

# 4 Budget

Table 7 (Exhibit B) must be completed for each project in the Proposal and Table 8 must be completed as a summary or roll-up budget for the entire Proposal.

For each project contained in the Proposal, provide detailed budget documentation supporting the costs shown in Table 7, Project Budget. For each budget category shown in Table 7, there may be several tasks and sub-tasks.

This Attachment presents the overall Proposal budget as well as budgets for the two projects.

## Overall Proposal Budget

The overall Proposal Budget is shown on Table 4-1 (DWR Table 8).

**Table 4-1 Projects Summary Budget (DWR Table 8)**

Table 8 – Summary Budget						
Proposal Title: Mojave Water Agency Proposition 84 Funding Grant Application						
Individual Project Title		(a) Requested Grant Amount	(b) Cost Share: Non-State Fund Source* (Funding Match)	(c) Cost Share: Other State Fund Source*	(d) Total Cost	(e) % Funding Match (col. b/col. d)
		Grand Total (Sum rows (a) through (h) from Table 7)	Grand Total (Sum rows (a) through (h) from Table 7)	Grand Total (Sum rows (a) through (h) from Table 7)	Grand Total (Sum rows (a) through (h) from Table 7)	
(a)	Hi-Desert Water District Wastewater Treatment and Reclamation Project	\$5,240,000	\$116,554,321	\$4,080,679	\$125,875,000	93%
(b)	Victor Valley Wastewater Reclamation Authority Subregional Reclamation Project	\$3,000,000	\$17,586,701	\$54,100,000	\$74,686,701	24%
(i)	Proposal Total (Sum rows (a) through (h) for each column)	\$8,240,000	\$134,141,022	\$58,180,679	\$200,561,701	67%
(j)	DAC Funding Match Waiver Total (Sum column (d) only for projects seeking DAC funding match waiver in rows (a) through (h))					
(k)	Grand Total (Subtract row (j) from row (i) and recalculate column (e) – Funding Match %)	\$8,240,000	\$134,141,022	\$58,180,679	\$200,561,701	67%

## Individual Project Budgets

Individual project budgets are provided below in Table 4-2 and Table 4-3 (DWR Table 7).

**Table 4-2 Project Budget for HDWD Wastewater Treatment and Reclamation Project**

<b>Table 7 – Project Budget</b>					
<b>Proposal Title: Mojave Water Agency Proposition 84 Funding Grant Application</b>					
<b>Project Title: Hi-Desert Water District Wastewater Treatment and Reclamation Project</b>					
Project serves a need of a DAC?: <b>YES</b>					
Funding Match Waiver request?: <b>NO</b>					
		(a)	(b)	(c)	(d)
	Category	Requested Grant Amount	Cost Share: Non-State Fund Source* (Funding Match)	Cost Share: Other State Fund Source*	Total Cost
<b>(a)</b>	Direct Project Administration	\$0	\$400,000	\$0	\$400,000
<b>(b)</b>	Land Purchase/Easement	\$0	\$23,487	\$76,513	\$100,000
<b>(c)</b>	Planning/Design/Engineering/Environmental Documentation	\$5,240,000	\$2,894,264	\$694,736	\$8,829,000
<b>(d)</b>	Construction/Implementation	\$0	\$100,369,826	\$3,271,174	\$103,641,000
<b>(e)</b>	Environmental Compliance/Mitigation/Enhancement	\$0	\$50,000	\$0	\$50,000
<b>(f)</b>	Construction Administration	\$0	\$106,744	\$38,256	\$145,000
<b>(g)</b>	Other Costs	\$0	\$80,000	\$0	\$80,000
<b>(h)</b>	Construction/Implementation Contingency	\$0	\$12,630,000	\$0	\$12,630,000
<b>(i)</b>	<b>Grand Total (Sum rows (a) through (h) for each column)</b>	<b>\$5,240,000</b>	<b>\$116,554,321</b>	<b>\$4,080,679</b>	<b>\$125,875,000</b>
*Sources of funding:					
	2010 Round 1 P84 Imp Grant	\$3,000,000			
	2013 Round 2 P84 Imp Grant	\$5,240,000			
	California SWRCB Cleanup and Abatement Grant	\$1,080,679			
	Water Loan (from HDWD)	\$1,287,004			
	Title XVI Funds (Awarded)	\$1,483,932			
	Title XVI Funds (Requested 2013)	\$626,499			
	Assessment District	\$113,156,886			
	<b>Total</b>	<b>\$125,875,000</b>			

**Table 4-3 Project Budget for VVWRA Subregional Reclamation Project**

Table 7 – Project Budget				
Proposal Title: Mojave Water Agency Proposition 84 Funding Grant Application				
Project Title: Victor Valley Wastewater Reclamation Authority Subregional Reclamation Project				
Project serves a need of a DAC?: YES				
Funding Match Waiver request?: NO				
	(a)	(b)	(c)	(d)
Category	Requested Grant Amount	Cost Share: Non-State Fund Source* (Funding Match)	Cost Share: Other State Fund Source*	Total Cost
(a) Direct Project Administration	\$0	\$0	\$0	\$0
(b) Land Purchase/Easement	\$0	\$2,000,000	\$0	\$2,000,000
(c) Planning/Design/Engineering/Environmental Documentation	\$0	\$8,000,000	\$0	\$8,000,000
(d) Construction/Implementation	\$3,000,000	\$5,354,817	\$54,100,000	\$62,454,817
(e) Environmental Compliance/Mitigation/Enhancement	\$0	\$0	\$0	\$0
(f) Construction Administration	\$0	\$205,000	\$0	\$205,000
(g) Other Costs	\$0	\$1,000,000	\$0	\$1,000,000
(h) Construction/Implementation Contingency	\$0	\$1,026,885	\$0	\$1,026,885
(i) <b>Grand Total (Sum rows (a) through (h) for each column)</b>	\$3,000,000	\$17,586,701	\$54,100,000	\$74,686,701
<b>*Sources of funding:</b>				
2013 Round 2 P84 Imp Grant	\$3,000,000			
California State Revolving Fund Loan	\$54,100,000			
Title XVI Funds (Requested 2013)	\$3,000,000			
Bureau of Reclamation Funding Agreement	\$2,000,000			
VVWRA	\$12,586,701			
Total	\$74,686,701			

## 4.1 Hi-Desert Water District Wastewater Treatment and Water Reclamation Project

*Provide a brief overview of monies requested and matching funds.*

The Hi-Desert Water District is proposing to construct a wastewater treatment facility and collection system to serve the residents of the Yucca Valley area. These subject grant funds will be utilized for tasks needed to ultimately construct the project. This project is necessary since there are no wastewater facilities in Yucca Valley, which currently utilizes septic systems. These septic systems are linked to nitrate contamination of the groundwater basin.

The Hi-Desert Water District is scheduled to be subject to a proposed septic prohibition, in March 2016, by the RWQCB to protect the drinking water supply.

The District is considered a disadvantaged community with a median income less than 80 percent of the statewide median. It is critical that the District seek grants and other low cost

financing to fund this project. With the requested grant amount, the fully-functional Phase 1 will be fully funded and ready to proceed. The preliminary cost estimate for Phase 1 included herein, which includes the treatment plant and collection system.

To fund subsequent phases, the District will seek to minimize financial impacts on the community by identifying bonds, grants, low-interest loans and other financing methods. Potential funding sources include the Bureau of Reclamation, State of California Bond Funds, Community Development Block Grants, Redevelopment Agency Funds and State Revolving Funds. Costs not covered by grants will likely be financed over 30 years to lessen the immediate impact on the community and provide that future residents and businesses pay their fair share of the cost. A rate study is being performed to develop a fair and equitable rate structure. The District is working to minimize the financial impacts.

In addition to paying a share of the costs for the Wastewater Treatment and Water Reclamation Facility, property owners will abandon their existing septic tanks and connect to the District sewer at their own cost. To address this private property connection, the District is exploring ways to receive grants for low income residents, options to allow property owners to finance these costs, and other measures to address property owner concerns.

Budget items corresponding to the Work Plan tasks are presented in Table 4-4. The reader should note that this table includes zero-dollar tasks for subsequent phases of project implementation that are provided for context and are not part of the grant request. These tasks are indicated by a shaded background.

A detailed construction budget is presented in Table 4-5. Detailed estimates of operations and maintenance costs are presented in a series of tables included in Attachment 8<sup>18</sup>.

The application “Table 7” Project Budget, showing funding sources and requested grant funds is presented as Table 4-2 (page 4-2).

A value engineering study of the wastewater collection system was completed in 2008, which identifies specific staging and cost saving measures.<sup>19</sup> This document is attached as Att4\_IG2\_Budget\_2of3.

---

<sup>18</sup> Att8\_IG2\_BenCost\_1of5.docx

<sup>19</sup> Value Management Strategies, Inc., August 2008, Preliminary Value Engineering Study Report – HDWD Collection Systems. Included with this application as Att4\_IG2\_Budget\_2of3

**Table 4-4 HDWD Project Budget and Grant Administration Budget**

<b>TASK</b>	<b>DESCRIPTION</b>	<b>BUDGET</b>
<b>1</b>	<b>Prop 84 IRWM Grant Administration</b>	
<b>1a</b>	Application	Prepare Proposition 84 Implementation Grant application \$25,000
<b>1b</b>	DWR Review	Review and scoring of grant applications \$0
<b>1c</b>	Award	Develop contracts with selected applicants \$0
<b>1d</b>	Start Construction	Milestone date for start of construction of first MWA project \$0
<b>1e</b>	Quarterly Reports	MWA grant administrator submits quarterly progress reports to DWR \$4,000
<b>1f</b>	Final Report	MWA grant administrator submits final progress report to DWR \$1,000
<b>2</b>	<b>HDWD Wastewater Treatment &amp; Reclamation Project</b>	
<b>2a</b>	Land Acquisition, Easements and Rights of Way	Acquire the land to construct the Treatment Plan \$100,000
<b>2b</b>	Sewer Master Plan	Develop the strategy for deploying the sewer system ---
<b>2c</b>	<b>Design</b>	
2c1	Prelim Design for Phase 1	Preliminary Design Report for the construction of Phase 1
2c2	Survey and Mapping	Survey and Map the land in Phase 1 and 2 to determine the location of underground utilities and topography \$195,000
2c3	Hydrology Study	Perform a hydrologic study of the project location and surrounding area. \$25,000
2c4	Geotechnical Study	Perform a geotechnical study of the project location and surrounding area. \$75,000

2c5	Conditional Use Permit	Submit to the Town of Yucca Valley the Conditional Use Permit to determine the site improvements to meet the Town's standards	\$84,000
2c6	Final Design	Using the Survey and Mapping, the Final Engineered Plans for Construction	\$4,600,000
2c7	Confirm Preliminary Design	Confirmation and technical review of preliminary design.	\$250,000
2c8	Prepare Final Plans/Specs/Cost Estimate	Complete and confirm final plans, specifications, and cost estimates.	\$3,400,000
<b>2d</b>	<b>CEQA Environmental Review</b>	<b>State Environmental Clearance</b>	
<b>2e</b>	<b>NEPA Environmental Review</b>	<b>National Environmental Clearance</b>	\$200,000
<b>2f</b>	<b>Permitting</b>	<b>Acquire required County, State, and Federal permits</b>	\$50,000
<b>2g</b>	<b>Assessment District Formation</b>		
2g1	State Revolving Loan Application	Maintained the listing on the State Revolving Fund Funding priority list	---
2g2	Assessment District Formation	Forming the mechanism to assess the property owners to fund the Project	---
2g3	Vote		---
<b>2h</b>	<b>Construction</b>		
2h1	Construction Contracting	Public Bid Process for selection of a contractor	\$145,000
2h2	Construct Phase 1	Project Construction	\$116,271,000
<b>2h3</b>	<b>Construct Future Phases</b>		
2h3a	Construct Phase 2	Project Construction	---
2h3b	Construct Phase 3	Project Construction	---
<b>2i</b>	<b>Begin Operation</b>	<b>Operations Begin</b>	\$0
<b>2j</b>	<b>Public Outreach</b>		\$80,000
2k	Program Management		\$370,000
<b>TOTAL</b>			<b>\$125,845,000</b>

Note: Shaded tasks are provided for context and are not part of the grant application

**Table 4-5 Detailed Construction Costs for HDWD Wastewater Treatment and Reclamation Project (4 pages)**

HI-DESERT WATER DISTRICT SEWER COLLECTION/TREATMENT/DISPOSAL OPINION OF PROJECT COSTS						
Treatment Plant Costs						
Description	Number	Units	Equipment	Tax	Installation	Total Cost
			\$	\$	\$	\$
<b>Screenings</b>						
Screen	1	EA	125,000	9,690	20,000	155,000
Fixed Bar Rack	1	EA	10,000	780	3,000	14,000
Fans	1	EA	5,000	390	2,000	8,000
Bin	1	EA	-	-	3,000	3,000
Concrete Floor	40	C.Y.	-	-	700	28,000
Structural Walls	40	C.Y.	-	-	750	30,000
Elevated Slab	0	C.Y.	-	-	8,000	-
Building	500	SF	25	10	100	68,000
Earthwork	30	C.Y.	-	-	20	1,000
Misc Metals	1	L.S.	12,000	930	5,000	18,000
Electrical	1	L.S.	40,000	3,100	10,000	54,000
Instrumentation	1	L.S.	20,000	1,550	3,000	25,000
Access Hatches	2	EA	8,000	620	2,000	22,000
Coating	1	L.S.	-	-	20,000	20,000
Stairs	1	EA	-	-	15,000	15,000
Misc Piping	1	L.S.	15,000	1,170	10,000	27,000
			255,500			-
						488,000
<b>Influent Lift Station</b>						
Pumps	-	EA	10,000	780	3,000	-
Fans	-	EA	6,000	470	3,000	-
Piping	-	L.S.	20,000	1,550	10,000	-
Misc Metals	-	L.S.	4,000	310	2,000	-
Structural Walls	0	C.Y.	-	-	1,100	-
Floor	0	C.Y.	-	-	1,000	-
Elevated Slab	0	C.Y.	-	-	1,000	-
Earthwork - cut	0	C.Y.	-	-	20	-
Earthwork - fill	0	C.Y.	-	-	30	-
Shoring	0	SF	25	10	-	-
Hatches	-	EA	4,000	310	2,000	-
Coating	-	L.S.	-	-	10,000	-
Electrical	-	L.S.	20,000	1,550	10,000	-
Instrumentation	-	L.S.	6,000	470	3,000	-
						\$ -
<b>Oxidation Ditch</b>						
Equipment	1	LS	150,000	11,630	40,000	202,000
Clarifier	2	LS	75,000	5,820	20,000	202,000
Gates	1	LS	-	-	30,000	30,000
Blowers	1	LS	-	-	-	-
Air Lift Pumps	1	LS	-	-	-	-
Structural Floors - OD	620	C.Y.	-	-	650	403,000
Structural Walls - SC	93	C.Y.	-	-	750	70,000
Structural Floors - SC	37	C.Y.	-	-	700	26,000
Earthwork - cut	4000	C.Y.	-	-	10	40,000
Earthwork - fill	750	C.Y.	-	-	20	15,000
Shoring	0	SF	25	10	-	-
Covers	0	Sq. Ft.	45	4	15	-
Walkways	0	Sq. Ft.	35	3	15	-
Stairs	2	EA	5,000	390	3,500	18,000
Coating	1	L.S.	-	-	20,000	20,000
Electrical	1	L.S.	15,000	1,170	10,000	27,000
Instrumentation	1	L.S.	10,000	780	5,000	16,000
Piping	1	L.S.	10,000	780	5,000	16,000
			345,000			\$ 1,085,000

**HI-DESERT WATER DISTRICT SEWER COLLECTION/TREATMENT/DISPOSAL  
OPINION OF PROJECT COSTS**

**Treatment Plant Costs**

Description	Number	Units	Equipment	Tax	Installation	Total Cost	
			\$	\$	\$	\$	
<b>Filters</b>							
Equipment	1	EA.	125,000	9,690	17,500	153,000	
Structural Walls	45	C.Y.	-	-	750	34,000	
Structural Floors	26	C.Y.	-	-	700	19,000	
Earthwork	800	C.Y.	-	-	15	12,000	
Covers	250	Sq. Ft.	30	3	15	12,000	
Walkways	200	Sq. Ft.	35	3	15	11,000	
Stairs	2	EA.	5,000	390	5,000	21,000	
Coating	1	L.S.	-	-	5,000	5,000	
Electrical	1	L.S.	24,000	1,860	16,000	42,000	
Instrumentation	1	L.S.	8,000	620	5,000	14,000	
Piping	1	L.S.	-	-	-	-	
			157,000			\$	323,000
<b>UV Disinfection</b>							
Equipment	1	L.S.	150,000	11,630	30,000	192,000	
Effluent Pumps	0	EA.	-	-	-	-	
Plant Water Pumps	3	EA.	15,000	1,170	5,000	64,000	
Hydropneumatic Sys.	1	EA.	40,000	3,100	10,000	54,000	
Structural Walls	50	C.Y.	-	-	750	38,000	
Structural Floors	20	C.Y.	-	-	700	14,000	
Elevated Slab	7	C.Y.	-	-	800	6,000	
Grating/Walkways	0	Sq. Ft.	35	10	15	-	
Coating	0	L.S.	-	-	-	-	
Covers	800	Sq. Ft.	-	-	40	32,000	
Earthwork	0	C.Y.	-	-	20	-	
Electrical	1	L.S.	40,000	3,100	35,000	79,000	
Instrumentation	1	L.S.	10,000	780	10,000	21,000	
Piping	1	L.S.	10,000	780	5,000	16,000	
			295,000			\$	516,000
<b>Chemical Handling</b>							
NaOCI Pumps	2	EA.	2,000	160	2,000	9,000	
Polymer Pumps	0	EA.	-	-	-	-	
NaOCI Storage	1	L.S.	10,000	780	5,000	16,000	
Polymer Storage	1	L.S.	15,000	1,170	8,000	25,000	
Coating	1	L.S.	10,000	780	5,000	16,000	
Structural	15	C.Y.	-	-	850	13,000	
Electrical	1	L.S.	15,000	1,170	8,000	25,000	
Piping	1	L.S.	15,000	1,170	10,000	27,000	
			59,000			\$	131,000
<b>Odor Control</b>							
Equipment	1	EA.	50,000	3,880	25,000	79,000	
Structural	20	C.Y.	-	-	850	17,000	
Earthwork	10	C.Y.	-	-	20	1,000	
Electrical	1	L.S.	25,000	1,940	10,000	37,000	
Piping	1	L.S.	30,000	2,330	8,000	41,000	
			105,000			\$	175,000
<b>Sludge Dewatering</b>							
Belt Press	1	L.S.	250,000	19,380	35,000	305,000	
Screw Conveyor	1	EA.	40,000	3,100	10,000	54,000	
Bin	1	EA.	10,000	780	1,000	12,000	
Sludge Pumps	2	EA.	20,000	1,550	2,500	49,000	
Structural	1508	sf	-	-	125	189,000	
Electrical	1	L.S.	60,000	4,650	15,000	80,000	
Instrumentation	1	L.S.	30,000	2,330	8,000	41,000	
Piping	1	L.S.	35,000	2,720	20,000	58,000	
			465,000			\$	788,000

**HI-DESERT WATER DISTRICT SEWER COLLECTION/TREATMENT/DISPOSAL  
OPINION OF PROJECT COSTS**

**Treatment Plant Costs**

Description	Number	Units	Equipment	Tax	Installation	Total Cost
			\$	\$	\$	\$
<b>Admin Building</b>						
Structural	936	Sq. Ft.	70	10	50	122,000
Earthwork	20	C.Y.	0	-	20	1,000
Doors	8	EA.	2,000	160	1,000	26,000
Roll Up Door	0	EA.	10,000	780	500	-
Interior Walls	1000	Sq. Ft.	35	10	10	55,000
Concrete Slab	35	C.Y.	0	-	300	11,000
HVAC	1	LS	35,000	2,720	12,000	50,000
Coating	1	LS	0	-	25,000	25,000
Electrical	1	L.S.	25,000	1,940	25,000	52,000
			141,520			\$ 342,000
<b>Miscellaneous</b>						
Potable Water Backflow	1	L. S.	10,000	780	2,000	13,000
Standby Generator	1	L. S.	75,000	5,820	10,000	91,000
Site Electrical	1	L. S.	200,000	15,500	150,000	366,000
MCC's	1	L.S.	100,000	7,750	100,000	208,000
Site Piping	1	L. S.	275,000	21,320	135,000	432,000
Site Lighting	1	L. S.	50,000	3,880	25,000	79,000
Instrumentation	1	L. S.	150,000	11,630	150,000	312,000
Coating	1	L.S.	50,000	3,880	15,000	69,000
Paving	7500	Sq. Ft.	2	1	2	30,000
Fencing	4000	LF	35	3	5	172,000
Soil Remediation	0	L.S.	-	-	-	-
Dewater Mass Grading	0	L.S.	-	-	-	-
Civil Site Work	1	L. S.	55,000	4,270	10,000	70,000
			1,116,250			\$ 1,842,000
						\$ 5,690,000
						Bid Contingency at 0% \$ -
						Contractor OH & P @ 12% \$ 683,000
						<b>Facilities Construction</b> \$ 6,373,000
						<b>Facilities Planning</b> \$ 50,000
						Waste Discharge Report \$ 50,000
						Master Planning \$ -
						<b>Facilities Design</b> \$ 449,000
						Final Design @ 7% \$ 399,000
						Surveying \$ 20,000
						Soils Engineering \$ 30,000
						SCADA \$ -
						<b>Admin &amp; Legal</b> \$ 339,000
						Legal \$ 20,000
						District Plan Review at 1% \$ 64,000
						District Inspection at 4% \$ 255,000
						<b>Land and Right of Way</b> \$ -
						<b>Prime Engineering</b> \$ -
						<b>Contingency at 5%</b> \$ 319,000
						<b>Engr Services During Constr 3%</b> \$ 171,000
						<b>Total Capital Costs</b> \$ 7,701,000

**HI-DESERT SEWER COLLECTION/TREATMENT/DISPOSAL PROJECT  
OPINION OF PROJECT COSTS**

**Collection System**

Description	Number	Units	Equipment	Tax	Installation	Total Cost
1 Pipeline 8"	1,050	LF	-	-	64	\$ 68,000
2 Pipeline 8"	780	LF			64	\$ 50,000
3 Pipeline 12"	3,300	LF			96	\$ 317,000
4 Pipeline 12" (Hilton)	1,400	LF			96	\$ 135,000
5 Pipeline 12" (Paxton)	3,440	LF			96	\$ 331,000
6 Pipeline 15"	4,100	LF			120	\$ 492,000
7 Pipeline 15" (to WRF)	2,865	LF			120	\$ 344,000
8 Manholes (4' dia)	80	EA			4,000	\$ 320,000
9 Resid. Conn.	100	EA	-	-	2,500	\$ 250,000
10 Comm. Conn.	75	EA			2,000	\$ 150,000
11 Lift Station	1	LS	-	-	500,000	\$ 500,000
12 Force Main (8" dia)	4,900	LF	-	-	80	\$ 392,000
						<u>\$ 3,349,000</u>
					Bid Contingency at 1%	\$ 34,000
					Contractor OH & P @ 12%	\$ 576,000
					Facilities Construction	\$ 3,959,000
					<b>Facilities Planning</b>	\$ -
					Master Plan	\$ -
					<b>Facilities Design</b>	\$ 130,000
					Final Design	\$ 80,000
					Surveying	\$ 25,000
					Soils Engineering	\$ 25,000
					<b>Admin &amp; Legal</b>	\$ 125,000
					Legal	\$ 25,000
					District Plan Review at 0.5%	\$ 20,000
					District Inspection at 2%	\$ 79,180
					<b>Land and Right of Way</b>	\$ 100,000
					<b>Prime Engineering</b>	\$ -
					<b>Contingency at 15%</b>	\$ 594,000
					<b>Engr Services During Constr</b>	\$ 74,000
					Office Engineering @ 1%	40,000
					Construction Survey	34,000
					<b>Other Costs</b>	\$ -
					<b>Total Capital Costs</b>	\$ 4,982,000

## 4.2 Victor Valley Wastewater Reclamation Authority Subregional Reclamation Project

*Provide a brief overview of monies requested and matching funds.*

The Victor Valley Wastewater Reclamation Authority is proposing to construct two wastewater treatment facilities to serve the residents of Apple Valley and Hesperia areas.

The City of Hesperia is considered a disadvantaged community with a median income less than 80 percent of the statewide median. It is critical that the Authority seek grants and other low cost financing to fund this project. With the requested grant amount, the fully-functional reclamation plants will be fully funded and ready to proceed. To fund subsequent phases, the Authority will seek to minimize financial impacts on the community by identifying bonds, grants, low-interest loans and other financing methods. Potential funding sources include the Bureau of Reclamation, State of California Bond Funds, Community Development Block Grants, Redevelopment Agency Funds and State Revolving Funds. Costs not covered by grants will likely be financed over 30 years to lessen the immediate impact on the community and provide that future residents and businesses pay their fair share of the cost. The Authority is working to minimize the financial impacts.

Budget items corresponding to the Work Plan tasks are presented in Table 4-6. The reader should note that this table includes zero-dollar tasks for subsequent phases of project implementation that are provided for context and are not part of the grant request. These tasks are indicated by a shaded background.

A detailed construction budget is also presented in Table 4-6. Detailed estimates of operations and maintenance costs are presented in a series of tables included in Attachment 8<sup>20</sup>.

The detailed cost estimate for both plants is presented as Table 4-7 (23 pages). These plants are identically sized; cost for only one of the twin plants is presented. The incremental cost to bring a single plant from a capacity of 1.0 mgd to 2.0 mgd is presented in Table 4-8.

The application “Table 7” Project Budget, showing funding sources and requested grant funds is presented as Table 4-3 (page 4-3).

---

<sup>20</sup> Att8\_IG2\_BenCost\_3of5.docx and Att8\_IG2\_BenCost\_4of5.docx

**Table 4-6 VVWRA Subregional Reclamation Project Budget**

<b>TASK</b>	<b>DESCRIPTION</b>	<b>BUDGET</b>
<b>3</b>	<b>VVWRA Subregional Reclamation Project</b>	
<b>3a</b>	<b>Detailed Design/Construction Administration</b>	
3a1	Administrative and legal expenses	Covers administrative activities required in preparation for bidding and during construction. \$198,000
3a2	Complete and assemble bid documents	Complete and assemble documents in preparation for bid. \$1,000
3a3	Final contract documents	Prepare contract documents in preparation for bid and contract award. \$1,000
3a4	Land, structures, rights-of-way, appraisals, etc.	Acquire the land, required rights-of-way, and perform appraisals done as appropriate. \$2,000,000
3a5	Relocation expenses and payments	Provide monetary compensation to individuals and businesses required to move for this project. \$1,000,000
3a6	Architectural and engineering fees	Fees incurred by architectural and engineering firms to complete the preliminary design of the water reclamation plants. \$8,000,000
<b>3b</b>	<b>Bidding Phase Services</b>	
3b1	Pre-bid conference	Conference held prior to bidding to discuss how bidding should occur and to communicate bid requirements. \$1,000
3b2	Response to bidder questions & issue addenda	Responding to bidder questions. \$1,000
3b3	Bid opening	Open bid. \$500
3b4	Bid Evaluation and Letter Recommendation	Bid evaluation and recommendation letter. \$500
<b>3c</b>	<b>VVWRA Award to Contractor</b>	
3c1	Recommendation to board	Discussion of recommended bid. \$1,000
3c2	Board adoption and award to contractor	Board vote and award. \$500
3c3	Contractor Notice to Proceed	\$500
<b>3d</b>	<b>Construction</b>	
3d1	Construct Apple Valley and	Project construction \$39,159,817

Hesperia WRPs			
3d2	Project inspection fees	Fees incurred by inspections of construction sites.	\$395,000
3d3	Site work	Surveying, lot clearing, foundation preparation, rough grading, final grading landscaping, driveways, walkways, etc.	\$6,400,000
3d4	Demolition and removal	Demolition and removal of existing facilities.	\$800,000
3d5	Equipment	Equipment rented or purchased for construction of the project.	\$12,800,000
3d6	Miscellaneous	Miscellaneous costs or fees incurred by unforeseeable issues arising during construction.	\$2,900,000
3d7	Contingencies		\$1,026,885
<b>TOTAL</b>			<b>\$74,686,701</b>

Table 4-7 Detailed Cost Estimate, VVWRA Subregional Reclamation Plants (22 pages)

 <b>DETAILED COST ESTIMATE</b>						
<b>Project:</b> VVWRA/Hesperia/Apple Valley - 95% Estimate <b>Job #:</b> 8229A.10 <b>Location:</b> City of Hesperia, CA <b>Element:</b> 01 General Condition		<b>Date :</b> October 4, 2010 <b>By :</b> ZL <b>Reviewed:</b> AG				
SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 01 - General Conditions</b>						
01000	Bonds & Insurance, Allow (Min)	\$19,358,190	PCT	0.5%	\$96,791	
01000	Project Manager	18.00	MO	\$8,704.80	\$156,886	
01000	General Superintendent	18.00	MO	\$8,060.00	\$145,080	
01000	Master Mechanic	9.00	MO	\$7,192.00	\$64,728	
01000	Office Engineer	18.00	MO	\$4,664.38	\$83,959	
01000	Cost Engineer	9.00	MO	\$3,589.06	\$32,302	
01000	Scheduler	9.00	MO	\$3,589.06	\$32,302	
01000	Field Engineers	18.00	MO	\$4,664.38	\$83,959	
01000	Draftsperson	4.50	MO	\$4,298.34	\$19,343	
01000	Survey Crew (3-Person)	18.00	DAY	\$1,562.40	\$28,123	
01000	Mechanics	9.00	MO	\$6,892.42	\$62,032	
01000	Secretaries	9.00	MO	\$2,579.20	\$23,213	
01000	Clerks	4.50	MO	\$2,063.36	\$9,285	
01000	Guards	18.00	MO	\$2,976.00	\$53,568	
01000	Janitors	18.00	MO	\$4,943.14	\$88,976	
01000	Timekeeper	4.50	MO	\$4,169.38	\$18,762	
01000	Move In/Out Of All Equip And Temp Facilities, Allow	\$19,358,190	PCT	1.5%	\$290,373	
01000	Fuel Distribution	1.00	LS	\$14,880.00	\$14,880	
01000	Office Trailer	18.00	MO	\$2,976.00	\$53,568	
01000	Storage Buildings/Sheds/Trailers	18.00	MO	\$992.00	\$17,856	
01000	Testing Facilities	18.00	MO	\$992.00	\$17,856	
01000	Decontamination Facilities	18.00	MO	\$496.00	\$8,928	
01000	Portable Toilets, Serviced	18.00	MO	\$172.61	\$3,107	
01000	Office Furniture	18.00	MO	\$297.60	\$5,357	
01000	Office Supplies	18.00	MO	\$198.40	\$3,571	
01000	Office Equipment	18.00	MO	\$267.84	\$4,821	
01000	Printing/R reproduction	18.00	MO	\$297.60	\$5,357	
01000	Computers	18.00	MO	\$1,984.00	\$35,712	
01000	Telephone/Radios	18.00	MO	\$496.00	\$8,928	
01000	Signs	18.00	EA	\$496.00	\$8,928	
01000	Safety Supplies	18.00	MO	\$148.80	\$2,678	
01000	First Aid Supplies	18.00	MO	\$124.00	\$2,232	
01000	Drug Testing	18.00	EA	\$99.20	\$1,786	
01000	Office Maintenance	18.00	MO	\$545.60	\$9,821	
01000	Drinking Water & Ice	3.00	MO	\$297.60	\$893	
01000	Heating/Air Conditioning	3.00	MO	\$165.66	\$497	
01000	Dust Control	6.00	MO	\$43,846.40	\$263,078	
<b>Total</b>						<b>\$1,759,335</b>
<b>Grand Total</b>						<b>\$1,759,335</b>





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 02 General, Site & Yard, & Misc

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 02 - Site Construction</b>						
02000	Misc. Demo and Site Construction	\$1,602,242	PCT	1%	\$16,022.42	
02260	Excavation Support & Protection	1.00	LS	\$10,000.00	\$10,000.00	
02300	Clearing, Grubbing & Stripping	1.00	LS	\$10,000.00	\$10,000.00	
02300	Cat 225 Trackhoe, 1Cy Bucket, Class B (Medium Digging), 0-16' D	24,243.00	CY	\$4.39	\$106,525	
02300	Native Pipe Bed & Zone/Confined Structure Backfill, Class A Material	102.00	CY	\$24.25	\$2,473	
02300	Controlled Density Fill (Cdf)	10,860.00	CY	\$89.28	\$969,581	
02300	20 Cy Dump Truck, 20 Miles/Round Trip	13,382.00	CY	\$9.06	\$121,294	
02580	84" X 8' Deep Precast Manhole, No Ring & Cover, No Earthwork	3.00	EA	\$4,715.46	\$14,146	
02580	84" Precast Manhole, Xtra Depth Over 8'	14.00	VLF	\$602.92	\$8,441	
02580	24" X 36" Precast Curb Inlet Catch Basin W/Frame & Grate	5.00	EA	\$1,129.19	\$5,646	
02742	6" Gravel Paving, In Place	7,370.00	SF	\$1.21	\$8,936	
02742	4" Ac Paving On 8" Abc	64,800.00	SF	\$3.47	\$224,986	
02750	8" Reinforced Concrete Paving	1,300.00	SF	\$5.54	\$7,207	
02820	Galv. Chain Link Fence, 8' W/Barbed Wire, No Gates	1,395.00	LF	\$48.11	\$67,116	
02820	6' H Double Swing Gate, Chain Link, 20' Opening	2.00	EA	\$1,785.60	\$3,571	
02820	Motor Operator For Gates To 20' Wide	2.00	EA	\$7,613.60	\$15,227	
02900	Landscaping, Low Visual Impact, Medium Areas	7,700.00	SF	\$3.52	\$27,091	
<b>Total</b>						<b>\$1,618,264</b>
<b>Division 11 - Equipment</b>						
11000	Misc. Specialties, Small Piping, Leveling, etc. Allow	\$6,318	PCT	1%	\$63.18	
11312	Process Drain Sump Pump	2.00	EA	\$3,158.93	\$6,317.86	
<b>Total</b>						<b>\$6,381</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$334,144	PCT	1%	\$3,341.44	
15112	Valve Box - 24" Butterfly Damper	3.00	EA	\$662.95	\$1,989	
15112	Up To 6" Trench/Bury Indicator Post	3.00	EA	\$837.25	\$2,512	
15112	Additive For Each Additional 6" Indicator Post Over 6'	6.00	LF	\$49.60	\$298	
15115	4" 125# Cl Fxf Globe Valve, Os&Y	1.00	EA	\$1,685.67	\$1,686	
15115	2" Di Mj Gate Valve, Non-Rising Stem	3.00	EA	\$252.92	\$759	
15115	8" Di Mj Gate Valve, Non-Rising Stem	1.00	EA	\$1,481.85	\$1,482	
15115	Valve Box - 8" Gate Valve	3.00	EA	\$506.91	\$1,521	
15115	Up To 6" Trench/Bury Indicator Post	3.00	EA	\$837.25	\$2,512	
15116	10" Fxf Cast Iron Plug Valve W/Handwheel Op	4.00	EA	\$2,372.83	\$9,491	
15116	12" Fxf Cast Iron Plug Valve W/Handwheel Op	1.00	EA	\$2,644.81	\$2,645	
15116	Add For Motor Operator 2.5" Through 10"	1.00	EA	\$2,976.00	\$2,976	
15116	Add For Motor Operator 12" Through 20"	1.00	EA	\$3,968.00	\$3,968	
15118	4" Bf Preventer Assy W/2 Cv & 2 Gtv	1.00	EA	\$5,077.95	\$5,078	
15119	2" 300 Psi Air/Vac Valve W/Shutoff	2.00	EA	\$2,518.60	\$5,037	
15121	4" Flex Cplg, Above Ground	1.00	EA	\$371.35	\$371	
15121	10" Flex Cplg, Above Ground	1.00	EA	\$750.38	\$750	
15121	12" Flex Cplg, Buried Or Underwater	2.00	EA	\$1,423.77	\$2,848	
15121	12" Flex Cplg, Above Ground	2.00	EA	\$1,239.60	\$2,479	
15121	18" Flex Cplg, Buried Or Underwater	1.00	EA	\$2,060.42	\$2,060	
15121	16" Dismantling Joint	1.00	EA	\$3,052.87	\$3,053	
15251	4" 90° 125# Cldi Fxf Ell	2.00	EA	\$648.96	\$1,298	
15251	12" 90° 125# Cldi Fxf Ell	5.00	EA	\$3,106.53	\$15,533	
15251	18" 90° 125# Cldi Fxf Ell	1.00	EA	\$5,144.80	\$5,145	
15251	12"X10" 125# Cldi Fxf Eccentric Rcdr	2.00	EA	\$3,178.82	\$6,358	
15251	18"X16" 125# Cldi Fxf Eccentric Rcdr	1.00	EA	\$7,222.19	\$7,222	
15251	12" Cldiflg Straight Tee In Place	3.00	EA	\$4,626.11	\$13,878	
15251	6" Cl 52 Cldi Mj Pipe In Open Trench	327.00	LF	\$30.22	\$9,882	
15251	8" Cl 52 Cldi Mj Pipe In Open Trench	427.00	LF	\$32.95	\$14,069	
15251	12" Cl 52 Cldi Mj Pipe In Open Trench	486.00	LF	\$45.82	\$22,266	
15251	16" Cl 52 Cldi Mj Pipe In Open Trench	365.00	LF	\$58.04	\$21,184	
15251	20" Cl 52 Cldi Mj Pipe In Open Trench	247.00	LF	\$98.81	\$24,406	
15251	4" 90° Cldi Mj Bend	2.00	EA	\$663.75	\$1,327	
15251	6" 90° Cldi Mj Bend	1.00	EA	\$859.20	\$859	
15251	8" 90° Cldi Mj Bend	3.00	EA	\$985.39	\$2,956	
15251	12" 90° Cldi Mj Bend	7.00	EA	\$1,406.62	\$9,846	
15251	16" 90° Cldi Mj Bend	2.00	EA	\$2,377.39	\$4,755	
15251	18" 90° Cldi Mj Bend	2.00	EA	\$2,888.85	\$5,778	
15251	20" 90° Cldi Mj Bend	3.00	EA	\$3,201.90	\$9,606	
15251	6" 45° Cldi Mj Bend	1.00	EA	\$840.35	\$840	





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 02 General, Site & Yard, & Misc

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
15251	8" 45° Cldi Mj Bend	1.00	EA	\$952.65	\$953	
15251	12" 45° Cldi Mj Bend	3.00	EA	\$1,322.30	\$3,967	
15251	16" 45° Cldi Mj Bend	6.00	EA	\$2,136.33	\$12,818	
15251	18" X 12" Cldi Mj Tee Or Wye	1.00	EA	\$3,977.95	\$3,978	
15251	20" X 20" Cldi Mj Tee Or Wye	2.00	EA	\$4,679.31	\$9,359	
15251	12" X 8" Cldi Mj Reducer	1.00	EA	\$574.96	\$575	
15251	16" X 12" Cldi Mj Reducer	1.00	EA	\$1,165.36	\$1,165	
15252	24" C200 3/8" Wall Wld Cs Pipe In Open Trench	47.00	LF	\$234.92	\$11,041	
15265	4" Sdr-35 Pvc Sewer Pipe, In Trench	462.00	LF	\$5.15	\$2,377	
15265	12" Sdr-35 Pvc Sewer Pipe, In Trench	780.00	LF	\$17.92	\$13,975	
15265	4" Class 150 Dr.18 C-900 Pvc Pipe In Trench	357.00	LF	\$10.43	\$3,725	
15265	8" Class 150 Dr.18 C-900 Pvc Pipe In Trench	1,080.00	LF	\$15.04	\$16,241	
15265	4" X 4" 45° Pvc Straight Wye With Gasket	4.00	EA	\$32.77	\$131	
15265	12" X 4" 45° Pvc Reducing Wye With Gasket	5.00	EA	\$204.94	\$1,025	
15265	12" X 12" 45° Pvc Straight Wye With Gasket	6.00	EA	\$373.99	\$2,244	
15265	4" X 4" Pvc Straight Tee With Gasket	1.00	EA	\$31.96	\$32	
15265	4" 90° Cldi C153 Tyton Bend	4.00	EA	\$120.59	\$482	
15265	8" 90° Cldi C153 Tyton Bend	10.00	EA	\$359.24	\$3,592	
15265	4" 45° Cldi C153 Tyton Bend	4.00	EA	\$163.25	\$653	
15265	8" 45° Cldi C153 Tyton Bend	3.00	EA	\$346.34	\$1,039	
15265	8" X 4" Cldi C153 Reducing Tyton Tee	2.00	EA	\$598.26	\$1,197	
15265	8" X 8" Cldi C153 Straight Tyton Tee	5.00	EA	\$669.69	\$3,348	
15265	8" X 4" Cldi C153 Tyton Reducer	4.00	EA	\$288.81	\$1,155	
15265	.75" Sch 80 Pvc Pipe In A Trench	142.00	LF	\$2.29	\$324	
15265	2" Sch 80 Pvc Pipe In A Trench	526.00	LF	\$5.33	\$2,806	
15265	4" Sch 80 Pvc Pipe In A Trench	236.00	LF	\$13.70	\$3,232	
15265	1" Sch 80 Cpvc Pipe In A Trench	420.00	LF	\$3.49	\$1,465	
15265	1" 90° Cpvc Sch 80 Socketed Ell	1.00	EA	\$33.17	\$33	
15265	1" 45° Cpvc Sch 80 Socketed Ell	10.00	EA	\$37.52	\$375	
15265	2" Sch 40 Pvc Dwv Piping In A Trench	45.00	LF	\$2.52	\$114	
<b>Total</b>						<b>\$337,485</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$422,088	PCT	1%	\$4,221	
16060	.5" - 1", 10-2 Zinc Set Screw Ground Clamps For Bare Wire	13.00	EA	\$27.80	\$361	
16060	#2 B.C. Bare Copper Wire Stranded, Grounding System	780.00	LF	\$2.55	\$1,986	
16060	Clamp On Ground Resistance Tester For Electrolytic Grounding System	1.00	EA	\$6,051.20	\$6,051	
16060	.75" X 20" COPPER CLAD SECTIONAL GROUND ROD, GROUNDING SYSTEM	12.00	EA	\$267.84	\$3,214	
16060	#4/0 B.C. Bare Copper Wire Stranded, Grounding System	924.00	LF	\$5.98	\$5,521	
16070	Steel Switch/Outlet Box - Metal Stud Plaster Ring Type Support Msf	100.00	EA	\$6.86	\$686	
16070	1.625" X 1.625" 14Ga Green Sup Channel W/.563" Holes	200.00	LF	\$4.83	\$967	
16070	1.825" Oc, P4100Hs-20Gr	75.00	EA	\$10.10	\$758	
16070	.75" End Connector For Fluorescent Fittings, P2521-75	1.00	EA	\$3.72	\$4	
16070	1.25" Emt Steel Hold Down Clip To 1.5 Lather Channel, 20D15L	1.00	EA	\$3.72	\$4	
16123	12 Ga Wire Splices For 600V Thw,Thhn-Thwn & Xhhw Wire	80.00	EA	\$11.40	\$912	
16123	10 Ga Wire Splices For 600V Thw,Thhn-Thwn & Xhhw Wire	80.00	EA	\$11.40	\$912	
16123	500 Mcm Wire Splices For 600V Thw,Thhn-Thwn & Xhhw Wire	36.00	EA	\$128.28	\$4,618	
16123	2 #14 600V Control Wire Solderless Lug Type Termination	1,200.00	EA	\$14.18	\$17,019	
16123	2 Shielded Pairs 16 Ga Instrument Cable & Multi-Conductor Cable, In Cable Tray	30,000.00	LF	\$1.14	\$34,147	
16123	14 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	200.00	LF	\$4.45	\$891	
16123	12 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	1,600.00	LF	\$5.53	\$8,847	
16123	10 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	1,400.00	LF	\$7.00	\$9,800	
16130	.75" Bends In Pvc Coated Grs Conduit W/Bending Machine	200.00	EA	\$43.40	\$8,681	





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 02 General, Site & Yard, & Misc

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
16130	1" Bends In Pvc Coated Grs Conduit W/Bending Machine	200.00	EA	\$43.40	\$8,681	
16130	2" Bends In Pvc Coated Grs Conduit W/Bending Machine	100.00	EA	\$66.77	\$6,677	
16130	4" Bends In Pvc Coated Grs Conduit W/Bending Machine	50.00	EA	\$90.14	\$4,507	
16130	2" Pvc Coated Grs Conduit Union	80.00	EA	\$217.55	\$17,404	
16130	4" Pvc Coated Grs Conduit Union	40.00	EA	\$664.22	\$26,569	
16130	.75" Sealtite Conduit Run, In A Bldg To 12'H	400.00	LF	\$6.03	\$2,414	
16130	1" Sealtite Conduit Run, In A Bldg To 12'H	200.00	LF	\$7.25	\$1,451	
16130	1.5" Sealtite Conduit Run, In A Bldg To 12'H	100.00	LF	\$11.47	\$1,147	
16130	2" Sealtite Conduit Run, In A Bldg To 12'H	100.00	LF	\$14.10	\$1,410	
16130	4" Sealtite Conduit Run, In A Bldg To 12'H	100.00	LF	\$48.60	\$4,860	
16130	1" Sealtite Conduit Run To Electric Motor In Bldg	50.00	LF	\$7.92	\$396	
16130	1.5" Sealtite Conduit Run To Electric Motor In Bldg	50.00	LF	\$12.22	\$611	
16130	2" Sealtite Conduit Run To Electric Motor In Bldg	50.00	LF	\$14.99	\$750	
16130	4" Sealtite Conduit Run To Electric Motor In Bldg	100.00	LF	\$49.94	\$4,994	
16130	.75" Galvanized Sealtite Straight Connector	100.00	EA	\$48.79	\$4,879	
16130	1" Galvanized Sealtite Straight Connector	100.00	EA	\$77.73	\$7,773	
16130	2" Galvanized Sealtite Straight Connector	100.00	EA	\$173.66	\$17,366	
16130	4" Galvanized Sealtite Straight Connector	60.00	EA	\$622.85	\$37,371	
16130	.75" Grs Conduit, Outside Under A Slab	300.00	LF	\$6.50	\$1,949	
16130	1" Grs Conduit, Outside Under A Slab	600.00	LF	\$8.60	\$5,160	
16130	1.5" Grs Conduit, Outside Under A Slab	700.00	LF	\$13.24	\$9,270	
16130	1" Sch 40 Pvc Rigid Conduit In Open Trench	200.00	LF	\$1.58	\$317	
16130	2" Sch 40 Pvc Rigid Conduit In Open Trench	100.00	LF	\$2.51	\$251	
16130	4" Sch 40 Pvc Rigid Conduit In Open Trench	50.00	LF	\$5.11	\$256	
16130	2" 90° Pvc Std Radius Elbow For Sch 40 Conduit	1.00	EA	\$19.98	\$20	
16130	4" 90° Pvc Std Radius Elbow For Sch 40 Conduit	10.00	EA	\$54.55	\$546	
16130	1" Pvc Female Adapters For Sch 40 Conduit	12.00	EA	\$10.07	\$121	
16130	2" Pvc Female Adapters For Sch 40 Conduit	10.00	EA	\$17.33	\$173	
16130	4" Pvc Female Adapters For Sch 40 Conduit	20.00	EA	\$34.81	\$696	
16130	1" Pvc Couplings For Sch 40 Conduit	24.00	EA	\$9.16	\$220	
16130	2" Pvc Couplings For Sch 40 Conduit	50.00	EA	\$16.14	\$807	
16130	4" Pvc Couplings For Sch 40 Conduit	40.00	EA	\$32.57	\$1,303	
16130	Pvc Prc Run, In Open Trench, Plastic Spacer,Any Size	8.00	EA	\$9.6	\$8	
16130	2" Type Eb Underground Plastic Conduit	5,000.00	LF	\$1.74	\$8,695	
16130	3" Type Eb Underground Plastic Conduit	1,000.00	LF	\$2.67	\$2,671	
16130	2" 90° Plastic Sweep Ell With Sweep Radius 24"	12.00	EA	\$17.78	\$213	
16130	5" 90° Plastic Sweep Ell With Sweep Radius 36"	12.00	EA	\$55.05	\$661	
16130	2" Plastic Bell End Coupling For Underground Conduit	12.00	EA	\$16.89	\$203	
16130	.75" Bends In Pvc Conduit With A Hot Box Bender	20.00	EA	\$43.40	\$868	
16130	1.5" Bends In Pvc Conduit With A Hot Box Bender	20.00	EA	\$60.10	\$1,202	
16130	3.5" Bends In Pvc Conduit With A Hot Box Bender	10.00	EA	\$85.47	\$855	
16130	5" 45° Plastic Sweep Ell With Sweep Radius 48"	10.00	EA	\$201.60	\$2,016	
16130	3" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	1,000.00	LF	\$40.32	\$40,322	
16130	4" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	1,000.00	LF	\$54.73	\$54,734	
16130	1" Sch 40 Pvc Rigid Conduit Under A Slab	400.00	LF	\$1.65	\$660	
16445	42 Circuit, 240V Max Panel, Branch Circuit Panelboard, 6X Space Factor	1.00	EA	\$4,067.20	\$4,067	
16446	Nema 1 480V Mn Bkr 3 Phs Panelbrds/Loadctrs Gp, 400Amp, 3Ph 42 Circ. 480V	1.00	EA	\$8,936.74	\$8,937	
16500	2-HD LAMPS AT 180°, 9" ARM DOUBLE HEAD FIXTURE FOR (2) 150W	6.00	EA	\$2,950.00	\$17,700	
16500	100W Ceiling Mount, Explosion Proof Incandescent Lighting Fixture 12' -20' Ht	1.00	EA	\$502.87	\$503	
16500	2 Lamp, 40W 120V, 48" Lg Damp Locations Fluorencent Light Fixture To 12' Ht	26.00	EA	\$443.73	\$11,537	
16500	120V Ac Wall Style, Exit Signs - Incandescent - Explosion Proof Locations. 12' To 20' Ht	3.00	EA	\$1,707.39	\$5,122	
16500	100W Ang Stanch Mount, Vaportight H.Press Sodium Lighting Fixture 12' - 20Ht	3.00	EA	\$1,002.69	\$3,008	
<b>Total</b>						<b>\$426,308</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Misc. I&C Field Details, Allow	\$8,775	PCT	1%	\$87.75	
17201	Level Switches	7.00	EA	\$325.00	\$2,275	





**DETAILED COST ESTIMATE**

Project: VVWRA/Hesperia/Apple Valley - 95% Estimate  
 Job #: 8229A.10  
 Location: City of Hesperia, CA  
 Element: 02 General, Site & Yard, & Misc

Date : October 4, 2010  
 By : ZL  
 Reviewed: AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
17206	Ultrasonic Level Measurement	2.00	EA	\$2,300.00	\$4,600	
17403	Pressure Switches	2.00	EA	\$550.00	\$1,100	
17404	Pressure Gauges	2.00	EA	\$400.00	\$800	
17720	Main PLC	1.00	EA	\$74,235.00	\$74,235	
17720	Headworks PLC	1.00	EA	\$112,000.00	\$112,000	
17730	SCADA Computer Equipment	1.00	EA	\$10,000.00	\$10,000.00	
17761	PLC Programming Software	1.00	LS	\$18,000.00	\$18,000.00	
17762	Control Systems SCADA Software	1.00	LS	\$21,000.00	\$21,000.00	
17765	Human Machine Interface Software	1.00	LS	\$10,000.00	\$10,000.00	
17902	Control Panels	2.00	EA	\$10,000.00	\$20,000.00	
<b>Total</b>						<b>\$274,098</b>
<b>Grand Total</b>						<b>\$2,662,536</b>





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 03 Main Building

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 03 - Concrete</b>						
03000	Misc. Embeds, Waste, etc. Allow	\$61,173	PCT	1%	\$611.73	
03300	12" Elevated Slab To 20'	104.22	CY	\$400.64	\$41,755	
03300	18" W X 30" D Conc Beam	5.56	CY	\$878.85	\$4,886	
03300	24" W X 42" D Conc Beam	14.81	CY	\$698.66	\$10,347	
03300	8" Flat Non-Formed S.O.G.	6.91	CY	\$303.97	\$2,100	
03300	12" Structural Flat Mat On Grade	3.34	CY	\$333.27	\$1,113	
03300	12" Structural Flat Mat On Grade	2.67	CY	\$333.27	\$890	
03300	8" Edge Forms Slabs On Grade, Add	14.00	LF	\$5.79	\$81	
03300	12" Edge Forms, Slab On Grade, Add	9.50	LF	\$9.89	\$94	
03300	12" Edge Forms, Slab On Grade, Add	12.00	LF	\$9.89	\$119	
03300	14" Straight Wall >8' High	124.44	CY	\$750.84	\$93,435	
03300	16" X 16" Square Column/Pier	2.67	CY	\$1,139.66	\$3,043	
03300	18" Structural Flat Mat On Grade	157.83	CY	\$335.56	\$52,962	
03300	18" Edge Forms, Slab On Grade, Add	68.00	LF	\$24.59	\$1,672	
03300	24" Structural Flat Mat On Grade	14.22	CY	\$289.52	\$4,117	
03300	24" Edge Forms, Slab On Grade, Add	24.00	LF	\$24.93	\$598	
03300	16" Straight Wall >8' High	53.73	CY	\$694.17	\$37,298	
03300	14" Straight Wall >8' High	60.28	CY	\$750.84	\$45,261	
03300	18" Structural Flat Mat On Grade	95.60	CY	\$335.56	\$32,080	
03300	18" Edge Forms, Slab On Grade, Add	44.00	LF	\$24.59	\$1,082	
03300	24" Structural Flat Mat On Grade	4.74	CY	\$289.52	\$1,372	
03300	24" Edge Forms, Slab On Grade, Add	8.00	LF	\$24.93	\$199	
03300	12" Elevated Slab To 20'	33.44	CY	\$400.64	\$13,397	
03300	12" Elevated Slab To 20'	67.63	CY	\$400.64	\$27,095	
03300	12" Elevated Slab To 20'	16.89	CY	\$400.64	\$6,767	
03300	18" W X 30" D Conc Beam	5.49	CY	\$878.85	\$4,825	
03300	18" Structural Flat Mat On Grade	38.89	CY	\$335.56	\$13,050	
03300	18" Edge Forms, Slab On Grade, Add	28.00	LF	\$24.59	\$689	
03300	14" Straight Wall, To 8' High	16.20	CY	\$745.15	\$12,071	
03302	Mass Concrete	90.28	CY	\$230.35	\$20,796	
<b>Total</b>						<b>\$433,805</b>
<b>Division 04 - Masonry</b>						
04220	Standard Concrete Block, 12"	9,700.00	SF	\$17.84	\$173,035	
<b>Total</b>						<b>\$173,035</b>
<b>Division 05 - Metals</b>						
05000	Misc. Fasteners, Fillets, Waste, etc. Allow	\$257,799	PCT	1%	\$2,577.99	
05120	Galvanized Structural Steel Shapes & Plates - Gc	1,050.00	LB	\$2.22	\$2,327	
05120	Galvanized Structural Steel Shapes & Plates - Gc	1,050.00	LB	\$2.22	\$2,327	
05120	Galvanized Structural Steel Shapes & Plates - Gc	850.00	LB	\$2.22	\$1,883	
05120	Galvanized Structural Steel Shapes & Plates - Gc	2,450.00	LB	\$2.22	\$5,429	
05120	Galvanized Structural Steel Shapes & Plates - Gc	3,200.00	LB	\$2.22	\$7,090	
05120	Galvanized Structural Steel Shapes & Plates - Gc	4,860.00	LB	\$2.22	\$10,768	
05120	Galvanized Structural Steel Shapes & Plates - Gc	10,400.00	LB	\$2.22	\$23,044	
05120	Galvanized Structural Steel Shapes & Plates - Gc	5,400.00	LB	\$2.22	\$11,965	
05120	Galvanized Structural Steel Shapes & Plates - Gc	7,200.00	LB	\$2.22	\$15,953	
05120	Galvanized Structural Steel Shapes & Plates - Gc	7,000.00	LB	\$2.22	\$15,510	
05120	Galvanized Structural Steel Shapes & Plates - Gc	2,400.00	LB	\$2.22	\$5,318	
05126	Steel Trusses	12,000.00	LB	\$1.33	\$16,003	
05126	Steel Trusses	10,000.00	LB	\$1.33	\$13,335	
05310	Steel Deck, 3" X 18 Ga.	5,200.00	SF	\$5.79	\$30,088	
05310	Steel Deck, 3" X 18 Ga.	6,500.00	SF	\$5.79	\$37,610	
05500	Galvanized Steel Grating, 2"	865.00	SF	\$32.92	\$28,475	
05500	Aluminum Stairs, Including Railing And Supports	34.00	RSR	\$622.66	\$21,171	
05500	Galvanized Steel Osha Handrail	126.50	LF	\$75.13	\$9,504	
05500	Fixed Aluminum Ladder - No Safety Cage	40.00	VLF	\$105.89	\$4,236	
<b>Total</b>						<b>\$264,613</b>
<b>Division 07 - Thermal and Moisture</b>						
07000	Misc. Thermal and Moisture Protection	\$111,523	PCT	2%	\$2,230.45	
07200	9-1/2" R-30 Floor Insulation, In Crawl Space W/2' - 4' Clearance	5,152.00	SF	\$3.18	\$16,406	
07200	2-1/2" R-19.23 Polyurethane Board Insulation	2,140.00	SF	\$4.56	\$9,765	
07416	Standing Seam Metal Roof	5,200.00	SF	\$12.90	\$67,059	
07500	Pvc, Mechanically Fastened, Polyvinyl Chloride	2,140.00	SF	\$3.47	\$7,430	
07600	3" X 4" Galvanized Steel Rectangular Down Spout	500.00	LF	\$21.72	\$10,862	
07600	16 Ga Galvanized Wall Fixed Wall Louver	980.00	SF	\$67.46	\$66,107	
<b>Total</b>						<b>\$179,860</b>
<b>Division 08 - Doors and Windows</b>						





**DETAILED COST ESTIMATE**

Project: VVWRA/Hesperia/Apple Valley - 95% Estimate  
 Job #: 8229A.10  
 Location: City of Hesperia, CA  
 Element: 03 Main Building

Date : October 4, 2010  
 By : ZL  
 Reviewed: AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
08110	3/0 X 7/0 X 1.75" No Label Single Hollow Metal Door W/Frame & Hdwre	6.00	EA	\$823.94	\$4,944	
08255	FRP Flush Doors	1.00	LS	\$6,960.00	\$6,960	
08412	8'-0" Aluminum Storefront System, Medium Bronze Finish	38.00	EA	\$357.12	\$13,571	
08520	1" Welded Insulating Fixed Glazing	253.08	SF	\$31.74	\$8,034	
<b>Total</b>						<b>\$33,508</b>
<b>Division 09 - Finishes</b>						
09000	Misc. Painting, Coating, etc. Allow	\$50,735	PCT	2%	\$1,014.69	
09220	Portland Cement Plaster	1.00	LS	\$30,960.00	\$30,960.00	
09714	Acoustical Metal Panels	1.00	LS	\$18,733.00	\$18,733.00	
09910	Interior Paint - Stair Well	1.00	LS	\$1,041.60	\$1,042	
<b>Total</b>						<b>\$51,749</b>
<b>Division 14 - Conveying Systems</b>						
14650	Jib Cranes	1.00	EA	\$17,906.25	\$17,906.25	
<b>Total</b>						<b>\$17,906</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$289,761	PCT	1%	\$2,898	
15762	Makeup Air Unit	1.00	EA	\$22,038.25	\$22,038.25	
15812	Aluminum Duct	12,900.00	LB	\$13.74	\$177,236	
15814	FRP Duct and Accessories	1.00	LS	\$79,682.56	\$79,682.56	
15820	Linkage And Automatic Operation Smoke Damper	11.00	EA	\$198.40	\$2,182	
15820	Smoke Damper Operator Motor	11.00	EA	\$302.56	\$3,328	
15820	Smoke Detector	2.00	EA	\$396.80	\$794	
15820	Registers	1.00	LS	\$4,500.00	\$4,500	
<b>Total</b>						<b>\$292,658</b>
<b>Grand Total</b>						<b>\$1,447,134</b>





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 04 Influent Screening

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 11 - Equipment</b>						
11000	Misc. Specialties, Small Piping, Leveling, etc. Allow	\$770,000	PCT	1%	\$7,700	
11332	Fine Screens	2.00	EA	\$256,200.00	\$512,400	
11333	Screenings Washer/Compactor	2.00	EA	\$128,800.00	\$257,600	
<b>Total</b>						<b>\$777,700</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$191,573	PCT	1%	\$1,916	
15116	12" Fxf Cast Iron Plug Valve W/Handwheel Op	3.00	EA	\$2,644.81	\$7,934	
15116	16" Fxf Cast Iron Plug Valve W/Handwheel Op	2.00	EA	\$4,856.99	\$9,714	
15116	Add For Motor Operator 12" Through 20"	3.00	EA	\$3,968.00	\$11,904	
15116	8" Fxf Cast Iron Plug Valve W/Handwheel Op	2.00	EA	\$1,777.39	\$3,555	
15116	Add For Motor Operator 2.5" Through 10"	2.00	EA	\$2,976.00	\$5,952	
15119	1" 300 Psi Air/Vac Valve W/Shutoff	2.00	EA	\$1,310.70	\$2,621	
15121	12" Flex Cplg, Above Ground	4.00	EA	\$1,239.60	\$4,958	
15121	16" Flex Cplg, Above Ground	2.00	EA	\$1,593.10	\$3,186	
15121	8" Flex Cplg, Above Ground	1.00	EA	\$570.04	\$570	
15251	14"X12" 125# Cldi Fxf Concentric Rdcr	2.00	EA	\$4,625.34	\$9,251	
15251	12"X10" 125# Cldi Fxf Concentric Rdcr	2.00	EA	\$3,248.19	\$6,496	
15251	8" Flg Cldi Pipe In Bldg	12.00	LF	\$88.44	\$1,061	
15251	12" Flg Cldi Pipe In Bldg	70.00	LF	\$147.79	\$10,345	
15251	16" Flg Cldi Pipe In Bldg	40.00	LF	\$222.51	\$8,900	
15251	12" 90° 125# Cldi Fxf Ell	7.00	EA	\$3,106.53	\$21,746	
15251	16" 90° 125# Cldi Fxf Ell	2.00	EA	\$7,793.74	\$15,587	
15251	16" 45° 125# Cldi Fxf Ell	4.00	EA	\$7,265.01	\$29,060	
15251	12" Cldiflg Straight Tee In Place	5.00	EA	\$4,626.11	\$23,131	
15400	120 Gallon Water Heaters (150 psi)	1.00	EA	\$15,600.00	\$15,600	
<b>Total</b>						<b>\$193,489</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$285,302	PCT	1%	\$2,853	
16052	5"Cast Iron 45° Female Elbow For Hazardous Area	10.00	EA	\$31.90	\$319	
16052	1.5" Cast Iron 45° Female Elbow For Hazardous Area	10.00	EA	\$56.37	\$564	
16052	4" Cast Iron 45° Female Elbow For Hazardous Area	10.00	EA	\$162.24	\$1,622	
16052	1" Cast Iron 90° Female Elbow For Hazardous Area	20.00	EA	\$41.85	\$837	
16052	1" Cast Iron Pulling Elbow Lbh For Hazardous Area	20.00	EA	\$226.16	\$4,523	
16052	1" Cast Iron Pulling Outlet Body Ekc For Hazardous Area	10.00	EA	\$261.74	\$2,617	
16052	2" Cast Iron Pulling Outlet Body Ekc For Hazardous Area	10.00	EA	\$374.29	\$3,743	
16052	3" Cast Iron Pulling Elbow Lbh For Hazardous Area	6.00	EA	\$665.23	\$3,991	
16052	1" Pvc Coated Malleable Iron 1 Hub Gua Junction Box For Hazardous Area	40.00	EA	\$151.15	\$6,046	
16052	2" Pvc Coated Malleable Iron 2 Hub Guab Junction Box For Hazardous Area	5.00	EA	\$406.04	\$2,030	
16052	1.5"- 1" Reducing Bushing Ty Re For Hazardous Area	20.00	EA	\$15.23	\$305	
16052	1.5" Galv Steel Male Type Uny Conduit Union For Hazard Area	40.00	EA	\$84.34	\$3,374	
16052	2" Galv Steel Male Type Uny Conduit Union For Hazard Area	20.00	EA	\$96.61	\$1,932	
16052	1" Pvc Coated Steel Male Type Uny Conduit Union For Hazard Area	50.00	EA	\$90.56	\$4,528	
16052	1.5" Pvc Coated Steel Male Type Uny Conduit Union For Hazard Area	20.00	EA	\$156.76	\$3,135	
16052	2" Pvc Coated Steel Male Type Uny Conduit Union For Hazard Area	20.00	EA	\$190.85	\$3,817	
16052	3" Pvc Coated Steel Male Type Uny Conduit Union For Hazard Area	20.00	EA	\$427.14	\$8,543	
16052	4" Pvc Coated Steel Male Type Uny Conduit Union For Hazard Area	20.00	EA	\$658.73	\$13,175	
16052	1" X 24" Explosion Proof Stainless Steel Ends/Braid Flexible Coupling	20.00	EA	\$579.18	\$11,584	
16052	1.5" X 12" Explosion Proof Stainless Steel Ends/Braid Flexible Coupling	20.00	EA	\$837.29	\$16,746	
16052	2" X 36" Explosion Proof Stainless Steel Ends/Braid Flexible Coupling	20.00	EA	\$1,707.10	\$34,142	
16052	24" X 24" X 8" Nema Type 7 Ejb-C Explosion Proof Enclosure	4.00	EA	\$7,226.54	\$28,906	





**DETAILED COST ESTIMATE**

Project: VVWRA/Hesperia/Apple Valley - 95% Estimate  
 Job #: 8229A.10  
 Location: City of Hesperia, CA  
 Element: 04 Influent Screening

Date : October 4, 2010  
 By : ZL  
 Reviewed: AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
16123	4" 600V Cable Sealing Bushing Rubber/Plastic Insul Cable To Conduit	9.00	EA	\$386.51	\$3,479	
16123	14 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	2,400.00	LF	\$ .45	\$1,090	
16123	12 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	3,200.00	LF	\$ .53	\$1,695	
16123	10 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	200.00	LF	\$ .70	\$140	
16130	1.5" Pvc Coated Grs Conduit Union	100.00	EA	\$171.60	\$17,160	
16130	.75" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	1,000.00	LF	\$13.06	\$13,057	
16130	1.5" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	2,000.00	LF	\$20.07	\$40,131	
16130	2" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	2,000.00	LF	\$24.93	\$49,861	
16130	.75" Sch 40 Pvc Rigid Conduit Under A Slab	600.00	LF	\$1.48	\$889	
16130	1" Sch 40 Pvc Rigid Conduit Under A Slab	800.00	LF	\$1.65	\$1,321	
<b>Total</b>						<b>\$288,155</b>
<b>Division 17 - Instrumentation and Controls</b>						
17504	Gas Monitors - H2S	1.00	EA	\$1,120.00	\$1,120	
17504	Gas Monitors - Comb. Gas	1.00	EA	\$1,120.00	\$1,120	
17604	RTD Temperature Measurement	1.00	EA	\$600.00	\$600	
<b>Total</b>						<b>\$2,840</b>
<b>Grand Total</b>						<b>\$1,262,184</b>





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 05 Biological Treatment

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 03 - Concrete</b>						
03000	Misc. Embeds, Waste, etc. Allow	\$705,609	PCT	1%	\$7,056	
03300	14" Straight Wall >8' High	124.44	CY	\$750.84	\$93,435	
03300	18" Straight Wall >8' High	95.56	CY	\$644.10	\$61,550	
03300	24" Structural Flat Mat On Grade	64.81	CY	\$289.52	\$18,764	
03300	18" Straight Wall >8' High	516.67	CY	\$644.10	\$332,785	
03300	24" Structural Flat Mat On Grade	464.04	CY	\$289.52	\$134,350	
03300	12" Elevated Slab To 20'	80.37	CY	\$400.64	\$32,199	
03300	12" Elevated Slab To 20'	42.78	CY	\$400.64	\$17,139	
03300	12" Elevated Slab To 20'	19.56	CY	\$400.64	\$7,836	
03300	10" Straight Wall, To 8' High	5.56	CY	\$930.69	\$5,175	
03300	12" Elevated Slab To 20'	5.93	CY	\$400.64	\$2,376	
03300	24" Edge Forms, Slab On Grade, Add	70.00	LF	\$24.93	\$1,745	
03300	24" Edge Forms, Slab On Grade, Add	155.00	LF	\$24.93	\$3,864	
<b>Total</b>						<b>\$718,273</b>
<b>Division 05 - Metals</b>						
05500	Aluminum Pit Frame & Cover	5,100.00	SF	\$71.26	\$363,426	
05500	Checked Aluminum Plate	2,500.00	LB	\$3.54	\$8,862	
05500	Aluminum Stairs, Including Railing And Supports	12.00	RSR	\$622.66	\$7,472	
<b>Total</b>						<b>\$379,760</b>
<b>Division 11 - Equipment</b>						
11000	Misc. Specialties, Small Piping, Leveling, etc. Allow	\$318,558	PCT	1%	\$3,186	
11294	Sluice Gate, Stainless Steel, 48" X 48"	2.00	EA	\$11,221.26	\$22,443	
11317	Submersible Mixers - High Speed	6.00	EA	\$16,500.00	\$99,000.00	
11378	Membrane Disk Fine Bubble Diffused Aeration System	1.00	LS	\$197,115.00	\$197,115.00	
<b>Total</b>						<b>\$321,743</b>
<b>Division 13 - Special Construction</b>						
13238	Aluminum Covers	1.00	LS	\$391,849.91	\$391,849.91	
<b>Total</b>						<b>\$391,850</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$456,255	PCT	1%	\$4,563	
15112	16" 150# Fxf Awwa Butterfly Valve, No Op	2.00	EA	\$3,137.51	\$6,275	
15112	Add For Motor Operator 12" Through 20"	2.00	EA	\$3,968.00	\$7,936	
15112	6" 150# Fxf Awwa Butterfly Valve, No Op	4.00	EA	\$1,445.88	\$5,784	
15112	8" 150# Flanged Cs Bfy Valve, No Op	2.00	EA	\$1,811.55	\$3,623	
15112	10" 150# Fxf Awwa Butterfly Valve, No Op	2.00	EA	\$2,783.90	\$5,568	
15112	Add For Motor Operator 3" Through 10"	8.00	EA	\$2,976.00	\$23,808	
15112	10" 150# Fxf Awwa Butterfly Valve, No Op	6.00	EA	\$2,783.90	\$16,703	
15115	8" F X F D.I. Gate Valve, Os&Y	3.00	EA	\$1,721.27	\$5,164	
15115	16" 125# D.I. Gate Valve, Fxf Nrs W/H/Wheel Op	1.00	EA	\$19,060.35	\$19,060	
15115	4" 125# Ci Fxf Globe Valve, Os&Y	1.00	EA	\$1,685.67	\$1,686	
15251	16" Flg Cldi Pipe In Open Trench	40.00	LF	\$196.13	\$7,845	
15251	20" Flg Cldi Pipe In Open Trench	20.00	LF	\$250.29	\$5,006	
15251	20"X18" 125# Cldi Fxf Concentric Rdcg	2.00	EA	\$6,455.85	\$12,912	
15251	20"X16" Cldi Flg Rdcg Tee In Place	1.00	EA	\$11,206.94	\$11,207	
15252	12" X 6" 3/8" (Std) Wall A-234 Buttwld Con Rdcg	2.00	EA	\$1,720.68	\$3,441	
15252	16" X 14" 3/8" (Std) Wall A-234 Buttwld Con Rdcg	2.00	EA	\$2,840.31	\$5,681	
15252	16" X 8" 3/8" (Std) Wall A-234 Buttwld Con Rdcg	1.00	EA	\$2,756.59	\$2,757	
15252	24" X 16" 3/8" (Std) Wall A-234 Buttwld Con Rdcg	1.00	EA	\$4,245.73	\$4,246	
15252	14" X 10" 3/8" (Std) Wall A-234 Buttwld Rdcg Tee	2.00	EA	\$4,470.71	\$8,941	
15252	14" X 8" 3/8" (Std) Wall A-234 Buttwld Rdcg Tee	2.00	EA	\$4,341.59	\$8,683	
15252	16" X 6" 3/8" (Std) Wall A-234 Buttwld Rdcg Tee	1.00	EA	\$7,370.88	\$7,371	
15252	24" X 16" 3/8" (Std) Wall A-234 Buttwld Rdcg Tee	1.00	EA	\$10,250.71	\$10,251	
15252	24" 3/8" (Std) Wall 90" Lr Buttwld Ell	2.00	EA	\$4,621.45	\$9,243	
15252	14" A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	60.00	LF	\$160.06	\$9,604	
15252	16" A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	40.00	LF	\$180.85	\$7,234	
15252	24" A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	50.00	LF	\$277.36	\$13,868	
15252	14" A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	10.00	LF	\$160.06	\$1,601	
15252	20" A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	10.00	LF	\$232.25	\$2,322	
15252	24" A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	35.00	LF	\$277.36	\$9,708	
15252	30" A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	70.00	LF	\$345.12	\$24,158	
15252	30" 3/8" Wall 90" Lr Buttwld Ell	3.00	EA	\$6,592.92	\$19,779	
15252	30" X 24" 3/8" (Std) Wall A-234 Buttwld Con Rdcg	1.00	EA	\$6,326.33	\$6,326	
15252	30" X 20" 3/8" (Std) Wall A-234 Buttwld Con Rdcg	1.00	EA	\$6,134.27	\$6,134	
15252	24" 3/8" (Std) Wall 90" Lr Buttwld Ell	1.00	EA	\$4,621.45	\$4,621	
15255	6" 10S 316L Flanged Sst Pipe In A Bldg	260.00	LF	\$163.55	\$42,522	
15255	8" 10S 316L Flanged Sst Pipe In A Bldg	100.00	LF	\$245.79	\$24,579	





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 05 Biological Treatment

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
15255	10" 10S 316L Flanged Sst Pipe In A Bldg	100.00	LF	\$360.09	\$36,009	
15255	14" 10S 316L Flanged Sst Pipe In A Bldg	50.00	LF	\$488.24	\$24,412	
15255	16" 10S 316L Flanged Sst Pipe In A Bldg	25.00	LF	\$566.21	\$14,155	
15255	6" 316L Sst Fxf 90 Deg Elb, 10S	22.00	EA	\$264.29	\$5,814	
15255	8" 316L Sst Fxf 90 Deg Elb, 10S	7.00	EA	\$346.60	\$2,426	
15255	10" 316L Sst Fxf 90 Deg Elb, 10S	7.00	EA	\$657.95	\$4,606	
15255	16" 316L Sst Fxf Tee, 10S	1.00	EA	\$3,185.47	\$3,185	
<b>Total</b>						<b>\$460,817</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$52,363	PCT	1%	\$524	
16123	14 Ga Stranded 600V Xhwh Cu Wire, 3 Or More Wires Pulled In Conduit	11,200.00	LF	\$ .45	\$5,087	
16123	12 Ga Stranded 600V Xhwh Cu Wire, 3 Or More Wires Pulled In Conduit	13,400.00	LF	\$ .53	\$7,097	
16123	10 Ga Stranded 600V Xhwh Cu Wire, 3 Or More Wires Pulled In Conduit	2,000.00	LF	\$ .70	\$1,404	
16123	1/0 Ga Stranded 600V Xhwh Cu Wire, 3 Or More Wires Pulled In Conduit	800.00	LF	\$4.68	\$3,748	
16123	250 Mcm Stranded 600V Xhwh Cu Wire, 3 Or More Wires Pulled In Conduit	1,200.00	LF	\$9.11	\$10,933	
16123	500 Mcm Stranded 600V Xhwh Cu Wire, 3 Or More Wires Pulled In Conduit	1,000.00	LF	\$14.61	\$14,612	
16130	.75" Sch 40 Pvc Rigid Conduit Under A Slab	2,400.00	LF	\$1.48	\$3,558	
16130	1" Sch 40 Pvc Rigid Conduit Under A Slab	3,350.00	LF	\$1.65	\$5,531	
16130	4" Sch 40 Pvc Rigid Conduit Under A Slab	75.00	LF	\$5.24	\$393	
<b>Total</b>						<b>\$52,886</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Misc. I&C Field Details, Allow	\$45,533	PCT	1%	\$455	
17305	Thermal Mass Flow Measurement	2.00	EA	\$6,650.00	\$13,300	
17405	Pressure Transmitter	1.00	EA	\$1,007.00	\$1,007.00	
17406	Differential Pressure Measurement	1.00	EA	\$1,082.00	\$1,082.00	
17502	ORP analyzer	6.00	EA	\$2,100.00	\$12,600.00	
17506	Dissolved Oxygen Analyzer	8.00	EA	\$2,118.00	\$16,944.00	
17604	RTD Temperature Measurement	1.00	EA	\$600.00	\$600.00	
17902	Control Panels - Biological Treatment Mixers	6.00	EA	\$6,000.00	\$36,000.00	
<b>Total</b>						<b>\$81,988</b>
<b>Grand Total</b>						<b>\$2,407,319</b>





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 06 FF & WAS PS

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 03 - Concrete</b>						
03000	Misc. Embeds, Waste, etc. Allow	\$216,518	PCT	1%	\$2,165	
03300	18" Straight Wall >8' High	117.33	CY	\$644.10	\$75,572	
03300	24" Structural Flat Mat On Grade	120.37	CY	\$289.52	\$34,850	
03300	18" Straight Wall >8' High	100.00	CY	\$644.10	\$64,410	
03300	18" Straight Wall >8' High	22.22	CY	\$644.10	\$14,312	
03300	24" Structural Flat Mat On Grade	11.11	CY	\$289.52	\$3,217	
03300	12" Elevated Slab To 20'	60.30	CY	\$400.64	\$24,158	
03300	24" Edge Forms, Slab On Grade, Add	75.00	LF	\$24.93	\$1,870	
03300	24" Edge Forms, Slab On Grade, Add	9.00	LF	\$24.93	\$224	
<b>Total</b>						<b>\$220,777</b>
<b>Division 11 - Equipment</b>						
11000	Misc. Specialties, Small Piping, Leveling, etc. Allow	\$160,904	PCT	1%	\$1,609	
11294	Sluice Gate, Stainless Steel, 36" X 36"	1.00	EA	\$16,065.58	\$16,066	
11312	Submersible Feed Forward Pumps	3.00	EA	\$38,639.30	\$115,917.91	
11312	Submersible WAS Pumps	2.00	EA	\$14,460.14	\$28,920.28	
<b>Total</b>						<b>\$162,513</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$249,847	PCT	1%	\$2,498	
15114	16"- 125# Di Fxf Swing Check Valve	3.00	EA	\$22,983.52	\$68,951	
15114	6"- 200 Psi Ci Fxf Swing Check Valve	2.00	EA	\$2,178.48	\$4,357	
15116	16" Fxf Cast Iron Plug Valve W/Handwheel Op	3.00	EA	\$4,856.99	\$14,571	
15116	18" Fxf Cast Iron Plug Valve W/Handwheel Op	2.00	EA	\$6,343.05	\$12,686	
15116	20" Fxf Cast Iron Plug Valve W/Handwheel Op	1.00	EA	\$8,025.25	\$8,025	
15116	6" Fxf Cast Iron Plug Valve W/Handwheel Op	4.00	EA	\$1,169.86	\$4,679	
15116	8" Fxf Cast Iron Plug Valve W/Handwheel Op	1.00	EA	\$1,777.39	\$1,777	
15121	16" Flex Cplg, Above Ground	3.00	EA	\$1,593.10	\$4,779	
15121	18" Flex Cplg, Above Ground	1.00	EA	\$1,788.75	\$1,789	
15251	18" Flg Cldi Pipe In Bldg	30.00	LF	\$245.88	\$7,376	
15251	20" Flg Cldi Pipe In Bldg	60.00	LF	\$281.42	\$16,885	
15251	20" 90° 125# Cldi Fxf Ell	4.00	EA	\$6,581.48	\$26,326	
15251	20"X18" 125# Cldi Fxf Concentric Rdcr	2.00	EA	\$6,455.85	\$12,912	
15251	20" Cldi Flg Straight Tee In Place	2.00	EA	\$9,952.55	\$19,905	
15251	20"X16" Cldi Flg Rdcg Tee In Place	4.00	EA	\$11,206.94	\$44,828	
<b>Total</b>						<b>\$252,345</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$216,470	PCT	1%	\$2,165	
16123	14 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	3,600.00	LF	\$ .45	\$1,635	
16123	12 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	8,800.00	LF	\$ .53	\$4,661	
16123	250 Mcm Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	400.00	LF	\$9.11	\$3,644	
16130	.75" Sch 40 Pvc Rigid Conduit Under A Slab	800.00	LF	\$1.48	\$1,186	
16130	1" Sch 40 Pvc Rigid Conduit Under A Slab	2,200.00	LF	\$1.65	\$3,632	
16232	800 Ekw 1800Rpm, 60Hz Turbocharged Aftercooled Standby Gen Set	1.00	EA	\$200,142.19	\$200,142	
16444	INSTALL 5 VERTICAL SECTION, 1200 AMPS @ 230V/480V M.C.C.	1.00	EA	\$1,068.38	\$1,068	
16444	Bolt Each Section To Floor, 1200 Amps @ 230V/480V M.C.C.	5.00	EA	\$100.16	\$501	
<b>Total</b>						<b>\$218,634</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Misc. I&C Field Details, Allow	\$22,425	PCT	1%	\$224	
17201	Level Switches	4.00	EA	\$325.00	\$1,300	
17206	Ultrasonic Level Measurement	2.00	EA	\$2,300.00	\$4,600	
17302	6" WAS Magnetic Flow Meter	1.00	EA	\$4,950.00	\$4,950.00	
17302	18" Feed Forward Magnetic Flow Meter	1.00	EA	\$7,325.00	\$7,325.00	
17403	Pressure Switches	5.00	EA	\$550.00	\$2,750	
17404	Pressure/Vacuum Gauges	5.00	EA	\$300.00	\$1,500	
17902	Control Panels	5.00	EA	\$10,000.00	\$50,000	
<b>Total</b>						<b>\$72,649</b>
<b>Grand Total</b>						<b>\$926,919</b>





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 07 Membrane Filtration

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 03 - Concrete</b>						
03000	Misc. Embeds, Waste, etc. Allow	\$189,429	PCT	1%	\$1,894	
03300	12" Straight Wall >8' High	15.78	CY	\$829.37	\$13,087	
03300	18" Straight Wall >8' High	163.13	CY	\$644.10	\$105,071	
03300	18" Straight Wall >8' High	45.00	CY	\$644.10	\$28,984	
03300	12" Sloped Structural Mat On Grade (To 30%)	7.78	CY	\$369.01	\$2,871	
03302	Mass Concrete	171.11	CY	\$230.35	\$39,414.90	
<b>Total</b>						<b>\$191,323</b>
<b>Division 05 - Metals</b>						
05500	Aluminum Pit Frame & Cover	700.00	SF	\$71.26	\$49,882	
<b>Total</b>						<b>\$49,882</b>
<b>Division 08 - Doors and Windows</b>						
08330	Wall and Ceiling Access Doors 8'x8'	1.00	EA	\$7,366.67	\$7,367	
<b>Total</b>						<b>\$7,367</b>
<b>Division 11 - Equipment</b>						
11000	Membrane Filtration System	1.00	LS	\$3,329,725.00	\$3,329,725.00	
11000	Misc. Specialties, Small Piping, Leveling, etc. Allow	\$3,329,725	PCT	0.5%	\$16,649	
11295	Weir Gates 48" x 30"	2.00	EA	\$18,841.26	\$37,682.52	
<b>Total</b>						<b>\$3,384,056</b>
<b>Division 14 - Conveying Systems</b>						
14624	Monorail System	1.00	EA	\$20,562.50	\$20,563	
14633	Top Running Double Girder Bridge Crane	1.00	EA	\$120,562.50	\$120,563	
<b>Total</b>						<b>\$141,125</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$188,407	PCT	1%	\$1,884	
15116	3" Fxf Cast Iron Plug Valve W/Handwheel Op	1.00	EA	\$614.16	\$614	
15251	20" Cl 52 Cldi Mj Pipe In Open Trench	60.00	LF	\$98.81	\$5,929	
15251	20" 90° Cldi Mj Bend	3.00	EA	\$3,201.90	\$9,606	
15251	20" X 20" Cldi Mj Tee Or Wye	3.00	EA	\$4,679.31	\$14,038	
15252	24"A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	30.00	LF	\$277.36	\$8,321	
15252	24"A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	60.00	LF	\$277.36	\$16,642	
15252	20"A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	25.00	LF	\$232.25	\$5,806	
15252	12" A-53 Welded Steel 3/8" (Std) Wall Pipe In A Bldg	10.00	LF	\$144.98	\$1,450	
15252	16" A-53 Wld Steel 3/8" (Std) Wall Pipe In A Bldg	10.00	LF	\$180.85	\$1,809	
15252	24" X 20" 3/8" (Std) Wall A-234 Buttwld Con Rdc	2.00	EA	\$4,348.90	\$8,698	
15252	20" X 16" 3/8" (Std) Wall A-234 Buttwld Con Rdc	1.00	EA	\$3,759.17	\$3,759	
15252	16" X 12" 3/8" (Std) Wall A-234 Buttwld Con Rdc	1.00	EA	\$2,711.19	\$2,711	
15732	Air Conditioning Units 03AC04	1.00	EA	\$16,766.76	\$16,766.76	
15812	Aluminum Duct	6,715.00	LB	\$13.74	\$92,259	
<b>Total</b>						<b>\$190,291</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$39,261	PCT	1%	\$393	
16123	14 Ga Solid 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	1,600.00	LF	\$ .44	\$708	
16123	10 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	2,400.00	LF	\$ .70	\$1,685	
16123	1/0 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	2,400.00	LF	\$4.68	\$11,244	
16123	250 Mcm Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	200.00	LF	\$9.11	\$1,822	
16130	.75" Pvc Coated Grs Conduit, In A Bldg W/Unlimited Height	1,000.00	LF	\$13.06	\$13,057	
16500	2 Lamp, 40W 120V, 48" Lg Damp Locations Fluorecent Light Fixture To 12' Ht	12.00	EA	\$443.73	\$5,325	
16500	120V Ac Wall Style, Exit Signs - Incandescent - Explosion Proof Locations. 12' To 20' Ht	2.00	EA	\$1,707.39	\$3,415	
16500	100W Ang Stanch Mount, Vaportight H.Press Sodium Lighting Fixture 12' - 20'Ht	2.00	EA	\$1,002.69	\$2,005	
<b>Total</b>						<b>\$39,653</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Misc. I&C Field Details, Allow	\$129,650	PCT	0%	\$	
17604	RTD Temperature Measurement	1.00	EA	\$600.00	\$600	
17720	Allen Bradley PLC 5	1.00	EA	\$129,050.00	\$129,050.00	
<b>Total</b>						<b>\$129,650</b>
<b>Grand Total</b>						<b>\$4,133,347</b>





**DETAILED COST ESTIMATE**

Project: VVWRA/Hesperia/Apple Valley - 95% Estimate  
 Job #: 8229A.10  
 Location: City of Hesperia, CA  
 Element: 08 UV Room

Date : October 4, 2010  
 By : ZL  
 Reviewed: AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 08 - Doors and Windows</b>						
08110	3/0 X 7/0 X 1.75" No Label Single Hollow Metal Door W/Frame & Hdwre	1.00	EA	\$823.94	\$824	
08255	FRP Flush Doors	1.00	EA	\$6,960.00	\$6,960.00	
08330	Wall and Ceiling Access Doors 10'x12'	1.00	EA	\$12,062.11	\$12,062.11	
<b>Total</b>						<b>\$19,846</b>
<b>Division 11 - Equipment</b>						
11000	Misc. Specialties, Small Piping, Leveling, etc. Allow	\$592,900	PCT	1%	\$5,929	
11287	UV Disinfection System	1.00	LS	\$592,900.00	\$592,900.00	
<b>Total</b>						<b>\$598,829</b>
<b>Division 14 - Conveying Systems</b>						
14624	Monorail System	1.00	EA	\$20,562.50	\$20,563	
<b>Total</b>						<b>\$20,563</b>
<b>Division 15 - Mechanical</b>						
15000	Miscellaneous Piping and Plumbing	\$192,945	PCT	1%	\$1,929	
15112	8" 150# Flanged Cs Bfy Valve, No Op	5.00	EA	\$1,811.55	\$9,058	
15112	10" 150# Fxf Awwa Butterfly Valve, No Op	2.00	EA	\$2,783.90	\$5,568	
15251	16"X14" 125# Cldi Fxf Concentric Rdcr	2.00	EA	\$6,590.45	\$13,181	
15251	12" Flg Cldi Pipe In Bldg	100.00	LF	\$147.79	\$14,779	
15251	16" Flg Cldi Pipe In Bldg	40.00	LF	\$222.51	\$8,900	
15251	12" 90° 125# Cldi Fxf Ell	2.00	EA	\$3,106.53	\$6,213	
15251	12"X10" 125# Cldi Fxf Concentric Rdcr	2.00	EA	\$3,248.19	\$6,496	
15251	12"X8" Cldi Flg Rdcg Tee In Place	6.00	EA	\$4,896.19	\$29,377	
15251	16"X12" Cldi Flg Rdcg Tee In Place	5.00	EA	\$10,437.40	\$52,187	
15732	Air Conditioning Units - 03AC01	1.00	EA	\$8,413.13	\$8,413.13	
15812	Aluminum Duct	2,822.00	LB	\$13.74	\$38,772	
<b>Total</b>						<b>\$194,874</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$155,179	PCT	1%	\$1,552	
16123	14 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	4,000.00	LF	\$45	\$1,817	
16123	10 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	4,400.00	LF	\$70	\$3,089	
16123	1/0 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	4,400.00	LF	\$4.68	\$20,613	
16130	.75" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	2,000.00	LF	\$13.06	\$26,115	
16130	1.5" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	2,000.00	LF	\$20.07	\$40,131	
16130	2" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	2,000.00	LF	\$24.93	\$49,861	
16500	2 Lamp, 40W 120V, 48" Lg Damp Locations Fluourescent Light Fixture To 12' Ht	19.00	EA	\$443.73	\$8,431	
16500	120V Ac Wall Style, Exit Signs - Incandescent - Explosion Proof Locations. 12' To 20' Ht	3.00	EA	\$1,707.39	\$5,122	
<b>Total</b>						<b>\$156,731</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Misc. I&C Field Details, Allow	\$17,550	PCT	1%	\$176	
17302	8" Magnetic Flow Meter	3.00	EA	\$5,650.00	\$16,950	
17604	RTD Temperature Measurement	1.00	EA	\$600.00	\$600	
17720	Allen Bradley PLC 5	1.00	EA	\$129,050.00	\$129,050	
<b>Total</b>						<b>\$146,776</b>
<b>Grand Total</b>						<b>\$1,137,618</b>





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 09 Chemical Feed & Storage

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 03 - Concrete</b>						
03000	Misc. Embeds, Waste, etc. Allow	\$8,755	PCT	1%	\$88	
03300	48" Structural Flat Mat On Grade	26.67	CY	\$251.22	\$6,700	
03300	12" Flat Non-Formed S.O.G.	8.00	CY	\$256.88	\$2,055	
<b>Total</b>						<b>\$8,843</b>
<b>Division 06 - Wood and Plastics</b>						
06611	FRP Grating	450.00	SF	\$31.25	\$14,061.60	
<b>Total</b>						<b>\$14,062</b>
<b>Division 07 - Thermal and Moisture</b>						
07700	3'-0" X 2'-6" Roof Hatch & Curb, 14 Ga Galvanized	1.00	EA	\$778.24	\$778	
<b>Total</b>						<b>\$778</b>
<b>Division 08 - Doors and Windows</b>						
08255	FRP Flush Doors	3.00	EA	\$6,960.00	\$20,880	
<b>Total</b>						<b>\$20,880</b>
<b>Division 11 - Equipment</b>						
11000	Misc. Specialties, Small Piping, Leveling, etc. Allow	\$270,898	PCT	1%	\$2,709	
11242	0.33 Hp 316 Sst Chem Metering Pump, Diaphragm Type	9.00	EA	\$28,912.40	\$260,212	
11312	Non-Metallic Sump Pump	1.00	EA	\$10,686.93	\$10,686.93	
<b>Total</b>						<b>\$273,607</b>
<b>Division 13 - Special Construction</b>						
13206	FRP Above Ground Storage Tank	1.00	EA	\$95,160.00	\$95,160.00	
<b>Total</b>						<b>\$95,160</b>
<b>Division 14 - Conveying Systems</b>						
14624	Monorail System	1.00	EA	\$20,562.50	\$20,563	
<b>Total</b>						<b>\$20,563</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$92,304	PCT	1%	\$923	
15430	Emergency Eyewash/Shower Unit	2.00	EA	\$2,800.00	\$5,600.00	
15732	Air Conditioning Units 03AC02	1.00	EA	\$14,436.56	\$14,436.56	
15812	Aluminum Duct	4,840.00	LB	\$13.74	\$66,498	
15830	Exhaust Fans	1.00	EA	\$5,769.36	\$5,769	
<b>Total</b>						<b>\$93,227</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$56,691	PCT	1%	\$567	
16123	14 Ga Solid 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	2,800.00	LF	\$4.4	\$1,239	
16123	12 Ga Solid 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	600.00	LF	\$51	\$308	
16123	10 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	3,200.00	LF	\$7.0	\$2,247	
16130	1" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	1,000.00	LF	\$14.69	\$14,694	
16130	1" Pvc Coated Grs Conduit Union	100.00	EA	\$102.68	\$10,268	
16130	1" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	1,000.00	LF	\$14.69	\$14,694	
16130	.75" Sch 40 Pvc Rigid Conduit Under A Slab	100.00	LF	\$1.48	\$148	
16130	1" Sch 40 Pvc Rigid Conduit Under A Slab	150.00	LF	\$1.65	\$248	
16500	2 Lamp, 40W 120V, 48" Lg Damp Locations Fluorencent Light Fixture To 12' Ht	14.00	EA	\$443.73	\$6,212	
16500	120V Ac Wall Style, Exit Signs - Incandescent - Explosion Proof Locations. 12' To 20' Ht	2.00	EA	\$1,707.39	\$3,415	
16500	100W Ang Stanch Mount, Vaportight H.Press Sodium Lighting Fixture Unl Ht	3.00	EA	\$1,072.80	\$3,218	
<b>Total</b>						<b>\$57,258</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Misc. I&C Field Details, Allow	\$47,457	PCT	1%	\$475	
17201	Level Switches	5.00	EA	\$325.00	\$1,625	
17206	Ultrasonic Level Measurement	1.00	EA	\$2,300.00	\$2,300.00	
17301	Flow Switches	2.00	EA	\$316.00	\$632.00	
17302	1" Magnetic Flow Meter	9.00	EA	\$3,750.00	\$33,750.00	
17403	Pressure Switches	9.00	EA	\$550.00	\$4,950.00	
17404	Pressure Gauges	9.00	EA	\$400.00	\$3,600.00	
17604	RTD Temperature Measurement	1.00	EA	\$600.00	\$600	
17902	Control Panel - Chemical Feed System	1.00	EA	\$4,000.00	\$4,000.00	
<b>Total</b>						<b>\$51,932</b>
<b>Grand Total</b>						<b>\$636,308</b>





### DETAILED COST ESTIMATE

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 10 Reclaimed Water PS

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 03 - Concrete</b>						
03000	Misc. Embeds, Waste, etc. Allow	\$106,725	PCT	1%	\$1,067	
03300	18" Straight Wall >8' High	95.56	CY	\$644.10	\$61,550	
03300	14" Straight Wall >8' High	6.91	CY	\$750.84	\$5,188	
03300	24" Structural Flat Mat On Grade	36.30	CY	\$289.52	\$10,510	
03300	12" Elevated Slab To 20'	48.59	CY	\$400.64	\$19,467	
03300	18" W X 30" D Conc Beam	11.39	CY	\$878.85	\$10,010	
<b>Total</b>						<b>\$107,792</b>
<b>Division 11 - Equipment</b>						
11000	Misc. Specialties, Small Piping, Leveling, etc. Allow	\$249,931	PCT	1%	\$2,499	
11312	20Hp Vertical Turbine Pump	2.00	EA	\$55,269.24	\$110,538	
11312	60Hp Vertical Turbine Pump	2.00	EA	\$63,403.86	\$126,808	
11312	5Hp Submersible Sump Pump	2.00	EA	\$3,133.66	\$6,267	
11312	Reclaimed Water Sample Pumps	2.00	EA	\$3,158.93	\$6,317.86	
<b>Total</b>						<b>\$252,431</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$152,850	PCT	1%	\$1,528	
15112	4" 150# Fxf Awwa Butterfly Valve, No Op	1.00	EA	\$1,089.33	\$1,089	
15112	6" 150# Fxf Awwa Butterfly Valve, No Op	6.00	EA	\$1,445.88	\$8,675	
15112	8" 150# Flanged Cs Bfy Valve, No Op	6.00	EA	\$1,811.55	\$10,869	
15112	12" 150# Fxf Awwa Butterfly Valve, No Op	1.00	EA	\$3,478.28	\$3,478	
15119	2" 300 Psi Air/Vac Valve W/Shutoff	6.00	EA	\$2,518.60	\$15,112	
15120	Hydro-Accumulator Bladder Tank	1.00	EA	\$18,744.70	\$18,744.70	
15121	4" Flex Cplg, Above Ground	1.00	EA	\$371.35	\$371	
15121	6" Flex Cplg, Above Ground	6.00	EA	\$490.12	\$2,941	
15121	8" Flex Cplg, Buried Or Underwater	1.00	EA	\$826.46	\$826	
15121	8" Flex Cplg, Above Ground	7.00	EA	\$570.04	\$3,990	
15121	12" Flex Cplg, Above Ground	1.00	EA	\$1,239.60	\$1,240	
15251	6" Flg Cldi Pipe In Bldg	50.00	LF	\$68.74	\$3,437	
15251	8" Flg Cldi Pipe In Bldg	100.00	LF	\$88.44	\$8,844	
15251	12" Flg Cldi Pipe In Bldg	30.00	LF	\$147.79	\$4,434	
15251	6" 125# Cast Iron Blind Flange	1.00	EA	\$217.93	\$218	
15251	8" 125# Cast Iron Blind Flange	1.00	EA	\$311.69	\$312	
15251	6" 90° 125# Cldi Fxf Ell	3.00	EA	\$929.57	\$2,789	
15251	8" 90° 125# Cldi Fxf Ell	7.00	EA	\$1,037.35	\$7,261	
15251	12" 90° 125# Cldi Fxf Ell	4.00	EA	\$3,106.53	\$12,426	
15251	6" 45° 125# Cldi Fxf Ell	1.00	EA	\$929.57	\$930	
15251	8" 45° 125# Cldi Fxf Ell	1.00	EA	\$1,019.30	\$1,019	
15251	6"X 3" 125# Cldi Fxf Concentric Rdc	2.00	EA	\$704.53	\$1,409	
15251	8"X 4" 125# Cldi Fxf Concentric Rdc	3.00	EA	\$877.59	\$2,633	
15251	8"X 6" 125# Cldi Fxf Concentric Rdc	3.00	EA	\$1,059.77	\$3,179	
15251	12"X10" 125# Cldi Fxf Concentric Rdc	3.00	EA	\$3,248.19	\$9,745	
15251	6" Cldi Flg Straight Tee In Place	1.00	EA	\$1,392.28	\$1,392	
15251	8" Cldi Flg Straight Tee In Place	4.00	EA	\$1,609.99	\$6,440	
15251	12" Cldiflg Straight Tee In Place	2.00	EA	\$4,626.11	\$9,252	
15251	12"X8" Cldi Flg Rdcg Tee In Place	2.00	EA	\$4,896.19	\$9,792	
<b>Total</b>						<b>\$154,378</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$8,784	PCT	1%	\$88	
16123	14 Ga Stranded 600V Xhww Cu Wire, 3 Or More Wires Pulled In Conduit	4,400.00	LF	\$ .45	\$1,999	
16123	12 Ga Stranded 600V Xhww Cu Wire, 3 Or More Wires Pulled In Conduit	800.00	LF	\$ .53	\$424	
16123	10 Ga Stranded 600V Xhww Cu Wire, 3 Or More Wires Pulled In Conduit	400.00	LF	\$ .70	\$281	
16123	1/0 Ga Stranded 600V Xhww Cu Wire, 3 Or More Wires Pulled In Conduit	800.00	LF	\$4.68	\$3,748	
16130	.75" Sch 40 Pvc Rigid Conduit Under A Slab	1,000.00	LF	\$1.48	\$1,482	
16130	1" Sch 40 Pvc Rigid Conduit Under A Slab	200.00	LF	\$1.65	\$330	
16130	2" Sch 40 Pvc Rigid Conduit Under A Slab	200.00	LF	\$2.60	\$520	
<b>Total</b>						<b>\$8,871</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Misc. I&C Field Details, Allow	\$28,601	PCT	1%	\$286	
17201	Level Switches	3.00	EA	\$325.00	\$975	
17206	Ultrasonic Level Measurement	2.00	EA	\$2,300.00	\$4,600	
17302	6" PW Magnetic Flow Meter	1.00	EA	\$4,950.00	\$4,950	
17302	8" RW Magnetic Flow Meter	1.00	EA	\$5,650.00	\$5,650.00	





**DETAILED COST ESTIMATE**

Project: VVWRA/Hesperia/Apple Valley - 95% Estimate  
 Job #: 8229A.10  
 Location: City of Hesperia, CA  
 Element: 10 Reclaimed Water PS

Date : October 4, 2010  
 By : ZL  
 Reviewed: AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
17316	Rotameters	1.00	EA	\$212.00	\$212	
17403	Pressure Switches	4.00	EA	\$550.00	\$2,200	
17404	Pressure/Vacuum Gauges	6.00	EA	\$300.00	\$1,800	
17405	Pressure Transmitter	2.00	EA	\$1,007.00	\$2,014	
17505	Residual Chlorine Analyzer 0 - 25 ppm	1.00	EA	\$3,800.00	\$3,800.00	
17509	Turbidity Analyzer 0 - 25 NTU	1.00	EA	\$2,400.00	\$2,400.00	
17902	Control Panels	5.00	EA	\$10,000.00	\$50,000	
<b>Total</b>						<b>\$78,887</b>
<b>Grand Total</b>						<b>\$602,359</b>





**DETAILED COST ESTIMATE**

Project: VVWRA/Hesperia/Apple Valley - 95% Estimate  
 Job #: 8229A.10  
 Location: City of Hesperia, CA  
 Element: 11 Secondary Building

Date: October 4, 2010  
 By: ZL  
 Reviewed: AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 03 - Concrete</b>						
03000	Misc. Embeds, Waste, etc. Allow	\$156,196	PCT	1%	\$1,562	
03300	14" Straight Wall >8' High	84.26	CY	\$750.84	\$63,266	
03300	18" Straight Wall >8' High	29.17	CY	\$644.10	\$18,788	
03300	42" X 42" Square Column/Pier	8.89	CY	\$526.42	\$4,680	
03300	18" Structural Flat Mat On Grade	126.39	CY	\$335.56	\$42,412	
03300	12" Elevated Slab To 20'	50.52	CY	\$400.64	\$20,240	
03300	12" Flat Non-Formed S.O.G.	4.89	CY	\$256.88	\$1,256	
03302	Mass Concrete	24.11	CY	\$230.35	\$5,554	
<b>Total</b>						<b>\$157,758</b>
<b>Division 04 - Masonry</b>						
04220	Standard Concrete Block, 12"	6,130.00	SF	\$17.84	\$109,351	
<b>Total</b>						<b>\$109,351</b>
<b>Division 05 - Metals</b>						
05000	Misc. Fasteners, Fillets, Waste, etc. Allow	\$71,367	PCT	1%	\$714	
05120	Galvanized Structural Steel Shapes & Plates - Gc	2,090.00	LB	\$2.22	\$4,631	
05120	Galvanized Structural Steel Shapes & Plates - Gc	280.00	LB	\$2.22	\$620	
05120	Galvanized Structural Steel Shapes & Plates - Gc	3,440.00	LB	\$2.22	\$7,622	
05120	Galvanized Structural Steel Shapes & Plates - Gc	3,000.00	LB	\$2.22	\$6,647	
05120	Galvanized Structural Steel Shapes & Plates - Gc	800.00	LB	\$2.22	\$1,773	
05126	Steel Trusses	9,600.00	LB	\$1.33	\$12,802	
05310	Steel Deck, 3" X 18 Ga.	1,800.00	SF	\$5.79	\$10,415	
05310	Steel Deck, 3" X 18 Ga.	1,736.00	SF	\$5.79	\$10,045	
05500	Aluminum Stairs, Including Railing And Supports	27.00	RSR	\$622.66	\$16,812	
05500	Fixed Aluminum Ladder - No Safety Cage	20.00	VLF	\$105.89	\$2,118	
<b>Total</b>						<b>\$74,198</b>
<b>Division 07 - Thermal and Moisture</b>						
07000	Misc. Thermal and Moisture Protection	\$34,168	PCT	1%	\$342	
07200	9-1/2" R-30 Floor Insulation, In Crawl Space W/2' - 4' Clearance	1,600.00	SF	\$3.18	\$5,095	
07200	2-1/2" R-19.23 Polyurethane Board Insulation	780.00	SF	\$4.56	\$3,559	
07416	Standing Seam Metal Roof	1,600.00	SF	\$12.90	\$20,633.60	
07500	Pvc, Mechanically Fastened, Polyvinyl Chloride	780.00	SF	\$3.47	\$2,708	
07600	3" X 4" Galvanized Steel Rectangular Down Spout	100.00	LF	\$21.72	\$2,172	
07600	16 Ga Galvanized Wall Fixed Wall Louver	225.00	SF	\$67.46	\$15,178	
<b>Total</b>						<b>\$49,688</b>
<b>Division 08 - Doors and Windows</b>						
08110	3/0 X 7/0 X 1.75" No Label Single Hollow Metal Door W/Frame & Hdwre	4.00	EA	\$823.94	\$3,296	
08255	FRP Flush Doors - Secondary Building	1.00	LS	\$1,740.00	\$1,740.00	
08330	Wall and Ceiling Access Doors 10'x12'	1.00	EA	\$12,062.11	\$12,062	
08412	8'-0" Aluminum Storefront System, Medium Bronze Finish	6.00	EA	\$357.12	\$2,143	
08520	1" Welded Insulating Fixed Glazing	39.96	SF	\$31.74	\$1,268	
<b>Total</b>						<b>\$20,509</b>
<b>Division 09 - Finishes</b>						
09000	Misc. Painting, Coating, etc. Allow	\$25,676	PCT	1%	\$257	
09220	Portland Cement Plaster - Secondary Building	1.00	LS	\$10,800.00	\$10,800.00	
09714	Acoustical Metal Panels - Secondary Building	1.00	LS	\$14,355.00	\$14,355.00	
09910	Interior Paint - Stair Well Seondary Building	1.00	LS	\$520.80	\$520.80	
<b>Total</b>						<b>\$25,933</b>
<b>Division 14 - Conveying Systems</b>						
14624	Monorail System	1.00	EA	\$20,562.50	\$20,563	
14650	Jib Cranes	1.00	EA	\$17,906.25	\$17,906	
<b>Total</b>						<b>\$38,469</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$201,198	PCT	1%	\$2,012	
15732	Air Conditioning Units 11AC01	1.00	EA	\$22,040.24	\$22,040	
15812	Aluminum Duct	12,800.00	LB	\$13.74	\$175,862	
15820	Linkage And Automatic Operation Smoke Damper	2.00	EA	\$198.40	\$397	
15820	Smoke Damper Operator Motor	2.00	EA	\$302.56	\$605	
15820	Smoke Detector	2.00	EA	\$396.80	\$794	
15820	Registers - Secondary Building	1.00	LS	\$1,500.00	\$1,500.00	
<b>Total</b>						<b>\$203,209</b>
<b>Grand Total</b>						<b>\$679,114</b>





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 12 Electrical Rooms

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 07 - Thermal and Moisture</b>						
07700	3'-0" X 2'-6" Roof Hatch & Curb, 14 Ga Galvanized	2.00	EA	\$778.24	\$1,556	
<b>Total</b>						<b>\$1,556</b>
<b>Division 08 - Doors and Windows</b>						
08110	3/0 X 7/0 X 1.75" No Label Single Hollow Metal Door W/Frame & Hdwre	2.00	EA	\$823.94	\$1,648	
08110	3/0 X 7/0 X 1.75" 1.5 Hr "B" Label Single Hollow Metal Door W/Frame & Hdwre	1.00	EA	\$946.88	\$947	
08255	FRP Flush Doors	2.00	EA	\$6,960.00	\$13,920	
<b>Total</b>						<b>\$16,515</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$173,803	PCT	1.0%	\$1,738	
15732	Air Conditioning Units 03AC03	1.00	EA	\$9,355.53	\$9,355.53	
15732	Air Conditioning Units 11AC02	1.00	EA	\$15,761.87	\$15,761.87	
15812	Aluminum Duct	10,822.00	LB	\$13.74	\$148,686	
<b>Total</b>						<b>\$175,541</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$724,694	PCT	1%	\$7,247	
16070	1" Steel Two Hole Pipe Strap	1,000.00	EA	\$9.64	\$9,637	
16070	1.25" Steel Two Hole Pipe Strap	100.00	EA	\$10.05	\$1,005	
16070	1.5" Steel Two Hole Pipe Strap	100.00	EA	\$9.94	\$994	
16070	2" Steel Two Hole Pipe Strap	200.00	EA	\$12.56	\$2,513	
16070	2.5" Steel Two Hole Pipe Strap	200.00	EA	\$13.12	\$2,624	
16070	3" Steel Two Hole Pipe Strap	100.00	EA	\$13.78	\$1,378	
16070	4" Steel Two Hole Pipe Strap	200.00	EA	\$14.88	\$2,977	
16070	.5" - .75" Steel Beam Clamp With Bottom Mount Hanger, Bc-8-12M	200.00	EA	\$4.57	\$914	
16070	1.5" Steel Beam Clamp With Bottom Mount Hanger, Bc-24M	100.00	EA	\$4.88	\$488	
16070	1.5" Steel Beam Clamps With Side Mount Hanger, Bc-24Msm	50.00	EA	\$4.88	\$244	
16123	500 Mcm 600V Heavy Duty Copper Alloy Solderless Wire Lug	18.00	EA	\$45.29	\$815	
16123	14 Ga Solid 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	8,000.00	LF	\$4.44	\$3,539	
16123	12 Ga Solid 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	11,200.00	LF	\$5.51	\$5,743	
16123	10 Ga Solid 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	2,000.00	LF	\$6.67	\$1,345	
16123	1/0 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	2,000.00	LF	\$4.68	\$9,370	
16123	250 Mcm Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	1,400.00	LF	\$9.11	\$12,755	
16123	500 Mcm Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	3,000.00	LF	\$14.61	\$43,836	
16130	4" Malleable Iron Screwed Service Entrance Cap	4.00	EA	\$527.20	\$2,109	
16130	4" Pressure Cast Dome Cover Type Entrance Eil	4.00	EA	\$526.57	\$2,106	
16130	3" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	1,000.00	LF	\$40.32	\$40,322	
16130	4" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	1,000.00	LF	\$54.73	\$54,734	
16130	.75" Sch 40 Pvc Rigid Conduit Under A Slab	500.00	LF	\$1.48	\$741	
16130	1" Sch 40 Pvc Rigid Conduit Under A Slab	2,800.00	LF	\$1.65	\$4,623	
16130	2" Sch 40 Pvc Rigid Conduit Under A Slab	600.00	LF	\$2.60	\$1,560	
16130	4" Sch 40 Pvc Rigid Conduit Under A Slab	750.00	LF	\$5.24	\$3,930	
16210	2 Socket Meter Panel, 400 Main Amps, 200 Max Branch Amps	10.00	EA	\$750.51	\$7,505	
16262	Variable Frequency Drives 10 HP	2.00	EA	\$2,480.00	\$4,960	
16262	Variable Frequency Drives 20 HP	2.00	EA	\$2,976.00	\$5,952	
16262	Variable Frequency Drives 30 HP	2.00	EA	\$4,960.00	\$9,920	
16264	Variable Frequency Drives 55 HP	3.00	EA	\$12,896.00	\$38,688	
16264	Variable Frequency Drives 60 HP	5.00	EA	\$12,896.00	\$64,480	
16264	Variable Frequency Drives 200 HP	3.00	EA	\$39,680.00	\$119,040	
16272	45 Kva Three Phase 480V Dry Type Distribution Transformer	3.00	EA	\$2,983.69	\$8,951	
16272	25 Kva Single Phase 480/240V Dry Type Distribution Transformer	1.00	EA	\$3,212.59	\$3,213	





**DETAILED COST ESTIMATE**

**Project:** VVWRA/Hesperia/Apple Valley - 95% Estimate  
**Job #:** 8229A.10  
**Location:** City of Hesperia, CA  
**Element:** 12 Electrical Rooms

**Date:** October 4, 2010  
**By:** ZL  
**Reviewed:** AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
16411	30 Amp 3Pole Nema 3R Rain-Tight 600V Heavy Duty Safety Switch	8.00	EA	\$622.49	\$4,980	
16412	3P,3Sf,480V, 15 - 60 Amp Distribution Circuit Breaker	36.00	EA	\$737.80	\$26,561	
16412	3P,3Sf,480V, 70 -100 Amp Distribution Circuit Breaker	2.00	EA	\$886.99	\$1,774	
16412	3P,3Sf,480V, 100 -400 Amp Distribution Circuit Breaker	8.00	EA	\$4,499.31	\$35,994	
16412	3P,6Sf,480V, 400 -800 Amp Distribution Circuit Breaker	3.00	EA	\$5,497.99	\$16,494	
16422	Nema 1, Size 0, 3 Phase Magnetic Non-Reversing Motor Starter 100 Hp Max.	10.00	EA	\$484.37	\$4,844	
16422	Nema 1, Size 4, 3 Phase Magnetic Non-Reversing Motor Starter 100 Hp Max.	2.00	EA	\$3,048.54	\$6,097	
16430	1600 Amp Main/Meter Section & Pull Section Utility Metering Devices, Metering Compartment W/Barriers & Door	1.00	EA	\$684.48	\$684	
16430	Utility Metering Devices, Service Entrance Label	1.00	EA	\$585.28	\$585	
16444	1200 Amp Distribution Section	2.00	EA	\$6,028.38	\$12,057	
16444	INSTALL 9 VERTICAL SECTION, 1200 AMPS @ 230V/480V M.C.C.	1.00	EA	\$1,602.57	\$1,603	
16444	Bolt Each Section To Floor, 1200 Amps @ 230V/480V M.C.C.	9.00	EA	\$100.16	\$901	
16445	24 Circuit, 240V Max Panel, Branch Circuit Panelboard, 4X Space Factor	1.00	EA	\$2,579.20	\$2,579	
16445	42 Circuit, 240V Max Panel, Branch Circuit Panelboard, 6X Space Factor	3.00	EA	\$4,067.20	\$12,202	
16491	1000 Ampere Automatic Transfer Switch Type Astbm, 12X Space Factor	1.00	EA	\$71,424.00	\$71,424	
16500	2 Lamp, 40W 120V, 48" Lg Damp Locations Fluorencent Light Fixture To 12' Ht	16.00	EA	\$443.73	\$7,100	
16500	120V Ac Wall Style, Exit Signs - Incandescent - Explosion Proof Locations. 12' To 20' Ht	6.00	EA	\$1,707.39	\$10,244	
16500	100W Ang Stanch Mount, Vaportight H.Press Sodium Lighting Fixture 12' - 20'Ht	9.00	EA	\$1,002.69	\$9,024	
<b>Total</b>						<b>\$731,941</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Misc. I&C Field Details, Allow	\$1,200	PCT	0.0%	\$	
17604	RTD Temperature Measurement	2.00	EA	\$600.00	\$1,200	
<b>Total</b>						<b>\$1,200</b>
<b>Grand Total</b>						<b>\$926,753</b>





**DETAILED COST ESTIMATE**

Project: VVWRA/Hesperia/Apple Valley - 95% Estimate  
 Job #: 8229A.10  
 Location: City of Hesperia, CA  
 Element: 13 Biofilter

Date : October 4, 2010  
 By : ZL  
 Reviewed: AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 03 - Concrete</b>						
03000	Misc. Embeds, Waste, etc. Allow	\$92,990	PCT	1%	\$930	
03300	10" Straight Wall, To 8' High	56.00	CY	\$930.69	\$52,119	
03300	12" Straight Wall, To 8' High	13.33	CY	\$822.78	\$10,968	
03300	12" Structural Flat Mat On Grade	61.25	CY	\$333.27	\$20,413	
03300	12" Edge Forms, Slab On Grade, Add	252.00	LF	\$13.82	\$3,482	
03300	8" Flat Non-Formed S.O.G.	14.91	CY	\$303.97	\$4,532	
03300	8" Edge Forms Slabs On Grade, Add	255.00	LF	\$5.79	\$1,477	
<b>Total</b>						<b>\$93,920</b>
<b>Division 13 - Special Construction</b>						
13329	Biofilter System	1.00	LS	\$248,000.00	\$248,000.00	
13329	Irrigation System	1.00	LS	\$19,200.00	\$19,200.00	
<b>Total</b>						<b>\$267,200</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$123,204	PCT	1%	\$1,232	
15400	Water Softener	1.00	EA	\$3,680.00	\$3,680.00	
15814	FRP Duct and Accessories - Biofilter	1.00	LS	\$119,523.84	\$119,523.84	
15832	Biofilter Scrubber Fans	2.00	EA	\$17,324.36	\$34,649	
<b>Total</b>						<b>\$159,085</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$1,027	PCT	1%	\$10	
16123	14 Ga Solid 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	800.00	LF	\$ .44	\$354	
16123	12 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	400.00	LF	\$ .53	\$212	
16130	.75" Sch 40 Pvc Rigid Conduit Under A Slab	200.00	LF	\$1.48	\$296	
16130	1" Sch 40 Pvc Rigid Conduit Under A Slab	100.00	LF	\$1.65	\$165	
<b>Total</b>						<b>\$1,038</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Misc. I&C Field Details, Allow	\$2,136	PCT	1%	\$21	
17316	Rotameters	3.00	EA	\$212.00	\$636.00	
17404	Pressure/Vacuum Gauges	5.00	EA	\$300.00	\$1,500.00	
17902	Control Panels	3.00	EA	\$10,000.00	\$30,000	
<b>Total</b>						<b>\$32,157</b>
<b>Grand Total</b>						<b>\$553,400</b>





**DETAILED COST ESTIMATE**

Project: VVWRA/Hesperia/Apple Valley - 95% Estimate  
 Job #: 8229A.10  
 Location: City of Hesperia, CA  
 Element: 14 O&M Room

Date: October 4, 2010  
 By: ZL  
 Reviewed: AG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 05 - Metals</b>						
05000	Misc. Fasteners, Fillets, Waste, etc. Allow	\$16,812	PCT	1%	\$168	
05500	Aluminum Stairs, Including Railing And Supports	27.00	RSR	\$622.66	\$16,812	
<b>Total</b>						<b>\$16,980</b>
<b>Division 06 - Wood and Plastics</b>						
06400	Architectural Casework	1.00	EA	\$1,984.00	\$1,984.00	
<b>Total</b>						<b>\$1,984</b>
<b>Division 08 - Doors and Windows</b>						
08110	3/0 X 7/0 X 1.75" No Label Single Hollow Metal Door W/Frame & Hdvre	2.00	EA	\$823.94	\$1,648	
08212	3/0 X 7/0 X 1.75" Single Wood Door Incl.Hardware	5.00	EA	\$675.78	\$3,379	
08255	FRP Flush Doors	1.00	EA	\$6,960.00	\$6,960	
<b>Total</b>						<b>\$11,987</b>
<b>Division 09 - Finishes</b>						
09000	Misc. Painting, Coating, etc. Allow	\$8,256	PCT	2%	\$165	
09110	Light Gauge Metal Framing	1.00	LS	\$2,668.00	\$2,668.00	
09250	Gypsum Board	1.00	LS	\$4,500.00	\$4,500.00	
09910	Interior Paint	1.00	LS	\$1,087.80	\$1,087.80	
<b>Total</b>						<b>\$8,421</b>
<b>Division 11 - Equipment</b>						
11000	Misc. Specialties, Small Piping, Leveling, etc. Allow	\$14,860	PCT	1%	\$149	
11312	Packaged Grinder Pump Station	1.00	LS	\$14,859.60	\$14,860	
<b>Total</b>						<b>\$15,008</b>
<b>Division 12 - Furnishings</b>						
12000	Misc. Furnishings	\$35,150	PCT	1%	\$351.50	
12348	Counters	1.00	LS	\$7,140.00	\$7,140.00	
12355	Lab Metal Casework	1.00	LS	\$28,010.00	\$28,010.00	
<b>Total</b>						<b>\$35,502</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Small Piping, Fitting, Supports, Specialties, etc. Allow	\$107,106	PCT	1%	\$1,071	
15732	Air Conditioning Units 03AC05	1.00	EA	\$10,513.20	\$10,513	
15812	Aluminum Duct	5,600.00	LB	\$13.74	\$76,940	
15814	Frp Duct, 12"	15.00	LF	\$41.13	\$617	
15814	90 Degree Frp Duct Elbow, 12"	2.00	EA	\$864.15	\$1,728	
15830	Exhaust Fans	3.00	EA	\$5,769.36	\$17,308	
<b>Total</b>						<b>\$108,177</b>
<b>Division 16 - Electrical</b>						
16000	Misc. Electrical Field Details, Allow	\$25,534	PCT	1%	\$255	
16070	.563" T-Bar W/.25" X .625" Stud Fixture Support Ceiling Clip, 4G9	1,000.00	EA	\$3.98	\$3,983	
16070	.25" Stl Washer Wingnut, T-Bar Fixture Support Ceiling Clip, 4Wn	1,000.00	EA	\$3.52	\$3,517	
16070	Steel Lay-In/Troffer Lighting Fixture Straight Lip Type Support, 515	50.00	EA	\$3.65	\$182	
16070	Steel Support Bar Recess Hi-Hat Lighting Fixture Type Support, 517A	8.00	EA	\$9.25	\$74	
16500	2 Lamp, 40W 120V, 48" Lg Damp Locations Fluorencent Light Fixture To 12' Ht	24.00	EA	\$443.73	\$10,650	
16500	120V Ac Wall Style, Exit Signs - Incandescent - Explosion Proof Locations, 12' To 20' Ht	3.00	EA	\$1,707.39	\$5,122	
16500	100W Ang Stanch Mount, Vaportight H.Press Sodium Lighting Fixture 12' - 20Ht	2.00	EA	\$1,002.69	\$2,005	
<b>Total</b>						<b>\$25,790</b>
<b>Grand Total</b>						<b>\$223,848</b>





**PROJECT SUMMARY**

Project: VVWRA/Hesperia/Apple Valley - 95% Estimate  
 Job #: 8229A.10  
 Location: City of Hesperia, CA  
 Zip Code: 92340

Estimate Class: 5  
 PIC: J Hagstrom  
 PM: A Gilmore  
 Date: October 4, 2010  
 By: ZL  
 Reviewed: AG

NO.	DESCRIPTION	TOTAL
01	General Condition	\$1,759,349
02	General, Site & Yard, & Misc	\$2,662,536
03	Main Building	\$1,447,134
04	Influent Screening	\$1,262,184
05	Biological Treatment	\$2,407,319
06	FF & WAS PS	\$926,919
07	Membrane Filtration	\$4,133,347
08	UV Room	\$1,137,618
09	Chemical Feed & Storage	\$636,308
10	Reclaimed Water PS	\$602,359
11	Secondary Building	\$679,114
12	Electrical Rooms	\$926,753
13	Biofilter	\$553,400
14	O&M Room	\$223,848
<b>TOTAL DIRECT COST</b>		<b>\$19,358,190</b>
Contingency	2.0%	\$387,164
Subtotal		<b>\$19,745,353</b>
General Contractor Overhead, Profit & Risk	10.0%	\$1,974,535
Subtotal		<b>\$21,719,889</b>
Escalation to Mid-Point	4.6%	\$994,723
Subtotal		<b>\$22,714,611</b>
Sales Tax (Based on Apple Valley combined tax of 8.8%)	4.4%	\$868,796
Subtotal		<b>\$23,583,407</b>
Bid Market Allowance	0.0%	\$0
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$23,583,407</b>
Engineering, Legal & Administration Fees	10.0%	\$2,358,341
Owner's Reserve for Change Orders	5.0%	\$1,179,170
<b>TOTAL ESTIMATED PROJECT COST</b>		<b>\$27,120,918</b>

*The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our professional opinion of accurate costs at this time and is subject to change as the project design matures. Carollo Engineers have no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. Carollo Engineers cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs presented as shown.*





