Appendix A:
Construction Costs Estimate

Table A-1: Cost Estimate

	Unit	Length	Width or Multiplier	Qty	Unit Price	Subtotal	Other Project Costs[1]	TOTAL	Optional Guard Rail Costs	TOTAL (w/ guardrail)
Alignment 1a										
35' L x 6' W prefab fiberglass bridge @ Fish Hatchery Creek	EA	35		1	$ 36,500.00	$ 36,500	$ 20,075	$ 56,575		
10'L Wood ramp to bridge	LF	10		10	$ 80.00	$ 800	$ 440	$ 1,240		
5' W elevated boardwalk on wood pilings (incl. 42"H railing)	LF	2015		2015	$ 345.33	$ 695,844	$ 382,714	$ 1,078,558		
Trail entrance	EA			1	$ 1,920.00	$ 1,920	$ 1,056	$ 2,976		
TOTAL SEGMENT 1a								**$ 1,139,349**		
Alignment 2c										
Boardwalk										
Clear + grub dense riparian vegetation	SF	3289	8	26312	$ 0.10	$ 2,631	$ 1,447	$ 4,078		
Rough/fine grading for construction access	SF	3289	8	26312	$ 0.60	$ 15,787	$ 8,683	$ 24,470		
8' W low boardwalk on conc. piers	LF	3289	8	3289	$ 287.13	$ 944,382	$ 519,410	$ 1,463,792		
Chip seal boardwalk surfacing	SF	3289	8	26312	$ 0.20	$ 5,262	$ 2,894	$ 8,157		
Erosion Control - hydroseed/plant disturbed area w/ native species	SF	3289	8	26312	$ 0.15	$ 3,947	$ 2,171	$ 6,118		
Subtotal Boardwalk								*$ 1,506,615*		
Condition A Trail Improvement	LF	501		501	$ 65.80	$ 32,966	$ 18,131	$ 51,097		
Subtotal Condition A Trail Improvement								*$ 51,097*		
Weather-Dependent Trail (2e)										
6'W weather-dependent/informal trail	LF	2011		2011	$ 7.90	$ 15,887	$ 8,738	$ 24,625		
Subtotal Weather-Dependent Trail (2e)								*$ 24,625*		
Alignment 2d										
Trail entrance	EA			1	$ 1,920.00	$ 1,920	$ 1,056	$ 2,976		
New road gate @ Mesa Rd entrance	EA			1	$ 5,000.00	$ 5,000	$ 2,750	$ 7,750		
Trail signage	LF	852		852	$ 0.60	$ 511	$ 281	$ 792		
Subtotal Alignment 2d								*$ 11,518*		
TOTAL SEGMENT 2c								**$ 1,593,855**		

Table A-1: Cost Estimate (cont'd)

	Unit	Length	Width or Multiplier	Qty	Unit Price	Subtotal	Other Project Costs[1]	TOTAL	Optional Guard Rail Costs	TOTAL (w/ guardrail)
Alignment 4a-I										
C Street Frontage Improvements										
Fencing	LF	785		785	$ 4.00	$ 3,140	$ 1,727	$ 4,867		
Signage	LF	785		785	$ 0.60	$ 471	$ 259	$ 730		
Subtotal								*$ 5,597*		
E. Pasture/C St. to former Summer Dam										
Trail entrance (incl. sign, trail gate, 30' fencing)	EA			1	$ 1,920.00	$ 1,920	$ 1,056	$ 2,976		
Condition A Trail Improvement	LF	2423		2423	$ 65.80	$ 159,433	$ 87,688	$ 247,122		
Trail signage (between C St. & trail head)	LF	400		400	$ 0.60	$ 240	$ 132	$ 372		
Subtotal								*$ 250,470*		
Subtotal 4a-I								*$ 256,067*		
Alignment 4a-II										
200' L x 8' W steel bridge @ Summer Dam location	EA	200		1	$ 500,000	$ 500,000	$ 275,000	$ 775,000		
120'L Ramp @ each end of bridge (LF: 50% wood/boardwalk and 50% built-up soil)	EA	120		2	$ 14,271.01	$ 28,542	$ 15,698	$ 44,240		
Trail signage (along bridge/ramps)	LF	440		440	$ 0.60	$ 264	$ 145	$ 409		
Subtotal 4a-II								*$ 819,649*		
Alignment 4a-III										
Within White House Pool (WHP) Park										
Condition A Trail Improvement	LF	1993		1993	$ 65.80	$ 131,139	$ 72,127	$ 203,266		
Replace ex. 35' L wood bridge w/ 35' L x 8' W prefab bridge	EA	35		1	$ 36,500.00	$ 36,500	$ 20,075	$ 56,575		
Replace ex. 50' L wood bridge w/ 50'L x 8' W prefab bridge	EA	50		1	$ 47,500.00	$ 47,500	$ 26,125	$ 73,625		
Subtotal 4a-III								*$ 333,466*		

Table A-1: Cost Estimate (cont'd)

	Unit	Length	Width or Multiplier	Qty	Unit Price	Subtotal	Other Project Costs[1]	TOTAL	Optional Guard Rail Costs	TOTAL (w/ guardrail)
Alignment 4a-IV										
Condition A Trail Improvement	LF	214		214	$ 65.80	$ 14,081	$ 7,745	$ 21,826	$ 10,962	$ 32,788
Condition B Trail Improvement	LF	0		0	$ 65.80	$ -	$ -	$ -		
Condition C Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	10		10	$ 72.19	$ 722	$ 397	$ 1,119	$ 521	$ 1,640
Option 2: Retaining Wall Treatment	LF	10		10	$ 162.00	$ 1,620	$ 891	$ 2,511	$ 866	$ 3,377
Condition D Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	498		498	$ 75.79	$ 37,743	$ 20,759	$ 58,502	$ 30,598	$ 89,100
Option 2: Retaining Wall Treatment	LF	498		498	$ 187.90	$ 93,574	$ 51,466	$ 145,040	$ 94,365	$ 239,405
Option 3: Cantilevered Boardwalk Treatment	LF	498		498	$ 293.74	$ 146,284	$ 80,456	$ 226,741	$ 24,315	$ 251,056
Condition E Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	21		21	$ 85.43	$ 1,794	$ 987	$ 2,781	$ 1,672	$ 4,452
Option 2: Retaining Wall Treatment	LF	21		21	$ 280.15	$ 5,883	$ 3,236	$ 9,119	$ 3,256	$ 12,375
Option 3: Cantilevered Boardwalk Treatment	LF	21		21	$ 295.24	$ 6,200	$ 3,410	$ 9,610	$ 3,379	$ 12,989
Condition F Trail Improvement	LF	486		486	$ 390.35	$ 189,710	$ 104,341	$ 294,051		
Relocate Utility Poles along 4a-IV	EA			3	$ 3,000.00	$ 9,000	$ 4,950	$ 13,950		
Total w/ Option 1 (fill slopes)								**$ 392,229**		**$ 435,981**
Total w/ Option 2 (retaining walls)								**$ 486,496**		**$ 595,946**
Total w/ Option 3 (cantilevered boardwalk - Cond. C has retaining walls)								**$ 568,688**		**$ 608,211**
Alignment 4a-V										
Condition A Trail Improvement	LF	42		42	$ 65.80	$ 2,764	$ 1,520	$ 4,284	$ 2,151	$ 6,435
Condition B Trail Improvement	LF	329		329	$ 65.80	$ 21,648	$ 11,907	$ 33,555		

Table A-1: Cost Estimate (cont'd)

	Unit	Length	Width or Multiplier	Qty	Unit Price	Subtotal	Other Project Costs[1]	TOTAL	Optional Guard Rail Costs	TOTAL (w/ guardrail)
Alignment 4a-V (cont'd)										
Condition C Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	10		10	$ 72.19	$ 722	$ 397	$ 1,119	$ 521	$ 1,640
Option 2: Retaining Wall Treatment	LF	10		10	$ 162.00	$ 1,620	$ 891	$ 2,511	$ 866	$ 3,377
Condition D Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	1154		1154	$ 75.79	$ 87,462	$ 48,104	$ 135,566	$ 70,904	$ 206,470
Option 2: Retaining Wall Treatment	LF	1154		1154	$ 187.90	$ 216,837	$ 119,260	$ 336,097	$ 218,669	$ 554,765
Option 3: Cantilevered Boardwalk Treatment	LF	1154		1154	$ 293.74	$ 338,980	$ 186,439	$ 525,419	$ 56,344	$ 581,763
Condition E Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	438		438	$ 85.43	$ 37,418	$ 20,580	$ 57,998	$ 34,867	$ 92,865
Option 2: Retaining Wall Treatment	LF	438		438	$ 280.15	$ 122,706	$ 67,488	$ 190,194	$ 67,915	$ 258,109
Option 3: Cantilevered Boardwalk Treatment	LF	438		438	$ 295.24	$ 129,317	$ 71,124	$ 200,441	$ 70,477	$ 270,918
Condition F Trail Improvement	LF	0		0	$ 390.35	$ -	$ -	$ -		
Relocate Utility Poles along 4a-V	EA			6	$ 3,000.00	$ 18,000	$ 9,900	$ 27,900		
Total w/ Option 1 (fill slopes)								**$ 260,421**		**$ 368,864**
Total w/ Option 2 (retaining walls)								**$ 594,540**		**$ 884,142**
Total w/ Option 3 (cantilevered boardwalk - Cond. C has retaining walls)								**$ 794,109**		**$ 923,948**
Alignment 4b										
8' W low boardwalk on conc. piers	LF	2243		2243	$ 287.13	$ 644,033	$ 354,218	**$ 998,251**		
TOTAL SEGMENT 4b										
Alignment 4c										
Condition A Trail Improvement	LF	544		544	$ 65.80	$ 35,795	$ 19,687	$ 55,483	$ 27,866	$ 83,348
Condition B Trail Improvement	LF	244		244	$ 65.80	$ 16,055	$ 8,830	$ 24,886		
Condition C Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	397		397	$ 72.19	$ 28,659	$ 15,763	$ 44,422	$ 20,676	$ 65,098
Option 2: Retaining Wall Treatment	LF	397		397	$ 162.00	$ 64,314	$ 35,373	$ 99,687	$ 34,398	$ 134,085

Table A-1: Cost Estimate (cont'd)

	Unit	Length	Width or Multiplier	Qty	Unit Price	Subtotal	Other Project Costs[1]	TOTAL	Optional Guard Rail Costs	TOTAL (w/ guardrail)
Alignment 4c (cont'd)										
Condition D Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	1085		1085	$ 75.79	$ 82,232	$ 45,228	$ 127,460	$ 66,665	$ 194,124
Option 2: Retaining Wall Treatment	LF	1085		1085	$ 187.90	$ 203,872	$ 112,129	$ 316,001	$ 205,594	$ 521,595
Option 3: Cantilevered Boardwalk Treatment	LF	1085		1085	$ 293.74	$ 318,712	$ 175,291	$ 494,003	$ 52,975	$ 546,978
Condition E Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	389		389	$ 85.43	$ 33,232	$ 18,278	$ 51,510	$ 30,966	$ 82,476
Option 2: Retaining Wall Treatment	LF	389		389	$ 280.15	$ 108,978	$ 59,938	$ 168,916	$ 60,318	$ 229,234
Option 3: Cantilevered Boardwalk Treatment	LF	389		389	$ 295.24	$ 114,850	$ 63,167	$ 178,017	$ 62,593	$ 240,610
Boardwalk Section										
8' W Boardwalk on wood pilings	LF	618		618	$ 360.38	$ 222,713	$ 122,492	$ 345,205		
Relocate Utility Poles along 4c	EA			9	$ 3,000.00	$ 27,000	$ 14,850	$ 41,850		
Total w/ Option 1 (fill slopes)								**$ 690,816**		**$ 836,988**
Total w/ Option 2 (retaining walls)								**$ 1,052,028**		**$ 1,380,203**
Total w/ Option 3 (cantilevered boardwalk - Cond. C has retaining walls)								**$ 1,239,131**		**$ 1,416,962**
Alignment 4d										
W side of Hwy 1: B Street to Levee Rd										
8'W Condition A Trail Improvement w/ AC paving (x 33% cost factor)	LF	350	33%	350	$ 87.51	$ 30,630	$ 16,846	$ 47,476		
8'W Condition C Trail Improvement w/ Option 2: Retaining Wall Treatment (x 33% cost factor)	LF	265	33%	265	$ 215.46	$ 57,097	$ 31,403	$ 88,500		
40' prefab fiberglass bridge @ unnamed drainage	EA	40		1	$ 43,500.00	$ 43,500	$ 23,925	$ 67,425		
Green Bridge										
Widen ex. Green Bridge Bike/Ped Path to 8'	LS	100	2	200		$ 100,000	$ 55,000	$ 155,000		

Table A-1: Cost Estimate (cont'd)

	Unit	Length	Width or Multiplier	Qty	Unit Price	Subtotal	Other Project Costs[1]	TOTAL	Optional Guard Rail Costs	TOTAL (w/ guardrail)
Alignment 4d (cont'd)										
Condition A Trail Improvement	LF	999		999	$ 65.80	$ 65,734	$ 36,154	$ 101,888	$ 51,172	$ 153,060
Condition C Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	517		517	$ 72.19	$ 37,322	$ 20,527	$ 57,849	$ 26,925	$ 84,775
Option 2: Retaining Wall Treatment	LF	517		517	$ 162.00	$ 83,754	$ 46,065	$ 129,819	$ 44,795	$ 174,614
Condition D Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	755		755	$ 75.79	$ 57,221	$ 31,472	$ 88,693	$ 46,389	$ 135,082
Option 2: Retaining Wall Treatment	LF	755		755	$ 187.90	$ 141,865	$ 78,025	$ 219,890	$ 143,063	$ 362,953
Condition E Trail Improvement										
Option 1: Fill Slope Treatment Option	LF	58		58	$ 85.43	$ 4,955	$ 2,725	$ 7,680	$ 4,617	$ 12,297
Option 2: Retaining Wall Treatment	LF	58		58	$ 280.15	$ 16,249	$ 8,937	$ 25,185	$ 8,993	$ 34,179
Metal Beam Guard Rail (at W end only)	LF	189		189	$ 30.00	$ 5,670	$ 3,119	$ 8,789		
Olema Creek Bridge (8'W x 50'L)	EA	50		1	$ 47,500.00	$ 47,500	$ 26,125	$ 73,625		
Relocate Utility Poles along 4d	EA			7	$ 3,000.00	$ 21,000	$ 11,550	$ 32,550		
Total w/ Option 1 (fill slopes)								**$ 729,476**		**$ 858,579**
Total w/ Option 2 (retaining walls)								**$ 950,147**		**$ 1,198,172**

[1] Other Project Costs: *Design - 15%, Environmental - 10%, Review & Inspection - 15%, Contingencies - 15%*

Table A-2: Cost Items

Item	Unit	Quantity	Unit Cost	Total
Condition A Trail Improvement				
6' W baserock/DG trail	L.F.	1	$ 64.20	$ 64.20
Trail signage	L.F.	1	$ 0.60	$ 0.60
Minor drainage work (ditches + culverts)	L.F.	1	$ 1.00	$ 1.00
TOTAL COST PER L.F.				**$ 65.80**
Condition B Trail Improvement				
6' W baserock/DG trail	L.F.	1	$ 64.20	$ 64.20
Trail signage	L.F.	1	$ 0.60	$ 0.60
Minor drainage work (ditches + culverts)	L.F.	1	$ 1.00	$ 1.00
TOTAL COST PER L.F.				**$ 65.80**
Condition C Trail Improvement - Option 1: Fill Slope				
7'W vegetation clearing	S.F.	7	$ 0.15	$ 1.05
6' W baserock/DG trail	L.F.	1	$ 64.20	$ 64.20
2:1 Fill Slope (0.22cy/lf)	L.F.	1	$ 4.84	$ 4.84
Trail signage (1 per 300 L.F.)	L.F.	1	$ 0.60	$ 0.60
Hydroseed/Plant Fill-Slope w/ Native Species	S.F.	10	$ 0.15	$ 1.50
TOTAL COST PER L.F.				**$ 72.19**
Condition C Trail Improvement - Option 2: Retaining Wall Treatment				
2'W vegetation clearing	S.F.	2	$ 0.15	$ 0.30
6' W baserock/DG trail	L.F.	1	$ 64.20	$ 64.20
18"H Conc. Retaining Wall	L.F.	1	$ 75.00	$ 75.00
Backfill wall (0.07cy/lf)	L.F.	1	$ 3.15	$ 3.15
48" Vinyl-coated chain link fence on wall	L.F.	1	$ 18.00	$ 18.00
Trail signage	L.F.	1	$ 0.60	$ 0.60
Hydroseed/Plant disturbed area w/ Native Specie	S.F.	5	$ 0.15	$ 0.75
TOTAL COST PER L.F.				**$ 162.00**
Condition D Trail Improvement - Option 1: Fill Slope Treatment Option				
9'W vegetation clearing	S.F.	9	$ 0.15	$ 1.35
6' W baserock/DG trail	L.F.	1	$ 64.20	$ 64.20
2:1 Fill Slope (0.37cy/lf)	L.F.	1	$ 8.14	$ 8.14
Trail signage	L.F.	1	$ 0.60	$ 0.60
Hydroseed/Plant Fill-Slope w/ Native Species	S.F.	10	$ 0.15	$ 1.50
TOTAL COST PER L.F.				**$ 75.79**
Condition D Trail Improvement - Option 2: Retaining Wall Treatment				
2'W vegetation clearing	S.F.	2	$ 0.15	$ 0.30
6' W baserock/DG trail	L.F.	1	$ 64.20	$ 64.20
24"H Conc. Retaining Wall	L.F.	1	$ 100.00	$ 100.00
Backfill wall (0.09cy/lf)	L.F.	1	$ 4.05	$ 4.05
48" Vinyl-coated chain link fence on wall	L.F.	1	$ 18.00	$ 18.00
Trail signage	L.F.	1	$ 0.60	$ 0.60
Hydroseed/Plant disturbed area w/ Native Specie	S.F.	5	$ 0.15	$ 0.75
TOTAL COST PER L.F.				**$ 187.90**

Table A-2: Cost Items (cont'd)

Item	Unit	Quantity	Unit Cost	Total
Condition D Trail Improvement - Option 3: Cantilevered Boardwalk Treatment				
2'W vegetation clearing	S.F.	2	$ 0.15	$ 0.30
6' W cantilevered trail	L.F.	1	$ 292.09	$ 292.09
Trail signage	L.F.	1	$ 0.60	$ 0.60
Hydroseed/Plant disturbed area w/ Native Specie	S.F.	5	$ 0.15	$ 0.75
TOTAL COST PER L.F.				**$ 293.74**
Condition E Trail Improvement - Option 1: Fill Slope Treatment Option				
14'W vegetation clearing	S.F.	14	$ 0.15	$ 2.10
6' W baserock/DG trail	L.F.	1	$ 64.20	$ 64.20
2:1 Fill Slope (0.74cy/lf)	L.F.	1	$ 16.28	$ 16.28
Trail signage	L.F.	1	$ 0.60	$ 0.60
Hydroseed/Plant Fill-Slope w/ Native Species	S.F.	15	$ 0.15	$ 2.25
TOTAL COST PER L.F.				**$ 85.43**
Condition E Trail Improvement - Option 2: Retaining Wall Treatment				
7'W vegetation clearing	S.F.	7	$ 0.15	$ 1.05
6' W baserock/DG trail	L.F.	1	$ 64.20	$ 64.20
48"H Conc. Retaining Wall	L.F.	1	$ 175.00	$ 175.00
Backfill wall (0.44cy/lf)	L.F.	1	$ 19.80	$ 19.80
48" Vinyl-coated chain link fence on wall	L.F.	1	$ 18.00	$ 18.00
Trail signage	L.F.	1	$ 0.60	$ 0.60
Hydroseed/Plant disturbed area w/ Native Specie	S.F.	10	$ 0.15	$ 1.50
TOTAL COST PER L.F.				**$ 280.15**
Condition E Trail Improvement - Option 3: Cantilevered Boardwalk Treatment				
7'W vegetation clearing	S.F.	7	$ 0.15	$ 1.05
6' W cantilevered trail	L.F.	1	$ 292.09	$ 292.09
Trail signage	L.F.	1	$ 0.60	$ 0.60
Hydroseed/Plant disturbed area w/ Native Specie	S.F.	10	$ 0.15	$ 1.50
TOTAL COST PER L.F.				**$ 295.24**
Condition F Trail Improvement				
Clearing + Grubbing (5'W average)	S.F.	3	$ 0.10	$ 0.30
3'W vegetation clearing	S.F.	3	$ 0.15	$ 0.45
8' W cantilevered trail	L.F.	1	$ 371.00	$ 371.00
48" Vinyl-coated chain link fence on E side	L.F.	1	$ 18.00	$ 18.00
Trail signage	L.F.	1	$ 0.60	$ 0.60
TOTAL COST PER L.F.				**$ 390.35**
6' W baserock/DG trail				
Clearing + Grubbing	S.F.	6	$ 0.10	$ 0.60
Rough/Fine Grading	S.F.	6	$ 0.60	$ 3.60
6'W Rock paving (2" decomposed granite w/ pine-resin binder over 8" Class II ab)	S.F.	6	$ 10.00	$ 60.00
TOTAL COST PER L.F.				**$ 64.20**

Table A-2: Cost Items (cont'd)

Item	Unit	Quantity	Unit Cost	Total
Weather-Dependent/Informal Trail				
Brush trimming (2'W average)	S.F.	2	$ 0.15	$ 0.30
Minor grading	S.F.	6	$ 1.00	$ 6.00
Minor drainage work (ditches + culverts)	L.F.	1	$ 1.00	$ 1.00
Trail signage	L.F.	1	$ 0.60	$ 0.60
TOTAL COST PER L.F.				**$ 7.90**
Typical Trail Entrance				
Sign	EA.	1	$ 300.00	$ 300.00
Trail gate	EA.	1	$ 1,500.00	$ 1,500.00
30' fencing to connect to existing	L.F.	30	$ 4.00	$ 120.00
TOTAL COST PER				**$ 1,920.00**
Low Boardwalk 8x12	L.F.	1	$ 287.13	**$ 287.13**
Elevated Boardwalk w/ railings 8x12	L.F.	1	$ 360.38	**$ 360.38**
Elevated Boardwalk w/ railings 5x15	L.F.	1	$ 345.33	**$ 345.33**
Cantilevered Boardwalk 6'W (1 railng)	L.F.	1	$ 292.09	**$ 292.09**
Cantilevered Boardwalk 8'W (1 railng)	L.F.	1	$ 323.92	**$ 323.92**