

**ATKINS**

**Appendix A: Water  
Water and Wastewater  
Capital Facility Fee Update**

**Final Report**

**Prepared for:  
Vallecitos Water District**

**January 16, 2012**

**Plan Design Enable**

**Vallecitos Water Capital Facility Fee Determination**

	<b>Expansion CIP</b>
Water CIP	\$ 63,293,950
Existing Debt as of 6/30/10	\$ 31,435,910
Cash /Investment Deficit 6/30/10	\$ 105,077
Financing Costs	\$ 55,853,706
Total Water CIP w/Financing	\$ 150,688,643
Water EDUs Projected Growth to 2030	21,600
Total Water Capital Facility Fee Per EDU	\$ 6,976

Table 8-2 from Vallecitos Water Master Plan

District Funded CIP										Cost per Phase					Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total		
CIP ID#	Pressure Zone	Project Description	Phase Needed	Diameter (in)	Length (ft)	Capacity (MG)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020	2021-2025	2026 to 2030		2010	2011-2015	2016-2020	2021-2025	2026 to 2030							
R-1	815	Meadowark #3	1			2.80		\$1,260,000/MG	1.00	\$3,943,000						\$2,562,950	\$0	\$0	\$0	\$0							
PS-1	1028	Desalinated Water Pump Station - New	2				3,150	\$1000/gpm	1.00		\$3,200,000				\$0	\$3,200,000	\$0	\$0	\$0					100%			100%
R-2	1549	Wulff #2	2			0.35		\$1,260,000/MG	1.20		\$720,000				\$0	\$468,000	\$0	\$0	\$0					65%	35%		100%
R-3	1530	Coronado Hills #2	2			4.73		\$1,260,000/MG	1.00		\$6,000,000				\$0	\$6,000,000	\$0	\$0	\$0					100%			100%
P-24	855	San Marcos Boulevard between Discovery Street and Las Posas Road	3	18	2,680			\$420/LF	1.30			\$1,500,000			\$0	\$0	\$600,000	\$0	\$0					40%	60%		100%
P-52	900	Corre Camino Road and Elevado Road north	3	10	9,900			\$230/LF	1.00			\$2,300,000			\$0	\$0	\$506,000	\$0	\$0					22%	78%		100%
P-53	1330	Via del Prado and Elevado Road south to the North Twin Oaks Reservoir #2	3	16	5,900			\$365/LF	1.00			\$2,200,000			\$0	\$0	\$1,210,000	\$0	\$0					55%	45%		100%
56	1235	Deer Springs PS to the Deer Springs Reservoir	3	12	8,500			\$265/LF	1.00			\$2,300,000			\$0	\$0	\$690,000	\$0	\$0					30%	70%		100%
P-30	1330	Mountain Belle Reservoir south to the connection with the existing 1330 Zone	3	16	1,800			\$365/LF	1.00			\$700,000			\$0	\$0	\$700,000	\$0	\$0					100%			100%
PS-3	1235	1235 Deer Springs PS Expansion	3				4,800	\$80/gpm	1.00			\$400,000			\$0	\$0	\$212,000	\$0	\$0					53%	47%		100%
R-4	1235	Deer Springs #2	3			1.00		\$1,260,000/MG	1.00			\$1,300,000			\$0	\$0	\$559,000	\$0	\$0					43%	57%		100%
R-5	1608	Coggan #2	3			6.00		\$1,260,000/MG	1.00			\$7,600,000			\$0	\$0	\$5,928,000	\$0	\$0					78%	22%		100%
P-64	1330	North Twin Oaks Reservoir #2 to North Twin Oaks PS	4	16	12,400			\$365/LF	1.00				\$4,500,000		\$0	\$0	\$0	\$2,070,000	\$0					46%	54%		100%
R-10	1028	Twin Oaks #3	4			10.72		\$1,260,000/MG	1.00			\$13,500,000			\$0	\$0	\$0	\$13,500,000	\$0					100%			100%
P-100	920	Rock Springs Road between Bennett Avenue and Rees Road	5	10	1,300			\$230/LF	1.00					\$300,000	\$0	\$0	\$0	\$0	\$108,000					36%	64%		100%
P-42	1228	North Twin Oaks #2 Reservoir east to the intersection of El Farra Street and Huckleberry Lane	5	12	7,000			\$265/LF	1.00				\$1,900,000		\$0	\$0	\$0	\$0	\$1,900,000					100%			100%
PS-7	1608	1608 Coggan PS Expansion	5				9,000	\$80/gpm	1.00				\$700,000		\$0	\$0	\$0	\$0	\$231,000					33%	67%		100%
PS-8	1115	1115 Schoolhouse PS Expansion	5				4,500	\$80/gpm	1.00				\$400,000		\$0	\$0	\$0	\$0	\$120,000					30%	70%		100%
R-8	1500	Palos Vista #1 Rehab	5			0.52		\$1,260,000/MG	2.00				\$1,300,000		\$0	\$0	\$0	\$0	\$741,000					57%	43%		100%
<b>Total Costs</b>										<b>\$3,943,000</b>	<b>\$9,920,000</b>	<b>\$18,300,000</b>	<b>\$18,000,000</b>	<b>\$4,600,000</b>	<b>\$54,763,000</b>	<b>\$2,562,950</b>	<b>\$9,668,000</b>	<b>\$10,405,000</b>	<b>\$15,570,000</b>	<b>\$3,100,000</b>	<b>\$41,305,950</b>						

District Funded Projects										Cost per Phase					Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total			
CIP ID#	Pressure Zone	Project Description	Phase Needed	Diameter (in)	Length (ft)	Capacity (MG)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020	2021-2025	2026 to 2030		2010	2011-2015	2016-2020	2021-2025	2026 to 2030								
P-43	1625	Woodland Heights Glen north to Rancho Luiseno Road	2	12	2,800			\$265/LF	1.00			\$700,000				\$0	\$371,000	\$0	\$0	\$0								
PS-2	1625	1625 High Point Hydro PS - New	2				1,800	\$1000/gpm	0.60		\$1,100,000				\$0	\$0	\$0	\$0	\$0								100%	100%
PS-4	1330	1330 Mountain Belle PS - New	3				4,500	\$1000/gpm	1.00			\$4,500,000			\$0	\$0	\$4,500,000	\$0	\$0								100%	100%
R-6	1330	North Twin Oaks #3	4			3.60		\$1,260,000/MG	0.80				\$3,600,000		\$0	\$0	\$0	\$3,600,000	\$0								100%	100%
R-7	815	Meadowark #4	4			0.64		\$1,260,000/MG	1.20				\$1,000,000		\$0	\$0	\$0	\$1,000,000	\$0								100%	100%
R-9	1530	Coronado Hills #3	5			3.21		\$1,260,000/MG	1.00				\$4,000,000		\$0	\$0	\$0	\$0	\$4,000,000								100%	100%
R-11	1608	Coggan #3	5			6.10		\$1,260,000/MG	1.00				\$7,700,000		\$0	\$0	\$0	\$0	\$7,700,000								100%	100%
P-57	1235	Deer Springs Reservoir south to 1235 Zone limits	5	10	7,900			\$230/LF	1.00				\$1,800,000		\$0	\$0	\$0	\$0	\$0								100%	100%
PS-5	1330	1330 North Twin Oaks PS Expansion	5				8,850	\$80/gpm	1.00				\$700,000		\$0	\$0	\$0	\$0	\$567,000						81%	19%		100%
PS-6	1530	1530 Southlake PS Expansion	5				6,750	\$80/gpm	1.00				\$500,000		\$0	\$0	\$0	\$0	\$250,000						50%	50%		100%
<b>Total Costs</b>										<b>\$0</b>	<b>\$1,800,000</b>	<b>\$4,500,000</b>	<b>\$4,600,000</b>	<b>\$14,700,000</b>	<b>\$25,600,000</b>	<b>\$0</b>	<b>\$371,000</b>	<b>\$4,500,000</b>	<b>\$4,600,000</b>	<b>\$12,517,000</b>	<b>\$21,988,000</b>							

**Vallecitos Water District  
Water Capital Facility Financing Costs**

Rate 6%  
Issue cost 2%  
term 25  
Inflation 2%

		Water										Total	PV of
Phase	1		2		3		4		5		Payment	Payments	
	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment			
2010	34,103,937	2,721,196									2,721,196	2,721,196	
1 2011		2,721,196									2,721,196	2,667,839	
2 2012		2,721,196									2,721,196	2,615,528	
3 2013		2,721,196	10,653,467	850,053							3,571,249	3,365,268	
4 2014		2,721,196		850,053							3,571,249	3,299,282	
5 2015		2,721,196		850,053							3,571,249	3,234,591	
6 2016		2,721,196		850,053							3,571,249	3,171,167	
7 2017		2,721,196		850,053							3,571,249	3,108,987	
8 2018		2,721,196		850,053	17,463,583	1,393,441					4,964,691	4,237,316	
9 2019		2,721,196		850,053		1,393,441					4,964,691	4,154,231	
10 2020		2,721,196		850,053		1,393,441					4,964,691	4,072,775	
11 2021		2,721,196		850,053		1,393,441					4,964,691	3,992,917	
12 2022		2,721,196		850,053		1,393,441					4,964,691	3,914,625	
13 2023		2,721,196		850,053		1,393,441	26,092,046	2,081,917			7,046,608	5,447,257	
14 2024		2,721,196		850,053		1,393,441		2,081,917			7,046,608	5,340,448	
15 2025		2,721,196		850,053		1,393,441		2,081,917			7,046,608	5,235,733	
16 2026		2,721,196		850,053		1,393,441		2,081,917			7,046,608	5,133,072	
17 2027		2,721,196		850,053		1,393,441		2,081,917			7,046,608	5,032,423	
18 2028		2,721,196		850,053		1,393,441		2,081,917	22,304,922	1,779,738	8,826,345	6,179,848	
19 2029		2,721,196		850,053		1,393,441		2,081,917		1,779,738	8,826,345	6,058,675	
20 2030		2,721,196		850,053		1,393,441		2,081,917		1,779,738	8,826,345	5,939,877	
21 2031		2,721,196		850,053		1,393,441		2,081,917		1,779,738	8,826,345	5,823,409	
22 2032		2,721,196		850,053		1,393,441		2,081,917		1,779,738	8,826,345	5,709,225	
23 2033		2,721,196		850,053		1,393,441		2,081,917		1,779,738	8,826,345	5,597,279	
24 2034		2,721,196		850,053		1,393,441		2,081,917		1,779,738	8,826,345	5,487,528	
25 2035				850,053		1,393,441		2,081,917		1,779,738	6,105,149	3,721,277	
26 2036				850,053		1,393,441		2,081,917		1,779,738	6,105,149	3,648,311	
27 2037				850,053		1,393,441		2,081,917		1,779,738	6,105,149	3,576,775	
28 2038						1,393,441		2,081,917		1,779,738	5,255,096	3,018,393	
29 2039						1,393,441		2,081,917		1,779,738	5,255,096	2,959,209	
30 2040						1,393,441		2,081,917		1,779,738	5,255,096	2,901,185	
31 2041						1,393,441		2,081,917		1,779,738	5,255,096	2,844,299	
32 2042						1,393,441		2,081,917		1,779,738	5,255,096	2,788,529	
33 2043								2,081,917		1,779,738	3,861,655	2,008,944	
34 2044								2,081,917		1,779,738	3,861,655	1,969,553	
35 2045								2,081,917		1,779,738	3,861,655	1,930,934	
36 2046								2,081,917		1,779,738	3,861,655	1,893,073	
37 2047								2,081,917		1,779,738	3,861,655	1,855,953	
38 2048										1,779,738	1,779,738	838,590	
39 2049										1,779,738	1,779,738	822,147	
40 2050										1,779,738	1,779,738	806,026	
41 2051										1,779,738	1,779,738	790,222	
42 2052										1,779,738	1,779,738	774,727	
43 2053												150,688,643	

**Vallecitos Water District  
Projected Water System Demand for New Development\***

<b>Year</b>	<b>Average Annual Flows (MGD)</b>	<b>Additional Demand Per Period</b>	<b>Equivalent Dwelling Units (EDU)</b>	<b>Required Capacity Per Period (EDUs)</b>
Existing 2007	18.3		36,600	
2010	20.4	2.1	40,800	4,200
2015	24.2	3.8	48,400	7,600
2020	26.9	2.7	53,800	5,400
2025	29.1	2.2	58,200	4,400
2030	31.2	2.1	62,400	4,200
Ultimate	34.1	2.9	68,200	5,800
<b>Total Increase in EDUs 2010 to 2030</b>				<b>21,600</b>
<b>Total Additional EDUS to Ultimate (2050)</b>				<b>27,400</b>

\*Based Upon 500 GPD Per EDU



**ATKINS**

**Appendix A: Wastewater  
Water and Wastewater  
Capital Facility Fee Update**

**Final Report**

**Prepared for:  
Vallecitos Water District**

**January 16, 2012**

**Plan Design Enable**

**Vallecitos Water District**

**General Wastewater Capital Facility Fee Determination**

	<u>Treatment</u>	<u>Conveyance</u>	<u>Land Outfall</u>
Wastewater CIP		\$ 19,092,000	
Land Outfall CIP			\$ 28,200,000
Existing Debt as of 6/30/10	\$ 30,015,063		
Cash/Investment Deficit 6/30/10	\$ 4,272,048	\$ 4,272,048	
Financing Costs	\$ 20,193,636	\$ 13,760,421	\$ 16,608,589
<b>Total Wastewater CIP w/Financing</b>	<b>\$ 54,480,747</b>	<b>\$ 37,124,469</b>	<b>\$ 44,808,589</b>
Wastewater EDUs*	13,372	13,372	18,172
Wastewater Capital Facility Fee Components Per EDU	\$ 4,074	\$ 2,776	\$ 2,466
<b>Total Wastewater Capital Facility Fee</b>			<b>\$ 9,316</b>

\* Wastewater EDUs are projected through 2030 for Treatment/Conveyance and 2050 for the Land Outfall

Table 8-3 from Vallecitos Wastewater Master Plan -- Conveyance Costs

District CIP								Cost per Phase					Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total	
CIP ID #	Pipeline Project Name	Phase	Diameter (in)	Length (ft)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020	2021-2025	2026 to 2030		2010	2011-2015	2016-2020	2021-2025	2026 to 2030						Total
SP-2	San Marcos Interceptor Phase 1 Pipeline Replacement	1	39	3200		\$975/LF	1.30	\$4,100,000							\$2,911,000	\$0	\$0	\$0						\$0
SP-3	Linda Vista East Sewer Pipeline Replacement	1	15	3400		\$340/LF	1.60	\$2,000,000						\$880,000	\$0	\$0	\$0	\$0	\$0	44%	36%	20%	100%	
			15	500		\$340/LF	1.50	\$300,000						\$165,000	\$0	\$0	\$0	\$0	\$0	55%	45%		100%	
SP-5	Rock Springs Road Sewer Pipeline Replacement	1	12	2000		\$280/LF		\$800,000						\$440,000	\$0	\$0	\$0	\$0	\$0	55%	45%		100%	
SP-6	Old Questhaven Road Pipeline	2	24	1400		\$610/LF	1.00		\$900,000					\$0	\$207,000	\$0	\$0	\$0	\$0	23%	77%		100%	
SP-9	Nordahl Shopping Center Pipeline Replacement	2	12	100		\$280/LF	3.00		\$200,000					\$0	\$110,000	\$0	\$0	\$0	\$0	55%	45%		100%	
SP-10	Diamond Siphon Replacement	2	15	100		\$340/LF	4.00		\$700,000					\$0	\$385,000	\$0	\$0	\$0	\$0	55%	45%		100%	
			36	1400		\$800/LF			\$3,800,000					\$0	\$2,508,000	\$0	\$0	\$0	\$0	66%	34%		100%	
SP-11	San Marcos Interceptor Phase 2	2	8	800		\$180/LF	2.00		\$300,000					\$0	\$198,000	\$0	\$0	\$0	\$0	66%	34%		100%	
SP-12	San Marcos Interceptor Phase 3	2	36	2000		\$800/LF	1.20		\$3,400,000					\$0	\$2,244,000	\$0	\$0	\$0	\$0	66%	34%		100%	
LS-1	Montiel Lift Station	3			400	\$1000/gpm	3.00			\$1,200,000				\$0	\$0	\$600,000	\$0	\$0	\$0	50%	50%		100%	
SP-13	Camino De Amigos Sewer Pipeline Replacement	3	12	3200		\$280/LF	1.00		\$900,000					\$0	\$0	\$495,000	\$0	\$0	\$0	55%	45%		100%	
SP-15	San Pablo Walkway Sewer Pipeline Replacement	3	10	1800		\$230/LF	3.00		\$1,200,000					\$0	\$0	\$432,000	\$0	\$0	\$0	36%	64%		100%	
SP-20	Discovery Street East Pipeline Replacement	4	12	2100		\$280/LF	1.00				\$600,000			\$0	\$0	\$0	\$432,000	\$0	\$0	72%	28%		100%	
SP-21	Rock Springs Road West Sewer Pipeline Replacement	4	15	1300		\$340/LF	1.00				\$400,000			\$0	\$0	\$0	\$144,000	\$0	\$0	36%	64%		100%	
SP-22	Rock Springs Road East Sewer Pipeline Replacement	4	12	800		\$280/LF	1.00				\$200,000			\$0	\$0	\$0	\$110,000	\$0	\$0	55%	45%		100%	
			10	2100		\$230/LF					\$500,000			\$0	\$0	\$0	\$165,000	\$0	\$0	33%	67%		100%	
SP-23	Pacific Street & Descanso Avenue Pipeline Replacement	4	12	2200		\$280/LF	1.10				\$700,000			\$0	\$0	\$0	\$231,000	\$0	\$0	33%	67%		100%	
SP-25	San Marcos Interceptor East Pipeline Replacement	4	21	800		\$530/LF	1.10				\$500,000			\$0	\$0	\$0	\$130,000	\$0	\$0	26%	74%		100%	
SP-26	Woodward Street Pipeline Replacement	5	10	1600		\$230/LF	1.10					\$400,000		\$0	\$0	\$0	\$0	\$144,000	\$0	36%	64%		100%	
SP-27	Vineyard Road Sewer Pipeline Replacement	5	12	3000		\$280/LF	1.00					\$800,000		\$0	\$0	\$0	\$0	\$440,000	\$0	55%	45%		100%	
SP-28	Linda Vista / Rancho Santa Fe Intersection Sewer Pipeline Replacement	5	12	80		\$280/LF	3.00					\$100,000		\$0	\$0	\$0	\$0	\$55,000	\$0	55%	45%		100%	
SP-30	Madrid Manor Sewer Pipeline Replacement	5	10	2000		\$230/LF	1.20					\$600,000		\$0	\$0	\$0	\$0	\$216,000	\$0	36%	64%		100%	
<b>Total Cost</b>								<b>\$7,200,000</b>	<b>\$9,300,000</b>	<b>\$3,300,000</b>	<b>\$2,900,000</b>	<b>\$1,900,000</b>	<b>\$24,600,000</b>	<b>\$4,396,000</b>	<b>\$5,652,000</b>	<b>\$1,527,000</b>	<b>\$1,212,000</b>	<b>\$855,000</b>	<b>\$13,642,000</b>					

District Funded Projects								Cost per Phase					Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total	
CIP ID #	Pipeline Project Name	Phase	Diameter (in)	Length (ft)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020	2021-2025	2026 to 2030		2010	2011-2015	2016-2020	2021-2025	2026 to 2030						Total
SP-7	Pico Ave/San Marcos Blvd Sewer Pipeline Replacement	2	12	1500		\$280/LF	1.10		\$500,000						\$0	\$275,000	\$0	\$0						\$0
SP-8	Pico Ave Sewer Pipeline Replacement	2	12	1200		\$280/LF	1.10		\$400,000					\$0	\$220,000	\$0	\$0	\$0	\$0	55%	45%		100%	
SP-18	Mission Alley Pipeline Replacement	3	10	1500		\$230/LF	1.00			\$300,000				\$0	\$0	\$0	\$0	\$0	\$0			100%	100%	
SP-19	Bingham Sewer Pipeline Replacement	4	15	2100		\$340/LF	1.10				\$800,000			\$0	\$0	\$0	\$576,000	\$0	\$0	72%	28%		100%	
			12	2000		\$280/LF					\$600,000			\$0	\$0	\$0	\$372,000	\$0	\$0	62%	38%		100%	
SP-24	Craven Road Pipeline Replacement	4	10	700		\$230/LF	1.00				\$200,000			\$0	\$0	\$0	\$124,000	\$0	\$0	62%	38%		100%	
SP-29	Vallecitos Pipeline Replacement	5	12	2500		\$280/LF	1.00					\$700,000		\$0	\$0	\$0	\$0	\$385,000	\$0	55%	45%		100%	
			12	5100		\$280/LF						\$1,400,000		\$0	\$0	\$0	\$0	\$924,000	\$0	66%	34%		100%	
SP-31	N. Twin Oaks Valley Road Pipeline Replacement	5	15	11600		\$340/LF	1.00					\$3,900,000		\$0	\$0	\$0	\$0	\$2,574,000	\$0	66%	34%		100%	
<b>Total Cost</b>								<b>\$0</b>	<b>\$900,000</b>	<b>\$300,000</b>	<b>\$1,600,000</b>	<b>\$6,000,000</b>	<b>\$8,800,000</b>	<b>\$0</b>	<b>\$495,000</b>	<b>\$0</b>	<b>\$1,072,000</b>	<b>\$3,883,000</b>	<b>\$5,450,000</b>					

**Vallecitos Water District**  
**Wastewater Financing Costs – Conveyance**

Rate 6%  
 Issue cost 2%  
 term 25  
 Inflation 2%

		Sewer w/o Land outfall										Total	PV of
Phase	1		2		3		4		5		Payment	Payments	
	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment			
2010	8,668,048	691,634									691,634	691,634	
1 2011		691,634									691,634	678,073	
2 2012		691,634									691,634	664,777	
3 2013		691,634	6,523,246	520,498							1,212,132	1,142,219	
4 2014		691,634		520,498							1,212,132	1,119,823	
5 2015		691,634		520,498							1,212,132	1,097,866	
6 2016		691,634		520,498							1,212,132	1,076,339	
7 2017		691,634		520,498							1,212,132	1,055,234	
8 2018		691,634		520,498	1,789,124	142,756					1,354,889	1,156,385	
9 2019		691,634		520,498		142,756					1,354,889	1,133,710	
10 2020		691,634		520,498		142,756					1,354,889	1,111,481	
11 2021		691,634		520,498		142,756					1,354,889	1,089,687	
12 2022		691,634		520,498		142,756					1,354,889	1,068,321	
13 2023		691,634		520,498		142,756	2,954,598	235,751			1,590,640	1,229,616	
14 2024		691,634		520,498		142,756		235,751			1,590,640	1,205,506	
15 2025		691,634		520,498		142,756		235,751			1,590,640	1,181,869	
16 2026		691,634		520,498		142,756		235,751			1,590,640	1,158,695	
17 2027		691,634		520,498		142,756		235,751			1,590,640	1,135,975	
18 2028		691,634		520,498		142,756		235,751	6,767,031	539,950	2,130,590	1,491,752	
19 2029		691,634		520,498		142,756		235,751		539,950	2,130,590	1,462,502	
20 2030		691,634		520,498		142,756		235,751		539,950	2,130,590	1,433,826	
21 2031		691,634		520,498		142,756		235,751		539,950	2,130,590	1,405,712	
22 2032		691,634		520,498		142,756		235,751		539,950	2,130,590	1,378,149	
23 2033		691,634		520,498		142,756		235,751		539,950	2,130,590	1,351,126	
24 2034		691,634		520,498		142,756		235,751		539,950	2,130,590	1,324,633	
25 2035				520,498		142,756		235,751		539,950	1,438,955	877,088	
26 2036				520,498		142,756		235,751		539,950	1,438,955	859,890	
27 2037				520,498		142,756		235,751		539,950	1,438,955	843,029	
28 2038						142,756		235,751		539,950	918,457	527,539	
29 2039						142,756		235,751		539,950	918,457	517,195	
30 2040						142,756		235,751		539,950	918,457	507,054	
31 2041						142,756		235,751		539,950	918,457	497,111	
32 2042						142,756		235,751		539,950	918,457	487,364	
33 2043								235,751		539,950	775,701	403,542	
34 2044								235,751		539,950	775,701	395,629	
35 2045								235,751		539,950	775,701	387,872	
36 2046								235,751		539,950	775,701	380,267	
37 2047								235,751		539,950	775,701	372,810	
38 2048										539,950	539,950	254,417	
39 2049										539,950	539,950	249,429	
40 2050										539,950	539,950	244,538	
41 2051										539,950	539,950	239,743	
42 2052										539,950	539,950	235,042	
43 2053												37,124,469	

**Vallecitos Water District**  
**Wastewater Financing Costs -- Treatment**

Rate 6%  
 Issue cost 2%  
 term 25  
 Inflation 2%

Sewer w/o Land outfall												
Phase	1		2		3		4		5		Total	PV of
	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Payment	Payments
2010	34,287,111	2,735,812									2,735,812	2,735,812
1 2011		2,735,812									2,735,812	2,682,168
2 2012		2,735,812									2,735,812	2,629,577
3 2013		2,735,812		-							2,735,812	2,578,016
4 2014		2,735,812		-							2,735,812	2,527,467
5 2015		2,735,812		-							2,735,812	2,477,909
6 2016		2,735,812		-							2,735,812	2,429,322
7 2017		2,735,812		-							2,735,812	2,381,689
8 2018		2,735,812		-		-					2,735,812	2,334,989
9 2019		2,735,812		-		-					2,735,812	2,289,205
10 2020		2,735,812		-		-					2,735,812	2,244,318
11 2021		2,735,812		-		-					2,735,812	2,200,312
12 2022		2,735,812		-		-					2,735,812	2,157,169
13 2023		2,735,812		-		-					2,735,812	2,114,871
14 2024		2,735,812		-		-					2,735,812	2,073,403
15 2025		2,735,812		-		-					2,735,812	2,032,748
16 2026		2,735,812		-		-					2,735,812	1,992,890
17 2027		2,735,812		-		-					2,735,812	1,953,814
18 2028		2,735,812		-		-				-	2,735,812	1,915,504
19 2029		2,735,812		-		-				-	2,735,812	1,877,945
20 2030		2,735,812		-		-				-	2,735,812	1,841,123
21 2031		2,735,812		-		-				-	2,735,812	1,805,022
22 2032		2,735,812		-		-				-	2,735,812	1,769,630
23 2033		2,735,812		-		-				-	2,735,812	1,734,931
24 2034		2,735,812		-		-				-	2,735,812	1,700,913
25 2035		-		-		-				-	-	-
26 2036		-		-		-				-	-	-
27 2037		-		-		-				-	-	-
28 2038		-		-		-				-	-	-
29 2039		-		-		-				-	-	-
30 2040		-		-		-				-	-	-
31 2041		-		-		-				-	-	-
32 2042		-		-		-				-	-	-
33 2043		-		-		-				-	-	-
34 2044		-		-		-				-	-	-
35 2045		-		-		-				-	-	-
36 2046		-		-		-				-	-	-
37 2047		-		-		-				-	-	-
38 2048		-		-		-				-	-	-
39 2049		-		-		-				-	-	-
40 2050		-		-		-				-	-	-
41 2051		-		-		-				-	-	-
42 2052		-		-		-				-	-	-
43 2053		-		-		-				-	-	-
												<u>54,480,747</u>

**Table 8-4 from Vallecitos Wastewater Master Plan -- Land Outfall Project**

CIP ID#	W/S	Type	Project / Description	Units	Phase	Cost per Phase					CIP Cost <sup>1</sup>
						2010	2011-2015	2016-2020	2021-2025	2026 to 2030	
LO-1	Sewer	Pipeline	LO-1 - Parallel 12,900 feet of gravity sewer with sizes ranging from 36 to 48-inch diameter.	12,900 LF	2		\$10,300,000				\$10,300,000
LO-2	Sewer	Pipeline	LO-2 - Parallel 1,600 feet of gravity sewer with sizes ranging from 24-inch to 36-inch diameter.	1,600 LF	3			\$1,300,000			\$1,300,000
LO-3	Sewer	Pipeline	LO-3 - Parallel 1,800 feet of gravity sewer sizes ranging from 30 to 36-inch diameter.	1,800 LF	3			\$1,400,000			\$1,400,000
LO-4	Sewer	Pipeline	LO-4 - Upgrade 17,000 feet of abandoned 24-inch DIP with CIPP lining in Siphon Section A.	17,000 LF	4				\$9,700,000		\$9,700,000
LO-5	Sewer	Pipeline	LO-5 - Parallel 1,400 feet of gravity sewer and trenchless construction of 3,700 feet with sizes ranging from 24 to 36-inch diameter.	5,100 LF	4				\$4,000,000		\$4,000,000
LO-6	Sewer	Pipeline	LO-6 - Parallel 2,450 feet of gravity main and siphon sections with sizes ranging from 24 to 36-inch diameter.	2,450 LF	5					\$1,500,000	\$1,500,000
						\$0	\$10,300,000	\$2,700,000	\$13,700,000	\$1,500,000	\$28,200,000

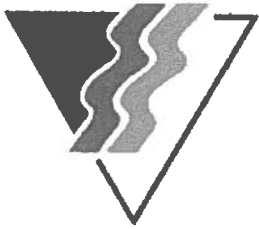
1. Costs provided per the *Land Outfall Analysis - Second Draft*, October 2010.

**Vallecitos Water District  
Wastewater Financing Costs – Land Outfall**

Phase	Land Outfall											Total Payment	PV of Payments
	1		2		3		4		5				
	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment			
2010	-	-										-	-
1 2011		-										-	-
2 2012		-										-	-
3 2013		-	10,930,442	872,154								872,154	821,850
4 2014		-		872,154								872,154	805,735
5 2015		-		872,154								872,154	789,936
6 2016		-		872,154								872,154	774,448
7 2017		-		872,154								872,154	759,262
8 2018		-		872,154	3,163,480	252,418						1,124,572	959,811
9 2019		-		872,154		252,418						1,124,572	940,991
10 2020		-		872,154		252,418						1,124,572	922,541
11 2021		-		872,154		252,418						1,124,572	904,451
12 2022		-		872,154		252,418						1,124,572	886,717
13 2023		-		872,154		252,418	17,722,411	1,414,093				2,538,665	1,962,471
14 2024		-		872,154		252,418		1,414,093				2,538,665	1,923,991
15 2025		-		872,154		252,418		1,414,093				2,538,665	1,886,266
16 2026		-		872,154		252,418		1,414,093				2,538,665	1,849,280
17 2027		-		872,154		252,418		1,414,093				2,538,665	1,813,020
18 2028		-		872,154		252,418		1,414,093	2,142,369	170,942		2,709,607	1,897,157
19 2029		-		872,154		252,418		1,414,093		170,942		2,709,607	1,859,958
20 2030		-		872,154		252,418		1,414,093		170,942		2,709,607	1,823,488
21 2031		-		872,154		252,418		1,414,093		170,942		2,709,607	1,787,733
22 2032		-		872,154		252,418		1,414,093		170,942		2,709,607	1,752,680
23 2033		-		872,154		252,418		1,414,093		170,942		2,709,607	1,718,314
24 2034		-		872,154		252,418		1,414,093		170,942		2,709,607	1,684,621
25 2035		-		872,154		252,418		1,414,093		170,942		2,709,607	1,651,589
26 2036		-		872,154		252,418		1,414,093		170,942		2,709,607	1,619,205
27 2037		-		872,154		252,418		1,414,093		170,942		2,709,607	1,587,456
28 2038		-				252,418		1,414,093		170,942		1,837,454	1,055,387
29 2039		-				252,418		1,414,093		170,942		1,837,454	1,034,693
30 2040		-				252,418		1,414,093		170,942		1,837,454	1,014,405
31 2041		-				252,418		1,414,093		170,942		1,837,454	994,514
32 2042		-				252,418		1,414,093		170,942		1,837,454	975,014
33 2043		-						1,414,093		170,942		1,585,036	824,581
34 2044		-						1,414,093		170,942		1,585,036	808,413
35 2045		-						1,414,093		170,942		1,585,036	792,562
36 2046		-						1,414,093		170,942		1,585,036	777,021
37 2047		-						1,414,093		170,942		1,585,036	761,785
38 2048		-								170,942		170,942	80,546
39 2049		-								170,942		170,942	78,967
40 2050		-								170,942		170,942	77,418
41 2051		-								170,942		170,942	75,900
42 2052		-								170,942		170,942	74,412
43 2053		-								170,942		170,942	<u>44,808,589</u>

**Vallecitos Water District  
Projected Wastewater Flows for New Development\***

<b>Year</b>	<b>Average Annual Flows (MGD)</b>	<b>Additional Demand Per Period</b>	<b>Equivalent Dwelling Units (EDU)</b>	<b>Required Capacity per Period (EDUs)</b>
Purchased EDUs	6.7		36,628	
2010	7.7	1.0	30,800	(5,828)
2015	9.4	1.7	37,600	6,800
2020	10.6	1.2	42,400	4,800
2025	11.6	1.0	46,400	4,000
2030	12.5	0.9	50,000	3,600
2030 w/NTA	12.9	0.4	51,600	1,600
Ultimate	13.3	0.4	53,200	1,600
Ultimate w/NTA	13.7	0.4	54,800	1,600
<b>EDUS for Wastewater CIP (2010 to 2030)</b>				<b>13,372</b>
<b>EDUs for Land Outfall Projects (2010 to Ultimate)</b>				<b>18,172</b>



**ATKINS**

**Appendix B  
Wastewater Density Impact Fee**

**Final Report**

**Prepared for:  
Vallecitos Water District**

**January 16, 2012**

**Plan Design Enable**

**Summary of Phase IV Costs Including Phase V Buyback Provisions**

	Vallecitos Costs for Phase IV and V		
	Unit I		Unit J
	Solids	Liquids	Disposal
<b>Phase IV Costs*</b>	\$ 16,105,000	\$ 18,521,000	\$ 5,939,000
ENR-CCI-LA Per Table	7543	7543	7543
Current ENR-CCI-LA (6/11)	10051.3	10051.3	10051.3
Cost Increase Factor	133%	133%	133%
Present Value of Facilities	\$ 21,460,452	\$ 24,679,852	\$ 7,913,916
<b>Phase V Provisions**</b>			
Phase IV Buyback Unit I	\$ 3,492,000		
Phase IV Buyback Unit J			\$ 1,297,000
ENR-CCI-LA (May 2010)	9,945	9,945	9,945
Current ENR-CCI-LA (6/11)	10,051	10,051	10,051
Cost Increase Factor	101%	101%	101%
Present Value of Facilities	\$ 3,529,169	-	\$ 1,310,805
<b>Total Phase IV Facilities</b>	\$ 24,989,621	\$ 24,679,852	\$ 9,224,722
Total Flow Gained (gpd)	2,350,000	2,540,000	2,350,000
Cost Per Gallon	\$ 10.63	\$ 9.72	\$ 3.93

\*From Table 26A Muni Financial Report for Encina dated July 2004.

\*\*Phase V costs are further discussed in Section 4.2.2 of this report.

**Summary of Phase V Solids Costs**

	<b>Total Cost</b>	<b>VWD Costs</b>
Phase V Costs (June 2011 ENR)	\$ 57,628,522	\$ 13,953,449
VWD Capacity Increase (gpd)		2,960,000
Cost Per Gallon		\$ 4.71
<p>Note: Based on Costs at 9945.44 (May 2010) increased to 10051.3 (June 2011)  VWD Costs backs out buy back costs from Encina Phase IV Unit I &amp; J from Table 26A  VWD Costs moves \$.773 million estimated liquids cost from solids costs</p>		

<b>VWD Phase V Cost Determination</b>	
\$ 19,368,492	Total Phase V Costs
\$ (3,492,000)	Phase IV Buyback Unit I
\$ (1,297,000)	Phase IV Buyback Unit J
\$ (773,000)	Phase V Liquids Cost
<u>\$ 13,806,492</u>	
1.011	ENR Increase Since May 2010
<u>\$ 13,953,449</u>	



Appendix B-4

**Outfall Financing Costs**

Phase	1		2		3		4		5		Total Payment	PV of Payments
	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment		
14 2024	12,137,256	968,447		-		-		-		-	968,447	733,962
15 2025		968,447		-		-		-		-	968,447	719,570
16 2026		968,447		-		-		-		-	968,447	705,461
17 2027		968,447		-		-		-		-	968,447	691,628
18 2028		968,447		-		-		-		-	968,447	678,067
19 2029		968,447		-		-		-		-	968,447	664,772
20 2030		968,447		-		-		-		-	968,447	651,737
21 2031		968,447		-		-		-		-	968,447	638,958
22 2032		968,447		-		-		-		-	968,447	626,429
23 2033		968,447		-		-		-		-	968,447	614,146
24 2034		968,447		-		-		-		-	968,447	602,104
25 2035		968,447		-		-		-		-	968,447	590,298
26 2036		968,447		-		-		-		-	968,447	578,724
27 2037		968,447		-		-		-		-	968,447	567,376
28 2038		968,447		-		-		-		-	968,447	556,251
29 2039		968,447		-		-		-		-	968,447	545,344
30 2040		968,447		-		-		-		-	968,447	534,651
31 2041		968,447		-		-		-		-	968,447	524,168
32 2042		968,447		-		-		-		-	968,447	513,890
33 2043		968,447		-		-		-		-	968,447	503,814
34 2044		968,447		-		-		-		-	968,447	493,935
35 2045		968,447		-		-		-		-	968,447	484,250
36 2046		968,447		-		-		-		-	968,447	474,755
37 2047		968,447		-		-		-		-	968,447	465,446
38 2048		968,447		-		-		-		-	968,447	456,320
43 2053											968,447	
												<u>14,616,058</u>

**Combined Costs for Phase IV & Phase V**

	<b>Solids</b>	<b>Liquids</b>	<b>Disposal</b>	<b>Total</b>
Phase IV Costs	\$ 24,989,621	\$ 24,679,852	\$ 9,224,722	\$ 58,894,195
Phase V Costs	\$ 13,953,449	\$ 781,228	\$ -	\$ 14,734,677
Financing Costs	\$ 19,547,577	\$ 13,283,743	\$ 9,726,806	\$ 42,558,126
<b>Total</b>	<b>\$ 58,490,647</b>	<b>\$ 38,744,824</b>	<b>\$ 18,951,527</b>	<b>\$ 116,186,998</b>
Capacity (gpd)	5,310,000	2,540,000	2,350,000	
Cost Per Gallon	\$ 11.02	\$ 15.25	\$ 8.06	\$ 34.33
Gallons Per EDU	250	250	250	250
<b>Impact Fee Per EDU</b>	<b>\$ 2,754</b>	<b>\$ 3,813</b>	<b>\$ 2,016</b>	<b>\$ 8,583</b>