APPENDIX 5D

Detailed Project Costs

Appendix 5D, Table 1, Projects 16 and 68: Channel Stabilization and Create Hydrologic Floodplains on Streams

West Yost Associates	PE/PS/PG II $240	AE/AS/AG II $192	ESG I $145	PE/PS/PG I $226	SE/SS/SG II $212	AE/AS/AG II $192	SGISA $198	PE/PS/PG I $226	ADM III $112	PE/PS/PG II $240	AE/AS/AG I $179	Labor			Costs		
												Hours	Fee	Technology & Admin	Sub. w/ markup	Other Direct	Total Costs
PROJECT: Prj 16/68 - Channel Stabilization	P Engineer	Assoc Eng	Eng 1	Surveyor	Geomorph-ologist	Biologist	GIS	Recreation Specialist	Administra-tive	City Management	City Management			6%	10%		
Task 1	***Water Quality***																
1.01 Data Collection	1	8	8		8		4					29	$ 5,424	$ 325			$ 5,749
1.02 LID	4	40	24		4		16					88	$ 16,136	$ 968			$ 17,104
1.03 Nonstructural BMPs	4	40	20				8					72	$ 13,124	$ 787			$ 13,911
1.04 Structural BMPs	4	16	12	16			4					52	$ 10,180	$ 611			$ 10,791
1.05 Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
1.06 Cost Estimates	2	40	16				4		8			70	$ 12,168	$ 730			$ 12,898
1.07 Report Chapter	2	24	20				4		8	24	24	106	$ 19,732	$ 1,184			$ 20,916
1.08 Task Management	1	16	2							24	24	67	$ 13,658	$ 819			$ 14,477
Subtotal, Task 1 (hours)	**22**	**200**	**114**	**16**	**12**	**0**	**44**	**0**	**16**	**48**	**48**	**520**					
Subtotal, Task 1 ($)	**$ 5,280**	**$ 38,400**	**$ 16,530**	**$ 3,616**	**$ 2,544**		**$ 8,712**		**$ 1,792**	**$ 11,520**	**$ 8,592**		**$ 96,986**	**$ 5,819**			**$ 102,805**
Task 2	***Water Supply***																
2.01 Data Collection	1	8	8				4					21	$ 3,728	$ 224			$ 3,952
2.02 Groundwater Recharge	4	24	12		4		16					60	$ 11,324	$ 679			$ 12,003
2.03 Stormwater Capture and Reuse	4	24	12				8					48	$ 8,892	$ 534			$ 9,426
2.04 Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
2.05 Cost Estimates	2	24	8									34	$ 6,248	$ 375			$ 6,623
2.06 Report Chapter	4	16	8				4		8			40	$ 6,880	$ 413			$ 7,293
2.07 Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 2 (hours)	**20**	**124**	**62**	**0**	**4**	**0**	**36**	**0**	**8**	**24**	**24**	**302**					
Subtotal, Task 2 ($)	**$ 4,800**	**$ 23,808**	**$ 8,990**		**$ 848**		**$ 7,128**		**$ 896**	**$ 5,760**	**$ 4,296**		**$ 56,526**	**$ 3,392**			**$ 59,918**
Task 3	***Flood Management***																
3.01 Data Collection	4	16	16		16	16	4					72	$ 13,608	$ 816			$ 14,424
3.02 Hydraulic Models	8	20	20	16								64	$ 12,276	$ 737			$ 13,013
3.03 Evaluates Causes of Flooding	2	4	8		8	8	4					34	$ 6,432	$ 386			$ 6,818
3.04 Develop Solution Alternatives	2	4	8		8	8	4					34	$ 6,432	$ 386			$ 6,818
3.05 Identify Recommended Project	2	4	8		8	8	4					34	$ 6,432	$ 386			$ 6,818
3.06 Public Outreach and Involvement	4	8	8		16	16	4					56	$ 10,912	$ 655			$ 11,567
3.07 Cost Estimates	2	8	8		8	4						30	$ 5,640	$ 338			$ 5,978
3.08 Report Chapter	4	8	8		8	8	4		24			64	$ 10,368	$ 622			$ 10,990
3.09 Task Management	8	16	16		12	8	4			24	24	112	$ 22,240	$ 1,334			$ 23,574
Subtotal, Task 3 (hours)	**36**	**88**	**100**	**16**	**84**	**76**	**28**	**0**	**24**	**24**	**24**	**500**					
Subtotal, Task 3 ($)	**$ 8,640**	**$ 16,896**	**$ 14,500**	**$ 3,616**	**$ 17,808**	**$ 14,592**	**$ 5,544**		**$ 2,688**	**$ 5,760**	**$ 4,296**		**$ 94,340**	**$ 5,660**			**$ 100,000**
Task 4	***Environmental Benefits***																
4.01 Data Collection	4	8			24	24						60	$ 12,192	$ 732			$ 12,924
4.02 Gravel / Erosion Plan	8	16			160							184	$ 38,912	$ 2,335			$ 41,247
4.03 Biological Improvements	8	16				160						184	$ 35,712	$ 2,143			$ 37,855
4.04 Public Outreach and Involvement	4	4	12		20	20	4					64	$ 12,340	$ 740			$ 13,080
4.05 Cost Estimates	2	8			16	16						42	$ 8,480	$ 509			$ 8,989
4.06 Report Chapter	4	4			24	24			16			72	$ 13,216	$ 793			$ 14,009
4.07 Task Management	12	24			16	16				40	40	148	$ 30,712	$ 1,843			$ 32,555
Subtotal, Task 4 (hours)	**42**	**80**	**12**	**0**	**260**	**260**	**4**	**0**	**16**	**40**	**40**	**754**					
Subtotal, Task 4 ($)	**$ 10,080**	**$ 15,360**	**$ 1,740**		**$ 55,120**	**$ 49,920**	**$ 792**		**$ 1,792**	**$ 9,600**	**$ 7,160**		**$ 151,564**	**$ 9,094**			**$ 160,658**
Task 5	***Community Benefits***																
5.01 Data Collection	2	8										10	$ 2,016	$ 121			$ 2,137
5.02 Community Outreach Plan	8	16						80				104	$ 23,072	$ 1,384			$ 24,456
5.03 Public Outreach and Involvement	4	8						24				36	$ 7,920	$ 475			$ 8,395
5.04 Cost Estimates	2	8						16				26	$ 5,632	$ 338			$ 5,970
5.05 Report Chapter	4	8						24	16			52	$ 9,712	$ 583			$ 10,295
5.06 Task Management	12	20						16		32	32	112	$ 23,744	$ 1,425			$ 25,169
Subtotal, Task 5 (hours)	**32**	**68**	**0**	**0**	**0**	**0**	**0**	**160**	**16**	**32**	**32**	**340**					
Subtotal, Task 5 ($)	**$ 7,680**	**$ 13,056**						**$ 36,160**	**$ 1,792**	**$ 7,680**	**$ 5,728**		**$ 72,096**	**$ 4,326**			**$ 76,422**
Task 6																	
6.01												0					
Subtotal, Task 6 (hours)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**					
Subtotal, Task 6 ($)																	
TOTAL (hours)	**152**	**560**	**288**	**32**	**360**	**336**	**112**	**160**	**80**	**168**	**168**	**2,416**					
TOTAL ($)	**$ 36,480**	**$ 107,520**	**$ 41,760**	**$ 7,232**	**$ 76,320**	**$ 64,512**	**$ 22,176**	**$ 36,160**	**$ 8,960**	**$ 40,320**	**$ 30,072**		**$ 471,512**	**$ 28,291**			**$ 499,803**

Appendix 5D, Table 2, Project 33: Mud and Rock Creek Flood Protection Project

West Yost Associates	PE/PS/PG II $240	AE/AS/AG II $192	ESG I $145	PE/PS/PG I $226	SE/SS/SG II $212	AE/AS/AG II $192	SGISA $198	PE/PS/PG I $226	ADM III $112	PE/PS/PG II $240	AE/AS/AG I $179	Labor		Technology & Admin	Costs		
PROJECT: Prj 33 - Mud & Rock Creek Flood Protection PLN	P Engineer	Assoc Eng	Eng 1	Surveyor	Geomorph-ologist	Biologist	GIS	Recreation Specialist	Administra-tive	City Management	City Management	Hours	Fee	6%	Sub. w/ markup 10%	Other Direct	Total Costs
Task 1	***Water Quality***																
1.01 Data Collection	1	8	8				4					21	$ 3,728	$ 224			$ 3,952
1.02 LID	4	40	20		4		16					84	$ 15,556	$ 933			$ 16,489
1.03 Nonstructural BMPs	4	40	20				8					72	$ 13,124	$ 787			$ 13,911
1.04 Structural BMPs	4	16	12	8			4					44	$ 8,372	$ 502			$ 8,874
1.05 Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
1.06 Cost Estimates	2	40	16				4		8			70	$ 12,168	$ 730			$ 12,898
1.07 Report Chapter	2	24	16				4		8	24	24	102	$ 19,152	$ 1,149			$ 20,301
1.08 Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 1 (hours)	**22**	**196**	**106**	**8**	**4**	**0**	**44**	**0**	**16**	**48**	**48**	**492**					
Subtotal, Task 1 ($)	**$ 5,280**	**$ 37,632**	**$ 15,370**	**$ 1,808**	**$ 848**		**$ 8,712**		**$ 1,792**	**$ 11,520**	**$ 8,592**		**$ 91,554**	**$ 5,493**			**$ 97,047**
Task 2	***Water Supply***																
2.01 Data Collection	1	8	8			4	4					25	$ 4,496	$ 270			$ 4,766
2.02 Groundwater Recharge	4	24	12		4		16					60	$ 11,324	$ 679			$ 12,003
2.03 Stormwater Capture and Reuse	4	24	12				8					48	$ 8,892	$ 534			$ 9,426
2.04 Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
2.05 Cost Estimates	2	24	8									34	$ 6,248	$ 375			$ 6,623
2.06 Report Chapter	4	16	8				4		8			40	$ 6,880	$ 413			$ 7,293
2.07 Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 2 (hours)	**20**	**124**	**62**	**0**	**4**	**4**	**36**	**0**	**8**	**24**	**24**	**306**					
Subtotal, Task 2 ($)	**$ 4,800**	**$ 23,808**	**$ 8,990**		**$ 848**	**$ 768**	**$ 7,128**		**$ 896**	**$ 5,760**	**$ 4,296**		**$ 57,294**	**$ 3,438**			**$ 60,732**
Task 3	***Flood Management***																
3.01 Data Collection	1	8	8		16	16	4					53	$ 10,192	$ 612			$ 10,804
3.02 Revise Models from Project 44	16	80	40	24								160	$ 30,424	$ 1,825			$ 32,249
3.03 Evaluates Causes of Flooding	16	80	80		24	24	16					240	$ 43,664	$ 2,620			$ 46,284
3.04 Develop Solution Alternatives	12	40	60		24	24	16					176	$ 32,124	$ 1,927			$ 34,051
3.05 Identify Recommended Project	8	24	40		8	8	8					96	$ 17,144	$ 1,029			$ 18,173
3.06 Public Outreach and Involvement	24	40	16		8	8	16					112	$ 22,160	$ 1,330			$ 23,490
3.07 Cost Estimates	16	40	40		8	8						112	$ 20,552	$ 1,233			$ 21,785
3.08 Report Chapter	24	40	40		16	16	24		24			184	$ 33,144	$ 1,989			$ 35,133
3.09 Task Management	40	40	40		16	16	8			80	80	320	$ 64,648	$ 3,879			$ 68,527
Subtotal, Task 3 (hours)	**157**	**392**	**364**	**24**	**120**	**120**	**92**	**0**	**24**	**80**	**80**	**1453**					
Subtotal, Task 3 ($)	**$ 37,680**	**$ 75,264**	**$ 52,780**	**$ 5,424**	**$ 25,440**	**$ 23,040**	**$ 18,216**		**$ 2,688**	**$ 19,200**	**$ 14,320**		**$ 274,052**	**$ 16,443**			**$ 290,495**
Task 4	***Environmental Benefits***																
4.01 Data Collection	2	4			8	16						30	$ 6,016	$ 361			$ 6,377
4.02 Gravel / Sediment Plan	8	16			160							184	$ 38,912	$ 2,335			$ 41,247
4.03 Biological Improvements	8	16				160						184	$ 35,712	$ 2,143			$ 37,855
4.04 Public Outreach and Involvement	4	4	12		16	16	4					56	$ 10,724	$ 643			$ 11,367
4.05 Cost Estimates	2	8			16	16						42	$ 8,480	$ 509			$ 8,989
4.06 Report Chapter	4	4			24	24			16			72	$ 13,216	$ 793			$ 14,009
4.07 Task Management	8	16			8	8				40	40	120	$ 24,984	$ 1,499			$ 26,483
Subtotal, Task 4 (hours)	**36**	**68**	**12**	**0**	**232**	**240**	**4**	**0**	**16**	**40**	**40**	**688**					
Subtotal, Task 4 ($)	**$ 8,640**	**$ 13,056**	**$ 1,740**		**$ 49,184**	**$ 46,080**	**$ 792**		**$ 1,792**	**$ 9,600**	**$ 7,160**		**$ 138,044**	**$ 8,283**			**$ 146,327**
Task 5	***Community Benefits***																
5.01 Data Collection	2	4										6	$ 1,248	$ 75			$ 1,323
5.02 Community Outreach Plan	8	16						60				84	$ 18,552	$ 1,113			$ 19,665
5.03 Public Outreach and Involvement	4	4						16				24	$ 5,344	$ 321			$ 5,665
5.04 Cost Estimates	2	8						16				26	$ 5,632	$ 338			$ 5,970
5.05 Report Chapter	4	4						24	12			44	$ 8,496	$ 510			$ 9,006
5.06 Task Management	8	16						8		40	40	112	$ 23,560	$ 1,414			$ 24,974
Subtotal, Task 5 (hours)	**28**	**52**	**0**	**0**	**0**	**0**	**0**	**124**	**12**	**40**	**40**	**296**					
Subtotal, Task 5 ($)	**$ 6,720**	**$ 9,984**						**$ 28,024**	**$ 1,344**	**$ 9,600**	**$ 7,160**		**$ 62,832**	**$ 3,770**			**$ 66,602**
Task 6																	
6.01												0					
Subtotal, Task 6 (hours)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**					
Subtotal, Task 6 ($)																	
TOTAL (hours)	**263**	**832**	**544**	**32**	**360**	**364**	**176**	**124**	**76**	**232**	**232**	**3,235**					
TOTAL ($)	**$ 63,120**	**$ 159,744**	**$ 78,880**	**$ 7,232**	**$ 76,320**	**$ 69,888**	**$ 34,848**	**$ 28,024**	**$ 8,512**	**$ 55,680**	**$ 41,528**		**$ 623,776**	**$ 37,427**			**$ 661,203**

Appendix 5D, Table 3A. Cost Estimate for SWRP Project 40 - Parking Lot 4 Rehabilitation

Number	Bid Item	Units	Quantity	Unit Price	Total Price
Bio-Retention Basin					
1	Drip Irrigation	SF	231	$19.35	$4,500
2	Protect/Wrap Utilities	LF	14	$8.37	$120
3	New Irrigation Main Line	LF	60	$90.00	$5,400
4	Aggregate Storage Layer	CY	17	$144.00	$2,500
5	Excavation, Off Haul & Disposal for Bioretention Planters	CY	34	$50.00	$1,700
6	Concrete for Planter Walls, Lateral Bracing, Modified Curb & Gutters & Splash Pads	CY	6	$1,566.00	$9,300
7	Bioretention Soil (18" Depth)	CY	13	$120.00	$1,500
8	Wood Mulch (Matting Variety 3" Depth)	CY	2	$126.00	$300
9	Drain Rock	CY	2	$315.00	$630
10	Vegetation - 1 Gallon Pots	EA	12	$45.00	$540
11	Vegetation - 4" Pots	EA	25	$39.15	$1,000
12	Backflow Units & Associated Cages	EA	1	$5,400.00	$5,400
13	New Solar Powered Controllers	EA	1	$4,500.00	$4,500
				Subtotal	$37,390
Permeable Pavement					
14	8" Thick Pervious Concrete Pavement	SF	19162	$13.50	$258,700
15	Protect/Wrap Utilities	LF	429	$8.37	$3,600
16	Excavation, Off Haul & Disposal for Permeable pavement	CY	710	$50.00	$35,500
17	AASHTO No. 57 Aggregate for Permeable Pavement Bedding (8")	CY	473	$144.00	$68,100
				Subtotal	$365,900
General Construction					
18	Mobilization/Demobilization & Insurance (5%)	LS	1	--	$20,200
19	Construction Contingency (30%)	LS	1	--	$121,000
				Construction Costs	$544,490
Engineering and Design Fees					
20	Engineering, Administrating, Permitting (25%)	LS	1	--	$120,987
				Total Estimated Capital Project Cost	**$665,500**

Appendix 5D, Table 3B. Cost Estimate for Annual O&M for SWRP Project 40 - Parking Lot 4 Rehabilitation

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Bioretention Maintenance - Frequency: 12 times per year (excluding 90-day plant establishment)					
1	2 Person Maintenance Crew	hr	12	$100	$1,200
Permeable Pavement - Frequency: Varies					
2	2 Person Maintenance Crew - *Frequency: 6 times a year*	hr	8	$150	$1,200
3	Vac Truck - *Frequency: 2 times a year*	hr	4	$100	$400
				Total Estimated Project Cost	**$2,800**

Appendix 5D, Table 4, Project 44: 5 Mile and Lindo Channel Diversion Structures Study

West Yost Associates **PROJECT: Prj 44 - Lindo Channel Diversion Study**	PE/PS/PG II $240 P Engineer	AE/AS/AG II $192 Assoc Eng	ESG I $145 Eng 1	PE/PS/PG I $226 Surveyor	SE/SS/SG II $212 Geomorph-ologist	AE/AS/AG II $192 Biologist	SGISA $198 GIS	PE/PS/PG I $226 Recreation Specialist	ADM III $112 Administra-tive	PE/PS/PG II $240 City Management	AE/AS/AG I $179 City Management	Labor			Costs		
												Hours	Fee	Technology & Admin 6%	Sub. w/ markup 10%	Other Direct	Total Costs
Task 1	***Flood Management***																
1.01	Data collection	1	8	8	24			4					45	$ 9,152	$ 549			$ 9,701
1.02	Coordinate with agencies	8	8	8									24	$ 4,616	$ 277			$ 4,893
1.03	Prepare model	8	12	24									44	$ 7,704	$ 462			$ 8,166
1.04	Evaluate gate operation levels and debris control structures	8	8	16									32	$ 5,776	$ 347			$ 6,123
1.05	Assess scour, erosion, sediment transport	12	30	10									52	$ 10,090	$ 605			$ 10,695
1.06	Identify recommended project	4	24	10				8					46	$ 8,602	$ 516			$ 9,118
1.07	Cost Estimates	1	12	4									17	$ 3,124	$ 187			$ 3,311
1.08	Technical Memorandum	4	12	1				8		4			29	$ 5,441	$ 326			$ 5,767
1.09	Task Management	10	5	1				8			80	80	184	$ 38,609	$ 2,317			$ 40,926
Subtotal, Task 1 (hours)		**56**	**119**	**82**	**24**	**0**	**0**	**28**	**0**	**4**	**80**	**80**	**473**					
Subtotal, Task 1 ($)		**$ 13,440**	**$ 22,848**	**$ 11,890**	**$ 5,424**			**$ 5,544**		**$ 448**	**$ 19,200**	**$ 14,320**		**$ 93,114**	**$ 5,587**			**$ 98,701**
TOTAL (hours)		**56**	**119**	**82**	**24**	**0**	**0**	**28**	**0**	**4**	**80**	**80**	**473**					
TOTAL ($)		**$ 13,440**	**$ 22,848**	**$ 11,890**	**$ 5,424**			**$ 5,544**		**$ 448**	**$ 19,200**	**$ 14,320**		**$ 93,114**	**$ 5,587**			**$ 98,701**

Appendix 5D, Table 5, Project 59: Routine Community Creek Clean Up Project

West Yost Associates **PROJECT: Prj 59 - Routine Community Cleanups**	PE/PS/PG II $240 P Engineer	AE/AS/AG II $192 Assoc Eng	ESG I $145 Eng 1	PE/PS/PG I $226 Surveyor	SE/SS/SG II $212 Geomorph-ologist	AE/AS/AG II $192 Biologist	SGISA $198 GIS	PE/PS/PG I $226 Recreation Specialist	ADM III $112 Administra-tive	PE/PS/PG II $240 City Management	AE/AS/AG I $179 City Management	ADM III $112 City Management	Labor			Costs		
													Hours	Fee	Technology & Admin 6%	Sub. w/ markup 10%	Other Direct	Total Costs
Task 1	***Cleanup Program Expansion***																	
1.01 Outreach/Media												25	25	$ 2,800	$ 168			$ 2,968
1.02 Weekly Cleanup In-Kind Expenses												25	25	$ 2,800	$ 168			$ 2,968
Subtotal, Task 1 (hours)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**50**	**50**					
Subtotal, Task 1 ($)												**$ 5,600**		**$ 5,600**	**$ 336**			**$ 5,936**
TOTAL (hours)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**50**	**50**					
TOTAL ($)												**$ 5,600**		**$ 5,600**	**$ 336**			**$ 5,936**

Appendix 5D, Table 6A. Cost Esimate for SWRP Project 65 - Laxson South Bioswale

Number	Bid Item	Units	Quantity	Unit Price	Total Price
Bioswale					
1	Storm Drain Drop Inlet	EA	1	$3,000.00	$3,000
2	Tie Into Existing Storm Drain Line	EA	1	$1,500.00	$1,500
3	Storm Drain Line	LF	50	$35.00	$1,800
5	Excavation, Off Haul & Grading	CY	400	$50.00	$20,000
7	Bioretention Soil (18" Depth)	CY	400	$120.00	$48,000
8	Wood Mulch (Matting Variety 3" Depth)	CY	35	$126.00	$4,400
9	Drain Rock	CY	70	$315.00	$22,050
10	Vegetation - 1 Gallon Pots	EA	15	$45.00	$680
11	Vegetation - 4" Pots	EA	30	$40.00	$1,200
12	Sample Area	EA	2	$2,500.00	$5,000
13	Signage	LS	1	$5,000.00	$5,000
				Subtotal	$112,630
General Construction					
18	Mobilization/Demobilization & Insurance (5%)	LS	1	--	$5,600
19	Construction Contingency (30%)	LS	1	--	$34,000
				Construction Costs	$152,230
Engineering and Design Fees					
20	Engineering, Administratin, Permitting (25%)	LS	1	--	$33,789
				Total Estimated Capital Project Cost	**$186,000**

Appendix 5D, Table 6B. Cost Estimate for Annual O&M for SWRP Project 65 - Laxson South Bioswale

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Bioswale					
1	2 Person Maintenance Crew	HR	100	$100	$10,000
2	Administration	HR	80	$140	$11,200
3	Sample (Lab Cost)	EA	5	$1,000	$5,000
				Total Estimated Project Cost	**$26,200**

Appendix 5D, Table 7, Project 73: Bidwell/Grape Avenue Storm Water Protection and Restoration Project

West Yost Associates **PROJECT: Prj 73 -Bidwell/Grape Ave Stormwater Protection/ Restoration Plan**	PE/PS/PG II $240 P Engineer	AE/AS/AG II $192 Assoc Eng	ESG I $145 Eng 1	PE/PS/PG I $226 Surveyor	SE/SS/SG II $212 Geomorph-ologist	AE/AS/AG II $192 Biologist	SGISA $198 GIS	PE/PS/PG I $226 Recreation Specialist	ADM III $112 Administra-tive	PE/PS/PG II $240 City Management	AE/AS/AG I $179 City Management	Labor Hours	Labor Fee	Technology & Admin 6%	Costs Sub. w/ markup 10%	Costs Other Direct	Costs Total Costs
Task 1	***Water Quality***																
1.01 Data Collection	1	8	8			4	4					25	$ 4,496	$ 270			$ 4,766
1.02 LID	4	30	10		4		16					64	$ 12,186	$ 731			$ 12,917
1.03 Nonstructural BMPs	4	30	10				8					52	$ 9,754	$ 585			$ 10,339
1.04 Structural BMPs	4	10	10	10			4					38	$ 7,382	$ 443			$ 7,825
1.05 Public Outreach and Involvement	4	10	13				4					31	$ 5,557	$ 333			$ 5,890
1.06 Cost Estimates	2	40	16				4		8			70	$ 12,168	$ 730			$ 12,898
1.07 Report Chapter	2	24	16				4		8	24	24	102	$ 19,152	$ 1,149			$ 20,301
1.08 Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 1 (hours)	**22**	**164**	**85**	**10**	**4**	**4**	**44**	**0**	**16**	**48**	**48**	**445**					
Subtotal, Task 1 ($)	**$ 5,280**	**$ 31,488**	**$ 12,325**	**$ 2,260**	**$ 848**	**$ 768**	**$ 8,712**		**$ 1,792**	**$ 11,520**	**$ 8,592**		**$ 83,585**	**$ 5,015**			**$ 88,600**
Task 2	***Water Supply***																
2.01 Data Collection	1	8	8				4					21	$ 3,728	$ 224			$ 3,952
2.02 Groundwater Recharge	4	24	12		4		16					60	$ 11,324	$ 679			$ 12,003
2.03 Stormwater Capture and Reuse	4	24	12				8					48	$ 8,892	$ 534			$ 9,426
2.04 Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
2.05 Cost Estimates	2	24	8									34	$ 6,248	$ 375			$ 6,623
2.06 Report Chapter	4	16	8				4		8			40	$ 6,880	$ 413			$ 7,293
2.07 Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 2 (hours)	**20**	**124**	**62**	**0**	**4**	**0**	**36**	**0**	**8**	**24**	**24**	**302**					
Subtotal, Task 2 ($)	**$ 4,800**	**$ 23,808**	**$ 8,990**		**$ 848**		**$ 7,128**		**$ 896**	**$ 5,760**	**$ 4,296**		**$ 56,526**	**$ 3,392**			**$ 59,918**
Task 3	***Flood Management***																
3.01 Data Collection	1	8	8		16	16	4					53	$ 10,192	$ 612			$ 10,804
3.02 Revise Models from Project 44	12	12	15	15								54	$ 10,749	$ 645			$ 11,394
3.03 Evaluates Causes of Flooding	10	65	65		18	18	15					191	$ 34,547	$ 2,073			$ 36,620
3.04 Develop Solution Alternatives	10	40	60		24	24	16					174	$ 31,644	$ 1,899			$ 33,543
3.05 Identify Recommended Project	8	24	40		8	8	8					96	$ 17,144	$ 1,029			$ 18,173
3.06 Public Outreach and Involvement	24	40	16		8	8	16					112	$ 22,160	$ 1,330			$ 23,490
3.07 Cost Estimates	16	40	40		8	8						112	$ 20,552	$ 1,233			$ 21,785
3.08 Report Chapter	24	40	40		16	16	24		24			184	$ 33,144	$ 1,989			$ 35,133
3.09 Task Management	40	40	40		16	16	8			80	80	320	$ 64,648	$ 3,879			$ 68,527
Subtotal, Task 3 (hours)	**145**	**309**	**324**	**15**	**114**	**114**	**91**	**0**	**24**	**80**	**80**	**1296**					
Subtotal, Task 3 ($)	**$ 34,800**	**$ 59,328**	**$ 46,980**	**$ 3,390**	**$ 24,168**	**$ 21,888**	**$ 18,018**		**$ 2,688**	**$ 19,200**	**$ 14,320**		**$ 244,780**	**$ 14,687**			**$ 259,467**
Task 4	***Environmental Benefits***																
4.01 Data Collection	2	4			8	16						30	$ 6,016	$ 361			$ 6,377
4.02 Gravel / Sediment Plan	8	16			160							184	$ 38,912	$ 2,335			$ 41,247
4.03 Biological Improvements	8	16				150						174	$ 33,792	$ 2,028			$ 35,820
4.04 Public Outreach and Involvement	4	4	12		16	16	4					56	$ 10,724	$ 643			$ 11,367
4.05 Cost Estimates	2	8			16	16						42	$ 8,480	$ 509			$ 8,989
4.06 Report Chapter	4	4			24	24			16			72	$ 13,216	$ 793			$ 14,009
4.07 Task Management	8	16			8	8				40	40	120	$ 24,984	$ 1,499			$ 26,483
Subtotal, Task 4 (hours)	**36**	**68**	**12**	**0**	**232**	**230**	**4**	**0**	**16**	**40**	**40**	**678**					
Subtotal, Task 4 ($)	**$ 8,640**	**$ 13,056**	**$ 1,740**		**$ 49,184**	**$ 44,160**	**$ 792**		**$ 1,792**	**$ 9,600**	**$ 7,160**		**$ 136,124**	**$ 8,167**			**$ 144,291**
Task 5	***Community Benefits***																
5.01 Data Collection	2	4										6	$ 1,248	$ 75			$ 1,323
5.02 Community Outreach Plan	8	16						80				104	$ 23,072	$ 1,384			$ 24,456
5.03 Public Outreach and Involvement	4	4						16				24	$ 5,344	$ 321			$ 5,665
5.04 Cost Estimates	2	8						16				26	$ 5,632	$ 338			$ 5,970
5.05 Report Chapter	4	4						24	12			44	$ 8,496	$ 510			$ 9,006
5.06 Task Management	8	16						8		40	40	112	$ 23,560	$ 1,414			$ 24,974
Subtotal, Task 5 (hours)	**28**	**52**	**0**	**0**	**0**	**0**	**0**	**144**	**12**	**40**	**40**	**316**					
Subtotal, Task 5 ($)	**$ 6,720**	**$ 9,984**						**$ 32,544**	**$ 1,344**	**$ 9,600**	**$ 7,160**		**$ 67,352**	**$ 4,041**			**$ 71,393**
Task 6																	
6.01												0					
Subtotal, Task 6 (hours)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**					
Subtotal, Task 6 ($)																	
TOTAL (hours)	**251**	**717**	**483**	**25**	**354**	**348**	**175**	**144**	**76**	**232**	**232**	**3,037**					
TOTAL ($)	**$ 60,240**	**$ 137,664**	**$ 70,035**	**$ 5,650**	**$ 75,048**	**$ 66,816**	**$ 34,650**	**$ 32,544**	**$ 8,512**	**$ 55,680**	**$ 41,528**		**$ 588,367**	**$ 35,302**			**$ 623,669**

WEST YOST ASSOCIATES

Appendix 5D, Table 8. Cost Estimate for SWRP Project 77 - LID and Green Infrastructure Implementation Program for Butte County Schools

Number	Bid Item	Units	Quantity	Unit Price	Total Price
Project Planning (per school)					
1	Site Review (2 Person)	HR	4	$280	$1,100
2	Topographic Survey	DAY	1	$3,150	$3,150
3	Design	HR	100	$200	$20,000
				Subtotal	$24,250
Estimated Construction Cost (per school)					
1	Design	EA	4	$24,250	$97,000
				Subtotal	$97,000
Project Planning (25 schools)					
1	Total Cost	EA	25	$24,250	$606,300
				Subtotal	$606,300
Estimated Construction Cost (25 schools)					
1	Total Construction Cost	EA	25	$97,000	$2,425,000
				Subtotal	$2,425,000
				Total Estimated Project Cost	**$3,031,300**

Appendix 5D, Table 9A. Cost Estimate for SWRP Project 85 - Chapman Mulberry Rain Garden

Number	Bid Item	Units	Quantity	Unit Price	Total Price
Rain Garden					
1	Volunteer Labor	DAY	0	$0	$0
2	Equipment	DAY	3	$2,400	$7,200
3	Lane Closure (by City)	HR	12	$140	$1,680
				Subtotal	$8,880
General Construction					
4	Mobilization/Demobilization & Insurance (5%)	LS	1	--	$400
5	Construction Contingency (30%)	LS	1	--	$3,000
				Construction Costs	$12,280
Engineering and Design Fees					
6	Engineering (Assistance), Administration, Permitting (25%)	LS	1	--	$2,664
				Total Estimated Capital Project Cost	**$15,000**

Appendix 5D, Table 9B. Cost Estimate for Annual O&M for SWRP Project 85 - Chapman Mulberry Rain Garden

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Rain Garden					
1	2 Person Maintenance Crew- *Frequency: 1 time per year*	HR	8	$100	$800
2	Sampling (Volunteer)	HR	0	$0	$0
3	Program Administration Time (Lab Cost for Samples)	EA	2	$1,000	$2,000
4	Inspections (Watch/Oversee Program)	HR	20	$140	$2,800
5	Program Oversites	HR	40	$140	$5,600
				Total Estimated Project Cost	**$11,200**

Appendix 5D, Table 10A, Project I: Trash Reduction Master Plan and Specific Implementation Projects

West Yost Associates **PROJECT: Prj I - Trash Reduction Master Plan**	PE/PS/PG II $240 P Engineer	AE/AS/AG II $192 Assoc Eng	ESG I $145 Eng 1	PE/PS/PG I $226 Surveyor	SE/SS/SG II $212 Geomorph-ologist	AE/AS/AG II $192 Biologist	SGISA $198 GIS	PE/PS/PG I $226 Recreation Specialist	ADM III $112 Administrative	PE/PS/PG II $240 City Management	AE/AS/AG I $179 City Management	Labor Hours	Labor Fee	Technology & Admin 6%	Costs Sub. w/ markup 10%	Costs Other Direct	Costs Total Costs
Task 1	***Trash Capture Study***																
1.01 Review and revise jurisdictional maps	5	20	1									26	$ 5,185	$ 311			$ 5,496
1.02 Update map for proposed FCS	3	16	40						3			62	$ 9,928	$ 596			$ 10,524
1.03 Implementation Plan	10	40	60						6			116	$ 19,452	$ 1,167			$ 20,619
1.04 Compliance Track O&M Program	4	24	40						4			72	$ 11,816	$ 709			$ 12,525
1.05 Submit to SMARTS			2									2	$ 290	$ 17			$ 307
1.06 Task Management	40	8								24	24	96	$ 21,192	$ 1,272			$ 22,464
Subtotal, Task 1 (hours)	**62**	**108**	**143**	**0**	**0**	**0**	**0**	**0**	**13**	**24**	**24**	**374**					
Subtotal, Task 1 ($)	**$ 14,880**	**$ 20,736**	**$ 20,735**						**$ 1,456**	**$ 5,760**	**$ 4,296**		**$ 67,863**	**$ 4,072**			**$ 71,935**
Task 2	***Evaluate Trash Reduction Strategies***																
2.01 Evaluate existing approaches	2	4								5		11	$ 2,448	$ 147			$ 2,595
2.02 Evaluate recommendations		20	10									30	$ 5,290	$ 317			$ 5,607
2.03 Publich Outreach	12	16								20	20	68	$ 14,332	$ 860			$ 15,192
Subtotal, Task 2 (hours)	**14**	**40**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**25**	**20**	**109**					
Subtotal, Task 2 ($)	**$ 3,360**	**$ 7,680**	**$ 1,450**							**$ 6,000**	**$ 3,580**		**$ 22,070**	**$ 1,324**			**$ 23,394**
TOTAL (hours)	**76**	**148**	**153**	**0**	**0**	**0**	**0**	**0**	**13**	**49**	**44**	**483**					
TOTAL ($)	**$ 18,240**	**$ 28,416**	**$ 22,185**						**$ 1,456**	**$ 11,760**	**$ 7,876**		**$ 89,933**	**$ 5,396**			**$ 95,329**

Appendix 5D, Table 10B. Cost Estimate for Trash Capture Device at Meyers Street

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Trash Capture Device					
1	In-Line Trash Capture Basket - 30" Pipe	ea	1	$10,000	$10,000
2	Concrete Vault	cy	5.48	$1,000	$5,476
3	Access Hatch	ea	2	$10,000	$20,000
General Items					
4	Mobilization/Demobilization & Insurance (10%)	LS	1	$3,600	$3,600
5	Construction Contingency (30%)	LS	1	$11,800	$11,800
				Construction Costs	*$50,900*
6	Engineering, Administration, Permitting & CM (25%)	LS	1	$9,800	$9,800
				Total Estimated Capital Project Cost	**$60,700**

Appendix 5D, Table 10C. Cost Estimate for Annual O&M on Trash Capture Device at Meyers Street

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Trash Capture Maintenance - Frequency: 4 times per year, 4 hours per device					
1	Vac Truck	hr	16	$150	$2,400
2	2 Person Maintenance Crew	hr	16	$100	$1,600
				Total Estimated Project Cost	**$4,000**

Appendix 5D, Table 10D. Cost Estimate for Trash Capture Device at Otterson Drive

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Trash Capture Device					
1	In-Line Trash Capture Basket - 54" Pipe	ea	1	$10,000	$10,000
2	Concrete Vault	cy	7.07	$1,000	$7,066
3	Access Hatch	ea	2	$10,000	$20,000
General Items					
4	Mobilization/Demobilization & Insurance (10%)	LS	1	$3,800	$3,800
5	Construction Contingency (30%)	LS	1	$12,300	$12,300
				Construction Costs	*$53,200*
6	Engineering, Administration, Permitting & CM (25%)	LS	1	$10,300	$10,300
				Total Estimated Capital Project Cost	**$63,500**

Appendix 5D, Table 10E. Cost Estimate for Annual O&M for Trash Capture Device at Otterson Drive

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Trash Capture Maintenance - Frequency: 4 times per year, 4 hours per device					
1	Vac Truck	hr	16	$150	$2,400
2	2 Person Maintenance Crew	hr	16	$100	$1,600
				Total Estimated Project Cost	**$4,000**

Appendix 5D, Table 11, Project M: Big Chico Creek 21st Century Management Plan

West Yost Associates **PROJECT: Prj M - BCC 21st Century Mgmt Plan**	PE/PS/PG II $240 P Engineer	AE/AS/AG II $192 Assoc Eng	ESG I $145 Eng 1	PE/PS/PG I $226 Surveyor	SE/SS/SG II $212 Geomorph-ologist	AE/AS/AG II $192 Biologist	SGISA $198 GIS	PE/PS/PG I $226 Recreation Specialist	ADM III $112 Administra-tive	PE/PS/PG II $240 City Management	AE/AS/AG I $179 City Management	Labor Hours	Labor Fee	Technology & Admin 6%	Costs Sub. w/ markup 10%	Costs Other Direct	Costs Total Costs
Task 1	***Water Quality***																
1.01 Data Collection	1	8	8				4					21	$ 3,728	$ 224			$ 3,952
1.02 LID	4	40	20		4		16					84	$ 15,556	$ 933			$ 16,489
1.03 Nonstructural BMPs	4	40	20				8					72	$ 13,124	$ 787			$ 13,911
1.04 Structural BMPs	4	16	12	8			4					44	$ 8,372	$ 502			$ 8,874
1.05 Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
1.06 Cost Estimates	2	40	16				4		8			70	$ 12,168	$ 730			$ 12,898
1.07 Report Chapter	2	24	16				4		8	24	24	102	$ 19,152	$ 1,149			$ 20,301
1.08 Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 1 (hours)	**22**	**196**	**106**	**8**	**4**	**0**	**44**	**0**	**16**	**48**	**48**	**492**					
Subtotal, Task 1 ($)	**$ 5,280**	**$ 37,632**	**$ 15,370**	**$ 1,808**	**$ 848**		**$ 8,712**		**$ 1,792**	**$ 11,520**	**$ 8,592**		**$ 91,554**	**$ 5,493**			**$ 97,047**
Task 2	***Water Supply***																
2.01 Data Collection	1	8	8				4					21	$ 3,728	$ 224			$ 3,952
2.02 Groundwater Recharge	4	24	12		4		16					60	$ 11,324	$ 679			$ 12,003
2.03 Stormwater Capture and Reuse	4	24	12				8					48	$ 8,892	$ 534			$ 9,426
2.04 Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
2.05 Cost Estimates	2	24	8									34	$ 6,248	$ 375			$ 6,623
2.06 Report Chapter	4	16	8				4		8			40	$ 6,880	$ 413			$ 7,293
2.07 Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 2 (hours)	**20**	**124**	**62**	**0**	**4**	**0**	**36**	**0**	**8**	**24**	**24**	**302**					
Subtotal, Task 2 ($)	**$ 4,800**	**$ 23,808**	**$ 8,990**		**$ 848**		**$ 7,128**		**$ 896**	**$ 5,760**	**$ 4,296**		**$ 56,526**	**$ 3,392**			**$ 59,918**
Task 3	***Flood Management***																
3.01 Data Collection	1	8	8		16	16	4					53	$ 10,192	$ 612			$ 10,804
3.02 Revise Models from Project 44	16	80	40	24								160	$ 30,424	$ 1,825			$ 32,249
3.03 Evaluates Causes of Flooding	16	80	80		24	24	16					240	$ 43,664	$ 2,620			$ 46,284
3.04 Develop Solution Alternatives	12	40	60		24	24	16					176	$ 32,124	$ 1,927			$ 34,051
3.05 Identify Recommended Project	8	24	40		8	8	8					96	$ 17,144	$ 1,029			$ 18,173
3.06 Public Outreach and Involvement	24	40	16		8	8	16					112	$ 22,160	$ 1,330			$ 23,490
3.07 Cost Estimates	16	40	40		8	8						112	$ 20,552	$ 1,233			$ 21,785
3.08 Report Chapter	24	40	40		16	16	24		24			184	$ 33,144	$ 1,989			$ 35,133
3.09 Task Management	40	40	40		16	16	8			80	80	320	$ 64,648	$ 3,879			$ 68,527
Subtotal, Task 3 (hours)	**157**	**392**	**364**	**24**	**120**	**120**	**92**	**0**	**24**	**80**	**80**	**1453**					
Subtotal, Task 3 ($)	**$ 37,680**	**$ 75,264**	**$ 52,780**	**$ 5,424**	**$ 25,440**	**$ 23,040**	**$ 18,216**		**$ 2,688**	**$ 19,200**	**$ 14,320**		**$ 274,052**	**$ 16,443**			**$ 290,495**
Task 4	***Environmental Benefits***																
4.01 Data Collection	2	4			8	16						30	$ 6,016	$ 361			$ 6,377
4.02 Gravel / Sediment Plan	8	16			160							184	$ 38,912	$ 2,335			$ 41,247
4.03 Biological Improvements	8	16				160						184	$ 35,712	$ 2,143			$ 37,855
4.04 Public Outreach and Involvement	4	4	12		16	16	4					56	$ 10,724	$ 643			$ 11,367
4.05 Cost Estimates	2	8			16	16						42	$ 8,480	$ 509			$ 8,989
4.06 Report Chapter	4	4			24	24			16			72	$ 13,216	$ 793			$ 14,009
4.07 Task Management	8	16			8	8				40	40	120	$ 24,984	$ 1,499			$ 26,483
Subtotal, Task 4 (hours)	**36**	**68**	**12**	**0**	**232**	**240**	**4**	**0**	**16**	**40**	**40**	**688**					
Subtotal, Task 4 ($)	**$ 8,640**	**$ 13,056**	**$ 1,740**		**$ 49,184**	**$ 46,080**	**$ 792**		**$ 1,792**	**$ 9,600**	**$ 7,160**		**$ 138,044**	**$ 8,283**			**$ 146,327**
Task 5	***Community Benefits***																
5.01 Data Collection	2	4										6	$ 1,248	$ 75			$ 1,323
5.02 Recreation Plan Plan	8	16						160				184	$ 41,152	$ 2,469			$ 43,621
5.03 Public Outreach and Involvement	4	4						16				24	$ 5,344	$ 321			$ 5,665
5.04 Cost Estimates	2	8						16				26	$ 5,632	$ 338			$ 5,970
5.05 Report Chapter	4	4						24	12			44	$ 8,496	$ 510			$ 9,006
5.06 Task Management	8	16						8		40	40	112	$ 23,560	$ 1,414			$ 24,974
Subtotal, Task 5 (hours)	**28**	**52**	**0**	**0**	**0**	**0**	**0**	**224**	**12**	**40**	**40**	**396**					
Subtotal, Task 5 ($)	**$ 6,720**	**$ 9,984**						**$ 50,624**	**$ 1,344**	**$ 9,600**	**$ 7,160**		**$ 85,432**	**$ 5,126**			**$ 90,558**
Task 6																	
6.01												0					
Subtotal, Task 6 (hours)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**					
Subtotal, Task 6 ($)																	
TOTAL (hours)	**263**	**832**	**544**	**32**	**360**	**360**	**176**	**224**	**76**	**232**	**232**	**3,331**					
TOTAL ($)	**$ 63,120**	**$ 159,744**	**$ 78,880**	**$ 7,232**	**$ 76,320**	**$ 69,120**	**$ 34,848**	**$ 50,624**	**$ 8,512**	**$ 55,680**	**$ 41,528**		**$ 645,608**	**$ 38,737**			**$ 684,344**

WEST YOST ASSOCIATES

Appendix 5D, Table 12, Project N: Little Chico Creek 21st Century Management Plan

West Yost Associates **PROJECT: Prj N - LCC 21st Century Mgmt Plan**	PE/PS/PG II $240 P Engineer	AE/AS/AG II $192 Assoc Eng	ESG I $145 Eng 1	PE/PS/PG I $226 Surveyor	SE/SS/SG II $212 Geomorph-ologist	AE/AS/AG II $192 Biologist	SGISA $198 GIS	PE/PS/PG I $226 Recreation Specialist	ADM III $112 Administra-tive	PE/PS/PG II $240 City Management	AE/AS/AG I $179 City Management	Labor Hours	Labor Fee	Technology & Admin 6%	Costs Sub. w/ markup 10%	Costs Other Direct	Costs Total Costs
Task 1	***Water Quality***																
1.01 Data Collection	1	8	8				4					21	$ 3,728	$ 224			$ 3,952
1.02 LID	4	12	12		4		16					48	$ 9,020	$ 541			$ 9,561
1.03 Nonstructural BMPs	4	12	12				8					36	$ 6,588	$ 395			$ 6,983
1.04 Structural BMPs	4	12	8	8			4					36	$ 7,024	$ 421			$ 7,445
1.05 Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
1.06 Cost Estimates	2	20	12				4		8			46	$ 7,748	$ 465			$ 8,213
1.07 Report Chapter	2	20	16				4		8	12	12	74	$ 13,356	$ 801			$ 14,157
1.08 Task Management	1	12	2							12	12	39	$ 7,862	$ 472			$ 8,334
Subtotal, Task 1 (hours)	**22**	**112**	**82**	**8**	**4**	**0**	**44**	**0**	**16**	**24**	**24**	**336**					
Subtotal, Task 1 ($)	**$ 5,280**	**$ 21,504**	**$ 11,890**	**$ 1,808**	**$ 848**		**$ 8,712**		**$ 1,792**	**$ 5,760**	**$ 4,296**		**$ 61,890**	**$ 3,713**			**$ 65,603**
Task 2	***Water Supply***																
2.01 Data Collection	1	4	8				4					17	$ 2,960	$ 178			$ 3,138
2.02 Groundwater Recharge	4	16	8		4		12					44	$ 8,416	$ 505			$ 8,921
2.03 Stormwater Capture and Reuse	4	16	8				8					36	$ 6,776	$ 407			$ 7,183
2.04 Public Outreach and Involvement	4	12	8				4					28	$ 5,216	$ 313			$ 5,529
2.05 Cost Estimates	2	16	8									26	$ 4,712	$ 283			$ 4,995
2.06 Report Chapter	4	16	8				4		8			40	$ 6,880	$ 413			$ 7,293
2.07 Task Management	1	12	2							16	16	47	$ 9,538	$ 572			$ 10,110
Subtotal, Task 2 (hours)	**20**	**92**	**50**	**0**	**4**	**0**	**32**	**0**	**8**	**16**	**16**	**238**					
Subtotal, Task 2 ($)	**$ 4,800**	**$ 17,664**	**$ 7,250**		**$ 848**		**$ 6,336**		**$ 896**	**$ 3,840**	**$ 2,864**		**$ 44,498**	**$ 2,670**			**$ 47,168**
Task 3	***Flood Management***																
3.01 Data Collection	1	8	8		16	16	4					53	$ 10,192	$ 612			$ 10,804
3.02 Revise Models from Project 44	12	40	32	24								108	$ 20,624	$ 1,237			$ 21,861
3.03 Evaluates Causes of Flooding	12	40	40		16	16	16					140	$ 25,992	$ 1,560			$ 27,552
3.04 Develop Solution Alternatives	8	32	40		16	16	16					128	$ 23,496	$ 1,410			$ 24,906
3.05 Identify Recommended Project	8	24	40		8	8	8					96	$ 17,144	$ 1,029			$ 18,173
3.06 Public Outreach and Involvement	20	24	12		8	8	16					88	$ 17,548	$ 1,053			$ 18,601
3.07 Cost Estimates	12	24	32		8	8						84	$ 15,360	$ 922			$ 16,282
3.08 Report Chapter	20	24	32		16	16	24		24			156	$ 27,952	$ 1,677			$ 29,629
3.09 Task Management	32	24	24		16	16	8			60	60	240	$ 48,956	$ 2,937			$ 51,893
Subtotal, Task 3 (hours)	**125**	**240**	**260**	**24**	**104**	**104**	**92**	**0**	**24**	**60**	**60**	**1093**					
Subtotal, Task 3 ($)	**$ 30,000**	**$ 46,080**	**$ 37,700**	**$ 5,424**	**$ 22,048**	**$ 19,968**	**$ 18,216**		**$ 2,688**	**$ 14,400**	**$ 10,740**		**$ 207,264**	**$ 12,436**			**$ 219,700**
Task 4	***Environmental Benefits***																
4.01 Data Collection	2	4			8	16						30	$ 6,016	$ 361			$ 6,377
4.02 Gravel / Sediment Plan	8	16			100							124	$ 26,192	$ 1,572			$ 27,764
4.03 Biological Improvements	8	16				100						124	$ 24,192	$ 1,452			$ 25,644
4.04 Public Outreach and Involvement	4	4	12		12	12	4					48	$ 9,108	$ 546			$ 9,654
4.05 Cost Estimates	2	8			12	12						34	$ 6,864	$ 412			$ 7,276
4.06 Report Chapter	4	4			16	16			16			56	$ 9,984	$ 599			$ 10,583
4.07 Task Management	8	16			8	8				32	32	104	$ 21,632	$ 1,298			$ 22,930
Subtotal, Task 4 (hours)	**36**	**68**	**12**	**0**	**156**	**164**	**4**	**0**	**16**	**32**	**32**	**520**					
Subtotal, Task 4 ($)	**$ 8,640**	**$ 13,056**	**$ 1,740**		**$ 33,072**	**$ 31,488**	**$ 792**		**$ 1,792**	**$ 7,680**	**$ 5,728**		**$ 103,988**	**$ 6,239**			**$ 110,227**
Task 5	***Community Benefits***																
5.01 Data Collection	2	4										6	$ 1,248	$ 75			$ 1,323
5.02 Recreation Plan Plan	8	12						120				140	$ 31,344	$ 1,881			$ 33,225
5.03 Public Outreach and Involvement	4	4						12				20	$ 4,440	$ 266			$ 4,706
5.04 Cost Estimates	2	8						12				22	$ 4,728	$ 284			$ 5,012
5.05 Report Chapter	4	4						20	12			40	$ 7,592	$ 456			$ 8,048
5.06 Task Management	8	12						8		32	32	92	$ 19,440	$ 1,166			$ 20,606
Subtotal, Task 5 (hours)	**28**	**44**	**0**	**0**	**0**	**0**	**0**	**172**	**12**	**32**	**32**	**320**					
Subtotal, Task 5 ($)	**$ 6,720**	**$ 8,448**						**$ 38,872**	**$ 1,344**	**$ 7,680**	**$ 5,728**		**$ 68,792**	**$ 4,128**			**$ 72,920**
Task 6																	
6.01												0					
Subtotal, Task 6 (hours)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**					
Subtotal, Task 6 ($)																	
TOTAL (hours)	**231**	**556**	**404**	**32**	**268**	**268**	**172**	**172**	**76**	**164**	**164**	**2,507**					
TOTAL ($)	**$ 55,440**	**$ 106,752**	**$ 58,580**	**$ 7,232**	**$ 56,816**	**$ 51,456**	**$ 34,056**	**$ 38,872**	**$ 8,512**	**$ 39,360**	**$ 29,356**		**$ 486,432**	**$ 29,186**			**$ 515,618**

WEST YOST ASSOCIATES

Appendix 5D, Table 13A, Project O: Comanche Creek Management Plan

West Yost Associates **PROJECT: Prj O - Comanche Crk Mgmt Plan**	PE/PS/PG II $240 P Engineer	AE/AS/AG II $192 Assoc Eng	ESG I $145 Eng 1	PE/PS/PG I $226 Surveyor	SE/SS/SG II $212 Geomorph-ologist	AE/AS/AG II $192 Biologist	SGISA $198 GIS	PE/PS/PG I $226 Recreation Specialist	ADM III $112 Administra-tive	PE/PS/PG II $240 City Management	AE/AS/AG I $179 City Management	Labor Hours	Labor Fee	Costs Technology & Admin 6%	Costs Sub. w/ markup 10%	Costs Other Direct	Costs Total Costs
Task 1	***Water Quality***																
1.01 Data Collection	1	8	8				4					21	$ 3,728	$ 224			$ 3,952
1.02 LID	4	8	12		4		16					44	$ 8,252	$ 495			$ 8,747
1.03 Nonstructural BMPs	4	8	12				8					32	$ 5,820	$ 349			$ 6,169
1.04 Structural BMPs	4	12	8	8			4					36	$ 7,024	$ 421			$ 7,445
1.05 Public Outreach and Involvement	4	12	8				4					28	$ 5,216	$ 313			$ 5,529
1.06 Cost Estimates	2	16	8				4		8			38	$ 6,400	$ 384			$ 6,784
1.07 Report Chapter	2	16	12				4		8	12	12	66	$ 12,008	$ 720			$ 12,728
1.08 Task Management	1	12	2							12	12	39	$ 7,862	$ 472			$ 8,334
Subtotal, Task 1 (hours)	**22**	**92**	**70**	**8**	**4**	**0**	**44**	**0**	**16**	**24**	**24**	**304**					
Subtotal, Task 1 ($)	**$ 5,280**	**$ 17,664**	**$ 10,150**	**$ 1,808**	**$ 848**		**$ 8,712**		**$ 1,792**	**$ 5,760**	**$ 4,296**		**$ 56,310**	**$ 3,379**			**$ 59,689**
Task 2	***Water Supply***																
2.01 Data Collection	1	4	8				4					17	$ 2,960	$ 178			$ 3,138
2.02 Groundwater Recharge	4	12	8		4		12					40	$ 7,648	$ 459			$ 8,107
2.03 Stormwater Capture and Reuse	4	12	8				8					32	$ 6,008	$ 360			$ 6,368
2.04 Public Outreach and Involvement	4	12	8				4					28	$ 5,216	$ 313			$ 5,529
2.05 Cost Estimates	2	12	8									22	$ 3,944	$ 237			$ 4,181
2.06 Report Chapter	4	12	8				4		8			36	$ 6,112	$ 367			$ 6,479
2.07 Task Management	1	8	2							16	16	43	$ 8,770	$ 526			$ 9,296
Subtotal, Task 2 (hours)	**20**	**72**	**50**	**0**	**4**	**0**	**32**	**0**	**8**	**16**	**16**	**218**					
Subtotal, Task 2 ($)	**$ 4,800**	**$ 13,824**	**$ 7,250**		**$ 848**		**$ 6,336**		**$ 896**	**$ 3,840**	**$ 2,864**		**$ 40,658**	**$ 2,439**			**$ 43,097**
Task 3	***Flood Management***																
3.01 Data Collection	1	8	8		12	12	4					45	$ 8,576	$ 515			$ 9,091
3.02 Revise Models from Project 44	12	32	32	24								100	$ 19,088	$ 1,145			$ 20,233
3.03 Evaluates Causes of Flooding	12	32	32		12	12	12					112	$ 20,888	$ 1,253			$ 22,141
3.04 Develop Solution Alternatives	8	32	32		12	12	12					108	$ 19,928	$ 1,196			$ 21,124
3.05 Identify Recommended Project	8	24	32		8	8	8					88	$ 15,984	$ 959			$ 16,943
3.06 Public Outreach and Involvement	20	24	12		8	8	12					84	$ 16,756	$ 1,005			$ 17,761
3.07 Cost Estimates	12	24	24		8	8						76	$ 14,200	$ 852			$ 15,052
3.08 Report Chapter	20	24	24		16	16	16		24			140	$ 25,208	$ 1,512			$ 26,720
3.09 Task Management	24	24	24		16	16	8			60	60	232	$ 47,036	$ 2,822			$ 49,858
Subtotal, Task 3 (hours)	**117**	**224**	**220**	**24**	**92**	**92**	**72**	**0**	**24**	**60**	**60**	**985**					
Subtotal, Task 3 ($)	**$ 28,080**	**$ 43,008**	**$ 31,900**	**$ 5,424**	**$ 19,504**	**$ 17,664**	**$ 14,256**		**$ 2,688**	**$ 14,400**	**$ 10,740**		**$ 187,664**	**$ 11,260**			**$ 198,924**
Task 4	***Environmental Benefits***																
4.01 Data Collection	2	4			8	12						26	$ 5,248	$ 315			$ 5,563
4.02 Gravel / Sediment Plan	8	16			60							84	$ 17,712	$ 1,063			$ 18,775
4.03 Biological Improvements	8	16				60						84	$ 16,512	$ 991			$ 17,503
4.04 Public Outreach and Involvement	4	4	12		12	12	4					48	$ 9,108	$ 546			$ 9,654
4.05 Cost Estimates	2	8			12	12						34	$ 6,864	$ 412			$ 7,276
4.06 Report Chapter	4	4			12	12			12			44	$ 7,920	$ 475			$ 8,395
4.07 Task Management	8	12			8	8				24	24	84	$ 17,512	$ 1,051			$ 18,563
Subtotal, Task 4 (hours)	**36**	**64**	**12**	**0**	**112**	**116**	**4**	**0**	**12**	**24**	**24**	**404**					
Subtotal, Task 4 ($)	**$ 8,640**	**$ 12,288**	**$ 1,740**		**$ 23,744**	**$ 22,272**	**$ 792**		**$ 1,344**	**$ 5,760**	**$ 4,296**		**$ 80,876**	**$ 4,853**			**$ 85,729**
Task 5	***Community Benefits***																
5.01 Data Collection	2	4										6	$ 1,248	$ 75			$ 1,323
5.02 Recreation Plan Plan	8	8						80				96	$ 21,536	$ 1,292			$ 22,828
5.03 Public Outreach and Involvement	4	4						12				20	$ 4,440	$ 266			$ 4,706
5.04 Cost Estimates	2	8						12				22	$ 4,728	$ 284			$ 5,012
5.05 Report Chapter	4	4						16	12			36	$ 6,688	$ 401			$ 7,089
5.06 Task Management	8	8						8		24	24	72	$ 15,320	$ 919			$ 16,239
Subtotal, Task 5 (hours)	**28**	**36**	**0**	**0**	**0**	**0**	**0**	**128**	**12**	**24**	**24**	**252**					
Subtotal, Task 5 ($)	**$ 6,720**	**$ 6,912**						**$ 28,928**	**$ 1,344**	**$ 5,760**	**$ 4,296**		**$ 53,960**	**$ 3,238**			**$ 57,198**
Task 6																	
6.01												0					
Subtotal, Task 6 (hours)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**					
Subtotal, Task 6 ($)																	
TOTAL (hours)	**223**	**488**	**352**	**32**	**212**	**208**	**152**	**128**	**72**	**148**	**148**	**2,163**					
TOTAL ($)	**$ 53,520**	**$ 93,696**	**$ 51,040**	**$ 7,232**	**$ 44,944**	**$ 39,936**	**$ 30,096**	**$ 28,928**	**$ 8,064**	**$ 35,520**	**$ 26,492**		**$ 419,468**	**$ 25,168**			**$ 444,636**

WEST YOST ASSOCIATES

Appendix 5D, Table 13B. Cost Estimate for Trash Capture Device at Crouch Ditch

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Trash Capture Device					
1	Trash Capture Net - 48" Outlet	LS	1	$10,000	$10,000
2	Precast Concrete Headwall	ea	1	$12,000	$12,000
General Items					
3	Mobilization/Demobilization & Insurance (10%)	LS	1	$2,200	$2,200
4	Construction Contingency (30%)	LS	1	$7,300	$7,300
				Construction Costs	*$31,500*
5	Engineering, Administration, Permitting & CM (25%)	LS	1	$6,100	$6,100
				Total Estimated Capital Project Cost	**$37,600**

Appendix 5D, Table 13C. Cost Estimate for Annual O&M for Trash Capture Device at Crouch Ditch

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Trash Capture Maintenance - Frequency: 4 times per year, 2 hours per device					
1	Vac Truck	hr	8	$150	$1,200
2	2 Person Maintenance Crew	hr	8	$100	$800
				Total Estimated Project Cost	**$2,000**

Appendix 5D, Table 14, Project P: Updating City's Storm Drain Master Plan

West Yost Associates **PROJECT: Prj P - Storm Water Planning and Policies**	PE/PS/PG II $240 P Engineer	AE/AS/AG II $192 Assoc Eng	ESG I $145 Eng 1	PE/PS/PG I $226 Surveyor	SE/SS/SG II $212 Geomorph-ologist	AE/AS/AG II $192 Biologist	SGISA $198 GIS	PE/PS/PG I $226 Recreation Specialist	ADM III $112 Administrative	PE/PS/PG II $240 City Management	AE/AS/AG I $179 City Management	Labor Hours	Labor Fee	Technology & Admin 6%	Costs Sub. w/ markup 10%	Costs Other Direct	Costs Total Costs
Task 1	***Water Quality***																
1.01 Data Collection	1	8	8				4					21	$ 3,728	$ 224			$ 3,952
1.02 LID	4	40	20		4		16					84	$ 15,556	$ 933			$ 16,489
1.03 Nonstructural BMPs	4	40	20				8					72	$ 13,124	$ 787			$ 13,911
1.04 Structural BMPs	4	16	12	8			4					44	$ 8,372	$ 502			$ 8,874
1.05 Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
1.06 Cost Estimates	2	40	16				4		8			70	$ 12,168	$ 730			$ 12,898
1.07 Report Chapter	2	24	16				4		8	24	24	102	$ 19,152	$ 1,149			$ 20,301
1.08 Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 1 (hours)	**22**	**196**	**106**	**8**	**4**	**0**	**44**	**0**	**16**	**48**	**48**	**492**					
Subtotal, Task 1 ($)	**$ 5,280**	**$ 37,632**	**$ 15,370**	**$ 1,808**	**$ 848**		**$ 8,712**		**$ 1,792**	**$ 11,520**	**$ 8,592**		**$ 91,554**	**$ 5,493**			**$ 97,047**
Task 2	***Water Supply***																
2.01 Data Collection	1	8	8				4					21	$ 3,728	$ 224			$ 3,952
2.02 Groundwater Recharge	4	24	12		4		16					60	$ 11,324	$ 679			$ 12,003
2.03 Stormwater Capture and Reuse	4	24	12				8					48	$ 8,892	$ 534			$ 9,426
2.04 Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
2.05 Cost Estimates	2	24	8									34	$ 6,248	$ 375			$ 6,623
2.06 Report Chapter	4	16	8				4		8			40	$ 6,880	$ 413			$ 7,293
2.07 Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 2 (hours)	**20**	**124**	**62**	**0**	**4**	**0**	**36**	**0**	**8**	**24**	**24**	**302**					
Subtotal, Task 2 ($)	**$ 4,800**	**$ 23,808**	**$ 8,990**		**$ 848**		**$ 7,128**		**$ 896**	**$ 5,760**	**$ 4,296**		**$ 56,526**	**$ 3,392**			**$ 59,918**
Task 3	***Flood Management***																
3.01 Data Collection	2	8	8		8		2					28	$ 5,268	$ 316			$ 5,584
3.02 Revise Models from Project 44	4	8	16	2								30	$ 5,268	$ 316			$ 5,584
3.03 Evaluates Causes of Flooding	4	8	8		8		4					32	$ 6,144	$ 369			$ 6,513
3.04 Develop Solution Alternatives	8	8	16		8		4					44	$ 8,264	$ 496			$ 8,760
3.05 Identify Recommended Project	4	4	8		4		4					24	$ 4,528	$ 272			$ 4,800
3.06 Public Outreach and Involvement	4	8	4		8		2					26	$ 5,168	$ 310			$ 5,478
3.07 Cost Estimates	1	4	4		4							13	$ 2,436	$ 146			$ 2,582
3.08 Report Chapter	2	4	4		16		4		24			54	$ 8,700	$ 522			$ 9,222
3.09 Task Management	2	4	4		4		2			32	32	80	$ 16,480	$ 989			$ 17,469
Subtotal, Task 3 (hours)	**31**	**56**	**72**	**2**	**60**	**0**	**22**	**0**	**24**	**32**	**32**	**331**					
Subtotal, Task 3 ($)	**$ 7,440**	**$ 10,752**	**$ 10,440**	**$ 452**	**$ 12,720**		**$ 4,356**		**$ 2,688**	**$ 7,680**	**$ 5,728**		**$ 62,256**	**$ 3,735**			**$ 65,991**
Task 4	***Environmental Benefits***																
4.01 Data Collection	2	4			8	16						30	$ 6,016	$ 361			$ 6,377
4.02 Gravel / Sediment Plan												0					
4.03 Biological Improvements	8	8				60						76	$ 14,976	$ 899			$ 15,875
4.04 Public Outreach and Involvement	4	4	4		8	8	4					32	$ 6,332	$ 380			$ 6,712
4.05 Cost Estimates	2	8			8	8						26	$ 5,248	$ 315			$ 5,563
4.06 Report Chapter	4	4			12	16			16			52	$ 9,136	$ 548			$ 9,684
4.07 Task Management	8	8			8	12				24	24	84	$ 17,512	$ 1,051			$ 18,563
Subtotal, Task 4 (hours)	**28**	**36**	**4**	**0**	**44**	**120**	**4**	**0**	**16**	**24**	**24**	**300**					
Subtotal, Task 4 ($)	**$ 6,720**	**$ 6,912**	**$ 580**		**$ 9,328**	**$ 23,040**	**$ 792**		**$ 1,792**	**$ 5,760**	**$ 4,296**		**$ 59,220**	**$ 3,553**			**$ 62,773**
Task 5	***Community Benefits***																
5.01 Data Collection	2	4										6	$ 1,248	$ 75			$ 1,323
5.02 Community Outreach Plan												0					
5.03 Public Outreach and Involvement	4	4						16				24	$ 5,344	$ 321			$ 5,665
5.04 Cost Estimates	2	8						16				26	$ 5,632	$ 338			$ 5,970
5.05 Report Chapter	4	4						16	12			36	$ 6,688	$ 401			$ 7,089
5.06 Task Management	8	16						8		40	40	112	$ 23,560	$ 1,414			$ 24,974
Subtotal, Task 5 (hours)	**20**	**36**	**0**	**0**	**0**	**0**	**0**	**56**	**12**	**40**	**40**	**204**					
Subtotal, Task 5 ($)	**$ 4,800**	**$ 6,912**						**$ 12,656**	**$ 1,344**	**$ 9,600**	**$ 7,160**		**$ 42,472**	**$ 2,548**			**$ 45,020**
Task 6																	
6.01												0					
Subtotal, Task 6 (hours)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**					
Subtotal, Task 6 ($)																	
TOTAL (hours)	**121**	**448**	**244**	**10**	**112**	**120**	**106**	**56**	**76**	**168**	**168**	**1,629**					
TOTAL ($)	**$ 29,040**	**$ 86,016**	**$ 35,380**	**$ 2,260**	**$ 23,744**	**$ 23,040**	**$ 20,988**	**$ 12,656**	**$ 8,512**	**$ 40,320**	**$ 30,072**		**$ 312,028**	**$ 18,722**			**$ 330,750**

WEST YOST ASSOCIATES

Appendix 5D, Table 15A, Project Q: Teichert Ponds Improvement Project

West Yost Associates **PROJECT: Prj Q - Teichert Ponds Imrovement Plan**	PE/PS/PG II $240 P Engineer	AE/AS/AG II $192 Assoc Eng	ESG I $145 Eng 1	PE/PS/PG I $226 Surveyor	SE/SS/SG II $212 Geomorph-ologist	AE/AS/AG II $192 Biologist	SGISA $198 GIS	PE/PS/PG I $226 Recreation Specialist	ADM III $112 Administra-tive	PE/PS/PG II $240 City Management	AE/AS/AG I $179 City Management	**Labor** Hours	**Labor** Fee	Technology & Admin 6%	**Costs** Sub. w/ markup 10%	**Costs** Other Direct	**Costs** Total Costs
Task 1	***Operations and Maintenance***																
1.01 Data Collection	1	16	16	16			4					53	$ 10,040	$ 602			$ 10,642
1.02 Develop water quality and hydraulic model	4	40	20				8					72	$ 13,124	$ 787			$ 13,911
1.03 Evaluate solutions	4	40	20				4					68	$ 12,332	$ 740			$ 13,072
1.04 Assess upstream LID	4	20	8				4			4	8	48	$ 9,144	$ 549			$ 9,693
1.05 Assess affects on habitat	4	8	8				4					24	$ 4,448	$ 267			$ 4,715
1.06 Update design plans	4	50	80									134	$ 22,160	$ 1,330			$ 23,490
1.07 Cost Estimates	2	24	8				4		8			46	$ 7,936	$ 476			$ 8,412
1.08 Report Chapter	2	24	16				4		8			54	$ 9,096	$ 546			$ 9,642
1.09 Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 1 (hours)	**26**	**234**	**178**	**16**	**0**	**0**	**32**	**0**	**16**	**28**	**32**	**562**					
Subtotal, Task 1 ($)	**$ 6,240**	**$ 44,928**	**$ 25,810**	**$ 3,616**			**$ 6,336**		**$ 1,792**	**$ 6,720**	**$ 5,728**		**$ 101,170**	**$ 6,070**			**$ 107,240**
Task 2	***Trash Capture Study***																
2.01 Data Collection	1	4	4				4					13	$ 2,380	$ 143			$ 2,523
2.02 Select device and location	4	8	4				2					18	$ 3,472	$ 208			$ 3,680
2.03 Cost Estimates	2	12	6									20	$ 3,654	$ 219			$ 3,873
2.04 Report Chapter	4	4	4				4		8			24	$ 3,996	$ 240			$ 4,236
2.05 Task Management	1	4	2							24	24	55	$ 11,354	$ 681			$ 12,035
Subtotal, Task 2 (hours)	**12**	**32**	**20**	**0**	**0**	**0**	**10**	**0**	**8**	**24**	**24**	**130**					
Subtotal, Task 2 ($)	**$ 2,880**	**$ 6,144**	**$ 2,900**				**$ 1,980**		**$ 896**	**$ 5,760**	**$ 4,296**		**$ 24,856**	**$ 1,491**			**$ 26,347**
Task 3	***Habitat/Vegetation***																
3.01 Data Collection	1	1	1			16	4					23	$ 4,441	$ 266			$ 4,707
3.02 Ecological and biologial assessment						40						40	$ 7,680	$ 461			$ 8,141
3.03 Propose habitat improvements						20						20	$ 3,840	$ 230			$ 4,070
3.04 Vegegation management improvements						20						20	$ 3,840	$ 230			$ 4,070
3.05 Public Outreach and Involvement						16				8	16	40	$ 7,856	$ 471			$ 8,327
3.06 Cost Estimates						12						12	$ 2,304	$ 138			$ 2,442
3.07 Report Chapter						8			8			16	$ 2,432	$ 146			$ 2,578
3.08 Task Management						8				20	8	36	$ 7,768	$ 466			$ 8,234
Subtotal, Task 3 (hours)	**1**	**1**	**1**	**0**	**0**	**140**	**4**	**0**	**8**	**28**	**24**	**207**					
Subtotal, Task 3 ($)	**$ 240**	**$ 192**	**$ 145**			**$ 26,880**	**$ 792**		**$ 896**	**$ 6,720**	**$ 4,296**		**$ 40,161**	**$ 2,410**			**$ 42,571**
Task 4	***Community Benefits***																
4.01 Data Collection								8				8	$ 1,808	$ 108			$ 1,916
4.02 Evaluate outreach opportunities								16				16	$ 3,616	$ 217			$ 3,833
4.03 Evaluate recreational opportunities								16				16	$ 3,616	$ 217			$ 3,833
4.04 Evaluate limitations to illegal camping								32			16	48	$ 10,096	$ 606			$ 10,702
4.05 Evaluate green jobs training								32				32	$ 7,232	$ 434			$ 7,666
4.06 Public Outreach and Involvement								16		8	16	40	$ 8,400	$ 504			$ 8,904
4.07 Cost Estimates								12				12	$ 2,712	$ 163			$ 2,875
4.08 Report Chapter								10	4			14	$ 2,708	$ 162			$ 2,870
4.09 Task Management								10		12		22	$ 5,140	$ 308			$ 5,448
Subtotal, Task 4 (hours)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**152**	**4**	**20**	**32**	**208**					
Subtotal, Task 4 ($)								**$ 34,352**	**$ 448**	**$ 4,800**	**$ 5,728**		**$ 45,328**	**$ 2,720**			**$ 48,048**
TOTAL (hours)	**39**	**267**	**199**	**16**	**0**	**140**	**46**	**152**	**36**	**100**	**112**	**1,107**					
TOTAL ($)	**$ 9,360**	**$ 51,264**	**$ 28,855**	**$ 3,616**		**$ 26,880**	**$ 9,108**	**$ 34,352**	**$ 4,032**	**$ 24,000**	**$ 20,048**		**$ 211,515**	**$ 12,691**			**$ 224,206**

WEST YOST ASSOCIATES

Appendix 5D, Table 15B. Cost Estimate for Trash Capture Device at Teichert Ponds

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Trash Capture Device					
1	In-Line Rigid Basket Trash Capture Device	LS	1	$96,000	$96,000
General Items					
2	Mobilization/Demobilization & Insurance (10%)	LS	1	$9,600	$9,600
3	Construction Contingency (30%)	LS	1	$31,700	$31,700
				Construction Costs	*$137,300*
4	Engineering, Administration, Permitting & CM (25%)	LS	1	$26,400	$26,400
				Total Estimated Capital Project Cost	**$163,700**

Appendix 5D, Table 15C. Cost Estimate for Annual O&M for Trash Capture Device at Teichert Ponds

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Trash Capture Maintenance - Frequency: 6 times per year, 4 hours per device					
1	Vac Truck	hr	24	$150	$3,600
2	2 Person Maintenance Crew	hr	24	$100	$2,400
				Total Estimated Project Cost	**$6,000**

Appendix 5D, Table 16A, Project R: Fair Street

West Yost Associates **PROJECT: Prj R - Fair Street Detention Basin**	PE/PS/PG II $240 P Engineer	AE/AS/AG II $192 Assoc Eng	ESG I $145 Eng 1	PE/PS/PG I $226 Surveyor	SE/SS/SG II $212 Geomorph-ologist	AE/AS/AG II $192 Biologist	SGISA $198 GIS	PE/PS/PG I $226 Recreation Specialist	ADM III $112 Administra-tive	PE/PS/PG II $240 City Management	AE/AS/AG I $179 City Management	**Labor** Hours	**Labor** Fee	Technology & Admin 6%	**Costs** Sub. w/ markup 10%	**Costs** Other Direct	**Costs** Total Costs
Task 1	***Ditch and Basin Hydraulic Study***																
1.01	Data Collection for BD Ditch and Basin	1	8	16	8			4					37	$ 6,696	$ 402			$ 7,098
1.02	Model ditch and basin	4	40	20				8					72	$ 13,124	$ 787			$ 13,911
1.03	Evaluate causes of flooding	4	20	8				4					36	$ 6,752	$ 405			$ 7,157
1.04	Propose solutions to flooding	4	40	20				4					68	$ 12,332	$ 740			$ 13,072
1.05	Coorinate with Vector Control Agencies	4	4	4							4	8	24	$ 4,700	$ 282			$ 4,982
1.06	Public Outreach and Involvement	4	16	12				4					36	$ 6,564	$ 394			$ 6,958
1.07	Cost Estimates	2	40	16				4		8			70	$ 12,168	$ 730			$ 12,898
1.08	Report Chapter	2	24	16				4		8	24	24	102	$ 19,152	$ 1,149			$ 20,301
1.09	Task Management	1	12	2							24	24	63	$ 12,890	$ 773			$ 13,663
Subtotal, Task 1 (hours)		**26**	**204**	**114**	**8**	**0**	**0**	**32**	**0**	**16**	**52**	**56**	**508**					
Subtotal, Task 1 ($)		**$ 6,240**	**$ 39,168**	**$ 16,530**	**$ 1,808**			**$ 6,336**		**$ 1,792**	**$ 12,480**	**$ 10,024**		**$ 94,378**	**$ 5,663**			**$ 100,041**
Task 2	***Trash Capture Study***																
2.01	Data Collection	1	6	6				4					17	$ 3,054	$ 183			$ 3,237
2.02	Select device and location	4	16	4				2					26	$ 5,008	$ 300			$ 5,308
2.03	Cost Estimates	2	12	6									20	$ 3,654	$ 219			$ 3,873
2.04	Report Chapter	4	10	8				4		8			34	$ 5,728	$ 344			$ 6,072
2.05	Task Management	1	6	2							24	24	57	$ 11,738	$ 704			$ 12,442
Subtotal, Task 2 (hours)		**12**	**50**	**26**	**0**	**0**	**0**	**10**	**0**	**8**	**24**	**24**	**154**					
Subtotal, Task 2 ($)		**$ 2,880**	**$ 9,600**	**$ 3,770**				**$ 1,980**		**$ 896**	**$ 5,760**	**$ 4,296**		**$ 29,182**	**$ 1,751**			**$ 30,933**
Task 3	***Landscape Plan***																
3.01	Data Collection	1	1	1			16	4					23	$ 4,441	$ 266			$ 4,707
3.02	Prepare vegetation recommendations						8						8	$ 1,536	$ 92			$ 1,628
3.03	Public Outreach and Involvement											16	16	$ 2,864	$ 172			$ 3,036
3.04	Cost Estimates						8						8	$ 1,536	$ 92			$ 1,628
3.05	Report Chapter						8			24			32	$ 4,224	$ 253			$ 4,477
3.06	Task Management						8				20	8	36	$ 7,768	$ 466			$ 8,234
Subtotal, Task 3 (hours)		**1**	**1**	**1**	**0**	**0**	**48**	**4**	**0**	**24**	**20**	**24**	**123**					
Subtotal, Task 3 ($)		**$ 240**	**$ 192**	**$ 145**			**$ 9,216**	**$ 792**		**$ 2,688**	**$ 4,800**	**$ 4,296**		**$ 22,369**	**$ 1,342**			**$ 23,711**
Task 4	***Community Viewing Area***																
4.01	Data Collection								8				8	$ 1,808	$ 108			$ 1,916
4.02	Recommendation								8				8	$ 1,808	$ 108			$ 1,916
4.03	Biological Improvements												0					
4.04	Public Outreach and Involvement							4	16			16	36	$ 7,272	$ 436			$ 7,708
4.05	Cost Estimates								8				8	$ 1,808	$ 108			$ 1,916
4.06	Report Chapter								8	16			24	$ 3,600	$ 216			$ 3,816
4.07	Task Management										12		12	$ 2,880	$ 173			$ 3,053
Subtotal, Task 4 (hours)		**0**	**0**	**0**	**0**	**0**	**0**	**4**	**48**	**16**	**12**	**16**	**96**					
Subtotal, Task 4 ($)								**$ 792**	**$ 10,848**	**$ 1,792**	**$ 2,880**	**$ 2,864**		**$ 19,176**	**$ 1,151**			**$ 20,327**
Task 5																		
5.01													0					
Subtotal, Task 5 (hours)		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**					
Subtotal, Task 5 ($)																		
TOTAL (hours)		**39**	**255**	**141**	**8**	**0**	**48**	**50**	**48**	**64**	**108**	**120**	**881**					
TOTAL ($)		**$ 9,360**	**$ 48,960**	**$ 20,445**	**$ 1,808**		**$ 9,216**	**$ 9,900**	**$ 10,848**	**$ 7,168**	**$ 25,920**	**$ 21,480**		**$ 165,105**	**$ 9,906**			**$ 175,011**

WEST YOST ASSOCIATES

Appendix 5D, Table 16B. Cost Estimate for Trash Capture Device at Fair Street Detention Basin

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Trash Capture Device					
1	Rigid Basket Trash Capture Device - 2 - 54" Outlets	LS	1	$54,000	$54,000
General Items					
2	Mobilization/Demobilization & Insurance (10%)	LS	1	$5,400	$5,400
3	Construction Contingency (30%)	LS	1	$17,900	$17,900
				Construction Costs	*$77,300*
4	Engineering, Administration, Permitting & CM (25%)	LS	1	$14,900	$14,900
				Total Estimated Capital Project Cost	**$92,200**

Appendix 5D, Table 16C. Cost Estimate for Annual O&M for Trash Capture Device at Fair Street Detention Basin

Item No	Item Description	Units	Quantity	Unit Cost	Total Cost
Trash Capture Maintenance - Frequency: 6 times per year, 4 hours per device					
1	Vac Truck	hr	24	$150	$3,600
2	2 Person Maintenance Crew	hr	24	$100	$2,400
				Total Estimated Project Cost	**$6,000**