additionally, there are some expenses that offset these savings, specifically a transfer of \$65K from ELA to CSS for implied rent and three new proposed complements which total \$333,000 in payroll. Details for the proposed complements can be found in chapter 8 and attachment C of the General Report. If this capital project and related complement are not approved, the \$802,000 of expenses removed from the revenue requirement will need to be added back to expenses to fund these critical water quality tests.
- e. What is the anticipated approximate cost of Phase II? Response: Estimated \$260K to complete.
- f. What savings are expected as a result of Phase II?
 Response: Initial expected annual savings of \$136,125, however new regulatory requirements could increase these savings.
- g. Please provide support to substantiate Cal Water's responses to the questions above.
 Response: For the \$802,000, please refer to Table 1 in the project justification. In addition to the amount in Table 1, \$7,067 is included for reduced overtime of a lab tech (95.5 hours x \$74/hour). For the complement, please refer to response 1d.
- 3. On page 249 Cal Water lists three alternatives for the current project.
 - a. Please provide a cost-benefit analysis comparing the financial aspects of the three alternatives.

Response: Although there are reductions in expenses as explained above, the benefits are less cost-based and more focused on mitigating compliance risk, reliability, and maintaining high level of customer service.

For alternative 1, the expansion of the current WQ lab in San Jose is not possible due to space constraints at this location. Therefore, no financial comparison can be applied. For alternative 2, relocating the current lab off the current campus to allow for growth was not extensively explored. As mentioned in the project justification, the investment to construct a lab and add additional infrastructure elements such as security and back-up power would be cost prohibitive in a separate stand-alone location when a lab already exists. It also does not address business continuity concerns. Alternative 3, doing nothing, will not provide the necessary capacity for increased sample load due to growth or regulatory requirements and may require additional outsourcing of sample testing versus the reduction in outsourcing outlined in the project justification.

- b. Please provide support to substantiate any assumptions or calculations used in the answer to question 3.a.
 Response: Please refer to response in 3a.
- 4. What is the annual revenue requirement for the proposed project? Please include detailed calculations. This revenue requirement should include all costs associated with this project including labor, overhead, construction, consumables, depreciation, etc.

Response: Based on a simplified revenue requirement calculation, the annual revenue requirement for 2024 associated with this project is \$510,606. This is calculated by multiplying the net plant in 2024 for this project (\$3,944,469) by the adopted Rate of Return (7.48%), and adopted Net-to-Gross Multiplier for CSS from the 2018 GRC (1.207) and adding the Depreciation Expense (\$154,338). The Depreciation Expense for this project is calculated by multiplying the Total Proposed Project Estimate (\$3,030,099, including Construction Overhead and AFUDC) for the structure by the proposed CSS Depreciation Rate (3.61%) and \$1,068,707 (including Construction Overhead and AFUDC) for the equipment by the proposed CSS Depreciation Rate (5.00%). The net plant in 2023 is calculated by subtracting the Depreciation Expense from the Total Proposed Project Estimate. Please keep in mind that this calculation assumes that all capital is approved in the 2021 GRC as proposed, the Depreciation Rate for CSS is approved as proposed, and the Rate of Return in 2024 remains as adopted. Please refer to Attachment 1 for the Proposed CSS Depreciation Rates in the 2021 GRC. The expense reductions noted in response 2d will also reduce the revenue requirement dollar for dollar.

- 5. On page 253 Cal Water provides a Capital Project Cost Estimate.
 - a. For each item provided in the estimate, please explain in detail how Cal Water arrived at the estimated cost.

Response: Cost Table Items

Line 1 Lab Generator

Attachment #2 – Ricoh Copier

Generator estimate based on recent similar work by engineering

Access Control estimate based on recent similar work

Line 2 Lab Construction

Attachment #3 – WQ Lab Architectural Proposal Phase 1

Attachment #4 – ROM WQ Infrastructure Update

Line 3 Lab Furniture - Estimates based on recent similar purchases.

Line 4 Lab Equipment – Quotes for equipment received



Attachment #5 – INORG_IC MS Attachment #6 – INORG_IC System Attachment #7 – ORG_Solid Phase Extractor Attachment #8 – Micro Autoclave Attachment #9 – ORG_GC MS MS

Estimates for Refrigerators and incubators based on similar recent purchases.

Line 5 Contingency standard percentage for type of project

- b. Please provide support to substantiate Cal Water's estimated costs. This support includes but is not limited to, vendor quotes, invoices, etc.
 Response: Attachments noted above include vendor quotes.
- c. Did Cal Water obtain any vendor quotes or estimates for this project? If so, please provide the quotes.
 Response: See attachments.
- d. If Cal Water has not obtained any quotes, please explain why not. **Response: N/A.**



RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office				
	Brian Yu	Phone:	(213) 576-7075		
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From:	California Water Service Company				
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	Patrick Alexander	Phone:	(408) 367-8230 ext.78230		
	General Rate Case Manager	Email:	palexander@calwater.com		
Date:	October 14, 2021	Request Re	ceived from CPUC: September 24,		
Re:	CWS Follow-Up Response to SIB-033	2021			
Subj:	Affiliate Allocations	Requested	Due Date: October 01, 2021		
Comm	ents:	L			
•	• This follow-up expands upon the response to Question 3.d by providing the following				
	attachment included separately:				
	 Attachment 3 – Modified Four Fact Calc_2021 (with TSWC).xls 				
•	Ine response dated October 1, 2021 referred to the following attachments included separately:				
	 Attachment 1 – Affiliate Allocation_2021 GRC v2.xls Attachment 2, 2021 PubCo Allocation 8 Medified Four Factor Pater Marro adfination 				
L					

CALIFORNIA WATER SERVICE COMPANY



Data Request SIB-033 Response (2021 GRC, A.21-07-002) –Page 2

Data Requests and Responses

- On page 128 of the California Water Services General Report, Cal Water states it estimates the full allocation of general expenses to out-of-state affiliates based on a modified fourfactor approach. In response to Cal Advocates deficiency review request, Cal Water provided an "Affiliate Allocation_2021 GRC.xlsx" file showing how Cal Water calculates its affiliate Allocations. Cal Water also provided its "Enterprise Allocations Policy v4_01518.pdf" in response to a Cal Advocates request.
 - a. Is the enterprise allocations policy document Cal Water provided in email the most up to date version of the document? If not please provide the most up to date version.
 Response: Yes.
 - b. Please provide a written explanation that explains in detail the methods used to calculate the 2020 expense factor as shown in "Affiliate Allocation_2021 GRC.xlsx".
 Response: Cal Water uses its 'Allocation of Common Costs structure" adopted in D.97-12-011 and discussed in D.03-09-021 that also incorporates the CPUC's affiliate rules and guidelines to calculate affiliate expense and ratebase factors. As many of CSS expenses may or may not fall into 'Common Cost Categories,' Cal Water uses the average of the last 2 years' allocation percentages to allocate eligible recorded direct and indirect expenses of Customer Support Services in the 2021 GRC.
 - c. On page 11 of the Enterprise Allocations Policy, Cal Water provides an example modified four factor method ("FFM") expense pool allocation calculation. This calculation shows Cal Water's FFM as 94.50%. In this rate case Cal Water is allocating 1.92% of its Customer Support Services ("CSS") expenses to out of state affiliates leaving Cal Water customers to pay for 98.08% of the CSS expenses. Please explain this discrepancy in detail.

Response: As discussed in Response 1b, affiliate allocation factors are only for common general and administrative activities related expenses of total Customer Support Service expenses. In the 2021 GRC, Customer Support Services ("CSS") includes various departments that may or may not support the common admin/general activities of the affiliates. Therefore, Cal Water incorporated a weighted average allocation factor into the four-factor calculation for its ratemaking areas.

d. How is the 94.50% FFM used in determining Cal Water's out of state affiliate expense allocations?

Response: For the 2021 GRC, Cal Water erroneously included capital cost-related journal entries in the affiliate expense allocation factor calculation. Please see the revised calculation provided in "Attachment 1 – Affiliate Allocation_2021 GRC v2." The Expense Allocation data shows that 94.5% of all eligible CSS common administrative and general expenses for the years 2019 and 2020 were allocated to Cal Water's ratemaking areas.

2. On page 128 of the California Water Services General Report, Cal Water states it "applies the same modified four-factor methodology to calculate the value of Customer Support Services plant to out-of-state affiliates. In response to Cal Advocates deficiency review


request, Cal Water provided an "Affiliate Allocation_2021 GRC.xlsx" file showing how Cal Water calculates its affiliate Allocations. Cal Water also provided its "Enterprise Allocations Policy v4_01518.pdf" in response to a Cal Advocates request.

- a. Please provide a written explanation that explains in detail the methods used to calculate the 2020 rate base factor as shown in "Affiliate Allocation_2021 GRC.xlsx". Response: To calculate 2020 Ratebase factor, Cal Water uses only allocable plant pool for affiliates from CSS 2020 EOY total plant balances because not all CSS plant is eligible for affiliate allocation based on their use in affiliate operations. Then Cal Water calculates Allocable pool ratio to the total plant, and multiplies it by total of affiliates' gross factor for weighting affiliate allocation to use in Cal Water's four factor calculation for total CSS Ratebase. This methodology has been used by Cal Water in multiple past GRCs.
- b. On page 11 of the Enterprise Allocations Policy, Cal Water provides an example modified four factor method ("FFM") expense pool allocation calculation. This calculation shows Cal Water's FFM as 94.50%. In this rate case Cal Water is allocating 0.70% of its Customer Support Services ("CSS") rate base to out of state affiliates leaving Cal Water customers to pay for 99.3% of the CSS expenses. Please explain this discrepancy in detail.

Response: As stated in response 2b, not all CSS plant is eligible for the affiliate allocation based on its use in affiliate operations. Cal Water calculates the weighted affiliate allocation factor for Ratebase so that fair shares of CSS total ratebase are allocated to the affiliates.

c. When calculating its modified four factor, Cal Water uses net plant as opposed to gross plant. Standard Practice U-6-W states "the gross plant factor appears more appropriate than net plant as general office activities are considered more closely related to total plant." Please explain in detail why Cal Water is deviating from the standard practice in its calculations.

Response: In the Enterprise Allocation Policy, Cal Water stated that the modified four factor methodology includes net plant. For the 2021 GRC, however, the four-factor calculation in the RO Model and the affiliate allocation factor calculation, Cal Water uses gross plant consistent with the methodology described in CPUC Standard Practice U-6-W to calculate the four factor for the 2021 GRC.

d. How is the 94.50% FFM used in determining Cal Water's out of state affiliate rate base allocations?

Response: Cal Water's out of state affiliate' rate bases allocation factor of 94.5% was based on the 2017 Cal Water total net plant ratio to CWS Group total plant in the Enterprise Allocation Policy, but in the 2021 GRC, Cal Water's out of state affiliate rate base allocation is 94.2% based on 2021 capital spending. Please see "Attachment 2 -2021 PubCo Allocation & Modified Four Factor Rates Memo." Also, the Ratebase allocation factor has been calculated based on gross plant in the Version 2 of the Affiliate Allocation spreadsheet. Please refer to "Attachment 1 - Affiliate Allocation_2021 GRC v2."



- 3. On page 129, Cal Water states it anticipates costs attributed to its newly acquired affiliates, Texas Water Service Company ("TWSCO") and BVRT Holding Utility Company ("BVRT") to be de minimis. As a consequence, Cal Water states it did not include either affiliate in its allocation calculations.
 - a. Please provide support to substantiate Cal Water assertion that "any costs attributable to TWSC and BVRT in the near future are likely to be de minimis."
 Response: BVRT's reported full year revenues for calendar year 2020 were \$433,009 with operating expenses of \$2,193,962. This represents 0.05% of CWS Group's operating revenues and 0.33% of operating expenses for 2020. For 2021, Cal Water estimates BVRT's full year operating revenues will be about \$1.2 million, with operating expenses of \$4.2 million. As TWSC currently owns only 55% of BVRT, BVRT's costs attributable to CWS Group are even less. Cal Water expects 2022 operating revenues and expenses for BVRT to be similar to 2021 levels.
 - b. What time frame does Cal Water actually mean when it says, "near future." Provide and approximation or approximate range.
 Response: 2021 and 2022.
 - c. For both TWSC and BVRT provide the following:
 - i. Active Meter Service Size Equivalence, Response: approximately 2,500 sewer connections.
 - ii. Budget Op Revenues, Response: \$433,009.
 - iii. Net Utility Plant, and Response: \$7,072,983
 - iv. Budgeted Direct Operating Expenses. Response: \$2,193,962
 - **d.** Page 11 of the Enterprise Allocation Policy shows an example of Cal Water's FFM calculation that excludes both BVRT and TWSC. Provide a similar calculation that includes both TWSC and BVRT in Microsoft Excel format.

Response: The Enterprise Allocation Policy report is based on 2018 data for the existing four affiliates at the time: Cal Water, Hawaii Water, New Mexico Water, and Washington Water. And for 2021 GRC, we used the 2021 PubCo Allocation & FFM Rates Memo based on 2020 data to calculate affiliate allocations. In 2020, neither TWSC nor BVRT were affiliates of CWS Group; hence their omission from the FFM calculation.

Cal Water believes it is improper to add TWSC / BVRT to this calculation. While Cal Water has estimates of BVRT's operating expenses, revenues, and plant as listed above, these amounts are provided to Cal Water from BVRT and likely differ from how Cal Water calculates these amounts for its other affiliates. Another factor is that TWSC owns only 55% of BVRT and any attempt to estimate BVRT revenues / expenses based on this ownership stake will not be accurate. Not to mention, given the small



size of BVRT with about 2,500 connections of the more than 500,000 connections served by Cal Water, any attempted calculation will yield de minimis results. For these reasons, Cal Water is unable to provide the requested calculation.

Response 10/14/21: See "Attachment 3 – Modified Four Fact Calc_2021 (with TSWC).xls."



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office		
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	Attorney	Email:	<u>caryn.mandelbaum@cpuc.ca.gov</u>
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	Patrick Alexander	Phone:	(408) 367-8230 ext.78230
	General Rate Case Manager	Email:	palexander@calwater.com
Date:	October 22, 2021	Request Rec	ceived from CPUC: October 15, 2021
Re:	SIB-036	Requested [Due Date: October 22, 2021
Subj:	Water Quality Satellite Drinking Water Lab– ELA ii		
Comm	ents: Full response attached.		



- Does not contain confidential information.
- There are no attachments for this response.

Data Requests and Responses

Please refer to Cal Water's "Customer Support Service and Rancho Dominguez Office Capital Projects Justifications Book".

- 1. SIB-032 question 4 requested Cal Water provide the annual revenue requirement associated with the proposed lab project. Cal Water stated this number is \$510,606.
 - a. The DR requested Cal Water provide the complete annual revenue requirement associated with the proposed lab project. Cal Water's response only included the plant related revenue requirement and failed to include costs associated with additional staffing and consumables. On page 251 Cal Water estimates annual operating costs at \$574,200. Please update Cal Water's response to reflect these operating costs in the total revenue requirement resulting from the proposed project.
 Response: Taking the simplified revenue requirement from SIB-032 of \$510,606 and adding the annual operating cost of \$574,200 results in a requirement of \$1,084,806. With the expense reductions referenced in DR SIB-032 Question 2.d, the requirement would be \$282,806. Please note the project has non-financial customer benefits which are listed in the project justification on pages 249-250.
 - b. In its response, Cal Water explains in detail how it calculated the revenue requirement numbers. Cal Water lists deprecation expense at \$154,338 and states it is the result of adding \$3,030,099 multiplied with 3.61% and \$1,068,707 multiplied by 5.00%. Following Cal Water's instructions, Public Advocates gets \$162,822 and not \$154,388. Please explain this discrepancy.

Response: The 3.61% listed in the response is a typo. The correct rate is 3.33% which was highlighted in DR SIB-032 Attachment #1.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office		
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From:	California Water Service Company		
	Greg Milleman	Phone:	(408) 367-8498
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	General Rate Case Manager	Email:	palexander@calwater.com
		Γ	
Date:	October 22, 2021	Request Rec	ceived from CPUC: October 15, 2021
Re:	SIB-038	Requested [Due Date: October 22, 2021
		•	·
Subj:	IDAM, DLP, Campus Security Fencing		
		<u> </u>	
Comm	ents: Full response attached		
•	Response provided by Facilities and Rates.		



- Response #1 contains confidential information.
- This response does not contain attachments.

Data Requests and Responses

- 1. Regarding Cal Water's proposed Campus Security Fencing project:
 - a. Does Cal Water currently have camera monitoring at this facility? ***Begin confidential
 - ***End confidential
 - b. If Cal Water does have monitoring setup, who does the monitoring?
 ***Begin confidential

***End confidential

c. If Cal Water does not have monitoring setup, please explain why not.
 ***Begin confidential



***End confidential

d. If Cal Water does not have monitoring setup, does Cal Water intend to add cameras to this facility? What would be the timeline?
 ***Begin confidential



- 2. Regarding Cal Water's proposed Identity Access Management System:
 - a. What is the annual revenue requirement for the proposed project? Please show calculations.

Response: Based on a simplified revenue requirement calculation, the annual revenue requirement for 2025 associated with this project is \$100,924. This is calculated by multiplying the net plant in 2025 for this project (\$705,999) by the adopted Rate of Return (7.48%), and adopted Net-to-Gross Multiplier for CSS from the 2018 GRC (1.207) and adding the Depreciation Expense (\$37,158). The Depreciation Expense for this project is calculated by multiplying the Total Proposed Project Estimate (\$743,156, including Construction Overhead and AFUDC) by the proposed CSS Depreciation Rate (5.00%). The net plant in 2025 is calculated by subtracting the Depreciation Expense

from the Total Proposed Project Estimate. Please keep in mind that this calculation assumes that all capital is approved in the 2021 GRC as proposed, the Depreciation Rate for CSS is approved as proposed, and the Rate of Return remains as adopted.

- b. Please provide support to substantiate Cal Water's assumptions and calculations used in the answer to question 2.a. above.
 Response: Please refer to response in 2a.
- 3. Regarding Cal Water's proposed Next Generation Data Loss Prevention project:
 - a. What is the annual revenue requirement for the proposed project? Please show calculations.

Response: Based on a simplified revenue requirement calculation, the annual revenue requirement for 2025 associated with this project is \$84,104. This is calculated by multiplying the net plant in 2025 for this project (\$588,332) by the adopted Rate of Return (7.48%), and adopted Net-to-Gross Multiplier for CSS from the 2018 GRC (1.207) and adding the Depreciation Expense (\$30,965). The Depreciation Expense for this project is calculated by multiplying the Total Proposed Project Estimate (\$619,297, including Construction Overhead and AFUDC) by the proposed CSS Depreciation Rate (5.00%). The net plant in 2025 is calculated by subtracting the Depreciation Expense from the Total Proposed Project Estimate. Please keep in mind that this calculation assumes that all capital is approved in the 2021 GRC as proposed, the Depreciation Rate for CSS is approved as proposed, and the Rate of Return remains as adopted.

 b. Please provide support to substantiate Cal Water's assumptions and calculations used in the answer to question 3.a. above.
 Response: Please refer to response in 3a.



RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office						
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	Patrick Alexander	Phone:	(408) 367-8230 ext.78230				
	General Rate Case Manager	Email:	palexander@calwater.com				
Date:	November 29, 2021	Request Rec	eived from CPUC: November 18, 2021				
Re: Subj:	SIB-039 Projects Below 100k	Requested D	Due Date: November 29, 2021				
Comm • •	ents: Full response attached. Does not contain confidential information. This response refers to the following attac	hments inclue	ded separately:				



• Attachment #1 – DR SIB-039 Attachment #1_Cost estimates under 100K

Data Requests and Responses

- On page 10 of its "CSS & RDOM Project Justification Book", Cal Water states "Detailed written justifications have been provided for all specific projects greater than \$400,000 in direct cost in order to demonstrate the necessity of the capital investment proposed for the District in the 2021 GRC." On pages v through vii Cal Water also included Table 1. Capital Budget Summary – Customer Support Services and Rancho Dominguez. Based on this table, \$9,293,387 of Cal Water's total \$59,618,634 budget fall below this \$400,000 threshold.
 - a. Please provide a detailed cost breakdown for all CSS & RDOM projects with a proposed direct cost of less than \$100,000 included in Table 1 referenced above. The requested cost breakdown should include the proposed contingency for each project.
 Response: Please see Attachment #1 which includes the specific cost estimates requested.



RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office		
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From:	California Water Service Company		
	Greg Milleman	Phone:	(408) 367-8498
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	Patrick Alexander	Phone:	(408) 367-8230 ext.78230
	General Rate Case Manager	Email:	palexander@calwater.com
Date:	December 15, 2021	Request Rec	eived from CPUC: December 02, 2021
Re:	SIB-040	Requested D	Due Date: December 09, 2021
Subj:	CCB and Other Previous Projects		
Comm	ents:		
•	Response attached.		



- Does not contain confidential information.
- This response refers to the following attachments included separately:
 DR SIB-040 Attachment #1 NBV

Data Requests and Responses

- 1. In response to SIB-023 Q.1.d, CWS stated that its current CCB application has a total cost of \$23.3M.
 - a. What is the current net book value of the CCB application included in revenue requirement?

Response: Cal Water, as is the case with standard utility practice, uses Group Depreciation with annual depreciation rates being based upon the Straight-Line method, Broad Group Procedure, and Average Remaining Life technique. Under Group Deprecation annual depreciation is the product of the current gross plant investment multiplied times the approved depreciation rate. Therefore, Cal Water does not track the amount of net book value on individual property units because, when retired, it has no bearing on the occurrence of the retirement and/or how the property is retired.

With regard to property retirements, when a property unit is physically taken out of operational service, a retirement is booked on the Company's books and records. The retirement of the property unit's Original Cost investment is recorded by crediting the applicable plant in service property account in the amount of the property unit's original cost investment, with a corresponding like debit amount being recorded to the applicable book depreciation reserve (accumulated depreciation reserve) account. Under group accounting no gain or loss is recorded, irrespective of the property group's average service and age of the property being retired.

If there is any "implicit" under or over recovery of the individual item of plant's original cost, the residual amount is retained in the Company's book depreciation (accumulated depreciation) account as is the case with any and all other property retirements. The property account continues to be depreciation with the current depreciation rate until the preparation of the next comprehensive depreciation study. In performance of the next subsequent depreciation study, the Company's gross plant, net salvage factor, and then book depreciation reserve (accumulated depreciation) will be used with the Straight Line, Broad Group, Average Remaining Life method, procedure, and technique to develop an updated annual depreciation rate for the property group.

From a theoretical basis, if Cal Water were to depreciate assets at an individual level, using a standard straight-line methodology and Cal Water's adopted and proposed depreciation rates, the current net book value at the end of 2021 would be \$11,595,704. Please see the CC&B tab in Attachment #1 for the calculation of this number.

b. What will the future net book value be in the year 2024 (when the CCB will be replaced)?

Response: From a theoretical basis, if Cal Water were to depreciate this project at an individual level, the net book value in 2024 would be \$2,956,224.



- 2. Please provide, in Microsoft Excel Format, a list of all CSS and RDOM projects booked to rates between the years 2010 and 2015. The list should include the following:
 - Project Name and a brief description.
 - The date the project was booked into rates.
 - The original project cost included in rates.
 - The current net book value of the project.

RESPONSE: Please refer to Attachment 1 for a theoretical exercise of what the NBV calculation of the requested assets would be, if Cal Water were to depreciate them on an individual level. For this exercise, Cal Water is using the actual date that the company closed the respective project. Please also note that some of these projects may have been retired since they were placed into service.



RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

То:	Public Advocates Office						
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Date:	December 20, 2021	Request Rec	ceived from CPUC: December 13, 2021				
Re:	SIB-042	Requested [Due Date: December 20, 2021				
Subj:	Affiliate Allocations ii.						
Comm	ents:						
•	Full response attached.						
•	This response refers to the following attac	hments inclu	ded separately:				
	 Attachment #1 – CWSCO & All Affil 	iates Data 10	_2021				



CALIFORNIA WATER SERVICE COMPANY Data Request SIB-042 Response (2021 GRC, A.21-07-002) –Page 2

Data Requests and Responses

1. Please provide, in Microsoft Excel Format, for California Water Service *and* each of its regulated affiliates the following information:

1. Direct operating expenses, excluding uncollectibles, general expenses, depreciation and taxes,

- 2. Gross plant,
- 3. Number of employees (using direct operating payroll and excluding general office payroll), and
- 4. Number of customers.

For Cal Water, plus affiliates:

- 1. Washington Water Service Company,
- 2. Hawaii Water Service Company,
- 3. New Mexico Water Service Company,
- 4. Texas Water Service Company, and
- 5. BVRT Holding Company

Response: Please see "Attachment # 1 CWSCO & All Affiliates Data 10_2021". Please also note that BVRT Holding Company is part of Texas Water Service Company, not a separate affiliate of Cal Water.



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

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	Camornia water service company						
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	General Rate Case Manager	Email:	palexander@calwater.com				
Date:	December 28, 2021	Request Recei	ved from CPUC: December 20, 2021				
Po:	SIR 042						
ne.	310-043	Requested Du	e Date: December 28. 2021				
Subj:	Construction Management and Special Inspection.		, -				
Comm	ients:	I					
•	Full response attached.						
•	Response provided by Engineering.						
•	Does not contain confidential informati	ion.					
•	This response refers to the following at	tachments inclu	uded separately:				
	 Attachment #1 – CM-SI Projects 						

CALIFORNIA WATER SERVICE COMPANY

Data Request SIB-043 Response (2021 GRC, A.21-07-002) - Page 2

Data Requests and Responses

- 1. Please provide, in Microsoft Excel Format, a list of all capital projects CWS is proposing in A2107002. The list should include the following:
 - District Project is located in
 - Project Name and a brief description.
 - The date the project is scheduled to be completed.
 - The total project cost in dollars.
 - The total project Construction Management and Special Inspection Cost in dollars.
 - The Construction Management and Special Inspection factor in percent.

Response: Please see Attachment #1. Projects listed in Attachment #1 are only new Advanced Capital Projects (2022, 2023, or 2024 projects). Construction Management (CM) and Special Inspection (SI) Costs were not listed out as separate line items in Prior GRCs, so Carryover Projects do not have a separate line item for CM and SI.

- 2. On page 124 of its Common Plant Justification Book CWS states "this has resulted in variable construction quality."
 - a. What exactly does CWS mean by this statement? Please provide examples. Response: The "variable construction quality," referenced in the Common Plant Justification book was intended to describe the potential variability in scope, schedule, budget, and quality outcome that could result from Cal Water's historic construction management (CM) approach. This past approach was described by Jacobs Engineering in their technical memorandum as "cradle-to-grave" CM and presents many challenges and risks that can be mitigated with current industry best management practices.¹
 - b. Are there currently assets in CWS's inventory that were inadequately constructed? Please explain.

Response: Cal Water does not have assets or facilities that were inadequately constructed. While Cal Water's construction management program is requested to be improved and adequately funded to bring this program up to current industry standards, Cal Water has always had a construction phase management process in place and have sought to diligently manage scope, schedule, budget and quality as best possible. For each and every project delivered, a post construction inspection is conducted to ensure the projects and assets meets its intended purpose before it is considered in service and accepted by Cal Water.

¹ 2021 General Rate Case Cal Water's Common Plant Justification Book, Attachment B, PJ-153 to PJ-158, October 2021.



- 3. On pages 125 and 126 of its Common Plant Justification Book CWS provides a table listing various Construction Management and Special Inspection factors for different projects.
 - a. How did CWS arrive at these factors? Please explain thoroughly.

Response: As part of Cal Water's effort to determine an appropriate CM and special inspection (SI) level of effort to the various types of projects proposed for the 2021 GRC, a list of common project types that Cal Water executes was created and presented in the Common Plant Justification Book.² Cal Water then evaluated the complexity of each type of project and determined the level of effort necessary to complete CM and SI. Some project types, like Hydro-Pneumatic Tanks, were determined to be typical and straight forward projects; essentially a slab on grade, a tank, and minimal tie-in piping. For this type of project, Cal Water is confident in the current project delivery practice, and therefore, feel that CM services support is generally not needed, although there may be some specific project exceptions. Conversely, projects like, Well Equipping, Water Treatment, Station Upgrades, and Storage Tank Replacement projects are generally more complex and require significantly more coordination and management during the construction phase, and therefore, full 10% CM support was applied to these projects. This type of evaluation was applied for all typical project types and is how the CM and SI percentages were generally determined as presented in Table 1 on the following page. Additional detail on how these percentages were determined is presented in the response to Question 3b.

As the construction phase project delivery program continues to be implemented, Cal Water will be tracking these costs and may update future GRC budgets with revised percentages.

Project Type	Approach	Explanation
New/Upgrade Station	 CM and SI estimated at 10% of total construction costs 	 Due to the complexity of the project full CM and inspection support has been applied to this type of project
Chloramination Treatment	 For projects greater than \$500k, CM & SI estimated at 10% of total construction costs 	 Due to the complexity of the project full CM and inspection support has been applied to this type of project
	 All other, SI estimated at 5% of total construction costs 	 Special Inspections due to the varied work that will require SI per CBC requirements.
Control Valve Install	 SI estimated at 5% of total construction costs 	 Special Inspections due to the varied work including work in the public ROW that will require SI per CBC requirements.

Table 1: Explanation of how Cal Water determined the CM/SI factors for each project type

² 2021 General Rate Case Cal Water's Common Plant Justification Book, PJ-125 to PJ-126, October 2021.



CALIFORNIA WATER SERVICE COMPANY

Data Request SIB-043 Response (2021 GRC, A.21-07-002) –Page 4

Project Type	Approach	Explanation				
Transmission Main	 CM and SI estimated at 10% of total construction costs 	• Due to the complexity of the project including work in the public ROW, full CM and inspection support has been applied to this type of project				
Distribution Main	 CM and SI included in unit costs (\$/LF) 	 Due to the complexity of the project including work in the public ROW, full CM and inspection support has been applied as a unit cost to this type of project Due to the medium complexity of the project limited CM and inspection support has been applied to this type of project 				
GAC Treatment	 CM and SI estimated at 5% of total construction costs 					
Back Up Generator	 For projects over \$75K (\$100K in the Bay Area), CM and SI estimated at 5% of total construction costs All other projects SI estimates at 2 5% of 	 Projects with a higher cost are more complex therefore limited CM support has been applied to this type of project. 				
	total construction costs	All projects have 2.5% costs for Special Inspections applied due to CBC requirements				
Hydropneumatic Tank	 SI estimated at 2.5% of total construction costs 	 These types of tank projects are simple in scope therefore CM support has not been applied to this type of project 				
		 All projects have 2.5% costs for Special Inspections applied due to CBC requirements 				
Panelboard Project	 For projects over \$75K (\$100K in the Bay Area), CM and SI estimated at 5% of total construction costs 	 Projects with a higher cost are more complex therefore limited CM support has been applied to this type of project. 				
	 All other projects SI estimates at 2.5% of total construction costs 	 All projects have costs for Special Inspections applied 				
Storage Tanks	 CM and SI estimated at 10% of total construction costs 	• Due to the complexity of the project full CM and inspection support has been applied to this type of project				
Well Drill	 SI estimated at 5% of total construction costs 	 Specialty contractors are used on this type of project so CM support has not been applied to this type of project 				
		 Additional percentages for Special Inspections due to the varied work that will require SI per CBC requirements. 				



CALIFORNIA WATER SERVICE COMPANY

Data Request SIB-043 Response (2021 GRC, A.21-07-002) - Page 5

Project Type	Approach	Explanation
Well Equip	 CM and SI estimated at 10% of total construction co 	 Due to the complexity of the project full CM and inspection support has been applied to this type of project

b. Please provide support to justify CWS's answer to question 3.a. above and show in detail how CWS arrived at these factors. This support includes but is not limited to vendor invoices, bids, etc.

Response: In order to determine current industry best practice and recommended steps to implement this, Cal Water engaged Jacobs Engineering to prepare a technical memorandum on this topic. Jacobs Engineer is an internationally recognized professional engineering and technical services firm with extensive experience in construction management. The Jacobs Engineering technical memorandum cited the latest industry standards from multiple references, including the Construction Management Association of America (CMAA), "California Multi-Agency CIP Benchmarking Study – 2020 Update", and California Department of Transportation, as well as actual project statistics from Jacobs experience.³ These references provide a wealth of information from multiple public and private agencies and construction firms across California and the nation. In reviewing these references, and considering the typical size of projects at Cal Water, it was Jacobs Engineering's recommendation that Cal Water budget its CM and SI services from 5% to 15% of the project construction costs, with an average of 10% on a programmatic basis. As discussed in the response to Questions 3a, Cal Water took the recommendations by Jacobs Engineering and developed conservative factors for CM and SI based on the complexity of the project. In addition, it was Jacob Engineer's further recommendation that Cal Water develop a database on data from actual projects to provide a more refined cost basis for CM and SI targets moving forward. Cal Water is preparing to develop such a database which provide greater confidence and accuracy in the percentages proposed in future GRCs.

Given that there are a large number of projects that require CM and SI services, Cal Water intends to bid these projects out through Cal Water's master supply agreement (MSA) contracts. The MSA suppliers were vetted through a request for proposal/bidding process and have set contractor/consultant labor rates that were negotiated to bring the best value for the CM and SI support for the projects. Using this strategy, Cal Water bundled projects to achieve efficiencies with CM and SI professionals and employ professionals to support our projects on a consistent basis so that they are familiarized with the facilities and the O&M personnel associated with those facilities.

³ 2021 General Rate Case Cal Water's Common Plant Justification Book, Attachment B, PJ-153 to PJ-158, October 2021.

LIST OF ADDENDA

No.	Reference Description	PDF Page and Footnote
1	CWS Response to Public Advocates Office Data Request SIB-033, #1.d.	p.2-5, FN 17
	Attachment 1 Affiliate Allocation_2021 GRC v2	p.2-10, FN 32
2	CWS Affiliate Allocation_2021 GRC v3 Provided in an Email from Patrick	p.2-6, FN 18
	Alexander Dated 11/1/2021	p.2-10, FN33, 34, 35
3	CWS Response to Public Advocates Office Data Request SIB-033, #3.d.	p.2-7, FN 21, 22
	Attachment 3 Modified Four Factor Calc_2021 (with TSWC).xls.	p.2-8, FN 21, 22
		p.2-11, FN 36
4	CWS Response to Public Advocates Office Data Request SIB-004, #1.a.	p.3-3, FN 45, 46
	Attachment Q1 – GRC Inventory	p.3-4, FN 47
5	CWS Response to Public Advocates Office Data Request SIB-040, #1.a.	p.3-21, FN 118
	attachment #1 – NBV CC&B Tab Original and Modified for End of 2023 Net	
	Book Value	
6	CWS Response to Public Advocates Office Data Request SIB-016, #1.a.	p.3-32, FN 165
	Attachment 1 Project Justifications.pdf, p.52	
7	CWS Response to Public Advocates Office Data Request SIB-039, #1.a.	p.3-32, FN 166
	Attachment 125170_Cost_Estimate and 125171 Cost_Estimate	
8	Price Waterhouse Coopers Questions and Answers Interpretations for the	p.3-35, FN 171
	Utility Industry	
9	CWS Response to Public Advocates Office Data Request SIB-040, #2.	p.3-35, FN 172
	Attachment 1 – NBV	
10	CWS Response to Public Advocates Office Data Request SIB-044	p.3-35, FN 173
11	CWS Response to Public Advocates Office Data Request SIB-045	p.3-35, FN 173
		p.3-36, FN 174
12	CWS Response to Public Advocates Office Data Request SIB 014 #1.a.	p.4-3, FN 184
	Attachment 5_Replacement rates and costs	
13	CWS Response to Public Advocates Office Data Request SIB-014, #2	p.4-9, FN 198, 199, 200
	Attachment 7 2021 GRC MRP Project List - Risk Assessment	
14	CWS Response to Public Advocates Office Data Request SIB-015,	p.5-5, FN 219
	Attachment #2 2018 GRC Recorded and Forecasted Projects	p.5-6, FN 220
		p.5-7, FN 221
15	Pipeline Integrity Testing to Assess the Useful Life of Pipeline Infrastructure	p.4-10, FN 207, 208, 210
	(Mesa Study)	

Addendum 1:

CWS Response to Public Advocates Office Data Request SIB-033, #1.d. Attachment 1 Affiliate Allocation_2021 GRC v2

(Page 205, Footnote 17; and Page 2-10, Footnote 32)

Pubco Allocation	(Departments	330,351,35	3,366,372,37	4,384,388,389,390,394
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Arrillates:

	Pubco Allocation (D	epartments 330,33	1,333,300,372,374,364,366,369,390,394	%				2	019					2020	
-							Payroll and	Ad Valorem				Payroll and	Ad Valorem		
-	2019	2020	20	19 20	20 aver	rage	Benefits	Taxes	Payroll Taxes	Other		Benefits	Taxes	Payroll Taxes	Other
101	5 657 010 50	0.000 457.00	12.0	404 1.2.7		0000	10,125,660.49	3/1,941.18	1,050,900.65	41,840,050.41		11,203,444.77	390,604.94	1,140,366.12	46,756,863.74
101	5.657.010.58	6.328.457.61	13.8	4% 13.7	6% 13.	3.80%	1.397.374.26	51.329.10	145.027.73	5.774.063.78		1.546.112.02	53.904.76	157.374.25	6.452.600.10
102	2,322,312.10	2,624,475.57	5.0	8% 5./	1% 5.	5.09%	576,568.69	21,178.83	59,839.69	2,382,428.59		637,939.17	22,241.57	64,933.98	2,002,398.54
104	2,148,428.52	2,384,057.58	5.2	5% 5.1	8% 5.	0.22%	528,564.26	19,415.51	54,857.51	2,184,070.40		584,825.11	20,389.76	59,527.65	2,440,730.38
105	285,941.99	317,022.29	0.7	0% 0.6	9% 0.	1.69%	/0,317.63	2,582.94	7,297.98	290,558.14		77,802.30	2,712.56	7,919.27	324,702.94
106	2,217,982.00	2,408,823.27	5.4	3% 5.2	4% 5.	5.33%	539,905.94	19,832.11	56,034.62	2,230,935.15		597,374.01	20,827.28	60,804.97	2,493,102.41
108	1,819,981.71	2,052,128.82	4.4	5% 4.4	6% 4.	1.46%	451,340.73	16,578.89	46,842.80	1,864,976.50		499,381.84	17,410.81	50,830.63	2,084,138.32
109	258,893.45	294,852.53	0.6	3% 0.6	4% 0.	J.64%	64,526.69	2,370.23	6,696.96	266,629.50		/1,394.96	2,489.17	7,267.09	297,962.34
110	1,306,059.04	1,511,902.26	3.2	0% 3.2	9% 3.	5.24%	328,212.75	12,056.09	34,063.85	1,356,201.72		363,148.01	12,001.05	36,963.78	1,515,575.11
111	1,769,748.78	2,032,646.64	4.3	3% 4.4	2% 4.	1.37%	442,973.86	16,271.55	45,974.43	1,830,403.91		490,124.39	17,088.05	49,888.34	2,045,502.94
112	324,582.83	348,107.00	0.7	9% 0.7	6% 0.	J.78%	78,525.86	2,884.45	8,149.88	324,475.23		86,884.23	3,029.19	8,843.69	362,605.78
113	417,320.75	435,841.74	1.0	2% 0.9	5% 0.	0.98%	99,671.16	3,661.17	10,344.46	411,849.32		110,280.25	3,844.89	11,225.11	460,247.60
114	2,268,215.06	2,563,722.09	5.5	5% 5.5	7% 5.	5.56%	563,179.91	20,687.03	58,450.13	2,327,105.07		623,125.28	21,725.09	63,426.11	2,600,573.69
117	444,369.26	503,150.30	1.0	9% 1.0	9% 1.	1.09%	110,431.12	4,056.41	11,461.19	456,310.34		122,185.50	4,259.96	12,436.91	509,933.43
119	3,218,778.72	3,639,455.05	7.8	8% 7.9	1% 7.	/.89%	799,343.58	29,361.92	82,960.58	3,302,952.51		884,426.42	30,835.28	90,023.20	3,691,097.38
120	2,743,496.84	3,027,724.98	6.7	1% 6.5	8% 6.	5.65%	673,130.61	24,725.79	69,861.46	2,781,430.28		744,779.23	25,966.52	75,808.92	3,108,288.71
121	212,524.46	250,985.21	0.5	2% 0.5	5% 0.	J.53%	53,954.04	1,981.87	5,599.67	222,942.46		59,696.95	2,081.32	6,076.38	249,141.44
122	2,221,846.04	2,445,991.12	5.4	4% 5.3	2% 5.	.38%	544,476.12	19,999.99	56,508.94	2,249,819.50		602,430.64	21,003.57	61,319.67	2,514,205.95
123	850,097.69	946,491.05	2.0	8% 2.0	6% 2.	2.07%	209,491.88	7,695.17	21,742.30	865,637.46		231,790.39	8,081.31	23,593.27	967,362.43
128	3,265,147.63	3,523,284.64	7.9	9% 7.6	6% 7.	7.82%	792,298.78	29,103.14	82,229.43	3,273,842.81		876,631.76	30,563.52	89,229.80	3,658,566.86
129	181,611.81	203,958.30	0.4	4% 0.4	4% 0.	0.44%	44,948.11	1,651.06	4,664.98	185,729.22		49,732.42	1,733.91	5,062.12	207,555.11
134	436,641.11	469,850.02	1.0	7% 1.0	2% 1.	1.04%	105,808.06	3,886.60	10,981.38	437,207.47		117,070.36	4,081.63	11,916.25	488,585.70
147	197,068.17	241,834.08	0.4	8% 0.5	3% 0.	0.50%	51,032.13	1,874.54	5,296.41	210,868.88		56,464.03	1,968.60	5,747.31	235,649.04
148	69,553.57	74,008.24	0.1	7% 0.1	6% 0.	0.17%	16,762.46	615.73	1,739.71	69,263.85		18,546.67	646.62	1,887.81	77,403.36
149	38,640.90	80,327.34	0.0	9% 0.1	7% 0.	0.13%	13,629.02	500.63	1,414.50	56,316.22		15,079.71	525.75	1,534.92	62,934.19
150	3,864.13	4,339.65	0.0	1% 0.0	1% 0.	0.01%	956.36	35.13	99.26	3,951.76		1,058.16	36.89	107.71	4,416.15
152	3,952,953.92	4,500,898.76	9.6	7% 9.7	9% 9.	9.73%	985,114.20	36,185.74	102,240.95	4,070,571.76		1,089,970.63	38,001.52	110,944.95	4,548,923.04
153	7,728.23	16,886.19	0.0	2% 0.0	4% 0.	0.03%	2,816.16	103.44	292.28	11,636.59		3,115.91	108.64	317.16	13,004.06
157	0.00	164,141.44	0.0	0% 0.3	6% 0.	0.18%						19.992.49	697.03	2.034.98	83.437.40
323	(983,535.87)	(1,055,781.63)	94.5	4% 94.3	6% <u>94</u> .	4.45%	9,545,354.37	350,625.06	990,673.06	39,442,178.44	94%	10,581,362.84	368,916.23	1,077,046.21	44,160,644.41
330	(13,132,321.12)	(15,136,832.48)													
351	(783,441.40)	(887,605.90)													
353	(1,161,387.50)	(1,342,007.35)												330	
354	(478,744.70)	(365,075.32)													
360	(1,454,633.93)	(1,025,470.70)													
362	(2,673,982.91)	(2,543,906.77)										70	cde	100	z
366	(3,610,269.22)	(5,565,287.95)												94.5	
372	(1,261,594.68)	(1,274,809.91)												5.5	
374	(3,213,728.11)	(3,688,148.96)													
375	(803,058.19)	(755,843.38)													
379	(2,251,929.97)	(2,407,075.29)													
384	(1,775,670.00)	(1,462,466.45)													
388	(1,201,568.76)	(1,322,883.39)													
389	(1,787,706.75)	(2,023,958.62)													
390	(3,465,497.20)	(4,150,058.29)													
394	(833,967.34)	(983,788.96)													
A															
500	719,283,20	845.544.23	1	8% 1	8%	1.8%	182,175.72	6.691.78	18.907.27	752,764,85		201,566,67	7.027.56	20.516.89	841,225,65
600	311,297,70	346,871,03	0.	8% 0	8%	0.8%	76,744,21	2.819.01	7,964,97	317,113,30		84,912,93	2,960,47	8,643.04	354,378,72
790	1,201,657.46	1,397,832.24	2.	9% 3.	0%	3.0%	302,723.64	11,119.81	31,418,44	1,250,878.64		334,945,82	11,677.79	34,093.16	1,397,875.04
	40,873,037.65	45,991,001.35					10,106,997.94	371,255.66	1,048,963.74	41,762,935.24		11,202,858.26	390,582.05	1,140,829.30	46,754,123.82
Total Exp	96,852,935.23	112,371,066.66	115,000,000												
	42%	41%	42%				0.6%	0.0%	0.1%	2.4%		1%	0%	0%	2.7%
										1.8%					1.9%

Addendum 2:

CWS Affiliate Allocation_2021 GRC v3 Provided in an Email from Patrick Alexander Dated 11/1/2021

(Page 2-6, Footnote 18; and Page 2-10, Footnotes 33, 34, and 35)

Ibrahim, Suliman

From:	Alexander, Patrick <palexander@calwater.com></palexander@calwater.com>
Sent:	Monday, November 1, 2021 12:33 PM
То:	Ibrahim, Suliman; Rawal, Priya
Subject:	RE: [EXTERNAL] Re: Affiliate Allocations Calculation Follow-up Questions
Attachments:	Affiliate Allocation_2021 GRC v3.xlsx

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Suliman,

Thank you for your patience with this. With some assistance of a former employee, we were able to get a bit of history on the spreadsheet. For simplicity I will continue our discussion of just referencing 2019. We were told that the formula noted in cell N60 was an attempt to correct for over-allocating to the affiliates. However, the way that the allocations are presented in this GRC, it appears that we are over-correcting by using that formula. However, we also discovered that the Pubco allocations for Total O&M noted in Column C (totaling \$40.9M) did not include the amounts that should be allocated to Construction Overhead (roughly \$12.5M), while the allocations provided in Cells K5 through N5 did include the amounts (totaling \$53.4M), resulting in a mismatch of Pubco O&M allocations (\$40.9M v \$53.4M). In order to ensure the calculations are being appropriately applied, we 1) should either add the \$12.5M in Pubco allocations to construction overhead to the individual districts in Column C, or remove them from Cells K5 through N5, and 2) modify the formula in N60 to merely sum the percentages noted in Cells K58 through N58.

Attached, please find Affiliate Allocation_2021 GRC v3. In order to tie our calculations to match the 94.54% Pubco allocation to Cal Water Districts noted in the 2019 memo, we have chosen to do Option 2 (remove Pubco allocations to Construction Overhead from Cells K5 through N5). This results in a higher affiliate allocations for 2019 of 2.34%. We've also provided the Pubco allocation to Construction Overhead and the total Pubco amounts in Cells 62 and 63, respectively.

I'm happy to schedule a follow-up Zoom between the three of us to go over the changes if you like. Priya is off tomorrow, but we can meet anytime on Wednesday between 9-noon and Thursday between 8-3.

Regards,

Patrick

From: Ibrahim, Suliman <Suliman.Ibrahim@cpuc.ca.gov>
Sent: Tuesday, October 26, 2021 5:37 PM
To: Rawal, Priya <prawal@calwater.com>
Cc: Alexander, Patrick <palexander@calwater.com>
Subject: Re: [EXTERNAL] Re: Affiliate Allocations Calculation Follow-up Questions

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Hello Priya,

Thank you for the update.

Thanks, Suliman

From: Rawal, Priya <prawal@calwater.com>
Sent: Tuesday, October 26, 2021 5:02:41 PM
To: Ibrahim, Suliman <Suliman.Ibrahim@cpuc.ca.gov>
Cc: Alexander, Patrick <palexander@calwater.com>
Subject: [EXTERNAL] Re: Affiliate Allocations Calculation Follow-up Questions

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Hi Suliman,

This is in regards to your follow up question related to Affiliate Allocation calculation. Just wanted to let you know that we are still looking into the basis of the formula used for the calculation. As of current update, it looks like there were some CSS capital related expenses not accounted for in \$40M total allocated expenses, however we have not yet identified the all the basis for the calculation. We appreciate your patience, we should be able to provide you response as soon as we can.

Thank you.

Priya.

From: Rawal, Priya
Sent: Wednesday, October 20, 2021 4:29 PM
To: Ibrahim, Suliman <Suliman.Ibrahim@cpuc.ca.gov>
Cc: Alexander, Patrick <palexander@calwater.com>
Subject: RE: [EXTERNAL] RE: Affiliate Allocations Calculation Follow-up Questions

Hi Suliman,

Apology for delay in reply. We are working on the basis of the formula used in N60 and P60 as the calculation are based on previous GRCs Affiliate Allocation methodology. We should be able to respond your question soon.

Thanks. Priya.

From: Ibrahim, Suliman <Suliman.Ibrahim@cpuc.ca.gov>
Sent: Tuesday, October 19, 2021 3:12 PM
To: Rawal, Priya <prawal@calwater.com>
Cc: Alexander, Patrick <palexander@calwater.com>
Subject: RE: [EXTERNAL] RE: Affiliate Allocations Calculation Follow-up Questions

This is an EXTERNAL EMAIL. Stop and think before clicking a link or opening attachments. Hello Priya,

One more follow-up, can you please explain why in N60 and S60 you are multiplying by (1-\$E59)?

Thanks, Suliman

From: Rawal, Priya <prawal@calwater.com>
Sent: Tuesday, October 19, 2021 2:26 PM
To: Ibrahim, Suliman <Suliman.Ibrahim@cpuc.ca.gov>
Cc: Alexander, Patrick <palexander@calwater.com>
Subject: RE: [EXTERNAL] RE: Affiliate Allocations Calculation Follow-up Questions

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Hi Suliman,

Actually "Other (O&M)" expenses in N6 is replication of C57 (that includes CWS and Affiliates but missing unregulated).

Hope this helps. Let me know if any questions.

Thanks. Priya.

From: Ibrahim, Suliman <Suliman.Ibrahim@cpuc.ca.gov>
Sent: Tuesday, October 19, 2021 12:09 PM
To: Rawal, Priya <prawal@calwater.com>; Alexander, Patrick <palexander@calwater.com>
Cc: Singh, Melody <msingh@calwater.com>; Gibbs, Syreeta <syreeta.gibbs@cpuc.ca.gov>; Yu, Byung Kook
<Byung.Yu@cpuc.ca.gov>
Subject: RE: [EXTERNAL] RE: Affiliate Allocations Calculation Follow-up Questions

This is an EXTERNAL EMAIL. Stop and think before clicking a link or opening attachments. Hello Priya,

Just to confirm our discussion earlier today, regarding the 2019 expenses for example, Cell C57 represents the allocable O&M portion of the expenses and Cells K5, L6, M6, and N6 are the allocable payroll and tax expenses that are not included in the O&M expenses in C57.

Does that mean the total allocable expenses are a sum of K5,L6,M6, N6, and C57?

Thanks, Suliman

From: Rawal, Priya <prawal@calwater.com>
Sent: Monday, October 18, 2021 4:49 PM
To: Ibrahim, Suliman <Suliman.Ibrahim@cpuc.ca.gov>; Alexander, Patrick <palexander@calwater.com>
Cc: Singh, Melody <msingh@calwater.com>; Gibbs, Syreeta <syreeta.gibbs@cpuc.ca.gov>; Yu, Byung Kook
<Byung.Yu@cpuc.ca.gov>
Subject: [EXTERNAL] RE: Affiliate Allocations Calculation Follow-up Questions

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Suliman,

Please let me know if tomorrow anytime between 9:30am-10:30am or between 2pm-4pm will work for you so I can schedule a meeting.

Thank you. Priya.

From: Alexander, Patrick <palexander@calwater.com>
Sent: Monday, October 18, 2021 4:21 PM
To: Ibrahim, Suliman <Suliman.Ibrahim@cpuc.ca.gov>
Cc: Singh, Melody <msingh@calwater.com>; Rawal, Priya <prawal@calwater.com>; Gibbs, Syreeta
<syreeta.gibbs@cpuc.ca.gov>; Yu, Byung Kook <Byung.Yu@cpuc.ca.gov>
Subject: Re: Affiliate Allocations Calculation Follow-up Questions

Hi Suliman,

Certainly. Priya will reach out to you.

Regards,

Patrick

On Oct 18, 2021, at 3:55 PM, Ibrahim, Suliman <Suliman.Ibrahim@cpuc.ca.gov> wrote:

This is an EXTERNAL EMAIL. Stop and think before clicking a link or opening attachments. Hello Patrick,

I have some clarification questions about the affiliate allocations calculations. I was wondering if we could schedule something quick to discuss. I would just like to clarify some things. It should not take too long.

I believe last time I spoke with Priya.

Thank you,

Suliman Ibrahim Utilities Engineer Water Branch, Public Advocates Office California Public Utilities Commission 320 W. 4th Street, Suite 500, Los Angeles, CA 90013 suliman.ibrahim@cpuc.ca.gov | Office: (213) 266-4714 publicadvocates.cpuc.ca.gov <image001.jpg>

Patrick Alexander

General Rate Case Manager CALIFORNIA WATER SERVICE +1 (408) 3678230 x78230



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Pubco Allocation (Departments 330,351,353,366,372,374,384,388,389,390,394

	Fubco Allocation (I	Departments 330,3	1,333,300,372,374,364,366,369,390	%				2	019					2020	
							Payroll and	Ad Valorem				Payroll and	Ad Valorem		
	2019	2020		2019	2020	average	Benefita	Taxes	Payroll Taxes	Other		Benefita	Тахех	Payroll Taxes	Other
101	6 663 010 60	0.000 407 00		12.040	10.700	13.00%	7,751,970.71	284,749.54	804,545.15	32,031,771.71		8,661,061.57	301,965.47	881,584.31	36,146,389.24
101	5,657,010.58	6,328,457.61 2,024,475.57		13.84%	13.76%	13.80%	1,069,797.31	39,296.37	111,029.86	4,420,489.25		1,195,254.82	41,6/2.22	121,661.52	4,988,319.92
102	2.322.312.10	2.024.475.57		5.26%	5.71%	5.09%	441.407.61	14 964 06	45.811.88	1.623.932.05		493.172.46	15 762 74	46 010 12	1 995 959 50
104	205 041 00	217 022 20		0.70%	0.60%	0.60%	E2 022 EA	1 077 44	6 607 16	222 444 67		60 1/6 72	2 007 00	6 122 16	261 010 62
105	2 217 082 00	2 /08 823 27		5 / 396	5 2/194	5 3 3 94	A13 330 A6	15 183 01	42 808 80	1 707 052 18		461 812 70	16 100 07	47 006 57	1 027 345 01
108	1 810 081 71	2 052 128 82		4 4596	4 46%	4 46%	345 535 00	12 692 41	35,861,76	1 427 782 73		386.057.76	13 459 79	39 295 70	1 611 187 51
109	258 893 45	294 852 53		0.63%	0.64%	0.64%	49 400 13	1 814 59	5 127 04	204 125 36		55 193 40	1 924 30	5 617 98	230 346 13
110	1.306.059.04	1.511.902.26		3.20%	3.29%	3.24%	251,272.07	9,229,86	26.078.49	1.038.276.57		280,739,30	9,787,90	28,575,64	1.171.647.62
111	1,769,748.78	2,032,646.64		4.33%	4.42%	4.37%	339,130.51	12,457.12	35,196.96	1,401,314.76		378,901.10	13,210.28	38,567.24	1,581,319.61
112	324.582.83	348.107.00		0.79%	0.76%	0.78%	60.117.58	2.208.27	6.239.36	248.410.71		67.167.70	2.341.78	6.836.81	280.320.12
113	417,320.75	435,841.74		1.02%	0.95%	0.98%	76,305.93	2,802.91	7,919.48	315,302.29		85,254.49	2,972.37	8,677.81	355,804.21
114	2.268.215.06	2.563.722.09		5.55%	5.57%	5.56%	431.157.47	15.837.51	44.748.06	1.781.577.64		481.720.27	16.795.04	49.032.91	2.010.428.88
117	444,369.26	503,150.30		1.09%	1.09%	1.09%	84,543.50	3,105.50	8,774.42	349,340.61		94,458.11	3,293.26	9,614.62	394,214.89
119	3.218.778.72	3.639.455.05		7.88%	7.91%	7.89%	611.958.90	22.478.80	63.512.70	2.528.663.80		683.724.68	23.837.87	69.594.35	2.853.481.44
120	2,743,496.84	3,027,724.98		6.71%	6.58%	6.65%	515,333.18	18,929.49	53,484.31	2,129,398.48		575,767.44	20,073.97	58,605.70	2,402,928.78
121	212.524.46	250.985.21		0.52%	0.55%	0.53%	41.305.96	1.517.27	4.286.98	170.679.58		46.150.00	1.609.01	4.697.47	192.604.09
122	2,221,846.04	2,445,991.12		5.44%	5.32%	5.38%	416,838.28	15,311.53	43,261.93	1,722,409.60		465,721.84	16,237.26	47,404.47	1,943,660.45
123	850.097.69	946.491.05		2.08%	2.06%	2.07%	160.382.13	5.891.24	16.645.40	662.711.95		179.190.49	6.247.43	18.239.28	747.840.13
128	3,265,147.63	3,523,284.64		7.99%	7.66%	7.82%	606,565.56	22,280.69	62,952.94	2,506,378.08		677,698.85	23,627.78	68,981.00	2,828,333.03
129	181.611.81	203.958.30		0.44%	0.44%	0.44%	34.411.23	1.264.01	3.571.40	142.189.98		38.446.71	1.340.43	3.913.38	160.454.89
134	436,641.11	469,850.02		1.07%	1.02%	1.04%	81,004.19	2,975.49	8,407.09	334,715.90		90,503.73	3,155.39	9,212.11	3/7,711.58
147	197.068.17	241.834.08		0.48%	0.53%	0.50%	39.069.01	1.435.10	4.054.81	161.436.32		43.650.72	1.521.87	4.443.08	182.173.51
148	69,553.57	74,008.24		0.17%	0.16%	0.17%	12,832.95	4/1.39	1,331.88	53,026.80		14,337.90	499.89	1,459.41	59,838.32
149	38.640.90	80.327.34		0.09%	0.17%	0.13%	10.434.06	383.27	1.082.91	43.114.39		11.657.69	406.44	1.186.60	48.652.62
150	3,804.13	4,339.05		0.01%	0.01%	0.01%	754 190 57	20.89	75.99	3,025.38		818.03	28.52	05 700 75	3,414.00
152	3.952.953.92	4.500.898.76		9.67%	9.79%	9.73%	2 166 00	27.702.96	78.273.30	3.116.335.28		2 400 02	29.377.88	246 10	3.515.541.83
153	1,120.23	164 141 44		0.000	0.269/	0.03%	12 022 25	609.13	1 425 71	67 100 EA		15 455 57	620.00	1 672 10	E4 E02 0E
323	(093 535 97)	(1 055 791 63)	-	04 5494	0/ 36%	04 45%	7 307 701 81	269 430 41	759 / 36 31	30 106 016 58	0494	8 180 147 88	295 109 55	832 633 51	34 130 326 60
320	(12 122 221 12)	(1,000,701.00)	-	24.24/9	24.0070	34.4376	1.507.701.01	200,400,41	730,430,31	50.150.010.30	3478	0.100.147.00	203.120.33	002.000.01	54.155.520.00
350	(793 441 40)	(13,130,632.46) (997,605,00)													
353	(1 161 387 50)	(1.342.007.35)													
354	(478 744 70)	(365 075 32)													
360	(1 454 633 93)	(1 025 470 70)													
362	(2.673.982.91)	(2.543.906.77)													
366	(3.610.269.22)	(5.565.287.95)													
372	(1,261,594,68)	(1.274,809.91)													
374	(3,213,728,11)	(3,688,148,96)													
375	(803.058.19)	(755.843.38)													
379	(2,251,929.97)	(2,407,075.29)													
384	(1.775.670.00)	(1.462.466.45)													
388	(1,201,568.76)	(1,322,883.39)													
389	(1.787.706.75)	(2.023.958.62)													
390	(3,465,497.20)	(4,150,058.29)													
394	(833.967.34)	(983.788.96)													
tex:															
Arrillata	740 500 75	015 511 55			1.00	2.00		C 100 CT		F 70 000 CT		100 000 10	E 488.00	10 001 07	050 007 40
500	719,283.20	845,544.23		1.8%	1.8%	1.8%	139,469.50	5,123.07	14,474.97	576,299.30		155,825.40	5,432.81	15,861.02	650,327.40
600	311.297.70	346.871.03		0.8%	0.8%	0.8%	58.753.59	2.158.17	6.097.79	242.774.59		65.643.75	2.288.65	6.681.69	273.960.02
190	1,201,657.46	1,397,832.24		2.9%	3.0%	3.0%	231,758.20	8,513.07	24,053.23	957,643.66		258,937.00	9,027.77	26,356.45	1,080,657.07
D . (
Fubco (excluding															
Construction Overhead	40 973 037 65	45 001 001 25					7 737 692 00	284 224 72	803 062 20	31 072 734 12		8 660 554 02	301 047 77	881 532 65	36 144 271 00
allocation)	40,073,037.05	112 371 066 66					1,131,083.09	209,229.72	803,062.30	21,912,134.13		8,000,004.03	301,947.77	001,032.05	30,144,271.09
l otal Exp	90,852,935.23	112,371,000.66					0.407	0.097	0.09/	1.99/		00/	09/	09/	2.19/
							0.4%	0.0%	0.0%	1.6%		U75	0%	u/%	2.170
	2010	2020								2 2 4 07					2 5 6 9
· · · · · · · · · · · · · · · · · · ·	2019	2020								2.34%					2.50%
Distruction Overhead	(12,515,510)	(12 500 370)	S A . 700008												
T DIRCO	(12,515,515)	(13,500,279) 50 A01 300	One Account /99998 tab for details												
Total PUBLU	33,388,553	59,491,280													

Arnitates:

Construction Overhead allocation from PUBCO

23% 23%

ANNUAL DEPRECIATION ACCRUAL DETERMINATION STRAIGHT-LINE REMAINING LIFE METHOD 2020

GROSS DEPREC. ALLOCABLE NET NON-ALLOCABLE PLANT DISCUSSION ACCOUNT PLANT RESERVE POOL POOL DESCRIPTION NO. (end. year) (end. year) STRUCTURES AND IMPROVEMENTS 311 0 0 0 0 312 COLLECTING AND IMPOUNDING RESERVOIRS 0 0 0 0 LAKE, RIVER AND OTHER INTAKES 0 313 0 0 0 WELLS 315 0 0 0 0 SUPPLY MAINS 316 0 0 0 0 321 STRUCTURES AND IMPROVEMENTS 0 0 0 0 LOCAL CAL WATER EQUIPMENT, NO WAY 324 PUMPING EQUIPMENT 9,354,731 TO TRANSPORT OUT OF STATE 9,354,731 406,056 8,948,674 LOCAL CAL WATER EQUIPMENT, NO WAY 325 OTHER PUMPING PLANT 3,238,851 291,333 2,947,517 3,238,851 TO TRANSPORT OUT OF STATE 331 STRUCTURES AND IMPROVEMENTS 0 0 0 0 LOCAL CAL WATER EQUIPMENT, NO WAY 18,831 TO TRANSPORT OUT OF STATE 332 WATER TREATMENT EQUIPMENT 18,831 18,513 317 341 STRUCTURES AND IMPROVEMENTS 0 0 0 0 342 RESERVOIRS AND TANKS 0 0 0 0 343 TRANSMISSION AND DISTRIBUTION MAINS 0 0 0 0 344 FIRE MAINS 0 0 0 0 345 SERVICES 0 0 0 0 346 METERS 0 0 0 0 348 HYDRANTS 0 0 0 0 26,165,927 BASED ON COMPOSITE BUCKET 11.4% 371 STRUCTURES AND IMPROVEMENTS 29,532,649 12,203,182 17,329,467 3,366,722 372 OFFICE FURNITURE AND EQUIPMENT 3,772,865 -1,476,439 5,249,305 565,930 3,206,936 372-1 OFFICE EQUIPMENT - COMPUTERS 10,952,283 3,408,800 7,543,484 1,642,843 9,309,441 BASED ON INFORMATION SYSTEMS 372-2 OFFICE EQUIPMENT - SOFTWARE 81,287,542 25,191,863 56,095,679 12,193,131 69,094,411 BUCKET PERCENT OF 15% VEHICLES NOT USED OUT OF STATE. PROVISION FOR OFFICER GENERAL COMPENSATION (Ratio of estimated \$320,000 gross value of officer vehicles 373 TRANSPORTATION 7,020,709 3,792,584 3,228,124 320,000 6,700,709 overall category) 374 STORES EQUIPMENT 36,741 22,231 14,510 36,741 CSS DOES NOT PERFORM WATER LABORATORY EQUIPMENT 654,762 1,075,474 1.730.236 TESTING OUT OF STATE 375 1,730,236 376 COMMUNICATION EQUIPMENT 83,066 -13,744 96,810 83,066 377 POWER OPERATED EQUIPMENT 387,756 259,395 128,361 387,756 378 TOOLS, SHOP AND GARAGE EQUIPMENT 2.579.963 131.776 2.448.187 2.579.963 379 OTHER GENERAL PLANT 115,762 71,713 44,049 115,762 390 OTHER TANGIBLE PLANT 0 0 0 0 UTILITY PLANT PURCHASED 391 0 0 0 0 G.O. PLANT ALLOCATION 392 0 0 0 TOTAL 150.111.985 44.962.027 18.287.453 131.824.532 105.149.958 150,111,985 12.18% 5.82% Gross 4-Factor 0.7% Weighted 4-Factor

0.00% Unregulated full allocation

0.71% Total Plant Allocation

2021 PubCe Allocation & Modified Four Factor Method Rates

	2021 PubCo Allocation & Modified Four Factor N	dethod Rates		
Below are t Actual costs Method Rat	he PukCo Construction Overhead Allocation and PukCo Modified Fea in Paol: These PukCo Construction Overhead and Expense Allocation as were used in the opproved 2021 Ansual Operating Bulget.	r Factor Method R n and FubCo Mod	etes used to a fied Pour Pau	H (t)
Public Compar Dept	y and spaced service cost pool is are alcoated to Subsidiary tapita/experise #05H Name	COH %	Exp %	
830	General Office	-297%	APF 05	
323	Сантину Аблік & сол'т Колтон	20.0%	80.0%	
361	GFG Ressure	265%	28.5%	
3t8-	Internal Journa	185%	61.5%	
354	Contenuous Improvement	9.2%	908%	
200	Lagel	20.0%	80.0%	
502	II Security and Compliance	2096	1000%	
340	IT infrastructure	6.16	919%	
312	Hinator	W 3%	817%	
374	Ensinitier & faternal Reporting	21.016	79,0%	
375	Wasaparsent Development	\$3,000	6¥8%.	
.3/8	If Technical Support	1.16	26.9%	

814 Hinner Resource Administration

308 T Government Mathematika

33.2% 66.8%

0.0% 8+0%

389	Corp Communications			25.3%	74.7%
390	President, CEO			27.3%	72.7%
-394	Corporate Secretary			23.1%	76.9%
COH % bases	1 an 2020 LEA				
COH cost	pool allocation	2021 Cap Spend \$			96
		253.7	CWSC		94.18%
		5.6	HWSC		2.00%
		9.5	wws:		1.39%
		12	NMMSC		.0.43%
		280.0			100%
% based as 2	921 Estimated Capital Budget, per Rob Kuta's No	vmeber 2020 Finance Committee Peos	องสลกับก		
Expense o	est pool allocation				%
			CWSC		93.20%
			HWSC		3.00%
			wwsc		3.12%
			NUNVIC		0.69%
% based on M	icolified Four Factor			-	100%

	Expense	Capital
CWSCO	93.2%	94.2%
HWSCO	3.0%	2.0%
WWSCO	3.1%	3.4%
NMWSC	0.7%	0.4%
	100.0%	100.0%

Addendum 3:

CWS Response to Public Advocates Office Data Request SIB-033, #3.d. Attachment 3 Modified Four Factor Calc_2021 (with TSWC).xls.

(Page 2-7, Footnotes 21 and 22; Page 2-8, Footnote 28; and Page 2-11, Footnote 36)

Modified Four Factor Calculation with Texas Water Service

		cwsco	wwsco	NMWSCO	нwsco	TWSCO (Only 55% of BVRT)
Active Meter Size Equivalence	100%	93.15%	4.29%	0.99%	1.30%	0.27%
Per Business Unit count	914,941	852,235	39,224	9,071	11,911	2,500
2021 Operating Revenues	100%	92.79%	2.82%	0.59%	3.71%	0.08%
Per 2021 Budget	801,073,473	743,287,848	22,625,258	4,737,310	29,750,000	673,058
Net Utilit Plant Per 11/30/2020	100%	92.79%	2.69%	0.66%	3.72%	0.15%
Balance Sheet	2,626,983,259	2,437,549,101	70,586,844	17,349,950	97,607,223	3,890,141
2021 Direct Operating Expenses	100%	93.19%	2.64%	0.50%	3.24%	0.43%
Per 2021 Budget	540,727,548	503,890,524	14,295,556	2,691,398	17,525,908	2,324,160
		92,98%	3.11%	0.69%	2.99%	0.23%

		CWSCO	WWSCO	NMWSCO	HWSCO
Active Meter Size Equivalence	100%	95.90%	2.02%	0.98%	1.10%
Per Business Unit count					
2018 Budget Op Revenues	725,271	683,446	11,770	4,491	25,563
Per 2018 Budget	100%	94.23%	1.62%	0.62%	3.52%
Net Utility Plant Per 11/30/2017	2,010,093	1,869,896	31,263	16,471	92,46
Balance Sheet	100%	93.03%	1.56%	0.82%	4.60%
2018 Budgeted Direct Operating Expenses	502,259	476,466	7,148	2,649	15,996
Per 2018 Budget	100%	94.86%	1.42%	0.53%	3.18%
Modified Four Factor %	100%	94.50%	1.66%	0.74%	3.10%

Original 2021 PUBCO Modified Four Factor Calculation

		CWSCO	WWSCO	NMWSCO	HWSCO
Active Meter Size Equivalence	100%	93.40%	4.30%	0.99%	1.31%
Per Business Unit count	912,441.0	852,235	39,224	9,071	11,911
2021 Operating Revenues	100%	92.86%	2.83%	0.59%	3.72%
Per 2021 Budget	800,400,415	743,287,848	22,625,258	4,737,310	29,750,000
Net Utilit Plant Per 11/30/2020	100%	92.93%	2.69%	0.66%	3.72%
Balance Sheet	2,623,093,119	2,437,549,101	70,586,844	17,349,950	97,607,223
2021 Direct Operating Expenses	100%	93.59%	2.66%	0.50%	3.26%
Per 2021 Budget	538,403,387	503,890,524	14,295,556	2,691,398	17,525,908
		93.20%	3.12%	0.69%	3.00%

Addendum 4:

CWS Response to Public Advocates Office Data Request SIB-004, #1.a. Attachment Q1 – GRC Inventory

(Page 3-3, Footnotes 45 and 46; and Page 3-4, Footnote 47)

	Workstation	Desktop	Laptop	Toughbook	iPad	iPhone	e Soi	nim
2020	32					15	49	
2021		67		3	3	25	42	
2022	4	109	73			30	55	
2023	2	543	212			185	46	
2024	3	14	18	45	5	141	72	246
Addendum 5:

CWS Response to Public Advocates Office Data Request SIB-040, #1.a. attachment #1 – NBV CC&B Tab Original and Modified for End of 2023 Net Book Value

(Page 3-21, Footnote 118)

ajor_location_ d	i long_description	in_service_ year	accum_ quantity	accum_cost	utility_account_i d							Total Reserve		
376	CC&B	07/01/16	1	13,638,621.50	103722	2016	2017 (1,287,485.87)	2018 (1,287,485.87)	2019 (1,287,485.87)	2020 (1,751,199.00)	2021 (1,751,199.00)	(End of 2021) (7,364,855.61)	NBV 6,273,765.89	
376 357	CS/Service Optimization, integrate CC&B & MAXIMO for st CCB	12/01/18	1	2,187,898.85	103722 103722		(107,649.47)	(107,649.47)	(206,537.65) (107,649.47)	(280,926.21) (146,421.52)	(280,926.21) (146,421.52)	(768,390.08) (615,791.45)	1,419,508.77 524,563.09	
357	CC&B Reports	7/1/2016	1	1,087,173.81	103722		(102,629.21)	(102,629.21)	(102,629.21)	(139,593.12)	(139,593.12)	(587,073.86)	500,099.95	
362 366	CC&B CC&B	07/01/16	1	1,023,449.39 504,451,41	103722 103722		(96,613.62) (47.620.21)	(96,613.62) (47.620.21)	(96,613.62) (47.620.21)	(131,410.90) (64,771.56)	(131,410.90) (64,771.56)	(552,662.67) (272,403.76)	470,786.72 232.047.65	
362	CC&B	06/01/16	1	413,101.53	103722		(38,996.78)	(38,996.78)	(38,996.78)	(53,042.24)	(53,042.24)	(223,074.83)	190,026.70	
366 376	CC&B EA completion fails when Unable to Read flag	04/01/16	i 1 i 1	407,926.32 241 055 83	103722		(38,508.24)	(38,508.24)	(38,508.24) (22,755.67)	(52,377.74) (30,951.57)	(52,377.74) (30,951,57)	(220,280.21) (84,658,81)	187,646.11 156 397 02	
376	CCB Mulesoft Transition	01/01/18	1	217,633.65	103722				(20,544.62)	(27,944.16)	(27,944.16)	(76,432.94)	141,200.71	
376	RPT- Convert Bill Register report to Excel - Special Reque	01/01/18	572	174,300.82	103722			(15 002 27)	(16,454.00)	(22,380.23)	(22,380.23)	(61,214.45)	113,086.37	
376	Meter Read Route	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	
376	Oracle licenses for clustering/partitioning	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	
376	Start / Stop 2 hour window	07/01/17	· 1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	
376	STK scrambled route	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	
376	Water Ratuioning Validations Patching	07/01/17	1	158,923.45	103722			(15,002.37) (15,002.35)	(15,002.37) (15,002.35)	(20,405.77) (20,405.74)	(20,405.77) (20,405,74)	(70,816.29)	88,107.16 88,107.04	
376	DEV FAONDTTM and FATRDTTM char values not stored	01/01/18	1	124,412.14	103722			(10,002.00)	(11,744.51)	(15,974.52)	(15,974.52)	(43,693.54)	80,718.60	
376	HR 12631	01/01/18	1	123,565.90	103722			(12 411 26)	(11,664.62)	(15,865.86)	(15,865.86)	(43,396.34)	80,169.56	
376	14295 CCB Service point link	01/01/21	315	75,706.15	103722			(12,411.20)	(12,411.20)	(11,/55.5/)	(11,/55.57)	(48,289.28)	75,706.15	
376	Water Target Extract - BDE	01/01/18	143	43,575.26	103722				(4,113.50)	(5,595.06)	(5,595.06)	(15,303.63)	28,271.63	
376	13376 CC&B Cancel MTROFF with new star	01/01/18	67	29,555.17 27,263.30	103722				(2,790.01)	(3,794.88) (3,500.61)	(3,794.88) (3.500.61)	(10,379.78) (7.001.22)	20.262.08	
376	12942 HALO PA Eligibility	01/01/19	236	27,128.83	103722					(3,483.34)	(3,483.34)	(6,966.68)	20,162.15	
376 376	11838 HEIS/ESP Price increase 11888 CCB Rates July 1 rate changes	07/01/17	1	24,445.88 24 445 88	103722			(2,307.69) (2,307.69)	(2,307.69) (2,307.69)	(3,138.85)	(3,138.85)	(10,893.08) (10,893.08)	13,552.80 13 552 80	
376	11891 FSM displaying incorrect account in	07/01/17	1	24,445.88	103722			(2,307.69)	(2,307.69)	(3,138.85)	(3,138.85)	(10,893.08)	13,552.80	
376	11946 flag critical customers for emergenc	07/01/17	1	24,445.88	103722			(2,307.69)	(2,307.69)	(3,138.85)	(3,138.85)	(10,893.08)	13,552.80	
376	11964 wrong last meter read and wrong nig 12111 FSM implentnation Bear Gulch	07/01/17	1	24,445.88 24,445.88	103722			(2,307.69) (2,307.69)	(2,307.69) (2,307.69)	(3,138.85) (3,138.85)	(3,138.85) (3,138.85)	(10,893.08) (10,893.08)	13,552.80	
376	Create 6 new non-urgent WQ FA types	01/01/18	74	22,549.43	103722			(),	(2,128.67)	(2,895.35)	(2,895.35)	(7,919.36)	14,630.07	
376 376	Portal DeEnroll - New XAI service CC&B Lead Lag CR 13147	01/01/18	70	21,330.55	103722				(2,013.60)	(2,738.84)	(2,738.84)	(7,491.29)	13,839.26	
376	CC&B Lead Lag CR 13184	01/01/19	0	15,033.08	103722					(1,930.25)	(1,930.25)	(3,860.49)	11,172.59	
376	Open text - Phone Reminder changes for TCPA law	01/01/18	48	14,626.67	103722				(1,380.76)	(1,878.06)	(1,878.06)	(5,136.89)	9,489.78	
376	Need Premise metadata for H20 conservation to be read-	01/01/18	44	13,407.76 13,103.07	103722				(1,265.69) (1,236.93)	(1,721.56) (1,682.43)	(1,721.56) (1,682.43)	(4,708.81) (4,601.80)	8,598.95 8,501.27	
376	CR 11299 CC&B	02/01/20	358	13,090.76	103722						(1,680.85)	(1,680.85)	11,409.91	
376 376	13405 CC&B Portal Stop/Start CC&B 14290 City Base	01/01/19	26	10,579.80 9 869 11	103722 103722					(1,358.45)	(1,358.45) (1,267.19)	(2,716.89) (1,267 19)	7,862.91 8,601.92	
376	CC&B To Do creation CR 13807	01/01/19	0	7,516.55	103722					(965.13)	(965.13)	(1,930.25)	5,586.30	
376	New Service Order doesnt carry over to CCB	01/01/18	23	7,008.61	103722				(661.61)	(899.91)	(899.91)	(2,461.42)	4,547.19	
376	CC&B 14738 Cross Connection	01/01/18	22	ь,703.90 6,356.35	103722				(632.85)	(860.78)	(860.78) (816.16)	(2,354.41) (816.16)	4,349.49 5,540.19	
376	Retrofit Billing Register for Operating Contract stored proc	01/01/18	20	6,094.46	103722				(575.32)	(782.53)	(782.53)	(2,140.37)	3,954.09	
376 376	cc&B 14616 cross connection cr 12960 ccb	01/01/20	70	5,854.53 5,789 70	103722 103722				(546 55)	(743.40)	(751.72) (743.40)	(751.72) (2.033 34)	5,102.81 3.756 36	
376	13520 CC&B Control Large Bill amounts	01/01/19	14	5,696.82	103722				(= -===)	(731.47)	(731.47)	(1,462.94)	4,233.88	
376	Rollup Change Order for BDE Extracts Changes	01/01/18	16	4,875.57	103722				(460.25)	(626.02)	(626.02)	(1,712.30)	3,163.27	
376	CC&B 14742 LIRA	01/01/20	52	4,349.08	103722						(558.42)	(558.42)	3,790.66	
376	14890 CCB LIRA & Rate changes	01/01/21	18	4,326.06	103722						(525.20)	-	4,326.06	
376	14737 CCB HI balance forward	01/01/20	49	4,098.16	103722						(526.20)	(526.20)	4,085.71	
376	cr 12888 CC&B	01/01/18	12	3,656.68	103722				(345.19)	(469.52)	(469.52)	(1,284.23)	2,372.45	
376	14884 CCB HI PUC Covid Req DEV - Copmany-wide Rate Changes for July 1	01/01/21	13	3,124.37	103722				(287.66)	(391.26)	(391.26)	(1.070.18)	3,124.37	
376	BDE Accounts: Remove line feed from meter notes field	01/01/18	9	2,742.49	103722				(258.89)	(352.14)	(352.14)	(963.16)	1,779.33	
376 376	DEV RATES 2018-08-01 Tejon Rate Change Update Meter Read Sequence for M-09/M-10_ORO-05	01/01/18	9	2,742.49	103722				(258.89)	(352.14)	(352.14)	(963.16) (963.16)	1,779.33	
376	XAI Notification response error	01/01/18	9	2,742.49	103722				(258.89)	(352.14)	(352.14)	(963.16)	1,779.33	
376	CCB 14150 LIRA Hard Match 14055 CCP Tosoco rates	01/01/20	88	2,653.22	103722						(340.67)	(340.67)	2,312.55	
376	CC&B 14687 Adj type	01/01/20	24	2,007.26	103722						(257.73)	(257.73)	1,749.53	
376	14877 CCB CCC_ACCT_Updates	01/01/21	8	1,922.69	103722								1,922.69	
376	Modity TEJ Sewer Calculation Group to include 3" Service Modify TEJ Sewer Calculation Group to include 3" Service	01/01/18	6	1,828.33	103722 103722				(172.59)	(234.76) (234.76)	(234.76) (234.76)	(642.11)	1,186.22	
376	CCB 14112 SA Types and Rates	01/01/20	57	1,718.57	103722						(220.66)	(220.66)	1,497.91	
376 376	CCB 14341 CCB 14227	01/01/20	3	1,657.90	103722						(212.87)	(212.87)	1,445.03 1.444.98	
376	CCB 14279	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	
376	CCB 14317	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	
376	CCB 14468	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	
376	CCB 14510	01/01/20	3	1,657.85	103722				(4.40.00)	1405 (2)	(212.87)	(212.87)	1,444.98	
376	CR 14474 CC&B	01/01/18	38	1,523.62	103722				(143.83)	(195.63)	(195.63) (178.41)	(178.41)	988.52	
376	14855 CCB cross connection	01/01/21	5	1,201.68	103722								1,201.68	
376	CC&B 14557 CC&B CC&B 14700 AMI reads	02/01/20	32	1,170.12	103722						(150.24)	(150.24)	1,019.88 947.66	
376	CCB 13935 Large mete	01/01/20	35	1,055.27	103722						(135.50)	(135.50)	919.77	
376 376	CR 14544 CC&B CC&B 14705 water & sewer	02/01/20	28	1,023.85	103722						(131.46)	(131.46)	892.39	
376	CA BDE Accounts: Do not send endpoint info for iTRON E	01/01/20	3	919.99 914.17	103722				(86.30)	(117.38)	(117.38)	(118.13) (321.06)	593.11	
376	RPT - Stored Procedure Tuning for CM_POPULATE_LAR	01/01/18	3	914.17	103722				(86.30)	(117.38)	(117.38)	(321.06)	593.11	
376	CR 14573 CC&B	01/01/20	28	844.21 841.02	103722						(108.40) (107.99)	(108.40) (107.99)	735.81 733.03	
376	13612 CC&B Change Meter CHAR	01/01/19	7	804.67	103722					(103.32)	(103.32)	(206.64)	598.03	
376 376	13//5 CC&B Delinquent Accounts >\$5K CR 14528 CC&B	01/01/19	21	804.67 767 89	103722 103722					(103.32)	(103.32) (98.60)	(206.64) (98.60)	598.03 669.29	
376	14885 CCB allow estiamte for VIS ELA	01/01/21	3	721.01	103722						(-0.00)	-	721.01	
376	14914 CCB Badger extract	01/01/21	3	721.01	103722						105 17	-	721.01	
376	CR 14535 CC&B	02/01/20	22	621.63	103722						(85.17) (79.82)	(85.17) (79.82)	578.14	
376	CC&B 14799 Water System ID - GIS	01/01/20	7	585.44	103722						(75.17)	(75.17)	510.27	
376 376	CCB 14137 Rate changes CC&B 14771 drought allocation	01/01/20	18	542.72 501.81	103722 103722						(69.69) (64.43)	(69.69) (64.43)	473.03 437 38	
376	CC&B 14824 KBP SA types	01/01/20	6	501.81	103722						(64.43)	(64.43)	437.38	
376	14998 CCB WQ GO 103 CCB 14060 Prem SP set up	01/01/21	2	480.68	103722						(50.22)	(50.22)	480.68	
376	CC&B 14825 calendar	01/01/20	4	334.55	103722						(42.96)	(42.96)	291.59	
376	CC&B 14854 Cross Connection	01/01/20	4	334.55	103722						(42.96)	(42.96)	291.59	
376	BDE - fix performance issue due to parallelism	01/01/20	11	331.65 304.73	103722				(28.77)	(39.13)	(42.58) (39.13)	(42.58) (107.02)	289.07 197.71	
376	Change CSR USR page URL / Add HALO CSR Fav Link	01/01/18	1	304.73	103722				(28.77)	(39.13)	(39.13)	(107.02)	197.71	
376 376	Chico - defer collections/severance to Jan. 8th	01/01/18	1	304.73	103722				(28.77)	(39.13)	(39.13)	(107.02)	197.71	
376	Update the char_value in ci_per_char table	01/01/18	1	304.73	103722				(28.77)	(39.13)	(39.13)	(107.02)	197.71	
376	CR 14433 CC&B	02/01/20	8	292.53	103722						(37.56)	(37.56)	254.97	
376 376	CCB 14141 Portal start stop CCB 14237 CRN rate change	01/01/20	9	271.35 271.35	103722						(34.84) (34.84)	(34.84) (34.84)	236.51 236.51	
376	CC&B 14822 KBP	01/01/20	3	250.90	103722						(32.22)	(32.22)	218.68	
376	CCB 14180 AMI MR_RTE	01/01/20	8	241.20	103722						(30.97)	(30.97)	210.23	
376	CR 1496 CC&B	01/01/21 02/01/20	1	240.33 219.40	103722						(28.17)	(28.17)	240.33 191.23	
376	CCB 14204 Reclaim accounts	01/01/20	7	211.05	103722						(27.10)	(27.10)	183.95	
376	CC&B 14733 new rate CCB 14186 fire service	01/01/20	2	167.26	103722						(21.48)	(21.48)	145.78	
376	CCB 14284 Sewer charges	01/01/20	4	120.60	103722						(15.49) (15.49)	(15.49) (15.49)	105.11	
376	CCB 14169 go103	01/01/20	3	90.46	103722						(11.62)	(11.62)	78.84	
376 376	CC&B 14782 M-01 estimates CR 14653 CC&B	01/01/20	1	83.63 73.19	103722 103722						(10.74) (0.30)	(10.74) /0.201	72.89	
	CR 14667 CC&B	02/01/20	2	73.13	103722						(9.39)	(9.39)	63.74	
376		04/04/00	2	60.30	103722						(7.74)	(7.74)	52.56	
376 376	CCB 14191 surcharge	01/01/20		oo	400700						10.000	14.000	A4 A7	
376 376 376 376	CCB 14191 surcharge CR 14441 CC&B CR 14572 CC&B	02/01/20	1	36.56 36.56	103722 103722						(4.69) (4.69)	(4.69)	31.87 31.87	

2022	2023	2024	Total Reserve (End of 2024)	NBV
,751,199.00)	(1,653,000.93)	(1,653,000.93)	(12,422,056.46)	1,216,565.04
(280,926.21)	(265,173.34)	(265,173.34)	(1,579,662.97)	608,235.88
(146,421.52)	(138,210.97)	(138,210.97)	(1,038,634.92)	101,719.62
(139,593.12)	(131,765.47)	(131,765.47)	(990,197.91)	96,975.90
(131,410.90) (64,771.56)	(124,042.07)	(124,042.07)	(932,157.70)	91,291.69
	(61.139.51)	(61.139.51)	(459,454,34)	44,997.07
(53,042.24)	(50,067.91)	(50,067.91)	(376,252.87)	36,848.66
(30,951.57)	(29,215.97)	(29,215.97)	(174,042.31)	67,013.52
(22,380.23)	(21,125.26)	(21,125.26)	(125,845.19)	48,455.63
(20,405.77)	(19,261.52) (19,261.52)	(19,261.52) (19,261.52)	(129,745.10) (129,745.10)	29,178.35
(20,405.77)	(19,261.52)	(19,261.52)	(129,745.10)	29,178.35
(20,405.77)	(19,261.52)	(19,261.52)	(129,745.10)	29,178.35
(20,405.77)	(19,261.52)	(19,261.52)	(129,745.10)	29,178.35
(20,405.77)	(19,261.52)	(19,261.52)	(129,745.10)	29,178.35
(20,405.77)	(19,261.52)	(19,261.52)	(129,745.10)	29,178.35
(20,405.74)	(19,261.50)	(19,261.50)	(129,744.93)	29,178.31
(15,974.52)	(15,078.75)	(15,078.75)	(89,825.57)	34,586.57
(15,865.86)	(14,976.19)	(14,976.19)	(89,214.58)	34,351.32
(11,733.37)	(11,763.28)	(11,763.28)	(83,549.19)	16,139.62
(9,720.67)	(9,175.59)	(9,175.59)	(28,071.84)	47,634.31
(5,595.06)	(5,281.32)	(5,281.32)	(31,461.34)	12,113.92
(3,794.88)	(3,582.09)	(3,582.09)	(21,338.83)	8,216.34
(3,500.61)	(3,304.31)	(3,304.31)	(17,110.45) (17,026.05)	10,152.85
(3,483.34)	(3,288.01)	(3,288.01)		10,102.78
(3,138.85)	(2,962.84)	(2,962.84)	(19,957.62)	4,488.26
(3,138.85)	(2.962.84)	(2.962.84)	(19,957.62)	4.488.26
(3,138.85)	(2,962.84)	(2,962.84)	(19,957.62)	4,488.26
(3,138.85)	(2,962.84)	(2,962.84)	(19,957.62)	4,488.26
(2,895.35)	(2,732.99)	(2,732.99)	(16,280.69)	6,268.74
(1,957.82)	(1,848.04)	(1,848.04)	(9,569.55)	5,678.30
(1,930.25)	(1,822.01)	(1,822.01)	(9,434.76)	5,598.32
(1,878.06)	(1,772.75)	(1,772.75)	(10,560.46)	4,066.21
(1,721.56)	(1,625.02)	(1,625.02)	(9,680.40)	3,727.36
(1,682.43)	(1,588.09)	(1,588.09)	(9,460.42)	3,642.65
(1,680.85)	(1,586.60)	(1,586.60)	(6,534.91)	6,555.85
(1,358.45)	(1,282.27)	(1,282.27)	(6,639.88)	3,939.92
(1,267.19)	(1,196.14)	(1,196.14)	(4,926.66)	4,942.45
(965.13)	(911.01)	(911.01)	(4,717.39)	2,799.16
(899.91)	(849.44)	(849.44)	(5,060.22)	1,948.39
(860.78)	(812.51)	(812.51)	(4,840.22)	1,863.68
(816.16) (782.53)	(770.39) (738.65)	(770.39) (738.65)	(3,173.09) (4,400.20)	3,183.26 1,694.26
(751.72)	(709.57)	(709.57)	(2,922.58) (4,180.16)	2,931.95 1.609.54
(731.47)	(690.45)	(690.45)	(3,575.32)	2,121.50
(601.38)	(567.65)	(567.65)	(2,338.06)	2,345.55
(555.47)	(524.32)	(524.32)	(1,604.10)	2,721.96
(524.61)	(495.19)	(495.19)	(2,045.80) (1,514.98)	2,052.36
(469.52)	(443.19)	(443.19)	(2,640.12)	1,016.56
(401.17)	(378.67)	(378.67)	(1,158.52)	1,965.85
(391.26)	(369.32)	(369.32)	(2,200.09)	847.13
(352.14)	(332.39)	(332.39)	(1,980.08)	762.41
(352.14)	(332.39)	(332.39)	(1,980.08)	762.41
(352.14)	(332.39)	(332.39)	(1,980.08)	762.41
(352.14)	(332.39)	(332.39)	(1,980.08)	762.41
(340.67)	(321.57)	(321.57)	(1,324.49)	1,328.73
(277.73)	(262.16)	(262.16)	(802.06)	1,360.98
(257.73)	(243.28)	(243.28)	(1,002.02)	1,005.24
(246.87)	(233.03)	(233.03)	(712.93)	1,209.76
(234.76)	(221.59)	(221.59)	(1,320.05)	508.28
(234.76)	(221.59)	(221.59)	(1,320.05)	508.28
(220.66)	(208.29)	(208.29)	(857.91)	860.66
(212.87) (212.87)	(200.94) (200.93)	(200.94) (200.93)	(827.62) (827.60)	830.28 830.25
(212.87)	(200.93)	(200.93)	(827.60)	830.25 830.25
(212.87)	(200.93)	(200.93)	(827.60)	830.25 830.25
(212.87)	(200.93)	(200.93)	(827.60)	830.25
(178.41)	(168.41)	(168.41)	(693.65)	695.87
(150.24)	(145.64) (141.82)	(143.84) (141.82)	(584.12)	586.00
(135.50)	(127.90)	(127.90)	(526.79)	528.48
(131.46)	(124.09)	(124.09)	(511.11)	512.74
(118.13)	(111.50)	(111.50)	(459.26)	460.73
(117.38)	(110.80)	(110.80)	(660.03)	254.14
(117.38)	(110.80)	(110.80)	(660.03)	254.14
(108.40)	(102.32)	(102.32)	(421.43)	422.78 421.18
(107.99)	(101.93)	(101.93)	(419.84)	
(103.32)	(97.53)	(97.53)	(505.01)	299.66
(103.32)	(97.53)	(97.53)	(505.01)	299.66
(98.60)	(93.07)	(93.07)	(383.33)	384.56
(92.58)	(87.39)	(87.39)	(267.35)	453.66
(92.58)	(87.39)	(87.39)	(267.35)	453.66
(85.17)	(80.39)	(80.39)	(331.12)	332.19
(79.82)	(75.34)	(75.34)	(310.32)	311.31
(75.17)	(70.96)	(70.96)	(292.25)	293.19
(69.69)	(65.78)	(65.78)	(270.93)	271.79
(64.43)	(60.82)	(60.82)	(250.50)	251.31
(64.43)	(60.82)	(60.82)	(250.50) (178.24)	251.31 302.44
(50.33)	(47.50)	(47.50)	(195.66)	196.29 167.54
(42.96)	(40.55)	(40.55)	(167.01)	167.54
(39.13)	(36.93)	(36.93)	(220.02)	84.71
(39.13)	(36.93)	(36.93)	(220.02)	84.71
(39.13)	(36.93)	(36.93)	(220.02)	84.71 84.71
(37.56)	(35.45)	(35.45)	(146.03)	146.50
(34.84)	(32.89)	(32.89)	(135.46)	135.89
(34.84)	(32.89)	(32.89)	(135.46)	135.89
(32.22)	(30.41)	(30.41)	(125.25)	125.65
(30.97)	(29.23)	(29.23)	(120.41)	120.79
(30.86)	(29.13)	(29.13)	(89.11)	151.22
(28.17)	(26.59)	(26.59)	(109.52)	109.88
(27.10)	(25.58)	(25.58)	(105.36)	105.69
(21.48)	(20.27)	(20.27)	(83.50)	83.76
(15.49)	(14.62)	(14.62)	(60.20)	60.40
(15.49)	(14.62)	(14.62)	(60.20)	60.40
(11.62)	(10.96)	(10.96)	(45.16)	45.30
(10.74)	(10.14)	(10.14)	(41.75)	41.88
(9.39)	(8.86)	(8.86)	(36.51)	36.62
(9.39)	(8.86)	(8.86)	(36.51)	36.62
(7.74)	(7.31)	(7.31)	(30.10)	30.20
(4.69)	(4.43)	(4.43)	(18.25)	18.31
(4.69)	(4.43)	(4.43)	(18.25)	18.31
(3.87)	(3.66)	(3.66)	(15.06)	15.10 15.10
	,)		(20,347,942.20)	2,956,224.08

i	n_service_ vear	accum_ quantity	accum_cost	utility_account_ d	i						Total Reserve					Total Reserve	
	07/04/40		10.000.001.50	100700	2016	2017	2018	2019	2020	2021	(End of 2021)	NBV	2022	2023	2024	(End of 2023)	NBV
& MAXIMO for st	12/01/16	1	2,187,898.85	103722		(1,287,485.87)	(1,287,485.87)	(1,287,485.87) (206,537.65)	(1,751,199.00) (280,926.21)	(1,751,199.00) (280,926.21)	(7,364,855.61) (768,390.08)	6,273,765.89 1,419,508.77	(1,751,199.00) (280,926.21)	(1,653,000.93) (265,173.34)	(1,653,000.93) (265,173.34)	(10,769,055.54) (1,314,489.63)	2,869,565.96 873,409.22
	10/1/2016	1	1,140,354.54	103722		(107,649.47)	(107,649.47)	(107,649.47)	(146,421.52)	(146,421.52)	(615,791.45)	524,563.09	(146,421.52)	(138,210.97)	(138,210.97)	(900,423.94)	239,930.60
	07/01/16	1	1,087,173.81 1,023,449.39	103722		(102,629.21) (96,613.62)	(102,629.21) (96,613.62)	(102,629.21) (96,613.62)	(139,593.12) (131,410.90)	(139,593.12) (131,410.90)	(552,662.67)	470,786.72	(139,593.12) (131,410.90)	(131,765.47) (124,042.07)	(131,765.47) (124,042.07)	(858,432.44) (808,115.64)	228,741.37 215,333.75
	12/01/15	1	504,451.41	103722		(47,620.21)	(47,620.21)	(47,620.21)	(64,771.56)	(64,771.56)	(272,403.76)	232,047.65	(64,771.56)	(61,139.51)	(61,139.51)	(398,314.83)	106,136.58
	04/01/16	1	413,101.53	103722		(38,508.24)	(38,508.24)	(38,508.24)	(52,377.74)	(52,377.74)	(220,280.21)	190,028.70	(52,377.74)	(49,440.67)	(49,440.67)	(322,098.62)	85,827.70
i flag	01/01/18	1	241,055.83	103722				(22,755.67)	(30,951.57)	(30,951.57)	(84,658.81)	156,397.02	(30,951.57)	(29,215.97)	(29,215.97)	(144,826.34)	96,229.49
I - Special Reque	01/01/18	572	174,300.82	103722				(16,454.00)	(22,380.23)	(22,380.23)	(61,214.45)	113,086.37	(22,380.23)	(21,125.26)	(21,125.26)	(104,719.93)	69,580.89
	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16 88,107.16	(20,405.77)	(19,261.52)	(19,261.52)	(110,483.58)	48,439.87
	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	(20,405.77)	(19,261.52)	(19,261.52)	(110,483.58)	48,439.87
	07/01/17	1	158,923.45 158,923.45	103722			(15,002.37) (15,002.37)	(15,002.37) (15,002.37)	(20,405.77) (20,405.77)	(20,405.77) (20,405.77)	(70,816.29) (70,816.29)	88,107.16 88,107.16	(20,405.77) (20,405.77)	(19,261.52)	(19,261.52) (19,261.52)	(110,483.58) (110,483,58)	48,439.87 48,439.87
	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	(20,405.77)	(19,261.52)	(19,261.52)	(110,483.58)	48,439.87
	07/01/17	1	158,923.45 158,923.24	103722 103722			(15,002.37) (15.002.35)	(15,002.37) (15.002.35)	(20,405.77) (20,405.74)	(20,405.77) (20,405.74)	(70,816.29) (70.816.20)	88,107.16 88.107.04	(20,405.77) (20,405.74)	(19,261.52) (19,261.50)	(19,261.52) (19.261.50)	(110,483.58) (110,483,44)	48,439.87 48,439.80
values not stored	01/01/18	1	124,412.14	103722				(11,744.51)	(15,974.52)	(15,974.52)	(43,693.54)	80,718.60	(15,974.52)	(15,078.75)	(15,078.75)	(74,746.81)	49,665.33
	01/01/18 06/01/17	1 37	123,565.90 99,688.81	103722 103721			(12,411.26)	(11,664.62) (12,411.26)	(15,865.86) (11,733.37)	(15,865.86) (11,733.37)	(43,396.34) (48,289.26)	80,169.56 51,399.55	(15,865.86) (11,733.37)	(14,976.19) (11,763.28)	(14,976.19) (11,763.28)	(74,238.39) (71,785.91)	49,327.51 27,902.90
	01/01/21	315	75,706.15	103722				(4 112 50)	(5.505.00)	(5 505 00)	-	75,706.15	(9,720.67)	(9,175.59)	(9,175.59)	(18,896.26)	56,809.89
	01/01/18	1	29,555.17	103722				(2,790.01)	(3,794.88)	(3,794.88)	(10,379.78)	19,175.39	(3,794.88)	(3,582.09)	(3,582.09)	(17,756.75)	11,798.42
star	01/01/19	67 236	27,263.30 27 128 83	103722					(3,500.61) (3,483.34)	(3,500.61) (3,483.34)	(7,001.22)	20,262.08	(3,500.61) (3,483.34)	(3,304.31) (3,288.01)	(3,304.31) (3,288.01)	(13,806.14) (13,738.04)	13,457.16 13 390 79
	07/01/17	1	24,445.88	103722			(2,307.69)	(2,307.69)	(3,138.85)	(3,138.85)	(10,893.08)	13,552.80	(3,138.85)	(2,962.84)	(2,962.84)	(16,994.78)	7,451.10
in	07/01/17 07/01/17	1	24,445.88 24,445.88	103722 103722			(2,307.69) (2,307.69)	(2,307.69) (2,307.69)	(3,138.85) (3,138.85)	(3,138.85) (3,138.85)	(10,893.08) (10,893.08)	13,552.80 13,552.80	(3,138.85) (3,138.85)	(2,962.84) (2,962.84)	(2,962.84) (2,962.84)	(16,994.78) (16,994.78)	7,451.10 7,451.10
nc	07/01/17	1	24,445.88	103722			(2,307.69)	(2,307.69)	(3,138.85)	(3,138.85)	(10,893.08)	13,552.80	(3,138.85)	(2,962.84)	(2,962.84)	(16,994.78)	7,451.10
ng	07/01/17	1	24,445.88 24,445.88	103722			(2,307.69)	(2,307.69) (2,307.69)	(3,138.85) (3,138.85)	(3,138.85) (3,138.85)	(10,893.08) (10,893.08)	13,552.80	(3,138.85) (3,138.85)	(2,962.84) (2,962.84)	(2,962.84) (2,962.84)	(16,994.78) (16,994.78)	7,451.10
	01/01/18	74	22,549.43	103722				(2,128.67)	(2,895.35)	(2,895.35)	(7,919.36)	14,630.07	(2,895.35)	(2,732.99)	(2,732.99)	(13,547.70)	9,001.73
	01/01/18	0	15,247.85	103722				(2,013.00)	(1,957.82)	(1,957.82)	(3,915.65)	11,332.20	(1,957.82)	(2,585.26) (1,848.04)	(1,848.04)	(7,721.51)	7,526.34
	01/01/19	0	15,033.08	103722				(1 380 76)	(1,930.25)	(1,930.25)	(3,860.49)	11,172.59	(1,930.25)	(1,822.01)	(1,822.01)	(7,612.75)	7,420.33
1017 Haw	01/01/18	44	13,407.76	103722				(1,265.69)	(1,721.56)	(1,721.56)	(4,708.81)	8,698.95	(1,721.56)	(1,625.02)	(1,625.02)	(8,055.38)	5,352.38
ation to be read-c	01/01/18 02/01/20	43 358	13,103.07 13.090.76	103722 103722				(1,236.93)	(1,682.43)	(1,682.43) (1.680.85)	(4,601.80) (1.680.85)	8,501.27 11,409.91	(1,682.43) (1,680.85)	(1,588.09) (1.586.60)	(1,588.09) (1,586.60)	(7,872.32) (4.948.31)	5,230.75 8.142.45
	01/01/19	26	10,579.80	103722					(1,358.45)	(1,358.45)	(2,716.89)	7,862.91	(1,358.45)	(1,282.27)	(1,282.27)	(5,357.61)	5,222.19
	01/01/20 01/01/19	118 0	9,869.11 7,516.55	103722 103722					(965.13)	(1,267.19) (965.13)	(1,267.19) (1,930.25)	8,601.92 5,586.30	(1,267.19) (965.13)	(1,196.14) (911.01)	(1,196.14) (911.01)	(3,730.52) (3,806.38)	6,138.59 3,710.17
CB	01/01/18	23	7,008.61	103722				(661.61)	(899.91)	(899.91)	(2,461.42)	4,547.19	(899.91)	(849.44)	(849.44)	(4,210.77)	2,797.84
n MuleSOT	01/01/18	22	ь,703.90 6,356.35	103722				(632.85)	(860.78)	(860.78) (816.16)	(2,354.41) (816.16)	4,349.49 5,540.19	(860.78) (816.16)	(812.51) (770.39)	(812.51) (770.39)	(4,027.70) (2,402.70)	2,676.20 3,953.65
ntract stored proc	01/01/18	20	6,094.46	103722				(575.32)	(782.53)	(782.53)	(2,140.37)	3,954.09	(782.53)	(738.65)	(738.65)	(3,661.55)	2,432.91
	01/01/18	19	5,789.70	103722				(546.55)	(743.40)	(743.40)	(2,033.34)	3,756.36	(743.40)	(701.71)	(701.71)	(3,478.45)	2,311.25
hannes	01/01/19	14	5,696.82	103722				(460.25)	(731.47)	(731.47)	(1,462.94)	4,233.88	(731.47)	(690.45)	(690.45)	(2,884.87)	2,811.95
nangeo	01/01/20	56	4,683.61	103722				(400.25)	(020.02)	(601.38)	(601.38)	4,082.23	(601.38)	(567.65)	(567.65)	(1,770.40)	2,913.21
	01/01/20 01/01/21	52 18	4,349.08 4.326.06	103722 103722						(558.42)	(558.42)	3,790.66 4,326.06	(558.42) (555.47)	(527.11) (524.32)	(527.11) (524.32)	(1,643.95) (1.079.78)	2,705.13 3.246.28
	01/01/20	49	4,098.16	103722						(526.20)	(526.20)	3,571.96	(526.20)	(496.70)	(496.70)	(1,549.10)	2,549.06
	01/01/21 01/01/18	17	4,085.71 3,656.68	103722 103722				(345.19)	(469.52)	(469.52)	(1,284.23)	4,085.71 2,372.45	(524.61) (469.52)	(495.19) (443.19)	(495.19) (443.19)	(1,019.79) (2,196.93)	3,065.92
	01/01/21	13	3,124.37	103722				(202 60)	(201.00)	1004 0.03	-	3,124.37	(401.17)	(378.67)	(378.67)	(779.84)	2,344.53
eter notes field	01/01/18	10	2,742.49	103722				(287.66) (258.89)	(391.26) (352.14)	(391.26) (352.14)	(1,070.18) (963.16)	1,977.04	(391.26) (352.14)	(369.32) (332.39)	(369.32) (332.39)	(1,830.77) (1,647.69)	1,216.45
inge	01/01/18	9	2,742.49	103722				(258.89)	(352.14)	(352.14)	(963.16)	1,779.33	(352.14)	(332.39)	(332.39)	(1,647.69)	1,094.80
010 010-03	01/01/18	9	2,742.49	103722				(258.89)	(352.14)	(352.14)	(963.16)	1,779.33	(352.14)	(332.39)	(332.39)	(1,647.69)	1,094.80
	01/01/20	88 9	2,653.22	103722						(340.67)	(340.67)	2,312.55	(340.67)	(321.57)	(321.57)	(1,002.92)	1,650.30
	01/01/20	24	2,007.26	103722						(257.73)	(257.73)	1,749.53	(257.73)	(243.28)	(243.28)	(758.74)	1,248.52
nclude 3" Service	01/01/21 01/01/18	8	1,922.69	103722 103722				(172.59)	(234,76)	(234.76)	(642.11)	1,922.69	(246.87) (234.76)	(233.03) (221.59)	(233.03) (221.59)	(479.90) (1.098.46)	1,442.79 729.87
nclude 3" Service	01/01/18	6	1,828.33	103722				(172.59)	(234.76)	(234.76)	(642.11)	1,186.22	(234.76)	(221.59)	(221.59)	(1,098.46)	729.87
	01/01/20 01/01/20	57	1,718.57 1,657.90	103722 103722						(220.66) (212.87)	(220.66) (212.87)	1,497.91 1,445.03	(220.66) (212.87)	(208.29) (200.94)	(208.29) (200.94)	(649.62) (626.69)	1,068.95 1,031.21
	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	(212.87)	(200.93)	(200.93)	(626.67)	1,031.18
	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	(212.87)	(200.93)	(200.93)	(626.67)	1,031.18
	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	(212.87)	(200.93)	(200.93)	(626.67)	1,031.18
	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	(212.87)	(200.93)	(200.93)	(626.67)	1,031.18
Signup	01/01/18 02/01/20	5	1,523.62	103722 103722				(143.83)	(195.63)	(195.63) (178.41)	(535.10) (178.41)	988.52 1.211.11	(195.63) (178.41)	(184.66) (168.41)	(184.66) (168.41)	(915.39) (525.24)	608.23 864.28
	01/01/21	5	1,201.68	103722							-	1,201.68	(154.30)	(145.64)	(145.64)	(299.94)	901.74
	02/01/20 01/01/20	32	1,170.12	103722 103722						(150.24) (139.60)	(150.24) (139.60)	1,019.88 947.66	(150.24) (139.60)	(141.82) (131.78)	(141.82) (131.78)	(442.31) (410.98)	727.81 676.28
	01/01/20	35	1,055.27	103722						(135.50)	(135.50)	919.77	(135.50)	(127.90)	(127.90)	(398.89)	656.38
	01/01/20	11	919.99	103722						(118.13)	(118.13)	892.39	(118.13)	(124.09) (111.50)	(124.09) (111.50)	(347.76)	572.23
INFO FOR IT RON E	01/01/18	3	914.17 914.17	103722				(86.30)	(117.38)	(117.38)	(321.06)	593.11 593.11	(117.38)	(110.80)	(110.80)	(549.23)	364.94
0.0505	01/01/20	28	844.21	103722				(00.50)	(117.50)	(108.40)	(108.40)	735.81	(108.40)	(102.32)	(102.32)	(319.11)	525.10
	02/01/20 01/01/19	23	841.02 804.67	103722 103722					(103.32)	(107.99) (103.32)	(107.99) (206.64)	733.03 598.03	(107.99) (103.32)	(101.93) (97.53)	(101.93) (97.53)	(317.91) (407.48)	523.11 397.19
	01/01/19	7	804.67	103722					(103.32)	(103.32)	(206.64)	598.03	(103.32)	(97.53)	(97.53)	(407.48)	397.19
	01/01/21	21	707.09	103722						(98.00)	(98.00)	721.01	(98.60) (92.58)	(87.39)	(87.39)	(179.96)	541.05
	01/01/21	3	721.01	103722						(9E 17)	-	721.01	(92.58)	(87.39)	(87.39)	(179.96)	541.05
	02/01/20	17	621.63	103722						(79.82)	(79.82)	541.81	(79.82)	(75.34)	(75.34)	(234.98)	386.65
	01/01/20	7	585.44 542.72	103722						(75.17)	(75.17)	510.27 473.03	(75.17)	(70.96)	(70.96)	(221.30) (205.15)	364.14
	01/01/20	6	501.81	103722						(64.43)	(64.43)	437.38	(64.43)	(60.82)	(60.82)	(189.68)	312.13
	01/01/20 01/01/21	6	501.81 480.68	103722 103722						(64.43)	(64.43)	437.38 480.68	(64.43) (61.72)	(60.82) (58.26)	(60.82) (58.26)	(189.68) (119.98)	312.13 360.70
	01/01/20	13	391.95	103722						(50.33)	(50.33)	341.62	(50.33)	(47.50)	(47.50)	(148.16)	243.79
	01/01/20	4	334.55	103722						(42.96) (42.96)	(42.96) (42.96)	291.59 291.59	(42.96)	(40.55) (40.55)	(40.55)	(126.46) (126.46)	208.09
- 11	01/01/20	11	331.65	103722				(20.27)	(20, 12)	(42.58)	(42.58)	289.07	(42.58)	(40.20)	(40.20)	(125.36)	206.29
CSR Fav Link	01/01/18	1	304.73	103722				(28.77)	(39.13)	(39.13)	(107.02)	197.71	(39.13)	(36.93)	(36.93)	(183.08)	121.65
n. 8th antally set to com	01/01/18	1	304.73 304.73	103722				(28.77)	(39.13)	(39.13)	(107.02)	197.71	(39.13)	(36.93)	(36.93)	(183.08)	121.65
le	01/01/18	1	304.73	103722				(28.77)	(39.13)	(39.13)	(107.02)	197.71	(39.13)	(36.93)	(36.93)	(183.08)	121.65
	02/01/20 01/01/20	8	292.53 271.35	103722 103722						(37.56) (34.84)	(37.56) (34.84)	254.97 236 51	(37.56)	(35.45) (32.89)	(35.45) (32.89)	(110.58) (102.57)	181.95 168 78
	01/01/20	9	271.35	103722						(34.84)	(34.84)	236.51	(34.84)	(32.89)	(32.89)	(102.57)	168.78
	01/01/20 01/01/20	3 8	250.90 241.20	103722 103722						(32.22) (30.97)	(32.22) (30.97)	218.68 210.23	(32.22) (30.97)	(30.41) (29.23)	(30.41) (29.23)	(94.84) (91.17)	156.06 150.03
	01/01/21	1	240.33	103722						100 45	-	240.33	(30.86)	(29.13)	(29.13)	(59.99)	180.34
	02/01/20 01/01/20	6 7	219.40 211.05	103722 103722						(28.17) (27.10)	(28.17) (27.10)	191.23 183.95	(28.17) (27.10)	(26.59) (25.58)	(26.59) (25.58)	(82.93) (79.78)	136.47 131.27
	01/01/20	2	167.26	103722						(21.48)	(21.48)	145.78	(21.48)	(20.27)	(20.27)	(63.22)	104.04
	01/01/20	4	120.60	103722						(15.49) (15.49)	(15.49) (15.49)	105.11	(15.49)	(14.62)	(14.62)	(45.59) (45.59)	75.01
	01/01/20	3	90.46 83.62	103722						(11.62)	(11.62)	78.84	(11.62)	(10.96)	(10.96)	(34.19)	56.27 52.02
	02/01/20	2	73.13	103722						(9.39)	(9.39)	63.74	(9.39)	(8.86)	(8.86)	(27.64)	45.49
	02/01/20 01/01/20	2	73.13 60.30	103722 103722						(9.39) (7.74)	(9.39) (7.74)	63.74 52.56	(9.39) (7.74)	(8.86) (7.31)	(8.86) (7.31)	(27.64) (22.79)	45.49 37.51
	02/01/20	1	36.56	103722						(4.69)	(4.69)	31.87	(4.69)	(4.43)	(4.43)	(13.82)	22.74
	02/01/20	1	36.56 30.16	103722						(4.69) (3.87)	(4.69) (3.87)	31.87 26.29	(4.69) (3.87)	(4.43) (3.66)	(4.43) (3.66)	(13.82) (11.40)	18.76
	01/01/20	1	30.16	103722						(3.87)	(3.87)	26.29	(3.87)	(3.66)	(3.66)	(11.40)	18.76
																	, ,

376	CC&B	07/01/16	1	13,638,621.50	
376 357	CS/Service Optimization, integrate CC&B & MAXIMO for st CCB	12/01/18 10/1/2016	1	2,187,898.85 1,140,354.54	
357	CC&B Reports	7/1/2016	1	1,087,173.81	
366	CC&B	12/01/15	1	504,451.41	
362	CC&B	06/01/16	1	413,101.53	
376	FA completion fails when Unable to Read flag	01/01/18	1	241,055.83	
376 376	CCB Mulesoft Transition RPT- Convert Bill Register report to Excel - Special Regule	01/01/18	1 572	217,633.65 174,300,82	
376	Mass Adjustments for LIRA PPP	07/01/17	1	158,923.45	
376 376	Meter Read Route Oracle licenses for clustering/partitioning	07/01/17 07/01/17	1	158,923.45 158.923.45	
376	Rates - LIRA PPP	07/01/17	1	158,923.45	
376 376	Start / Stop 2 hour window STK scrambled route	07/01/17 07/01/17	1	158,923.45 158,923.45	
376	Water Ratuioning Validations	07/01/17	1	158,923.45	
376 376	Patching DEV FAONDTTM and FATRDTTM char values not stored	07/01/17 01/01/18	1	158,923.24 124,412,14	
376	HR 12631	01/01/18	1	123,565.90	
376 376	37 enhancements CC&B 14295 CCB Service point link	06/01/17 01/01/21	37 315	99,688.81 75,706.15	
376	Water Target Extract - BDE	01/01/18	143	43,575.26	
376 376	DEV January 1, 2018 Rate Changes 13376 CC&B Cancel MTROFF with new star	01/01/18	1 67	29,555.17 27.263.30	
376	12942 HALO PA Eligibility	01/01/19	236	27,128.83	
376 376	11838 HEIS/ESP Price increase 11888 CCB Rates July 1 rate changes	07/01/17 07/01/17	1	24,445.88 24,445.88	
376	11891 FSM displaying iincorrect account in	07/01/17	1	24,445.88	
376	11946 mag critical customers for emergence 11964 wrong last meter read and wrong hig	07/01/17	1	24,445.88	
376	12111 FSM implentnation Bear Gulch	07/01/17	1	24,445.88	
376	Portal DeEnroll - New XAI service	01/01/18	70	21,330.55	
376	CC&B Lead Lag CR 13147	01/01/19	0	15,247.85	
376	Open text - Phone Reminder changes for TCPA law	01/01/18	48	14,626.67	
376	CCB Phone Number Inquiry Service Need Premise metadate for H20 conservation to be reader	01/01/18	44	13,407.76 13 103 07	
376	CR 11299 CC&B	02/01/20	358	13,090.76	
376	13405 CC&B Portal Stop/Start CC&B 14290 City Base	01/01/19	26 118	10,579.80	
376	CC&B To Do creation CR 13807	01/01/19	0	7,516.55	
376 376	New Service Order doesnt carry over to CCB Need to allow undate to PREMISE through Mulesoft	01/01/18	23	7,008.61	
376	CC&B 14738 Cross Connection	01/01/20	76	6,356.35	
376 376	Retrofit Billing Register for Operating Contract stored proc CC&B 14616 cross connection	01/01/18	20 70	6,094.46 5,854.53	
376	cr 12960 ccb	01/01/18	19	5,789.70	
376 376	13520 CC&B Control Large Bill amounts Rollup Change Order for BDE Extracts Changes	01/01/19 01/01/18	14 16	5,696.82 4.875.57	
376	CC&B 14674 Chico sewer	01/01/20	56	4,683.61	
376 376	CC&B 14742 LIRA 14890 CCB LIRA & Rate changes	01/01/20 01/01/21	52 18	4,349.08 4,326.06	
376	CC&B 14599 AR aging	01/01/20	49	4,098.16	
376 376	14737 CCB HI balance forward cr 12888 CC&B	01/01/21 01/01/18	17	4,085.71 3,656.68	
376	14884 CCB HI PUC Covid Req	01/01/21	13	3,124.37	
376 376	DEV - Copmany-wide Rate Changes for July 1 BDE Accounts: Remove line feed from meter notes field	01/01/18 01/01/18	10	3,047.22 2,742.49	
376	DEV RATES 2018-08-01 Tejon Rate Change	01/01/18	9	2,742.49	
376	XAI Notification response error	01/01/18	9	2,742.49	
376	CCB 14150 LIRA Hard Match 14055 CCB Tacoro rates	01/01/20	88	2,653.22	
376	CC&B 14687 Adj type	01/01/20	24	2,007.26	
376	14877 CCB CCC_ACCT_Updates Modify TE I Source Calculation Group to include 2" Sources	01/01/21	8	1,922.69	
376	Modify TEJ Sewer Calculation Group to include 3" Service	01/01/18	6	1,828.33	
376 376	CCB 14112 SA Types and Rates CCB 14341	01/01/20	57	1,718.57 1,657.90	
376	CCB 14227	01/01/20	3	1,657.85	
376 376	CCB 14279 CCB 14317	01/01/20 01/01/20	3	1,657.85 1,657.85	
376	CCB 14321	01/01/20	3	1,657.85	
376	CCB 14468 CCB 14510	01/01/20	3	1,657.85	
376	LIRA - Prevent Customers from Auto Lira Signup	01/01/18	5	1,523.62	
376	14855 CCB cross connection	01/01/21	5	1,201.68	
376	CR 14557 CC&B	02/01/20	32	1,170.12	
376	CCB 13935 Large mete	01/01/20	35	1,055.27	
376	CR 14544 CC&B CC&B 14705 water & sewer	02/01/20	28	1,023.85	
376	CA BDE Accounts: Do not send endpoint info for iTRON E	01/01/18	3	914.17	
376 376	RPT - Stored Procedure Tuning for CM_POPULATE_LAR CCB 14203 EFT CCB	01/01/18 01/01/20	3 28	914.17 844.21	
376	CR 14573 CC&B	02/01/20	23	841.02	
376 376	13612 CC&B Change Meter CHAR 13775 CC&B Delinquent Accounts >\$5K	01/01/19 01/01/19	7	804.67 804.67	
376	CR 14528 CC&B	02/01/20	21	767.89	
376	14885 CCB allow estiamte for VIS ELA 14914 CCB Badger extract	01/01/21	3	721.01	
376	CCB 14221 HEIS	01/01/20	22	663.31	
376	CC&B 14799 Water System ID - GIS	01/01/20	7	585.44	
376	CCB 14137 Rate changes CC8B 14771 drought allocation	01/01/20	18	542.72 501.81	
376	CC&B 14824 KBP SA types	01/01/20	6	501.81	
376 376	14998 CCB WQ GO 103 CCB 14060 Prem SP set up	01/01/21	2	480.68 391.95	
376	CC&B 14825 calendar	01/01/20	4	334.55	
376 376	CC&B 14854 Cross Connection CCB 14213 2020 Rate changes CWS	01/01/20 01/01/20	4	334.55 331.65	
376	BDE - fix performance issue due to parallelism	01/01/18	1	304.73	
376	Chico - defer collections/severance to Jan. 8th	01/01/18	1	304.73	
376	Lockbox CA in progress, payment accidentally set to com	01/01/18	1	304.73	
376	CR 14433 CC&B	02/01/20	8	292.53	
376 376	CCB 14141 Portal start stop CCB 14237 CRN rate change	01/01/20	9	271.35	
376	CC&B 14822 KBP	01/01/20	3	250.90	
376 376	CCB 14180 AMI MR_RTE 14987 CCB WHU rate change	01/01/20	8	241.20	
376	CR 14496 CC&B	02/01/20	6	219.40	
376 376	CCB 14204 Reclaim accounts CC&B 14733 new rate	01/01/20 01/01/20	7	211.05 167.26	
376	CCB 14186 fire service	01/01/20	4	120.60	
376 376	CCB 14284 Sewer charges CCB 14169 go103	01/01/20 01/01/20	4	120.60 90.46	
376	CC&B 14782 M-01 estimates	01/01/20	1	83.63	
376	CR 14667 CC&B	02/01/20	2	73.13 73.13	
376	CCB 14191 surcharge	01/01/20	2	60.30	
376	CR 14572 CC&B	02/01/20	1	36.56 36.56	
376 376	CCB 14176 rate change for fire/water CCB 14256 Greenwood	01/01/20	1	30.16 30.16	
-				00.10	

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376 376

Addendum 6:

CWS Response to Public Advocates Office Data Request SIB-016, #1.a. Attachment 1 Project Justifications.pdf, p.52

(Page 3-32, Footnote 165)

CSS GPS Base Stations 00125065

Project Justification

Currently, only a small number of GPS devices in the Company have real-time correction capability via a private third-party correction network, which has an associated cost on a per-device basis (\$1,800/device/year, on average). Due to the cost, many districts have opted to forego this important capability, meaning that the real-time accuracy of the GPS devices is not at the desired level for certain applications (e.g., locating buried assets). Furthermore, there are additional costs in the form of man-hours associated with GPS devices that do not have the real-time correction capability: 1) more time spent by GPS users to collect data without the real-time correction capability because it requires a longer capture time per asset (two to three times longer per asset); and 2) additional time spent by Engineering staff to post-process the data to get it to the desired level of accuracy.

The base station network developed under this project will provide real-time correction capabilities to all of the Company's GPS devices, thus providing the benefits of real-time correction and greatly reducing or completely eliminating the costs mentioned above.

Recommended Solution

Install Seven (7) RTK base stations at various CalWater locations throughout the state. Each base station provides coverage of up to 60 mile radius. The base station network plan shown on the map will provide the needed coverage to cover all of CalWater systems, and provide GPS users the ability to use high accuracy RTK.

Customer Benefits

- Enables the Company to more effectively manage the maintenance of critical assets to improve the reliability of water deliveries to customers.
- Enables more rapid response to pipeline breaks and leaks, reducing the time that customers are impacted by water system outages; reduces research/decision time during emergency events.
- Supports emergency response efforts to protect water quality and ensure the safety of employees and customers.

Index	Cost Description	Unit	Cost Category	Cos	st
1	GPS Base Station Kit	1 unit	Materials	\$	9,525.00
2	Cellular Modem	1 unit	Materials	\$	800.00
	Cellular Antenna (with cable and mounting				
3	hardware)	1 set	Materials	\$	200.00
4	Cabinet, Power Supply, Battery, and Misc. Parts	1 set	Materials	\$	1,500.00
5	Base Station Assembly and Install	16 hrs	Labor	\$	1,800.00
	Planning, Coordination, Procurement, Config,				
6	Start-up	30 hrs	Labor	\$	4,000.00
7	Electrical Install	6 hrs	Labor	\$	1,500.00
8	Field Testing	16 hrs	Labor	\$	2,100.00
	Estimated total cost for 1 (one) GPS Base Station				
	Commissioning			\$	21,425.00

Project Cost Estimate - \$149,877

Addendum 7:

CWS Response to Public Advocates Office Data Request SIB-039, #1.a. Attachment 125170_Cost_Estimate and 125171 Cost_Estimate

(Page 3-32, Footnote 166)

Capital Project Cost Estimate

Project No. :	125170
Description	Car Port/Cover For Vehicle Maint.
District / Department:	Rancho Dominguez
Project Start Date:	01/01/2022
Project Completion Date:	06/01/2022
Prepared By:	anmagana
Date Initiated:	10/16/2020
Base Year:	2020
Sub-Total:	\$44,880
Direct Cost:	\$47,152

Cost Table:

<u>Item</u>	Description [units]	<u>Qty</u>	<u>Unit Cost</u>	<u>Total</u>	<u>Cost Basis</u>
CONSTRUCTION OVERHEAD	[EA]	1	\$880.00	\$880.00	Cost Catalog No. G.1
COST TO CONSTRUCT CAR					
PORT/COVER	[EA]	1	\$40,000.00	\$40,000.00	Cost Catalog No. G.1
CONTINGENCY	[EA]	1	\$4,000.00	\$4,000.00	Contingency Estimate

Sub-total =	\$44,880.00
Direct Cost =	\$47,152.07

<u>Notes:</u>

1. Sub-Total is defined as the summation of all project estimated materials, labor, and markups costs

2. Direct Cost is the escalated Sub-Total from the base year of 2020 to the project completion year assuming a 2.5% inflation rate

3. See Common Plant Book for additional details on cost estimating methodology and justification

Capital Project Cost Estimate

Project No. :	125171
Description	Install Cover Over Spoils/Dump Area
District / Department:	Rancho Dominguez
Project Start Date:	01/01/2022
Project Completion Date:	06/01/2022
Prepared By:	anmagana
Date Initiated:	10/16/2020
Base Year:	2020
Sub-Total:	\$67,320
Direct Cost:	\$70,728

Cost Table:

<u>Item</u>	Description [units]	<u>Qty</u>	<u>Unit Cost</u>	<u>Total</u>	<u>Cost Basis</u>
CONSTRUCTION OVERHEAD	[EA]	1	\$1,320.00	\$1,320.00	Engineer's Estimate
COST TO INSTALL OVERHEAD					
CANOPY/COVER	[EA]	1	\$60,000.00	\$60,000.00	Engineer's Estimate
CONTINGENCY	[EA]	1	\$6,000.00	\$6,000.00	Contingency Estimate

Sub-total =	\$67,320.00
Direct Cost =	\$70,728.12

Notes:

1. Sub-Total is defined as the summation of all project estimated materials, labor, and markups costs

2. Direct Cost is the escalated Sub-Total from the base year of 2020 to the project completion year assuming a 2.5% inflation rate

3. See Common Plant Book for additional details on cost estimating methodology and justification

Addendum 8:

Price Waterhouse Coopers Questions and Answers Interpretations for the Utility Industry

(Page 3-35, Footnote 171)

- Q.2. How do the composite and group depreciation conventions impact the recognition of gains and losses in the case of "abnormal" or "extraordinary" retirement of assets?
- A.2. To the extent that a company may choose to depreciate assets on a group or composite basis, the policy for recognizing gains or losses on its retirement of assets should be consistent. The AICPA Audit Guide, *Audit of Airlines,* in its glossary defines group depreciation as follows:

"A plan under which (1) depreciation is based on the application of a single depreciation rate to the total book cost of all property included in a given depreciable property and equipment account or class, despite differences in service life of individual items of property and equipment, (2) the full original cost, less any salvage realized, of a retired item of depreciable property or equipment is charged to the allowance for depreciation regardless of the age of the item, and (3) no gain or loss is recognized on the retirement of individual items."

As noted above, in the case of normal retirement, no gain or loss would be recognized. As such, gains or losses which would be recognized if one used the unitary convention of accounting are simply included in the entity's net property balance and are depreciated over future years. However, although not specifically addressed in the audit guide, we believe a gain or loss should be considered in cases where abnormal or extraordinary retirements have occurred. We believe that the occurrence of an abnormal or extraordinary retirement would be rare.⁵

As mentioned in A.1., above, businesses using the composite or group deprecation convention should obtain updated depreciation studies periodically (every 3 - 5 years), which is consistent with FERC regulations. However, in a circumstance where an entity experiences a significant and unplanned level of retirements we recommend that an updated depreciation study be obtained more immediately. It is likely that as a result of the significant and unplanned level of retirements that the characteristics (i.e. average age of the assets, average remaining life if the assets, etc.) of the entity's property may have changed so significantly that the previous depreciation rates may no longer be a reasonable estimate of the assets' remaining depreciable life.

⁵ This topic is also addressed by the USoA, specifically 18 CFR chapter 1, General Instruction 10, *Additions and Retirements of Electric Plant* paragraphs 5F and 10F. Paragraph 5F discusses the retirement of an entire system or operating unit which requires the recognition of the entire gain or loss in income rather than as an adjustment to accumulated depreciation. Paragraph 10F discusses that the early retirement of material property units, referred to as "extraordinary retirements," can lead to separate deferred amortization of unrecovered plant costs, but usually requires specific regulatory approval.

Addendum 9:

CWS Response to Public Advocates Office Data Request SIB-040, #2. Attachment 1 – NBV

(Page 3-35, Footnote 172)

	en el composition de la composition de													
cation_	i long_description	in_service_ year	accum_ quantity	accum_cost	utility_account_i d	2016	2017	2018	2019	2020	2021	Total Reserve	NRV	
376	CC&B CS/Service Ontimization integrate CC&B & MAXIMO for at	07/01/16	1	13,638,621.50	103722	2010	(1,287,485.87)	(1,287,485.87)	(1,287,485.87)	(1,751,199.00)	(1,751,199.00)	(7,364,855.61)	6,273,765.89	
357	ССВ	10/1/2016	1	1,140,354.54	103722		(107,649.47)	(107,649.47)	(107,649.47)	(146,421.52)	(146,421.52)	(615,791.45)	524,563.09	
357 362	CC&B Reports CC&B	7/1/2016	1	1,087,173.81	103722		(102,629.21) (96,613,62)	(102,629.21) (96,613,62)	(102,629.21) (96,613,62)	(139,593.12) (131.410.90)	(139,593.12) (131.410.90)	(587,073.86) (552,662,67)	500,099.95 470 786 72	
366	CC&B	12/01/15	1	504,451.41	103722		(47,620.21)	(47,620.21)	(47,620.21)	(64,771.56)	(64,771.56)	(272,403.76)	232,047.65	
362	CC&B	06/01/16	1	413,101.53	103722		(38,996.78)	(38,996.78)	(38,996.78)	(53,042.24)	(53,042.24)	(223,074.83)	190,026.70	
366	CC&B	04/01/16	1	407,926.32	103722		(38,508.24)	(38,508.24)	(38,508.24)	(52,377.74)	(52,377.74)	(220,280.21)	187,646.11	
376	CCB Mulesoft Transition	01/01/18	1	217,633.65	103722				(20,544.62)	(27,944.16)	(27,944.16)	(76,432.94)	141,200.71	
376	RPT- Convert Bill Register report to Excel - Special Reque	01/01/18	572	174,300.82	103722				(16,454.00)	(22,380.23)	(22,380.23)	(61,214.45)	113,086.37	
376	Mass Adjustments for LIRA PPP Mater Read Route	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	
376	Oracle licenses for clustering/partitioning	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	
376	Rates - LIRA PPP	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	
376	Start / Stop 2 hour window STK scrembled route	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	
376	Water Ratuioning Validations	07/01/17	1	158,923.45	103722			(15,002.37)	(15,002.37)	(20,405.77)	(20,405.77)	(70,816.29)	88,107.16	
376	Patching	07/01/17	1	158,923.24	103722			(15,002.35)	(15,002.35)	(20,405.74)	(20,405.74)	(70,816.20)	88,107.04	
376	DEV FAONDITM and FATRDTTM char values not stored HR 12631	01/01/18	1	124,412.14	103722				(11,744.51)	(15,974.52)	(15,974.52)	(43,693.54)	80,718.60	
376	37 enhancements CC&B	06/01/17	37	99,688.81	103721			(12,411.26)	(12,411.26)	(11,733.37)	(11,733.37)	(43,390.34) (48,289.26)	51,399.55	
376	14295 CCB Service point link	01/01/21	315	75,706.15	103722							-	75,706.15	
376	Water Target Extract - BDE DEV January 1 2018 Rate Changes	01/01/18	143	43,575.26 29,555.17	103722				(4,113.50)	(5,595.06)	(5,595.06) (3,794.88)	(15,303.63) (10.379.78)	28,271.63	
376	13376 CC&B Cancel MTROFF with new star	01/01/19	67	27,263.30	103722				(2)	(3,500.61)	(3,500.61)	(7,001.22)	20,262.08	
376	12942 HALO PA Eligibility	01/01/19	236	27,128.83	103722					(3,483.34)	(3,483.34)	(6,966.68)	20,162.15	
376	11838 HEIS/ESP Price increase 11888 CCB Rates July 1 rate changes	07/01/17	1	24,445.88	103722			(2,307.69)	(2,307.69)	(3,138.85)	(3,138.85)	(10,893.08)	13,552.80	
376	11891 FSM displaying iincorrect account in	07/01/17	1	24,445.88	103722			(2,307.69)	(2,307.69)	(3,138.85)	(3,138.85)	(10,893.08)	13,552.80	
376	11946 flag critical customers for emergenc	07/01/17	1	24,445.88	103722			(2,307.69)	(2,307.69)	(3,138.85)	(3,138.85)	(10,893.08)	13,552.80	
376	11964 wrong last meter read and wrong hig 12111 ESM implementation Rear Gulab	07/01/17	1	24,445.88	103722			(2,307.69)	(2,307.69)	(3,138.85)	(3,138.85)	(10,893.08)	13,552.80	
376	Create 6 new non-urgent WQ FA types	01/01/18	74	24,443.68 22,549.43	103722			(2,307.03)	(2,128.67)	(2,895.35)	(2,895.35)	(7,919.36)	14,630.07	
376	Portal DeEnroll - New XAI service	01/01/18	70	21,330.55	103722				(2,013.60)	(2,738.84)	(2,738.84)	(7,491.29)	13,839.26	
376 376	CC&B Lead Lag CR 13147 CC&B Lead Lag CR 13184	01/01/19	0	15,247.85	103722					(1,957.82)	(1,957.82) (1,930.25)	(3,915.65)	11,332.20	
376	Open text - Phone Reminder changes for TCPA law	01/01/18	48	14,626.67	103722				(1,380.76)	(1,878.06)	(1,878.06)	(5,136.89)	9,489.78	
376	CCB Phone Number Inquiry Service	01/01/18	44	13,407.76	103722				(1,265.69)	(1,721.56)	(1,721.56)	(4,708.81)	8,698.95	
376	INVERSIGN Premise metadata for H20 conservation to be read- CR 11299 CC&B	01/01/18	43 358	13,103.07 13,090 76	103722 103722				(1,236.93)	(1,682.43)	(1,682.43) (1.680.85)	(4,601.80) (1.680.85)	8,501.27 11.409 91	
376	13405 CC&B Portal Stop/Start	01/01/19	26	10,579.80	103722					(1,358.45)	(1,358.45)	(2,716.89)	7,862.91	
376	CC&B 14290 City Base	01/01/20	118	9,869.11	103722					1000	(1,267.19)	(1,267.19)	8,601.92	
376	New Service Order doesnt carry over to CCB	01/01/19 01/01/18	0 23	7,516.55	103722 103722				(661.61)	(965.13) (899.91)	(965.13) (899.91)	(1,930.25) (2.461.42)	5,586.30 4,547.19	
376	Need to allow update to PREMISE through Mulesoft	01/01/18	22	6,703.90	103722				(632.85)	(860.78)	(860.78)	(2,354.41)	4,349.49	
376	CC&B 14738 Cross Connection	01/01/20	76	6,356.35	103722				1000 000	(703 53)	(816.16)	(816.16)	5,540.19	
376	CC&B 14616 cross connection	01/01/18	20	6,094.46 5,854.53	103722				(575.32)	(762.55)	(762.53) (751.72)	(2,140.37) (751.72)	5,102.81	
376	cr 12960 ccb	01/01/18	19	5,789.70	103722				(546.55)	(743.40)	(743.40)	(2,033.34)	3,756.36	
376	13520 CC&B Control Large Bill amounts Pollup Change Order for RDE Extracts Changes	01/01/19	14	5,696.82	103722				(460.25)	(731.47)	(731.47)	(1,462.94)	4,233.88	
376	CC&B 14674 Chico sewer	01/01/20	56	4,683.61	103722				(400.23)	(020.02)	(601.38)	(601.38)	4,082.23	
376	CC&B 14742 LIRA	01/01/20	52	4,349.08	103722						(558.42)	(558.42)	3,790.66	
376	14890 CCB LIRA & Rate changes CC&B 14509 AB aging	01/01/21	18	4,326.06	103722						(526.20)	(526.20)	4,326.06	
376	14737 CCB HI balance forward	01/01/20	17	4,085.71	103722						(520.20)	(520.20)	4,085.71	
376	or 12888 CC&B	01/01/18	12	3,656.68	103722				(345.19)	(469.52)	(469.52)	(1,284.23)	2,372.45	
376	14884 CCB HI PUC Covid Reg DEV - Copmany-wide Rate Changes for July 1	01/01/21	13	3,124.37	103722				(287.66)	(391.26)	(391.26)	(1 070 18)	3,124.37	
376	BDE Accounts: Remove line feed from meter notes field	01/01/18	9	2,742.49	103722				(258.89)	(352.14)	(352.14)	(963.16)	1,779.33	
376	DEV RATES 2018-08-01 Tejon Rate Change	01/01/18	9	2,742.49	103722				(258.89)	(352.14)	(352.14)	(963.16)	1,779.33	
376	XAI Notification response error	01/01/18	9	2,742.49	103722				(258.89)	(352.14)	(352.14)	(963.16)	1,779.33	
376	CCB 14150 LIRA Hard Match	01/01/20	88	2,653.22	103722						(340.67)	(340.67)	2,312.55	
376	14955 CCB Tesoro rates	01/01/21	9	2,163.04	103722						(257 72)	-	2,163.04	
376	14877 CCB CCC_ACCT_Updates	01/01/20	24	1,922.69	103722						(237.73)	(237.73)	1,922.69	
376	Modify TEJ Sewer Calculation Group to include 3" Service	01/01/18	6	1,828.33	103722				(172.59)	(234.76)	(234.76)	(642.11)	1,186.22	
376	Modity TEJ Sewer Calculation Group to include 3" Service CCB 14112 SA Types and Rates	01/01/18	6 57	1,828.33	103722				(172.59)	(234.76)	(234.76)	(642.11)	1,186.22	
376	CCB 14341	01/01/20	3	1,657.90	103722						(212.87)	(212.87)	1,445.03	
376	CCB 14227	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	
376	CCB 142/9 CCB 14317	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	
376	CCB 14321	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	
376	CCB 14468	01/01/20	3	1,657.85	103722						(212.87)	(212.87)	1,444.98	
376	LIRA - Prevent Customers from Auto Lira Signup	01/01/20	3	1,657.85	103722				(143.83)	(195.63)	(212.87) (195.63)	(212.87) (535.10)	1,444.98 988.52	
376	CR 14474 CC&B	02/01/20	38	1,389.52	103722						(178.41)	(178.41)	1,211.11	
376	14855 CCB cross connection	01/01/21	5	1,201.68	103722						(150.24)	-	1,201.68	
376	CC&B 14700 AMI reads	01/01/20	13	1,087.26	103722						(139.60)	(139.60)	947.66	
376	CCB 13935 Large mete	01/01/20	35	1,055.27	103722						(135.50)	(135.50)	919.77	
376 376	CR 14544 CC&B CC&B 14705 water & comor	02/01/20	28	1,023.85	103722						(131.46)	(131.46)	892.39	
376	CA BDE Accounts: Do not send endpoint info for iTRON E	01/01/20	11 3	919.99	103722				(86.30)	(117.38)	(117.38)	(321.06)	593.11	
376	RPT - Stored Procedure Tuning for CM_POPULATE_LAR	01/01/18	3	914.17	103722				(86.30)	(117.38)	(117.38)	(321.06)	593.11	
376 376	CCB 14203 EFT CCB CR 14573 CC8B	01/01/20	28	844.21	103722						(108.40)	(108.40)	735.81	
376	13612 CC&B Change Meter CHAR	01/01/19	23	804.67	103722					(103.32)	(103.32)	(206.64)	598.03	
376	13775 CC&B Delinquent Accounts >\$5K	01/01/19	7	804.67	103722					(103.32)	(103.32)	(206.64)	598.03	
376 376	UR 14525 CU&B 14885 CCB allow estiamte for VIS FI A	02/01/20	21	767.89	103722						(98.60)	(98.60)	669.29 721.01	
376	14914 CCB Badger extract	01/01/21	3	721.01	103722								721.01	
376	CCB 14221 HEIS	01/01/20	22	663.31	103722						(85.17)	(85.17)	578.14	
376 376	CR 14535 CC&B CC&B 14799 Water System ID - GIS	02/01/20 01/01/20	17 7	621.63 585.44	103722 103722						(79.82) (75.17)	(79.82) (75.17)	541.81 510 27	
376	CCB 14137 Rate changes	01/01/20	18	542.72	103722						(69.69)	(69.69)	473.03	
376	CC&B 14771 drought allocation	01/01/20	6	501.81	103722						(64.43)	(64.43)	437.38	
376	14998 CCB WQ GO 103	01/01/20	6	501.81 480.68	103722						(64.43)	(64.43)	437.38 480.68	
376	CCB 14060 Prem SP set up	01/01/20	13	391.95	103722						(50.33)	(50.33)	341.62	
376 376	CC&B 14825 calendar CC&B 14854 Cross Connection	01/01/20	4	334.55	103722						(42.96)	(42.96)	291.59	
376	CCB 14213 2020 Rate changes CWS	01/01/20	4	334.55 331.65	103722						(42.96) (42.58)	(42.96) (42.58)	291.59 289.07	
376	BDE - fix performance issue due to parallelism	01/01/18	1	304.73	103722				(28.77)	(39.13)	(39.13)	(107.02)	197.71	
376	Change CSR USR page URL / Add HALO CSR Fav Link	01/01/18	1	304.73	103722				(28.77)	(39.13)	(39.13)	(107.02)	197.71	
376	Lockbox CA in progress, payment accidentally set to com	01/01/18	1	304.73	103722				(28.77)	(39.13)	(39.13)	(107.02)	197.71	
376	Update the char_value in ci_per_char table	01/01/18	1	304.73	103722				(28.77)	(39.13)	(39.13)	(107.02)	197.71	
376	CR 14433 CC&B	02/01/20	8	292.53	103722						(37.56)	(37.56)	254.97	
376	CCB 14141 Portal start stop CCB 14237 CRN rate change	01/01/20 01/01/20	9 9	271.35	103/22						(34.84) (34.84)	(34.84) (34.84)	236.51 236.51	
376	CC&B 14822 KBP	01/01/20	3	250.90	103722						(32.22)	(32.22)	218.68	
376	CCB 14180 AMI MR_RTE	01/01/20	8	241.20	103722						(30.97)	(30.97)	210.23	
376 376	14987 CCB WHU rate change CR 14496 CC&B	01/01/21	1 e	240.33	103722						(28.17)	(28.17)	240.33	
376	CCB 14204 Reclaim accounts	01/01/20	7	210.40	103722						(20.17)	(27.10)	183.95	
376	CC&B 14733 new rate	01/01/20	2	167.26	103722						(21.48)	(21.48)	145.78	
376 376	CCB 14186 fire service CCB 14284 Sewer charges	01/01/20	4	120.60	103722						(15.49)	(15.49)	105.11	
376	CCB 14169 go103	01/01/20	4	90.46	103722						(15.49) (11.62)	(15.49) (11.62)	78.84	
376	CC&B 14782 M-01 estimates	01/01/20	1	83.63	103722						(10.74)	(10.74)	72.89	
376	CR 14653 CC&B	02/01/20	2	73.13	103722						(9.39)	(9.39)	63.74	
376 376	CCB 14191 surcharge	02/01/20 01/01/20	2	73.13 60.30	103722 103722						(9.39) (7.74)	(9.39) (7.74)	63.74 52.56	
376	CR 14441 CC&B	02/01/20	1	36.56	103722						(4.69)	(4.69)	31.87	
376	CR 14572 CC&B	02/01/20	1	36.56	103722						(4.69)	(4.69)	31.87	
	CCD 44476 anto alcones for familiar	01/01/20	1	30.16	103722						(3.87)	(3.87)	26.29	
76	CCB 14176 fate change for life/water	01/01/20									(0.0.)	(0.0.1)		

2022	2023	2024	Total Reserve (End of 2024)	NBV
,751,199.00)	(1,653,000.93)	(1,653,000.93)	(12,422,056.46)	1,216,565.04
(280,926.21)	(265,173.34)	(265,173.34)	(1,579,662.97)	608,235.88
(146,421.52)	(138,210.97)	(138,210.97)	(1,038,634.92)	101,719.62
(139,593.12)	(131,765.47)	(131,765.47)	(990,197.91)	96,975.90
(131,410.90) (64,771.56)	(124,042.07)	(124,042.07)	(932,157.70)	91,291.69
	(61.139.51)	(61.139.51)	(459,454,34)	44,997.07
(53,042.24)	(50,067.91)	(50,067.91)	(376,252.87)	36,848.66
(30,951.57)	(29,215.97)	(29,215.97)	(174,042.31)	67,013.52
(22,380.23)	(21,125.26)	(21,125.26)	(125,845.19)	48,455.63
(20,405.77)	(19,261.52) (19,261.52)	(19,261.52) (19,261.52)	(129,745.10) (129,745.10)	29,178.35
(20,405.77)	(19,261.52)	(19,261.52)	(129,745.10)	29,178.35
(20,405.77)	(19,261.52)	(19,261.52)	(129,745.10)	29,178.35
(20,405.77)	(19,261.52)	(19,261.52)	(129,745.10)	29,178.35
(20,405.77)	(19,261.52)	(19,261.52)	(129,745.10)	29,178.35
(20,405.77)	(19,261.52)	(19,261.52)	(129,745.10)	29,178.35
(20,405.74)	(19,261.50)	(19,261.50)	(129,744.93)	29,178.31
(15,974.52)	(15,078.75)	(15,078.75)	(89,825.57)	34,586.57
(15,865.86)	(14,976.19)	(14,976.19)	(89,214.58)	34,351.32
(11,733.37)	(11,763.28)	(11,763.28)	(83,549.19)	16,139.62
(9,720.67)	(9,175.59)	(9,175.59)	(28,071.84)	47,634.31
(5,595.06)	(5,281.32)	(5,281.32)	(31,461.34)	12,113.92
(3,794.88)	(3,582.09)	(3,582.09)	(21,338.83)	8,216.34
(3,500.61)	(3,304.31)	(3,304.31)	(17,110.45) (17,026.05)	10,152.85
(3,483.34)	(3,288.01)	(3,288.01)		10,102.78
(3,138.85)	(2,962.84)	(2,962.84)	(19,957.62)	4,488.26
(3,138.85)	(2.962.84)	(2.962.84)	(19,957.62)	4.488.26
(3,138.85)	(2,962.84)	(2,962.84)	(19,957.62)	4,488.26
(3,138.85)	(2,962.84)	(2,962.84)	(19,957.62)	4,488.26
(2,895.35)	(2,732.99)	(2,732.99)	(16,280.69)	6,268.74
(1,957.82)	(1,848.04)	(1,848.04)	(9,569.55)	5,678.30
(1,930.25)	(1,822.01)	(1,822.01)	(9,434.76)	5,598.32
(1,878.06)	(1,772.75)	(1,772.75)	(10,560.46)	4,066.21
(1,721.56)	(1,625.02)	(1,625.02)	(9,680.40)	3,727.36
(1,682.43)	(1,588.09)	(1,588.09)	(9,460.42)	3,642.65
(1,680.85)	(1,586.60)	(1,586.60)	(6,534.91)	6,555.85
(1,358.45)	(1,282.27)	(1,282.27)	(6,639.88)	3,939.92
(1,267.19)	(1,196.14)	(1,196.14)	(4,926.66)	4,942.45
(965.13)	(911.01)	(911.01)	(4,717.39)	2,799.16
(899.91)	(849.44)	(849.44)	(5,060.22)	1,948.39
(860.78)	(812.51)	(812.51)	(4,840.22)	1,863.68
(816.16) (782.53)	(770.39) (738.65)	(770.39) (738.65)	(3,173.09) (4,400.20)	3,183.26 1,694.26
(751.72)	(709.57)	(709.57)	(2,922.58) (4,180.16)	2,931.95 1.609.54
(731.47)	(690.45)	(690.45)	(3,575.32)	2,121.50
(601.38)	(567.65)	(567.65)	(2,338.06)	2,345.55
(555.47)	(524.32)	(524.32)	(1,604.10)	2,721.96
(524.61)	(495.19)	(495.19)	(2,045.80) (1,514.98)	2,052.36
(469.52)	(443.19)	(443.19)	(2,640.12)	1,016.56
(401.17)	(378.67)	(378.67)	(1,158.52)	1,965.85
(391.26)	(369.32)	(369.32)	(2,200.09)	847.13
(352.14)	(332.39)	(332.39)	(1,980.08)	762.41
(352.14)	(332.39)	(332.39)	(1,980.08)	762.41
(352.14)	(332.39)	(332.39)	(1,980.08)	762.41
(352.14)	(332.39)	(332.39)	(1,980.08)	762.41
(340.67)	(321.57)	(321.57)	(1,324.49)	1,328.73
(277.73)	(262.16)	(262.16)	(802.06)	1,360.98
(257.73)	(243.28)	(243.28)	(1,002.02)	1,005.24
(246.87)	(233.03)	(233.03)	(712.93)	1,209.76
(234.76)	(221.59)	(221.59)	(1,320.05)	508.28
(234.76)	(221.59)	(221.59)	(1,320.05)	508.28
(220.66)	(208.29)	(208.29)	(857.91)	860.66
(212.87) (212.87)	(200.94) (200.93)	(200.94) (200.93)	(827.62) (827.60)	830.28 830.25
(212.87)	(200.93)	(200.93)	(827.60)	830.25 830.25
(212.87)	(200.93)	(200.93)	(827.60)	830.25 830.25
(212.87)	(200.93)	(200.93)	(827.60)	830.25
(178.41)	(168.41)	(168.41)	(693.65)	695.87
(150.24)	(145.64) (141.82)	(143.84) (141.82)	(584.12)	586.00
(135.50)	(127.90)	(127.90)	(526.79)	528.48
(131.46)	(124.09)	(124.09)	(511.11)	512.74
(118.13)	(111.50)	(111.50)	(459.26)	460.73
(117.38)	(110.80)	(110.80)	(660.03)	254.14
(117.38)	(110.80)	(110.80)	(660.03)	254.14
(108.40)	(102.32)	(102.32)	(421.43)	422.78 421.18
(107.99)	(101.93)	(101.93)	(419.84)	
(103.32)	(97.53)	(97.53)	(505.01)	299.66
(103.32)	(97.53)	(97.53)	(505.01)	299.66
(98.60)	(93.07)	(93.07)	(383.33)	384.56
(92.58)	(87.39)	(87.39)	(267.35)	453.66
(92.58)	(87.39)	(87.39)	(267.35)	453.66
(85.17)	(80.39)	(80.39)	(331.12)	332.19
(79.82)	(75.34)	(75.34)	(310.32)	311.31
(75.17)	(70.96)	(70.96)	(292.25)	293.19
(69.69)	(65.78)	(65.78)	(270.93)	271.79
(64.43)	(60.82)	(60.82)	(250.50)	251.31
(64.43)	(60.82)	(60.82)	(250.50) (178.24)	251.31 302.44
(50.33)	(47.50)	(47.50)	(195.66)	196.29 167.54
(42.96)	(40.55)	(40.55)	(167.01)	167.54
(39.13)	(36.93)	(36.93)	(220.02)	84.71
(39.13)	(36.93)	(36.93)	(220.02)	84.71
(39.13)	(36.93)	(36.93)	(220.02)	84.71 84.71
(37.56)	(35.45)	(35.45)	(146.03)	146.50
(34.84)	(32.89)	(32.89)	(135.46)	135.89
(34.84)	(32.89)	(32.89)	(135.46)	135.89
(32.22)	(30.41)	(30.41)	(125.25)	125.65
(30.97)	(29.23)	(29.23)	(120.41)	120.79
(30.86)	(29.13)	(29.13)	(89.11)	151.22
(28.17)	(26.59)	(26.59)	(109.52)	109.88
(27.10)	(25.58)	(25.58)	(105.36)	105.69
(21.48)	(20.27)	(20.27)	(83.50)	83.76
(15.49)	(14.62)	(14.62)	(60.20)	60.40
(15.49)	(14.62)	(14.62)	(60.20)	60.40
(11.62)	(10.96)	(10.96)	(45.16)	45.30
(10.74)	(10.14)	(10.14)	(41.75)	41.88
(9.39)	(8.86)	(8.86)	(36.51)	36.62
(9.39)	(8.86)	(8.86)	(36.51)	36.62
(7.74)	(7.31)	(7.31)	(30.10)	30.20
(4.69)	(4.43)	(4.43)	(18.25)	18.31
(4.69)	(4.43)	(4.43)	(18.25)	18.31
(3.87)	(3.66)	(3.66)	(15.06)	15.10 15.10
	,)		(20,347,942.20)	2,956,224.08

SIB-040 Attachment #1 - NBV Depreciation rates

CSS Depreci	iation Rate	es													Proposed		
		:	2009 GRC			2012 GRC		:	2015 GRC			2018 GRC		:	2021 GRC		
_	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
103030	0.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	Intangibles - amortized over 10 years
103241	2.68%	2.55%	2.55%	2.55%	4.41%	4.41%	4.41%	3.11%	3.11%	3.11%	2.93%	2.93%	2.93%	2.94%	2.94%	2.94%	
103250	2.10%	2.46%	2.46%	2.46%	2.58%	2.58%	2.58%	2.91%	2.91%	2.91%	2.76%	2.76%	2.76%	5.64%	5.64%	5.64%	
103710	3.02%	3.09%	3.09%	3.09%	3.19%	3.19%	3.19%	3.94%	3.94%	3.94%	3.73%	3.73%	3.73%	3.61%	3.61%	3.61%	
103711	0.00%	0.00%	0.00%	0.00%	8.11%	8.11%	8.11%	13.97%	13.97%	13.97%	3.27%	3.27%	3.27%	4.10%	4.10%	4.10%	
103720	-35.18%	6.39%	6.39%	6.39%	4.61%	4.61%	4.61%	5.22%	5.22%	5.22%	4.64%	4.64%	4.64%	5.08%	5.08%	5.08%	
103721	16.79%	12.64%	12.64%	12.64%	14.10%	14.10%	14.10%	12.45%	12.45%	12.45%	11.77%	11.77%	11.77%	11.80%	11.80%	11.80%	
103721-22	17.30%	12.15%	12.15%	12.15%	7.98%	7.98%	7.98%	9.44%	9.44%	9.44%	12.84%	12.84%	12.84%	12.12%	12.12%	12.12%	
103722	17.30%	12.15%	12.15%	12.15%	7.98%	7.98%	7.98%	9.44%	9.44%	9.44%	12.84%	12.84%	12.84%	12.12%	12.12%	12.12%	
103730	12.50%	6.25%	6.25%	6.25%	6.50%	6.50%	6.50%	9.36%	9.36%	9.36%	13.22%	13.22%	13.22%	7.42%	7.42%	7.42%	
103750	4.45%	4.65%	4.65%	4.65%	5.76%	5.76%	5.76%	6.25%	6.25%	6.25%	5.61%	5.61%	5.61%	7.90%	7.90%	7.90%	
103760	0.30%	0.18%	0.18%	0.18%	1.59%	1.59%	1.59%	1.87%	1.87%	1.87%	1.68%	1.68%	1.68%	7.20%	7.20%	7.20%	
103780	4.44%	4.70%	4.70%	4.70%	4.48%	4.48%	4.48%	4.21%	4.21%	4.21%	7.54%	7.54%	7.54%	8.46%	8.46%	8.46%	
103790	4.21%	3.65%	3.65%	3.65%	3.46%	3.46%	3.46%	3.55%	3.55%	3.55%	3.85%	3.85%	3.85%	2.04%	2.04%	2.04%	

Rancho Dominguez Depreciation Rates

Rancho Do	minguez D	Depreciation	Rates												Proposed	
			2009 GRC		:	2012 GRC		:	2015 GRC		:	2018 GRC		:	2021 GRC	
_	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
103241		3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	2.89%	2.89%	2.89%	2.90%	2.90%	2.90%	2.77%	2.77%	2.77%
103710		2.83%	2.83%	2.83%	2.83%	2.83%	2.83%	3.19%	3.19%	3.19%	3.16%	3.16%	3.16%	3.33%	3.33%	3.33%
103711		6.80%	6.80%	6.80%	6.80%	6.80%	6.80%	7.00%	7.00%	7.00%	8.13%	8.13%	8.13%	8.43%	8.43%	8.43%
103720		4.35%	4.35%	4.35%	4.35%	4.35%	4.35%	5.08%	5.08%	5.08%	4.71%	4.71%	4.71%	5.00%	5.00%	5.00%
103721		12.71%	12.71%	12.71%	12.71%	12.71%	12.71%	12.32%	12.32%	12.32%	11.51%	11.51%	11.51%	11.07%	11.07%	11.07%
103730		17.26%	17.26%	17.26%	17.26%	17.26%	17.26%	15.80%	15.80%	15.80%	10.88%	10.88%	10.88%	1.10%	1.10%	1.10%
103740		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.44%	4.44%	4.44%	5.01%	5.01%	5.01%	4.78%	4.78%	4.78%
103760		4.47%	4.47%	4.47%	4.47%	4.47%	4.47%	4.60%	4.60%	4.60%	3.38%	3.38%	3.38%	5.16%	5.16%	5.16%
103780		4.67%	4.67%	4.67%	4.67%	4.67%	4.67%	4.36%	4.36%	4.36%	6.12%	6.12%	6.12%	6.02%	6.02%	6.02%
103790		4.29%	4.29%	4.29%	4.29%	4.29%	4.29%	5.78%	5.78%	5.78%	6.06%	6.06%	6.06%	4.14%	4.14%	4.14%

	Year	Order		UPIS														Total Reserve	
Department		Number	Work Order Type	Account	Actual Cost	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	(to date)	NBV
GENERAL OFFICE	2010	28047 28047 Replace Portable Booster Pump - BK1	CWSCO Non-Spec Water Reg Equipment	103250	128,057.21		(3,150.21)	(3,150.21)	(3,150.21)	(3,303.88)	(3,303.88)	(3,303.88)	(3,726.46)	(3,726.46)	(3,726.46)	(3,534.38)	(3,534.38)	(37,610.40)	90,446.81
GENERAL OFFICE	2010	16991 16991 ACCOUNTING BUILDING REMODEL	CWSCO Specific Water Regulated	103710	38,712.76		(1,196.22)	(1,196.22)	(1,196.22)	(1,234.94)	(1,234.94)	(1,234.94)	(1,525.28)	(1,525.28)	(1,525.28)	(1,443.99)	(1,443.99)	(14,757.30)	23,955.46
GENERAL OFFICE	2010	29707 29707 New Cubicles for Acct and Eng	CWSCO Specific Water Regulated	103/10	26,744.30		(826.40) 8 565 10	(826.40) 8 565 10	(826.40) 8 565 10	(853.14)	(853.14)	(853.14)	(1,053.73)	(1,053.73)	(1,053.73)	(997.50)	(997.50)	(10,194.93)	(56 376 83)
FACILITIES	2010	49728 49728 PURCHASE VALET KEY BOX	CWSCO Non-Spec Water Reg Equipment	103720	1.137.58		(72.69)	(72.69)	(72.69)	(52.44)	(52.44)	(52.44)	(59.38)	(59.38)	(59.38)	(52.78)	(52.78)	(659.11)	478.47
INFORMATION TECHNOLOGY	2010	19493 19493 IT Security Enhancements 08	CWSCO Non-Spec Water Reg Equipment	103721	8,973.57		(1,134.26)	(1,134.26)	(1,134.26)	(1,265.27)	(1,265.27)	(1,265.27)	(1,117.21)	(1,117.21)	(1,117.21)	(1,056.19)	(1,056.19)	(12,662.60)	(3,689.03)
INFORMATION TECHNOLOGY	2010	19562 19562 DATA CENTER UPGRADE 2008	CWSCO Non-Spec Water Reg Equipment	103721	66,318.04		(8,382.60)	(8,382.60)	(8,382.60)	(9,350.84)	(9,350.84)	(9,350.84)	(8,256.60)	(8,256.60)	(8,256.60)	(7,805.63)	(7,805.63)	(93,581.39)	(27,263.35)
INFORMATION TECHNOLOGY	2010	19563 19563 DATA CENTER MONITORING 08	CWSCO Non-Spec Water Reg Equipment	103721	47,254.26		(5,972.94)	(5,972.94)	(5,972.94)	(6,662.85)	(6,662.85)	(6,662.85)	(5,883.16)	(5,883.16)	(5,883.16)	(5,561.83)	(5,561.83)	(66,680.49)	(19,426.23)
INFORMATION TECHNOLOGY	2010	27287 27287 Approva Application	CWSCO Non-Spec Water Reg Equipment	103721	26,873.66		(3,396.83)	(3,396.83)	(3,396.83)	(3,789.19)	(3,789.19)	(3,789.19)	(3,345.77)	(3,345.77)	(3,345.77)	(3,163.03)	(3,163.03)	(37,921.42)	(11,047.76)
INFORMATION TECHNOLOGY	2010	30349 30349 Mobile Dispatch of Collection Order	CWSCO Non-Spec Water Reg Equipment	103721	247,216.99		(31,248.23)	(31,248.23)	(31,248.23)	(34,857.60)	(34,857.60)	(34,857.60)	(30,778.52)	(30,778.52)	(30,778.52)	(29,097.44)	(29,097.44)	(348,847.89)	(101,630.90)
GENERAL OFFICE	2010	43949 43949 Cash Remittance Equipment Upgrade	CWSCO Non-Spec Water Reg Equipment	103721	197,648.26		(24,982.74)	(24,982.74)	(24,982.74)	(27,868.40)	(27,868.40)	(27,868.40)	(24,607.21)	(24,607.21)	(24,607.21)	(23,263.20)	(23,263.20)	(278,901.46)	(81,253.20)
	2010	17889 17890 PUSINESS CONTINUITY (IS) 2007	CWSCO Non-Spec Water Reg Equipment	103721	25,443.39		(3,216.04)	(3,210.04)	(3,216.04)	(3,587.52)	(3,587.52)	(3,587.52)	(3,167.70)	(3,167.70)	(3,107.70)	(2,994.09)	(2,994.69)	(35,903.17)	(10,459.78)
GENERAL OFFICE	2010	18109 18109 SCADA ENHANCEMENTS 2008	CWSCO Specific Water Regulated	103721	20,925.07		(79 359 88)	(79 359 88)	(2,044.93)	(2,550.45)	(88 526 45)	(88 526 45)	(78 166 97)	(78 166 97)	(78 166 97)	(73 897 61)	(73 897 61)	(885 955 16)	(258 107 98)
GENERAL OFFICE	2010	18109 18109 SCADA ENHANCEMENTS 2008	CWSCO Specific Water Regulated	103721	1.021.57		(129.13)	(129.13)	(129.13)	(144.04)	(144.04)	(144.04)	(127.19)	(127.19)	(127.19)	(120.24)	(120.24)	(1,441.54)	(419.97)
GENERAL OFFICE	2010	18109 18109 SCADA ENHANCEMENTS 2008	CWSCO Specific Water Regulated	103721	3,745.83		(473.47)	(473.47)	(473.47)	(528.16)	(528.16)	(528.16)	(466.36)	(466.36)	(466.36)	(440.88)	(440.88)	(5,285.74)	(1,539.91)
GENERAL OFFICE	2010	18111 18111 NETWORK ENHANCEMENTS	CWSCO Specific Water Regulated	103721	1,015,348.54		(128,340.06)	(128,340.06)	(128,340.06)	(143,164.14)	(143,164.14)	(143,164.14)	(126,410.89)	(126,410.89)	(126,410.89)	(119,506.52)	(119,506.52)	(1,432,758.32)	(417,409.78)
ENGINEERING	2010	20658 20658 Office - Replace OCE Scanner/Plotte	CWSCO Specific Water Regulated	103721	42,305.17		(5,347.37)	(5,347.37)	(5,347.37)	(5,965.03)	(5,965.03)	(5,965.03)	(5,266.99)	(5,266.99)	(5,266.99)	(4,979.32)	(4,979.32)	(59,696.83)	(17,391.66)
INFORMATION TECHNOLOGY	2010	20943 20943 Office - Replace Unisys Medical Sys	CWSCO Specific Water Regulated	103721	49,701.35		(6,282.25)	(6,282.25)	(6,282.25)	(7,007.89)	(7,007.89)	(7,007.89)	(6,187.82)	(6,187.82)	(6,187.82)	(5,849.85)	(5,849.85)	(70,133.57)	(20,432.22)
INFORMATION TECHNOLOGY	2010	16466 16466 TOKAY - SQL UPGRADE (IS/WQ) 06	CWSCO Non-Spec Water Reg Equipment	103722	92,198.96		(11,202.17)	(11,202.17)	(11,202.17)	(7,357.48)	(7,357.48)	(7,357.48)	(8,703.58)	(8,703.58)	(8,703.58)	(11,838.35)	(11,838.35)	(105,466.39)	(13,267.43)
	2010	26047 26047 Upgrade DT Lawrenenes Software	CWSCO Non-Spec Water Reg Equipment	103722	109,008.65		(13,244.55)	(13,244.55)	(13,244.55)	(8,698.89)	(8,698.89)	(8,698.89)	(10,290.42)	(10,290.42)	(10,290.42)	(13,996.71)	(13,996.71)	(124,694.99)	(15,686.34)
INFORMATION TECHNOLOGY	2010	26949 26949 Purchase Prodiance S/W	CWSCO Non-Spec Water Reg Equipment	103722	1,129.71		(137.20)	(137.20)	(137.20)	(90.13)	(90.13)	(90.13)	(100.04)	(106.64)	(100.04)	(145.05)	(145.05) (13.849.50)	(1,292.20)	(102.37)
INFORMATION TECHNOLOGY	2010	26967 26967 Imagenow Super Queues Implement'n	CWSCO Non-Spec Water Reg Equipment	103722	8 059 42		(13,103.23)	(979.22)	(979.22)	(643.14)	(643.14)	(643.14)	(760.81)	(760.81)	(760.81)	(1.034.83)	(1.034.83)	(9.219.17)	(1.159.75)
INFORMATION TECHNOLOGY	2010	27287 27287 Approva Application	CWSCO Non-Spec Water Reg Equipment	103722	339,219.26		(41,215.14)	(41,215.14)	(41,215.14)	(27,069.70)	(27,069.70)	(27,069.70)	(32,022.30)	(32,022.30)	(32,022.30)	(43,555.75)	(43,555.75)	(388,032.91)	(48,813.65)
INFORMATION TECHNOLOGY	2010	30349 30349 Mobile Dispatch of Collection Order	CWSCO Non-Spec Water Reg Equipment	103722	815,231.17		(99,050.59)	(99,050.59)	(99,050.59)	(65,055.45)	(65,055.45)	(65,055.45)	(76,957.82)	(76,957.82)	(76,957.82)	(104,675.68)	(104,675.68)	(932,542.94)	(117,311.77)
ENGINEERING	2010	36507 36507 WELMAT Functionality Upgrades	CWSCO Non-Spec Water Reg Equipment	103722	72,760.14		(8,840.36)	(8,840.36)	(8,840.36)	(5,806.26)	(5,806.26)	(5,806.26)	(6,868.56)	(6,868.56)	(6,868.56)	(9,342.40)	(9,342.40)	(83,230.32)	(10,470.18)
GENERAL OFFICE	2010	9561 9561 CIS V8 Implementation (IS)	CWSCO Specific Water Regulated	103722	1,561.17		(189.68)	(189.68)	(189.68)	(124.58)	(124.58)	(124.58)	(147.37)	(147.37)	(147.37)	(200.45)	(200.45)	(1,785.82)	(224.65)
GENERAL OFFICE	2010	16057 16057 Hyperion Implementation Ph2	CWSCO Specific Water Regulated	103722	309,341.48		(37,584.99)	(37,584.99)	(37,584.99)	(24,685.45)	(24,685.45)	(24,685.45)	(29,201.84)	(29,201.84)	(29,201.84)	(39,719.45)	(39,719.45)	(353,855.72)	(44,514.24)
INFORMATION TECHNOLOGY	2010	1/891 17891 ORACLE DATA MGMT/INTEGRT 2008	CWSCO Specific Water Regulated	103722	431,122.16		(52,381.34)	(52,381.34)	(52,381.34)	(34,403.55)	(34,403.55)	(34,403.55)	(40,697.93)	(40,697.93)	(40,697.93)	(55,356.09)	(55,356.09)	(493,160.64)	(62,038.48)
	2010	17895 17895 ORACLE FIN/HCMI OPGRADE 2008	CWSCO Specific Water Regulated	103722	481,633.47		(58,518.47)	(58,518.47)	(58,518.47)	(38,434.35)	(38,434.35)	(38,434.35)	(45,466.20)	(45,466.20)	(45,466.20)	(01,841.74)	(01,841.74)	(550,940.53)	(69,307.06)
INFORMATION TECHNOLOGY	2010	18107 18107 CUSTOMER CARE & BILLING 2008	CWSCO Specific Water Regulated	103722	188 606 57		(22,915,70)	(22.915.70)	(22.915.70)	(15.050.80)	(15.050.80)	(15.050.80)	(17.804.46)	(17.804.46)	(17.804.46)	(24,217,08)	(24,217,08)	(215.747.06)	(27.140.49)
GENERAL OFFICE	2010	18111 18111 NETWORK ENHANCEMENTS	CWSCO Specific Water Regulated	103722	31.895.21		(3,875.27)	(3,875.27)	(3,875.27)	(2,545.24)	(2,545.24)	(2,545.24)	(3,010.91)	(3,010.91)	(3,010.91)	(4,095.34)	(4,095.34)	(36,484.93)	(4,589.72)
INFORMATION TECHNOLOGY	2010	20943 20943 Office - Replace Unisys Medical Sys	CWSCO Specific Water Regulated	103722	744,415.62		(90,446.50)	(90,446.50)	(90,446.50)	(59,404.37)	(59,404.37)	(59,404.37)	(70,272.83)	(70,272.83)	(70,272.83)	(95,582.97)	(95,582.97)	(851,537.03)	(107,121.41)
ENGINEERING	2010	22368 22368 AutoCAD new seats 2010	CWSCO Specific Water Regulated	103722	15,958.15		(1,938.92)	(1,938.92)	(1,938.92)	(1,273.46)	(1,273.46)	(1,273.46)	(1,506.45)	(1,506.45)	(1,506.45)	(2,049.03)	(2,049.03)	(18,254.53)	(2,296.38)
GENERAL OFFICE	2010	14813 14813 NEW SEDAN - REPLACE V202035	CWSCO Specific Water Regulated	103730	1,319.37		(82.46)	(82.46)	(82.46)	(85.76)	(85.76)	(85.76)	(123.49)	(123.49)	(123.49)	(174.42)	(174.42)	(1,223.98)	95.39
GENERAL OFFICE	2010	14819 14819 NEW PICKUP - REPLACE V204039	CWSCO Specific Water Regulated	103730	(730.72)		45.67	45.67	45.67	47.50	47.50	47.50	68.40	68.40	68.40	96.60	96.60	677.89	(52.83)
GENERAL OFFICE	2010	17269 17269 2TRUCK FOR NEW NORCAL EMT	CWSCO Specific Water Regulated	103730	35,425.93		(2,214.12)	(2,214.12)	(2,214.12)	(2,302.69)	(2,302.69)	(2,302.69)	(3,315.87)	(3,315.87)	(3,315.87)	(4,683.31)	(4,683.31)	(32,864.64)	2,561.29
GENERAL OFFICE	2010	1///6 1///6.5 ION PU - REPLACE V2040// 18156 18156 CONSERVATION RM ADDITION	CWSCO Specific Water Regulated	103/30	36,076.04		(2,254.75)	(2,254.75)	(2,254.75)	(2,344.94)	(2,344.94)	(2,344.94)	(3,3/6./2)	(3,3/6./2)	(3,3/6./2)	(4,769.25)	(4,769.25)	(33,467.74)	2,608.30
GENERAL OFFICE	2010	18157 18157 SAFETY TRAINER-ADDITION	CWSCO Specific Water Regulated	103730	33 4/3 11		(2,133.82)	(2,155.82)	(2,133.82)	(2,239.98)	(2,239.98)	(2,239.98)	(3,223.37)	(3,223.37)	(3,223.37)	(4,333.77)	(4,333.77)	(31,909.03)	2,491.34
GENERAL OFFICE	2010	18160 18160 RATES ATTORNEY ADDITION	CWSCO Specific Water Regulated	103730	34 124 12		(2,132.76)	(2,132.76)	(2,132.76)	(2.218.07)	(2,218.07)	(2.218.07)	(3,194.02)	(3,194.02)	(3.194.02)	(4,511.21)	(4.511.21)	(31.656.95)	2,467.17
GENERAL OFFICE	2010	18162 18162 Vehicle - Addtl. Hybrid Sedan - WQ	CWSCO Specific Water Regulated	103730	36,755.32		(2,297.21)	(2,297.21)	(2,297.21)	(2,389.10)	(2,389.10)	(2,389.10)	(3,440.30)	(3,440.30)	(3,440.30)	(4,859.05)	(4,859.05)	(34,097.91)	2,657.41
GENERAL OFFICE	2010	18164 18164 Vehicle - Addtl. Hybrid Sedan - WQ	CWSCO Specific Water Regulated	103730	36,347.32		(2,271.71)	(2,271.71)	(2,271.71)	(2,362.58)	(2,362.58)	(2,362.58)	(3,402.11)	(3,402.11)	(3,402.11)	(4,805.12)	(4,805.12)	(33,719.41)	2,627.91
GENERAL OFFICE	2010	18165 18165 Vehicle - Hybrid - New Position WQ	CWSCO Specific Water Regulated	103730	36,755.32		(2,297.21)	(2,297.21)	(2,297.21)	(2,389.10)	(2,389.10)	(2,389.10)	(3,440.30)	(3,440.30)	(3,440.30)	(4,859.05)	(4,859.05)	(34,097.91)	2,657.41
GENERAL OFFICE	2010	18170 18170 Vehicle - Hybrid - New Position WQ	CWSCO Specific Water Regulated	103730	36,755.30		(2,297.21)	(2,297.21)	(2,297.21)	(2,389.09)	(2,389.09)	(2,389.09)	(3,440.30)	(3,440.30)	(3,440.30)	(4,859.05)	(4,859.05)	(34,097.89)	2,657.41
GENERAL OFFICE	2010	21048 21048 Vehicle - 0.5 Ton 4x4 - No Cal Pool	CWSCO Specific Water Regulated	103730	48,311.97		(3,019.50)	(3,019.50)	(3,019.50)	(3,140.28)	(3,140.28)	(3,140.28)	(4,522.00)	(4,522.00)	(4,522.00)	(6,386.84)	(6,386.84)	(44,819.01)	3,492.96
GENERAL OFFICE	2010	21222 21222 SCADA Tech Vehicle	CWSCO Specific Water Regulated	103730	28,873.74		(1,804.61)	(1,804.61)	(1,804.61)	(1,876.79)	(1,876.79)	(1,876.79)	(2,/02.58)	(2,/02.58)	(2,702.58)	(3,817.11)	(3,817.11)	(26,786.17)	2,087.57
GENERAL OFFICE	2010	18164 18164 Venicle - Addti. Hybrid Sedan - WQ	CWSCO Specific Water Regulated	103760	1,574.40		(2.83)	(2.83)	(2.83)	(25.03)	(25.03)	(25.03)	(29.44)	(29.44)	(29.44)	(26.45)	(26.45)	(224.82)	1,349.58
GENERAL OFFICE	2010	18170 18170 Vehicle - Hybrid - New Position WO	CWSCO Specific Water Regulated	103760	1,574.42		(2.83)	(2.83)	(2.83)	(25.03)	(25.03)	(25.03)	(29.44)	(29.44)	(29.44)	(26.45)	(26.45)	(224.83)	1.349.59
GENERAL OFFICE	2010	19717 19717 FLUSHING TOOLS	CWSCO Non-Spec Water Reg Equipment	103780	(118.41)		5.57	5.57	5.57	5.30	5.30	5.30	4.99	4.99	4.99	8.93	8.93	65.42	(52.99)
GENERAL OFFICE	2010	29967 29967 Truck Full Size Shell - V208148	CWSCO Non-Spec Water Reg Equipment	103780	2,386.76		(112.18)	(112.18)	(112.18)	(106.93)	(106.93)	(106.93)	(100.48)	(100.48)	(100.48)	(179.96)	(179.96)	(1,318.68)	1,068.08
GENERAL OFFICE	2010	42107 42107 Leak Detection Correlator	CWSCO Non-Spec Water Reg Equipment	103780	25,045.21		(1,177.12)	(1,177.12)	(1,177.12)	(1,122.03)	(1,122.03)	(1,122.03)	(1,054.40)	(1,054.40)	(1,054.40)	(1,888.41)	(1,888.41)	(13,837.48)	11,207.73
GENERAL OFFICE	2010	17239 17239 EMT/TMM TOOLS FOR 2009	CWSCO Specific Water Regulated	103780	34,547.98		(1,623.76)	(1,623.76)	(1,623.76)	(1,547.75)	(1,547.75)	(1,547.75)	(1,454.47)	(1,454.47)	(1,454.47)	(2,604.92)	(2,604.92)	(19,087.76)	15,460.22
GENERAL OFFICE	2010	17269 17269 2TRUCK FOR NEW NORCAL EMT	CWSCO Specific Water Regulated	103780	21,364.32		(1,004.12)	(1,004.12)	(1,004.12)	(957.12)	(957.12)	(957.12)	(899.44)	(899.44)	(899.44)	(1,610.87)	(1,610.87)	(11,803.79)	9,560.53
GENERAL OFFICE	2010	17341 17341 TOOLS FOR NEW SO. CAL. EMT	CWSCO Specific Water Regulated	103780	27,103.61		(1,273.87)	(1,273.87)	(1,273.87)	(1,214.24)	(1,214.24)	(1,214.24)	(1,141.06)	(1,141.06)	(1,141.06)	(2,043.61)	(2,043.61)	(14,974.74)	12,128.87
GENERAL OFFICE	2010	1/516 1/516 BAY FLUSHING TRUCK IMPROVEMENT	CWSCO Specific Water Regulated	103780	32.73		(1.54)	(1.54)	(1.54)	(1.47)	(1.47)	(1.47)	(1.38)	(1.38)	(1.38)	(2.47)	(2.47)	(18.08)	14.65
WATER QUALITY	2010	37307 37307 SPC Labeling Project	CWSCO Specific Water Regulated	103750	104,655.46		(4,000.40)	(4,800.48)	(4,000.40)	(0,028.13)	(0,028.13)	(0,028.13)	(363,76)	(363.76)	(363 76)	(3,871.17)	(3,871.17)	(64,049.14)	(1 201 15)
RANCHO DOMINGUEZ	2010	19098 INSTALL SECURITY DOORS	CWSCO Non-Spec Water Regulated	103721	21.850.55		(618.37)	(618.37)	(618.37)	(618.37)	(618.37)	(618.37)	(697.03)	(697.03)	(697.03)	(690.48)	(815.03)	(7.306.82)	14.543.73
RANCHO DOMINGUEZ	2010	19098 INSTALL SECURITY DOORS	CWSCO Non-Spec Water Regulated	103710	7,397.75		(209.36)	(209.36)	(209.36)	(209.36)	(209.36)	(209.36)	(235.99)	(235.99)	(235.99)	(233.77)	(275.94)	(2,473.81)	4,923.94
RANCHO DOMINGUEZ	2010	42569 INSTALL AWNINGS ON DOORWAYS	CWSCO Non-Spec Water Regulated	103710	4,836.32		(136.87)	(136.87)	(136.87)	(136.87)	(136.87)	(136.87)	(154.28)	(154.28)	(154.28)	(152.83)	(180.39)	(1,617.27)	3,219.05
RANCHO DOMINGUEZ	2010	17224 PURCHASE PATIO FURNITURE	CWSCO Specific Water Regulated	103720	13,020.81		(566.41)	(566.41)	(566.41)	(566.41)	(566.41)	(566.41)	(661.46)	(661.46)	(661.46)	(613.28)	(604.17)	(6,600.25)	6,420.56
RANCHO DOMINGUEZ	2010	20856 Office - 50 Chairs - Media Center	CWSCO Specific Water Regulated	103720	33,322.85		(1,449.54)	(1,449.54)	(1,449.54)	(1,449.54)	(1,449.54)	(1,449.54)	(1,692.80)	(1,692.80)	(1,692.80)	(1,569.51)	(1,546.18)	(16,891.35)	16,431.50
RANCHO DOMINGUEZ	2010	18184 1.75 TON C&C - ADDITIONAL	CWSCO Specific Water Regulated	103730	44,678.76		(7,711.55)	(7,711.55)	(7,711.55)	(7,711.55)	(7,711.55)	(7,711.55)	(7,059.24)	(7,059.24)	(7,059.24)	(4,861.05)	(5,906.53)	(78,214.64)	(33,535.88)
RANCHO DOMINGUEZ	2010	18184 1.75 TON C&C - ADDITIONAL	CWSCO Specific Water Regulated	103780	65,220.27		(3,045.79)	(3,045.79)	(3,045.79)	(3,045.79)	(3,045.79)	(3,045.79)	(2,843.60)	(2,843.60)	(2,843.60)	(3,991.48)	(4,917.61)	(35,714.62)	29,505.65
RANCHO DOMINGUEZ	2010	17234 TRUCK MOUNTED VALVE OPER.	CWSCO Specific Water Regulated	103780	22,362.66		(1,044.34)	(1,044.34)	(1,044.34)	(1,044.34)	(1,044.34)	(1,044.34)	(975.01)	(975.01)	(975.01)	(1,368.59)	(1,686.14)	(12,245.79)	10,116.87
RANCHO DOMINGUEZ	2010	17264 PURCHASE BOBCAT	CWSCO Specific Water Regulated	103780	50,876.33		(2,375.92)	(2,375.92)	(2,375.92)	(2,375.92)	(2,375.92)	(2,375.92)	(2,218.21)	(2,218.21)	(2,218.21)	(3,113.63)	(3,836.08)	(27,859.88)	23,016.45
RANCHO DOMINGUEZ	2010	17756 .5 TON PU - REPLACE V200076	CWSCO Specific Water Regulated	103730	44,821.82		(7,736.25)	(7,736.25)	(7,736.25)	(7,736.25)	(7,736.25)	(7,736.25)	(7,081.85)	(7,081.85)	(7,081.85)	(4,876.61)	(5,925.44)	(78,465.08)	(33,643.26)
RANCHO DOMINGUEZ	2010	21164 Field - Land Surveying Equipment	CWSCO Specific Water Regulated	103780	47,206.92		(2,204.56)	(2,204.56)	(2,204.56)	(2,204.56)	(2,204.56)	(2,204.56)	(2,058.22)	(2,058.22)	(2,058.22)	(2,889.06)	(3,559.40)	(25,850.51)	21,356.41
RANCHO DOMINGUEZ	2010	21174 Slurry Coat Back Parking Lot	CWSCO Specific Water Regulated	103711	19,963.66		(1,357.53)	(1,357.53)	(1,357.53)	(1,357.53)	(1,357.53)	(1,357.53)	(1,397.46)	(1,397.46)	(1,397.46)	(1,623.05)	(652.81)	(14,613.40)	5,350.26

Work Order Description

Work

	W	Work	Work Order Description	Work																
Department	rear	Number		Order Type	UPIS Account	Actual Cost	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total Reserve (to date)	NBV
GENERAL OFFICE	#	17890	17890 NETWORK ENHANCEMNTS - IS (07)	CWS	103721	40,897.58			(5,169.45)	(5,169.45)	(5,766.56)	(5,766.56)	(5,766.56)	(5,091.75)	(5,091.75)	(5,091.75)	(4,813.65)	(4,813.65)	(52,541.12)	(11,643.54)
GENERAL OFFICE	#	19178	19178 Adope Acrobat Software	CWS	103722	2,262.66			(274.91)	(274.91)	(180.56)	(180.56)	(180.56)	(213.60)	(213.60)	(213.60)	(290.53)	(290.53)	(2,313.34)	(50.68)
INFORMATION	#	27287 30349	27287 Approva Application 30349 Mobile Dispatch of Collection Order	CWS	103722 103721	2,099.16			(255.05) 4.057.15	(255.05) 4.057.15	(167.51) 4.525.78	(167.51) 4.525.78	(167.51) 4.525.78	(198.16) 3.996.17	(198.16) 3.996.17	(198.16) 3.996.17	(269.53) 3.777.90	(269.53) 3.777.90	(2,146.18) 41.235.97	(47.02) 9.138.23
INFORMATION	#	30349	30349 Mobile Dispatch of Collection Order	CWS	103722	46,383.73			(5,635.62)	(5,635.62)	(3,701.42)	(3,701.42)	(3,701.42)	(4,378.62)	(4,378.62)	(4,378.62)	(5,955.67)	(5,955.67)	(47,422.73)	(1,039.00)
GENERAL OFFICE GENERAL OFFICE	#	30788 30788	30788 Flushing Tools and Radios 30788 Flushing Tools and Radios	CWS CWS	103760 103780	3,053.67 92,967.07			(5.50) (4,369.45)	(5.50) (4,369.45)	(48.55) (4,164.92)	(48.55) (4,164.92)	(48.55) (4,164.92)	(57.10) (3,913.91)	(57.10) (3,913.91)	(57.10) (3,913.91)	(51.30) (7,009.72)	(51.30) (7,009.72)	(430.57) (46,994.85)	2,623.10 45,972.22
ENGINEERING	#	34147 43327	34147 Computers for new employees	CWS	103721	2,652.68			(335.30)	(335.30)	(374.03) (214 294 54)	(374.03) (214 294 54)	(374.03) (214 294 54)	(330.26)	(330.26)	(330.26)	(312.22)	(312.22)	(3,407.90) (2 745 548 14)	(755.22)
INFORMATION	#	45748	45748 Bank Reconciliation - Peoplesoft FS	CWS	103722	140,675.42			(17,092.06)	(17,092.06)	(11,225.90)	(11,225.90)	(11,225.90)	(13,279.76)	(13,279.76)	(13,279.76)	(18,062.72)	(18,062.72)	(143,826.55)	(3,151.13)
INFORMATION INFORMATION	2011 2011	47688 49130	47688 Employee Certification/Deactivation 49130 PeopleSoft HCM Position Management	CWS CWS	103722 103722	20,731.16 55,984.83			(2,518.84) (6,802.16)	(2,518.84) (6,802.16)	(1,654.35) (4,467.59)	(1,654.35) (4,467.59)	(1,654.35) (4,467.59)	(1,957.02) (5,284.97)	(1,957.02) (5,284.97)	(1,957.02) (5,284.97)	(2,661.88) (7,188.45)	(2,661.88) (7,188.45)	(21,195.54) (57,238.89)	(464.38) (1,254.06)
GENERAL	2011	50208	50208 RETROFIT V204105	CWS	103730	18,464.39			(1,154.02)	(1,154.02)	(1,200.19)	(1,200.19)	(1,200.19)	(1,728.27)	(1,728.27)	(1,728.27)	(2,440.99)	(2,440.99)	(15,975.39)	2,489.00
GENERAL	2011 2011	53809 56088	53809 12 Laptops-New Comp. CSR Training 56088 NEW VEHICLE FOR AUDIT MGR	CWS	103721 103730	16,390.62 25,334.76			(2,0/1.77) (1,583.42)	(2,0/1.//) (1,583.42)	(2,311.08) (1,646.76)	(2,311.08) (1,646.76)	(2,311.08) (1,646.76)	(2,040.63) (2,371.33)	(2,040.63) (2,371.33)	(2,040.63) (2,371.33)	(1,929.18) (3,349.26)	(1,929.18) (3,349.26)	(21,057.03) (21,919.63)	(4,666.41) 3,415.13
ACCOUNTING	2011	56808 57328	56808 Purchase OPEX machine 57328 J405 Mercury Analyzer	CWS	103721	99,484.87			(12,574.89)	(12,574.89)	(14,027.37)	(14,027.37)	(14,027.37)	(12,385.87)	(12,385.87)	(12,385.87)	(11,709.37)	(11,709.37)	(127,808.21)	(28,323.34)
GENERAL	2011	57790	57790 REPLACE V204008	CWS	103730	27,889.87			(1,743.12)	(1,743.12)	(1,812.84)	(1,812.84)	(1,812.84)	(2,610.49)	(2,610.49)	(2,610.49)	(3,687.04)	(3,687.04)	(24,130.32)	3,759.55
GENERAL GENERAL	2011 2011	68872 69049	68872 Ruggedized laptop for SCADA Tech 69049 Leak Detection Correlator	CWS CWS	103721 103780	4,501.86 22,009.71			(569.04) (1,034.46)	(569.04) (1,034.46)	(634.76) (986.04)	(634.76) (986.04)	(634.76) (986.04)	(560.48) (926.61)	(560.48) (926.61)	(560.48) (926.61)	(529.87) (1,659.53)	(529.87) (1,659.53)	(5,783.54) (11,125.91)	(1,281.68) 10,883.80
INFORMATION	2011	69090	69090 New Mail Inserter Machine for IT	CWS	103721	647,151.24			(81,799.92)	(81,799.92)	(91,248.32)	(91,248.32)	(91,248.32)	(80,570.33)	(80,570.33)	(80,570.33)	(76,169.70)	(76,169.70)	(831,395.20)	(184,243.96)
GENERAL	2011	16382	16382 VULNERABILITY ASSESSMENT/ERP	CWS	103/10	(1,932.43)			193.24	193.24	193.24	193.24	193.24	193.24	193.24	193.24	(39,339.90) 193.24	(39,339.90) 193.24	1,932.43	-
GENERAL	2011 2011	17723 20269	17723 Energy Efficiency Audit 20269 INSTALL WINDOW IN IS BUILDING	CWS	103030 103710	(96.18)			9.62	9.62	9.62 2.09	9.62	9.62	9.62 2.59	9.62 2.59	9.62	9.62 2.45	9.62 2.45	96.18 23.00	- (42.65)
GENERAL	2011	21260	21260 PARKING LOT IMPROVEMENTS	CWS	103711	(489.28)			-	-	39.68	39.68	39.68	68.35	68.35	68.35	16.00	16.00	356.10	(133.18)
CORPORATE INFORMATION	2011 2011	36467 38287	36467 Interior Renovations 38287 Intranet Enhancements 2010	CWS CWS	103030 103722	117,794.13 38,083.81			(11,779.41) (4,627.18)	(11,779.41) (4,627.18)	(11,779.41) (3,039.09)	(11,779.41) (3,039.09)	(11,779.41) (3,039.09)	(11,779.41) (3,595.11)	(11,779.41) (3,595.11)	(11,779.41) (3,595.11)	(11,779.41) (4,889.96)	(11,779.41) (4,889.96)	(117,794.13) (38,936.89)	- (853.08)
GENERAL	2011	55948	55948 Electric-driven portable booster	CWS	103250	9,639.87			(237.14)	(237.14)	(248.71)	(248.71)	(248.71)	(280.52)	(280.52)	(280.52)	(266.06)	(266.06)	(2,594.09)	7,045.78
GENERAL	2011	11582	11582 REPLACE CHECK SIGNING PRINTERS	CWS	103721	(2,895.48) (5.06)			0.64	0.64	408.28	408.20	408.28	0.63	0.63	0.63	0.60	0.60	6.50	1.44
GENERAL	2011	13967 16976	13967 HVAC CONTROL SYSTEM 16976 MODIEV ENGINEERING BASEMENT	CWS	103710	(3,137.29)			96.94 (4.689.58)	96.94 (4.689.58)	100.08	100.08 (4.841.35)	100.08 (4.841.35)	123.61	123.61	123.61	117.02	117.02	1,098.99	(2,038.30)
GENERAL	2011	16991	16991 ACCOUNTING BUILDING REMODEL	CWS	103710	8,931.32			(275.98)	(275.98)	(284.91)	(284.91)	(284.91)	(351.89)	(351.89)	(351.89)	(333.14)	(333.14)	(3,128.64)	5,802.68
GENERAL GENERAL	2011 2011	16992 16992	16992 Remodel IS Bldg - New 2 Story Bldg 16992 Remodel IS Bldg - New 2 Story Bldg	CWS CWS	103710 103720	5,801,013.27 254,952.84			(179,251.31) (16,291.49)	(179,251.31) (16,291.49)	(185,052.32) (11,753.33)	(185,052.32) (11,753.33)	(185,052.32) (11,753.33)	(228,559.92) (13,308.54)	(228,559.92) (13,308.54)	(228,559.92) (13,308.54)	(216,377.79) (11,829.81)	(216,377.79) (11,829.81)	(2,032,094.95) (131,428.19)	3,768,918.32 123,524.65
GENERAL	2011	17221	17221 TMM VAN-SO CAL	CWS	103730	39,621.17			(2,476.32)	(2,476.32)	(2,575.38)	(2,575.38)	(2,575.38)	(3,708.54)	(3,708.54)	(3,708.54)	(5,237.92)	(5,237.92)	(34,280.24)	5,340.93
GENERAL GENERAL	2011 2011	17229 17230	17229 TMM-SO CAL TOOLS 17230 TMM-SO CAL LAPTOP	CWS CWS	103780 103721	12,922.05 4,435.55			(607.34) (560.65)	(607.34) (560.65)	(578.91) (625.41)	(578.91) (625.41)	(578.91) (625.41)	(544.02) (552.23)	(544.02) (552.23)	(544.02) (552.23)	(974.32) (522.06)	(974.32) (522.06)	(6,532.10) (5,698.35)	6,389.95 (1,262.80)
GENERAL	2011	17271	17271 TOOLS FOR NEW NORCAL EMT	CWS	103721	1,337.98			(169.12)	(169.12)	(188.66)	(188.66)	(188.66)	(166.58)	(166.58)	(166.58)	(157.48)	(157.48)	(1,718.90)	(380.92)
GENERAL	2011 2011	17271	17271 TOOLS FOR NEW NORCAL EMT 17288 TOOLS FOR NEW SO. CAL. EMT	CWS	103780	21,833.29 6,340.33			(1,026.16) (801.42)	(801.42)	(893.99)	(978.13) (893.99)	(893.99)	(789.37)	(789.37)	(789.37)	(746.23)	(746.23)	(8,145.42)	(1,805.09)
GENERAL	2011	17288	17288 TOOLS FOR NEW SO, CAL, EMT	CWS	103780	21,076.83			(990.61)	(990.61)	(944.24)	(944.24)	(944.24)	(887.33)	(887.33)	(887.33)	(1,589.19)	(1,589.19)	(10,654.34)	10,422.49
GENERAL	2011	17340	17340 TRUCK FOR NEW SO. CAL. EMT	CWS	103780	91,621.92			(5,726.37)	(5,726.37)	(5,955.42)	(5,955.42)	(5,955.42)	(8,575.81)	(8,575.81)	(8,575.81)	(12,112.42)	(12,112.42)	(79,271.29)	12,350.63
GENERAL	2011	17892	17892 ENTERPRISE REPORTING 2009 17892 ENTERPRISE REPORTING 2009	CWS	103721	374,041.96			(47,278.90) (2,727,41)	(47,278.90) (2,727.41)	(52,739.92) (1 791 33)	(52,739.92) (1 791 33)	(52,739.92) (1 791 33)	(46,568.22)	(46,568.22) (2 119.07)	(46,568.22) (2 119 07)	(44,024.74) (2 882 29)	(44,024.74) (2 882 29)	(480,531.71) (22,950,61)	(106,489.75)
INFORMATION	2011	17895	17895 ORACLE FIN/HCM UPGRADE 2008	CWS	103722	(9,336.55)			1,134.39	1,134.39	745.06	745.06	745.06	881.37	881.37	881.37	1,198.81	1,198.81	9,545.69	209.14
INFORMATION	2011 2011	17900 18080	17900 Office - Enterprise Asset Mgmt. 18080 POWERPLANT - DEFERRED TAX	CWS	103722 103722	494,220.29 771,884,15			(60,047.77) (93,783,92)	(60,047.77) (93,783,92)	(39,438.78) (61,596.36)	(39,438.78) (61,596.36)	(39,438.78) (61.596.36)	(46,654.40) (72,865,86)	(46,654.40) (72,865,86)	(46,654.40) (72,865,86)	(63,457.89) (99,109,92)	(63,457.89) (99,109,92)	(505,290.82) (789,174,35)	(11,070.53) (17,290.20)
GENERAL	2011	18106	18106 CUST BILL PROD UPGRADE 2008	CWS	103722	386,499.89			(46,959.74)	(46,959.74)	(30,842.69)	(30,842.69)	(30,842.69)	(36,485.59)	(36,485.59)	(36,485.59)	(49,626.59)	(49,626.59)	(395,157.49)	(8,657.60)
GENERAL GENERAL	2011 2011	18109 18110	18109 SCADA ENHANCEMENTS 2008 18110 LAB DATA MGMT ENHANCEMENTS 08	CWS CWS	103721 103721	(173.67) 240.689.08			21.95 (30.423.10)	21.95 (30.423.10)	24.49 (33.937.16)	24.49 (33.937.16)	24.49 (33.937.16)	21.62 (29.965.79)	21.62 (29.965.79)	21.62 (29.965.79)	20.44 (28.329.10)	20.44 (28.329.10)	223.11 (309.213.26)	49.44 (68.524.18)
INFORMATION	2011	18117	18117 Office - Peoplesoft FIN/HCM Upgrade	CWS	103721	45,785.55			(5,787.29)	(5,787.29)	(6,455.76)	(6,455.76)	(6,455.76)	(5,700.30)	(5,700.30)	(5,700.30)	(5,388.96)	(5,388.96)	(58,820.70)	(13,035.15)
INFORMATION GENERAL	#	18117 18139	18117 Office - Peoplesoft FIN/HCM Upgrade 18139 Office - Enterprise Reporting Analy	CWS CWS	103722 103721	825,373.35 300,090.20			(100,282.86) (37,931.40)	(100,282.86) (37,931.40)	(65,864.79) (42,312.72)	(65,864.79) (42,312.72)	(65,864.79) (42,312.72)	(77,915.24) (37,361.23)	(77,915.24) (37,361.23)	(77,915.24) (37,361.23)	(105,977.94) (35,320.62)	(105,977.94) (35,320.62)	(843,861.71) (385,525.88)	(18,488.36) (85,435.68)
GENERAL	#	18139	18139 Office - Enterprise Reporting Analy	CWS	103722	99,077.65			(12,037.93)	(12,037.93)	(7,906.40)	(7,906.40)	(7,906.40)	(9,352.93)	(9,352.93)	(9,352.93)	(12,721.57)	(12,721.57)	(101,296.99)	(2,219.34)
GENERAL	#	18161	18159 Office - Effer prise Reporting Analy 18161 DIR. OF FINANCE ADDITION	CWS	103721	35,002.07			(2,187.63)	(2,187.63)	(2,275.13)	(2,275.13)	(2,275.13)	(3,276.19)	(3,276.19)	(3,276.19)	(4,627.27)	(4,627.27)	(30,283.79)	4,718.28
GENERAL	#	18163	18163 Additional Hybrid Sedan - WQ - SE	CWS	103730	36,755.32			(2,297.21)	(2,297.21)	(2,389.10)	(2,389.10)	(2,389.10)	(3,440.30)	(3,440.30)	(3,440.30)	(4,859.05)	(4,859.05)	(31,800.70)	4,954.62
ENGINEERING	#	18372	18372 Communications Test Equipment	CWS	103241	45,709.39			(1,165.59)	(1,165.59)	(2,015.78)	(2,015.78)	(2,015.78)	(1,421.56)	(1,421.56)	(1,421.56)	(1,339.29)	(1,339.29)	(15,321.79)	30,387.60
ENGINEERING	#	20658	20658 Office - Replace OCE Scanner/Plotte 20695 Field - FMT Tools	CWS	103721	3,978.00			(502.82)	(502.82)	(560.90) (1.298.01)	(560.90) (1.298.01)	(560.90) (1.298.01)	(495.26) (1.219.79)	(495.26) (1.219.79)	(495.26)	(468.21) (2.184.60)	(468.21) (2.184.60)	(5,110.54)	(1,132.54) 14 327 41
GENERAL	#	20035	20719 Field - Laser Pump Alignment Tools	CWS	103780	22,997.30			(1,080.87)	(1,080.87)	(1,030.28)	(1,030.28)	(1,030.28)	(968.19)	(968.19)	(968.19)	(1,734.00)	(1,734.00)	(11,625.14)	11,372.16
GENERAL	#	20721	20721 LASER PUMP ALIGNMENT TOOLS 20955 NEW EMT TRUCK	CWS	103780	22,997.30 64 182 35			(1,080.87) (4.011.40)	(1,080.87) (4.011.40)	(1,030.28) (4.171.85)	(1,030.28) (4.171.85)	(1,030.28) (4.171.85)	(968.19) (6.007.47)	(968.19) (6.007.47)	(968.19) (6.007.47)	(1,734.00) (8.484.91)	(1,734.00) (8.484.91)	(11,625.14) (55,530.57)	11,372.16 8.651.78
GENERAL	#	20957	20957 NEW VEHICLE PURCH MGR	CWS	103730	33,839.64			(2,114.98)	(2,114.98)	(2,199.58)	(2,199.58)	(2,199.58)	(3,167.39)	(3,167.39)	(3,167.39)	(4,473.60)	(4,473.60)	(29,278.06)	4,561.58
GENERAL GENERAL	#	20965 20966	20965 NO CAL POOL REPLACE V206008 20966 NEW VEHICLE FOR CFO	CWS CWS	103730 103730	22,011.83 81,578.52			(1,375.74) (5,098.66)	(1,375.74) (5,098.66)	(1,430.77) (5,302.60)	(1,430.77) (5,302.60)	(1,430.77) (5,302.60)	(2,060.31) (7,635.75)	(2,060.31) (7,635.75)	(2,060.31) (7,635.75)	(2,909.96) (10,784.68)	(2,909.96) (10,784.68)	(19,044.64) (70,581.74)	2,967.19 10,996.78
GENERAL	#	20968	20968 NEW VEHICLE EMT SUP	CWS	103730	27,889.82			(1,743.11)	(1,743.11)	(1,812.84)	(1,812.84)	(1,812.84)	(2,610.49)	(2,610.49)	(2,610.49)	(3,687.03)	(3,687.03)	(24,130.27)	3,759.55
GENERAL	#	20991	20991 Mobile Workforce Management	CWS	103721	1,360,477.56			(12,288.43) (165,298.02)	(12,288.43)	(108,566.11)	(108,566.11)	(108,566.11)	(12,101.78)	(12,101.78) (128,429.08)	(128,429.08)	(174,685.32)	(174,685.32)	(1,390,952.26)	(30,474.70)
GENERAL	#	21004	21004 Network Enhancements	CWS	103721	710,953.91			(89,864.57) (70,685,71)	(89,864.57) (70,685,71)	(100,244.50)	(100,244.50)	(100,244.50) (46.425.67)	(88,513.76) (54,919.59)	(88,513.76) (54,919,59)	(88,513.76) (54,919,59)	(83,679.28) (74,699.96)	(83,679.28) (74,699.96)	(913,362.49) (594.807.14)	(202,408.58) (13,031,77)
GENERAL	#	21015	21015 Field - 2 3-Phase Power Data Logger	CWS	103780	5,682.17			(267.06)	(267.06)	(254.56)	(254.56)	(254.56)	(239.22)	(239.22)	(239.22)	(428.44)	(428.44)	(2,872.34)	2,809.83
GENERAL GENERAL	#	21017 21039	21017 POWER DATA LOGGERS 21039 Vehicle - 1.5 Ton C&C - TMM	CWS CWS	103780 103730	5,199.10 39.621.17			(244.36) (2.476.32)	(244.36) (2.476.32)	(232.92) (2.575.38)	(232.92) (2.575.38)	(232.92) (2.575.38)	(218.88) (3.708.54)	(218.88) (3.708.54)	(218.88) (3.708.54)	(392.01) (5.237.92)	(392.01) (5.237.92)	(2,628.15) (34,280.24)	2,570.95 5.340.93
GENERAL	#	21041	21041 Vehicle - Lab Manager	CWS	103730	35,895.07			(2,243.44)	(2,243.44)	(2,333.18)	(2,333.18)	(2,333.18)	(3,359.78)	(3,359.78)	(3,359.78)	(4,745.33)	(4,745.33)	(31,056.41)	4,838.66
GENERAL	#	21042	21042 Vehicle - 1.0 Ton Van - ENT 21046 Vehicle - Nor Cal Pool	CWS	103730	83,814.06 36,932.37			(2,308.27)	(2,308.27)	(2,400.60)	(2,400.60)	(2,400.60)	(7,845.00) (3,456.87)	(7,845.00) (3,456.87)	(7,845.00) (3,456.87)	(11,080.22) (4,882.46)	(11,080.22) (4,882.46)	(31,953.89)	4,978.48
GENERAL	#	21049	21049 Vehicle - New - Govt Affairs Mgr 21051 Vehicle - 1 0 TON C&C - EMT	CWS	103730	36,303.10			(2,268.94)	(2,268.94)	(2,359.70)	(2,359.70)	(2,359.70)	(3,397.97)	(3,397.97)	(3,397.97)	(4,799.27)	(4,799.27)	(31,409.44)	4,893.66
GENERAL	#	21051	21051 Vehicle - 1.0 TON C&C - EMT	CWS	103730	714.00			(44.63)	(44.63)	(46.41)	(46.41)	(46.41)	(66.83)	(66.83)	(66.83)	(94.39)	(94.39)	(617.75)	96.25
GENERAL	#	21080 21102	21080 Vehicle - Sedan 21102 Enterprise Reporting & Analysis	CWS CWS	103730 103721	37,340.37 15.619.98			(2,333.77) (1,974.37)	(2,333.77) (1,974.37)	(2,427.12) (2,202.42)	(2,427.12) (2,202.42)	(2,427.12) (2,202.42)	(3,495.06) (1,944.69)	(3,495.06) (1,944.69)	(3,495.06) (1,944.69)	(4,936.40) (1,838.47)	(4,936.40) (1,838.47)	(32,306.89) (20,066.99)	5,033.48 (4,447.01)
INFORMATION	#	21102	21102 Enterprise Reporting & Analysis	CWS	103722	468,599.41			(56,934.83)	(56,934.83)	(37,394.23)	(37,394.23)	(37,394.23)	(44,235.78)	(44,235.78)	(44,235.78)	(60,168.16)	(60,168.16)	(479,096.04)	(10,496.63)
GENERAL GENERAL	# #	21162 21177	21102 Uffice - 2 AWWA M manuals - GO & So 21177 Office - Replace Polycon Phone Eng.	CWS CWS	103720 103721	5,520.30 758.58			(352.75) (95.88)	(352.75) (95.88)	(254.49) (106.96)	(254.49) (106.96)	(254.49) (106.96)	(288.16) (94.44)	(288.16) (94.44)	(288.16) (94.44)	(256.14) (89.28)	(256.14) (89.28)	(2,845.71) (974.55)	2,674.59 (215.97)
GENERAL	#	21224	21224 Field - Rugged Laptops - SCADA Staf	CWS	103721	22,993.64			(2,906.40)	(2,906.40)	(3,242.10)	(3,242.10)	(3,242.10)	(2,862.71)	(2,862.71)	(2,862.71)	(2,706.35)	(2,706.35)	(29,539.93)	(6,546.29)
INFORMATION	#	58934	58934 Enterprise Reporting & Analysis	CWS	103722	24,170.35			(3,055.13)	(3,055.13)	(3,408.02)	(3,408.02)	(3,408.02)	(3,009.21)	(3,009.21)	(3,009.21)	(128,990.54) (2,844.85)	(128,990.54) (2,844.85)	(31,051.65)	(6,881.30)
INFORMATION	#	58934 18777	58934 Enterprise Reporting & Analysis 18777 LAB WATER SYSTEMS - ULTRA PUBE	CWS	103722	1,280,696.95			(155,604.68)	(155,604.68)	(102,199.62)	(102,199.62)	(102,199.62)	(120,897.79)	(120,897.79)	(120,897.79)	(164,441.49)	(164,441.49)	(1,309,384.56) (6 793 16)	(28,687.61)
WATER	#	38251	38251 5 Additional User Licenses - WQ	CWS	103722	20,000.00			(2,430.00)	(2,430.00)	(1,596.00)	(1,596.00)	(1,596.00)	(1,888.00)	(1,888.00)	(1,888.00)	(2,568.00)	(2,568.00)	(20,448.00)	(448.00)
WATER RANCHO DOMINGUEZ	# 2011	40927	40927 Office - WQ Printer/Copier Slurov Coat Back Parking Lot	CWS	103721	19,642.84 4 13			(2,482.85) (0.28)	(2,482.85)	(2,769.64) (0.28)	(2,769.64) (0.28)	(2,769.64) (0.28)	(2,445.53) (0.29)	(2,445.53) (0.29)	(2,445.53) (0.29)	(2,311.96) (0.34)	(2,311.96) (0.14)	(25,235.16) (2.74)	(5,592.32)
RANCHO DOMINGUEZ	2011	19029	ELECTRICAL CONDUIT CONTAINER	CWSCO N	103710	(435.84)			12.33	12.33	12.33	12.33	12.33	13.90	13.90	13.90	13.77	16.26	133.41	(302.43)
RANCHO DOMINGUEZ	2011 2011	19821 21161	CANOPY SHELTERS FOR TOR YARD Office - Handheld GPS Unit	CWSCO N	103710 103780	(231.07) 8.861 97			6.54	6.54 (413 85)	6.54 (413.85)	6.54 (413.85)	6.54 (413.85)	7.37	7.37	7.37	7.30	8.62	70.73	(160.34) 4,423.01
RANCHO DOMINGUEZ	2011	26951	PURCHASE STORAGE SHED	CWSCO N	103710	(2.84)			0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.11	0.87	(1.97)
RANCHO DOMINGUEZ	2011	52368	PURCHASE COPIER FOR CSR CENTER	CWSCO N	103721	20,786.66			(2,641.98)	(2,641.98)	(2,641.98)	(2,641.98)	(2,641.98)	(2,560.92)	(2,560.92)	(2,560.92)	(2,392.54)	(2,446.59)	(25,731.81)	(4,945.15)
RANCHO DOMINGUEZ	2011	15700	UTILITY BODY FOR V206018	CWSCO SE	103780	38,706.69			(1,807.60)	(1,807.60)	(1,807.60)	(1,807.60)	(1,807.60)	(1,687.61)	(1,687.61)	(1,687.61)	(2,368.85)	(2,918.48)	(19,388.18)	19,318.51
RANCHO DOMINGUEZ	2011	20227	Vehicle - CARB Regulation Retrofit	CWSCO Sr	103730	66,067.26			(11,403.21)	(11,403.21)	(11,403.21)	(11,403.21)	(11,403.21)	(10,438.63)	(10,438.63)	(10,438.63)	(7,188.12)	(8,734.09)	(104,254.14)	(38,186.88)
RANCHO DOMINGUEZ	2011 2011	14799 21169	Office - Portable Projector	CWSCO St CWSCO St	103721	29,856.01 1,119.44			(5,153.15) (142.28)	(5,153.15) (142.28)	(5,153.15) (142.28)	(5,153.15) (142.28)	(5,153.15) (142.28)	(4,/1/.25) (137.92)	(4,/1/.25) (137.92)	(4,/1/.25) (137.92)	(3,248.33) (128.85)	(3,946.96) (131.76)	(4/,112.78) (1,385.75)	(17,256.77) (266.31)
RANCHO DOMINGUEZ	2011	60473	PURCHASE 2 ERGONOMIC CHAIRS	CWSCO N	103720	2,390.37			(103.98)	(103.98)	(103.98)	(103.98)	(103.98)	(121.43)	(121.43)	(121.43)	(112.59)	(110.91)	(1,107.70)	1,282.67
RANCHO DOMINGUEZ RANCHO DOMINGUEZ	2011 2011	17934 55030	ADD WORK STATIONS, SO. CAL. PURCHASE DR/890	CWSCO S¢	103710 103780	8,238.93			(233.16) (70.58)	(233.16) (70.58)	(233.16) (70.58)	(233.16) (70.58)	(233.16) (70.58)	(262.82)	(262.82)	(262.82)	(260.35)	(307.31) (113.95)	(2,521.94)	5,716.99 754.29
RANCHO DOMINGUEZ	2011	56188	1-50" serveillance Monitor	CWSCO N	103721	2,059.92			(261.82)	(261.82)	(261.82)	(261.82)	(261.82)	(253.78)	(253.78)	(253.78)	(237.10)	(242.45)	(2,549.97)	(490.05)
RANCHO DOMINGUEZ	2011	56748 63227	Purchase 1-50" DOM SCADA MONITOR 3 Hach 890 for 151	CWSCO N	103241	2,477.33			(77.54)	(77.54)	(77.54)	(77.54)	(77.54)	(71.59)	(71.59)	(71.59)	(71.84)	(72.59)	(746.91) (1 889 73)	1,730.42
RANCHO DOMINGUEZ	2011	58233	FLUSHING EQUIPMENT	CWSCO N	103780	6,506.58			(303.86)	(303.86)	(303.86)	(303.86)	(303.86)	(283.69)	(283.69)	(283.69)	(398.20)	(490.60)	(3,259.15)	3,247.43
RANCHO DOMINGUEZ	2011	67931	Purchase DR/890 Office - 7 Computers - Oper, Contor	CWSCO N	103780	1,336.63			(62.42)	(62.42)	(62.42)	(62.42)	(62.42)	(58.28)	(58.28)	(58.28)	(81.80)	(100.78)	(669.52)	667.11
RANCHO DOMINGUEZ	2011	20542	Replace Carpet - Operations Center	CWSCO St	103710	13,645.20			(386.16)	(386.16)	(386.16)	(386.16)	(386.16)	(435.28)	(435.28)	(435.28)	(431.19)	(508.97)	(4,176.80)	9,468.40
RANCHO DOMINGUEZ	2011	20694	INST CARPET CUSTOMER CTR	CWSCO St	103710	25,717.20			(727.80)	(727.80)	(727.80)	(727.80)	(727.80)	(820.38)	(820.38)	(820.38)	(812.66)	(959.25)	(7,872.03)	17,845.17
RANCHO DOMINGUEZ	2011	20098	PURCHASE ERGONOMIC CHAIRS	CWSCO St	103720	5,487.01			(220.32)	(238.68)	(220.32)	(220.32)	(220.32)	(237.30)	(237.30)	(278.74)	(258.44)	(255.01)	(2,542.68)	2,944.33

		Work																	
Denartment	Vear	Order Number Work Order Description	Work Order Type	UPIS	Actual Cost	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total Reserve	NBV
GENERAL OFFICE	2012	9176 EMT VEHICLE - ADDITIONAL	CWSCO Specific Water Regulated	103730	(273.49)	2010	2011	2012	17.09	17.78	17.78	17.78	25.60	25.60	25.60	36.16	36.16	219.53	(53.96)
WATER QUALITY	2012	11655 LAB - VIAL FILLING MACHINE	CWSCO Specific Water Regulated	103750	3,444.09				(160.15)	(198.38)	(198.38)	(198.38)	(215.26)	(215.26)	(215.26)	(193.21)	(193.21)	(1,787.48)	1,656.61
WATER QUALITY	2012	16095 BARCODE PRINTERS FOR LIMS	CWSCO Specific Water Regulated	103721	9,305.90				(1,176.27)	(1,312.13)	(1,312.13)	(1,312.13)	(1,158.58)	(1,158.58)	(1,158.58)	(1,095.30)	(1,095.30)	(10,779.02)	(1,473.12)
GENERAL OFFICE	2012	16389 CHECK SCANNERS FOR DISTRICTS	CWSCO Specific Water Regulated	103721	55,659.85				(7,035.41)	(7,848.04)	(7,848.04)	(7,848.04)	(6,929.65)	(6,929.65)	(6,929.65)	(6,551.16)	(6,551.16)	(64,470.80)	(8,810.95)
GENERAL OFFICE	2012	16976 MODIFY ENGINEERING BASEMENT	CWSCO Specific Water Regulated	103710	(151,766.36)				4,689.58	4,841.35	4,841.35	4,841.35	5,979.59	5,979.59	5,979.59	5,660.89	5,660.89	48,474.18	(103,292.18)
GENERAL OFFICE	2012	17899 GEOSPATIAL DATA INTEGRI 2008	CWSCO Specific Water Regulated	103721	123,532.81				(15,614.55) (39,822,25)	(17,418.13)	(17,418.13)	(17,418.13) (26.154.86)	(15,379.83)	(15,379.83)	(15,379.83) (30.940.09)	(14,539.81) (42.083.76)	(14,539.81) (42.083.76)	(143,088.05)	(19,555.24)
GENERAL OFFICE	2012	18012 EMERGENCY NOTIFICATION SYSTEM	CWSCO Specific Water Regulated	103722	192 251 51				(23.358.56)	(15.341.67)	(15.341.67)	(15.341.67)	(18.148.54)	(18.148.54)	(18.148.54)	(42,085.70)	(42,085.70)	(173.199.39)	19.052.12
INFORMATION TECHNOLOGY	2012	18102 NETWORK ENHANCEMENTS 2008	CWSCO Specific Water Regulated	103721	622.56				(78.69)	(87.78)	(87.78)	(87.78)	(77.51)	(77.51)	(77.51)	(73.28)	(73.28)	(721.11)	(98.55)
GENERAL OFFICE	2012	20433 TMM TOOLS FOR 2011	CWSCO Specific Water Regulated	103780	7,804.43				(366.81)	(349.64)	(349.64)	(349.64)	(328.57)	(328.57)	(328.57)	(588.45)	(588.45)	(3,578.33)	4,226.10
GENERAL OFFICE	2012	20705 EMT TOOLS FOR YEAR 2012	CWSCO Specific Water Regulated	103780	34,212.02				(1,607.96)	(1,532.70)	(1,532.70)	(1,532.70)	(1,440.33)	(1,440.33)	(1,440.33)	(2,579.59)	(2,579.59)	(15,686.21)	18,525.81
GENERAL OFFICE	2012	20962 NEW EMT TRUCK	CWSCO Specific Water Regulated	103730	68,116.34				(4,257.27)	(4,427.56)	(4,427.56)	(4,427.56)	(6,375.69)	(6,375.69)	(6,375.69)	(9,004.98)	(9,004.98)	(54,676.99)	13,439.35
INFORMATION TECHNOLOGY	2012	20984 New Duplicator for Publishing	CWSCO Specific Water Regulated	103721	10,684.99				(1,350.58)	(1,506.58)	(1,506.58)	(1,506.58)	(1,330.28)	(1,330.28)	(1,330.28)	(1,257.62)	(1,257.62)	(12,376.42)	(1,691.43)
	2012	21028 Network Enhancements	CWSCO Specific Water Regulated	103/21	579,380.18				(73,233.65)	(81,692.61)	(81,692.61)	(81,692.61)	(72,132.83)	(72,132.83)	(72,132.83)	(68,193.05)	(68,193.05)	(6/1,096.06)	(91,/15.88)
GENERAL OFFICE	2012	21022 Vehicle- 1.0 Ton Van- EMT	CWSCO Specific Water Regulated	103722	178 50				(20,701.89)	(11,537.54)	(11,537.54)	(11 60)	(20,740.10)	(20,740.10)	(20,740.10)	(23,213.29)	(23,218.29)	(137,383.38)	35.22
ENGINEERING	2012	21163 COLOR COPIER, S. ENGINEERING	CWSCO Specific Water Regulated	103721	14,582.93				(1,843.28)	(2,056.19)	(2,056.19)	(2,056.19)	(1,815.57)	(1,815.57)	(1,815.57)	(1,716.41)	(1,716.41)	(16,891.41)	(2,308.48)
ENGINEERING	2012	21166 REPLACE. WORK STATIONS, S. ENG	CWSCO Specific Water Regulated	103720	49,218.63				(3,145.07)	(2,268.98)	(2,268.98)	(2,268.98)	(2,569.21)	(2,569.21)	(2,569.21)	(2,283.74)	(2,283.74)	(22,227.13)	26,991.50
ENGINEERING	2012	21200 Field - SCADA Network Field Lab	CWSCO Specific Water Regulated	103241	66,339.44				(1,691.66)	(2,925.57)	(2,925.57)	(2,925.57)	(2,063.16)	(2,063.16)	(2,063.16)	(1,943.75)	(1,943.75)	(20,545.32)	45,794.12
ENGINEERING	2012	21200 Field - SCADA Network Field Lab	CWSCO Specific Water Regulated	103241	2,925.89				(74.61)	(129.03)	(129.03)	(129.03)	(91.00)	(91.00)	(91.00)	(85.73)	(85.73)	(906.15)	2,019.74
WATER QUALITY	2012	21209 REPLACEMENT ICP MASS SPEC SYS.	CWSCO Specific Water Regulated	103750	159,764.05				(7,429.03)	(9,202.41)	(9,202.41)	(9,202.41)	(9,985.25)	(9,985.25)	(9,985.25)	(8,962.76)	(8,962.76)	(82,917.54)	76,846.51
	2012	21210 REPLACEMENT MASS SPEC	CWSCO Specific Water Regulated	103750	114,470.59				(5,322.88)	(6,593.51)	(6,593.51)	(6,593.51)	(7,154.41)	(7,154.41)	(7,154.41)	(6,421.80)	(6,421.80)	(59,410.24)	55,060.35
	2012	22209 AutoCAD new seats 2012 28048 Replace Portable Booster Pump - Bi	2 CWSCO Specific Water Regulated	103722	130 390 56				(1,360.50)	(893.50)	(893.50)	(893.50)	(1,057.04) (3,794.37)	(1,057.04) (3,794.37)	(1,057.04) (3,794.37)	(1,437.76) (3.598.78)	(1,437.76) (3,598,78)	(10,087.83) (31 880 49)	98 510 07
GENERAL OFFICE	2012	29737 1.5 Ton C&C EMT Truck F-350 - WTF	CWSCO Specific Water Regulated	103230	80.649.57				(5.040.60)	(5,242,22)	(5,242,22)	(5.242.22)	(7.548.80)	(7.548.80)	(7.548.80)	(10.661.87)	(10.661.87)	(64,737,41)	15.912.16
GENERAL OFFICE	2012	29823 (2) additional 1.5 ton CC EMT	CWSCO Specific Water Regulated	103730	147,790.92				(9,236.93)	(9,606.41)	(9,606.41)	(9,606.41)	(13,833.23)	(13,833.23)	(13,833.23)	(19,537.96)	(19,537.96)	(118,631.77)	29,159.15
GENERAL OFFICE	2012	43949 Cash Remittance Equipment Upgrad	le CWSCO Non-Spec Water Reg Equipment	103721	119.46				(15.10)	(16.84)	(16.84)	(16.84)	(14.87)	(14.87)	(14.87)	(14.06)	(14.06)	(138.37)	(18.91)
CUSTOMER SERVICE	2012	49350 Customer Start/Stop Website	CWSCO Non-Spec Water Reg Equipment	103722	38,711.53				(4,703.45)	(3,089.18)	(3,089.18)	(3,089.18)	(3,654.37)	(3,654.37)	(3,654.37)	(4,970.56)	(4,970.56)	(34,875.22)	3,836.31
GENERAL OFFICE	2012	50409 Replace Portable Booster - ELA 1	CWSCO Non-Spec Water Regulated	103250	137,861.12				(3,391.38)	(3,556.82)	(3,556.82)	(3,556.82)	(4,011.76)	(4,011.76)	(4,011.76)	(3,804.97)	(3,804.97)	(33,707.04)	104,154.08
FACILITIES	2012	54889 OFFICE FURNITURE	CWSCO Non-Spec Water Reg Equipment	103720	58,353.74				(3,728.80)	(2,690.11)	(2,690.11)	(2,690.11)	(3,046.07)	(3,046.07)	(3,046.07)	(2,707.61)	(2,707.61)	(26,352.55)	32,001.19
	2012	56728 Hyperion Phase 3	CWSCO Non-Spec Water Reg Equipment	103730	206.11				(12.88)	(13.40)	(13.40)	(13.40)	(19.29)	(19.29)	(19.29)	(27.25)	(27.25)	(105.44)	40.07
INFORMATION TECHNOLOGY	2012	58934 Enterprise Reporting & Analysis	CWSCO Specific Water Regulated	103722	109.657.76				(13,323.42)	(8,750.69)	(8,750.69)	(8,750.69)	(10,351.69)	(10,351.69)	(10,351.69)	(14,080.06)	(14,080.06)	(98,790.68)	10,867.08
INFORMATION TECHNOLOGY	2012	59035 EMERGENCY NOTIFICATION SYSTEM	CWSCO Specific Water Regulated	103722	23,273.75				(2,827.76)	(1,857.25)	(1,857.25)	(1,857.25)	(2,197.04)	(2,197.04)	(2,197.04)	(2,988.35)	(2,988.35)	(20,967.32)	2,306.43
GENERAL OFFICE	2012	59232 Flushing Tools and Equipment	CWSCO Non-Spec Water Reg Equipment	103780	8,632.00				(405.70)	(386.71)	(386.71)	(386.71)	(363.41)	(363.41)	(363.41)	(650.85)	(650.85)	(3,957.77)	4,674.23
FACILITIES	2012	66130 Replace UPS batteries	CWSCO Non-Spec Water Reg Equipment	103721	31,501.19				(3,981.75)	(4,441.67)	(4,441.67)	(4,441.67)	(3,921.90)	(3,921.90)	(3,921.90)	(3,707.69)	(3,707.69)	(36,487.83)	(4,986.64)
ENGINEERING	2012	66973 New Surveying Radios	CWSCO Non-Spec Water Reg Equipment	103760	4,415.12				(7.95)	(70.20)	(70.20)	(70.20)	(82.56)	(82.56)	(82.56)	(74.17)	(74.17)	(614.58)	3,800.54
	2012	68575 Coveo Enhancement	CWSCO Non-Spec Water Reg Equipment	103722	16,180.00				(1,965.87)	(1,291.16)	(1,291.16)	(1,291.16)	(1,527.39)	(1,527.39)	(1,527.39)	(2,077.51)	(2,077.51)	(14,576.56)	1,603.44
	2012	69591 ECN Collection Agency Automation	CWSCO Non-Spec Water Reg Equipment	103721	360.56				(45.57)	(50.84)	(50.84)	(50.84) (2.168.30)	(44.89)	(44.89)	(44.89)	(42.44) (3.488.85)	(42.44)	(417.04)	(57.08) 2 692 72
INFORMATION TECHNOLOGY	2012	71633 Itron MVRS upgrade	CWSCO Non-Spec Water Reg Equipment	103722	16.336.43				(1.984.88)	(1.303.65)	(1.303.65)	(1.303.65)	(1.542.16)	(1.542.16)	(1.542.16)	(2,097.60)	(2.097.60)	(14.717.49)	1.618.94
INFORMATION TECHNOLOGY	2012	72593 Purchase Ricoh Copier	CWSCO Non-Spec Water Reg Equipment	103721	20,833.56				(2,633.36)	(2,937.53)	(2,937.53)	(2,937.53)	(2,593.78)	(2,593.78)	(2,593.78)	(2,452.11)	(2,452.11)	(24,131.51)	(3,297.95)
INFORMATION TECHNOLOGY	2012	72593 Purchase Ricoh Copier	CWSCO Non-Spec Water Reg Equipment	103721	(1,884.13)				238.15	265.66	265.66	265.66	234.57	234.57	234.57	221.76	221.76	2,182.39	298.26
INFORMATION TECHNOLOGY	2012	76343 Coveo Search Enhancements	CWSCO Non-Spec Water Reg Equipment	103722	15,557.00				(1,890.18)	(1,241.45)	(1,241.45)	(1,241.45)	(1,468.58)	(1,468.58)	(1,468.58)	(1,997.52)	(1,997.52)	(14,015.30)	1,541.70
ENGINEERING	2012	76573 Scada Tech Equipment	CWSCO Non-Spec Water Reg Equipment	103780	2,630.56				(123.64)	(117.85)	(117.85)	(117.85)	(110.75)	(110.75)	(110.75)	(198.34)	(198.34)	(1,206.11)	1,424.45
	2012	79960 J405 Mercury Analyzer & Accessorie	s CWSCO Non-Spec Water Reg Equipment	103780	14,370.53				(6/5.41)	(643.80)	(643.80)	(643.80)	(605.00)	(605.00)	(605.00)	(1,083.54)	(1,083.54)	(6,588.89)	7,781.64
ACCOUNTING	2012	80477 World chair w/height adj arms	CWSCO Non-Spec Water Reg Equipment	103720	939 34				(59.88)	(20.77)	(20.77)	(28.77)	(32.38)	(32.38)	(32.38)	(28.90)	(28.90)	(201.07)	542.20
GENERAL OFFICE	2012	81254 Chair & Copy Machine	CWSCO Non-Spec Water Reg Equipment	103720	1,098.97				(70.22)	(50.66)	(50.66)	(50.66)	(57.37)	(57.37)	(57.37)	(50.99)	(50.99)	(496.29)	602.68
GENERAL OFFICE	2012	81254 Chair & Copy Machine	CWSCO Non-Spec Water Reg Equipment	103721	186.47				(23.57)	(26.29)	(26.29)	(26.29)	(23.22)	(23.22)	(23.22)	(21.95)	(21.95)	(215.99)	(29.52)
ADMINISTRATION	2012	81633 Chair for Financial Analyst	CWSCO Non-Spec Water Reg Equipment	103720	737.28				(47.11)	(33.99)	(33.99)	(33.99)	(38.49)	(38.49)	(38.49)	(34.21)	(34.21)	(332.96)	404.32
FACILITIES	2012	85379 Unsch 2012 Facility Projects	CWSCO Non-Spec Water Regulated	103710	39,753.39				(1,228.38)	(1,268.13)	(1,268.13)	(1,268.13)	(1,566.28)	(1,566.28)	(1,566.28)	(1,482.80)	(1,482.80)	(12,697.23)	27,056.16
FACILITIES	2012	85379 Unsch 2012 Facility Projects	CWSCO Non-Spec Water Regulated	103711	5,679.06				- (725.79)	(460.57)	(460.57)	(460.57)	(793.36)	(793.36)	(793.36)	(185.71)	(185.71)	(4,133.22)	1,545.84
Rancho Dominguez	2012	52672 Purchase 2 New Itron EC 200	CWSCO Non-Spec Water Regulated	103720	7 650 20				(725.78) (972.34)	(523.01)	(523.01) (972.34)	(523.01)	(592.89) (942.50)	(592.89) (942.50)	(592.89)	(527.01) (880.54)	(527.01) (900.43)	(5,129.30) (8.497.84)	(847.64)
Rancho Dominguez	2012	20542 Office - 7 Computers - Oper. Center	CWSCO Specific Water Regulated	103721	5,502.60				(699.38)	(699.38)	(699.38)	(699.38)	(677.92)	(677.92)	(677.92)	(633.35)	(647.66)	(6,112.29)	(609.69)
Rancho Dominguez	2012	56188 1-50" serveillance Monitor	CWSCO Non-Spec Water Reg Equipment	103721	68.36				(8.69)	(8.69)	(8.69)	(8.69)	(8.42)	(8.42)	(8.42)	(7.87)	(8.05)	(75.93)	(7.57)
Rancho Dominguez	2012	67931 Purchase DR/890	CWSCO Non-Spec Water Reg Equipment	103780	68.36				(3.19)	(3.19)	(3.19)	(3.19)	(2.98)	(2.98)	(2.98)	(4.18)	(5.15)	(31.05)	37.31
Rancho Dominguez	2012	21219 SCADA Operations Center	CWSCO Specific Water Regulated	103720	58,402.40				(2,540.50)	(2,540.50)	(2,540.50)	(2,540.50)	(2,966.84)	(2,966.84)	(2,966.84)	(2,750.75)	(2,709.87)	(24,523.17)	33,879.23
Rancho Dominguez	2012	53051 Hach PH Meters	CWSCO Non-Spec Water Reg Equipment	103780	9,857.82				(460.36)	(460.36)	(460.36)	(460.36)	(429.80)	(429.80)	(429.80)	(603.30)	(743.28)	(4,477.42)	5,380.40
Rancho Dominguez	2012	83197 Repl. Ice Machine 75652 Pur 10 1-1/2"8:10 2-1/2" Fire Hoses	CWSCO Non-Spec Water Reg Equipment	103790	3,578.32				(153.51)	(153.51)	(153.51)	(153.51)	(206.83)	(206.83)	(206.83)	(216.85)	(137.77)	(1,589.13)	1,989.19
Rancho Dominguez	2012	76133 Purchase Backflow Testing Equipme	nt CWSCO Non-Spec Water Reg Equipment	103780	2,518.57				(117.01)	(117.01)	(117.01)	(117.01)	(109.80)	(109.80)	(109.80)	(134.12)	(102.62)	(1,145.64) (618.19)	1,574.55
Rancho Dominguez	2012	78494 Purchase Hose Ramps	CWSCO Non-Spec Water Reg Equipment	103780	2,153.55				(100.57)	(100.57)	(100.57)	(100.57)	(93.89)	(93.89)	(93.89)	(131.80)	(162.38)	(978.14)	1,175.41
Rancho Dominguez	2012	79579 New Vehicle for District Mgr	CWSCO Non-Spec Water Reg Equipment	103730	41,820.08				(7,218.15)	(7,218.15)	(7,218.15)	(7,218.15)	(6,607.57)	(6,607.57)	(6,607.57)	(4,550.02)	(5,528.61)	(58,773.94)	(16,953.86)
Rancho Dominguez	2012	82497 Replace V205041	CWSCO Non-Spec Water Reg Equipment	103730	33,363.17				(5,758.48)	(5,758.48)	(5,758.48)	(5,758.48)	(5,271.38)	(5,271.38)	(5,271.38)	(3,629.91)	(4,410.61)	(46,888.60)	(13,525.43)
Rancho Dominguez	2012	82497 Replace V205041	CWSCO Non-Spec Water Reg Equipment	103780	4,539.35				(211.99)	(211.99)	(211.99)	(211.99)	(197.92)	(197.92)	(197.92)	(277.81)	(342.27)	(2,061.77)	2,477.58
Rancho Dominguez	2012	20665 Upgrade Sample Room	CWSCO Specific Water Regulated	103710	75,713.04				(2,142.68)	(2,142.68)	(2,142.68)	(2,142.68)	(2,415.25)	(2,415.25)	(2,415.25)	(2,392.53)	(2,824.10)	(21,033.08)	54,679.96
kancho Dominguez	2012	72517 Cross Connection addt'l compliment	CWSCO Non-Spec Water Reg Equipment	103721	3,259.43				(414.27)	(414.27)	(414.27)	(414.27)	(401.56)	(401.56)	(401.56)	(375.16) (3 476 97)	(383.63)	(3,620.57)	(361.14)
Rancho Dominguez	2012	85857 Purchase DR /890	CWSCO Non-Spec Water Reg Equipment	103780	02.000,1 1 181 75				(3,313.70) (55.19)	(3,313.70) (55.19)	(3,313.70) (55.19)	(5,515.70)	(3,049.14) (51 52)	(3,049.14) (51 52)	(5,049.14)	(3,470.87) (72 22)	(4,224.00) (89.10)	(44,911.75) (536.75)	(12,900.19) 645 00
Sancho Bonniguez	2012		Swace were neg Equipilent	103/00	1,101.75				(33.13)	(55.15)	(55.15)	(55.15)	(31.32)	(31.32)	(31.32)	(12.32)	(05.10)	(550.75)	0

	Work Order			UPIS														Total Reserve	
Year	Number	Work Order Description	Work Order Type	Account	Actual Cost	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	(to date)	NBV
2013	15112 16991	ACCOUNTING BUILDING REMODEL	CWSCO Non-Spec Water Regulated CWSCO Specific Water Regulated	103710 103710	209,046.56 855.73					(6,668.59) (27.30)	(6,668.59) (27.30)	(6,668.59) (27.30)	(8,236.43) (33.72)	(8,236.43) (33.72)	(8,236.43) (33.72)	(7,797.44) (31.92)	(7,797.44) (31.92)	(60,309.93) (246.88)	148,736.63 608.85
2013 2013	17210 17210	GO SECURITY MITIGATION PROJECT GO SECURITY MITIGATION PROJECT	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103710 103721	118,071.90 41.342.52					(3,766.49) (5,829.30)	(3,766.49) (5,829.30)	(3,766.49) (5,829.30)	(4,652.03) (5,147.14)	(4,652.03) (5,147.14)	(4,652.03) (5,147.14)	(4,404.08) (4,866.01)	(4,404.08) (4,866.01)	(34,063.74) (42,661.35)	84,008.16 (1,318.83)
2013	17210	GO SECURITY MITIGATION PROJECT	CWSCO Specific Water Regulated	103710	3,433.75					(109.54)	(109.54)	(109.54)	(135.29)	(135.29)	(135.29)	(128.08)	(128.08)	(990.64)	2,443.11
2013	17268	TOOLS FOR NEW NORCAL EMT	CWSCO Specific Water Regulated	103730	650.03					(29.12)	(29.12)	(29.12)	(27.37)	(27.37)	(27.37)	(49.01)	(49.01)	(267.49)	382.54
2013 2013	17763 18080	1.75 TON C&C - REPLACE V201012 POWERPLANT- DEFERRED TAX	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103722	34,831.68 22,175.96					(2,264.06) (1,769.64)	(2,264.06) (1,769.64)	(2,264.06) (1,769.64)	(3,260.25) (2,093.41)	(3,260.25) (2,093.41)	(3,260.25) (2,093.41)	(4,604.75) (2,847.39)	(4,604.75) (2,847.39)	(25,782.41) (17,283.94)	9,049.27 4,892.02
2013	18118	POWERPLANT SYSTEM	CWSCO Specific Water Regulated	103722	96,105.32					(7,669.20)	(7,669.20)	(7,669.20)	(9,072.34)	(9,072.34)	(9,072.34)	(12,339.92)	(12,339.92)	(74,904.49)	21,200.83
2013	20748	Field - 2 Infrared Cameras	CWSCO Specific Water Regulated	103780	23,109.01					(1,035.28)	(1,035.28)	(1,035.28)	(972.89)	(972.89)	(972.89)	(1,742.42)	(1,742.42)	(9,509.36)	13,599.65
2013 2013	20749 20750	INFRARED CAMERAS INFRARED CAMERAS	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	23,162.25 23,134.54					(1,037.67) (1,036.43)	(1,037.67) (1,036.43)	(1,037.67) (1,036.43)	(975.13) (973.96)	(975.13) (973.96)	(975.13) (973.96)	(1,746.43) (1,744.34)	(1,746.43) (1,744.34)	(9,531.27) (9,519.86)	13,630.98 13,614.68
2013	20851	NEW EMT TRUCK NEW VEHILCE- ENG MAINT MGR	CWSCO Specific Water Regulated	103730	85,666.57					(5,568.33) (2.348.60)	(5,568.33) (2.348.60)	(5,568.33) (2.348.60)	(8,018.39) (3.381.99)	(8,018.39) (3.381.99)	(8,018.39) (3.381.99)	(11,325.12) (4.776.69)	(11,325.12) (4,776.69)	(63,410.40) (26,745,14)	22,256.17
2013	20853	NEW VEHILCE FOR DIR CORP COMM	CWSCO Specific Water Regulated	103730	45,754.58					(2,974.05)	(2,974.05)	(2,974.05)	(4,282.63)	(4,282.63)	(4,282.63)	(6,048.76)	(6,048.76)	(33,867.54)	11,887.04
2013 2013	20854 20855	NEW VEHILCE WQ MANAGER NEW SEDAN- CEO	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103730	32,117.72 30,899.58					(2,087.65) (2,008.47)	(2,087.65) (2,008.47)	(2,087.65) (2,008.47)	(3,006.22) (2,892.20)	(3,006.22) (2,892.20)	(3,006.22) (2,892.20)	(4,245.96) (4,084.92)	(4,245.96) (4,084.92)	(23,773.54) (22,871.87)	8,344.18 8,027.71
2013 2013	20857 20860	NEW SEDAN NO CAL POOL NEW VEHILCE-DIR OF CORP COM	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103730	22,515.33 35.090.25					(1,463.50) (2,280.87)	(1,463.50) (2.280.87)	(1,463.50) (2.280.87)	(2,107.43) (3.284.45)	(2,107.43) (3.284.45)	(2,107.43) (3.284.45)	(2,976.53) (4.638.93)	(2,976.53) (4.638.93)	(16,665.85) (25.973.80)	5,849.48 9.116.45
2013	20862	NEW SEDAN-VP OF OPS	CWSCO Specific Water Regulated	103730	49,714.88					(3,231.47)	(3,231.47)	(3,231.47)	(4,653.31)	(4,653.31)	(4,653.31)	(6,572.31)	(6,572.31)	(36,798.95)	12,915.93
2013	20960 20991	Mobile Workforce Management	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730	37,523.75					(1,438.64)	(1,438.64)	(1,438.64)	(1,270.29)	(1,270.29)	(1,270.29)	(1,200.91)	(1,200.91)	(10,528.63)	(325.48)
2013 2013	21016 21033	Network Test Lab I.T. Security	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103721 103721	250,215.46 181,469.83					(35,280.38) (25,587.25)	(35,280.38) (25,587.25)	(35,280.38) (25,587.25)	(31,151.82) (22,592.99)	(31,151.82) (22,592.99)	(31,151.82) (22,592.99)	(29,450.36) (21,359.00)	(29,450.36) (21,359.00)	(258,197.33) (187,258.72)	(7,981.87) (5,788.89)
2013	21047	Network Enhancements	CWSCO Specific Water Regulated	103721	877,181.90					(123,682.65)	(123,682.65)	(123,682.65)	(109,209.15)	(109,209.15)	(109,209.15)	(103,244.31)	(103,244.31)	(905,164.00)	(27,982.10)
2013	21047	NEW SEDAN REPLACE V200026	CWSCO Specific Water Regulated	103722	34,140.26					(2,219.12)	(2,219.12)	(2,219.12)	(3,195.53)	(3,195.53)	(3,195.53)	(4,513.34)	(4,513.34)	(25,270.62)	8,869.64
2013 2013	21098 21214	Data Integration - WQ,Safety,Claims OFFICE FURINTURE/SUPPLIES	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103722 103721	171,193.45 6,165.46					(13,661.24) (869.33)	(13,661.24) (869.33)	(13,661.24) (869.33)	(16,160.66) (767.60)	(16,160.66) (767.60)	(16,160.66) (767.60)	(21,981.24) (725.67)	(21,981.24) (725.67)	(133,428.17) (6,362.14)	37,765.28 (196.68)
2013	26907	New Furniture - 56 Cubicles & Chair	CWSCO Specific Water Regulated	103720	4,617.76					(212.88)	(212.88)	(212.88)	(241.05)	(241.05)	(241.05)	(214.26)	(214.26)	(1,790.31)	2,827.45
2013	28087	Telephone System Upgrade	CWSCO Specific Water Regulated	103720	2,243,734.19					(316,366.52)	(316,366.52)	(316,366.52)	(279,344.91)	(279,344.91)	(279,344.91)	(264,087.51)	(264,087.51)	(2,315,309.31)	(71,575.12)
2013 2013	28087 28087	Telephone System Upgrade Telephone System Upgrade	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103721 103721	178.04 223.44					(25.10) (31.51)	(25.10) (31.51)	(25.10) (31.51)	(22.17) (27.82)	(22.17) (27.82)	(22.17) (27.82)	(20.96) (26.30)	(20.96) (26.30)	(183.72) (230.57)	(5.68) (7.13)
2013	30349	Mobile Dispatch of Collection Order Break Software	CWSCO Non-Spec Water Reg	103722	(13,320.00)					1,062.94	1,062.94	1,062.94	1,257.41	1,257.41	1,257.41	1,710.29	1,710.29	10,381.61	(2,938.39)
2013	43327	Pro-to-Pay Process Improvement	CWSCO Non-Spec Water Reg	103722	(4,107.48)					327.78	327.78	327.78	387.75	387.75	387.75	527.40	527.40	3,201.37	(906.11)
2013 2013	44448 58832	Additional Egronomic Chairs Leak Detection Correlators	CWSCO Non-Spec Water Reg CWSCO Specific Water Regulated	103720 103780	21,440.34 84,605.57					(988.40) (3,790.33)	(988.40) (3,790.33)	(988.40) (3,790.33)	(1,119.19) (3,561.89)	(1,119.19) (3,561.89)	(1,119.19) (3,561.89)	(994.83) (6,379.26)	(994.83) (6,379.26)	(8,312.42) (34,815.19)	13,127.92 49,790.38
2013	58934	Enterprise Reporting and Analysis Office - Peoplesoft FIN/HCM Lingrade	CWSCO Specific Water Regulated	103721	279.76					(39.45)	(39.45)	(39.45)	(34.83)	(34.83)	(34.83)	(32.93)	(32.93)	(288.68)	(8.92) 587 796 77
2013	60832	Mobile Workforce Phase III	CWSCO Specific Water Regulated	103722	907,776.54					(72,440.57)	(72,440.57)	(72,440.57)	(85,694.11)	(85,694.11)	(85,694.11)	(116,558.51)	(116,558.51)	(707,521.04)	200,255.50
2013 2013	65172 65189	REPLACE V205067 WQ MGR RAMESH REPLACE V205078 VP OF ENGINEERING	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103730	35,120.00 48,296.87					(2,282.80) (3,139.30)	(2,282.80) (3,139.30)	(2,282.80) (3,139.30)	(3,287.23) (4,520.59)	(3,287.23) (4,520.59)	(3,287.23) (4,520.59)	(4,642.86) (6,384.85)	(4,642.86) (6,384.85)	(25,995.82) (35,749.34)	9,124.18 12,547.53
2013	65411		CWSCO Specific Water Regulated	103730	34,580.06					(2 247 70)	(2 247 70)	(2 247 70)	(2 226 60)	(2 226 60)	(2 226 60)	(4 571 49)	(4 571 49)	(25 506 16)	8 083 00
2013	65414	REPLACE V205072 NOR CALFOOL	CWSCO Specific Water Regulated	103730	31,372.79					(2,039.23)	(2,039.23)	(2,039.23)	(2,936.49)	(2,936.49)	(2,936.49)	(4,147.48)	(4,147.48)	(23,222.14)	8,150.65
2013 2013	65420 65420	REPLACE V208154 EMT SUP GONZALES REPLACE V208154 EMT SUP GONZALES	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103730	34,747.86 6.67					(2,258.61) (0.43)	(2,258.61) (0.43)	(2,258.61) (0.43)	(3,252.40) (0.62)	(3,252.40) (0.62)	(3,252.40) (0.62)	(4,593.67) (0.88)	(4,593.67) (0.88)	(25,720.37) (4.94)	9,027.49 1.73
2013	65423	REPLACE VP IT Reg Matters	CWSCO Specific Water Regulated	103730	40,090.09					(2,605.86)	(2,605.86)	(2,605.86)	(3,752.43)	(3,752.43)	(3,752.43)	(5,299.91)	(5,299.91)	(29,674.68)	10,415.41
2013	65552	Replace V204019 Appl Train Admin	CWSCO Specific Water Regulated	103730	34,070.57					(2,214.59)	(2,214.59)	(2,214.59)	(3,189.01)	(3,189.01)	(3,189.01)	(4,504.13)	(4,504.13)	(25,219.04)	8,851.53
2013 2013	65552 65553	Replace V204019 Appl Train Admin Replace V204101 Nor Cal Pool	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103730	293.25 34,440.30					(19.06) (2,238.62)	(19.06) (2,238.62)	(19.06) (2,238.62)	(27.45) (3,223.61)	(27.45) (3,223.61)	(27.45) (3,223.61)	(38.77) (4,553.01)	(38.77) (4,553.01)	(217.06) (25,492.71)	76.19 8,947.59
2013	65555	Replace V206102 Commercial Manager	CWSCO Specific Water Regulated	103730	42,844.97					(2,784.92)	(2,784.92)	(2,784.92)	(4,010.29)	(4,010.29)	(4,010.29)	(5,664.11)	(5,664.11)	(31,713.85)	11,131.12
2013	65560	V208100 Director IS	CWSCO Specific Water Regulated	103730	37,546.63					(2,440.53)	(2,440.53)	(2,440.53)	(3,514.36)	(3,514.36)	(3,514.36)	(4,963.66)	(4,963.66)	(27,792.02)	9,754.61
2013 2013	65561 65561	Replace V208148 WQPM Graham Replace V208148 WQPM Graham	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103730	35,467.57 234.60					(2,305.39) (15.25)	(2,305.39) (15.25)	(2,305.39) (15.25)	(3,319.76) (21.96)	(3,319.76) (21.96)	(3,319.76) (21.96)	(4,688.81) (31.01)	(4,688.81) (31.01)	(26,253.10) (173.65)	9,214.47 60.95
2013	69149	Tank Maintenance equipment & tools	CWSCO Specific Water Regulated	103780	18,089.37					(810.40)	(810.40)	(810.40)	(761.56)	(761.56)	(761.56)	(1,363.94)	(1,363.94)	(7,443.78)	10,645.59
2013	69591	FCN Collection Agency Automation	Equipment	103722	3,897.11					(310.99)	(310.99)	(310.99)	(367.89)	(367.89)	(367.89)	(500.39)	(500.39)	(3,037.41)	859.70
2013	71634	Automate NSF Payments to RMS	CWSCO Non-Spec Water Reg Equipment	103722	31,755.09					(2.534.06)	(2.534.06)	(2.534.06)	(2.997.68)	(2.997.68)	(2.997.68)	(4.077.35)	(4.077.35)	(24,749,92)	7.005.17
2013	75394	Addt'l Procure to Pay Development	CWSCO Non-Spec Water Reg	103722	170,908.41					(13,638.49)	(13,638.49)	(13,638.49)	(16,133.75)	(16,133.75)	(16,133.75)	(21,944.64)	(21,944.64)	(133,206.01)	37,702.40
2013	75513	BI Phase 3	CWSCO Non-Spec Water	103721	634,405.07					(50,625.52)	(50,625.52)	(50,625.52)	(59,887.84)	(59,887.84)	(59,887.84)	(81,457.61)	(81,457.61)	(494,455.31)	139,949.76
2013 2013	76513 76533	Rates Copiers PowerPlant Upgrade 10.3.3 V	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103721 103722	9,354.14 1.511.209.35					(1,318.93) (120.594.51)	(1,318.93) (120.594.51)	(1,318.93) (120.594.51)	(1,164.59) (142.658.16)	(1,164.59) (142.658.16)	(1,164.59) (142.658.16)	(1,100.98) (194.039.28)	(1,100.98) (194.039.28)	(9,652.54) (1.177.836.57)	(298.40) 333.372.78
2013	76654	New Vehicle for Water Tech Train Mg	CWSCO Non-Spec Water Reg	103730	34,140.26					(2,219.12)	(2,219.12)	(2,219.12)	(3,195.53)	(3,195.53)	(3,195.53)	(4,513.34)	(4,513.34)	(25,270.62)	8,869.64
2013	79155	New Vehicle for HR Business Partner	CWSCO Non-Spec Water Reg	103730	35,032.71					(2,277.13)	(2,277.13)	(2,277.13)	(3,279.06)	(3,279.06)	(3,279.06)	(4,631.32)	(4,631.32)	(25,931.21)	9,101.50
2013 2013	79155 79156	Replace V209091 New Vehicle for VP of IT	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103730 103730	35,032.71 46,664.45					(2,277.13) (3,033.19)	(2,277.13) (3,033.19)	(2,277.13) (3,033.19)	(3,279.06) (4,367.79)	(3,279.06) (4,367.79)	(3,279.06) (4,367.79)	(4,631.32) (6,169.04)	(4,631.32) (6,169.04)	(25,931.21) (34,541.03)	9,101.50 12,123.42
2013	79474	Refabricate Boardroom chairs MANAGER OF SPECIAL PROJECTS V213067	CWSCO Non-Spec Water Reg	103720	23,070.24					(1,063.54)	(1,063.54)	(1,063.54)	(1,204.27)	(1,204.27)	(1,204.27)	(1,070.46)	(1,070.46)	(8,944.33) (26.468.48)	14,125.91
2013	79553	MANAGER OF SPECIAL PROJECTS V213067	CWSCO Specific Water Regulated	103730	322.58					(20.97)	(20.97)	(20.97)	(30.19)	(30.19)	(30.19)	(42.65)	(42.65)	(238.77)	83.81
2013 2013	79554 79853	HR BUS. PARTNER -RD V213068 Install New No-Mown Lawn	CWSCO Specific Water Regulated CWSCO Non-Spec Water	103730 103710	35,348.85 34,030.87					(2,297.68) (1,085.58)	(2,297.68) (1,085.58)	(2,297.68) (1,085.58)	(3,308.65) (1,340.82)	(3,308.65) (1,340.82)	(3,308.65) (1,340.82)	(4,673.12) (1,269.35)	(4,673.12) (1,269.35)	(26,165.22) (9,817.91)	9,183.63 24,212.96
2013	81834 82114	License Extensions for Oracle Hyperion Strategic Finance	CWSCO Non-Spec Water	103722	258,935.09					(20,663.02)	(20,663.02)	(20,663.02)	(24,443.47)	(24,443.47) (27.867.27)	(24,443.47)	(33,247.27) (37.904.21)	(33,247.27)	(201,814.01) (230.082.08)	57,121.08 65,122.03
2013	83917	New AMR reading devices & meter box	CWSCO Non-Spec Water	103710	2,590.00					(82.62)	(82.62)	(82.62)	(102.05)	(102.05)	(102.05)	(96.61)	(96.61)	(747.22)	1,842.79
2013	83917 83939	Install Fire Protection to trellis	CWSCO Non-Spec Water CWSCO Non-Spec Water	103721	3,453.34 30,402.00					(969.82)	(969.82)	(969.82)	(429.94) (1,197.84)	(429.94) (1,197.84)	(429.94) (1,197.84)	(406.46) (1,133.99)	(406.46) (1,133.99)	(8,770.98)	21,631.02
2013	87697 90258	Replace Arrowboard - ELA Flush Trk 382- PRINTER RICHO SPC431DN	CWSCO Non-Spec Water CWSCO Non-Spec Water Reg	103730	2,972.80					(193.23) (255.90)	(193.23) (255.90)	(193.23) (255.90)	(278.25) (225.95)	(278.25) (225.95)	(278.25) (225.95)	(393.00) (213.61)	(393.00) (213.61)	(2,200.47) (1.872.76)	772.33 (57.89)
2013	90901	UNSCHEDULED GO CAMPUS 2013	CWSCO Non-Spec Water	103710	15,617.21					(498.19)	(498.19)	(498.19)	(615.32)	(615.32)	(615.32)	(582.52)	(582.52)	(4,505.57)	11,111.64
2013	90901 90901	UNSCHEDULED GO CAMPUS 2013 UNSCHEDULED GO CAMPUS 2013	CWSCO Non-Spec Water CWSCO Non-Spec Water	103710	6,614.30					(211.00)	(211.00)	(1,212.05) (211.00)	(260.60)	(1,497.02) (260.60)	(1,497.02) (260.60)	(1,417.23) (246.71)	(246.71)	(10,961.66) (1,908.23)	4,706.07
2013 2013	90901 90901	UNSCHEDULED GO CAMPUS 2013 UNSCHEDULED GO CAMPUS 2013	CWSCO Non-Spec Water CWSCO Non-Spec Water	103710 103710	17,393.30 69,709.62					(554.85) (2,223.74)	(554.85) (2,223.74)	(554.85) (2,223.74)	(685.30) (2,746.56)	(685.30) (2,746.56)	(685.30) (2,746.56)	(648.77) (2,600.17)	(648.77) (2,600.17)	(5,017.97) (20,111.23)	12,375.33 49,598.39
2013	90901	UNSCHEDULED GO CAMPUS 2013	CWSCO Non-Spec Water	103710	41,148.30					(1,312.63)	(1,312.63)	(1,312.63)	(1,621.24)	(1,621.24)	(1,621.24)	(1,534.83)	(1,534.83)	(11,871.28)	29,277.02
2013	90901	UNSCHEDULED GO CAMPUS 2013	CWSCO Non-Spec Water	103710	10,366.74					(348.87)	(348.87)	(348.87)	(430.90)	(430.90)	(430.90)	(407.93)	(407.93)	(3,155.17)	7,781.30
2013 2013	91418 91597	NEW ICE MACHINE- GO LOUNGE REPLACE V204004 MGRWATER TREATMENT	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103790 103730	3,567.58 31.097.47					(123.44) (2,021.34)	(123.44) (2,021.34)	(123.44) (2,021.34)	(126.65) (2,910.72)	(126.65) (2,910.72)	(126.65) (2,910.72)	(137.35) (4,111.09)	(137.35) (4,111.09)	(1,024.97) (23,018.35)	2,542.61 8,079.12
2013	91597	REPLACE V204004 MGRWATER TREATMENT	CWSCO Non-Spec Water Reg	103730	292.74					(19.03)	(19.03)	(19.03)	(27.40)	(27.40)	(27.40)	(38.70)	(38.70)	(216.69)	76.05
2013	92075	Enterprise Power Monitor App.	CWSCO Non-Spec Water	103241	(38.76)					1.71	1.71	1.71	1.21	1.21	1.21	1.14	1.14	11.02	(27.74)
2013 2013	92944 93559	V213071 NEW BUS DEV MNGR VEHICLE SCADA Tech multimeters	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103730 103780	37,434.01 2,340.80					(2,433.21) (104.87)	(2,433.21) (104.87)	(2,433.21) (104.87)	(3,503.82) (98.55)	(3,503.82) (98.55)	(3,503.82) (98.55)	(4,948.78) (176.50)	(4,948.78) (176.50)	(27,708.65) (963.24)	9,725.36 1,377.56
2013	21302	Office - Electronic Key Management	CWSCO Specific Water Regulated	103721	28,567.44					(3,630.92)	(3,630.92)	(3,630.92)	(3,519.51)	(3,519.51)	(3,519.51)	(3,288.11)	(3,362.39)	(28,101.79)	465.65
2013	21089	NEW PICKUP REPLACE V206081	CWSCO Specific Water Regulated	103730	39,077.52					(6,744.78)	(6,744.78)	(6,744.78)	(6,174.25)	(6,174.25)	(6,174.25)	(4,251.63)	(5,166.05)	(48,174.77)	(9,097.25)
2013 2013	78394 84117	Purchase 2-Turbidity Meters Purchase (1) Vehicle	CWSCO Non-Spec Water Reg Equipmen CWSCO Non-Spec Water Reg Equipmen	103780 103730	3,071.14 37,481.17					(143.42) (6,469.25)	(143.42) (6,469.25)	(143.42) (6,469.25)	(133.90) (5,922.02)	(133.90) (5,922.02)	(133.90) (5,922.02)	(187.95) (4,077.95)	(231.56) (4,955.01)	(1,251.49) (46,206.79)	1,819.65 (8,725.62)
2013	89977	Purchase 4 Medal Detectors	CWSCO Non-Spec Water Reg Equipmen	103780	4,370.05					(204.08)	(204.08)	(204.08)	(190.53)	(190.53)	(190.53)	(267.45)	(329.50)	(1,780.80)	2,589.25
2013 2013	20839 86397	PURCHASE ERGONOMIC CHAIRS Purch.RHDV V212013-Repl. V204095	CWSCO Specific Water Regulated CWSCO Non-Spec Water Reg Equipmen	103720 103730	ь,824.38 39,552.70					(296.86) (6,826.80)	(296.86) (6,826.80)	(296.86) (6,826.80)	(346.68) (6,249.33)	(346.68) (6,249.33)	(346.68) (6,249.33)	(321.43) (4,303.33)	(316.65) (5,228.87)	(2,568.70) (48,760.57)	4,255.68 (9,207.87)
2013	66175	Replace Forklift Beplace Forklift	CWSCO Specific Water Regulated	103740	33,266.27					-	-	-	(1,477.02)	(1,477.02)	(1,477.02)	(1,666.64)	(4,397.80)	(10,495.51)	22,770.76
2013	90919	Purchase Color Meters	CWSCO Non-Spec Water Reg Equipmen	103780	4,818.74					(225.04)	(225.04)	(225.04)	(210.10)	(210.10)	(210.10)	(294.91)	(363.33)	(1,963.64)	2,855.10
2013 2013	20698 21176	Office - 6 Ergonomic Chairs SLURRY COAT FRONT PARKING	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103720 103711	49.83 15,773.62					(2.17) (1,072.61)	(2.17) (1,072.61)	(2.17) (1,072.61)	(2.53) (1,104.15)	(2.53) (1,104.15)	(2.53) (1,104.15)	(2.35) (1,282.40)	(2.31) (515.80)	(18.76) (8,328.47)	31.07 7,445.15
2013	20718	PURCHASE ERGONOMIC CHAIRS	CWSCO Specific Water Regulated	103720	161.21					(7.01)	(7.01)	(7.01)	(8.19)	(8.19)	(8.19)	(7.59)	(7.48)	(60.68)	100.53
2013	93178	Purchase New Engine for V206016	CWSCO Non-Spec Water Reg Equipmen	103730	7,912.17					(1,365.64)	(1,365.64)	(1,365.64)	(1,250.12)	(1,250.12)	(1,250.12)	(860.84)	(1,045.99)	(9,754.12)	(1,841.95)

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Department	Year	Order Number	Work Order Description	Work Order Type	Account	Actual Cost	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	(to date)	NBV
ACCOUNTING ADMINISTRATION	2014 2014	# #	Check 21 implementation Hyperion - Phase 3	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103722 103722	35,680.13 (4,425.77)						(2,847.27) 353.18	(2,847.27) 353.18	(3,368.20) 417.79	(3,368.20) 417.79	(3,368.20) 417.79	(4,581.33) 568.27	(4,581.33) 568.27	(24,961.82) 3,096.27	10,718.31 (1,329.50)
WATER QUALITY GENERAL OFFICE	2014 2014	#	Micro Lab Autoclave Retrofit Flushing Trucks (2)	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103750 103730	43,222.29 69,947.91						(2,489.60) (4,546.61)	(2,489.60) (4,546.61)	(2,701.39) (6,547.12)	(2,701.39) (6,547.12)	(2,701.39) (6,547.12)	(2,424.77) (9,247.11)	(2,424.77) (9,247.11)	(17,932.93) (47,228.83)	25,289.36 22,719.08
GENERAL OFFICE PURCHASING	2014 2014	# #	Credit Card machines for RPL ARROWBOARD	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103721 103780	42,698.62 752.85						(6,020.51) (33.73)	(6,020.51) (33.73)	(5,315.98) (31.69)	(5,315.98) (31.69)	(5,315.98) (31.69)	(5,025.63) (56.76)	(5,025.63) (56.76)	(38,040.20) (276.07)	4,658.42 476.78
FACILITIES	2014 2014	# #	REPLACE WQ UPS Output Agent - ImageNow	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103750 103722	13,738.62						(791.34) (655.03)	(791.34)	(858.66) (774.87)	(858.66) (774.87)	(858.66) (774.87)	(770.74) (1,053.96)	(770.74) (1,053.96)	(5,700.15) (5,742.61)	8,038.47 2,465.81
INFORMATION	2014	#	Install power monitor at	CWSCO Non-Spec Water Reg	103721	20,447.17						(2,883.05)	(2,883.05)	(2,545.67)	(2,545.67)	(2,545.67)	(2,406.63)	(2,406.63)	(18,216.38)	2,230.79
CUSTOMER	2014	#	Customer Service Portal Customer Service Portal	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103722	3/0,343.65						(14.36)	(14.36)	(33,520.84) (16.99)	(16.99)	(35,520.84) (16.99)	(40,322.52)	(23.11)	(125.93)	54.07
ENGINEERING FACILITIES	2014 2014	#	Add Second Computer INSTALL MECHOSHADES-	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103721 103720	2,833.62 49,806.60						(399.54) (2,296.08)	(399.54) (2,296.08)	(352.79) (2,599.90)	(352.79) (2,599.90)	(352.79) (2,599.90)	(333.52) (2,311.03)	(333.52) (2,311.03)	(2,524.47) (17,013.93)	309.15 32,792.67
INFORMATION ACCOUNTING	2014 2014	# #	Upgrade Calwater.com AP-invoice receiving and	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103722 103722	187,832.65 10,270.00						(14,989.05) (819.55)	(14,989.05) (819.55)	(17,731.40) (969.49)	(17,731.40) (969.49)	(17,731.40) (969.49)	(24,117.71) (1,318.67)	(24,117.71) (1,318.67)	(131,407.72) (7,184.89)	56,424.93 3,085.11
FACILITIES	2014	#	REPLACE TMM V207091 AP Back-up scapper	CWSCO Non-Spec Water Reg	103730	60,746.37 4.948.91						(3,948.51) (697.80)	(3,948.51) (697.80)	(5,685.86) (616.14)	(5,685.86) (616.14)	(5,685.86) (616.14)	(8,030.67) (582.49)	(8,030.67) (582,49)	(41,015.95) (4.408.98)	19,730.42 539.93
HUMAN	2014	 # #	Purchase Office Furiture	CWSCO Non-Spec Water Reg	103720	17,810.89						(821.08)	(821.08)	(929.73)	(929.73)	(929.73)	(826.43)	(826.43)	(6,084.20)	11,726.69
INFORMATION	2014	#	Imagenow Seat Licenses	CWSCO Non-Spec Water Reg	103722	3,477.04						(12,303.77) (277.47)	(277.47)	(328.23)	(328.23)	(328.23)	(446.45)	(446.45)	(2,432.54)	1,044.50
PURCHASING PURCHASING	2014 2014	# #	REPLACE V212039 REPLACE V212039	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103730 103730	35,632.31 75.04						(2,316.10) (4.88)	(2,316.10) (4.88)	(3,335.18) (7.02)	(3,335.18) (7.02)	(3,335.18) (7.02)	(4,/10.59) (9.92)	(4,710.59) (9.92)	(24,058.94) (50.67)	11,573.37 24.37
PURCHASING PURCHASING	2014 2014	# #	REPLACE V212039 REPLACE V208056	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103730 103730	(825.00) 50,443.00						53.63 (3,278.80)	53.63 (3,278.80)	77.22 (4,721.46)	77.22 (4,721.46)	77.22 (4,721.46)	109.07 (6,668.56)	109.07 (6,668.56)	557.04 (34,059.11)	(267.96) 16,383.89
PURCHASING WATER QUALITY	2014 2014	# #	REPLACE V208056 WATER PURIFIER-	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103730 103750	1,008.86 7,964.29						(65.58) (458.74)	(65.58) (458.74)	(94.43) (497.77)	(94.43) (497.77)	(94.43) (497.77)	(133.37) (446.80)	(133.37) (446.80)	(681.18) (3.304.38)	327.68 4.659.91
INFORMATION	2014	#	Imagenow Licenses	CWSCO Non-Spec Water Reg	103722	9,163.26						(731.23)	(731.23)	(865.01)	(865.01)	(865.01)	(1,176.56)	(1,176.56)	(6,410.62)	2,752.64
ACCOUNTING	2014	#	PowerPlan ARO for CA	CWSCO Non-Spec Water Reg	103722	21,241.23						(1,695.05)	(1,695.05)	(2,005.17)	(2,005.17)	(2,005.17)	(2,727.37)	(2,727.37)	(14,860.36)	6,380.87
PURCHASING	2014 2014	# #	REPLACE V209093 Arrowboard Motor	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103730 103780	32,202.27 769.39						(2,093.15) (34.47)	(2,093.15) (34.47)	(3,014.13) (32.39)	(3,014.13) (32.39)	(3,014.13) (32.39)	(4,257.14) (58.01)	(4,257.14) (58.01)	(21,/42.97) (282.14)	10,459.30 487.25
HUMAN WATER QUALITY	2014 2014	# #	New Chair - HR LCreech Ergonomic Chairs	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water Reg	103720 103720	694.86 1,389.73						(32.03) (64.07)	(32.03) (64.07)	(36.27) (72.54)	(36.27) (72.54)	(36.27) (72.54)	(32.24) (64.48)	(32.24) (64.48)	(237.36) (474.73)	457.50 915.00
PURCHASING	2014 2014	# #	V214017 I.S. EXPANSION DESIGN	CWSCO Non-Spec Water Reg CWSCO Non-Spec Water	103730 103710	34,037.18 (7.858.40)						(2,212.42) 250.68	(2,212.42) 250.68	(3,185.88) 309.62	(3,185.88) 309.62	(3,185.88) 309.62	(4,499.72) 293.12	(4,499.72) 293.12	(22,981.90) 2,016.47	11,055.28 (5,841.93)
INFORMATION	2014	 # #	Imagenow Upgrade	CWSCO Non-Spec Water	103722	81,344.83						(6,491.32)	(6,491.32)	(7,678.95)	(7,678.95)	(7,678.95)	(10,444.68)	(10,444.68)	(56,908.84)	24,435.99
WATER QUALITY	2014	#	Continuation of Cr+6 Pilot	CWSCO Non-Spec Water	103030	50,170.36						(5,017.04)	(5,017.04)	(5,017.04)	(5,017.04)	(5,017.04)	(5,017.04)	(5,017.04)	(35,119.25)	15,051.11
FACILITIES INFORMATION	2014 2014	#	UNSCHEDULED GO Remodel I.S. building	CWSCO Non-Spec Water CWSCO Specific Water Regulated	103710	16,934.41 199,702.61						(540.21)	(540.21) (6,370.51)	(7,868.28)	(7,868.28)	(7,868.28)	(7,448.91)	(7,448.91)	(4,345.37)	148,458.92
FIELD INFORMATION	2014 2014	# #	EMT/TMM TOOLS FOR SCADA ENHANCEMENTS	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103241	1,020.00 252,705.84						(45.70) (11,144.33)	(45.70) (11,144.33)	(42.94) (7,859.15)	(42.94) (7,859.15)	(42.94) (7,859.15)	(76.91) (7,404.28)	(76.91) (7,404.28)	(374.03) (60,674.67)	645.97 192,031.17
GENERAL OFFICE INFORMATION	2014 2014	# #	TMM TOOLS FOR 2012 Enterprise Records	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103721	8,373.10 41,385.40						(375.11) (5,835.34)	(375.11) (5,835.34)	(352.51) (5,152.48)	(352.51) (5,152.48)	(352.51) (5,152.48)	(631.33) (4,871.06)	(631.33) (4,871.06)	(3,070.42) (36,870.25)	5,302.68 4,515.15
INFORMATION	2014	#	Enterprise Records	CWSCO Specific Water Regulated	103722	445,885.72						(35,581.68)	(35,581.68)	(42,091.61)	(42,091.61)	(42,091.61)	(57,251.73)	(57,251.73)	(311,941.65)	133,944.07 3.953.38
INFORMATION	2014	#	Office - Customer Care &	CWSCO Specific Water Regulated	103721	47,254.84						(6,662.93)	(6,662.93)	(5,883.23)	(5,883.23)	(5,883.23)	(5,561.89)	(5,561.89)	(42,099.34)	5,155.50
GENERAL OFFICE	2014	# #	Field - Field Maintenance	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103722	3,917,523.88 102,326.12						(14,427.98)	(14,427.98)	(12,739.60)	(12,739.60)	(12,739.60)	(12,043.78)	(12,043.78)	(2,740,099.71) (91,162.34)	11,163.78
INFORMATION INFORMATION	2014 2014	# #	Network Hardware and Data Storage	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103721 103721	516,058.89 241,907.35						(72,764.30) (34,108.94)	(72,764.30) (34,108.94)	(64,249.33) (30,117.47)	(64,249.33) (30,117.47)	(64,249.33) (30,117.47)	(60,740.13) (28,472.50)	(60,740.13) (28,472.50)	(459,756.87) (215,515.26)	56,302.02 26,392.09
INFORMATION INFORMATION	2014 2014	# #	Enterprise End User Network Hardware and	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103722 103721	433,845.59 490,033.28						(34,620.88) (69,094.69)	(34,620.88) (69,094.69)	(40,955.02) (61,009.14)	(40,955.02) (61,009.14)	(40,955.02) (61,009.14)	(55,705.77) (57,676.92)	(55,705.77) (57,676.92)	(303,518.37) (436,570.65)	130,327.22 53,462.63
	2014	#	Data Storage 2013 PC Refresh	CWSCO Specific Water Regulated	103721	592,255.48 315,213.48						(83,508.02)	(83,508.02)	(73,735.81)	(73,735.81) (39,244.08)	(73,735.81) (39,244.08)	(69,708.47)	(69,708.47)	(527,640.41)	64,615.07 34,389.79
INFORMATION	2014	#	2014 PC Refresh	CWSCO Specific Water Regulated	103721	318,861.08						(44,959.41)	(44,959.41)	(39,698.20)	(39,698.20)	(39,698.20)	(37,529.95)	(37,529.95)	(284,073.34)	34,787.74
INFORMATION	2014	#	Enterprise Apps	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103/21-	327,823.17						(26,160.29)	(26,160.29)	(30,946.51)	(30,946.51)	(30,946.51)	(42,092.50)	(42,092.50)	(402,353.55) (229,345.09)	98,478.08
PURCHASING	2014 2014	# #	REPLACE V205066 EMT REPLACE V205066 EMT	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103780	57,546.74 22,534.15						(3,740.54) (1,009.53)	(3,740.54) (1,009.53)	(5,386.37) (948.69)	(5,386.37) (948.69)	(5,386.37) (948.69)	(7,607.68) (1,699.07)	(7,607.68) (1,699.07)	(38,855.56) (8,263.27)	18,691.18 14,270.88
PURCHASING PURCHASING	2014 2014	# #	Replace V207003 VP OF REPLACE V209076 ENG	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103730	45,334.18 29,275.84						(2,946.72) (1,902.93)	(2,946.72) (1,902.93)	(4,243.28) (2,740.22)	(4,243.28) (2,740.22)	(4,243.28) (2,740.22)	(5,993.18) (3,870.27)	(5,993.18) (3,870.27)	(30,609.64) (19,767.05)	14,724.54 9,508.79
PURCHASING	2014	#	REPLACE V209090	CWSCO Specific Water Regulated	103730	29,543.12						(1,920.30)	(1,920.30)	(2,765.24)	(2,765.24)	(2,765.24)	(3,905.60)	(3,905.60)	(19,947.51) (32,074.17)	9,595.61 15,429.04
PURCHASING	2014	#	REPLACE V206022 EMT	CWSCO Specific Water Regulated	103780	9,355.11						(419.11)	(419.11)	(393.85)	(393.85)	(393.85)	(705.38)	(705.38)	(3,430.52)	5,924.59
PURCHASING	2014	#	REPLACE V207086 TANK REPLACE V208058 CORP	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730	55,978.90 50,424.72						(2,208.63)	(2,208.63)	(3,180.43)	(3,180.43) (4,719.75)	(3,180.43)	(4,492.01) (6,666.15)	(4,492.01) (6,666.15)	(22,942.55) (34,046.77)	16,377.95
PURCHASING PURCHASING	2014 2014	# #	REPLACE V208061 EMT REPLACE V209083 SCADA	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103730	37,720.09 34,309.63						(2,451.81) (2,230.13)	(2,451.81) (2,230.13)	(3,530.60) (3,211.38)	(3,530.60) (3,211.38)	(3,530.60) (3,211.38)	(4,986.60) (4,535.73)	(4,986.60) (4,535.73)	(25,468.60) (23,165.86)	12,251.49 11,143.77
PURCHASING GENERAL OFFICE	2014 2014	# #	REPLACE V210004 EMT TOOLS FOR YEAR	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103780	32,887.99 33,653.37						(2,137.72) (1,507.67)	(2,137.72) (1,507.67)	(3,078.32) (1,416.81)	(3,078.32) (1,416.81)	(3,078.32) (1,416.81)	(4,347.79) (2,537.46)	(4,347.79) (2,537.46)	(22,205.97) (12,340.69)	10,682.02 21,312.68
PURCHASING PURCHASING	2014 2014	#	Replace V202041 Dir of Replace V204105 EMT	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730 103730	(1,333.00) 46,478.58						86.65 (3,021.11)	86.65 (3,021.11)	124.77 (4,350.40)	124.77 (4,350.40)	124.77 (4,350.40)	176.22 (6,144.47)	176.22 (6,144.47)	900.04 (31,382.34)	(432.96) 15,096.24
PURCHASING	2014	#	Replace V204105 EMT	CWSCO Specific Water Regulated	103780	43,958.12						(1,969.32)	(1,969.32)	(1,850.64)	(1,850.64)	(1,850.64)	(3,314.44)	(3,314.44)	(16,119.44)	27,838.68
FIELD	2014	#	ULTRASONIC FLOWMETER	CWSCO Specific Water Regulated	103780	29,111.85						(1,304.21)	(1,304.21)	(1,225.61)	(1,225.61)	(1,225.61)	(2,195.03)	(2,195.03)	(10,675.32)	18,436.53
PURCHASING	2014 2014	# #	ULI RASONIC FLOWMETER New sedan CI additional	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103730	28,979.35 31,765.60						(1,298.27) (2,064.76)	(1,298.27) (2,064.76)	(1,220.03) (2,973.26)	(1,220.03) (2,973.26)	(1,220.03) (2,973.26)	(2,185.04) (4,199.41)	(2,185.04) (4,199.41)	(10,626.73) (21,448.13)	18,352.62
WATER QUALITY	2014	#	GC/MS System (System 3)	CWSCO Specific Water Regulated	103750	112,943.89						(6,505.57)	(6,505.57)	(7,058.99)	(7,058.99)	(7,058.99)	(6,336.15)	(6,336.15)	(46,860.42)	66,083.47
Rancho Dominguez Rancho Dominguez	2014	59736 77333	REPL. KITCHEN COUNTER	CWSCO Specific Water Regulated	103710	15,016.83						(424.98)	(424.98)	(479.04)	(479.04)	(479.04)	(474.53)	(560.13)	(3,321.72)	11,695.11
Rancho Dominguez	2014	92063	Retrofit Front Entrance Doors	CWSCO Non-Spec Water Regulated	103710	20,535.01						(581.14)	(581.14)	(655.07)	(655.07)	(655.07)	(648.91)	(765.96)	(4,542.34)	15,992.67
Kancho Dominguez Rancho Dominguez	2014 2014	92703 59736	Purchase Vehicle for the Ranch REPL. KITCHEN COUNTER	CWSCO Non-Spec Water Reg Equipme CWSCO Specific Water Regulated	103730 103710	87,910.15 (17.17)						(15,173.29) 0.49	(15,173.29) 0.49	(13,889.80) 0.55	(13,889.80) 0.55	(13,889.80) 0.55	(9,564.62) 0.54	(11,621.72) 0.64	(93,202.34) 3.80	(5,292.19) (13.37)
Rancho Dominguez	2014	93223 50725	Fire Flow Testing Equip Set	CWSCO Non-Spec Water Reg Equipme	103780	5,662.79						(264.45)	(264.45)	(246.90)	(246.90)	(246.90)	(346.56)	(426.97)	(2,043.13)	3,619.66
Rancho Dominguez	2014	95823	Purchase 6 HQ11D PH Meters	CWSCO Non-Spec Water Regulated	103720	8,165.26						(381.32)	(381.32)	(356.01)	(356.01)	(356.01)	(499.71)	(615.66)	(2,946.03)	5,219.23
Rancho Dominguez Rancho Dominguez	2014 2014	94159 92703	RDOM-ANCE Phone Upgrade Purchase Vehicle for the Ranch	CWSCO Non-Spec Water Reg Equipme CWSCO Non-Spec Water Reg Equipme	103721 103730	23,618.09 6,488.65						(3,001.86) (1,119.94)	(3,001.86) (1,119.94)	(2,909.75) (1,025.21)	(2,909.75) (1,025.21)	(2,909.75) (1,025.21)	(2,718.44) (705.97)	(2,779.85) (857.80)	(20,231.26) (6,879.27)	3,386.83 (390.62)
Rancho Dominguez	2014	21218	SCADA Radios - Carson Tanks	CWSCO Specific Water Regulated	103241	43,693.75						(1,367.61)	(1,367.61)	(1,262.75)	(1,262.75)	(1,262.75)	(1,267.12)	(1,280.23)	(9,070.82)	34,622.93
Rancho Dominguez	2014 2014	96460 96461	Purchase 20-12" monitors	CWSCO Non-Spec Water Reg Equipme	103720	2,485.98 8,733.48						(108.14) (1,110.03)	(108.14) (1,110.03)	(126.29) (1,075.96)	(126.29) (1,075.96)	(126.29) (1,075.96)	(117.09) (1,005.22)	(115.35) (1,027.93)	(827.58) (7,481.10)	1,252.38
Rancho Dominguez Rancho Dominguez	2014 2014	59734 95299	PURCHASE CHAIRS & TABLES .5 TON PU - REPLACE V202047	CWSCO Specific Water Regulated CWSCO Non-Spec Water Reg Fourieme	103720 103730	22,566.15 34,663.37						(981.63) (5,982.90)	(981.63) (5,982.90)	(1,146.36) (5,476.81)	(1,146.36) (5,476.81)	(1,146.36) (5,476.81)	(1,062.87) (3,771.37)	(1,047.07) (4,582.50)	(7,512.27) (36.750.10)	15,053.88 (2.086.73)
Rancho Dominguez	2014	95300	Sedan Replace-V204022	CWSCO Non-Spec Water Reg Equipme	103730	40,704.18						(7,025.54)	(7,025.54)	(6,431.26)	(6,431.26)	(6,431.26)	(4,428.61)	(5,381.09)	(43,154.57)	(2,450.39)
kancho Dominguez Rancho Dominguez	2014 2014	95782 95782	REPLACE V209057 REPLACE V209057	CWSCO Non-Spec Water Reg Equipme CWSCO Non-Spec Water Reg Equipme	103730 103780	26,684.38 2,877.57						(4,605.72) (134.38)	(4,605.72) (134.38)	(4,216.13) (125.46)	(4,216.13) (125.46)	(4,216.13) (125.46)	(2,903.26) (176.11)	(3,527.68) (216.97)	(28,290.78) (1,038.23)	(1,606.40) 1,839.34
Rancho Dominguez Rancho Dominguez	2014 2014	94780 95861	Purchase 3 New Itron FC 300 REPLACE V204005	CWSCO Non-Spec Water Reg Equipme	103721 103730	12,000.39 35,360.39						(1,525.25)	(1,525.25)	(1,478.45)	(1,478.45)	(1,478.45)	(1,381.24) (3,847.21)	(1,412.45)	(10,279.53) (37.489.09)	1,720.86
Rancho Dominguez	2014	95861	REPLACE V204005	CWSCO Non-Spec Water Reg Equipme	103780	2,268.67						(105.95)	(105.95)	(98.91)	(98.91)	(98.91)	(138.84)	(171.06)	(818.54)	1,450.13
капсho Dominguez Rancho Dominguez	2014 2014	21157 98948	Oπice - Replace Furniture Repl. Motor V208071-2008 Che	CWSCO Specific Water Regulated CWSCO Non-Spec Water Reg Equipme	103720 103730	11,185.37 9,592.46						(486.56) (1,655.66)	(486.56) (1,655.66)	(568.22) (1,515.61)	(568.22) (1,515.61)	(568.22) (1,515.61)	(526.83) (1,043.66)	(519.00) (1,268.12)	(3,723.61) (10,169.93)	/,461.76 (577.47)
Rancho Dominguez	2014 2014	64942 64947	REPLACE V202027 FIELD MAIN	CWSCO Specific Water Regulated	103730 103780	30,143.57 11.470.68						(5,202.78)	(5,202.78)	(4,762.68) (500.12)	(4,762.68) (500.12)	(4,762.68) (500.12)	(3,279.62) (702.01)	(3,984.98) (864.89)	(31,958.21)	(1,814.64)
Rancho Dominguez	2014	65112	REPLACE V204097	CWSCO Specific Water Regulated	103730	30,269.23						(5,224.47)	(5,224.47)	(4,782.54)	(4,782.54)	(4,782.54)	(3,293.29)	(4,001.59)	(32,091.44)	(1,822.21)
Rancho Dominguez Rancho Dominguez	2014 2014	65112 72354	REPLACE V204097 Purchase Arrow Board	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	11,518.49 10,202.40						(537.91) (476.45)	(537.91) (476.45)	(502.21) (444.82)	(502.21) (444.82)	(502.21) (444.82)	(704.93) (624.39)	(868.49) (769.26)	(4,155.87) (3,681.03)	7,362.62 6,521.37
Rancho Dominguez	2014	78373	Purchase 3 Hach 890 for 151	CWSCO Non-Spec Water Reg Equipme	103780	4,717.96						(220.33)	(220.33)	(205.70)	(205.70)	(205.70)	(288.74)	(355.73)	(1,702.24)	3,015.72

Department	Year	Work Order	Work Order Description	Work Order Type	UPIS	Actual Cost							
Safety	2015	Number 00097723	File Cabinet	CWSCO Non-Spec Water Reg Equipment	103720	634.16	2010 2011	2012	2013	2014	2015	2016 (29.23)	2017 (33.10
Facilities Facilities	2015 2015	00095032 00095032	Replace Chiller & AH2 Coils: Bldg D Replace Chiller & AH2 Coils: Bldg D	CWSCO Non-Spec Water Regulated CWSCO Non-Spec Water Regulated	103710 103710	112,127.53 23,722.64						(3,576.87) (756.75)	(4,417.83 (934.63
Facilities Facilities	2015 2015 2015	00095032 00017328 00101967	Replace Chiller & AH2 Coils: Bldg D VARIOUS COPIERS AND PRINTERS	CWSCO Non-Spec Water Regulated CWSCO Specific Water Regulated CWSCO Nee Specific Water Reg Faultement	103710 103721	5,885.48 134,540.05 959.76						(187.75) (18,970.15) (44.24)	(231.85 (16,750.24
Operations Operations	2015 2015 2015	00101095	Satellite Phones Study-direct material sourcing	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Regulated	103760	23,648.93 917,738.37						(376.02)	(442.23
Operations Information Technology	2015 2015	00097854 00068574	Study-Underground Const Labor Mobile MCA	CWSCO Non-Spec Water Regulated CWSCO Non-Spec Water Reg Equipment	103030	940,447.02 227,176.95						(94,044.70) (18,128.72)	(94,044.70
Information Technology Information Technology	2015 2015	00017901 00017901	Office - Geospatial Data Integratio Office - Geospatial Data Integratio	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103721 103722	39,749.82 1,445,677.53						(5,604.72) (115,365.07)	(4,948.85 (136,471.96
Water Quality Engr Asset Management	2015 2015	00100644 00065680	Safety Cabinets for Laboratory INFRARED CAMERAS FOR 2014	CWSCO Non-Spec Water Reg Equipment CWSCO Specific Water Regulated	103720 103780	7,296.61 11,619.40						(336.37) (520.55)	(380.88)
Engr Asset Management Engr Asset Management	2015 2015	00065679 00065677	INFRARED CAMERAS FOR 2013 POWER QUALITY ANALYZER FOR 2014	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	11,619.40 6,461.47						(520.55) (289.47)	(489.18 (272.05
Engr Asset Management Engr Asset Management	2015	00065677	POWER QUALITY ANALYZER FOR 2014 POWER QUALITY ANALYZER FOR 2013	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	6,461.46 12,922.93						(289.47) (578.95)	(272.03
Engr Asset Management Engr Asset Management	2015	00065672	VIBRATION ANALYZER FOR 2014 VIBRATION ANALYZER FOR 2014	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	1,724.78						(77.27) (77.27)	(72.61
Engr Asset Management Engr Asset Management	2015 2015 2015	00065672	VIBRATION ANALYZER FOR 2014 VIBRATION ANALYZER FOR 2014	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	9,543.36						(427.54)	(401.78
Engr Asset Management Engr Asset Management	2015 2015	00065495	VIBRATION ANALYZER FOR 2013 VIBRATION ANALYZER FOR 2013	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	1,724.76						(77.27)	(72.61
Engr Asset Management Engr Asset Management	2015 2015	00065495 00065495	VIBRATION ANALYZER FOR 2013 VIBRATION ANALYZER FOR 2013	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	1,724.78 1,724.78						(77.27) (77.27)	(72.61
Engr Asset Management Engineering	2015 2015	00065495 00102737	VIBRATION ANALYZER FOR 2013 Lift Desk for Engineering Employee	CWSCO Specific Water Regulated CWSCO Non-Spec Water Reg Equipment	103780 103720	9,543.38 851.76						(427.54) (39.27)	(401.78 (44.46
Engineering Engineering	2015	00101782	LIFt Desk ERGO CHAIR ENG OP MANAGER	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103720	872.56 749.15						(40.23) (34.54)	(45.55
Engineering Rates	2015 2015 2015	00097380	Ergonomic Needs : Chair purchase Bates Dent Conier	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment CWSCO Specific Water Regulated	103720	861.90 5.822.39						(39.73)	(44.95
Purchasing Purchasing	2015	00101061	REPLACE V210030 RETIRE V210001	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103730	33,002.92						(2,145.19)	(3,089.07
Purchasing Purchasing	2015 2015	00099558 00099092	REPLACE V2091001 Radio for V209071	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103730 103760	44,517.39 2,078.25						(2,893.63) (33.04)	(4,166.83 (38.86
Purchasing Purchasing	2015 2015	00099001 00097235	V214045 - new sedan Additional Vehicle - Corp Sec	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103730 103730	43,680.26 46,258.59						(2,839.22) (3,006.81)	(4,088.47 (4,329.80
Purchasing Purchasing	2015	00096899	SUSPNSION KTS FOR V208004 & V208005 SUSPNSION KTS FOR V208004 & V208005	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103780	3,874.41 3,874.42						(173.57) (173.57)	(163.11 (163.11
Purchasing Purchasing Purchasing	2015	00065426	REPLACE V210001 REPLACE V210001 REPLACE V200010	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103730	1,034.80						(5,784.76) (67.26) (2.504.95)	(8,330.05 (96.86
Purchasing Purchasing Purchasing	2015	00065419	REPLACE V208150 EMT NORMAN REPLACE V208150 EMT NORMAN	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	38,511.77						(1,725.33)	(1,621.35
Accounting Accounting	2015 2015	00103201 00096148	New AP check folding machine PowerPlan Tax Repairs II	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103721 103722	4,420.47 518,470.99						(623.29) (41,373.99)	(550.35
IT Technical Support IT Technical Support	2015 2015	00064112 00063312	2014 - pc refresh Enterprise End User Software	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103721 103722	39.25 554,734.16						(5.53) (44,267.79)	(4.85
IT Technical Support IT Application - Engineering	2015 2015	00063312 00074953	Enterprise End User Software Meter Management System Upgrade	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103722 103721	123,793.31 236,844.40						(9,878.71) (33,395.06)	(11,686.05 (29,487.13
IT Application - Engineering IT Application - Engineering	2015	00074953 00069909	Meter Management System Upgrade Customer Care & Billing Integration	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103722	612,077.82 179,232.71						(48,843.81) (14,302.77)	(57,780.15
IT Application - Engineering IT Application - Engineering	2015	00064504	Enterprise App Integration 2014 Enterprise App Integration 2014	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103722	418,184.73						(33,371.14)	(39,476.64
IT Application - Engineering IT Application - Engineering IT Infrastructure	2015 2015 2015	00064481 00064511	Mobile Workforce 2014 Mobile Workforce 2014 Enterprise App Integration 2015	CWSCO Specific Water Regulated CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103722	510,344.79 657,913.66						(40,725.51) (52,501.51)	(48,176.55
IT infrastructure IT infrastructure	2015 2015	00063315	Network Hardware & Servers Refresh Network Hardware & Servers Refresh	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103721 103722	201,780.56 504,451.41						(28,451.06) (40,255.22)	(25,121.68
IT Infrastructure IT Asset Management	2015 2015	00063232 00092615	Enterprise End User Software Upgrade public web sites	CWSCO Specific Water Regulated CWSCO Non-Spec Water Reg Equipment	103722 103722	615.00 6,590.75						(49.08) (525.94)	(58.06
IT Operations IT Application - Business	2015 2015	00096186 00096537	Full Svc IMB Tray Tag Printer Ben. Admin. Premium/Code Changes	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103721 103722	2,542.80 297,435.48						(358.53) (23,735.35)	(316.58 (28,077.91
IT Application - Business IT Application - Business	2015 2015	00093302 00093297	Imagenow Advanced Iscript Imagenow Conversion Module	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103722 103722	8,813.47 16,525.28						(703.31) (1,318.72)	(831.95 (1,559.95
IT Application - Business IT Application - Business	2015	00091302	P2P Enhancements Operational Budget Enhancements 14	CWSCO Non-Spec Water Reg Equipment CWSCO Specific Water Regulated	103722	145,180.22 244,403.88						(11,585.38) (34,460.95)	(13,705.01
IT Application - Business General Office	2015	00064057	Enterprise Reporting & Analysis	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103722	827,338.34						(66,021.60)	(78,100.74
General Office General Office	2015 2015 2015	00021130	Office - Emergency Operations Cente Office - Emergency Operations Cente	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103721 103721	76,497.38 55.828.45						(2,105.27) (0.14) (7,871.81)	(9,523.92
General Office General Office	2015	00021130	Office - Emergency Operations Cente Office - Emergency Operations Cente	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103721 103721	206,072.60 23.693.80						(29,056.24) (3,340.83)	(25,656.04
General Office General Office	2015 2015	00021130 00021107	Office - Emergency Operations Cente SCADA Enhancements	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103721 103241	57,239.10 6,500.96						(8,070.71) (286.69)	(7,126.23
General Office General Office	2015 2015	00021107 00021107	SCADA Enhancements SCADA Enhancements	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103241 103241	3,063.00 3,063.00						(135.08) (135.08)	(95.26 (95.26
General Office General Office	2015	00021107	SCADA Enhancements SCADA Enhancements	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103241 103241	3,063.00						(135.08) (135.08)	(95.26 (95.26
General Office General Office	2015	00021107	SCADA Enhancements SCADA Enhancements	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103241 103241 102241	3,053.00 6,500.96						(135.08) (286.69)	(95.26
General Office General Office	2015 2015	00021107	SCADA Enhancements SCADA Enhancements	CWSCO Specific Water Regulated CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103241 103241	6,610.22						(291.51) (286.69)	(205.58
General Office General Office	2015 2015	00021107 00021107	SCADA Enhancements SCADA Enhancements	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103241 103241	3,063.06 80,927.02						(135.08) (3,568.88)	(95.26
General Office General Office	2015 2015	00021107 00021107	SCADA Enhancements SCADA Enhancements	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103241 103241	3,063.00 3,063.00						(135.08) (135.08)	(95.26 (95.26
General Office General Office	2015 2015	00021107 00021107	SCADA Enhancements SCADA Enhancements	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103241 103241	13,933.85 3,063.00						(614.48) (135.08)	(433.34 (95.26
General Office	2015	00021107	SCADA Enhancements SCADA Enhancements	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103241 103241	7,427.41 8,877.45						(391.50)	(230.95 (276.05
General Office General Office	2015 2015 2015	00021107	SCADA Enhancements SCADA Enhancements	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103241 103241	3,063.00						(135.08)	(95.26
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	220.54						(9.88)	(9.28
General Office General Office	2015 2015	00020702 00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	523.88 23.99						(23.47) (1.07)	(22.06
General Office General Office	2015 2015	00020702 00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	3,354.60 1,079.38						(150.29) (48.36)	(141.23 (45.44
General Office General Office	2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	255.11 1,194.05						(11.43) (53.49)	(10.74
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	1,218.50 671.12 304.23						(30.07)	(51.30
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	3,780.47						(169.37)	(159.16
General Office General Office	2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	1,630.55 744.61						(73.05) (33.36)	(68.65
General Office General Office	2015 2015	00020702 00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	837.92 869.44						(37.54) (38.95)	(35.28
General Office General Office	2015 2015	00020702 00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	419.60 284.38						(18.80) (12.74)	(17.63 (11.97
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	734.03 710.97						(32.88) (31.85)	(30.90)
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	2,045.12						(91.62)	(36.10
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	1,133.80						(50.79)	(47.73
General Office General Office	2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	85.70 137.41						(3.84) (6.16)	(3.61
General Office General Office	2015 2015	00020702 00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	62.28 701.30						(2.79) (31.42)	(2.63 (29.53
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	205.13 856.32						(9.19) (38.36)	(8.64
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	687.17						(30.79)	(28.95
General Office General Office	2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	84.39 197.88						(3.78) (8.87)	(3.55
General Office General Office	2015 2015	00020702 00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	542.42 240.43						(24.30) (10.77)	(22.84
General Office General Office	2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	1,010.11 263.02						(45.25) (11.78)	(42.53
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	1,132.67 141.59						(50.74) (6.34)	(47.65
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	103.75 811.40 1.442.90						(4.65) (36.35) (64.69)	(4.3) (34.16
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	255.07						(11.43)	(10.74
General Office General Office	2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	1,553.78 2,343.96						(69.61) (105.01)	(65.41
General Office General Office	2015 2015	00020702 00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	286.61 289.46						(12.84) (12.97)	(12.0)
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	189.71 265.32						(8.50) (11.89)	(7.95
General Office General Office	2015 2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	2,031.06 1,174.73 962.36						(90.99) (52.63) (38.67)	(85.51 (49.46
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	1,194.05 177.77						(53.49) (7.94)	(50.27
General Office General Office	2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	546.69 303.70						(24.49) (13.61)	(23.0) (12.75
General Office General Office	2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	668.39 1,896.04						(29.94) (84.94)	(28.14 (79.83
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	249.27 407.65						(11.17) (18.26)	(10.45
General Office General Office	2015 2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	846.57 608.00 1.021.05						(37.93) (27.24) (49.42)	(35.64
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	253.16						(38.69) (11.34)	(36.36
General Office General Office	2015 2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780 103780	1,410.74 127.28						(63.20) (5.70)	(59.35
General Office General Office	2015	00020702	EMT TOOLS FOR YEAR 2011 EMT TOOLS FOR YEAR 2011	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	17.00 222.19						(0.76) (9.95)	(0.73 (9.35
General Office	2015	00020702	EWT TOOLS FOR YEAR 2011 Additional Software Seats	CWSCO Specific Water Regulated CWSCO Specific Water Regulated	103780	61.19 3,384.22						(2.74) (477.18)	(2.58
Rancho Dominguez Rancho Dominguez	2015 2015 2015	00102222 00101809	Purchase Three-I-Pads Purchase 11 (Pads for Fain amoleum	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103722 103721 103721	2,735.47 12,124.70						(1,065.81) (347.68) (1,541.05)	(1,285.64 (337.01 (1,493.74
Rancho Dominguez Rancho Dominguez	2015 2015	00100653	Replace Kitchen Refrigerator Puchase 8 Radios for Vehicles	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103720 103760	1,938.42 17,973.72						(84.32) (803.43)	(98.47
Rancho Dominguez Rancho Dominguez	2015 2015	00096735 00096686	Upgrade to Phase I EVR gasoline T Purchase Power Broom-DOM	CWSCO Non-Spec Water Regulated CWSCO Non-Spec Water Reg Equipment	103710 103780	9,126.95 3,738.13						(258.29) (174.57)	(291.15 (162.98
Nancho Dominguez Rancho Dominguez Rancho Dominguez	2015 2015	00096668	Backflow and flow meter Purchase 4 Hach 900	CWSCO Non-Spec Water Reg Equipment CWSCO Non-Spec Water Reg Equipment	103780	1,990.60 5,785.30						(92.96) (270.17)	(86.75
Rancho Dominguez Rancho Dominguez	2015	00094710	Veh. 20055 Repl Hyd Dump Bed REPLACE FURNITURE LDUMGF	CWSCO Non-Spec Water Reg Equipment CWSCO Specific Water Reg Equipment	103780 103720	1,4/3.24 15,307.26 3,952.00						(01.08) (714.85) (171.91)	(64.45 (667.40 (200 74

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Addendum 10:

CWS Response to Public Advocates Office Data Request SIB-044

(Page 3-35, Footnote 173)



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office			
	Brian Yu	Phone:	(213) 576-7075	
	Project Coordinator	Email:	byu@cpuc.ca.go	<u>v</u>
	- H - H - H			
	Suliman Ibrahim	Phone: Empil:	(213) 266-4/14	
	Othities Engineer	Lilldii.	<u>summan.ibrannin</u>	
	Marybelle Ang	Phone:	(415) 696-7329	
	Attorney	Email:	marybelle.ang@	cpuc.ca.gov
			(
	Caryn L. Mandelbaum	Phone:	(213) 620-6456	
	Attorney	Email:	<u>caryn.mandelbal</u>	<u>im@cpuc.ca.gov</u>
From:	California Water Service Company			
	Greg Milleman	Phone:	(408) 367-8498	
	Vice President, California Rates	Email:	gmilleman@calw	vater.com
	Natalie D. Wales	Phone:	(408) 367-8566	
	Director, Regulatory Policy & Compliance	Email:	<u>nwales@calwate</u>	<u>r.com</u>
	Patrick Alexander	Phone:	(408) 367-8230 e	ext 78230
	General Rate Case Manager	Email:	palexander@calv	water.com
		-	<u>,</u>	
Date:	December 29, 2021	Request Rec	ceived from CPUC:	December 21, 2021
Re:	SIB-044			
		Requested [Due Date:	December 29, 2021
Subj:	Historical Projects			
Comm	ents:			
•	Fuil response attacned.			
•	Response provided by Rates.			
•	This response refers to the following attac	hmonte inclu	dad constatu	
	 Attachment #1 – List of CSS & RDOM Pro 	niects (2010-2	ueu separately. 2015)	



Data Requests and Responses

- 1. In response to Data Request SIB-040 Q.2, CWS provided a list of CSS and RDOM projects booked to rates between 2010 and 2015. The list contained several projects with a current net book value above \$100,000. For each project with a current net book value above \$100,000 provide the following in excel format:
 - Brief description of the project and its function. **Response: Please refer to Attachment #1.**
 - Current status of the project i.e. is it in use, retired, etc. Response: Please refer to Attachment #1.

		Work Order				
Department	Year	Number	Work Order Description	Description of the project and its function	NBV ⁽¹⁾	Current Status
GENERAL OFFICE	2011	15112	I.S. EXPANSION DESIGN PLANS	Design plans needed to develop accurate cost estimates, building permits, and construction. Currently out of space and can not accomodate additional employees and parking.	689,063.41	In Use
FACILITIES	2013	15112	I.S. EXPANSION DESIGN PLANS	Design plans needed to develop accurate cost estimates, building permits, and construction. Currently out of space and can not accomodate additional employees and parking. Human Resources and Information System departments have outgrown their current work	148,736.63	In Use
GENERAL OFFICE	2011	10000		space. The expansion of the IS building will increase the total square footage by approximately 10,000 square feet. This accommodated the growth in both the IS and HR	2 760 040 22	
GENERAL OFFICE	2011	16992	Remodel IS Bldg - New 2 Story Bldg	Human Resources and Information System departments have outgrown their current work space. The expansion of the IS building will increase the total square footage by approximately 10,000 square feet. This accommodated the growth in both the IS and HB	3,768,918.32	in Use
		16992	Remodel IS Bldg - New 2 Story Bldg	departments which are housed in the IS building. Human Resources and Information System departments have outgrown their current work space. The expansion of the IS building will increase the total square footage by	123,524.65	In Use
INFORMATION TECHNOLOGY	2014	16992	Remodel I.S. building	approximately 10,000 square feet. This accommodated the growth in both the IS and HR departments which are housed in the IS building. IT Strategic Plan major improvements include providing a more secure network infrastructure, implement stronger database tools, and develop enterprise reporting software for financial analysis and operational reporting. These applications better track assets and their	148,458.92	In Use
Information Technology	2015	00017901	Office - Geospatial Data Integration	maintenance, stay current with mainstream business and enhance a Customer Information System that integrates well with Accounting and Operating systems. Microwave Radios SCADA Network Security system	549,646.60	Retired
				SCADA System Security SCADA Wonderware Development System SCADA Master Radio Communications System		In Use
INFORMATION TECHNOLOGY	2014	17903	SCADA ENHANCEMENTS (IS)	Multiple UPSs To implement a records management system for electronic and hardcopy data. Certain key electronic and paper data will be set up for long term storage and retrieval as described in	192,031.17	
INFORMATION TECHNOLOGY	2014	20942	Enterprise Records Management	CPUC policies.	133,944.07	Retired
				The upgrade to the new Customer Care and Billing System (CC&B System) enhances the applications for customer communications, customer service requests, customer billing and collections, customer account history, integration with environments (cleatronic bill presenteent)		
INFORMATION TECHNOLOGY	2014	21104	Office - Customer Care & Billing Update	and payment), and new connections management. Existing unit doesn't meet current air quality regulations. In order to provide effective	1,176,824.17	Retired
GENERAL OFFICE	2012	50409	Replace Portable Booster - ELA 1	emergency pumping abilities, a new unit has been aquired.	104,154.08	In Use

INFORMATION TECHNOLOGY	2013	58953 Office - Peoplesoft FIN/HCM Upgrade	Cal Water's HR and Financial software are in need of upgrade to maintain support, technology currency and cyber security standards. This project will provide funding to upgrade these systems to current supported versions.	587,796.77 In Use
INFORMATION TECHNOLOGY	2013	60832 Mobile Workforce Phase III	Oracle Mobile Workforce management software to allow mobile dispatch of Oracle Field Activities to field workers to be worked digitally on a mobile computing device. The field worker can work the activity in the field and through integration, CCB will be updated automatically with completion information and status.	200,255.50 Retired
	2014		Renewal of software licenses for software applications providing desktop software tools such as spreadsheets and word processors along with enterprise software applications such as financial, human resources, customer service, and	
INFORMATION TECHNOLOGY	2014	63232 Enterprise End User Software	asset/maintenance management software. Renewal of software licenses for software applications providing desktop software tools such as spreadsheets and word processors along with enterprise software applications such as financial, human resources, customer service, and	130,327.22 Retired
IT Technical Support	2015	00063312 Enterprise End User Software	asset/maintenance management software.	210,909.93 Retired
IT Infrastructure	2015	00063315 Network Hardware & Servers Refresh	working properly and efficiently. Expand the Business Intelligence (BI) System to support business, operational, and financial activities. Develop and deploy various dashboards such as Customer Management dashboard, HR dashboard, HealthCare dashboard. Deliver new scorecard and strategy	191,792.43 Retired
IT Application - Business	2015	00064057 Enterprise Reporting & Analysis	management functionality enabling integrated communication of strategic goals and monitoring of their progress over time.	314,554.04 In Use
INFORMATION TECHNOLOGY	2014	64374 Mobile Workforce 2013	Supports the Company's workforce in the field responding to customer problems, completing meter turn-ons and turn-offs, inspecting status of water system facilities, and performing scheduled maintenance tasks such as hydrant flushing. Mobile workforce technologies provide the means of distributing business applications and data to personnel in the field, enabling improved productivity and customer responsiveness.	198,529.17 Retired
IT Application - Engineering	2015	00064481 Mobile Workforce 2014	Supports the Company's workforce in the field responding to customer problems, completing meter turn-ons and turn-offs, inspecting status of water system facilities, and performing scheduled maintenance tasks such as hydrant flushing. Mobile workforce technologies provide the means of distributing business applications and data to personnel in the field, enabling improved productivity and customer responsiveness.	194.033.09 Retired
IT Application - Engineering	2015	00064504 Enterprise App Integration 2014	data and transactions among Company software applications for customer service, maintenance management, financial management and operations management.	158,993.83 Retired
IT Infrastructure	2015	00064511 Enterprise App Integration 2015	Improve integration efficiency and eliminates redundant data. Provides exchange of critical data and transactions among Company software applications for customer service, maintenance management, financial management and operations management.	250,138.77 Retired
IT Application - Engineering	2015	00074953 Meter Management System Upgrade	Centralizes the collection, processing, storage and complex analysis of meter and other utility- related data.	232,711.99 Retired

				Enhancements to existing reports and new reports for Tokay, Power Plant, RMS, LIMS, and Financials. Operations has requested mobile access to SCADA for both monitoring and controls, and replacement of existing paper based Atlas map books with electronic maps		
INFORMATION TECHNOLOGY	2013	75513 BI Phase 3		accessed through laptops or tablets.	139,949.76	Retired
				The upgrade to Power plan version 10.3 is necessary in order to comply with the new		
				proposed IRS regulation (Sec. 263(a), Sec. 162 and Sec. 168) effective January 1, 2012. In		
				addition, the CPUC has issued Resolution L-411-A which needs to be addressed as part of the		
				to perform complex calculations pecessary for compliance to both the new IRS regulations		
ACCOUNTING	2013	76533 PowerPlant Upgrad	le 10.3.3 V	and CPUC ruling.	333,372.78	In use
				Key Performance Indicators from the Bakersfield pilot have shown benefits in only a few		
				months of tracking. Movement from one service channel to another will continue to be		
				monitored from a customer service perspective as well as efficiency in utilizing different		
CUSTOMER SERVICE	2014	92179 Customer Service P	ortal Project	service options. Further system enhancements will also be considered.	113,053.63	Retired
				Implement the Tax Repairs functionality for hydrants and services to comply the Final		
				regulation effective January 1, 2014. In order to comply with the requirements of Accounting		
				Standards Codification Topic 740, this project covers repairs and maintenance expenses		
Accounting	2015	00006148 DowerDlan Tax Pen	aire II	related to its service main piping and hydrants as well as the related ASC 740 implication for Section 481(a), fiscal 2013 and moving forward	107 122 67	Inuso
Accounting	2015			Reconfiguring PeopleSoft HCM for integrating most recent premium changes and defining	197,122.07	in use
				new coverage codes. As a result of these project changes and as part of implementation, this		
				project will update the current enrollments in Health, Vision and Dental, where employees		
IT Application - Business	2015	00096537 Ben. Admin. Premiu	um/Code Changes	enrolled with previous coverage codes and rules.	113,084.97	Retired
				Conduct a study to better manage master construction contracts. The current construction		
				master contracts are complicated to administrate and its difficult to manage contractor		
Operations	2015	00097854 Study-Underground	d Const Labor	performance.	376,178.81	In use
				Conduct a study to better manage construction material sourcing. Currently underground		
Operations	2015	00097855 Study-direct mater	ial sourcing	construction materials are sourced through contractors and are complicated to administrate.	367,095.35	In use

(1) Cal Water, as is the case with standard utility practice, uses Group Depreciation with annual depreciation rates being based upon the Straight-Line method, Broad Group Procedure, and Average Remaining Life technique. As a theoretical basis, as explained in the response to SIB-040, Cal Water has provided the net book value in the table above.

Addendum 11:

CWS Response to Public Advocates Office Data Request SIB-045

(Page 3-35, Footnote 173; and Page 3-36, Footnote 174)



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RESPONSE TO DATA REQUEST

2021 GENERAL RATE CASE, A.21-07-002

To:	Public Advocates Office					
	Brian Yu	Phone:	(213) 576-7075			
	Project Coordinator	Email:	byu@cpuc.ca.gov			
	Suliman Ibrahim	Phone:	(213) 266-4714			
	Utilities Engineer	Email:	suliman.ibrahim@cpuc.ca.gov			
	Marybelle Ang	Phone:	(415) 696-7329			
	Attorney	Email:	marybelle.ang@cpuc.ca.gov			
	Caryn L. Mandelbaum	Phone:	(213) 620-6456			
	Attorney	Email:	caryn.mandelbaum@cpuc.ca.gov			
From:	California Water Service Company					
	Greg Milleman	Phone:	(408) 367-8498			
	Vice President, California Rates	Email:	gmilleman@calwater.com			
	Natalie D. Wales	Phone:	(408) 367-8566			
	Director, Regulatory Policy & Compliance	Email:	nwales@calwater.com			
	Patrick Alexander	Phone:	(408) 367-8230 ext.78230			
	General Rate Case Manager	Email:	palexander@calwater.com			
Date:	January 20, 2021	Request Red	ceived from CPUC: January 12, 2021			
Re:	SIB-045					
Subi	Historical Projects ii	Requested I	Due Date: January 20, 2021			
Subj.						
	Full response attached					
•	Response provided by Rates.					
•	Does not contain confidential information					
•	This response refers to the following attac	hments inclu	ded separately:			
	 Attachment #1 – Retired CSS & RDOM 	Projects				



Data Requests and Responses

- 1. In response to SIB-044 Q.1, CWS provided a list of CSS and RDOM projects booked to rates between 2010 and 2015 with a current NBV over \$100,000. The list identified 15 of these projects as retired. For each of these projects, please provide the following:
 - Retirement date.

Response: Please see attachment #1. Note that two of the projects (63232 and 00064511) were inadvertently identified as retired in the prior data request response and are corrected in the attachment to "In use." Additionally, in preparing the theoretical calculations for NBV in response to SIB-044, Cal Water inadvertently excluded some asset classifications that were attached to the project work orders. These have been corrected in this DR to show the revised NBV amounts (Column labelled Revised NBV). Please note that inclusion of the additional asset classification resulted in an addition of four projects not previously identified as having a value over \$100K. These are included at the bottom of the Attachment. Of these four additional projects, three are still in use and 1 has been retired.

- Number of years in service. Response: Please see attachment #1.
- NBV at retirement.

Response: Please see attachment #1. As a theoretical basis, as explained in the response to SIB-040, Cal Water has provided the net book value in the attachment.

Work					IBV reported in				Dationant	
Department	Voar	Order	Work Order Description	Description of the project and its function	INB			Pavisad NBV ⁽¹⁾	Current Status	Retirement
Department	Tear	Number	Work Order Description	Description of the project and its function		310-044		Revised NDV	current status	Date
				IT Strategic Plan major improvements include providing a more secure network infrastructure, implement stronger database tools, and develop enterprise reporting software for financial analysis and operational reporting. These applications better track assets and their						
Information Technology	2015	00017901	1 Office - Geospatial Data Integration	maintenance, stay current with mainstream business and enhance a Customer Information System that integrates well with Accounting and Operating systems. To implement a records management system for electronic and hardcopy data. Certain key	\$	549,646.60	\$	559,588.03	Retired	12/22/20
	2014	20042		electronic and paper data will be set up for long term storage and retrieval as described in	ć	122 044 07	ć	120 450 22	Dating	10/15/20
INFORMATION TECHNOLOGY	2014	20942	Enterprise Records Management	CPOC policies.	Ş	133,944.07	Ş	138,459.22	Retired	10/15/20
	2014	21104	Office Conteness Care & Billing Undets	The upgrade to the new Customer Care and Billing System (CC&B System) enhances the applications for customer communications, customer service requests, customer billing and collections, customer account history, integration with eBilling (electronic bill presentment and new procession).	ć	1 170 024 17	ć	1 404 070 00	Deticed	12/22/20
INFORMATION TECHNOLOGY	2014	21104	Office - Customer Care & Billing Opdate	payment), and new connections management.	Ş	1,170,824.17	Ş	1,181,979.68	Retired	12/22/20
	2012	60000		Oracle Mobile Workforce management software to allow mobile dispatch of Oracle Field Activities to field workers to be worked digitally on a mobile computing device. The field worker can work the activity in the field and through integration, CCB will be updated	ć	200 255 50	¢		Petterd	42/20/45
INFORMATION TECHNOLOGY	2013	60832	Mobile Workforce Phase III	automatically with completion information and status.	Ş	200,255.50	Ş	200,255.50	Retired	12/28/15
				Renewal of software licenses for software applications providing desktop software tools such as spreadsheets and word processors along with enterprise software applications such as financial, human resources, customer service, and						
INFORMATION TECHNOLOGY	2014	63232	Enterprise End User Software	asset/maintenance management software.	\$	130,327.22	\$	130,327.22	In Use	n/a
IT Technical Support	2015	00063312	2 Enterprise End User Software	see above	\$	210,909.93	\$	257,976.14	Retired	12/10/20
IT Infrastructure	2015	00063315	5 Network Hardware & Servers Refresh	Installation of networking and server equipment required to keep the Company's applications working properly and efficiently.	\$	191,792.43	\$	242,257.74	Retired	10/13/20
				Supports the Company's workforce in the field responding to customer problems, completing meter turn-ons and turn-offs, inspecting status of water system facilities, and performing scheduled maintenance tasks such as hydrant flushing. Mobile workforce technologies provide the means of distributing business applications and data to personnel in the field, enabling						
INFORMATION TECHNOLOGY	2014	64374	Mobile Workforce 2013	improved productivity and customer responsiveness.	\$	198,529.17	\$	198,529.17	Retired	12/22/20
IT Application - Engineering	2015	00064481	1 Mobile Workforce 2014	see above	\$	194,033.09	\$	219,560.54	Retired	12/22/20
				Improve integration efficiency and eliminates redundant data. Provides exchange of critical data and transactions among Company software applications for customer service,						
IT Application - Engineering	2015	00064504	Enterprise App Integration 2014	maintenance management, financial management and operations management.	\$	158,993.83	\$	174,367.01	Retired	12/22/20
11 Infrastructure	2015	00064511	Enterprise App Integration 2015	see above Centralizes the collection processing storage and complex analysis of meter and other utility-	Ş	250,138.77	Ş	250,138.77	in Use	n/a
IT Application - Engineering	2015	00074953	3 Meter Management System Upgrade	related data. Enhancements to existing reports and new reports for Tokay, Power Plant, RMS, LIMS, and Financials. Operations has requested mobile access to SCADA for both monitoring and	\$	232,711.99	\$	291,946.77	Retired	12/22/20
				controls, and replacement of existing paper based Atlas map books with electronic maps						
INFORMATION TECHNOLOGY	2013	75513	BI Phase 3	accessed through laptops or tablets.	Ş	139,949.76	Ş	139,822.48	Retired	12/31/18
				Key Performance Indicators from the Bakersfield pilot have shown benefits in only a few months of tracking. Movement from one service channel to another will continue to be monitored from a customer service perspective as well as efficiency in utilizing different service						
CUSTOMER SERVICE	2014	92179	Customer Service Portal Project	options. Further system enhancements will also be considered. Reconfiguring PeopleSoft HCM for integrating most recent premium changes and defining new coverage codes. As a result of these project changes and as part of implementation, this	\$	113,053.63	\$	113,107.70	Retired	12/31/18
IT Application - Rusiness	2015	00006527	7 Ben Admin Premium/Code Changes	project will update the current enrollments in Health, Vision and Dental, where employees	ć	113 09/ 07	¢	112 08/ 07	Retired	10/12/20
FACILITIES	2013	00090901	1 Unscheduled GO Campus 2013	Various Unscheduled Projects, Electrical Upgrade, Plumbing Improvements	ہ \$		\$	149,259.39	In Use	n/a
General Office	2015	00021107	7 SCADA Enhancements	Improvements to SCADA system per the IT Strategic Plan	\$	-	\$	159,463.28	In use	n/a
				Video conference equipment to coordinate operations in the event of an emergency and the						
General Office	2015	00021130) Office - Emergency Operations Cente	general office is deemed unsafe to conduct daily operations.	\$	-	\$	119,394.99	Retired	10/15/20
For all Maria	2015	0000505		The current Chiller, Boiler, and Coils were installed in 1991 and need to be replaced. From May	ć		<u>,</u>	400 007	In	,
Facilities	2015	00095032	z Replace Chiller & AH2 Colls: Bldg D	2012 to June 2013 there were 29 failures needing repair disrupting Eng and WQ employees	Ş	-	Ş	109,887.65	in use	n/a

(1) Cal Water, as is the case with standard utility practice, uses Group Depreciation with annual depreciation rates being based upon the Straight-Line method, Broad Group Procedure, and Average Remaining Life technique. As a theoretical basis, as explained in the response to SIB-040, Cal Water has provided the net book value in the table above.

Number of			
years in		NBV at	
service	1	etirement ⁽¹⁾	
5	ć	7/0 201 52	
5	Ŷ	745,651.50	
6	Ś	200.582.01	
	Ŧ		
6	\$	1,690,551.64	
2	\$	762,895.40	
		- /-	
n/a	ć	1/a	
5	Ş	545,099.07	
5	¢	330 778 88	
5	Ŷ	550,770.00	
6	\$	283,386.51	
5	\$	297,102.33	
5	\$	235,296.73	
n/a		n/a	
5	\$	398,414.15	
F	ć	264 061 52	
5	Ş	364,061.53	
4	\$	245,342.81	
5	\$	151,275.69	
n/a		n/a	
n/a		n/a	
5	\$	170,507.66	
n/a		n/a	

Addendum 12:

CWS Response to Public Advocates Office Data Request SIB 014 #1.a. Attachment 5_Replacement rates and costs

(Page 4-3, Footnote 184)

				d Replacemen	t Rate (%)				
			2009 GRC			2012 GRC			2015 GRC
	District	2010	2011	2012	2013	2014	2015	2016	2017
1	Antelope Valley	N/A	N/A	N/A			0.50%	0.50%	
2	Bakersfield	N/A	N/A	N/A				0.54%	0.54%
3	Bear Gulch	N/A	N/A	N/A				0.79%	0.79%
4	Bayshore	N/A	N/A	N/A				0.50%	0.50%
5	Chico	N/A	N/A	N/A				0.51%	0.51%
6	Dixon	N/A	N/A	N/A				0.49%	0.49%
7	Dominguez	N/A	N/A	N/A			0.56%	0.56%	
8	East Los Angeles	N/A	N/A	N/A			0.58%	0.58%	
9	Hermosa Redondo	N/A	N/A	N/A			0.53%	0.53%	
10	Kern River Valley	N/A	N/A	N/A	Tho	riginal intent	0.53%	0.53%	
11	King City	N/A	N/A	N/A		000' of main in	vas lu	0.50%	0.50%
12	Los Altos	N/A	N/A	N/A	out of a t			0.65%	0.65%
13	Livermore	N/A	N/A	N/A	violding	$\sim 2\%$ replaces	,000, thus	0.52%	0.52%
14	Marysville	N/A	N/A	N/A	yleiding	.5% replacen	lentrate	0.64%	0.64%
15	Oroville	N/A	N/A	N/A				0.50%	0.50%
16	Palos Verdes	N/A	N/A	N/A				0.81%	0.81%
17	Redwood Valley	N/A	N/A	N/A				2.00%	2.00%
18	Salinas	N/A	N/A	N/A				0.57%	0.57%
19	Selma	N/A	N/A	N/A				0.50%	0.50%
20	Stockton	N/A	N/A	N/A			3.14%	3.14%	
21	Visalia	N/A	N/A	N/A		0.25%	0.38%		
22	Westlake	N/A	N/A	N/A		0.51%	0.51%		
23	Willows	N/A	N/A	N/A				1.08%	1.08%

							Commission A	dopted Repla	cement Rate %				
	2018	GRC		2009 GRC			2012 GRC						
2018	2019	2020	2010	2011	2012	2013	2014	2015	2016				
0.50%	0.50%	1.13%				•			0.50%				
0.54%	0.50%	0.68%	1						0.50%				
0.79%	2.00%	2.00%							0.50%				
0.50%	1.00%	1.00%	1										
0.51%	0.50%	0.68%							0.50%				
0.49%	0.49%	0.67%							0.49%				
0.56%	0.50%	0.68%							0.50%				
0.58%	0.58%	0.72%	1						0.58%				
0.53%	0.50%	0.68%							0.50%				
0.53%	0.50%	0.68%							0.50%				
0.50%	0.50%	0.50%	Drojacts p	riar ta tha 201	E CBC wore as	kad for individ	hually par dist	ict and an	0.50%				
0.65%	1.00%	1.00%	Projects p	nor to the 201	S GRC were as		tod in the can		0.50%				
0.52%	0.50%	0.68%	auopte	a district repla				le way.	0.50%				
0.64%	0.50%	0.68%							0.50%				
0.50%	0.50%	0.68%							0.50%				
0.81%	0.50%	0.68%							0.50%				
2.00%	0.50%	0.70%							0.50%				
0.57%	1.00%	1.00%							0.50%				
0.50%	0.50%	0.50%							0.00%				
3.14%	1.50%	1.75%							1.50%				
0.49%	0.22%	0.36%							2.20%				
0.51%	0.10%	0.30%							0.10%				
1.08%	0.50%	0.88%							0.50%				

*3 Year Avera

6				Completed Replacement Rate %								
2015 GRC		2018	GRC		2009 GRC			2012 GRC				
2017	2018	2019	2020	2010	2011	2012	2013	2014	2015			
0.50%	0.50%	0.50%	0.55%									
0.50%	0.50%	0.50%	0.60%									
0.50%	0.50%	1.00%	1.25%									
0.50%	0.50%	0.50%	0.67%									
0.50%	0.50%	0.50%	0.55%									
0.49%	0.49%	0.50%	0.55%									
0.50%	0.50%	0.50%	0.50%									
0.58%	0.58%	0.50%	0.55%									
0.50%	0.50%	0.50%	0.55%									
0.50%	0.50%	0.50%	0.55%									
0.50%	0.50%	0.50%	0.55%	Prior to 2	2016 main ren	lacament proj	acts wara raa	uested indivdu	ally and			
0.50%	0.50%	0.50%	0.60%		replacement r	ates were not	calculated in a	the same way	aliy, aliu			
0.50%	0.50%	0.50%	0.55%		replacement	ates were not		the same way.				
0.50%	0.50%	0.50%	0.55%									
0.50%	0.50%	0.50%	0.55%									
0.50%	0.50%	0.50%	0.55%									
0.50%	0.50%	0.50%	0.55%									
0.50%	0.50%	0.50%	0.55%									
0.00%	0.00%	0.50%	0.50%									
1.50%	1.50%	1.50%	1.50%									
0.22%	0.22%	0.22%	0.30%									
0.10%	0.10%	0.10%	0.25%									
0.50%	0.50%	0.50%	0.65%									

age from Settlement Documents broken into 2016-2018 values

	2015 GR0	Footage Clo	se Values		2018 GRC Footas	ze Close Values
2016-2018 GRC Total Footage	2016	2017	2018	2019-2021 GRC Total Footage	2019	2020
158,400				176,161		
5,021,280	7,484	29,253	17,255	5,138,481	4,394	23,401
1,726,560	1,954	25,358	2,368	1,777,430	6,278	19,000
2,756,160	11,254	2,791	19,989	2,777,629	11,051	12,696
2,022,240	5,520	14,648	3,426	2,150,129	5,735	13,623
174,240	800	1,589		182,834		1,764
1,932,480	3,308	5,254	9,282	1,932,870		
1,388,640	8,090	4,054	3,135	1,392,414	8,538	5,352
1,098,240		3,246	3,890	1,106,784	4,652	12,117
485,760	1,085	607	2,400	526,548	650	2,020
179,520	488		1,270	183,690		1,786
1,531,200	6,229	7,361	6,613	1,526,525	14,986	9,781
1,156,320		1,446	4,505	1,175,156	8,056	13,433
285,120		1,775	1,703	280,534	2,259	
311,520	2,440	2,708		314,325		3,284
1,737,120	1,511	2,861	15,466	1,762,484		3,213
172,234			5,905	176,030		
1,774,080	2,751	12,211	8,115	1,786,691	8,719	10,119
454,080	-	-	-	469,759	-	-
2,787,840	39,981	37,074	36,637	2,781,693	20,777	17,566
2,930,400	9,113	4,252		3,109,201		1,434
586,080			1,165	594,897		2,270
195,360	615	1,371		199,019	2,725	

										Requ				
	2015 GRC		2018	3 GRC		2009 GRC			2012 GRC					
2016	2017	2018	2019	2020	2010	2011	2012	2013	2014	2015				
0.00%	0.00%	0.00%	0.00%	0.00%										
0.15%	0.58%	0.34%	0.09%	0.46%										
0.11%	1.47%	0.14%	0.35%	1.07%										
0.41%	0.10%	0.73%	0.40%	0.46%	1									
0.27%	0.72%	0.17%	0.27%	0.63%	1									
0.46%	0.91%	0.00%	0.00%	0.96%]									
0.17%	0.27%	0.48%	0.00%	0.00%]									
0.58%	0.29%	0.23%	0.61%	0.38%										
0.00%	0.30%	0.35%	0.42%	1.09%										
0.22%	0.12%	0.49%	0.12%	0.38%										
0.27%	0.00%	0.71%	0.00%	0.97%	All of those	costs word asl	kad far as indiv	vidual projecto	in oach distric	t and woro				
0.41%	0.48%	0.43%	0.98%	0.64%	difforo	tusis were as	ceu ior as mun	kod for startir	a with the 201	L, allu were				
0.00%	0.13%	0.39%	0.69%	1.14%	uniere	int than the pit	ografii costs as	Keu for starti	ig with the 201	J UNC.				
0.00%	0.62%	0.60%	0.81%	0.00%										
0.78%	0.87%	0.00%	0.00%	1.04%										
0.09%	0.16%	0.89%	0.00%	0.18%										
0.00%	0.00%	3.43%	0.00%	0.00%										
0.16%	0.69%	0.46%	0.49%	0.57%										
0.00%	0.00%	0.00%	0.00%	0.00%										
1.43%	1.33%	1.31%	0.75%	0.63%										
0.31%	0.15%	0.00%	0.00%	0.05%										
0.00%	0.00%	0.20%	0.00%	0.38%										
0.31%	0.70%	0.00%	1.37%	0.00%										

Jest	ed Cost																		
	20	15	GRC (Total Co	ost)		2018 GRC (Dire	ct Cost)		2009 GRC									
	2016		2017		2018	2019		2020	2010	2011	2012	2013							
\$	184,196	\$	188,801	\$	193,521	\$ 215,252	\$	496,425											
\$	6,205,787	\$	6,360,932	\$	6,519,955	\$ 8,385,245	\$	11,603,268	8										
\$	4,603,800	\$	4,718,895	\$	4,836,867	\$ 19,237,720	\$	19,718,663											
\$	4,124,847	\$	4,227,969	\$	4,333,668	\$ 12,177,957	\$	12,482,406											
\$	2,730,927	\$	2,799,200	\$	2,869,180	\$ 2,931,912	\$	4,057,113											
\$	231,627	\$	237,417	\$	243,353	\$ 363,200	\$	508,903											
\$	2,297,971	\$	2,355,421	\$	2,414,306	\$ 3,707,195	\$	5,130,045	5										
\$	2,233,743	\$	2,289,587	\$	2,346,826	\$ 2,038,432	\$	2,575,753											
\$	1,272,841	\$	1,304,662	\$	1,337,278	\$ 2,290,863	\$	3,170,097											
\$	461,802	\$	473,347	\$	485,180	\$ 522,132	\$	722,441											
\$	333,396	\$	341,730	\$	350,274	\$ 362,783	\$	371,852	These sects were adopted as individual project secto										
\$	2,824,162	\$	2,894,766	\$	2,967,136	\$ 7,088,292	\$	7,265,500		progra	m costs starte	d with the 201							
\$	2,496,767	\$	2,559,186	\$	2,623,166	\$ 2,382,199	\$	3,296,140		piogra		a with the 201							
\$	401,801	\$	562,233	\$	576,288	\$ 434,176	\$	600,622											
\$	435,685	\$	446,577	\$	457,742	\$ 532,721	\$	736,963											
\$	3,516,449	\$	3,604,360	\$	3,694,469	\$ 3,031,567	\$	4,194,738											
\$	980,240	\$	1,004,746	\$	1,029,865	\$ 381,012	\$	546,862											
\$	5,659,360	\$	5,800,844	\$	5,945,865	\$ 7,004,277	\$	7,179,384											
\$	700,529	\$	718,042	\$	735,994	\$ 540,423	\$	553,933											
\$	23,877,482	\$	24,474,419	\$	25,086,279	\$ 17,229,125	\$	20,602,964											
\$	2,256,213	\$	3,469,693	\$	4,742,134	\$ 1,534,848	\$	2,574,310											
\$	568,783	\$	874,883	\$	1,196,110	\$ 223,487	\$	687,316											
\$	687,514	\$	704,702	\$	722,320	\$ 367,114	\$	658,376											

*Costs for RDV include the totals for Lucerne, Coast Springs, and Unified
Comm	ission Adopted	d Co	ost (Direct Co	st)							
2012 GRC					2015 GRC		2018	G R	C		2009 GRC
2014	2015		2016		2017	2018	2019		2020	2010	2011
		\$	184,196	\$	188,801	\$ 193,521	\$ 205,468	\$	231,665		
		\$	5,764,150	\$	5,908,254	\$ 6,055,960	\$ 8,004,094	\$	9,845,198		
		\$	2,908,642	\$	2,981,358	\$ 3,055,892	\$ 9,218,066	\$	11,810,659		
		\$	4,124,847	\$	4,227,969	\$ 4,333,668	\$ 5,835,265	\$	8,014,746		
		\$	1,655,411	\$	1,705,073	\$ 1,756,225	\$ 2,804,436	\$	3,162,066		
		\$	231,627	\$	237,417	\$ 243,353	\$ 354,498	\$	399,593		
		\$	2,059,924	\$	2,111,422	\$ 2,164,207	\$ 3,538,685	\$	3,627,305		
		\$	2,233,743	\$	2,289,587	\$ 2,346,827	\$ 1,677,392	\$	1,878,153		
		\$	1,203,413	\$	1,233,498	\$ 1,264,336	\$ 2,186,731	\$	2,465,631		
		\$	330,317	\$	340,227	\$ 350,433	\$ 498,399	\$	557,767		
each district	Adopted total	\$	333,396	\$	341,730	\$ 350,274	\$ 347,009	\$	391,253	Projects	were not classif
		\$	2,157,217	\$	2,211,148	\$ 2,266,426	\$ 3,396,470	\$	4,177,663	individual p	rojects that ma
.5 GRC.		\$	1,284,174	\$	1,322,699	\$ 1,362,380	\$ 2,278,623	\$	2,568,972		
		\$	401,801	\$	398,964	\$ 408,938	\$ 415,299	\$	468,118		
		\$	432,106	\$	378,449	\$ 387,910	\$ 509,558	\$	574,380		
		\$	2,162,452	\$	2,216,513	\$ 2,271,926	\$ 2,893,767	\$	3,262,574		
		\$	248,900	\$	255,122	\$ 261,501	\$ 365,136	\$	411,774		
		\$	4,460,557	\$	4,594,374	\$ 4,732,205	\$ 3,349,872	\$	3,776,980		
		\$	-	\$	-	\$ -	\$ 515,858	\$	528,754		
		\$	12,142,268	\$	11,694,030	\$ 11,986,380	\$ 16,480,021	\$	16,891,873		
		\$	904,745	\$	931,887	\$ 959,844	\$ 1,465,081	\$	2,047,747		
		\$	290,657	\$	222,163	\$ 235,004	\$ 213,328	\$	546,729	,729	
		\$	206,720	\$	212,921	\$ 219,309	\$ 351,152	\$	467,815		

		ſ	Recorded Cost	t (Dir	ect Cost)						
		2012 GRC				2	2015 GRC		201	8 G	RC
2012	2013	2014	2015		2016		2017	2018	2019		2020
				\$	16,957						
				\$	2,423,391	\$	9,735,134	\$ 7,336,901	\$ 1,679,373	\$	11,549,352
				\$	925,369	\$	13,218,279	\$ 819,342	\$ 3,576,288	\$	10,861,035
				\$	4,279,933	\$	1,454,058	\$ 8,667,303	\$ 4,687,259	\$	8,724,531
				\$	1,576,931	\$	4,303,946	\$ 739,349	\$ 941,148	\$	7,029,211
				\$	345,378	\$	665,560	\$ -	\$ -	\$	1,009,015
				\$	1,101,447	\$	2,129,485	\$ 3,709,648	\$ -	\$	-
				\$	1,945,247	\$	1,179,692	\$ 948,760	\$ 4,428,708	\$	1,843,617
				\$	-	\$	1,349,511	\$ 1,346,026	\$ 1,842,851	\$	6,557,821
				\$	263,529	\$	128,532	\$ 453,219	\$ 132,111	\$	590,186
fied in the sam	ne way prior to	o 2016, but rat	her were	\$	422,698	\$	-	\$ 579,220	\$ 73,517	\$	857,846
y not have be	en clearly den	oted as main r	eplacement	\$	1,992,854	\$	4,041,062	\$ 2,904,028	\$ 6,990,518	\$	4,949,467
program	projects.			\$	39,297	\$	986,126	\$ 2,854,743	\$ 4,565,045	\$	12,274,042
				\$	17,218	\$	514,658	\$ 708,745	\$ 1,003,171	\$	-
				\$	983,116	\$	729,712	\$ -	\$ -	\$	1,499,274
				\$	553,467	\$	925,038	\$ 9,081,268	\$ -	\$	1,860,026
				\$	-	\$	-	\$ 2,077,725	\$ -	\$	-
				\$	1,128,926	\$	4,520,097	\$ 3,105,456	\$ 3,728,767	\$	4,658,254
				\$	-	\$	-	\$ -	\$ -	\$	-
				\$	15,287,043	\$	16,924,341	\$ 14,815,554	\$ 9,236,760	\$	10,952,100
				\$	2,046,398	\$	1,287,174	\$ -	\$ -	\$	454,471
				\$	527,751	\$	-	\$ 994,425	\$ -	\$	2,188,958
				\$	192,387	\$	532,769	\$ -	\$ 920,844	\$	-

*Blanks do not necessarily indicate that no work was done, but rather just that a project was not closed to plant in that year.

Addendum 13:

CWS Response to Public Advocates Office Data Request SIB-014, #2 Attachment 7 2021 GRC MRP Project List - Risk Assessment

(Page 4-9, Footnotes 198, 199, and 200)

Map ID	Risk GRC Year	Budget GRC Year	Budget Year Pip	e Diame Pipe Material	Work Type	Total Length Installed	Total Length Retired	Total Main Leaks	LOF	COF B	RE	Financial [Operating	Water System
CH-18K	2021	2021	2022 8"	Polyvinyl Chloride	Both	695	695	0	5	2	1	LO Chico	Chico	Chico
CH-18U	2021	2021	2022 6"	Polyvinyl Chloride	Both	2139	2997	2	5	3	1	L5 Chico	Chico	Chico
CH-18U	2021	2021	2022 6"	Polyvinyl Chloride	Retire	2139	2997	2	5	3	1	L5 Chico	Chico	Chico
CH-18U	2021	2021	2022 6"	Polyvinyl Chloride	Both	2139	2997	2	5	3	1	L5 Chico	Chico	Chico
CH-18T	2021	2021	2022 8"	Polyvinyl Chloride	Both	829	829	1	5	2	1	LO Chico	Chico	Chico
CH-18K	2021	2021	2022 8"	Polyvinyl Chloride	Both	695	695	0	5	2	1	LO Chico	Chico	Chico
STK-18U	2021	2021	2022 8"	Polyvinyl Chloride	Both	5494	5494	20	5	4	1	L6 Stockton	Stockton	Stockton
STK-18U	2021	2021	2022 8"	Polyvinyl Chloride	Both	5494	5494	20	5	4	1	L6 Stockton	Stockton	Stockton
STK-18AM2	2021	2021	2022 8"	Polyvinyi Chloride	Both	2269	2255	14	5	2	1	LU Stockton	Stockton	Stockton
STK-18AU	2021	2021	2022 8"	Polyvinyl Chloride	Both	3374	3374	21	5	2		LU Stockton	Stockton	Stockton
STK-18N	2021	2021	2022 8"	Polyvinyl Chloride	Both	4521	4521	12	5	2	1	LU Stockton	Stockton	Stockton
LAS-21R	2021	2021	2023 8"	Polyvinyl Chloride	Both	4155	4155	4	5	3		L5 LOS AITOS :	S LOS AItOS	Los Altos Suburban
LAS-21R	2021	2021	2023 8"	Polyvinyl Chloride	Both	4155	4155	4	5	3	1	L5 LOS AItOS	S LOS AITOS	Los Altos Suburban
LAS-21R	2021	2021	2023 8"	Polyvinyl Chloride	Both	4155	4155	4	5	3	1	L5 LOS AITOS	S LOS AITOS	Los Altos Suburban
BG-185	2021	2021	2022 8"	Polyvinyi Chioride	Both	4330	4330	24	5	3	1	LS Bear Guici	n Bear Guici	1 Bear Guich
BG-18P	2021	2021	2023 24"	Ductile Iron	Both	8160	8160	4	5	5	4	20 Bear Guici	n Bear Guici	1 Bear Guich
CH-18F	2021	2021	2022 8"	Polyvinyi Chloride	Both	132/	1327	4	5	2	1	LU Chico	Chico	Chico
BK-18K	2021	2021	2022 8"	Polyvinyi Chloride	Both	3841	3841	1	5	3	1	L5 Bakerstiel	c Bakerstiel	Bakerstield
BK-185	2021	2021	2022 8"	Polyvinyi Chioride	Both	2581	2581	5	5	2	1	LU Bakerstiel	c Bakerstiel	Bakerstield
BK-18U	2021	2021	2022 12"	Ductile Iron	Both	2813	3666	/	5	3	1	12 Bakerstiel	c Bakerstiel	Bakerstield
BK-18U	2021	2021	2022 12"	Ductile Iron	Both	2813	3666	/	5	3	1	12 Bakerstiel	c Bakerstiel	Bakerstield
BK-18U	2021	2021	2022 12"	Ductile Iron	Both	2813	3666	/	5	3	1	12 Bakerstiel	c Bakerstiel	Bakerstield
BK-18Q	2021	2021	2022 8"	Polyvinyi Chloride	Both	4113	3/5/	2	5	3	1	L5 Bakerstiel	c Bakerstiel	Bakerstield
BK-185	2021	2021	2022 8"	Polyvinyi Chloride	Both	2581	2581	5	5	2	1	LU Bakerstiel	c Bakerstiel	Bakerstield
BK-185	2021	2021	2022 8"	Polyvinyl Chloride	Both	2581	2581	5	5	2	1	LO Bakerstiel	d Bakersfiel	Bakersfield
BK-185	2021	2021	2022 8"	Polyvinyl Chloride	Both	2581	2581	5	5	2	1	LO Bakerstiel	d Bakersfiel	Bakersfield
BK-18U	2021	2021	2022 12"	Ductile Iron	Both	2813	3666	7	5	3	1	12 Bakerstiel	d Bakersfiel	Bakersfield
BK-18U	2021	2021	2022 12"	Ductile Iron	Retire	2813	3666	/	5	3	1	12 Bakerstiel	c Bakerstiel	Bakerstield
BK-18M	2021	2021	2022 8"	Polyvinyl Chloride	Both	4251	3492	1	5	3	1	2 Bakerstiel	d Bakersfiel	Bakersfield
BK-18U	2021	2021	2022 12"	Ductile Iron	Both	2813	3666	7	5	3	1	2 Bakerstiel	d Bakerstiel	Bakersfield
VIS-18E	2021	2021	2022 12"	Ductile Iron	Both	3909	3909	2	5	3	1	L5 Visalia	Visalia	Visalia
VIS-18K	2021	2021	2022 8"	Polyvinyi Chloride	Both	3125	3125	2	4	5	4	20 Visalia	Visalia	Visalia
VIS-18K	2021	2021	2022 8"	Polyvinyi Chloride	Both	3125	3125	2	4	5	4	20 Visalia	Visalia	Visalia
VIS-18K	2021	2021	2022 8	Polyvinyi Chloride	Both	3125	3125	2	4	2	4	O Visalia	Visalia	Visalia
VIS-18K	2021	2021	2022 8	Polyvinyi Chloride	Both	3125	3125	2	4	2	4	O Visalia	Visalia	Visalia
VIS-18L	2021	2021	2022 8	Polyvinyi Chloride	Both	4023	4114	1	4	3		LZ VISalla	Visalia	Visalia
VIS-18D	2021	2021	2022 8"	Polyvinyi Chioride	Both	3902	2/03	2	5	2	1	LU Visalia	Visalia	Visalia
VIS-18E	2021	2021	2022 12"	Ductile Iron	Both	3909	3909	2	5	3	1	L5 Visalia	Visalia	Visalia
VIS-18K	2021	2021	2022 8"	Polyvinyl Chloride	Both	3125	3125	2	4	5	2	20 Visalia	Visalia	Visalia
VIS-18L	2021	2021	2022 8"	Polyvinyl Chloride	Both	4023	4114	1	4	3	1	12 Visalia	Visalia	Visalia
VIS-18L	2021	2021	2022 8"	Polyvinyl Chloride	Both	4023	4114	1	4	3	1	12 Visalia	Visalia	Visalia
VIS-18L	2021	2021	2022 8"	Polyvinyi Chloride	Both	4023	4114	1	4	3	1	L2 Visalia	Visalia	Visalia
VIS-18L	2021	2021	2022 8"	Polyvinyi Chloride	Both	4023	4114	1	4	3	1	L2 Visalia	Visalia	Visalia
SEL-18D	2021	2021	2022 8	Polyvinyi Chloride	Both	1450	1450	1	4	2		8 Seima	Seima	Selma
SEL-18D	2021	2021	2022 8"	Polyvinyl Chloride	Both	1456	1456	1	4	2		8 Selma	Seima	Seima
SEL-18D	2021	2021	2022 8"	Polyvinyl Chloride	Both	1456	1456	1	4	2		8 Selma	Seima	Seima
SEL-18D	2021	2021	2022 8"	Polyvinyl Chloride	Both	1456	1456	1	4	2		8 Seima	Seima	Seima
SLN-18E	2021	2021	2022 6"	Polyvinyl Chloride	Both	88/	887	2	5	3	1	L5 Las Lomas	Salinas	Las Lomas
SLN-18F	2021	2021	2022 8"	Polyvinyl Chloride	Both	2446	2446	6	5	5	1	5 Salinas	Salinas	Salinas
SLN-18F	2021	2021	2022 8"	Polyvinyl Chloride	Both	2446	2446	6	5	5	1	25 Salinas	Salinas	Salinas
SEL-18C	2021	2021	2022 6"	Polyvinyi Chloride	Retire	3468	2168	1	5	4	1	O Selma	Seima	Seima
PV-18G	2021	2021	2022 8"	Ductile Iron	Both	3254	3254	6	5	2	1	LU Palos Vero	1 Kancho Do	Palos Verdes
PV-18G	2021	2021	2022 8"	Ductile Iron	Both	3254	3254	6	5	2	1	LU Palos Vero	1 Kancho Do	Palos Verdes
PV-18G	2021	2021	2022 6"	Ductile Iron	Both	3254	3254	6	5	2	1	LU Palos Vero	I Kancho Do	Palos verdes
VIS-18D	2021	2021	2022 8"	Polyvinyi Chloride	Both	3902	2/03	2	5	2	1	LU Visalia	Visalia	Visalia
VIS-18D	2021	2021	2022 8"	Polyvinyl Chloride	Retire	3902	2/03	2	5	2		LU VISAIIA	Visalia	Visalia
STK-18AB2	2021	2021	2022 6"	Polyvinyl Chloride	Both	3/33	5424	18	5	2		LU Stockton	Stockton	Stockton
VIS-18L	2021	2021	2022 8	Polyvinyi Chloride	Retire	4023	4114	1	4	3		LZ VISalla	Visalia	Visalia
VIS-18L	2021	2021	2022 8	Polyvinyi Chioride	Retire	4023	4114	1	4	3		LZ VISalla	VISalla	Visalia Deles Verdes
PV-18G	2021	2021	2022 8	Ductile Iron	Both	3254	3254	0	5	2		LU Palos vero	a Rancho Do	Palos verdes
BK-18Q	2021	2021	2022 8	Polyvinyi Chloride	Retire	4113	3/5/	2	5	3		L5 Bakerstiel	o Bakersnei	bakersfield
BK-18Q	2021	2021	2022 8	Polyvinyi Chloride	Both	4113	3/5/	2	5	3		L5 Bakerstiel	o Bakersnei	bakersfield
BK-18Q	2021	2021	2022 8	Polyvinyi Chloride	Both	4113	3/5/	2	5	3		L5 Bakerstiel	o Bakersnei	bakersfield
BK-18Q	2021	2021	2022 8	Polyvinyi Chloride	Both	4113	3/5/	2	5	3		15 Bakerstiel	o Bakersnei	bakersfield
BK-18IVI	2021	2021	2022 8	Polyvinyi Chioride	Retire	4251	3492	1	5	3		LZ Bakerstiel	o Bakersnei	bakersfield
BK-100	2021	2021	2022 12	Ductile Iron	Both	4307	4307	2 7	5	*	4	Bakersfiel	d Bakersfiel	Bakersfield
BK-180	2021	2021	2022 0	Ductile Iron	Both	2217	2217	7	5	2		9 Bakersfiel	d Bakarsfiel	Rakersfield
BK-180	2021	2021	2022 0	Ductile Iron	Both	2217	2217	7	5	2		9 Bakersfiel	d Bakarsfiel	Rakersfield
BK-190	2021	2021	2022 0	Polyninyl Chloride	Retire	2/2/	1/00	, 1	1	2	1	2 Bakersfiel	d Bakarsfiel	Rakersfield
BK-19N	2021	2021	2022 8	" Ductile Iron	Roth	2424	1499	1		3		0 Bakersfiel	d Bakarsfiel	Bakersfield
BK-19N	2021	2021	2022 12	" Ductile Iron	Both	4307	4507	2	5	4		0 Bakersfiel	d Bakarsfiel	Bakersfield
DK-10N	2021	2021	2022 12	" Ductile Iron	Both	4307	4507	2	5	4	1	D Bakersfiel	d Bakersfiel	Bakersfield
BK-100	2021	2021	2022 12	Ductile Iron	Both	4307	4307	2 7	5	*	4	Bakersfiel	d Bakersfiel	Bakersfield
BK-180	2021	2021	2022 8	Ductile Iron	Both	2217	2217	7	5	2		8 Bakersfiel	d Bakersfiel	Bakersfield
BK-180	2021	2021	2022 0	Ductile Iron	Both	2217	2217	7	5	2		9 Bakersfiel	d Bakarsfiel	Rakersfield
BK-180	2021	2021	2022 8	Ductile Iron	Both	2217	2217	7	5	2		8 Bakersfiel	d Bakersfiel	Bakersfield
BK-180	2021	2021	2022 8"	Ductile Iron	Both	2217	2217	7	5	2		8 Bakersfiel	d Bakersfiel	Bakersfield
BK-180	2021	2021	2022 8"	Ductile Iron	Both	2217	2217	7	5	2		8 Bakersfiel	d Bakersfiel	Bakersfield
LIV-18I	2021	2021	2022 Oth	her (See Other (see Comments) Retire	711	1089	2	5	3	1	15 Livermore	Livermore	Livermore
LIV-18J	2021	2021	2022 6"	Polyvinyl Chloride	Both	2383	2383	1	5	2	1	LO Livermore	Livermore	Livermore
LIV-18J	2021	2021	2022 6"	Polyvinyl Chloride	Both	2383	2383	1	5	2	1	10 Livermore	Livermore	Livermore
LIV-18J	2021	2021	2022 6"	Polyvinyl Chloride	Both	2383	2383	1	5	2	1	LO Livermore	Livermore	Livermore
LIV-18L	2021	2021	2022 Oth	her (See Other (see Comments) Retire	0	1671	2	5	2	1	10 Livermore	Livermore	Livermore
LIV-18A	2021	2021	2022 6"	Polyvinyl Chloride	Retire	1457	2220	5	5	2	1	10 Livermore	Livermore	Livermore
VIS-18D	2021	2021	2022 8"	Polyvinyl Chloride	Both	3902	2703	2	5	2	1	LO Visalia	Visalia	Visalia
VIS-18D	2021	2021	2022 8"	Polyvinyl Chloride	Retire	3902	2703	2	5	2	1	LO Visalia	Visalia	Visalia
CH-18T	2021	2021	2022 8"	Polyvinyl Chloride	Both	829	829	1	5	2	1	LO Chico	Chico	Chico
STK-18T	2021	2021	2022 8"	Polyvinyl Chloride	Both	5175	5175	19	5	3	1	15 Stockton	Stockton	Stockton
LAS-21R	2021	2021	2023 8"	Polyvinyl Chloride	Both	4155	4155	4	5	3	1	15 Los Altos	5 Los Altos	Los Altos Suburban
CH-18N1	2021	2021	2022 8"	Polyvinyl Chloride	Both	2439	2772	0	5	3	1	5 Hamilton	C Chico	Hamilton City
BG-185	2021	2021	2022 8"	Polyvinyl Chloride	Both	4330	4330	24	5	3	1	15 Bear Guld	h Bear Gulch	n Bear Gulch
BG-18N	2021	2021	2022 12"	" Ductile Iron	Both	3861	3861	3	5	3	1	15 Bear Guld	h Bear Gulc	n Bear Gulch
BG-18V	2021	2021	2023 12"	Ductile Iron	Both	5179	5179	- 5	5	2	1	LO Bear Gulc	h Bear Gulc	n Bear Gulch
STK-18U	2021	2021	2022 8"	Polyvinyl Chloride	Both	5494	5494	20	5	4	1	L6 Stockton	Stockton	Stockton
STK-18V2	2021	2021	2022 0#	her (See Other (see Comments) Retire	4915	3794	30	5	4	5	20 Stockton	Stockton	Stockton
STK-18Z	2021	2021	2022 8"	Polyvinyl Chloride	Both	3029	3026	14	5	3	1	5 Stockton	Stockton	Stockton
STK-18B	2021	2021	2022 12"	Ductile Iron	Both	1981	2674	8	5	4	2	20 Stockton	Stockton	Stockton
STK-18T	2021	2021	2022 8"	Polyvinyl Chloride	Both	5175	5175	19	5	3	1	5 Stockton	Stockton	Stockton
BG-18V	2021	2021	2023 12"	Ductile Iron	Both	5179	5179	5	5	2	1	LO Bear Guld	h Bear Gulc	Bear Gulch
BG-18V	2021	2021	2023 12"	" Ductile Iron	Both	5179	5179	5	5	2	1	LO Bear Guld	h Bear Gulc	Bear Gulch
STK-18V2	2021	2021	2022 0#	her (See Other (see Comments) Retire	4915	3794	30	5	4		20 Stockton	Stockton	Stockton
STK-18J	2021	2021	2022 8"	Polyvinyl Chloride	Both	1827	1827	9	5	3	1	5 Stockton	Stockton	Stockton
STK-18AO	2021	2021	2022 8"	Polyvinyl Chloride	Both	3374	3374	21	5	2	1	0 Stockton	Stockton	Stockton
STK-18B	2021	2021	2022 Oth	her (See Other (see Comments) Retire	1981	2674	8	5	4	2	20 Stockton	Stockton	Stockton
STK-18B	2021	2021	2022 12"	" Ductile Iron	Both	1981	2674	8	5	4	2	20 Stockton	Stockton	Stockton
STK-18N	2021	2021	2022 8"	Polyvinyl Chloride	Both	4521	4521	12	5	2	1	0 Stockton	Stockton	Stockton
MRL-18C1	2021	2021	2022 12"	" Ductile Iron	Both	818	945	3	5	4	1	L6 Marysville	Marysville	Marysville
CH-18N1	2021	2021	2022 Oth	her (See Other (see Comments) Retire	2439	2772	0	5	3	1	15 Hamilton	C Chico	Hamilton City
BK-18AH	2021	2021	2022 6"	Polyvinyl Chloride	Both	3953	3953	1	5	2	1	LO Bakersfiel	d Bakersfiel	Bakersfield
BK-18AH	2021	2021	2022 6"	Polyvinyl Chloride	Both	3953	3953	1	5	2	1	LO Bakersfiel	d Bakersfiel	Bakersfield
BK-18AH	2021	2021	2022 6"	Polyvinyl Chloride	Both	3953	3953	1	5	2	1	LO Bakersfiel	d Bakersfiel	Bakersfield

	2021	2021	2022 8"	Polyvinyl Chloride	Both	4096	4096	1	5	2	10 Bakersfiel	Bakersfield	Bakersfield
BK-18AI	2021	2021	2022 8"	Polyvinyl Chloride	Both	4096	4096	1	5	2	10 Bakersfiel	Bakersfield	Bakersfield
BK-18AH	2021	2021	2022 6"	Polyvinyl Chloride	Both	3953	3953	1	5	2	10 Bakersfiel	Bakersfield	Bakersfield
BK-18AI	2021	2021	2022 8"	Polyvinyl Chloride	Both	4096	4096	1	5	2	10 Bakersfiel	Bakersfield	Bakersfield
BK-18AI	2021	2021	2022 8"	Polyvinyl Chloride	Both	4096	4096	1	5	2	10 Bakersfiel	Bakersfield	Bakersfield
BK-18AI	2021	2021	2022 8"	Polyvinyl Chloride	Both	4096	4096	1	5	2	10 Bakersfiel	Bakersfield	Bakersfield
BK-18AJ	2021	2021	2022 6"	Polyvinyl Chloride	Both	2417	2417	1	5	2	10 Bakersfiel	Bakersfield	Bakersfield
BK-18AJ	2021	2021	2022 6"	Polyvinyl Chloride	Both	2417	2417	1	5	2	10 Bakerstiel	Bakersfield	Bakersfield
BK-18AK	2021	2021	2022 8"	Polyvinyi Chioride	Both	2580	2580	1	5	2	10 Bakerstiel	Bakerstield	Bakerstield
BAY-18Q2	2021	2021	2022 8"	Polyvinyl Chloride	Both	1535	1535	1	4	3	12 Mid Penin	Baysnore	San Mateo
LIV-18A	2021	2021	2022 6"	Polyvinyi Chioride	Both	1457	2220	5	5	2	10 Livermore	Livermore	Livermore
STK-18AB2	2021	2021	2022 8"	Polyvinyi Chioride	Both	3/33	5424	18	5	2	10 Stockton	Stockton	Stockton
STK-18AB2	2021	2021	2022 Other (See	Other (see Comments)	Retire	3/33	5424	18	5	2	10 Stockton	Stockton	Stockton
STK-18AB2	2021	2021	2022 6"	Polyvinyi Chioride	Both	3/33	5424	18	5	2	10 Stockton	Stockton	Stockton
STK-18B	2021	2021	2022 8"	Polyvinyi Chioride	Both	1981	2674	8	5	4	20 Stockton	Stockton	Stockton
STK-18AB2	2021	2021	2022 Other (See	Other (see Comments)	Retire	3/33	5424	18	5	2	10 Stockton	Stockton	Stockton
STK-18AB2	2021	2021	2022 12"	Ductile Iron	Both	3/33	5424	18	5	2	10 Stockton	Stockton	Stockton
STK-18AM1	2021	2021	2022 8"	Polyvinyi Chioride	Both	2256	2234	4	5	2	10 Stockton	Stockton	Stockton
STK-18Z	2021	2021	2022 Other (See	Other (see Comments)	Retire	3029	3026	14	5	3	15 Stockton	Stockton	Stockton
BAY-18XW	2021	2021	2022 8"	Ductile Iron	Both	2683	2683	6	4	3	12 Mid Penin	Baysnore	San Carlos
BAY-18XW	2021	2021	2022 8"	Polyvinyi Chloride	Both	2683	2683	5	4	3	12 Mid Penin	Baysnore	San Carlos
STK-18AIVIZ	2021	2021	2022 8	Polyvinyi Chloride	Install	2209	2255	14	5	2	10 Stockton	Stockton	Stockton
51K-18AIVI1	2021	2021	2022 8	Polyvinyi Chloride	Install	2250	2234	4	5	2	10 Stockton	SLOCKLON	SLOCKLON
LIV-18I	2021	2021	2022 8"	Polyvinyi Chioride	Both	/11	1089	2	5	3	15 Livermore	Livermore	Livermore
LIV-181	2021	2021	2022 8	Polyvinyi Chloride	Both	711	1089	2	5	3	15 Livermore	Livermore	Livermore
LIV-18I	2021	2021	2022 8"	Polyvinyi Chioride	Both	/11	1089	2	5	3	15 Livermore	Livermore	Livermore
CH-18B2	2021	2021	2022 Other (See	Other (see Comments)	Retire	3145	1054	1	5	4	20 Hamilton	. Chico	Hamilton City
CH-18B2	2021	2021	2022 8"	Polyvinyi Chioride	Install	3145	1054	1	5	4	20 Hamilton	. Chico	Hamilton City
CH-18B2	2021	2021	2022 8"	Polyvinyi Chioride	Install	3145	1054	1	5	4	20 Hamilton	. Chico	Hamilton City
CH-18N1	2021	2021	2022 8"	Polyvinyi Chioride	Install	2439	2//2	0	5	3	15 Hamilton	. Chico	Hamilton City
CH-18N1	2021	2021	2022 8"	Polyvinyi Chioride	Install	2439	2//2	0	5	3	15 Hamilton	. Chico	Hamilton City
CH-18N1	2021	2021	2022 8"	Polyvinyi Chioride	Both	2439	2//2	0	5	3	15 Hamilton	. Chico	Hamilton City
CH-18N1	2021	2021	2022 Other (See	Other (see Comments)	Retire	2439	2//2	0	5	3	15 Hamilton	. Chico	Hamilton City
STK-18B	2021	2021	2022 Other (See	Other (see Comments)	Retire	1981	2674	8	5	4	20 Stockton	Stockton	Stockton
STK-18B	2021	2021	2022 Other (See	Other (see Comments)	Retire	1981	2674	8	5	4	20 Stockton	Stockton	Stockton
STK-18B	2021	2021	2022 8"	Polyvinyl Chloride	Install	1981	2674	8	5	4	20 Stockton	Stockton	Stockton
STK-18XE	2021	2021	2022 8"	Polyvinyl Chloride	Both	4705	4083	18	5	2	10 Stockton	Stockton	Stockton
STK-18XE	2021	2021	2022 8"	Polyvinyl Chloride	Both	4705	4083	18	5	2	10 Stockton	Stockton	Stockton
STK-18XE	2021	2021	2022 8"	Polyvinyl Chloride	Install	4705	4083	18	5	2	10 Stockton	Stockton	Stockton
STK-18XE	2021	2021	2022 8"	Polyvinyl Chloride	Both	4705	4083	18	5	2	10 Stockton	Stockton	Stockton
STK-18XE	2021	2021	2022 8"	Polyvinyl Chloride	Install	4705	4083	18	5	2	10 Stockton	Stockton	Stockton
STK-18V2	2021	2021	2022 8"	Polyvinyl Chloride	Install	4915	3794	30	5	4	20 Stockton	Stockton	Stockton
STK-18V2	2021	2021	2022 8"	Polyvinyl Chloride	Install	4915	3794	30	5	4	20 Stockton	Stockton	Stockton
STK-18V3	2021	2021	2022 8"	Polyvinyl Chloride	Both	4554	4783	23	5	2	10 Stockton	Stockton	Stockton
STK-18V2	2021	2021	2022 6"	Polyvinyl Chloride	Install	4915	3794	30	5	4	20 Stockton	Stockton	Stockton
STK-18V2	2021	2021	2022 6"	Polyvinyl Chloride	Install	4915	3794	30	5	4	20 Stockton	Stockton	Stockton
STK-18V3	2021	2021	2022 6"	Polyvinyl Chloride	Install	4554	4783	23	5	2	10 Stockton	Stockton	Stockton
STK-18V3	2021	2021	2022 6"	Polyvinyl Chloride	Install	4554	4783	23	5	2	10 Stockton	Stockton	Stockton
MRL-18C1	2021	2021	2022 6"	Polyvinyl Chloride	Retire	818	945	3	5	4	16 Marysville	Marysville	Marysville
LIV-18A	2021	2021	2022 6"	Polyvinyl Chloride	Both	1457	2220	5	5	2	10 Livermore	Livermore	Livermore
STK-18XE	2021	2021	2022 8"	Polyvinyl Chloride	Both	4705	4083	18	5	2	10 Stockton	Stockton	Stockton
BAY-18Q1	2021	2021	2022 8"	Polyvinyl Chloride	Both	3180	3180	0	5	3	15 Mid Penin	Bayshore	San Mateo
BAY-18Q1	2021	2021	2022 6"	Polyvinyl Chloride	Both	3180	3180	0	5	3	15 Mid Penin	Bayshore	San Mateo
BAY-18Q1	2021	2021	2022 8"	Polyvinyl Chloride	Both	3180	3180	0	5	3	15 Mid Penin	Bayshore	San Mateo
BAY-18Q1	2021	2021	2022 12"	Polyvinyl Chloride	Both	3180	3180	0	5	3	15 Mid Penin	Bayshore	San Mateo
BAY-18Q2	2021	2021	2022 8"	Polyvinyl Chloride	Both	1535	1535	1	4	3	12 Mid Penin	Bayshore	San Mateo
BAY-18Q2	2021	2021	2022 8"	Polyvinyl Chloride	Both	1535	1535	1	4	3	12 Mid Penin	Bayshore	San Mateo
BAY-18Q2	2021	2021	2022 8"	Polyvinyl Chloride	Both	1535	1535	1	4	3	12 Mid Penin	Bayshore	San Mateo
VIS-18D	2021	2021	2022 8"	Polyvinyl Chloride	Install	3902	2703	2	5	2	10 Visalia	Visalia	Visalia
VIS-18D	2021	2021	2022 8"	Polyvinyl Chloride	Install	3902	2703	2	5	2	10 Visalia	Visalia	Visalia
VIS-18D	2021	2021	2022 8"	Polyvinyl Chloride	Install	3902	2703	2	5	2	10 Visalia	Visalia	Visalia
BAY-18XK	2021	2021	2022 8"	Polyvinyl Chloride	Both	4494	4494	8	5	4	20 Mid Penin	Bayshore	San Mateo
BAY-18XK	2021	2021	2022 8"	Polyvinyl Chloride	Both	4494	4494	8	5	4	20 Mid Penin	8 Bayshore	San Mateo
BAY-18XK	2021	2021	2022 8"	Polyvinyl Chloride	Both	4494	4494	8	5	4	20 Mid Penin	Bayshore	San Mateo
BAY-18XK	2021		2022 0	Polyvinyl Chloride	Both	4494	4494		5	4	20 Mid Penin	Dauchara	Con Motoo
BAY-18XK	2021	2021	2022 8					8			20 1110 1 01111	Bayshore	Sall Water
BAY-18XK	LOLI	2021 2021	2022 8	Polyvinyl Chloride	Both	4494	4494	8	5	4	20 Mid Penin	Bayshore	San Mateo
	2021	2021 2021 2021	2022 8 2022 8" 2022 6"	Polyvinyl Chloride Polyvinyl Chloride	Both Both	4494 4494	4494 4494	8 8 8	5 5	4 4	20 Mid Penin 20 Mid Penin	Bayshore Bayshore Bayshore	San Mateo San Mateo San Mateo
BAY-18XK	2021 2021	2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 Other (See	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both Both	4494 4494 4494	4494 4494 4494	8 8 8	5 5 5	4 4 4	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin	Bayshore Bayshore Bayshore Bayshore	San Mateo San Mateo San Mateo San Mateo
BAY-18XK BAY-18XK	2021 2021 2021 2021	2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 Other (See 2022 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Both	4494 4494 4494 4494	4494 4494 4494 4494	8 8 8 8	5 5 5	4 4 4	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin	Bayshore Bayshore Bayshore Bayshore Bayshore	San Mateo San Mateo San Mateo San Mateo
BAY-18XK BAY-18XK BAY-18Q2	2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 Other (See 2022 8" 2022 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Both Both	4494 4494 4494 4494 1535	4494 4494 4494 1535	8 8 8 8 8	5 5 5 5 4	4 4 4 3	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2	2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 Other (See 2022 8" 2022 8" 2022 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Both Both	4494 4494 4494 4494 1535 1535	4494 4494 4494 1535 1535	8 8 8 8 1 1	5 5 5 4 4	4 4 4 3 3	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 STK-18J	2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 Other (See 2022 8" 2022 8" 2022 8" 2022 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Both Both Both	4494 4494 4494 1535 1535 1535 1827	4494 4494 4494 1535 1535 1827	8 8 8 8 1 1 9	5 5 5 4 4 5	4 4 4 3 3 3	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 15 Stockton	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Sayshore Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 STK-18J STK-18J	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 Other (See 2022 8" 2022 8" 2022 8" 2022 8" 2022 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron	Both Both Both Both Both Both Both	4494 4494 4494 4494 1535 1535 1535 1827 4890	4494 4494 4494 1535 1535 1827 4890	8 8 8 1 1 9 29	5 5 5 5 4 4 5 5	4 4 4 3 3 3 4	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 15 Stockton 20 Stockton	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 STK-18J STK-18M STK-18M	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 0ther (See 2022 8" 2022 8" 2022 8" 2022 8" 2022 2" 2022 12"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1827 4890 4890	4494 4494 4494 1535 1535 1827 4890 4890	8 8 8 1 1 9 29 29	5 5 5 4 4 5 5 5 5 5 5 5	4 4 4 3 3 3 4 4	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 15 Stockton 20 Stockton 20 Stockton	E Bayshore E Bayshore E Bayshore E Bayshore E Bayshore E Bayshore Stockton Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 STK-18J STK-18M STK-18M STK-18M	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 Other (See 2022 8" 2022 8" 2022 8" 2022 2" 2022 12" 2022 12"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron Ductile Iron	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1535 1827 4890 4890	4494 4494 4494 1535 1535 1827 4890 4890	8 8 8 1 1 9 29 29 29	5 5 5 4 4 5 5 5 5 5 5 5 5	4 4 3 3 4 4 4	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 12 Mid Penin 15 Stockton 20 Stockton 20 Stockton	e Bayshore e Bayshore e Bayshore e Bayshore e Bayshore e Bayshore e Stockton e Stockton e Stockton e Stockton e Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton Stockton
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 STK-18J STK-18M STK-18M STK-18M STK-18M	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 Other (See 2022 8" 2022 8" 2022 8" 2022 8" 2022 12" 2022 12" 2022 12"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron Ductile Iron Ductile Iron	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1535 1537 4890 4890 4890	4494 4494 4494 1535 1535 1827 4890 4890 4890	8 8 8 1 1 9 29 29 29 29	5 5 5 4 5 5 5 5 5 5 5 5	4 4 3 3 4 4 4 4	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 13 Stockton 20 Stockton 20 Stockton 20 Stockton	s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore stockton Stockton Stockton Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton Stockton
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 STK-18J STK-18M STK-18M STK-18M STK-18M STK-18M	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 0ther (See 2022 8" 2022 8" 2022 8" 2022 8" 2022 2" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1827 4890 4890 4890 4890 4890 4890	4494 4494 4494 1535 1535 1827 4890 4890 4890 4890 4890	8 8 8 1 1 9 29 29 29 29 29 29	5 5 5 4 4 5 5 5 5 5 5 5 5 5	4 4 3 3 4 4 4 4 2	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 13 Stockton 20 Stockton 20 Stockton 20 Stockton 20 Stockton	s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore stockton Stockton Stockton Stockton Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton Stockton Stockton
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 STK-18M STK-18M STK-18M STK-18M STK-18M STK-18N STK-18N STK-18N	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8" 2022 6" 2022 Other (See 2022 8" 2022 8" 2022 8" 2022 8" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Doutile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1827 4890 4890 4890 4890 4890 4890	4494 4494 4494 1535 1527 4890 4890 4890 4890 4890	8 8 8 1 1 9 29 29 29 29 29 29 29 29 5	5 5 5 5 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 3 3 3 4 4 4 4 2 4	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 13 Stockton 20 Stockton 20 Stockton 20 Stockton 20 Stockton 20 Stockton	s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore s Bayshore s Stockton Stockton Stockton Stockton Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 STK-18J STK-18M STK-18M STK-18M STK-18M STK-18N STK-18N STK-18V1 STK-18V3	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 6" 2022 6" 2022 Chher (See 2022 8" 2022 8" 2022 8" 2022 8" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12" 2022 8" 2022 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1827 4890 4890 4890 4890 4890 4890 4521 1939 4554	4494 4494 4494 1535 1827 4890 4890 4890 4890 4521 1939 4783	8 8 8 8 1 1 9 29 29 29 29 29 29 29 29 29 29 29 29 2	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 4 3 3 3 3 4 4 4 4 4 2 4 2	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 13 Stockton 20 Stockton 20 Stockton 20 Stockton 10 Stockton 20 Stockton	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 STK-18M STK-18M STK-18M STK-18M STK-18M STK-18N STK-18N STK-18V1 STK-18V3 STK-18V3	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 0"ther (See 2022 8" 2022 8" 2022 8" 2022 8" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12" 2022 8" 2022 8" 2022 8" 2022 8" 2022 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Doutile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see comments)	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1535 1535 4890 4890 4890 4890 4890 4890 4890 4890	4494 4494 4494 1535 1535 1535 1535 4890 4890 4890 4890 4890 4890 4890 4890	8 8 8 8 8 8 1 1 9 29 29 29 29 29 29 29 29 29 29 29 29 2	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 3 3 3 4 4 4 2 4 2 2 2	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 12 Mid Penin 15 Stockton 20 Stockton 20 Stockton 20 Stockton 10 Stockton 10 Stockton	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton Stockton Stockton Stockton Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 BAY-18Q2 STK-18J STK-18M STK-18M STK-18M STK-18M STK-18N STK-18N STK-18V1 STK-18V3 STK-18V3 STK-18V3 STK-18Z	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 6" 2022 6" 2022 6" 2022 8" 2022 8" 2022 8" 2022 8" 2022 8" 2022 12" 2022 12" 2022 12" 2022 12" 2022 8" 2022 8" 2022 8" 2022 8" 2022 8" 2022 8" 2022 6" 2022 8" 2022 6" 2022 8" 2022 6" 2022 8" 2022 12" 2022 12"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1535 1827 4890 4890 4890 4890 4890 4521 1339 4554 4554 4554	4494 4494 4494 4494 4494 4535 1535 1535 1535 1535 1535 4890 4890 4890 4890 4890 4890 4890 4521 1939 4783 3026	8 8 8 8 1 1 9 29 29 29 29 29 29 29 29 29 29 29 29 2	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 4 3 3 3 3 4 4 4 4 2 4 2 2 3	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 13 Stockton 20 Stockton 20 Stockton 20 Stockton 10 Stockton 10 Stockton 10 Stockton	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
BAY-182K BAY-182K BAY-182C BAY-182C STK-184 ST	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 6" 2022 8" 2022 8" 2022 8" 2022 8" 2022 8" 2022 12" 2022 12" 2022 12" 2022 12" 2022 8" 2022 8" 2022 0ther (See 2022 6" 2022 0ther (See	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Doutile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Other (see Comments)	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1827 4890 4890 4890 4890 4521 1939 4554 4554 4554 3029 2256	4494 4494 4494 1535 1535 1535 1535 1535 4890 4890 4890 4890 4890 4890 4890 4890	8 8 8 8 8 1 1 9 29 29 29 29 29 29 29 29 29 29 29 29 2	5 5 5 5 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 3 3 3 4 4 4 4 2 4 2 2 3 2	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 15 Stockton 20 Stockton 20 Stockton 20 Stockton 20 Stockton 20 Stockton 10 Stockton 10 Stockton 15 Stockton 15 Stockton	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
BAY-182XK BAY-182XK BAY-182Q2 BAY-180Q2 STK-1830 STK-183M STK-183M STK-183M STK-183M STK-184V1 STK-184V3 STK-184V3 STK-184V3 STK-184V3 STK-184V3 STK-184V3 STK-184V3 STK-184V3	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 0" 2022 0" 2022 8" 2022 8" 2022 8" 2022 8" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12" 2022 8" 2022 8" 2022 8" 2022 8" 2022 8" 2022 8" 2022 8" 2022 0" 2022 0" 2020 0" 2000 0" 20	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (sec Comments) Other (sec Comments)	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1535 1827 4890 4890 4890 4890 4890 4890 4890 4521 1939 4554 4551 3029 2256 2256	4494 4494 4494 1535 1535 1535 1827 4890 4890 4890 4890 4890 4890 4890 4890	8 8 8 8 1 1 9 29 29 29 29 29 29 29 29 29 29 29 29 2	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 3 3 3 3 4 4 4 2 4 2 2 3 2 2 2 2	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 12 Mid Penin 13 Mid Penin 13 Stockton 20 Stockton 20 Stockton 20 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 STK-18U STK-18M STK-18M STK-18M STK-18M STK-18N STK-18N STK-18N STK-18V1 STK-18V3 STK-18V3 STK-18V3 STK-18V3 STK-18V3 STK-18V3	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8" 2022 6" 2022 6" 2022 8" 2022 8" 2022 8" 2022 8" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12" 2022 12" 2022 8" 2022 8" 2022 8" 2022 8" 2022 8" 2022 8" 2022 6" 2022 6" 2020 6" 200 2020 6" 200 200 200 200 200 200 200 200 200 20	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Other (see Comments) Other (see Comments)	Both Both Both Both Both Both Both Both	4494 4494 4494 1535 1535 1827 4890 4890 4890 4890 4890 4890 4521 1939 4554 3029 2256 2256 2259	4494 4494 4494 4494 4494 4494 4890 4890	8 8 8 8 1 1 9 29 29 29 29 29 29 29 29 29 29 29 29 2	5 5 5 5 5 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 3 3 3 4 4 4 4 2 2 2 3 2 2 2 2 2	20 Mid Penin 20 Mid Penin 20 Mid Penin 20 Mid Penin 12 Mid Penin 13 Stockton 20 Stockton 20 Stockton 20 Stockton 20 Stockton 10 Stockton 15 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 20 Stockton 2	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo San Mateo Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
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BAY-18XK BAY-18XK BAY-18Q2 BAY-18Q2 BAY-18Q2 STK-18J STK-18M STK-18M STK-18M STK-18M STK-18M STK-18M STK-18V3 STK-18C SEL-18C S	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8 2022 6 2022 4 2022 6 2022 8 2022 8 2022 8 2022 8 2022 8 2022 8 2022 8 2022 12 2022 12 2022 12 2022 12 2022 8 2022 0 2022 0 2022 0 2022 0 2022 0 2022 0 2022 0 2022 0 2022 8 2022	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Other (see Comments) Ductile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Both Both Both Both Both	4494 4494 4494 4494 4494 4494 4494 4494 4494 1535 1535 1535 1537 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4851 4251 4251 4251 4251 4251 4251 5175 2183 3468 2683 3254 3145 2813 4023	4494 4494 4494 4494 4494 4494 4494 449		5 5 5 5 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 4 4 3 3 3 4 4 4 4 2 4 2 2 3 2 2 2 4 2 2 3 3 3 3	20 Mid Penin 21 Mid Penin 20 Stockton 21 Bakersfiel 20 Seima 20	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Bear Gulch Bakersfield B	San Mateo San Mateo Stockton S
BAY-18XX BAY-18XX BAY-18Q2 BAY-18Q2 STK-18D STK-18M ST	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8 2022 8 2022 6 2022 4 2022 6 2022 4 2022 8 2022 8 2022 8 2022 8 2022 12 2022 12 2022 12 2022 12 2022 12 2022 12 2022 8 2022 4 2022 0 2022 0 2022 0 2022 0 2022 0 2022 0 2022 0 2022 0 2022 6 2022 8 2022 8 202	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Both Both Both Both Both	4494 4494 4494 4494 4494 4494 4494 4494 4494 4535 1535 1537 1827 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4890 4854 2029 2256 2266 2256 3965 3965 3965 3965 3965 3965 3965 3965 3965 3965 3965 3965 3965 3965 3965 4251 <t< td=""><td>4494 4494 4494 4494 4494 4494 4494 449</td><td></td><td>5 5 5 5 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5</td><td>4 4 4 4 3 3 3 4 4 4 4 2 4 2 2 3 2 2 2 4 2 2 3 3 3 3</td><td>20 Mid Penin 20 Mid Penin 21 Mid Penin 20 Stockton 21 Bakersfiel 21 Bakersfiel 21 Bakersfiel 20 Selma 21 Bakersfiel 20 Selma 20 Selma 20 Selma 20<!--</td--><td>Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Bear Gulch Bear Gulch Bear Gulch Bakersfiele</td><td>Jan Mateo San Mateo Stockton S</td></td></t<>	4494 4494 4494 4494 4494 4494 4494 449		5 5 5 5 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 4 4 3 3 3 4 4 4 4 2 4 2 2 3 2 2 2 4 2 2 3 3 3 3	20 Mid Penin 21 Mid Penin 20 Stockton 21 Bakersfiel 21 Bakersfiel 21 Bakersfiel 20 Selma 21 Bakersfiel 20 Selma 20 Selma 20 Selma 20 </td <td>Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Bear Gulch Bear Gulch Bear Gulch Bakersfiele</td> <td>Jan Mateo San Mateo Stockton S</td>	Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Bayshore Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Bear Gulch Bear Gulch Bear Gulch Bakersfiele	Jan Mateo San Mateo Stockton S

	2021	2021	2023 8"	Polyvinyl Chloride	Both	2429	2429	0	5	4	20 Livermore Livermore Livermore
LIV-21C	2021	2021	2023 8"	Polyvinyl Chloride	Both	2879	2879	0	5	5	25 Livermore Livermore Livermore
LIV-21C	2021	2021	2023 8"	Polyvinyl Chloride	Both	2879	2879	0	5	5	25 Livermore Livermore Livermore
LIV-21D	2021	2021	2023 8"	Polyvinyl Chloride	Both	2562	2562	1	5	2	10 Livermore Livermore Livermore
LIV-21E	2021	2021	2024 8"	Polyvinyl Chloride	Both	2267	2267	3	5	2	10 Livermore Livermore Livermore
LIV-21F	2021	2021	2024 8	Polyvinyl Chloride	Both	1837	1837	2	5	2	10 Livermore Livermore Livermore
LIV-21G	2021	2021	2024 8	Polyvinyl Chloride	Both	1508	1508	0	5	2	10 Livermore Livermore Livermore
BAY-21A	2021	2021	2024 8"	Ductile Iron	Both	7748	7748	5	5	5	25 Mid Penins Bayshore San Mateo
BAY-21A	2021	2021	2024 8"	Ductile Iron	Both	7748	7748	5	5	5	25 Mid Penin: Bayshore San Mateo
BAY-21A	2021	2021	2024 8"	Ductile Iron	Both	7748	7748	5	5	5	25 Mid Penin: Bayshore San Mateo
BAY-21A	2021	2021	2024 8"	Ductile Iron	Both	7748	7748	5	5	5	25 Mid Penins Bayshore San Mateo
BAY-21A	2021	2021	2024 8"	Ductile Iron	Both	7748	7748	5	5	5	25 Mid Penin: Bayshore San Mateo
BAY-21B	2021	2021	2024 8"	Ductile Iron	Both	3226	3226	10	5	3	15 Mid Penins Bayshore San Mateo
BAY-21E	2021	2021	2023 8"	Ductile Iron	Both	2708	3321	9	5	3	15 Mid Penin: Bayshore San Mateo
BAY-21E	2021	2021	2023 8"	Ductile Iron	Both	2708	3321	9	5	3	15 Mid Penin: Bayshore San Mateo
BAY-21E	2021	2021	2023 8"	Ductile Iron	Both	2708	3321	9	5	3	15 Mid Penins Bayshore San Mateo
BAY-21E	2021	2021	2023 8"	Ductile Iron	Both	2708	3321	9	5	3	15 Mid Penins Bayshore San Mateo
BAT-21F	2021	2021	2023 8	Ductile Iron	Both	1531	1531	2	5	3	15 Mid Penins Bayshore San Mateo
BAT-21F	2021	2021	2023 8	Ductile Iron	Both	2040	2040	2	5	2	15 Mid Pening Bayshore San Mateo
BAY-21G	2021	2021	2024 8	Ductile Iron	Both	2040	2040	6	5	3	15 Mid Pening Bayshore San Mateo
BAY-21F	2021	2021	2023 8"	Ductile Iron	Retire	2708	3321	9	5	3	15 Mid Penin's Bayshore San Mateo
BAY-21H	2021	2021	2024 8"	Ductile Iron	Both	3492	3492	10	5	2	10 Mid Penins Bayshore San Mateo
BAY-21H	2021	2021	2024 8"	Ductile Iron	Both	3492	3492	10	5	2	10 Mid Penin: Bayshore San Mateo
BAY-21H	2021	2021	2024 8"	Ductile Iron	Both	3492	3492	10	5	2	10 Mid Penin: Bayshore San Mateo
BAY-21H	2021	2021	2024 8"	Ductile Iron	Both	3492	3492	10	5	2	10 Mid Penin: Bayshore San Mateo
BAY-21J	2021	2021	2022 8"	Ductile Iron	Both	5400	5400	26	5	3	15 Mid Penin: Bayshore San Mateo
BAY-21J	2021	2021	2022 8"	Ductile Iron	Both	5400	5400	26	5	3	15 Mid Penin: Bayshore San Mateo
BAY-21J	2021	2021	2022 8"	Ductile Iron	Both	5400	5400	26	5	3	15 Mid Penins Bayshore San Mateo
BAY-21J	2021	2021	2022 8"	Ductile Iron	Both	5400	5400	26	5	3	15 Mid Penin: Bayshore San Mateo
BAY-21K	2021	2021	2023 8"	Polyvinyl Chloride	Both	4864	4864	3	5	3	12 South San Bayshore South San Francisco
BAY-21K	2021	2021	2023 8"	Polyvinyl Chloride	Both	4864	4864	3	5	3	12 South San Bayshore South San Francisco
BAY-21L	2021	2021	2023 8"	Polyvinyl Chloride	Both	3834	3834	4	5	2	10 South San Bayshore South San Francisco
BAT-21L	2021	2021	2023 8	Polyvinyl Chloride	Both	3834	3834	4	5	2	10 South San Bayshore South San Francisco
BAT-21L BAY-21M	2021	2021	2023 8	Polyvinyi Chloride	Both	2221	2221	4	5	2	10 South San Bayshore South San Francisco
BAY-21M	2021	2021	2023 8"	Polyvinyl Chloride	Both	2331	2331	2	5	2	10 South San Bayshore South San Francisco
BAY-21M	2021	2021	2023 8"	Polyvinyl Chloride	Both	2331	2331	2	5	2	10 South San Bayshore South San Francisco
BAY-210	2021	2021	2023 8"	Polyvinyl Chloride	Both	3114	3114	6	5	2	10 South San Bayshore South San Francisco
BAY-210	2021	2021	2023 8"	Polyvinyl Chloride	Both	3114	3114	6	5	2	10 South San Bayshore South San Francisco
BAY-210	2021	2021	2023 8	Polyvinyl Chloride	Both	3873	3873	5	5	4	16 Mid Penins Bayshore San Carlos
BAY-210	2021	2021	2022 12"	Polyvinyl Chloride	Both	3873	3873	5	5	4	16 Mid Penins Bayshore San Carlos
BAY-210	2021	2021	2022 6"	Polyvinyl Chloride	Both	3873	3873	5	5	4	16 Mid Penins Bayshore San Carlos
BAY-21Q	2021	2021	2022 6"	Polyvinyl Chloride	Both	3873	3873	5	5	4	16 Mid Penin: Bayshore San Carlos
BAY-21R	2021	2021	2022 8"	Polyvinyl Chloride	Both	2225	2225	5	5	2	10 Mid Penins Bayshore San Carlos
BAY-21R	2021	2021	2022 12"	Polyvinyl Chloride	Both	2225	2225	5	5	2	10 Mid Penin: Bayshore San Carlos
BAY-21R	2021	2021	2022 8"	Polyvinyl Chloride	Both	2225	2225	5	5	2	10 Mid Penin: Bayshore San Carlos
BAY-21S	2021	2021	2024 12"	Ductile Iron	Both	3283	3283	9	5	3	15 Mid Penin: Bayshore San Carlos
BAY-21S	2021	2021	2024 6"	Polyvinyl Chloride	Both	3283	3283	9	5	3	15 Mid Penins Bayshore San Carlos
BAY-21S	2021	2021	2024 6"	Polyvinyl Chloride	Both	3283	3283	9	5	3	15 Mid Penin: Bayshore San Carlos
BAY-21S	2021	2021	2024 12"	Polyvinyl Chloride	Both	3283	3283	9	5	3	15 Mid Penin: Bayshore San Carlos
BAY-21E	2021	2021	2023 8"	Ductile Iron	Both	2708	3321	9	5	3	15 Mid Penin: Bayshore San Mateo
BAY-21E	2021	2021	2023 8"	Ductile Iron	Retire	2708	3321	9	5	3	15 Mid Penins Bayshore San Mateo
BAY-21J	2021	2021	2022 8"	Ductile Iron	Both	5400	5400	26	5	3	15 Mid Penins Bayshore San Mateo
BAT-21J	2021	2021	2022 8	Ductile from Delavioul Chlorido	Both	5400	3282	26	5	3	15 Mid Penins Bayshore San Mateo
BAT-213 BAV-215	2021	2021	2024 12	Polyvinyi Chloride	Both	3265	3203	9	5	2	15 Mid Penins Bayshore San Carlos
EL A-21A	2021	2021	2024 0	Ductile Iron	Both	3285	3205	3	5	2	15 Fact Los Ar Fast Los Ar Fast Los Angeles
FLA-21R	2021	2021	2022 12	Ductile Iron	Both	1923	1923	3	5	2	10 Fast Los Ar Fast Los Ar Fast Los Angeles
ELA-21C	2021	2021	2023 12"	Ductile Iron	Both	2423	2423	1	4	2	8 East Los Ar East Los Ar East Los Angeles
ELA-21D	2021	2021	2023 12"	Ductile Iron	Both	2356	2356	0	4	3	12 East Los Ar East Los Ar East Los Angeles
ELA-21E	2021	2021	2024 12"	Ductile Iron	Both	2814	2814	1	5	3	15 East Los Ar East Los Ar East Los Angeles
ELA-21G	2021				Roth	2720		2	E		20. Fact Las A. Fact Las A. Fact Las Associat
FLA-21G		2021	2022 8"	Polyvinyl Chloride	Dotti	2720	3370	2	5	4	20 East Los Ar East Los Ar East Los Angeles
	2021	2021 2021	2022 8" 2022 8"	Polyvinyl Chloride Polyvinyl Chloride	Both	2720	3370 3370	2	5	4	20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles
ELA-21G	2021 2021	2021 2021 2021	2022 8" 2022 8" 2022 6"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both	2720 2720 2720	3370 3370 3370	2 2 2	5	4 4 4	20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles
ELA-21G ELA-21G	2021 2021 2021	2021 2021 2021 2021	2022 8" 2022 8" 2022 6" 2022 12"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron	Both Both Retire	2720 2720 2720 2720	3370 3370 3370 3370	2 2 2 2	5 5 5	4 4 4	20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles
ELA-21G ELA-21G ELA-21H	2021 2021 2021 2021	2021 2021 2021 2021 2021 2021	2022 8" 2022 8" 2022 6" 2022 12" 2023 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride	Both Both Retire Retire	2720 2720 2720 2720 2089	3370 3370 3370 3370 2623	2 2 2 2 4	5 5 5 5	4 4 4 3	20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 12 East Los Ar East Los Ar East Los Angeles
ELA-21G ELA-21G ELA-21H ELA-21H	2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021	2022 8" 2022 8" 2022 6" 2022 12" 2023 8" 2023 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	Both Both Retire Retire Both	2720 2720 2720 2720 2089 2089	3370 3370 3370 3370 2623 2623	2 2 2 4 4	5 5 5 5 5	4 4 4 3 3	20 East LOS AF East LOS AF East LOS Angeles 20 East LOS AF East LOS AF East LOS Angeles 20 East LOS AF East LOS AF East LOS Angeles 20 East LOS AF East LOS AF East LOS Angeles 21 East LOS AF East LOS AF East LOS Angeles 12 East LOS AF East LOS AF East LOS Angeles
ELA-21G ELA-21G ELA-21H ELA-21H ELA-21H	2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8" 2022 8" 2022 6" 2022 12" 2023 8" 2023 8" 2023 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both Retire Retire Both Both	2720 2720 2720 2720 2089 2089 2089	3370 3370 3370 2623 2623 2623 2623	2 2 2 4 4 4	5 5 5 5 5 5 5	4 4 4 3 3 3	20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 12 East Los Ar East Los Ar East Los Angeles 12 East Los Ar East Los Ar East Los Angeles 12 East Los Ar East Los Ar East Los Angeles
ELA-21G ELA-21G ELA-21H ELA-21H ELA-21H ELA-21H	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8" 2022 8" 2022 6" 2022 12" 2023 8" 2023 8" 2023 8" 2023 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both Retire Retire Both Both Install	2720 2720 2720 2089 2089 2089 2089	3370 3370 3370 2623 2623 2623 2623 2623	2 2 2 4 4 4 4	5 5 5 5 5 5 5 5 5 5	4 4 4 3 3 3 3	20 East LOS AF East LOS AF East LOS Angeles 20 East LOS AF East LOS AF East LOS Angeles 20 East LOS AF East LOS AF East LOS Angeles 21 East LOS AF East LOS AF East LOS Angeles 12 East LOS AF East LOS AF East LOS Angeles 12 East LOS AF East LOS AF East LOS Angeles 12 East LOS AF East LOS AF East LOS Angeles 12 East LOS AF East LOS AF East LOS Angeles 12 East LOS AF East LOS AF East LOS Angeles
ELA-21G ELA-21G ELA-21H ELA-21H ELA-21H ELA-21H ELA-21I ELA-211	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8" 2022 8" 2022 6" 2022 12" 2023 8" 2023 8" 2023 8" 2023 8" 2023 8" 2024 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both Retire Retire Both Both Install Retire Both	2720 2720 2720 2089 2089 2089 2089 2089 3976 3976	3370 3370 3370 2623 2623 2623 2623 2623 2623 5991	2 2 2 4 4 4 4 4 11	5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 4 3 3 3 3 3	20 East LOS AF East LOS AF East LOS Angeles 20 East LOS AF East LOS AF East LOS Angeles 20 East LOS AF East LOS AF East LOS Angeles 20 East LOS AF East LOS AF East LOS Angeles 21 East LOS AF East LOS AF East LOS Angeles 22 East LOS AF East LOS AF East LOS Angeles 22 East LOS AF East LOS AF East LOS Angeles 23 East LOS AF East LOS AF East LOS Angeles 24 East LOS AF East LOS AF East LOS Angeles 25 East LOS AF East LOS AF East LOS Angeles 25 East LOS AF East LOS AF East LOS Angeles 25 East LOS AF East LOS AF East LOS Angeles 25 East LOS AF East LOS AF East LOS Angeles 25 East LOS AF East LOS AF East LOS Angeles 25 East LOS AF East LOS AF East LOS Angeles 25 East LOS AF East LOS AF East LOS Angeles
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ELA-21G ELA-21G ELA-21G ELA-21G ELA-21H ELA-21H ELA-21H ELA-21I ELA-21I ELA-21I ELA-21I ELA-21I ELA-21I ELA-21G SEL-21A SEL-21A SEL-21A SEL-21A SEL-21A SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21B SEL-21C SEL-21B SEL-21B SEL-21C SEL-21B SEL-21C SEL-21A SEL-21B SEL-21C SEL-21B SEL-21C SEL-21B SEL-21C SEL-21B SEL-21C SEL-21B SEL-21B SEL-21C SEL-21B SEL-21B SEL-21C SEL-21B SEL-21C SEL-21B SEL-21C SEL-21B SEL-21C SEL-21B SEL-21C SEL-21B SEL-21C SEL-21B SEL-21	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8" 2022 8" 2022 6" 2023 6" 2023 8" 2033 8" 2033 8" 2033 8" 2033 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2023 8	Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Retire Retire Both Install Both Both Both Both Both Both Both Both	2720 2720 2720 2089 2089 2089 3976 3976 3976 3976 3069 2720 2115 2115 2115 2115 2115 2115 1305 2253 4786 4786 4786 4786 4786 4786 4786 4786	3370 3370 3370 2623 2623 2623 2623 2623 2623 2623 262	2 2 2 4 4 4 4 11 11 11 11 2 3 3 3 6 6 4 2 2 2 7 7 7 7 7 7 2 2 2 2 1 1 1 2 9 9 9 9 5 5 5 5 1 1 1 1 1 1 1 1 1 1 1 1	5 5 5 5 5 5 5 5 5 5 5 5 5 5 4 4 5 5 5 5	4 4 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 21 East Los Ar East Los Ar East Los Angeles 22 East Los Ar East Los Ar East Los Angeles 23 East Los Ar East Los Ar East Los Angeles 24 East Los Ar East Los Ar East Los Angeles 25 East Los Ar East Los Ar East Los Angeles 26 East Los Ar East Los Ar East Los Angeles 25 East Los Ar East Los Ar East Los Angeles 26 East Los Ar East Los Ar East Los Angeles 27 East Los Ar East Los Ar East Los Angeles 28 East Los Ar East Los Ar East Los Angeles 29 East Los Ar East Los Angeles 20 East Los Ar East Los Angeles 20 East Los Ar East Los Angeles 25 Selma Selma 20 East Los Ar East Los Angeles 25 Selma Selma 20 East Los Ar East Los Angeles 25 Selma Selma 20 East East East East Ios Angeles 25 Selma Selma 2
ELA-21G ELA-21G ELA-21G ELA-21G ELA-21H ELA-21H ELA-21H ELA-211 ELA-211 ELA-211 ELA-211 ELA-211 ELA-21G SEL-21A SEL-21A SEL-21A SEL-21A SEL-21A SEL-21A SEL-21A SEL-21A SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21A SEL-21B SEL-21B SEL-21A SEL-21B SEL-21	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2022 8" 2022 8" 2022 6" 2022 6" 2023 8" 2023 8" 2023 8" 2023 8" 2023 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2023 8	Polyvinyl Chloride Polyvinyl Chloride	Both Both Both Retire Retire Both Both Both Both Both Both Both Both	2720 2720 2720 2089 2089 2089 3976 3976 3976 3976 3976 3976 3976 397	3370 3370 3370 2623 2623 2623 2623 2623 2623 5991 5991 5991 5991 5991 5991 3009 3370 2115 2115 2115 1302 2253 4436 3439 3407 3307 3009	2 2 2 4 4 4 4 4 11 11 11 11 11 11 11 2 3 3 6 6 4 2 2 2 7 7 7 7 2 2 2 2 2 1 1 1 2 9 9 9 5 5 5 5 5 1 1 1 1 1 1 1 1 1 1 1 1	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 4 4 5	4 4 4 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 20 East Los Ar East Los Ar East Los Angeles 21 East Los Ar East Los Ar East Los Angeles 22 East Los Ar East Los Ar East Los Angeles 22 East Los Ar East Los Angeles 22 East Los Ar East Los Angeles 22 East Los Ar East Los Angeles 23 East Los Ar East Los Angeles 24 East Los Ar East Los Angeles 25 East Los Ar East Los Angeles 25 East Los Ar East Los Angeles 26 East Los Ar East Los Angeles 25 East Los Ar East Los Angeles 26 East Los Ar East Los Angeles 25 Selma Selma 26 Selma Selma 28 Selma Selma 29 East Los Ares Selma 29 Eastersfiele Bakersfiele Bakersfield 20 Bakersfiele Bakersfield Bakersfield<

BK-21F	2021	2021	2023 8"	Polyvinyl Chloride	Install	726	0	0	4	2	8 Bakersfield Bakersfield Bakersfield
BK-21I	2021	2021	2023 8"	Polyvinyl Chloride	Retire	3693	5053	12	5	3	15 Bakersfield Bakersfield
BK-21I	2021	2021	2023 8"	Polyvinyl Chloride	Both	3693	5053	12	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21I	2021	2021	2023 8"	Polyvinyl Chloride	Both	3693	5053	12	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21I	2021	2021	2023 8"	Polyvinyl Chloride	Both	3693	5053	12	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21I	2021	2021	2023 8"	Polyvinyl Chloride	Install	3693	5053	12	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21I	2021	2021	2023 8"	Polyvinyl Chloride	Install	3693	5053	12	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21H	2021	2021	2023 8"	Polyvinyl Chloride	Both	3579	3090	1	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21H	2021	2021	2023 8"	Polyvinyl Chloride	Both	3579	3090	1	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21H	2021	2021	2023 8"	Polyvinyl Chloride	Install	3579	3090	1	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21J	2021	2021	2023 12"	Ductile Iron	Both	3774	3774	1	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21K	2021	2021	2024 12"	Ductile Iron	Both	2580	2580	1	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21L	2021	2021	2024 8"	Polyvinyl Chloride	Both	2869	3553	4	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21L	2021	2021	2024 8"	Polyvinyl Chloride	Both	2869	3553	4	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21L	2021	2021	2024 8"	Polyvinyl Chloride	Both	2869	3553	4	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21L	2021	2021	2024 8"	Polyvinyl Chloride	Both	2869	3553	4	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21L	2021	2021	2024 8"	Polyvinyl Chloride	Both	2869	3553	4	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21L	2021	2021	2024 8"	Polyvinyl Chloride	Retire	2869	3553	4	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21M	2021	2021	2024 8"	Polyvinyl Chloride	Retire	4226	3326	10	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21M	2021	2021	2024 8"	Polyvinyl Chloride	Both	4226	3326	10	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21M	2021	2021	2024 8"	Polyvinyl Chloride	Both	4226	3326	10	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21M	2021	2021	2024 8"	Polyvinyl Chloride	Retire	4226	3326	10	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21M	2021	2021	2024 8"	Polyvinyl Chloride	Install	4226	3326	10	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21N	2021	2021	2024 8"	Polyvinyl Chloride	Both	3077	3077	0	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21N	2021	2021	2024 8"	Polyvinyl Chloride	Both	3077	3077	0	5	3	15 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 8"	Polyvinyl Chloride	Retire	3723	3088	0	5	3	12 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 8"	Polyvinyl Chloride	Both	3723	3088	0	5	3	12 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 12"	Ductile Iron	Install	3723	3088	0	5	3	12 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 12"	Ductile Iron	Both	3723	3088	0	5	3	12 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 8"	Polyvinyl Chloride	Install	3723	3088	0	5	3	12 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 8"	Polyvinyl Chloride	Retire	3723	3088	0	5	3	12 Bakersfield Bakersfield Bakersfield
BK-21P	2021	2021	2024 8"	Polyvinyl Chloride	Retire	1264	2079	1	4	2	8 Bakersfield Bakersfield Bakersfield
BK-21P	2021	2021	2024 8"	Polyvinyl Chloride	Retire	1264	2079	1	4	2	8 Bakersfield Bakersfield Bakersfield
BK-21P	2021	2021	2024 8"	Polyvinyl Chloride	Install	1264	2079	1	4	2	8 Bakersfield Bakersfield Bakersfield
BK-21P	2021	2021	2024 8"	Polyvinyl Chloride	Both	1264	2079	1	4	2	8 Bakersfield Bakersfield Bakersfield
BK-21P	2021	2021	2024 8"	Polyvinyl Chloride	Install	1264	2079	1	4	2	8 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 8"	Polyvinyl Chloride	Both	1879	1908	0	4	2	8 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 8"	Polyvinyl Chloride	Retire	1879	1908	0	4	2	8 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 8"	Polyvinyl Chloride	Retire	1879	1908	0	4	2	8 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 8"	Polyvinyl Chloride	Install	1879	1908	0	4	2	8 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 8"	Polyvinyl Chloride	Both	1879	1908	0	4	2	8 Bakersfield Bakersfield Bakersfield
BK-210	2021	2021	2024 8"	Polyvinyl Chloride	Install	1879	1908	0	4	2	8 Bakersfield Bakersfield Bakersfield
BK-21R	2021	2021	2024 8"	Polyvinyl Chloride	Retire	1772	3344	48	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21R	2021	2021	2024 6"	Polyvinyl Chloride	Both	1772	3344	48	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21V	2021	2021	2023 12"	Ductile Iron	Both	3052	3052	10	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21V	2021	2021	2023 12"	Ductile Iron	Both	3052	3052	10	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21T	2021	2021	2024 12"	Ductile Iron	Retire	11562	5760	11	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21T	2021	2021	2024 12"	Ductile Iron	Install	11562	5760	11	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21T	2021	2021	2024 12"	Ductile Iron	Install	11562	5760	11	5	4	20 Bakersfield Bakersfield Bakersfield
BK-215	2021	2021	2024 12"	Ductile Iron	Both	3482	3482	2	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21T	2021	2021	2024 12"	Ductile Iron	Install	11562	5760	11	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21A	2021	2021	2023 8"	Polyvinyl Chloride	Install	4786	4436	2	5	3	12 Bakersfield Bakersfield Bakersfield
BK-21C	2021	2021	2023 8"	Polyvinyl Chloride	Both	5061	4957	2	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21C	2021	2021	2023 8"	Polyvinyl Chloride	Both	5061	4957	2	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21D	2021	2021	2023 8"	Polyvinyl Chloride	Retire	4576	3909	1	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21D	2021	2021	2023 8"	Polyvinyl Chloride	Install	4576	3909	1	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21L	2021	2021	2024 6"	Polyvinyl Chloride	Both	2869	3553	4	5	2	10 Bakersfield Bakersfield Bakersfield
BK-211	2021	2021	2024 8"	Polyvinyl Chloride	Both	2869	3553	4	5	2	10 Bakersfield Bakersfield Bakersfield
BK-21M	2021	2021	2024 8"	Polyvinyl Chloride	Install	4226	3326	10	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21M	2021	2021	2024 8"	Polyvinyl Chloride	Install	4226	3326	10	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21N	2021	2021	2024 8"	Polyvinyl Chloride	Both	3077	3077	0	5	3	15 Bakersfield Bakersfield Bakersfield
BK-21T	2021	2021	2024 12"	Ductile Iron	Install	11562	5760	11	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21T	2021	2021	2024 12"	Ductile Iron	Retire	11562	5760	11	5	4	20 Bakersfield Bakersfield Bakersfield
MRL-21A	2021	2021	2023 6"	Polyvinyl Chloride	Both	1617	1617	1	5	2	10 Marysville Marysville Marysville
MRL-21A	2021	2021	2023 6"	Polyvinyl Chloride	Both	1617	1617	1	5	2	10 Marysville Marysville Marysville
MRL-21A	2021	2021	2023 6"	Polyvinyl Chloride	Both	1617	1617	1	5	2	10 Marysville Marysville Marysville
KC-21A	2021	2021	2022 6"	Polyvinyl Chloride	Both	1011	1011	0	5	3	15 King City King City King City
SLN-21C	2021	2021	2022 8"	Polyvinyl Chloride	Both	2471	3636	0	4	4	16 Salinas Salinas Salinas
SLN-21C	2021	2021	2022 8"	Polyvinyl Chloride	Retire	2471	3636	0	4	4	16 Salinas Salinas Salinas
SLN-21M	2021	2021	2024 8"	Polyvinyl Chloride	Both	2108	2108	1	5	2	10 Salinas Salinas Salinas
KC-21A	2021	2021	2022 6"	Polyvinyl Chloride	Both	1011	1011	0	5	3	15 King City King City King City
KC-21B	2021	2021	2023 8"	Polyvinyl Chloride	Both	1573	1573	2	5	3	15 King City King City King City
KC-21C	2021	2021	2024 8"	Polyvinyl Chloride	Both	1239	1239	1	5	4	16 King City King City King City
SLN-21A	2021	2021	2022 12"	Ductile Iron	Both	2913	2913	7	5	2	10 Salinas Salinas Salinas
SLN-21C	2021	2021	2022 8"	Polyvinyl Chloride	Retire	2471	3636	0	4	4	16 Salinas Salinas Salinas
SLN-21C	2021	2021	2022 8"	Polyvinyl Chloride	Both	2471	3636	0	4	4	16 Salinas Salinas Salinas
SLN-21D	2021	2021	2023 8"	Polyvinyl Chloride	Retire	1726	2086	0	5	4	20 Salinas Salinas Salinas
SLN-21D	2021	2021	2023 8"	Polyvinyl Chloride	Both	1726	2086	0	5	4	20 Salinas Salinas Salinas
SLN-21D	2021	2021	2023 8"	Polyvinyl Chloride	Install	1726	2086	0	5	4	20 Salinas Salinas Salinas
SLN-21E	2021	2021	2023 8"	Polyvinyl Chloride	Both	1623	1623	2	5	3	15 Salinas Salinas Salinas
SLN-21F	2021	2021	2023 8"	Polyvinyl Chloride	Retire	0	3419	3	5	3	15 Salinas Salinas Salinas
SLN-21F	2021	2021	2023 8"	Polyvinyl Chloride	Retire	0	3419	3	5	3	15 Salinas Salinas Salinas
SLN-21G	2021	2021	2024 8"	Polyvinyl Chloride	Retire	0	3792	0	5	4	20 Salinas Salinas Salinas
SLN-21H	2021	2021	2024 8"	Polyvinyl Chloride	Both	3109	3109	2	5	3	15 Salinas Salinas Salinas
SLN-21H	2021	2021	2024 8"	Polyvinyl Chloride	Both	3109	3109	2	5	3	15 Salinas Salinas Salinas
SLN-21I	2021	2021	2024 8"	Polyvinyl Chloride	Both	2153	2153	4	5	3	15 Salinas Salinas Salinas
SLN-21I	2021	2021	2024 8"	Polyvinyl Chloride	Both	2153	2153	4	5	3	15 Salinas Salinas Salinas
SLN-21I	2021	2021	2024 8"	Polyvinyl Chloride	Both	2153	2153	4	5	3	15 Salinas Salinas Salinas
SLN-21J	2021	2021	2023 8"	Polyvinyl Chloride	Both	1694	1694	4	5	2	10 Salinas Salinas Salinas
SLN-21J	2021	2021	2023 8"	Polyvinyl Chloride	Both	1694	1694	4	5	2	10 Salinas Salinas Salinas
SLN-21J	2021	2021	2023 8"	Polyvinyl Chloride	Both	1694	1694	4	5	2	10 Salinas Salinas Salinas
SLN-21K	2021	2021	2024 8"	Polyvinyl Chloride	Both	757	757	1	5	2	10 Salinas Salinas Salinas
SLN-21L	2021				Both	1871	2040				10 Salinas Salinas Salinas
SLN-21L		2021	2024 8"	Polyvinyl Chloride	BOUI		2040	4	2	3	
SLN-21L	2021	2021 2021	2024 8" 2024 8"	Polyvinyl Chloride Polyvinyl Chloride	Both	1871	2040	4	5	3 3	10 Salinas Salinas Salinas
DC 314	2021 2021	2021 2021 2021	2024 8" 2024 8" 2024 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Retire	1871 1871	2040 2040 2040	4 4 4	5 5 5	3 3 3	10 Salinas Salinas Salinas 10 Salinas Salinas Salinas
BG-21A	2021 2021 2021	2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 8" 2024 12"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron	Both Retire Both	1871 1871 4190	2040 2040 2040 4526	4 4 4 18	5 5 5	3 3 3 4	10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 16 Bear Gulch Bear Gulch Bear Gulch
BG-21A BG-21A	2021 2021 2021 2021	2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 8" 2024 12" 2024 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride	Both Retire Both Both	1871 1871 4190 4190	2040 2040 2040 4526 4526	4 4 18 18	5 5 5 5	3 3 4 4	10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch
BG-21A BG-21A BG-21A	2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 12" 2024 8" 2024 8" 2024 8"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	Both Retire Both Both Install	1871 1871 4190 4190 4190	2040 2040 2040 4526 4526 4526	4 4 18 18 18	5 5 5 5 5 5	3 3 4 4 4	10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch
BG-21A BG-21A BG-21A BG-21A	2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 12" 2024 8" 2024 8" 2024 8" 2024 6"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Retire Both Both Install Retire	1871 1871 4190 4190 4190 4190	2040 2040 4526 4526 4526 4526 4526	4 4 18 18 18 18	5 5 5 5 5 5 5	3 3 4 4 4 4	10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch
BG-21A BG-21A BG-21A BG-21A BG-21A	2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 8" 2024 12" 2024 8" 2024 8" 2024 6" 2024 6"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Retire Both Both Install Retire Retire	1871 1871 4190 4190 4190 4190 4190	2040 2040 4526 4526 4526 4526 4526 4526	4 4 18 18 18 18 18 18	5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 4 4	10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 16 Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch
BG-21A BG-21A BG-21A BG-21A BG-21A AV-21A	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 2" 2024 8" 2024 8" 2024 8" 2024 6" 2024 6" 2023 6"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Retire Both Both Install Retire Retire Both	1871 1871 4190 4190 4190 4190 4190 1265	2040 2040 4526 4526 4526 4526 4526 4526 1265	4 4 18 18 18 18 18 18 18 0	5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 4 4 2	10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 10 Lake Hugh Antelope V Lake Hughes
BG-21A BG-21A BG-21A BG-21A BG-21A AV-21A AV-21B	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 8" 2024 2" 2024 8" 2024 8" 2024 6" 2024 6" 2024 6" 2023 6"	Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Both Retire Both Install Retire Both Retire	1871 1871 4190 4190 4190 4190 4190 1265 591	2040 2040 2040 4526 4526 4526 4526 4526 1265 816	4 4 18 18 18 18 18 0 1	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 4 2 2	10 Salinas Salinas 11 Sara Salinas 12 Sara Sulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch Sale Gulch 16 Bear Gulch Bear Gulch Bear Gulch Sale Gulch 10 Lake Hugh Antelope V Lake Hughes Lake Hughs
BG-21A BG-21A BG-21A BG-21A BG-21A AV-21A AV-21B AV-21B	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 12" 2024 8" 2024 8" 2024 6" 2024 6" 2024 6" 2024 6"	Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Retire Both Install Retire Retire Both Retire Install	1871 1871 4190 4190 4190 4190 4190 1265 591 591	2040 2040 4526 4526 4526 4526 4526 1265 816 816	4 4 18 18 18 18 18 18 0 1 1	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 2 2 2	10 Salinas Salinas 10 Salinas Salinas 10 Salinas Salinas 10 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hughe Antelope V Lake Hughes
BG-21A BG-21A BG-21A BG-21A BG-21A AV-21A AV-21B KRV-21A	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 12" 2024 12" 2024 8" 2024 8" 2024 6" 2024 6" 2023 6" 2024 6" 2024 6" 2024 6" 2022 6"	Połyvinyl Chloride Połyvinyl Chloride Dolyvinyl Chloride Ductile Iron Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride	Both Retire Both Install Retire Retire Both Retire Install Both	1871 1871 4190 4190 4190 4190 4190 1265 591 591 802	2040 2040 4526 4526 4526 4526 4526 1265 816 816 802	4 4 18 18 18 18 18 18 0 1 1 0	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 2 2 2 3	10 Salinas Salinas 10 Salinas Salinas 11 Salinas Salinas 12 Salinas Salinas 13 Bear Gulch Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch Bear Gulch 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hughes
BG-21A BG-21A BG-21A BG-21A BG-21A AV-21A AV-21B KRV-21B KRV-21A KRV-21B	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 12" 2024 8" 2024 6" 2024 6" 2024 6" 2023 6" 2024 6" 2024 6" 2024 6" 2022 6"	Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Ductile Iron Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride	Both Retire Both Install Retire Retire Both Retire Install Both Both	1871 1871 4190 4190 4190 4190 4190 1265 591 591 802 453	2040 2040 4526 4526 4526 4526 4526 1265 816 816 816 816 802 453	4 4 18 18 18 18 18 0 1 1 1 0 0	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 2 2 3 5	10 Salinas Salinas Salinas 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch Bear Gulch 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 6 Bodfish Kerm River Bodfish- Upper 25 Kernville Kern River Arden/Kernville/Quali Valley Valley
BG-21A BG-21A BG-21A BG-21A AV-21A AV-21B AV-21B KRV-21A KRV-21A KRV-21B	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 2" 2024 2" 2024 2" 2024 2" 2024 6" 2024 6" 2024 6" 2024 6" 2024 6" 2024 6" 2024 6" 2022 6"	Połyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Retire Both Install Retire Retire Both Retire Install Both Both Both	1871 1871 4190 4190 4190 4190 1265 591 265 591 802 453 453	2040 2040 4526 4526 4526 4526 4526 4526 1265 816 816 816 816 802 453 771	4 4 18 18 18 18 18 0 1 1 1 0 4	s 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 2 2 3 5 5	10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 10 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 6 Bodfish 25 Kernville Kern River Arden/Kernville/Quail Valley 25 Kernville Kern River Arden/Kernville/Quail Valley
BG-21A BG-21A BG-21A BG-21A BG-21A AV-21B AV-21B KRV-21B KRV-21B KRV-21C KRV-21C	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 2" 2024 2" 2024 2" 2024 8" 2024 6" 2024 6" 2024 6" 2023 6" 2024 6" 2022 6" 2022 6" 2022 6"	Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Ductile Iron Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride	Both Retire Both Install Retire Both Retire Install Both Both Both Both Both	1871 1871 4190 4190 4190 4190 1265 591 591 591 802 453 1217 699	2040 2040 4526 4526 4526 4526 4526 1265 816 816 816 802 453 771 699	4 4 18 18 18 18 18 0 1 1 0 0 4 2	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 2 2 3 5 5 2	10 Salinas Salinas 10 Baer Gulch Bear Gulch Salinas 16 Bear Gulch Bear Gulch Salinas 16 Bear Gulch Bear Gulch Salinas 10 Lake Hugh Antelope V Lake Hughes Salinas 10 Lake Hugh Antelope V Lake Hughes Salinas 10 Lake Hugh Antelope V Lake Hughes Salinas 25 Kernville Kern River Arden/Kernville/Quail Valley 10 Kern River Arden/Kernville/Quail Valley 10 Kern River Arden/Kernville/Quail Valley
BG-21A BG-21A BG-21A BG-21A BG-21A AV-21A AV-21B KRV-21B KRV-21B KRV-21B KRV-21E KRV-21E KRV-21E	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 12" 2024 8" 2024 8" 2024 6" 2024 6" 2024 6" 2024 6" 2024 6" 2024 6" 2024 6" 2024 6" 2024 6" 2022 6" 2022 6" 2022 6"	Połyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride	Both Retire Both Install Retire Retire Both Retire Install Both Both Both Both Both Both	1871 1871 4190 4190 4190 4190 1265 591 1265 591 802 453 1217 699 681	2040 2040 4526 4526 4526 4526 4526 4526 1265 816 816 816 816 802 453 771 699 508	4 4 18 18 18 18 18 18 18 1 1 1 0 0 4 2 1	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 2 2 3 5 5 2 2 2	10 Salinas Salinas 10 Salinas Salinas 10 Salinas Salinas 10 Salinas Salinas 10 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 10 Lake Hugh Antelope V Lake Hughes 10 Kern River Arden/Kernville/Quail Valley 12 Kern River Arden/Kernville/Quail Valley 10 Arden Kern River Arden/Kernville/Quail Valley 10 Arden Kern River Arden/Kernville/Quail Valley
BG-21A BG-21A BG-21A BG-21A BG-21A AV-21A AV-21B AV-21B KRV-21B KRV-21B KRV-21C KRV-21C KRV-21C KRV-21D KRV-21D	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 6" 2024 6" 2023 6" 2024 6" 2023 6" 2022 6" 2022 8" 2022 8" 2022 8" 2023 6"	Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	buth Both Retire Both Install Retire Retire Both Both Both Both Both Both Both Both	1871 1871 4190 4190 4190 4190 1265 591 802 453 1217 699 681	2040 2040 4526 4526 4526 4526 1265 816 816 816 802 453 771 699 508 508	4 4 18 18 18 18 18 0 1 1 0 0 4 2 1 1	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 2 2 3 5 5 2 2 2 2	10 Salinas Salinas Salinas 10 Bear Gulch Bear Gulch Saer Gulch Bear Gulch Saer Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch Saer Gulch Bear Gulch Bear Gulch Saer Gulch Bear Gulch Dear Gulch 10 Lake Hugh Antelope V Lake Hughes Saer March Marchope V Lake Hughes Saerwille 10 Lake Hugh Antelope V Lake Hughes Gadinsh Kern River Arden/Kernville/Quail Valley 10 Kernville Kern River Arden/Kernville/Quail Valley Skerville/Quail Valley 10 Arden Kern River Arden/Kernville/Quail Valley Skerville/Quail Valley 10 Arden Kern River Arden/Kernville/Quail Valley Skerville/Quail Valley 10 Arden Kern River Arden/Kernville/Quail Valley Skerville/Quail Valley
BG-21A BG-21A BG-21A BG-21A AU-21B AV-21B KRV-21A KRV-21A KRV-21C KRV-21C KRV-21C KRV-21C KRV-21D KRV-21D	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 6" 2024 6" 2023 6" 2023 6" 2022 6" 2022 6" 2022 6" 2022 6" 2023 6" 2023 6"	Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Ductile Iron Połyvinyl Chloride Połyvinyl Chloride	Both Retire Both Install Retire Retire Both Retire Install Both Both Both Both Both Both Both Both	1871 1871 4190 4190 4190 4190 4190 1265 591 591 591 453 453 1217 699 681 681 681 699	2040 2040 4526 4526 4526 4526 4526 816 816 816 816 816 822 453 771 699 508 508 508	4 4 18 18 18 18 18 18 18 1 1 0 0 4 2 1 1 2	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 2 2 3 5 5 2 2 2 2 2 2 2	10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 10 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 16 16 10 Lake Hugh Antelope V Lake Hughes 10
BG-21A BG-21A BG-21A BG-21A BG-21A AV-21B AV-21B KRV-21B KRV-21B KRV-21B KRV-21E KRV-21E KRV-21E KRV-21D KRV-21E KRV-21F	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 8" 2024 8" 2024 8" 2024 6" 2024 6" 2024 6" 2024 6" 2024 6" 2022 6" 2022 6" 2022 8" 2022 6" 2023 6" 2023 6" 2023 6" 2023 6" 2023 6"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	Buth Retire Both Install Retire Retire Both Retire Install Both Both Both Both Both Both Both Both	1871 1871 4190 4190 4190 4190 1265 591 591 802 453 1217 699 681 681 681 699 548	2040 2040 4526 4526 4526 4526 4526 1265 816 816 802 453 771 699 508 508 699 548	4 4 18 18 18 18 18 0 1 1 0 0 4 2 1 1 2 0	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 2 2 3 5 5 2 2 2 2 2 2 2 2 2	10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 10 Salinas Salinas Salinas 10 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 12 Skernville 10 Lake Hugh Antelope V Lake Hughes 13 Skernville 10 Lake Hugh Antelope V Lake Hughes 14 Skernville Quail Valley 10 Lake Hugh Antelope V Lake Hughes 14 Skernville Quail Valley 10 Lake Hugh Antelope V Lake Hughes 14 Valley Skernville Quail Valley 10 Lake Hugh Antelope V Lake Hughes 14 Valley Skernville Quail Valley 10 Arden Kern River Arden/Kernville/Quail Valley Skernville/Quail Valley Skernville/Quail Valley 10 Arden Kern River Arden/Kernville/Quail Valley Skern River Ard
BG-21A BG-21A BG-21A BG-21A BG-21A AV-21B AV-21B KRV-21B KRV-21B KRV-21C KRV-21C KRV-21C KRV-21D KRV-21D KRV-21F KRV-21F KRV-21F	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2024 8" 2024 8" 2024 2" 2024 12" 2024 8" 2024 8" 2024 6" 2024 6" 2024 6" 2024 6" 2024 6" 2022 6" 2022 6" 2022 6" 2022 6" 2023 6" 2023 6" 2023 6" 2023 6" 2023 8"	Połyvinyl Chloride Połyvinyl Chloride Połyvinyl Chloride Ductile Iron Połyvinyl Chloride Połyvinyl Chloride	both Retire Both Both Install Retire Retire Both Retire Install Both Both Both Both Install Both Both Both Both Both Both Both Both	1871 1871 4190 4190 4190 4190 1265 591 802 453 1217 699 681 681 681 681 548	2040 2040 4526 4526 4526 4526 4526 1265 816 816 816 816 816 816 816 816 816 816	4 4 4 18 18 18 18 18 0 1 1 0 0 4 2 1 1 2 0 11	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 4 4 4 4 4 2 2 3 5 5 2 2 2 2 2 2 1	10 Salinas Salinas Salinas 10 Bear Gulch Bear Gulch E Bear Gulch Bear Gulch 16 Bear Gulch Bear Gulch Bear Gulch Bear Gulch 16 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 10 Lake Hugh Antelope V Lake Hughes 10 Lake Hugh Antelope V Lake Hughes 10 10 Arden Kern River Arden/Kernville/Quail Valley 10 Arden Kern River Arden/Kernville/Quail Valley 10 Arden Kern River Arden/Kernville/Quail Valley 10 Arden

	2021	2021	2024 8		Polyvinyl Chloride	Both	1037	1037	7	4	2	8 Arden	Kern River	Arden/Kernville/Quail Valley
KRV-21I	2021	2021	2024 6		Polyvinyl Chloride	Both	1476	1476	1	5	3	15 Bodfish	Kern River	Bodfish-Lower
KRV-21J	2021	2021	2024 6		Polyvinyl Chloride	Both	1261	1261	2	5	2	10 Bodfish	Kern River	Bodfish-Lower
AV-21A	2021	2021	2023 6		Polyvinyl Chloride	Both	1265	1265	0	5	2	10 Lake Hugh	Antelope V	Lake Hughes
KRV-21C	2021	2021	2022 8		Polyvinyl Chloride	Install	1217	771	4	5	5	25 Kernville	Kern River	Arden/Kernville/Quail Valley
VIS-21A	2021	2021	2023 8		Polyvinyl Chloride	Both	3872	3872	3	5	4	20 Visalia	Visalia	Visalia
VIS-21A	2021	2021	2023 6		Polyvinyl Chloride	Both	3872	3872	3	5	4	20 Visalia	Visalia	Visalia
VIS-21A	2021	2021	2023 6		Polyvinyl Chloride	Both	3872	3872	3	5	4	20 Visalia	Visalia	Visalia
VIS-21A	2021	2021	2023 6		Polyvinyl Chloride	Both	3872	3872	3	5	4	20 Visalia	Visalia	Visalia
VIS-21B	2021	2021	2023 6		Polyvinyl Chloride	Both	3097	3097	0	5	4	20 Visalia	Visalia	Visalia
VIS-21B	2021	2021	2023 8		Polyvinyl Chloride	Both	3097	3097	0	5	4	20 Visalia	Visalia	Visalia
VIS-21B	2021	2021	2023 6		Polyvinyl Chloride	Both	3097	3097	0	5	4	20 Visalia	Visalia	Visalia
VIS-21C	2021	2021	2023 6		Polyvinyl Chloride	Both	3686	3686	1	5	4	20 Visalia	Visalia	Visalia
VIS-21C	2021	2021	2023 6		Polyvinyl Chloride	Both	3686	3686	1	5	4	20 Visalia	Visalia	Visalia
VIS-21D	2021	2021	2024 1	2"	Ductile Iron	Install	4149	3344	3	5	3	15 Visalia	Visalia	Visalia
VIS-21D	2021	2021	2024 1	2"	Ductile Iron	Both	4149	3344	3	5	3	15 Visalia	Visalia	Visalia
VIS-21D	2021	2021	2024 6		Polyvinyl Chloride	Both	4149	3344	3	5	3	15 Visalia	Visalia	Visalia
VIS-21E	2021	2021	2024 8		Polyvinyl Chloride	Both	3544	3544	2	5	3	15 Visalia	Visalia	Visalia
VIS-21E	2021	2021	2024 8		Polyvinyl Chloride	Both	3544	3544	2	5	3	15 Visalia	Visalia	Visalia
VIS-21A	2021	2021	2023 6		Polyvinyl Chloride	Both	3872	3872	3	5	4	20 Visalia	Visalia	Visalia
BG-21N	2021	2021	2024 6		Polyvinyl Chloride	Both	241	241	2	5	2	10 Bear Gulch	Bear Gulch	Bear Gulch
BG-21I	2021	2021	2024 6		Polyvinyl Chloride	Both	1705	1705	1	5	2	10 Bear Gulch	Bear Gulch	Bear Gulch
BG-21J	2021	2021	2024 1	2"	Ductile Iron	Both	1897	1897	6	5	2	8 Bear Gulch	Bear Gulch	Bear Gulch
STK-21B	2021	2021	2023 8		Polyvinyl Chloride	Retire	3174	3121	9	5	4	16 Stockton	Stockton	Stockton
STK-21B	2021	2021	2023 8		Polyvinyl Chloride	Retire	3174	3121	9	5	4	16 Stockton	Stockton	Stockton
STK-21A	2021	2021	2023 8		Polyvinyl Chloride	Retire	2870	3651	7	5	2	10 Stockton	Stockton	Stockton
STK-21B	2021	2021	2023 8		Polyvinyl Chloride	Install	3174	3121	9	5	4	16 Stockton	Stockton	Stockton
STK-21B	2021	2021	2023 8		Polyvinyl Chloride	Install	3174	3121	9	5	4	16 Stockton	Stockton	Stockton
STK-21B	2021	2021	2023 8		Polyvinyl Chloride	Both	3174	3121	9	5	4	16 Stockton	Stockton	Stockton
STK-21A	2021	2021	2023 8		Polyvinyl Chloride	Both	2870	3651	7	5	2	10 Stockton	Stockton	Stockton
STK-21A	2021	2021	2023 8		Polyvinyl Chloride	Both	2870	3651	7	5	2	10 Stockton	Stockton	Stockton
STK-21A	2021	2021	2023 8		Polyvinyl Chloride	Both	2870	3651	7	5	2	10 Stockton	Stockton	Stockton
STK-21A	2021	2021	2023 8		Polyvinyl Chloride	Both	2870	3651	7	5	2	10 Stockton	Stockton	Stockton
STK-21C	2021	2021	2023 1	2"	Ductile Iron	Both	3708	3708	26	5	3	15 Stockton	Stockton	Stockton
STK-21C	2021	2021	2023 1	2"	Ductile Iron	Both	3708	3708	26	5	3	15 Stockton	Stockton	Stockton
STK-21C	2021	2021	2023 6		Polyvinyl Chloride	Both	3708	3708	26	5	3	15 Stockton	Stockton	Stockton
STK-21C	2021	2021	2023 1	2"	Ductile Iron	Both	3708	3708	26	5	3	15 Stockton	Stockton	Stockton
STK-21F	2021	2021	2023 6		Polyvinyl Chloride	Both	5334	3042	16	5	3	15 Stockton	Stockton	Stockton
STK-21E	2021	2021	2023 6		Polyvinyl Chloride	Retire	5325	5253	20	5	3	15 Stockton	Stockton	Stockton
STK-21F	2021	2021	2023 6		Polyvinyl Chloride	Betire	5325	5253	20	5	3	15 Stockton	Stockton	Stockton
STK-21E	2021	2021	2023 6		Polyvinyl Chloride	Install	5325	5253	20	5	3	15 Stockton	Stockton	Stockton
STK-21E	2021	2021	2023 6		Polyvinyl Chloride	Roth	5224	2042	16	5	2	15 Stockton	Stockton	Stockton
CTV 21E	2021	2021	2023 0		Polyvinyl Chlorido	Install	5334	2042	16	5	2	15 Stockton	Stockton	Stockton
STK-21F	2021	2021	2025 0		Polyvinyi Chlorida	Deale	3334	3042	10	5	2	10 Charleton	Charliner	Stockton
51K-21G	2021	2021	2023 6		Polyvinyi Chioride	Both	2058	2058	24	5	3	10 Stockton	SLOCKLON	SLOCKION
STK-21G	2021	2021	2023 6		Polyvinyi Chioride	Both	2058	2058	24	5	3	10 Stockton	Stockton	Stockton
STK-21H	2021	2021	2023 1.	2"	Ductile Iron	Both	2540	2540	8	5	3	15 Stockton	Stockton	Stockton
STK-21	2021	2021	2023 6		Polyvinyl Chloride	Retire	4630	5965	5	5	3	15 Stockton	Stockton	Stockton
STK-21I	2021	2021	2023 6		Polyvinyl Chloride	Retire	4630	5965	5	5	3	15 Stockton	Stockton	Stockton
STK-21I	2021	2021	2023 6		Polyvinyl Chloride	Retire	4630	5965	5	5	3	15 Stockton	Stockton	Stockton
STK-21I	2021	2021	2023 6		Polyvinyl Chloride	Retire	4630	5965	5	5	3	15 Stockton	Stockton	Stockton
STK-21I	2021	2021	2023 6		Polyvinyl Chloride	Install	4630	5965	5	5	3	15 Stockton	Stockton	Stockton
STK-21I	2021	2021	2023 8		Polyvinyl Chloride	Both	4630	5965	5	5	3	15 Stockton	Stockton	Stockton
STK-21I	2021	2021	2023 6		Polyvinyl Chloride	Install	4630	5965	5	5	3	15 Stockton	Stockton	Stockton
STK-21I	2021	2021	2023 6		Polyvinyl Chloride	Install	4630	5965	5	5	3	15 Stockton	Stockton	Stockton
STK-21B	2021	2021	2023 8		Polyvinyl Chloride	Both	3174	3121	9	5	4	16 Stockton	Stockton	Stockton
STK-21I	2021	2021	2023 O	ther (See	Other (see Comments)	Retire	4630	5965	5	5	3	15 Stockton	Stockton	Stockton
STK-21A	2021	2021	2023 8		Polyvinyl Chloride	Retire	2870	3651	7	5	2	10 Stockton	Stockton	Stockton
STK-21A	2021	2021	2023 8		Polyvinyl Chloride	Install	2870	3651	7	5	2	10 Stockton	Stockton	Stockton
STK-21C	2021	2021	2023 6		Polyvinyl Chloride	Both	3708	3708	26	5	3	15 Stockton	Stockton	Stockton
STK-21D	2021	2021	2023 1	2"	Ductile Iron	Both	1333	1333	3	5	4	16 Stockton	Stockton	Stockton
STK-21F	2021			2"	Ductile Iron	Both	5334	3042	16	5	3	15 Stockton	Stockton	Stockton
		2021	2023 1.											
STK-21F	2021	2021 2021	2023 1.		Polyvinyl Chloride	Both	5325	5253	20	5	3	15 Stockton	Stockton	Stockton
STK-21E STK-21F	2021 2021	2021 2021 2021	2023 1. 2023 6' 2023 6'		Polyvinyl Chloride Polyvinyl Chloride	Both Install	5325 5334	5253 3042	20 16	5	3	15 Stockton 15 Stockton	Stockton Stockton	Stockton
STK-21E STK-21F STK-21I	2021 2021 2021	2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6'		Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Install	5325 5334 4630	5253 3042 5965	20 16	5 5	3 3 3	15 Stockton 15 Stockton	Stockton Stockton	Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21F	2021 2021 2021 2021	2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6'		Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Install Install Both	5325 5334 4630 5325	5253 3042 5965 5253	20 16 5 20	5 5 5	3 3 3	15 Stockton 15 Stockton 15 Stockton	Stockton Stockton Stockton	Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21E STK-211	2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 6'	" " "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments)	Both Install Install Both Retire	5325 5334 4630 5325 3051	5253 3042 5965 5253 5375	20 16 5 20 23	5 5 5 5	3 3 3 4	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton	Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21E STK-21J STK-21J	2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 6' 2023 0	" " " " " ther (See	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile Irco	Both Install Install Both Retire Both	5325 5334 4630 5325 3051 2051	5253 3042 5965 5253 5375 5375	20 16 5 20 23 23	5 5 5 5 5	3 3 3 4	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton	Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21E STK-21J STK-21J STK-21J	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 0 2023 1. 2023 1.	" " " Ither (See 2" 2"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile Iron Ductile Iron	Both Install Install Both Retire Both Both	5325 5334 4630 5325 3051 3051 2772	5253 3042 5965 5253 5375 5375	20 16 5 20 23 23	5 5 5 5 5 5	3 3 3 4 4	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton 20 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21E STK-21J STK-21J STK-21J STK-21K STK-211	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 0 2023 1. 2023 1. 2023 1.	" " hther (See 2" 2"	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile Iron Ductile Iron Ductile Iron	Both Install Both Retire Both Both Both	5325 5334 4630 5325 3051 3051 2773 2820	5253 3042 5965 5253 5375 5375 5375 2773 2820	20 16 5 20 23 23 10	5 5 5 5 5 5 5	3 3 3 4 4 3	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton 20 Stockton 12 Stockton 10 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21I STK-21J STK-21J STK-21J STK-21L STK-21L STK-21L	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 0 2023 1. 2023 1. 2023 1. 2024 8'	" " " ther (See 2" 2" "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile Iron Ductile Iron Polyvinyl Chloride	Both Install Install Both Both Both Both	5325 5334 4630 5325 3051 3051 2773 2839 2920	5253 3042 5965 5253 5375 5375 2773 2839 2020	20 16 5 20 23 23 10 27 27	5 5 5 5 5 5 5 5 5 5 5	3 3 3 4 4 3 2	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton 20 Stockton 12 Stockton 10 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21J STK-21J STK-21J STK-21L STK-21L STK-21L STK-21L STK-21L	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 0 2023 1. 2023 1. 2023 1. 2024 8' 2024 6'	" " " ther (See 2" 2" "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	Both Install Install Both Retire Both Both Both Both	5325 5334 4630 5325 3051 3051 2773 2839 2839 2839	5253 3042 5965 5253 5375 5375 2773 2839 2839	20 16 5 20 23 23 10 27 27 27	5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 3 4 4 3 2 2 2	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton 12 Stockton 10 Stockton 10 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21J STK-21J STK-21J STK-21L STK-21L STK-21L STK-21L	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 0' 2023 1: 2023 1: 2024 6' 2024 6'	" " " ther (See 2" 2" " "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	Both Install Install Both Both Both Both Both Both	5325 5334 4630 5325 3051 3051 2773 2839 2839 2839 2839	5253 3042 5965 5253 5375 5375 2773 2839 2839 2839	20 16 5 20 23 23 10 27 27 27	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 3 4 4 3 2 2 2 2	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton 12 Stockton 10 Stockton 10 Stockton 10 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21J STK-21J STK-21J STK-21J STK-21L STK-21L STK-21L STK-21L STK-21L STK-21L STK-21L STK-21L	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 0' 2023 1: 2023 1: 2024 8' 2024 6' 2024 6' 2024 6'	" " tther (See 2" " " "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Install Install Both Retire Both Both Both Both Both	5325 5334 4630 5325 3051 3051 2773 2839 2839 2839 2839	5253 3042 5965 5253 5375 5375 2773 2839 2839 2839 2839	20 16 5 20 23 23 10 27 27 27 8	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 3 4 4 3 2 2 2 2 2 2	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton 12 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21J STK-21J STK-21J STK-21L STK-21L STK-21L STK-21L STK-21L STK-21L STK-21L STK-21N1 STK-21M	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 0' 2023 1: 2023 1: 2024 6' 2024 6' 2024 6' 2024 6'	" " ther (See 2" 2" " "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Install Install Both Both Both Both Both Both Both Both	5225 5334 4630 5325 3051 2773 2839 2839 2839 2839 2839 2839	5253 3042 5965 5253 5375 5375 2773 2839 2839 2839 2839 2839 2843 3845	20 16 5 20 23 23 10 27 27 27 8 12 2	555555555555555555555555555555555555555	3 3 3 4 4 3 2 2 2 2 2 3	15 Stockton 15 Stockton 15 Stockton 20 Stockton 20 Stockton 12 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 12 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21I STK-21J STK-21J STK-21L STK-21L STK-21L STK-21L STK-21L STK-21N1 STK-21N1 STK-21M	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 0' 2023 1: 2023 1: 2024 8' 2024 6' 2024 6' 2024 6' 2024 6' 2024 8'	" " tther (See 2" 2" " " " " " " " " " " " " " " " "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Install Both Retire Both Both Both Both Both Both Both Both	5225 5334 4630 5525 3051 3051 2773 2839 2839 2839 2839 2839 2845 3845	5253 3042 5965 5253 5375 2773 2839 2839 2839 2845 3845	20 16 5 20 23 23 10 27 27 27 8 12 12 12	555555555555555555555555555555555555555	3 3 3 4 4 3 2 2 2 2 3 3 3	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 12 Stockton 12 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21I STK-21J STK-21J STK-21L STK-21L STK-21L STK-21M STK-21M STK-21M STK-21M	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1 2023 6 2023 6 2023 6 2023 6 2023 0 2023 0 2023 1 2023 1 2023 1 2023 1 2024 8 2024 6 2024 6 2024 6 2024 8	" " ther (See 2" 2" " " " " "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Install Install Both Retire Both Both Both Both Both Both Both Both	5225 5334 4630 5325 3051 3051 2773 2839 2839 2839 2943 3845 3845	5253 3042 5965 5253 5375 2773 2839 2839 2839 2839 2943 3845 3845	20 16 5 20 23 23 10 27 27 8 12 12 12 12	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 3 4 4 3 2 2 2 2 3 3 3 3	15 Stockton 15 Stockton 15 Stockton 10 Stockton 12 Stockton 12 Stockton 12 Stockton 12 Stockton 12 Stockton 12 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21J STK-21J STK-21J STK-21J STK-21L STK-21L STK-21L STK-21L STK-21M STK-21M STK-21M STK-21M STK-21M	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1 2023 6 2023 6 2023 6 2023 6 2023 0 2023 1 2023 1 2023 1 2024 8 2024 6 2024 6 2024 6 2024 6 2024 6 2024 6 2024 6	" " ther (See 2" 2" " " " " " " " " " " " " " " " "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Olyvinyl Chloride Olher (sec Comments) Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Install Install Both Retire Both Both Both Both Both Both Both Both	5325 5334 4630 5325 3051 3051 2773 2839 2839 2839 2839 2943 3845 3845 2943	5253 3042 5965 5253 5375 5375 5375 2839 2839 2839 2839 2943 3845 3845 3845	20 16 5 20 23 23 10 27 27 27 27 8 12 12 12 8	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 3 3 4 4 4 3 2 2 2 2 2 2 3 3 3 2 2	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 12 Stockton 12 Stockton 12 Stockton 12 Stockton 10 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton
STK-21E STK-21F STK-21I STK-21J STK-21J STK-21J STK-21L STK-21L STK-21L STK-21N STK-21M STK-21M STK-21M STK-21M STK-21M STK-21N1	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 6' 2023 0 2023 1. 2023 1. 2024 8' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6'	" " tther (See 2" 2" " " " " " " " " " " " " " " " "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Other (see Comments) Ductile fron Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride	Both Install Install Both Retire Both Both Both Both Both Both Both Both	5225 5334 4430 5325 3051 2773 2839 2839 2839 2843 3845 3845 3845 2843 2943	5253 3042 5965 5253 5375 5375 2773 2839 2839 2839 2839 2843 3845 3845 3845 2943	20 16 5 20 23 23 10 27 27 27 27 8 12 12 12 8 8 8 8	S S S S S S S S S S S S S S S S S S S	3 3 3 3 4 4 4 3 2 2 2 2 2 3 3 3 2 2 2 2	15 Stockton 15 Stockton 15 Stockton 20 Stockton 20 Stockton 20 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 12 Stockton 12 Stockton 12 Stockton 12 Stockton 12 Stockton 12 Stockton 13 Stockton 14 Stockton 15 Stockton 16 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21J STK-21J STK-21J STK-21L STK-21L STK-21L STK-21L STK-21L STK-21L STK-21N1 STK-21M STK-21M STK-21M STK-21N1 STK-21N1 STK-21N1 STK-210 STK-210	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 0' 2023 0' 2023 1. 2023 1. 2024 8' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6'	" " tther (See 2" 2" " " " " " " " " " " " " " " " "	Polyviny Chioride Polyviny Chioride Polyviny Chioride Dolter (see Comments) Ductile Iron Ductile Iron Ductile Iron Polyviny Chioride Polyviny Chioride	Both Install Install Both Retire Both Both Both Both Both Both Both Both	5325 5334 4630 5325 3051 2773 2839 2839 2839 2943 3845 3845 3845 2943 3845	5253 3042 5965 5253 5375 5375 2773 2839 2839 2839 2839 2839 2839 2839 2845 2943 3845 2943 3845	20 16 5 20 23 23 10 27 27 27 27 27 27 27 27 27 27	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 3 4 4 4 3 2 2 2 2 2 3 3 3 2 2 2 3 3 2 2 2 3 3 3 2 2 2 3 3 3 3 3 3 3 3 4 4 4 3 3 3 4 4 4 3 3 3 3 3 4 4 4 3	15 Stockton 15 Stockton 15 Stockton 15 Stockton 20 Stockton 20 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 12 Stockton 12 Stockton 12 Stockton 12 Stockton 12 Stockton 10 Stockton 10 Stockton 11 Stockton 12 Stockton 13 Stockton 14 Stockton 15 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton
STK-21E STK-21F STK-21I STK-21J STK-21J STK-21J STK-21L STK-21L STK-21L STK-21L STK-21N1 STK-21M STK-21M STK-21M STK-21N1 STK-21N1 STK-21N1 STK-220 STK-220	2021 2021 2021 2021 2021 2021 2021 2021	2021 2021 2021 2021 2021 2021 2021 2021	2023 1. 2023 6' 2023 6' 2023 6' 2023 0' 2023 1: 2024 8' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 6' 2024 8' 2024 6' 2024 8' 2024 6' 2024 8'	" ther (See 2" 2" " " " " " " " " " " " " " " " "	Polyvinyl Chloride Polyvinyl Chloride Polyvinyl Chloride Olyvinyl Chloride Ductile Iron Ductile Iron Ductile Iron Polyvinyl Chloride Polyvinyl Chloride	Both Install Both Retire Both Both Both Both Both Both Both Both	5225 5334 4630 5325 3051 2051 2773 2839 2839 2839 2843 3845 3845 3845 3845 3845 2943 2943 2943	5253 3042 5965 5253 5375 5375 2773 2839 2839 2839 2843 3845 3845 3845 3845 2943 2943 2943	20 16 5 20 23 23 20 27 27 27 27 27 27 27 27 27 27	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 3 4 4 4 3 2 2 2 2 2 3 3 3 3 2 2 2 3 3 3 3	15 Stockton 15 Stockton 15 Stockton 20 Stockton 20 Stockton 20 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 12 Stockton 12 Stockton 12 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 10 Stockton 15 Stockton	Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton Stockton	Stockton
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BK-21U	2021	2021	2022 8"	Polyvinyl Chloride	Retire	6266	3636	6	5	3	12 Bakersfield Bakersfie	lc Bakersfield
STK-21R2	2021	2021	2024 8"	Polyvinyl Chloride	Both	2996	2996	3	5	3	15 Stockton Stockton	Stockton
STK-21R2 STK-21R2	2021	2021	2024 8"	Polyvinyl Chloride	Both	2996	2996	3	5	3	15 Stockton Stockton	Stockton
LAS-21B	2021	2021	2023 6"	Polyvinyl Chloride	Both	1274	1274	0	4	2	8 Los Altos S Los Altos	Los Altos Suburban
LAS-21C	2021	2021	2022 8"	Polyvinyl Chloride	Both	1646	1646	0	5	2	10 Los Altos S Los Altos	Los Altos Suburban
LAS-21C	2021	2021	2022 8"	Polyvinyl Chloride	Both	1646	1646	0	5	2	10 Los Altos S Los Altos	Los Altos Suburban
LAS-21G	2021	2021	2022 12"	Ductile Iron	Both	1050	1050	2	5	3	15 Los Altos S Los Altos	Los Altos Suburban
LAS-211 LAS-21M	2021	2021	2023 8	Ductile Iron	Both	3545	3545 8269	5 14	5	3	15 Los Altos S Los Altos 15 Los Altos S Los Altos	Los Altos Suburban
STK-21N2	2021	2021	2024 12"	Ductile Iron	Both	2519	2519	7	5	3	12 Stockton Stockton	Stockton
BK-21U	2021	2021	2022 8"	Polyvinyl Chloride	Install	6266	3636	6	5	3	12 Bakersfield Bakersfie	lc Bakersfield
STK-21R2	2021	2021	2024 8"	Polyvinyl Chloride	Both	2996	2996	3	5	3	15 Stockton Stockton	Stockton
LAS-21N	2021	2021	2023 12"	Ductile Iron	Retire	1581	1691	1	5	3	15 Los Altos S Los Altos	Los Altos Suburban
LAS-21N	2021	2021	2023 12	Polyvinyl Chloride	Both	1581	1691	1	5	3	15 Los Altos S Los Altos	Los Altos Suburban
LAS-21P	2021	2021	2023 6"	Polyvinyl Chloride	Both	228	228	0	5	3	15 Los Altos S Los Altos	Los Altos Suburban
LAS-21Q	2021	2021	2022 12"	Ductile Iron	Both	2615	2615	2	5	4	20 Los Altos S Los Altos	Los Altos Suburban
ORO-21A	2021	2021	2022 12"	Ductile Iron	Both	2810	2810	4	5	3	15 Oroville Oroville	Oroville
BG-21X	2021	2021	2024 8"	Polyvinyl Chloride	Both	4436	4436	14	5	4	20 Bear Gulch Bear Gul	h Bear Gulch
BG-21X	2021	2021	2024 8"	Polyvinyl Chloride	Both	4436	4436	14	5	4	20 Bear Gulch Bear Gul	h Bear Gulch
BG-21X BG-21X	2021	2021	2024 8"	Polyvinyl Chloride	Both	4436	4436	14	5	4	20 Bear Gulch Bear Gul	n Bear Guich
BG-21X BG-21X	2021	2021	2024 8"	Polyvinyl Chloride	Both	4436	4436	14	5	4	20 Bear Gulch Bear Gul	h Bear Gulch
BG-21Y	2021	2021	2023 8"	Polyvinyl Chloride	Both	4789	4789	8	5	4	16 Bear Gulch Bear Gul	h Bear Gulch
BG-21Y	2021	2021	2023 8"	Polyvinyl Chloride	Both	4789	4789	8	5	4	16 Bear Gulch Bear Gul	h Bear Gulch
BG-21Y	2021	2021	2023 8"	Polyvinyl Chloride	Both	4789	4789	8	5	4	16 Bear Gulch Bear Gul	h Bear Gulch
BG-21Y	2021	2021	2023 8"	Polyvinyl Chloride	Both	4789	4789	8	5	4	16 Bear Gulch Bear Gul	h Bear Gulch
BG-212 BG-217	2021	2021	2024 8"	Polyvinyl Chloride	Both	6465	6465	3	5	4	16 Bear Gulch Bear Gul	n Bear Guich
BG-21XF	2021	2021	2024 6"	Polyvinyl Chloride	Both	1639	1639	6	5	2	10 Bear Gulch Bear Gul	h Bear Gulch
BG-21XJ	2021	2021	2022 12"	Ductile Iron	Both	1257	1257	2	5	2	10 Bear Gulch Bear Gul	h Bear Gulch
VIS-21F	2021	2021	2024 6"	Polyvinyl Chloride	Retire	3018	4174	6	5	2	10 Visalia Visalia	Visalia
VIS-21F	2021	2021	2024 8"	Polyvinyl Chloride	Both	3018	4174	6	5	2	10 Visalia Visalia	Visalia
VIS-21F	2021	2021	2024 8"	Polyvinyl Chloride	Both	3018	4174	6	5	2	10 Visalia Visalia	Visalia
VIS-21F	2021	2021	2024 8"	Polyvinyl Chloride	Both	3018	4174	6	5	2	10 Visalia Visalia	Visalia
VIS-21F VIS-21E	2021	2021	2024 8	Polyvinyl Chloride	Both	2018	4174	6	5	2	10 Visalia Visalia 10 Visalia Visalia	Visalia
VIS-21G	2021	2021	2024 6"	Polyvinyl Chloride	Both	3796	3471	2	5	2	10 Visalia Visalia	Visalia
VIS-21G	2021	2021	2024 6"	Polyvinyl Chloride	Install	3796	3471	2	5	2	10 Visalia Visalia	Visalia
VIS-21F	2021	2021	2024 6"	Polyvinyl Chloride	Retire	3018	4174	6	5	2	10 Visalia Visalia	Visalia
VIS-21G	2021	2021	2024 6"	Polyvinyl Chloride	Both	3796	3471	2	5	2	10 Visalia Visalia	Visalia
VIS-21G	2021	2021	2024 6"	Polyvinyl Chloride	Both	3796	3471	2	5	2	10 Visalia Visalia	Visalia
VIS-21G	2021	2021	2024 6"	Polyvinyl Chloride	Both	3796	3471	2	5	2	10 Visalia Visalia	Visalia
VIS-21F	2021	2021	2024 12"	Ductile Iron	Both	3018	4174	6	5	2	10 Visalia Visalia	Visalia
CH-21A	2021	2021	2023 8"	Ductile Iron Polyainyl Chloride	Both	2216	2216	2	5	3	15 Chico Chico	Chico
CH-21B	2021	2021	2023 8"	Polyvinyl Chloride	Both	3216	3216	3	5	2	10 Chico Chico	Chico
CH-21B	2021	2021	2023 8"	Polyvinyl Chloride	Both	3216	3216	3	5	2	10 Chico Chico	Chico
CH-21B	2021	2021	2023 6"	Polyvinyl Chloride	Both	3216	3216	3	5	2	10 Chico Chico	Chico
CH-21D	2021	2021	2024 6"	Polyvinyl Chloride	Both	1496	1496	1	5	4	20 Chico Chico	Chico
CH-21C	2021	2021	2024 8"	Polyvinyl Chloride	Both	3056	3056	2	5	4	20 Chico Chico	Chico
CH-21C	2021	2021	2024 8"	Polyvinyl Chloride	Both	3056	3056	2	5	4	20 Chico Chico	Chico
CH-21E	2021	2021	2024 8"	Polyvinyl Chloride	Both	3019	3019	0	5	2	10 Chico Chico	Chico
CH-21F	2021	2021	2024 8	Polyvinyl Chloride	Both	2276	2276	0	5	2	10 Chico Chico	Chico
CH-21F	2021	2021	2024 8"	Polyvinyl Chloride	Both	2276	2276	0	5	2	10 Chico Chico	Chico
CH-21F	2021	2021	2024 8"	Polyvinyl Chloride	Both	2276	2276	0	5	2	10 Chico Chico	Chico
CH-21F	2021	2021	2024 8"	Polyvinyl Chloride	Both	2276	2276	0	5	2	10 Chico Chico	Chico
CH-21G	2021	2021	2024 8"	Polyvinyl Chloride	Both	1601	1601	0	5	4	20 Chico Chico	Chico
CH-21J	2021	2021	2023 8"	Polyvinyl Chloride	Retire	3515	1058	0	5	2	10 Hamilton C Chico	Hamilton City
CH-210	2021	2021	2023 8	Polyvinyl Chloride	Both	2773	2773	1	5	2	10 Chico Chico	Chico
CH-210 CH-21R	2021	2021	2023 8"	Polyvinyl Chloride	Both	2170	2170	0	5	4	20 Chico Chico	Chico
CH-215	2021	2021	2024 8"	Polyvinyl Chloride	Both	1486	1486	0	5	4	20 Chico Chico	Chico
CH-21J	2021	2021	2023 8"	Polyvinyl Chloride	Install	3515	1058	0	5	2	10 Hamilton C Chico	Hamilton City
CH-21J	2021	2021	2023 8"	Polyvinyl Chloride	Install	3515	1058	0	5	2	10 Hamilton C Chico	Hamilton City
CH-21J	2021	2021	2023 6"	Polyvinyl Chloride	Install	3515	1058	0	5	2	10 Hamilton C Chico	Hamilton City
CH-21J	2021	2021	2023 6"	Polyvinyl Chloride	Install	3515	1058	0	5	2	10 Hamilton C Chico	Hamilton City
AV-18XF	2021	2021	2022 6	Polyvinyl Chloride	Retire	1629	1986	1	5	3	15 Lake Hugh Antelope	V Lake Hughes
AV-18XF	2021	2021	2022 6"	Polyvinyl Chloride	Install	1629	1986	1	5	3	15 Lake Hugh Antelope	V Lake Hughes
AV-18XF	2021	2021	2022 6"	Polyvinyl Chloride	Both	1629	1986	1	5	3	15 Lake Hugh Antelope	V Lake Hughes
AV-18XF	2021	2021	2022 6"	Polyvinyl Chloride	Both	1629	1986	1	5	3	15 Lake Hugh Antelope	V Lake Hughes
AV-18XF	2021	2021	2022 6"	Polyvinyl Chloride	Retire	1629	1986	1	5	3	15 Lake Hugh Antelope	V Lake Hughes
AV-18XF	2021	2021	2022 6"	Polyvinyl Chloride	Install	1629	1986	1	5	3	15 Lake Hugh Antelope	V Lake Hughes
AV-18XF	2021	2021	2022 6	Polyvinyl Chloride	Both	2056	2056	2	5	3	20 Chico Chico	Chico
CH-21D	2021	2021	2024 8"	Polyvinyl Chloride	Both	1496	1496	1	5	4	20 Chico Chico	Chico
CH-21Q	2021	2021	2023 8"	Polyvinyl Chloride	Both	2773	2773	1	5	2	10 Chico Chico	Chico
SLN-21N	2021	2021	2023 8"	Polyvinyl Chloride	Both	1396	1046	0	2	3	6 Las Lomas Salinas	Las Lomas
PV-21G	2021	2021	2023 6"	Ductile Iron	Both	540	540	3	5	2	10 Palos Verd Rancho E	o Palos Verdes
SLIN-21N PV-21D	2021	2021	2023 8"	Polyvinyi Chioride	Roth	1396	1046	2	2	3 5	o Las Lomas Salinas	Las Lomas
PV-21D PV-21F	2021	2021	2022 8	Ductile Iron	Both	4517	4517	3	5	4	20 Palos Verd Rancho E	o Palos Verdes
PV-21E	2021	2021	2023 6"	Ductile Iron	Both	4517	4517	3	5	4	20 Palos Verd Rancho E	o Palos Verdes
PV-21F	2021	2021	2023 12"	Ductile Iron	Both	4721	4721	1	5	4	20 Palos Verd Rancho D	o Palos Verdes
PV-21H	2021	2021	2024 8"	Ductile Iron	Both	4155	4155	10	5	3	15 Palos Verd Rancho D	o Palos Verdes
PV-21I	2021	2021	2024 8"	Ductile Iron	Both	3752	3752	8	5	3	12 Palos Verd Rancho D	o Palos Verdes
PV-211	2021	2021	2024 6"	Ductile Iron	Both	3752	3752	8	5	3	12 Palos Verd Rancho D	o Palos Verdes
PV-211 DOM-215	2021	2021	2024 6	Polyginyl Chloride	Both	3/52	3/52	8 6	5	3	12 Palos vero Rancho L 10 Domingue: Rancho L	o Palos verdes
DOM-21F	2021	2021	2024 6"	Polyvinyl Chloride	Both	2562	2562	6	5	2	10 Domingue; Rancho F	o Dominguez
DOM-21F	2021	2021	2024 6"	Polyvinyl Chloride	Both	2562	2562	6	5	2	10 Domingue: Rancho E	o Dominguez
DOM-21G	2021	2021	2024 8"	Polyvinyl Chloride	Both	2187	2187	6	5	2	10 Domingue: Rancho D	o Dominguez
DOM-21H	2021	2021	2024 8"	Polyvinyl Chloride	Both	2129	2129	6	5	2	10 Domingue: Rancho D	o Dominguez
DOM-21H	2021	2021	2024 6"	Polyvinyl Chloride	Both	2129	2129	6	5	2	10 Domingue: Rancho D	o Dominguez
DOM-211	2021	2021	2024 12"	Ductile Iron	Both	24/3	24/3 2125	0	5	4 4	20 Domingue: Rancho E 20 Domingue: Papet - 5	o Dominguez
HR-21A	2021	2021	2024 12	Polyvinyl Chloride	Both	1856	1856	6	5	→ 2	10 Hermosa R Rancho F	o Borninguez o Hermosa Redondo
HR-21B	2021	2021	2022 8"	Polyvinyl Chloride	Both	1785	1785	õ	5	3	15 Hermosa R Rancho F	o Hermosa Redondo
HR-21B	2021	2021	2022 6"	Polyvinyl Chloride	Both	1785	1785	0	5	3	15 Hermosa R Rancho E	o Hermosa Redondo
HR-21B	2021	2021	2022 6"	Polyvinyl Chloride	Both	1785	1785	0	5	3	15 Hermosa R Rancho D	o Hermosa Redondo
HR-21B	2021	2021	2022 8"	Polyvinyl Chloride	Both	1785	1785	0	5	3	15 Hermosa R Rancho D	o Hermosa Redondo
HR-21C	2021	2021	2023 8"	Polyvinyl Chloride	Both	3580	3580	4	5	2	10 Hermosa R Rancho D	o Hermosa Redondo
пк-21С HR-21F	2021	2021	2023 8"	Polyvinyl Chloride	Both	308U 3037	3037	4	5	2	10 Hermosa R Rancho E	o Hermosa Redondo
ORO-21A	2021	2021	2024 0	Ductile Iron	Both	2810	2810	4	5	2	15 Oroville Oroville	Oroville
HR-21F	2021	2021	2024 6"	Polyvinyl Chloride	Both	1179	1179	3	5	2	10 Hermosa R Rancho D	o Hermosa Redondo
BK-21W	2021	2021	2022 12"	Polyvinyl Chloride	Retire	4762	2628	2	5	4	20 Bakersfield Bakersfie	lc Bakersfield
BK-21W	2021	2021	2022 12"	Ductile Iron	Install	4762	2628	2	5	4	20 Bakersfield Bakersfie	lc Bakersfield
BK-21W	2021	2021	2022 12"	Ductile Iron	Install	4762	2628	2	5	4	20 Bakersfield Bakersfie	lc Bakersfield
BK-21X	2021	2021	2022 12"	Ductile Iron	Ketife	2944	2952	U	4	4	о вакerstield Bakersfie	ic Bakerstield

BK-21X	2021	2021	2022 12"	Ductile Iron	Install	2944	2952	0	4	4	16 Bakersfield Bakersfield Bakersfield
BK-21X	2021	2021	2022 8"	Ductile Iron	Both	2944	2952	0	4	4	16 Bakersfield Bakersfield Bakersfield
BK-21X	2021	2021	2022 12"	Ductile Iron	Both	2944	2952	0	4	4	16 Bakersfield Bakersfield Bakersfield
BK-21W	2021	2021	2022 12"	Ductile Iron	Install	4762	2628	2	5	4	20 Bakersfield Bakersfield Bakersfield
BK-21W	2021	2021	2022 12"	Ductile Iron	Both	4762	2628	2	5	4	20 Bakerstield Bakerstield Bakerstield
BK-21W	2021	2021	2022 8"	Polyvinyl Chloride	Both	4/62	2628	2	5	4	20 Bakerstield Bakerstield Bakerstield
BAY-21J	2021	2021	2022 12"	Ductile Iron	Both	5400	5400	26	5	3	15 Mid Penins Bayshore San Mateo
LAS-215	2021	2021	2022 8	Polyvinyl Chloride	Both	2452	2452	1	5	3	15 Los Altos S Los Altos Los Altos Suburban
LA3=213	2021	2021	2022 8	Polyvinyl Chloride	Both	2432	2432	1	5	3	15 Los Altos S Los Altos Los Altos Suburban
LA3=213	2021	2021	2022 8	Polyvinyl Chloride	Both	2432	2432	1	5	3	15 Los Altos S Los Altos Los Altos Suburban
LAS-215	2021	2021	2022 8"	Polyvinyl Chloride	Both	3043	3043	1	5	3	15 Los Altos S Los Altos Los Altos Suburban
LAS-21T	2021	2021	2022 8"	Polyvinyl Chloride	Both	3043	3043	1	5	3	15 Los Altos S Los Altos Los Altos Suburban
LAS-21T	2021	2021	2022 8"	Polyvinyl Chloride	Both	3043	3043	1	5	3	15 Los Altos S Los Altos Los Altos Suburban
LAS-21T	2021	2021	2022 8"	Polyvinyl Chloride	Both	3043	3043	1	5	3	15 Los Altos S Los Altos Los Altos Suburban
SLN-18E	2021	2021	2022 8"	Polyvinyl Chloride	Both	887	887	2	5	3	15 Las Lomas Salinas Las Lomas
STK-21E	2021	2021	2023 6"	Polyvinyl Chloride	Both	5325	5253	20	5	3	15 Stockton Stockton Stockton
STK-18AB2	2021	2021	2022 6"	Polyvinyl Chloride	Both	3733	5424	18	5	2	10 Stockton Stockton Stockton
STK-21M	2021	2021	2024 6"	Polyvinyl Chloride	Both	3845	3845	12	5	3	12 Stockton Stockton Stockton
BG-21F	2021	2021	2022 6"	Other (see Comments)	Retire	3123	3911	0	5	5	20 Bear Gulch Bear Gulch Bear Gulch
BG-21F	2021	2021	2022 12"	Ductile Iron	Both	3123	3911	0	5	5	20 Bear Gulch Bear Gulch Bear Gulch
BG-21B	2021	2021	2023 8"	Polyvinyl Chloride	Both	4573	4573	1	5	2	10 Bear Gulch Bear Gulch Bear Gulch
BG-21B	2021	2021	2023 8"	Polyvinyl Chloride	Both	4573	4573	1	5	2	10 Bear Gulch Bear Gulch Bear Gulch
BG-21B	2021	2021	2023 8"	Polyvinyl Chloride	Both	4573	4573	1	5	2	10 Bear Gulch Bear Gulch Bear Gulch
HR-21D	2021	2021	2023 8"	Polyvinyl Chloride	Both	2431	2431	1	5	2	10 Hermosa R Rancho Do Hermosa Redondo
HK-ZID	2021	2021	2023 6"	Polyvinyi Chioride	Both	2431	2431	1	5	2	10 Hermosa R Rancho Do Hermosa Redondo
HR-21D	2021	2021	2023 6"	Polyvinyl Chloride	Both	2431	2431	1	5	2	10 Hermosa K Rancho Do Hermosa Redondo
HR-21D	2021	2021	2023 6	Polyvinyl Chloride	Both	2431	2431	1	5	2	10 Hermosa R Rancho Do Hermosa Redondo
HR-21G	2021	2021	2024 8	Polyvinyl Chloride	Both	4094	4054	4	5	3	15 Hermosa R Rancho Do Hermosa Redondo
HR-21G	2021	2021	2024 6"	Polyvinyl Chloride	Both	4094	4094	4	5	3	15 Hermosa R Rancho Do Hermosa Redondo
HR-21F	2021	2021	2024 8"	Polyvinyl Chloride	Both	3037	3037	2	5	2	10 Hermosa R Bancho Do Hermosa Redondo
HR-21E	2021	2021	2024 8"	Polyvinyl Chloride	Both	3037	3037	2	5	2	10 Hermosa R Rancho Do Hermosa Redondo
HR-21E	2021	2021	2024 6"	Polyvinyl Chloride	Both	3037	3037	2	5	2	10 Hermosa R Rancho Do Hermosa Redondo
ELA-21I	2021	2021	2024 8"	Polyvinyl Chloride	Both	3976	5991	11	5	3	12 East Los Ar East Los Ar East Los Angeles
PV-21H	2021	2021	2024 6"	Ductile Iron	Both	4155	4155	10	5	3	15 Palos Verd Rancho Do Palos Verdes
PV-21J	2021	2021	2024 6"	Ductile Iron	Both	3685	3685	7	5	2	10 Palos Verd Rancho Do Palos Verdes
PV-21J	2021	2021	2024 8"	Ductile Iron	Both	3685	3685	7	5	2	10 Palos Verd Rancho Do Palos Verdes
WLK-21A	2021	2021	2022 8"	Polyvinyl Chloride	Both	1134	1134	2	5	3	15 Westlake Westlake Westlake
WLK-21B	2021	2021	2023 6"	Polyvinyl Chloride	Both	1790	1790	2	5	3	15 Westlake Westlake Westlake
WLK-21B	2021	2021	2023 6"	Polyvinyl Chloride	Both	1790	1790	2	5	3	15 Westlake Westlake Westlake
WLK-21C	2021	2021	2024 6"	Polyvinyl Chloride	Both	1227	1227	1	5	3	15 Westlake Westlake Westlake
VIS-18M	2021	2021	2022 8"	Polyvinyl Chloride	Both	1990	1990	4	5	4	20 Visalia Visalia Visalia
VIS-18IVI	2021	2021	2022 8	Polyvinyl Chloride	Both	1990	1990	4	5	4	20 Visalia Visalia Visalia
VIS-19M	2021	2021	2022 8	Polyvinyl Chloride	Both	1990	1990	4	5	4	20 Visalia Visalia Visalia 20 Visalia Visalia Visalia
DIX-214	2021	2021	2022 6	Polyvinyl Chloride	Both	1292	1292	0	5	2	10 Dixon Dixon Dixon
DIX-21A	2021	2021	2023 6"	Polyvinyl Chloride	Both	1292	1292	0	5	2	10 Dixon Dixon Dixon
DIX-21R	2021	2021	2024 6"	Polyvinyl Chloride	Both	1542	1542	0	5	2	10 Dixon Dixon Dixon
DIX-18XB	2021	2021	2022 6"	Polyvinyl Chloride	Both	556	1525	2	5	2	10 Dixon Dixon Dixon
DIX-18XB	2021	2021	2022 6"	Polyvinyl Chloride	Both	556	1525	2	5	2	10 Dixon Dixon Dixon
DIX-18XB	2021	2021	2022 Other (Se	e Other (see Comments)	Retire	556	1525	2	5	2	10 Dixon Dixon Dixon
RDV-18A	2021	2021	2022 6"	Polyvinyl Chloride	Both	1006	1006	3	4	3	12 Coast Sprir Redwood \ Coast Springs
RDV-21A	2021	2021	2023 6"	Polyvinyl Chloride	Both	960	960	0	5	3	15 Hawkins Redwood \ Hawkins
RDV-21B	2021	2021	2024 6"	Polyvinyl Chloride	Both	939	939	0	5	3	15 Hawkins Redwood \ Hawkins
RDV-21B	2021	2021	2024 6"	Polyvinyl Chloride	Both	939	939	0	5	3	15 Hawkins Redwood \ Hawkins
RDV-21C	2021	2021	2024 6"	Polyvinyl Chloride	Both	720	720	0	5	3	15 Hawkins Redwood \ Hawkins
RDV-21D	2021	2021	2024 6"	Polyvinyl Chloride	Both	560	560	0	5	3	15 Hawkins Redwood \ Hawkins
RDV-18AA	2021	2021	2022 6"	Polyvinyl Chloride	Both	431	693	4	3	2	6 Coast Sprir Redwood \ Coast Springs
KUV-18AA	2021	2021	2022 6"	Polyvinyl Chloride	BOTH	431	693	4	3	2	6 Coast Sprir Redwood \ Coast Springs
KDV-18AA	2021	2021	2022 Other (Se	e Otner (see Comments)	Ketire	431	693	4	5	2	 Loast Sprir Redwood \ Coast Springs

Addendum 14:

Pipeline Integrity Testing to Assess the Useful Life of Pipeline Infrastructure (Mesa Study)

(Page 4-10, Footnotes 207, 208, and 210)

Pipeline Integrity Testing to Assess the Useful Life of Pipeline Infrastructure

Karyn Igar, Phil Lauri, Paul Shoenberger, David Spencer, Dan Ellison, and Amy Omae

Key Takeaways

Mesa Water District found that a conditionbased program was a better option than agebased estimates to determine the remaining useful life of its pipelines.

Asbestos-cement pipe was the primary focus of the testing program.

Mesa Water estimates that it will avoid spending \$231 million in unnecessary pipe replacement over the next 30 years. esa Water District provides potable water service to approximately 110,000 people through 317 miles of water main pipelines in Orange County, Calif. While some of its active pipelines were installed as early as 1926, the vast majority of Mesa Water's pipeline infrastructure is asbestos-cement pipe (ACP) that was installed after 1950.

Mesa Water is governed by a five-member elected board of directors that has adopted a "perpetual agency" philosophy, focusing on cost-effectively sustaining long-term service levels. As the distribution system continues to age and deteriorate, investments will be made to maintain desired levels of service. To better understand the cost implications, Mesa Water developed an age-based renewal estimate in 2013. Using local unit cost and industry average-age-based useful-life assumptions grouped by pipeline material, Mesa Water estimated that it would need \$300 million of renewal work over the next 30 years. Historically, Mesa Water pipelines have performed well, with a break rate of 4.5 breaks per 100 miles per year (approximately three times better than the AWWA recommended service level). Therefore, it was believed that substantial portions of the system still had significant remaining useful life (RUL). Implementing an age-based renewal program was neither affordable nor a prudent alternative. So, in 2014, Mesa Water adopted a policy to develop a pipeline testing program to maximize the useful life of its existing pipeline infrastructure. This program seeks to

- estimate the RUL of Mesa Water's pipelines on the basis of measured pipeline properties rather than an age-based estimate,
- identify specific pipes that require replacement, and
- continuously refine the testing program to maximize value to ratepayers.

After several years of investigation and testing, the initial goals of this program were accomplished. Because 74% of the system was ACP, it was the initial focus of the Pipeline Integrity Program and is the focus of this article. The Pipeline Integrity Program included extensive system analysis, nondestructive and destructive testing, and data analysis to better understand the system's pipe deterioration rates and mechanisms. This information would help Mesa Water estimate RUL, make near-term renewal decisions, and develop more prudent long-term infrastructure investment budgets.

Through this program it was found that, on average, Mesa Water ACP will last approximately 140 years, which is twice as long as industry average useful-life tables indicate. (According to AWWA's Buried No Longer report, average useful life for ACP is 65–105 years.) By evolving from an Through this program it was found that, on average, Mesa Water ACP will last approximately 140 years, which is twice as long as industry average useful-life tables indicate.

age-based approach to a condition-based program that allows older pipe in good condition to continue to operate, it is estimated that \$231 million of unnecessary pipe replacement will be avoided over the next 30 years. This will allow Mesa Water to cost-effectively sustain long-term service levels and avoid unneeded rate increases.

Path to Achieving Goals of the Pipeline Integrity Study

Before it developed the Pipeline Integrity Program, Mesa Water had pilot-tested the Echologics e-Pulse method for pipeline condition assessment and found it was a good screening tool for ACP. As shown in Figure 1, the acoustic velocity method uses a sound wave traveling through a known material for a known distance to measure the structural thickness of the material. The original and existing wall thicknesses are used to estimate the percent of the original wall thickness remaining and the RUL.

Pipes were prioritized for testing on the basis of break history and age. Ninety pipe segments were tested. More than one-third of the pipes tested had an RUL of 10 years or less. This did not align well with institutional knowledge and the performance of ACP at Mesa Water. There are known limitations to applying this technology when a repair has been performed or the original wall thickness is not known. Therefore, Mesa Water committed to a destructive testing program to verify the condition of the ACP compared with the acoustic test results.

Between 2013 and 2017, Mesa Water used its pipe integrity data to identify and test 29 destructive samples on 23 pipelines. To perform the destructive testing, ACP samples of pipe, approximately 8 ft long, were collected as part of a planned shutdown. Locations for destructive testing were identified and prioritized on the basis of acoustic test results and potential impact on the community.

Mesa Water was surprised by the crush test and hydrostatic test results. Even though the acoustic test results showed significant wall loss and limited useful life, crush testing showed that all of the segments tested would meet new pipe criteria for crush strength. The hydrostatic and the measured remaining wall thickness at the time of the sample. The deterioration trend was then extrapolated to the critical wall thickness, as shown in Figure 4. The RUL was estimated as the number of years it would take the deterioration trend to cross the critical wall thickness, shown as the dashed line in Figure 4.

Destructive Tests Initially Performed

Phenolphthalein stain test. This test applies a phenolphthalein solution to a polished asbestos-cement pipe (ACP) wall cross section. The pipe wall that has remaining calcium hydroxide (lime) will turn bright pink, while the degraded wall without calcium hydroxide will not change color.



Scanning electron microscopy/energy dispersive X-ray spectroscopy (EDS). EDS uses a focused beam of electrons on a polished pipe wall cross-section sample to assess the chemical composition at several points along the cross section.



Hydrostatic failure test. The hydrostatic failure test is used to assess the pipe's ability to withstand increasing levels of internal pressure until failure occurs.

Crush test. The crush test is used to assess the pipe's ability to withstand increasing levels of external stress (e.g., soil and traffic loading) until failure occurs.

Use of EDS to Estimate Deterioration Trend and Remaining Useful Life



Figure 4

Table 1 summarizes Mesa Water's estimated RUL for its survey. On the basis of the methodology described in the previous section, the average age of the pipes sampled was 57 years. The average estimated RUL was 85 years. Therefore, the average condition-based useful life of the pipes tested at this time was 142 years. This is almost twice as long as the age-based useful life originally estimated in 2013, which estimated that \$300 million of pipeline replacement would be needed over the next 30 years. This study helps explain why Mesa Water pipes are still performing relatively well compared with industry average break rates.

While a rapid ramp-up of replacement is not needed in the near future, particular pipes may last significantly shorter or longer than their estimated average useful life. This finding, supported by industry experience, may be due to a variety of factors, including manufacturing quality, installation practices, the aggressiveness of the water conveyed, and variations in loading and stresses.

There are several important limitations to note of the Schlick failure criterion as it's applied to ACP. First, when the pipe is in operation, the internal and external pipe forces counter each other, with the water pressure in the pipe supporting some of the external loads and the compacted soils around the pipe helping the pipe wall hold the internal pressure. Second, neither hydrostatic failure nor external crushing is a typical failure mode for ACP under normal operating conditions. Analysis performed at East Bay Municipal Water District and documented in WRF

Addendum 15:

CWS Response to Public Advocates Office Data Request SIB-015, Attachment #2 2018 GRC Recorded and Forecasted Projects

(Page 5-5, Footnote 219; Page 5-6, Footnote 220; and Page 5-7, Footnote 221)

						Direct C	Costs	(\$)			Total Cost		
District/Region	PID	Description	Year (Settlement)	Year (Closed)	CWS	Application	S	ettlement	CWS	Application	Settlement	Recorded	Forecasted
Bakersfield	117207	BK 2019 Physical Security Upgrades	2019		Ş	338,640	Ş	323,247	Ş	380,795	\$ 373,509	ş -	
Bakersfield	117208	BK 2020 Physical Security Upgrades	2020		Ş	482,290	Ş	460,368	Ş	547,331	\$ 540,743	Ş -	
Bakersfield	117213	BK 2021 Physical Security Upgrades	2021		Ş	450,827	Ş	430,335	Ş	508,663	\$ 510,202	ş -	
Bear Guich	11/232	BG 2019 Physical Security Upgrades	2019		Ş	293,590	Ş	281,357	Ş	329,522	\$ 324,137	Ş -	
Bear Guich	11/234	BG 2020 Physical Security Upgrades	2020		Ş	294,150	Ş	281,894	Ş	333,197	\$ 330,138	\$ - ¢	
Bear Guich Chico	117237	BG 2021 Physical Security Upgrades	2021	2021	ç	541,072 60.019	ç	326,861	ç	384,110	\$ 380,380 \$ 77,116	\$ - ¢ 94.007	
Chico	117227	2020 CH Physical Security Upgrades	2019	2021	ç	127 102	ç	121.662	ې د	144 157	\$ 77,110	\$ 64,007	
Chico	117220	2020 CH Physical Security Upgrades	2020		ç	127,192	ç	102,002	ç	144,157	\$ 142,009 \$ 121,772	р - ¢	
Chico	117230	CH 2021 Physical Security Upgrades	2021		Ş	107,600	Ş	102,922	Ş	121,245	\$ 121,772	\$ - ¢	
Dixon	117142	DIX 2019 Physical Security Upgrades	2019		ç	20,774	ç	25,610	ç	50,028	\$ 29,409	р - ¢	
Dixon	117145	DIX 2020 Physical Security Upgrades	2020		ç	74 702	ç	71 455	ç	94.066	\$ 87,030	р - ¢	
East Los Angolos	117172	ELA 2010 Physical Security Upgrades	2021	2010	¢	116 694	¢	111 290	¢	120 505	\$ 84,305 \$ 127.725	¢ 144 102	
East Los Angeles	117175	ELA 2019 Physical Security Opgrades	2019	2019	ç	20,010	ç	28 646	ç	150,595	\$ 127,755 \$ 22,200	\$ 144,105	
East Los Angeles	117192	ELA 2020 Physical Security Opgrades	2020	2020	ç	128.052	ç	20,040	ې د	35,696	\$ 55,599 \$ 1E6,003	> 45,541 ¢	¢ 177 550 20
East LOS Angeles	117102	HR 2010 Physical Security Upgrades	2021	2021	ç	264 495	ç	152,050	ç	150,044	\$ 130,095 \$ 224,697	р - ¢	\$ 177,559.59
Hermosa Redondo	117187	HR 2020 Physical Security Upgrades	2015	2021	¢	256 154	Ś	244 510	¢	290 855	\$ 287.007	¢ .	\$ 296 297 00
Hermosa Redondo	117100	HR 2020 Physical Security Upgrades	2020	2021	¢	250,134	¢	244,510	¢	290,855	\$ 207,442	с -	\$ 290,297.00
King City	117188	KC 2019 Physical Security Upgrades	2021	2021	¢	60 209	¢	66 205	¢	79 /05	\$ 400,033 \$ 77,491		\$ 96.039.00
King City	117042	KC 2019 Physical Security Upgrades	2019	2021	¢	20,308	¢	10 2 2 9	¢	78,495	\$ 77,481 \$ 22,059	с -	\$ 24,494,00
King City	117043	KC 2020 Physical Security Upgrades	2020	2021	¢	1 270	¢	1 210	¢	1 567	¢ 1.592	 -	\$ 24,454.00
Livermore	117044	LIV 2019 Physical Security Upgrades	2021	2021	¢	202 226	¢	290 101	¢	220,260	\$ 1,382 \$ 222.052	с -	\$ 335,000,00
Livermore	117039	LIV 2019 Physical Security Upgrades	2019	2021	ç	260 667	ç	269,191	ç	205 209	\$ 555,055 \$ 201,011	р - ¢	\$ 302 142 00
Livermore	117040	LIV 2020 Physical Security Upgrades	2020	2021	¢	200,007	¢	197 227	¢	235,208	\$ 231,311 \$ 221,252	с -	\$ 302, 142.00
Liverniore	117041	LIV 2021 Physical Security Upgrades	2021	2020	ç	295,169	ç	167,227	ç	350,117	\$ 221,232	\$	
Los Altos	117219	LAS 2019 Physical Security Upgrades	2019	2020	ç	257,210	ç	240,495	ç	200,795	\$ 204,154 \$ 225.051	\$ 259,514	
Los Altos	11/225	LAS 2020 Physical Security Opgrades	2020		ç	290,255	ç	276,101	ې د	328,905	\$ 525,951	ş -	
LOS AITOS	117225	LAS 2021 Physical Security Upgrades	2021	2021	Ş	282,922	Ş	2/1,134	Ş	518,/3/	\$ 320,693 \$ E6 330	\$ - ¢	¢ 61 511 40
Manysville	11/216	MRL 2019 Physical Security Upgrades	2019	2021	Ş	50,760	Ş	48,554	Ş	57,160	\$ 56,230	\$ - ¢	\$ 61,511.49
Marysville	11/21/	MRL 2020 Physical Security Upgrades	2020	2024	Ş	09,000	Ş	00,037	Ş	79,173	\$ 78,446	ş -	¢ 05.040.00
Narysville	11/218	MRL 2021 Physical Security Upgrades	2021	2021	Ş	22,386	Ş	21,413	Ş	25,294	\$ 25,444	\$ - ¢	\$ 25,948.23
Oroville	11/224	ORO 2020 Physical Security Upgrades	2020	2021	Ş	/3,89/	Ş	70,684	Ş	83,807	\$ 82,939	Ş -	\$ 65,000.00
Oroville	11/226	ORO 2021 Physical Security Opgrades	2021	2024	Ş	103,706	Ş	99,197	Ş	116,933	\$ 117,485	ş -	
Salinas	11/238	SLN 2019 Physical Security Upgrades	2019	2021	Ş	165,895	Ş	158,682	Ş	186,377	\$ 183,090	Ş -	\$ 190,000.00
Salinas	11/249	SLN 2020 Physical Security Upgrades	2020		Ş	212,133	Ş	202,910	Ş	240,523	\$ 237,995	Ş -	
Salinas	11/251	SLN 2021 Physical Security Upgrades	2021		Ş	157,894	Ş	62,975	Ş	177,988	\$ /4,556	Ş -	
Selma	117257	SEL 2019 Physical Security Upgrades	2019	2020	Ş	17,720	Ş	16,914	Ş	19,992	\$ 19,649	\$ 36,510	
Selma	117259	SEL 2020 Physical Security Upgrades	2020	2021	Ş	49,906	Ş	47,638	Ş	56,826	\$ 56,249	\$ 121,944	
Seima	11/269	SEL 2021 Physical Security Upgrades	2021	2021	Ş	60,159	Ş	57,424	Ş	68,103	\$ 68,440	Ş -	\$ 69,587.00
Stockton	116837	STK 2019 Physical Security Opgrades	2019		Ş	350,342	Ş	335,110	Ş	392,369	\$ 384,725	ş -	
Stockton	117176	STK 2020 Physical Security Upgrades	2020		Ş	360,838	Ş	345,149	Ş	407,852	\$ 402,840	ş -	
Stockton	11/195	STK 2021 Physical Security Opgrades	2021		Ş	525,450	Ş	502,605	Ş	590,473	\$ 592,109	ş -	
Visalia	117229	VIS 2019 Physical Security Upgrades	2019	2021	Ş	202,098	Ş	192,912	Ş	227,302	\$ 222,980	Ş -	\$ 230,138.00
Visalia	117233	VIS 2020 Physical Security Upgrades	2020	2021	Ş	123,304	Ş	117,699	Ş	139,961	\$ 138,293	\$ 131,519	
Visalia	11/235	VIS 2021 Physical Security Upgrades	2021	2021	Ş	127,311	Ş	121,524	Ş	143,672	\$ 144,124	Ş -	\$ 160,880.00
Willows	11/236	WIL 2021 Physical Security Upgrades	2021	2021	Ş	26,905	Ş	25,735	Ş	30,347	\$ 30,496	Ş -	\$ 31,186.00
Willows	11/258	WIL 2019 Physical Security Upgrades	2019	2021	Ş	30,127	Ş	28,817	Ş	33,866	\$ 33,281	Ş -	\$ 41,000.00
Willows	11/313	WIL 2020 Physical Security Upgrade	2020	2024	Ş	29,249	Ş	27,977	Ş	33,182	\$ 32,845	Ş -	¢ 407 400 00
Palos Verdes	11/192	PV 2019 Physical Security Opgrades	2019	2021	Ş	121,216	Ş	115,706	Ş	135,956	\$ 133,149	ş -	\$ 137,160.00
Palos Verdes	11/193	PV 2020 Physical Security Opgrades	2020	2021	Ş	254,043	Ş	242,496	Ş	287,563	\$ 283,682	ş -	\$ 293,850.00
Palos Verdes	11/194	PV 2021 Physical Security Upgrades	2021	2021	Ş	286,793	Ş	2/3,/5/	Ş	322,754	\$ 323,253	Ş -	\$ 331,737.93
Westlake	11/196	WLK 2019 Physical Security Upgrades	2019	2021	Ş	36,973	Ş	35,293	Ş	41,662	\$ 40,915	Ş -	\$ 30,789.00
Westlake	11/19/	WLK 2020 Physical Security Upgrades	2020	2020	Ş	133,845	Ş	127,762	Ş	152,209	\$ 150,554	\$ 118,890	¢ 00.000.00
westlake	11/198	WLK 2021 Physical Security Upgrades	2021	2021	Ş	05,272	Ş	02,305	Ş	73,797	> /4,108	ç -	\$ 90,000.00
Dominguez	117200	DOM 2019 Physical Security Upgrades	2019	2021	Ş	280,574	Ş	267,821	Ş	315,188	\$ 308,974	Ş -	\$ 357,638.26
Dominguez	117203	DOW 2020 Physical Security Upgrades	2020	2021	Ş	230,351	ç	219,880	Ş	201,156	\$ 257,866	р - с	\$ 200,450.26
Dominguez	11/211	DOW 2021 Physical Security Opgrades	2021	2021	Ş	98,718	Ş	94,230	Ş	111,2/1	\$ 111,545	> -	\$ 114,188.17
Antelope Valley	117103	Anteiope valley SCADA Implementatio	2019	2019	ç	299,034	ç	265,442	ç	350,713	\$ 330,536	\$ 51,122 ¢	
Antelope Valley	11/183	AV 2019 Physical Security Upgrades	2019		ç	23,/30	ç	22,052	ç	20,721	\$ 20,230	¢ -	
Antelope Valley	11/186	AV 2020 Physical Security Upgrades	2020		Ş	26,807	Ş	25,589	Ş	30,463	\$ 30,120	Ş -	
Antelope valley	11/189	AV 2021 Physical Security Opgrades	2021	2024	Ş	55,230	Ş	52,720	Ş	62,400	\$ 62,637	ş -	
Kern River Valley	11/243	KRV 2019 Physical Security Upgrades	2019	2021	Ş	86,430	Ş	/8,914	Ş	97,404	\$ 91,507	Ş -	\$ 112,970.75
Kern River Valley	11/253	KRV 2020 Physical Security Opgrades	2020		Ş	117,814	Ş	112,459	Ş	133,998	\$ 132,553	ş -	
Kern River Valley	11/256	KRV 2021 Physical Security Upgrades	2021		Ş	/5,31/	Ş	/1,894	Ş	85,168	\$ 85,534	Ş -	
Reuwood valley (RDV)	11/355	NDV 2019 Security - GRN CSC	2019		Ş	43,836	Ş	42,010	Ş	49,546	> 48,940	ç -	
KDV - Lucerne	11/263	RDV 2019 Physical Security Upgrades	2019		Ş	19,125	Ş	18,328	Ş	21,536	\$ 21,226	Ş -	
NDV - Lucerne	11/265	NDV 2020 Physical Security Upgrades	2020		Ş	67,853	Ş	05,026	Ş	//,111	> /6,547	ç -	
KDV - Lucerne	11/268	LUC-147 2021 Physical Security Upgr	2021		\$	82,005	Ş	/8,588	Ş	92,654	\$ 93,378	Ş -	
KDV - Lucerne	11/357	KDV 2019 Security - LUC CSC	2019		Ş	53,631	Ş	51,396	Ş	60,391	\$ 59,521	Ş -	
KUV - Coast Springs	11/342	CUS-148 2020 Physical Security Upgr	2020		Ş	17,937	Ş	17,189	Ş	20,371	\$ 20,215	Ş -	
Bayshore	117162	BAY 2019 Physical Security Upgrades	2019	2019	Ş	49,334	Ş	47,278	Ş	55,340	\$ 54,417	\$ 54,057	
Bayshore	11/165	MPS 2020 Physical Security Upgrades	2020		Ş	119,172	Ş	114,206	Ş	134,913	\$ 133,630	Ş -	
Bayshore	11/169	SSF 2021 Physical Security Upgrades	2021		Ş	331,383	Ş	317,575	Ş	372,983	\$ 375,069	Ş -	
Bayshore	11/282	SSF 2020 Physical Security Upgrades	2020		Ş	2,809	Ş	2,692	Ş	3,180	\$ 3,150	Ş -	
Bayshore	117284	MPS 2021 Physical Security Upgrades	2021		Ş	57,542	Ş	55,144	Ş	64,765	\$ 65,127	ş -	
RDV - Unified Area	117341	ARM-148 2020 Physical Security Upgr	2020	2021	\$	64,099	\$	61,428	\$	73,091	\$ 72,696	Ş -	\$ 77,674.99
RDV - Unified Area	117344	HKN-150 2020 Physical Security Upg	2020		Ş	689	Ş	661	Ş	786	\$ 782	ş -	
KUV - Unified Area	11/345	RDV-ARM 2021 Physical Security Upgr	2021		\$	83,560	Ş	80,079	Ş	94,731	\$ 95,655	> -	¢ 4 770 470