Extended Detention Basin

Site Name: 5-Devon Park Drive Open Area
Site Location:

Cost Summary

CAPITAL COSTS	Included in WLC Calculation			Total Cost	
	Model	User	Chosen option		
Total Facility Base Cost	Y		Y		$576,000
Total Associated Capital Costs (e.g., Engineering, Land, etc.)	Y		Y		$144,000
Capital Costs	Y		Y		**$720,000**

REGULAR MAINTENANCE ACTIVITIES	Included in WLC Calculation			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Inspection, Reporting & Information Management	Y		Y	3	$140	$47
Vegetation Management with Trash & Minor Debris Removal	Y		Y	1	$480	$480
Vector Control	Y		Y	3	$200	$67
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
Totals, Regular Maintenance Activities						**$593**

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or >3yrs. betw. events)	Included in WLC			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Intermittent Facility Maintenance (Excluding Sediment Removal)	Y		Y	1	$1,000	$1,000
Sediment Removal	Y		Y	10	$242,000	$24,200
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
Totals, Corrective & Infrequent Maintenance Activities						**$25,200**

Total O&M	**$25,793**

Extended Detention Basin

Site Name: 5-Devon Park Drive Open Area

Site Location:

Design & Maintenance Options

WATERSHED CHARACTERISTICS	Unit	Model Default	User	Chosen option
Drainage Area (DA)	ac	10.00	576.00	576.00
Drainage Area Impervious Cover (IC)*	pct	40%		40%
Watershed Land Use Type *("R"-Residential; "C"-Commercial; "Ro"-Roads; "I"-Industrial)*		R		R

* Included since frequently used to calculate storage volume.

FACILITY STORAGE VOLUME	Unit	Model Default	User	Chosen Option
Water Quality Volume (WQV)*	ft^3	1,045,440		1,045,440
Flood Detention/Attenuation Volume	ft^3			0
Channel Protection/Erosion Control Volume**	ft^3			0
Other Volume (e.g., Recharge Volume)	ft^3			0
TOTAL FACILITY STORAGE VOLUME	ft^3		0	1,045,440

* Model default is 1/2-inch of capture over drainage area; actual volume will depend on regional regulatory requirements and site-specific characteristics, etc.

** For example, 24-hour extended detention storage.

DESIGN & MAINTENANCE OPTIONS	Unit	Model Default	User	Chosen Option
Choose Level of Maintenance *("H"=high; "M"=medium; "L"=low)*	-	M		M
Main Pool Volume	yd^3	38,720		38,720
Pct. Full when sediment removed from Basin*	pct	25%		25%
Quantity of Sediment Removed from Basin	yd^3	9,680		9,680

* Can adjust to be higher if expect heavy soils/sediment deposition to basin.

WHOLE LIFE COST OPTIONS	Unit	Model Default	User	Chosen Option
Discount Rate	%	5.50	4.9	4.9

Extended Detention Basin

CAPITAL COSTS

Site Name: 5-Devon Park Drive Open Area
Site Location:

Choose Capital Costing Option

A	Total Facility Cost	$ 720,000

"A" - Simple Cost based on Drainage Area
"B" - User-Entered Engineer's Estimate

Method A: Simple Cost based on Drainage Area

Cost based on Drainage Area	Cost per Acre of DA Treated		(Chosen option)
	Model Default	User	
Drainage Area (DA) (acres)	576.00		576.00
Base Facility Cost per acre DA*	$ 1,000		$ 1,000
Default Cost Adjustment for Smaller Projects**	1.00		1.00
Resulting Base Cost per acre DA	$ 1,000		$ 1,000
Base Facility Cost (rounded up to nearest $100)	$ 576,000		**$ 576,000**
Engineering & Planning (default = 25% of Base Cost)	$ 144,000		$ 144,000
Land Cost	$ 0		$ 0
Other Costs	$ 0		$ 0
Total Associated Capital Costs (e.g., Engineering, Land, etc.)			**$ 144,000**
Total Facility Cost	**$ 720,000**		**$ 720,000**

*** Base Facility Cost guidelines (circa Year 2005)**
Very High = $15,000/acre
High = $5,000/acre
Medium = $3,000/acre
Low = $1,000/acre
** Smaller projects generally incur higher unit costs for many components; factor added to adjust.
Suggestion: Use higher or lower Base Costs to reflect higher or lower regional construction costs.
Some jurisdictions already have cost relationships established; check to see if any available.

Method B: User-Entered Engineer's Estimate

Select from the following list, as applicable to the project or facility type; add items where necessary

Total Facility Base Costs	Unit	Unit Cost	Quantity	Cost
Mobilization	LS			$ -
Clearing & Grubbing	AC			$ -
Excavation/Embankment	CY			$ -
Dewatering	LS			$ -
Haul/Dispose of Excavated Material	CY			$ -
Sediment Pretreatment Struct. (e.g., inlet sump)	LF			$ -
Trash Rack	LF			$ -
Inflow Structure(s)	LS			$ -
Energy Dissipation Apron	LS			$ -
Outflow Structure	LS			$ -
Overflow Structure (concrete or rock riprap)	CY			$ -
Dam/Embankment	CY			$ -
Impermeable Liner	SY			$ -
Site Landscaping (e.g., trees)	LS			$ -
Maintenance Access Ramp/Pad	LS			$ -
Revegetation/Erosion Controls	SY			$ -
Traffic Control	LS			$ -
Amenity Items (e.g. recreational facilities, seating)	LS			$ -
Signage, Public Education Materials, etc.	LS			$ -
Other				$ -
Other				$ -
Other				$ -
Total Facility Base Cost				**$ -**
Associated Capital Costs	**Unit**	**Unit Cost**	**Quantity**	**Cost**
Project Management				$ -
Engineering: Preliminary				$ -
Engineering: Final Design				$ -
Topographic Survey				$ -
Geotechnical				$ -
Landscape Design				$ -
Land Acquisition (site, easements, etc.)				$ -
Utility Relocation				$ -
Legal Services				$ -
Permitting & Construction Inspection				$ -
Sales Tax				$ -
Contingency (e.g., 30%)				$ -
Total Associated Capital Costs				**$ -**
Total Facility Cost				**$ -**

Extended Detention Basin

M User entered MEDIUM maintenance level in Sheet 1.

Site Name: 5-Devon Park Drive Open Area

** Change on Sheet 1 if desired/applicable **

Site Location:

Maintenance Costs

User may enter lump sum here

ROUTINE MAINTENANCE ACTIVITIES (Frequent, scheduled events)

Cost Item	Frequency (months betw. maint. events)			Hours per Event			Average Labor Crew Size			Avg. (Pro-Rated) Labor Rate/Hr. ($)			Machinery Cost/Hour ($)			Materials & Inciden-tals Cost/Event ($)			Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input
Inspection, Reporting & Information Management	36		36	2		2	1.0		1.0	40		40	30		30	0		0	140		140
Vegetation Management with Trash & Minor Debris Removal	12		12	4		4	2.0		2.0	30		30	60		60	0		0	480		480
Vector Control	36		36	0		0	1.0		1.0	40		40	200		200	200		200	200		200
add additional activities if necessary			0			0			0.0			0			0			0	0		0
add additional activities if necessary			0			0			0.0			0			0			0	0		0

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or > 3 yrs. betw. events)

Cost Item	Frequency (months betw. maint. events)			Hours per Event			Average Labor Crew Size			Avg. (Pro-Rated) Labor Rate/Hr. ($)			Machinery Cost/Hour ($)			Materials & Inciden-tals Cost/Event ($)			Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input
Intermittent Facility Maintenance (Excluding Sediment Removal)	12		12			0			0.0			0			0			0	1,000		1,000
add additional activities if necessary			0			0			0.0			0			0			0	0		0
add additional activities if necessary			0			0			0.0			0			0			0	0		0

Cost Item	Frequency (months betw. maint. events)			Sediment Quantity (yds3) [from Sheet 1]			Cost per yd3 to Remove, Dispose of Sediment												Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input										Model	User	Input
Sediment Removal	120		120	9,680		9,680	25.0		25.0										242,000		242,000
add additional activities if necessary			0			0			0.0										0		0
add additional activities if necessary			0			0			0.0										0		0

Note: For facilities judged to require larger or smaller amounts of maintenance (due to land area, etc.), consider multiplying the Model output in Column U by a multiplier (e.g., 120%) in Column V. Another quick means of adjustment would be to multiply the number of Hours per Event by a multiplier in the User Input field.

Extended Detention Basin

Site Name: 5-Devon Park Drive Open Area
Site Location:

Whole Life Costs

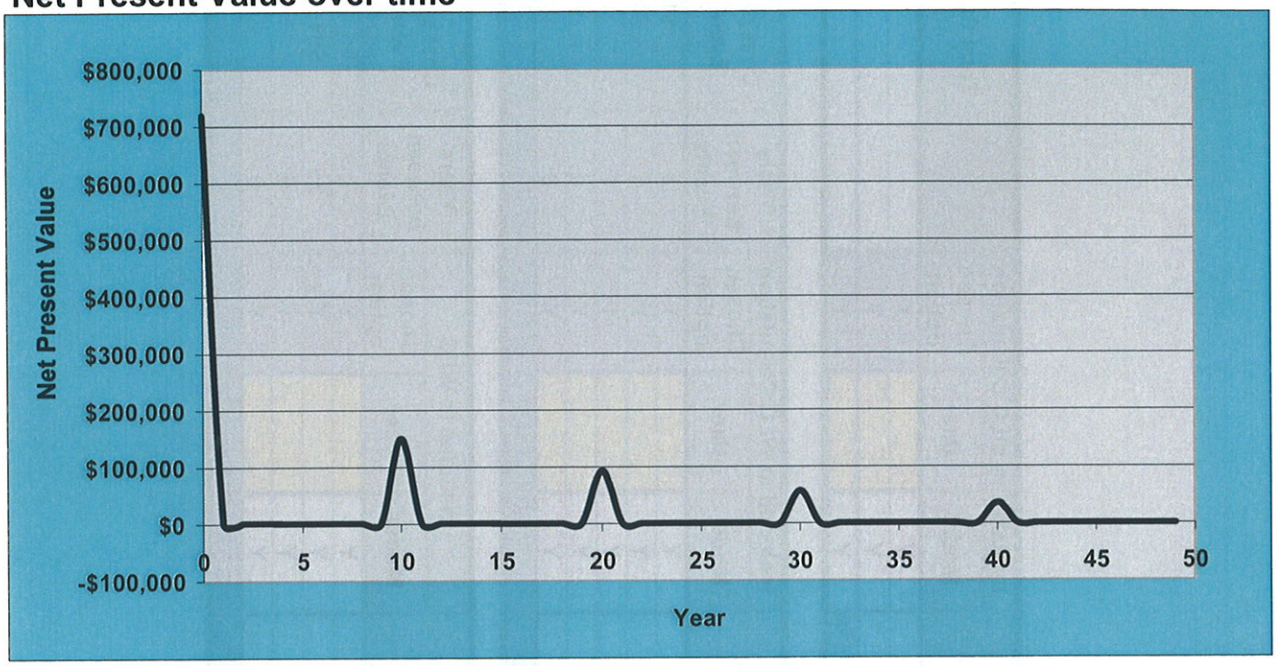
EUAC $ 21,714

Year	Discount Factor	Capital & Assoc. Costs	Regular Maint. Costs	Corrective & Infrequent Maint. Activities: Intermit. Facility Maint.	Sediment Removal	Other [User Entered]	Total Irregular Maint.	Total Costs	Present Value of Costs	Cumulative Costs: Cash	Present Value
Cash Sum ($)								$ 1,766,073	$ 1,085,676		
0	1.000	$ 720,000						$ 720,000	$ 720,000	$ 720,000	$ 720,000
1	0.953	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,519	$ 721,593	$ 721,519
2	0.909	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,448	$ 723,187	$ 722,967
3	0.866	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,380	$ 724,780	$ 724,347
4	0.826	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,316	$ 726,373	$ 725,663
5	0.787	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,254	$ 727,967	$ 726,917
6	0.750	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,196	$ 729,560	$ 728,113
7	0.715	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,140	$ 731,153	$ 729,253
8	0.682	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,087	$ 732,747	$ 730,340
9	0.650	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,036	$ 734,340	$ 731,376
10	0.620	$ -	$ 593	$ 1,000	$ 242,000	$ -	$ 243,000	$ 243,593	$ 150,977	$ 977,933	$ 882,353
11	0.591	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 941	$ 979,527	$ 883,294
12	0.563	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 897	$ 981,120	$ 884,191
13	0.537	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 856	$ 982,713	$ 885,047
14	0.512	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 816	$ 984,307	$ 885,863
15	0.488	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 777	$ 985,900	$ 886,640
16	0.465	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 741	$ 987,493	$ 887,381
17	0.443	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 707	$ 989,087	$ 888,088
18	0.423	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 674	$ 990,680	$ 888,761
19	0.403	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 642	$ 992,273	$ 889,403
20	0.384	$ -	$ 593	$ 1,000	$ 242,000	$ -	$ 243,000	$ 243,593	$ 93,574	$ 1,235,867	$ 982,977
21	0.366	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 583	$ 1,237,460	$ 983,561
22	0.349	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 556	$ 1,239,053	$ 984,117
23	0.333	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 530	$ 1,240,647	$ 984,647
24	0.317	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 505	$ 1,242,240	$ 985,153
25	0.302	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 482	$ 1,243,833	$ 985,635
26	0.288	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 459	$ 1,245,427	$ 986,094
27	0.275	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 438	$ 1,247,020	$ 986,532
28	0.262	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 417	$ 1,248,613	$ 986,949
29	0.250	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 398	$ 1,250,207	$ 987,347
30	0.238	$ -	$ 593	$ 1,000	$ 242,000	$ -	$ 243,000	$ 243,593	$ 57,996	$ 1,493,800	$ 1,045,344
31	0.227	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 362	$ 1,495,393	$ 1,045,705
32	0.216	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 345	$ 1,496,987	$ 1,046,050
33	0.206	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 329	$ 1,498,580	$ 1,046,379
34	0.197	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 313	$ 1,500,173	$ 1,046,692
35	0.187	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 299	$ 1,501,767	$ 1,046,990
36	0.179	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 285	$ 1,503,360	$ 1,047,275
37	0.170	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 271	$ 1,504,953	$ 1,047,547
38	0.162	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 259	$ 1,506,547	$ 1,047,805
39	0.155	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 247	$ 1,508,140	$ 1,048,052
40	0.148	$ -	$ 593	$ 1,000	$ 242,000	$ -	$ 243,000	$ 243,593	$ 35,946	$ 1,751,733	$ 1,083,998
41	0.141	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 224	$ 1,753,327	$ 1,084,222
42	0.134	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 214	$ 1,754,920	$ 1,084,435
43	0.128	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 204	$ 1,756,513	$ 1,084,639
44	0.122	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 194	$ 1,758,107	$ 1,084,833
45	0.116	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 185	$ 1,759,700	$ 1,085,018
46	0.111	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 176	$ 1,761,293	$ 1,085,195
47	0.106	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 168	$ 1,762,887	$ 1,085,363
48	0.101	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 160	$ 1,764,480	$ 1,085,523
49	0.096	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 153	$ 1,766,073	$ 1,085,676
50	0.091	$ 1	$ 593	$ 1,000	$ 242,000	$ -	$ 243,000	$ 243,594	$ 22,279	$ 2,009,668	$ 1,107,955

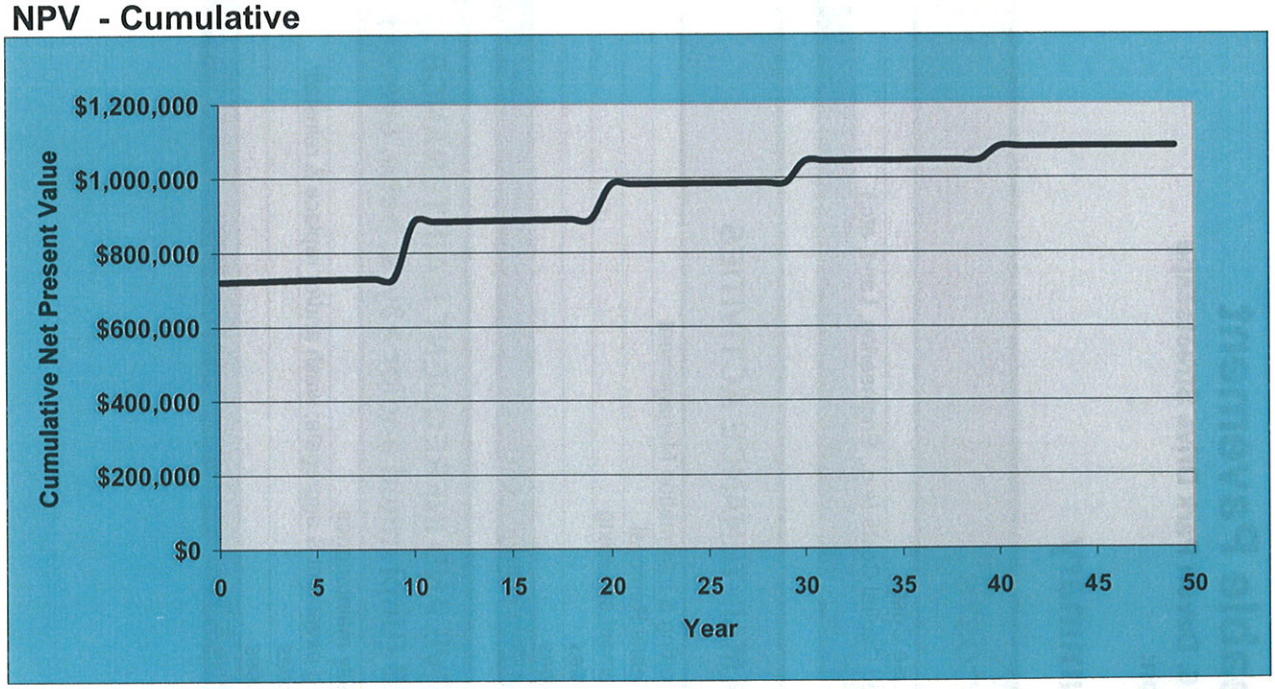
Extended Detention Basin

Site Name: 5-Devon Park Drive Open Area
Site Location:

Net Present Value over time



NPV - Cumulative



Permeable Pavement

Site Name: 6. Devon Park Drive Streetscape
Site Location:

Cost Summary

CAPITAL COSTS	Included in WLC Calculation			Total Cost	
	Model	User	Chosen option		
Total Facility Base Cost	Y		Y		$54,000
Total Associated Capital Costs (e.g., Engineering, Land, etc.)	Y		Y		$5,400
Capital Costs	Y		Y		**$71,300**

REGULAR MAINTENANCE ACTIVITIES	Included in WLC Calculation			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Inspection, Reporting & Information Management	Y		Y	3	$140	$47
Litter & Minor Debris Removal	Y		Y	1	$120	$120
Permeable pavement sweeping	Y		Y	1	$80	$80
Additional activities	Y		Y	0	$0	$0
Additional activities	Y		Y	0	$0	$0
Totals, Regular Maintenance Activities						**$247**

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or >3yrs. betw. events)	Included in WLC			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Intermittent facility maintenance	Y		Y	0	$0	$0
Remove existing pavement & aggregate; wash and/or replace & reinstall*	Y		Y	35	$54,000	$1,543
Additional activities	Y		Y	0	$0	$0
Additional activities	Y		Y	0	$0	$0
Totals, Corrective & Infrequent Maintenance Activities						**$1,543**

Permeable Pavement

Site Name: 6. Devon Park Drive Streetscape

Site Location:

Design & Maintenance Options

WATERSHED CHARACTERISTICS	Unit	Model Default	User	Chosen option
Surface Area of Permeable Pavement System	ft2	21,780	54,000	54,000
Drainage Area (DA)	ft2	21,780	54,000	54,000
Drainage Area Impervious Cover (IC)*	pct	100%		100%
Watershed Land Use Type *("R"-Residential; "C"-Commercial; "Ro"-Roads; "I"-Industrial)*		R	C	C

* Included since frequently used to calculate facility sizing.

DESIGN & MAINTENANCE OPTIONS	Unit	Model Default	User	Chosen Option
Choose among the following (affects default cost calcs):	-	1		1
1. Asphalt	User Selected Pavement Type = **Asphalt**			
2. Porous Concrete				
3. Grass / Gravel Pavers				
4. Interlocking Concrete Paving Blocks				
5. Other				
Choose Capital Cost Level *("H"=high; "L"=low)*	-	H		H
Choose Level of Maintenance *("H"=high; "M"=medium; "L"=low)*	-	M		M

WHOLE LIFE COST OPTIONS	Unit	Model Default	User	Chosen Option
Discount Rate	%	5.50	4.9	4.9

Permeable Pavement

CAPITAL COSTS

Site Name: 6. Devon Park Drive Streetscape
Site Location:

Choose Capital Costing Option

A	Total Facility Cost	$ 71,300

"A" - Simple Cost based on System Type
"B" - User-Entered Engineer's Estimate

Method A: Simple Cost based on Drainage Area

Cost based on Drainage Area	Cost per Acre of DA Treated		(Chosen option)
	Model Default	User	
User Selected **ASPHALT** Permeable Pavement		Entered Sheet 1	1
Surface Area of Permeable Pavement System (ft2)		Entered Sheet 1	54,000
User Selected HIGH Permeable Pavement		Entered Sheet 1	H
Permeable Pavement Cost per square foot	$1.00		$1.00
Base Facility Cost (rounded up to nearest $100)	$ 54,000		**$ 54,000**
Engineering & Planning (default = 10% of Base Cost)	$ 5,400		$ 5,400
Land Cost	$ 0		$ 0
Other Costs	$ 0		$ 0
Contingency (default = 20%, rounded up to nearest $100)	$ 11,900		$ 11,900
Total Associated Capital Costs (e.g., Engineering, Land, etc.)			**$ 17,300**
Total Facility Cost	**$ 59,400**		**$ 71,300**

Suggestion: Use higher or lower Per Unit Costs to reflect higher or lower regional construction costs.

Method B: User-Entered Engineer's Estimate

Select from the following list, as applicable to the project or facility type; add items where necessary.

Total Facility Base Costs	Unit	Unit Cost	Quantity	Cost
Mobilization	LS			$ -
Clearing & Grubbing	AC			$ -
Excavation/Grading	CY			$ -
Haul/Dispose of Excavated Material	CY			$ -
Subsoil Preparation	SY			$ -
Impermeable Liner	SY			$ -
Rock Media	SY			$ -
Permeable Media	SF			$ -
Outflow Structure/Pipe	LS			$ -
Energy Dissipation Apron	LS			$ -
Revegetation/Erosion Controls	SY			$ -
Traffic Control	LS			$ -
Signage, Public Education Materials, etc.	LS			$ -
Other				$ -
Other				$ -
Total Facility Base Cost				**$ -**

Associated Capital Costs	Unit	Unit Cost	Quantity	Cost
Project Management				$ -
Engineering: Preliminary				$ -
Engineering: Final Design				$ -
Topographic Survey				$ -
Geotechnical				$ -
Landscape Design				$ -
Land Acquisition (site, easements, etc.)				$ -
Utility Relocation				$ -
Legal Services				$ -
Permitting & Construction Inspection				$ -
Sales Tax				$ -
Contingency (e.g., 30%)				$ -
Total Associated Capital Costs				**$ -**
Total Facility Cost				**$ -**

Permeable Pavement

Site Name: 6. Devon Park Drive Streetscape
Site Location:

M	User entered MEDIUM maintenance level in Sheet 1.

** Change on Sheet 1 if desired/applicable **

Maintenance Costs

User may enter lump sum here

ROUTINE MAINTENANCE ACTIVITIES (Frequent, scheduled events)

Cost Item	Frequency (months betw. maint. events)			Hours per Event			Average Labor Crew Size			Avg. (Pro-Rated) Labor Rate/Hr. ($)			Machinery Cost/Hour ($)			Materials & Inciden-tals Cost/Event ($)			Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input
Inspection, Reporting & Information Management	36		36	2		2	1.0		1.0	40		40	30		30	0		0	140		140
Litter & Minor Debris Removal	12		12	2		2	1.0		1.0	30		30	30		30	0		0	120		120
Permeable pavement sweeping	12		12	1		1	1.0		1.0	20		20	60		60	0		0	80		80
Additional activities			0			0			0.0			0			0			0	0		0
Additional activities			0			0			0.0			0			0			0	0		0

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or > 3 yrs. betw. events)

Cost Item	Frequency (months betw. maint. events)			Hours per Event			Average Labor Crew Size			Avg. (Pro-Rated) Labor Rate/Hr. ($)			Machinery Cost/Hour ($)			Materials & Inciden-tals Cost/Event ($)			Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input
Intermittent facility maintenance	0		0	0		0	0.0		0.0	0		0	0		0	0		0	0		0
Remove existing pavement & aggregate; wash and/or replace & reinstall*	420		420	0		0	0.0		0.0	0		0	0		0	54,000		54,000	54,000		54,000
Additional activities			0			0			0.0			0			0			0	0		0
Additional activities			0			0			0.0			0			0			0	0		0

* Removal and reinstallation assumes entire base cost of initial construction incurred. Needs better data corroboration.
Note: For facilities judged to require larger or smaller amounts of maintenance (due to land area, etc.), consider multiplying the Model output in Column U by a multiplier (e.g., 120%) in Column V.
Another quick means of adjustment would be to multiply the number of Hours per Event by a multiplier in the User Input field.

Permeable Pavement

Site Name: 6. Devon Park Drive Streetscape
Site Location:

Whole Life Costs

Year	Discount Factor	Capital & Assoc. Costs	Regular Maint. Costs	Corrective Maint.	Total Costs	Present Value of Costs	Cumulative Costs	
							Cash	Present Value
Cash Sum ($)					$ 137,387	$ 85,973		
0	1.000	$ 71,300			$ 71,300	$ 71,300	$ 71,300	$ 71,300
1	0.953	$ -	$ 247	$ -	$ 247	$ 235	$ 71,547	$ 71,535
2	0.909	$ -	$ 247	$ -	$ 247	$ 224	$ 71,793	$ 71,759
3	0.866	$ -	$ 247	$ -	$ 247	$ 214	$ 72,040	$ 71,973
4	0.826	$ -	$ 247	$ -	$ 247	$ 204	$ 72,287	$ 72,177
5	0.787	$ -	$ 247	$ -	$ 247	$ 194	$ 72,533	$ 72,371
6	0.750	$ -	$ 247	$ -	$ 247	$ 185	$ 72,780	$ 72,556
7	0.715	$ -	$ 247	$ -	$ 247	$ 176	$ 73,027	$ 72,732
8	0.682	$ -	$ 247	$ -	$ 247	$ 168	$ 73,273	$ 72,901
9	0.650	$ -	$ 247	$ -	$ 247	$ 160	$ 73,520	$ 73,061
10	0.620	$ -	$ 247	$ -	$ 247	$ 153	$ 73,767	$ 73,214
11	0.591	$ -	$ 247	$ -	$ 247	$ 146	$ 74,013	$ 73,360
12	0.563	$ -	$ 247	$ -	$ 247	$ 139	$ 74,260	$ 73,499
13	0.537	$ -	$ 247	$ -	$ 247	$ 132	$ 74,507	$ 73,631
14	0.512	$ -	$ 247	$ -	$ 247	$ 126	$ 74,753	$ 73,757
15	0.488	$ -	$ 247	$ -	$ 247	$ 120	$ 75,000	$ 73,878
16	0.465	$ -	$ 247	$ -	$ 247	$ 115	$ 75,247	$ 73,992
17	0.443	$ -	$ 247	$ -	$ 247	$ 109	$ 75,493	$ 74,102
18	0.423	$ -	$ 247	$ -	$ 247	$ 104	$ 75,740	$ 74,206
19	0.403	$ -	$ 247	$ -	$ 247	$ 99	$ 75,987	$ 74,305
20	0.384	$ -	$ 247	$ -	$ 247	$ 95	$ 76,233	$ 74,400
21	0.366	$ -	$ 247	$ -	$ 247	$ 90	$ 76,480	$ 74,491
22	0.349	$ -	$ 247	$ -	$ 247	$ 86	$ 76,727	$ 74,577
23	0.333	$ -	$ 247	$ -	$ 247	$ 82	$ 76,973	$ 74,659
24	0.317	$ -	$ 247	$ -	$ 247	$ 78	$ 77,220	$ 74,737
25	0.302	$ -	$ 247	$ -	$ 247	$ 75	$ 77,467	$ 74,812
26	0.288	$ -	$ 247	$ -	$ 247	$ 71	$ 77,713	$ 74,883
27	0.275	$ -	$ 247	$ -	$ 247	$ 68	$ 77,960	$ 74,951
28	0.262	$ -	$ 247	$ -	$ 247	$ 65	$ 78,207	$ 75,015
29	0.250	$ -	$ 247	$ -	$ 247	$ 62	$ 78,453	$ 75,077
30	0.238	$ -	$ 247	$ -	$ 247	$ 59	$ 78,700	$ 75,135
31	0.227	$ -	$ 247	$ -	$ 247	$ 56	$ 78,947	$ 75,191
32	0.216	$ -	$ 247	$ -	$ 247	$ 53	$ 79,193	$ 75,245
33	0.206	$ -	$ 247	$ -	$ 247	$ 51	$ 79,440	$ 75,296
34	0.197	$ -	$ 247	$ -	$ 247	$ 49	$ 79,687	$ 75,344
35	0.187	$ -	$ 247	$ 54,000	$ 54,247	$ 10,168	$ 133,933	$ 85,512
36	0.179	$ -	$ 247	$ -	$ 247	$ 44	$ 134,180	$ 85,556
37	0.170	$ -	$ 247	$ -	$ 247	$ 42	$ 134,427	$ 85,598
38	0.162	$ -	$ 247	$ -	$ 247	$ 40	$ 134,673	$ 85,638
39	0.155	$ -	$ 247	$ -	$ 247	$ 38	$ 134,920	$ 85,676
40	0.148	$ -	$ 247	$ -	$ 247	$ 36	$ 135,167	$ 85,713
41	0.141	$ -	$ 247	$ -	$ 247	$ 35	$ 135,413	$ 85,748
42	0.134	$ -	$ 247	$ -	$ 247	$ 33	$ 135,660	$ 85,781
43	0.128	$ -	$ 247	$ -	$ 247	$ 32	$ 135,907	$ 85,812
44	0.122	$ -	$ 247	$ -	$ 247	$ 30	$ 136,153	$ 85,842
45	0.116	$ -	$ 247	$ -	$ 247	$ 29	$ 136,400	$ 85,871
46	0.111	$ -	$ 247	$ -	$ 247	$ 27	$ 136,647	$ 85,898
47	0.106	$ -	$ 247	$ -	$ 247	$ 26	$ 136,893	$ 85,924
48	0.101	$ -	$ 247	$ -	$ 247	$ 25	$ 137,140	$ 85,949
49	0.096	$ -	$ 247	$ -	$ 247	$ 24	$ 137,387	$ 85,973
50	0.091	$ 1	$ 247	$ -	$ 248	$ 23	$ 137,634	$ 85,995

Swale				Total Streetscape Costs		
Capital & Assoc. Costs	Regular Maint. Costs	Corrective Maint. Costs	Total Maint. Costs	Capital & Assoc. Costs	Total Maint. Costs	Total Costs
$ 31,125	$ -	$ -	$ -	$ 102,425	$ 247	$ 102,672
$ -	$ 527	$ -	$ 527	$ -	$ 773	$ 773
$ -	$ 527	$ -	$ 527	$ -	$ 773	$ 773
$ -	$ 527	$ -	$ 527	$ -	$ 773	$ 773
$ -	$ 527	$ 1,440	$ 1,967	$ -	$ 2,213	$ 2,213

Swale

Site Name: 6 Devon Park Drive Streetscape
Site Location:

Cost Summary

CAPITAL COSTS	Included in WLC Calculation			Total Cost	
	Model	User	Chosen option		
Total Facility Base Cost	Y		Y		$24,900
Total Associated Capital Costs (e.g., Engineering, Land, etc.)	Y		Y		$6,225
Capital Costs	Y		Y		**$31,125**

REGULAR MAINTENANCE ACTIVITIES	Included in WLC Calculation			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Inspection, Reporting & Information Management	Y		Y	3	$140	$47
Vegetation Management with Trash & Minor Debris Removal	Y		Y	1	$480	$480
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
Totals, Regular Maintenance Activities						**$527**

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or >3yrs. betw. events)	Included in WLC			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Corrective Maintenance	Y		Y	4	$1,440	$360
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
Totals, Corrective & Infrequent Maintenance Activities						**$360**

Swale

Site Name: 6 Devon Park Drive Streetscape

Site Location:

Design & Maintenance Options

WATERSHED CHARACTERISTICS	Unit	Model Default	User	Chosen option
Drainage Area (DA)	ac	2.00	2.48	2.48
Drainage Area Impervious Cover (IC)*	pct	40%	100.0%	100%
Watershed Land Use Type *("R"-Residential; "C"-Commercial; "Ro"-Roads; "I"-Industrial)*		R	C	C

* Included since frequently used to calculate facility sizing.

DESIGN & MAINTENANCE OPTIONS	Unit	Model Default	User	Chosen Option
Choose Level of Maintenance *("H"=high; "M"=medium; "L"=low)*	-	M		M

WHOLE LIFE COST OPTIONS	Unit	Model Default	User	Chosen Option
Discount Rate	%	5.50	4.9	4.9

Swale

CAPITAL COSTS

Site Name: 6 Devon Park Drive Streetscape
Site Location:

Choose Capital Costing Option

A	Total Facility Cost	$ 31,125

"A" - Simple Cost based on Drainage Area
"B" - User-Entered Engineer's Estimate

Method A: Simple Cost based on Drainage Area

Cost based on Drainage Area	Cost per Acre of DA Treated		(Chosen option)
	Model Default	User	
Drainage Area (DA) (acres)	2.48		2.48
Base Facility Cost per acre DA*	$ 5,000		$ 5,000
Default Cost Adjustment for Smaller Projects**	2.01		2.01
Resulting Base Cost per acre DA	$ 10,041		$ 10,041
Base Facility Cost (rounded up to nearest $100)	$ 24,900		**$ 24,900**
Engineering & Planning (default = 25% of Base Cost)	$ 6,225		$ 6,225
Land Cost	$ 0		$ 0
Other Costs	$ 0		$ 0
Total Associated Capital Costs (e.g., Engineering, Land, etc.)			**$ 6,225**
Total Facility Cost	**$ 31,125**		**$ 31,125**

*** Base Facility Cost guidelines (circa Year 2005)**
Very High = $15,000/acre
High = $5,000/acre
Medium = $3,000/acre
Low = $1,000/acre
** Smaller projects generally incur higher unit costs for many components; factor added to adjust.
Suggestion: Use higher or lower Base Costs to reflect higher or lower regional construction costs.
Some jurisdictions already have cost relationships established; check to see if any available

Method B: User-Entered Engineer's Estimate

Select from the following list, as applicable to the project or facility type; add items where necessary.

Total Facility Base Costs	Unit	Unit Cost	Quantity	Cost
Mobilization	LS			$ -
Clearing & Grubbing	AC			$ -
Excavation/Grading	CY			$ -
Dewatering	LS			$ -
Haul/Dispose of Excavated Material	CY			$ -
Sediment Pretreatment Struct. (e.g., inlet sump)	LF			$ -
Inflow Structure(s)	LS			$ -
Energy Dissipation Apron	LS			$ -
Overflow Structure (concrete or rock riprap)	CY			$ -
Revegetation/Erosion Controls	SY			$ -
Traffic Control	LS			$ -
Signage, Public Education Materials, etc.	LS			$ -
Other				$ -
Other				$ -
Other				$ -
Total Facility Base Cost				**$ -**
Associated Capital Costs	**Unit**	**Unit Cost**	**Quantity**	**Cost**
Project Management				$ -
Engineering: Preliminary				$ -
Engineering: Final Design				$ -
Topographic Survey				$ -
Geotechnical				$ -
Landscape Design				$ -
Land Acquisition (site, easements, etc.)				$ -
Utility Relocation				$ -
Legal Services				$ -
Permitting & Construction Inspection				$ -
Sales Tax				$ -
Contingency (e.g., 30%)				$ -
Total Associated Capital Costs				**$ -**
Total Facility Cost				**$ -**

Swale

Site Name: 6 Devon Park Drive Streetscape
Site Location:

M	User entered MEDIUM maintenance level in Sheet 1.

** Change on Sheet 1 if desired/applicable **

Maintenance Costs

User may enter lump sum here

ROUTINE MAINTENANCE ACTIVITIES (Frequent, scheduled events)

Cost Item	Frequency (months betw. maint. events)			Hours per Event			Average Labor Crew Size			Avg. (Pro-Rated) Labor Rate/Hr. ($)			Machinery Cost/Hour ($)			Materials & Inciden-tals Cost/Event ($)			Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input
Inspection, Reporting & Information Management	36		36	2		2	1.0		1.0	40		40	30		30	0		0	140		140
Vegetation Management with Trash & Minor Debris Removal	12		12	4		4	2.0		2.0	30		30	60		60	0		0	480		480
add additional activities if necessary	0		0	0		0	0.0		0.0	0		0	0		0	0		0	0		0
add additional activities if necessary	0		0	0		0	0.0		0.0	0		0	0		0	0		0	0		0

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or > 3 yrs. betw. events)

Cost Item	Frequency (months betw. maint. events)			Hours per Event			Average Labor Crew Size			Avg. (Pro-Rated) Labor Rate/Hr. ($)			Machinery Cost/Hour ($)			Materials & Inciden-tals Cost/Event ($)			Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input
Corrective Maintenance	48		48	8		8	4.0		4.0	30		30	60		60	0		0	1,440		1,440
add additional activities if necessary	0		0	0		0	0.0		0.0	0		0	0		0	0		0	0		0
add additional activities if necessary	0		0	0		0	0.0		0.0	0		0	0		0	0		0	0		0

Note: For facilities judged to require larger or smaller amounts of maintenance (due to land area, etc.), consider multiplying the Model output in Column U by a multiplier (e.g., 120%) in Column V.
Another quick means of adjustment would be to multiply the number of Hours per Event by a multiplier in the User Input field.

Swale

Site Name: 6 Devon Park Drive Streetscape
Site Location:

Whole Life Costs

Year	Discount Factor	Capital & Assoc. Costs	Regular Maint. Costs	Corrective Maint.	Total Costs	Present Value of Costs	Cumulative Costs	
							Cash	Present Value
Cash Sum ($)					**$ 74,212**	**$ 46,983**		
0	1.000	**$ 31,125**			$ 31,125	$ 31,125	$ 31,125	$ 31,125
1	0.953	$ -	**$ 527**	$ -	$ 527	$ 502	$ 31,652	$ 31,627
2	0.909	$ -	$ 527	$ -	$ 527	$ 479	$ 32,178	$ 32,106
3	0.866	$ -	$ 527	$ -	$ 527	$ 456	$ 32,705	$ 32,562
4	0.826	$ -	$ 527	$ 1,440	$ 1,967	$ 1,624	$ 34,672	$ 34,186
5	0.787	$ -	$ 527	$ -	$ 527	$ 415	$ 35,198	$ 34,601
6	0.750	$ -	$ 527	$ -	$ 527	$ 395	$ 35,725	$ 34,996
7	0.715	$ -	$ 527	$ -	$ 527	$ 377	$ 36,252	$ 35,373
8	0.682	$ -	$ 527	$ 1,440	$ 1,967	$ 1,341	$ 38,218	$ 36,714
9	0.650	$ -	$ 527	$ -	$ 527	$ 342	$ 38,745	$ 37,057
10	0.620	$ -	$ 527	$ -	$ 527	$ 326	$ 39,272	$ 37,383
11	0.591	$ -	$ 527	$ -	$ 527	$ 311	$ 39,798	$ 37,694
12	0.563	$ -	$ 527	$ 1,440	$ 1,967	$ 1,108	$ 41,765	$ 38,802
13	0.537	$ -	$ 527	$ -	$ 527	$ 283	$ 42,292	$ 39,085
14	0.512	$ -	$ 527	$ -	$ 527	$ 270	$ 42,818	$ 39,354
15	0.488	$ -	$ 527	$ -	$ 527	$ 257	$ 43,345	$ 39,611
16	0.465	$ -	$ 527	$ 1,440	$ 1,967	$ 915	$ 45,312	$ 40,526
17	0.443	$ -	$ 527	$ -	$ 527	$ 234	$ 45,838	$ 40,759
18	0.423	$ -	$ 527	$ -	$ 527	$ 223	$ 46,365	$ 40,982
19	0.403	$ -	$ 527	$ -	$ 527	$ 212	$ 46,892	$ 41,194
20	0.384	$ -	$ 527	$ 1,440	$ 1,967	$ 755	$ 48,858	$ 41,950
21	0.366	$ -	$ 527	$ -	$ 527	$ 193	$ 49,385	$ 42,143
22	0.349	$ -	$ 527	$ -	$ 527	$ 184	$ 49,912	$ 42,327
23	0.333	$ -	$ 527	$ -	$ 527	$ 175	$ 50,438	$ 42,502
24	0.317	$ -	$ 527	$ 1,440	$ 1,967	$ 624	$ 52,405	$ 43,126
25	0.302	$ -	$ 527	$ -	$ 527	$ 159	$ 52,932	$ 43,285
26	0.288	$ -	$ 527	$ -	$ 527	$ 152	$ 53,458	$ 43,437
27	0.275	$ -	$ 527	$ -	$ 527	$ 145	$ 53,985	$ 43,582
28	0.262	$ -	$ 527	$ 1,440	$ 1,967	$ 515	$ 55,952	$ 44,097
29	0.250	$ -	$ 527	$ -	$ 527	$ 132	$ 56,478	$ 44,228
30	0.238	$ -	$ 527	$ -	$ 527	$ 125	$ 57,005	$ 44,354
31	0.227	$ -	$ 527	$ -	$ 527	$ 120	$ 57,532	$ 44,473
32	0.216	$ -	$ 527	$ 1,440	$ 1,967	$ 426	$ 59,498	$ 44,899
33	0.206	$ -	$ 527	$ -	$ 527	$ 109	$ 60,025	$ 45,007
34	0.197	$ -	$ 527	$ -	$ 527	$ 104	$ 60,552	$ 45,111
35	0.187	$ -	$ 527	$ -	$ 527	$ 99	$ 61,078	$ 45,210
36	0.179	$ -	$ 527	$ 1,440	$ 1,967	$ 351	$ 63,045	$ 45,561
37	0.170	$ -	$ 527	$ -	$ 527	$ 90	$ 63,572	$ 45,651
38	0.162	$ -	$ 527	$ -	$ 527	$ 86	$ 64,098	$ 45,736
39	0.155	$ -	$ 527	$ -	$ 527	$ 82	$ 64,625	$ 45,818
40	0.148	$ -	$ 527	$ 1,440	$ 1,967	$ 290	$ 66,592	$ 46,108
41	0.141	$ -	$ 527	$ -	$ 527	$ 74	$ 67,118	$ 46,182
42	0.134	$ -	$ 527	$ -	$ 527	$ 71	$ 67,645	$ 46,253
43	0.128	$ -	$ 527	$ -	$ 527	$ 67	$ 68,172	$ 46,320
44	0.122	$ -	$ 527	$ 1,440	$ 1,967	$ 240	$ 70,138	$ 46,560
45	0.116	$ -	$ 527	$ -	$ 527	$ 61	$ 70,665	$ 46,621
46	0.111	$ -	$ 527	$ -	$ 527	$ 58	$ 71,192	$ 46,679
47	0.106	$ -	$ 527	$ -	$ 527	$ 56	$ 71,718	$ 46,735
48	0.101	$ -	$ 527	$ 1,440	$ 1,967	$ 198	$ 73,685	$ 46,933
49	0.096	$ -	$ 527	$ -	$ 527	$ 51	$ 74,212	$ 46,983
50	0.091	$ 1	$ 527	$ -	$ 528	$ 48	$ 74,739	$ 47,032

Extended Detention Basin

Site Name:7-S.R. 202 Interchange

Site Location:

Design & Maintenance Options

WATERSHED CHARACTERISTICS	Unit	Model Default	User	Chosen option
Drainage Area (DA)	ac	10.00	895.20	895.20
Drainage Area Impervious Cover (IC)*	pct	40%		40%
Watershed Land Use Type *("R"-Residential; "C"-Commercial; "Ro"-Roads; "I"-Industrial)*		R		R

* Included since frequently used to calculate storage volume.

FACILITY STORAGE VOLUME	Unit	Model Default	User	Chosen Option
Water Quality Volume (WQV)*	ft^3	1,624,788		1,624,788
Flood Detention/Attenuation Volume	ft^3			0
Channel Protection/Erosion Control Volume**	ft^3			0
Other Volume (e.g., Recharge Volume)	ft^3			0
TOTAL FACILITY STORAGE VOLUME	ft^3		0	1,624,788

* Model default is 1/2-inch of capture over drainage area; actual volume will depend on regional regulatory requirements and site-specific characteristics, etc.

** For example, 24-hour extended detention storage.

DESIGN & MAINTENANCE OPTIONS	Unit	Model Default	User	Chosen Option
Choose Level of Maintenance *("H"=high; "M"=medium; "L"=low)*	-	M		M
Main Pool Volume	yd^3	60,177		60,177
Pct. Full when sediment removed from Basin*	pct	25%		25%
Quantity of Sediment Removed from Basin	yd^3	15,044		15,044

* Can adjust to be higher if expect heavy soils/sediment deposition to basin.

WHOLE LIFE COST OPTIONS	Unit	Model Default	User	Chosen Option
Discount Rate	%	5.50	4.9	4.9

Extended Detention Basin

CAPITAL COSTS

Site Name:7-S.R. 202 Interchange
Site Location:

Choose Capital Costing Option

A	Total Facility Cost	$ 1,119,000

"A" - Simple Cost based on Drainage Area
"B" - User-Entered Engineer's Estimate

Method A: Simple Cost based on Drainage Area

Cost based on Drainage Area	Cost per Acre of DA Treated		(Chosen option)
	Model Default	User	
Drainage Area (DA) (acres)	895.20		895.20
Base Facility Cost per acre DA*	$ 1,000		$ 1,000
Default Cost Adjustment for Smaller Projects**	1.00		1.00
Resulting Base Cost per acre DA	$ 1,000		$ 1,000
Base Facility Cost (rounded up to nearest $100)	$ 895,200		**$ 895,200**
Engineering & Planning (default = 25% of Base Cost)	$ 223,800		$ 223,800
Land Cost	$ 0		$ 0
Other Costs	$ 0		$ 0
Total Associated Capital Costs (e.g., Engineering, Land, etc.)			**$ 223,800**
Total Facility Cost	**$ 1,119,000**		**$ 1,119,000**

*** Base Facility Cost guidelines (circa Year 2005)**
Very High = $15,000/acre
High = $5,000/acre
Medium = $3,000/acre
Low = $1,000/acre
** Smaller projects generally incur higher unit costs for many components; factor added to adjust.
Suggestion: Use higher or lower Base Costs to reflect higher or lower regional construction costs.
Some jurisdictions already have cost relationships established; check to see if any available.

Method B: User-Entered Engineer's Estimate

Select from the following list, as applicable to the project or facility type; add items where necessary

Total Facility Base Costs	Unit	Unit Cost	Quantity	Cost
Mobilization	LS			$ -
Clearing & Grubbing	AC			$ -
Excavation/Embankment	CY			$ -
Dewatering	LS			$ -
Haul/Dispose of Excavated Material	CY			$ -
Sediment Pretreatment Struct. (e.g., inlet sump)	LF			$ -
Trash Rack	LF			$ -
Inflow Structure(s)	LS			$ -
Energy Dissipation Apron	LS			$ -
Outflow Structure	LS			$ -
Overflow Structure (concrete or rock riprap)	CY			$ -
Dam/Embankment	CY			$ -
Impermeable Liner	SY			$ -
Site Landscaping (e.g., trees)	LS			$ -
Maintenance Access Ramp/Pad	LS			$ -
Revegetation/Erosion Controls	SY			$ -
Traffic Control	LS			$ -
Amenity Items (e.g. recreational facilities, seating)	LS			$ -
Signage, Public Education Materials, etc.	LS			$ -
Other				$ -
Other				$ -
Other				$ -
Total Facility Base Cost				**$ -**
Associated Capital Costs	**Unit**	**Unit Cost**	**Quantity**	**Cost**
Project Management				$ -
Engineering: Preliminary				$ -
Engineering: Final Design				$ -
Topographic Survey				$ -
Geotechnical				$ -
Landscape Design				$ -
Land Acquisition (site, easements, etc.)				$ -
Utility Relocation				$ -
Legal Services				$ -
Permitting & Construction Inspection				$ -
Sales Tax				$ -
Contingency (e.g., 30%)				$ -
Total Associated Capital Costs				**$ -**
Total Facility Cost				**$ -**

Extended Detention Basin

M User entered MEDIUM maintenance level in Sheet 1.

** Change on Sheet 1 if desired/applicable **

Site Name:7-S.R. 202 Interchange

Site Location:

Maintenance Costs

User may enter lump sum here

ROUTINE MAINTENANCE ACTIVITIES (Frequent, scheduled events)

Cost Item	Frequency (months betw. maint. events)			Hours per Event			Average Labor Crew Size			Avg. (Pro-Rated) Labor Rate/Hr. ($)			Machinery Cost/Hour ($)			Materials & Inciden-tals Cost/Event ($)			Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input
Inspection, Reporting & Information Management	36		36	2		2	1.0		1.0	40		40	30		30	0		0	140		140
Vegetation Management with Trash & Minor Debris Removal	12		12	4		4	2.0		2.0	30		30	60		60	0		0	480		480
Vector Control	36		36	0		0	1.0		1.0	40		40	200		200	200		200	200		200
add additional activities if necessary			0			0			0.0			0			0			0	0		0
add additional activities if necessary			0			0			0.0			0			0			0	0		0

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or > 3 yrs. betw. events)

Cost Item	Frequency (months betw. maint. events)			Hours per Event			Average Labor Crew Size			Avg. (Pro-Rated) Labor Rate/Hr. ($)			Machinery Cost/Hour ($)			Materials & Inciden-tals Cost/Event ($)			Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input
Intermittent Facility Maintenance (Excluding Sediment Removal)	12		12			0			0.0			0			0			0	1,000		1,000
add additional activities if necessary			0			0			0.0			0			0			0	0		0
add additional activities if necessary			0			0			0.0			0			0			0	0		0

Cost Item	Frequency (months betw. maint. events)			Sediment Quantity (yds3) [from Sheet 1]			Cost per yd3 to Remove, Dispose of Sediment												Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input										Model	User	Input
Sediment Removal	120		120	15,044		15,044	25.0		25.0										376,108		376,108
add additional activities if necessary			0			0			0.0										0		0
add additional activities if necessary			0			0			0.0										0		0

Note: For facilities judged to require larger or smaller amounts of maintenance (due to land area, etc.), consider multiplying the Model output in Column U by a multiplier (e.g., 120%) in Column V. Another quick means of adjustment would be to multiply the number of Hours per Event by a multiplier in the User Input field.

Extended Detention Basin

Site Name:7-S.R. 202 Interchange
Site Location:

Cost Summary

CAPITAL COSTS	Included in WLC Calculation			Total Cost	
	Model	User	Chosen option		
Total Facility Base Cost	Y		Y		$895,200
Total Associated Capital Costs (e.g., Engineering, Land, etc.)	Y		Y		$223,800
Capital Costs	Y		Y		**$1,119,000**

REGULAR MAINTENANCE ACTIVITIES	Included in WLC Calculation			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Inspection, Reporting & Information Management	Y		Y	3	$140	$47
Vegetation Management with Trash & Minor Debris Removal	Y		Y	1	$480	$480
Vector Control	Y		Y	3	$200	$67
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
Totals, Regular Maintenance Activities						**$593**

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or >3yrs. betw. events)	Included in WLC			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Intermittent Facility Maintenance (Excluding Sediment Removal)	Y		Y	1	$1,000	$1,000
Sediment Removal	Y		Y	10	$376,108	$37,611
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
Totals, Corrective & Infrequent Maintenance Activities						**$38,611**

Total O&M	**$39,204**

Extended Detention Basin

Site Name:7-S.R. 202 Interchange
Site Location:

Whole Life Costs

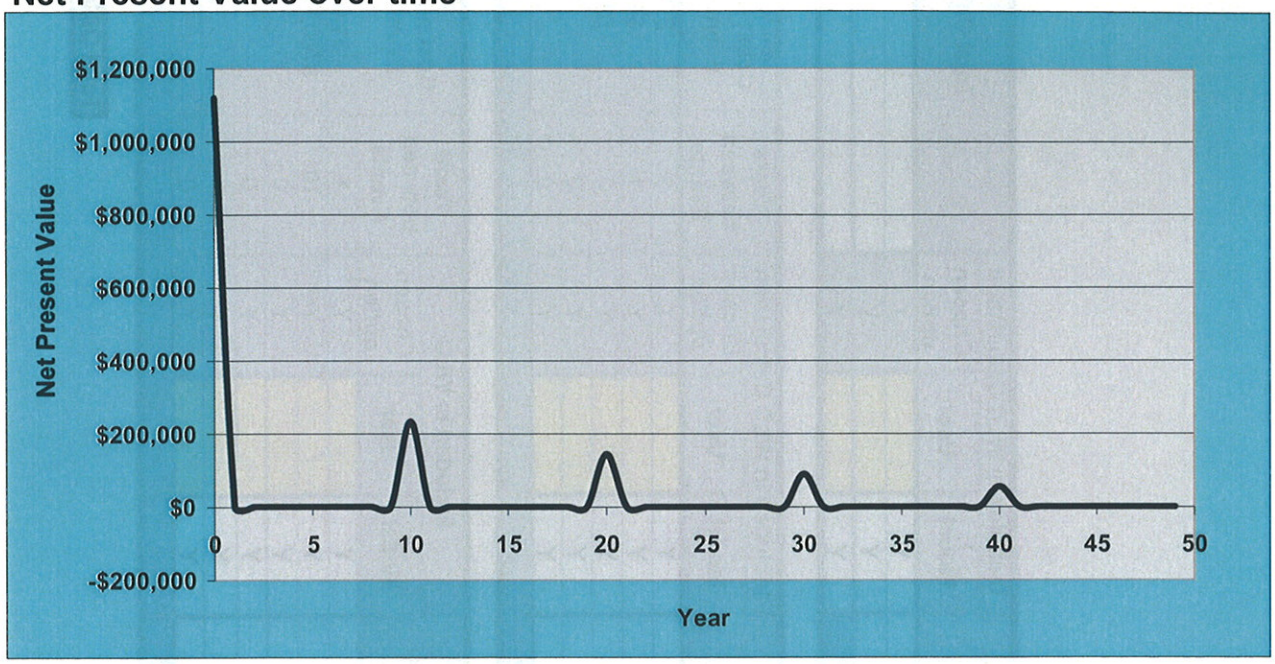
EUAC $ 33,421

Year	Discount Factor	Capital & Assoc. Costs	Regular Maint. Costs	Corrective & Infrequent Maint. Activities: Intermit. Facility Maint.	Sediment Removal	Other [User Entered]	Total Irregular Maint.	Total Costs	Present Value of Costs	Cumulative Costs: Cash	Present Value
Cash Sum ($)								$ 2,701,507	$ 1,671,031		
0	1.000	$ 1,119,000						$ 1,119,000	$ 1,119,000	$ 1,119,000	$ 1,119,000
1	0.953	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,519	$ 1,120,593	$ 1,120,519
2	0.909	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,448	$ 1,122,187	$ 1,121,967
3	0.866	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,380	$ 1,123,780	$ 1,123,347
4	0.826	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,316	$ 1,125,373	$ 1,124,663
5	0.787	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,254	$ 1,126,967	$ 1,125,917
6	0.750	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,196	$ 1,128,560	$ 1,127,113
7	0.715	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,140	$ 1,130,153	$ 1,128,253
8	0.682	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,087	$ 1,131,747	$ 1,129,340
9	0.650	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,036	$ 1,133,340	$ 1,130,376
10	0.620	$ -	$ 593	$ 1,000	$ 376,108	$ -	$ 377,108	$ 377,702	$ 234,096	$ 1,511,042	$ 1,364,472
11	0.591	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 941	$ 1,512,635	$ 1,365,413
12	0.563	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 897	$ 1,514,228	$ 1,366,311
13	0.537	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 856	$ 1,515,822	$ 1,367,166
14	0.512	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 816	$ 1,517,415	$ 1,367,982
15	0.488	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 777	$ 1,519,008	$ 1,368,759
16	0.465	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 741	$ 1,520,602	$ 1,369,500
17	0.443	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 707	$ 1,522,195	$ 1,370,207
18	0.423	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 674	$ 1,523,788	$ 1,370,880
19	0.403	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 642	$ 1,525,382	$ 1,371,522
20	0.384	$ -	$ 593	$ 1,000	$ 376,108	$ -	$ 377,108	$ 377,702	$ 145,091	$ 1,903,083	$ 1,516,613
21	0.366	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 583	$ 1,904,677	$ 1,517,196
22	0.349	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 556	$ 1,906,270	$ 1,517,753
23	0.333	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 530	$ 1,907,863	$ 1,518,283
24	0.317	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 505	$ 1,909,457	$ 1,518,788
25	0.302	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 482	$ 1,911,050	$ 1,519,270
26	0.288	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 459	$ 1,912,643	$ 1,519,729
27	0.275	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 438	$ 1,914,237	$ 1,520,167
28	0.262	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 417	$ 1,915,830	$ 1,520,585
29	0.250	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 398	$ 1,917,423	$ 1,520,983
30	0.238	$ -	$ 593	$ 1,000	$ 376,108	$ -	$ 377,108	$ 377,702	$ 89,926	$ 2,295,125	$ 1,610,909
31	0.227	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 362	$ 2,296,718	$ 1,611,270
32	0.216	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 345	$ 2,298,312	$ 1,611,615
33	0.206	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 329	$ 2,299,905	$ 1,611,944
34	0.197	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 313	$ 2,301,498	$ 1,612,257
35	0.187	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 299	$ 2,303,092	$ 1,612,555
36	0.179	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 285	$ 2,304,685	$ 1,612,840
37	0.170	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 271	$ 2,306,278	$ 1,613,112
38	0.162	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 259	$ 2,307,872	$ 1,613,370
39	0.155	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 247	$ 2,309,465	$ 1,613,617
40	0.148	$ -	$ 593	$ 1,000	$ 376,108	$ -	$ 377,108	$ 377,702	$ 55,735	$ 2,687,167	$ 1,669,352
41	0.141	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 224	$ 2,688,760	$ 1,669,576
42	0.134	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 214	$ 2,690,353	$ 1,669,790
43	0.128	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 204	$ 2,691,947	$ 1,669,994
44	0.122	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 194	$ 2,693,540	$ 1,670,188
45	0.116	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 185	$ 2,695,133	$ 1,670,373
46	0.111	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 176	$ 2,696,727	$ 1,670,549
47	0.106	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 168	$ 2,698,320	$ 1,670,718
48	0.101	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 160	$ 2,699,913	$ 1,670,878
49	0.096	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 153	$ 2,701,507	$ 1,671,031
50	0.091	$ 1	$ 593	$ 1,000	$ 376,108	$ -	$ 377,108	$ 377,703	$ 34,544	$ 3,079,209	$ 1,705,575

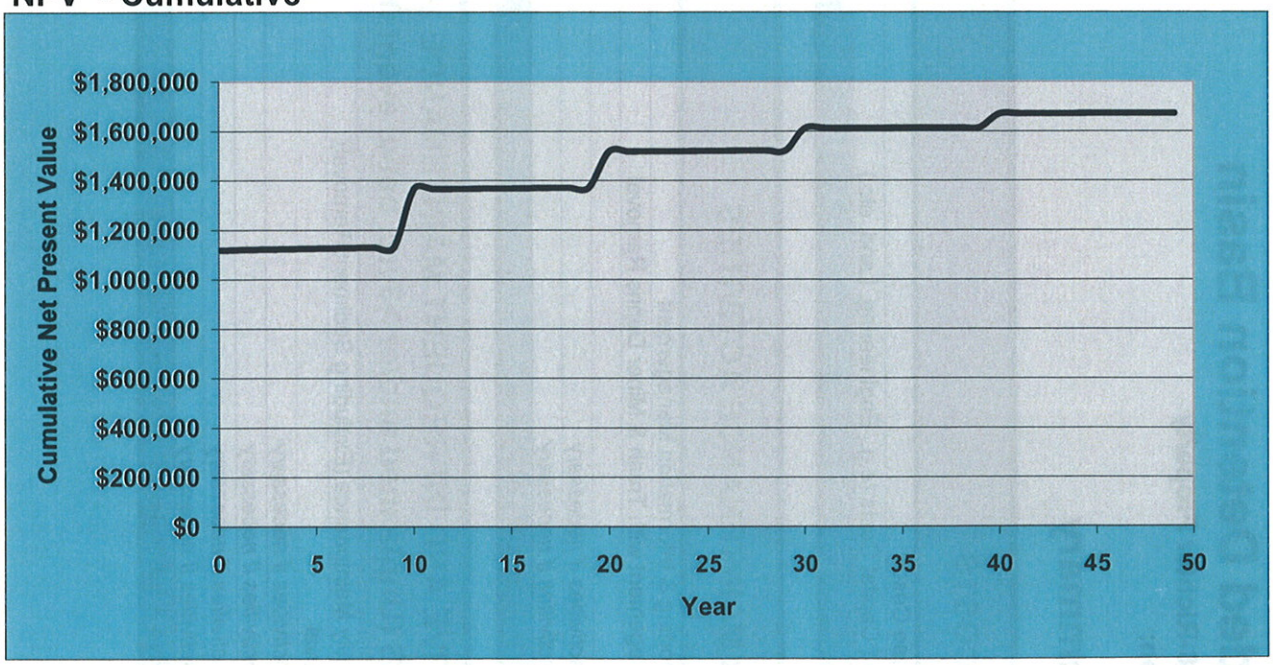
Extended Detention Basin

Site Name:7-S.R. 202 Interchange
Site Location:

Net Present Value over time



NPV - Cumulative



Extended Detention Basin

Site Name: 8-Richter Property
Site Location:

Cost Summary

CAPITAL COSTS	Included in WLC Calculation			Total Cost	
	Model	User	Chosen option		
Total Facility Base Cost	Y		Y		$1,668,000
Total Associated Capital Costs (e.g., Engineering, Land, etc.)	Y		Y		$417,000
Capital Costs	Y		Y		**$2,085,000**

REGULAR MAINTENANCE ACTIVITIES	Included in WLC Calculation			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Inspection, Reporting & Information Management	Y		Y	3	$140	$47
Vegetation Management with Trash & Minor Debris Removal	Y		Y	1	$480	$480
Vector Control	Y		Y	3	$200	$67
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
Totals, Regular Maintenance Activities						**$593**

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or >3yrs. betw. events)	Included in WLC			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Intermittent Facility Maintenance (Excluding Sediment Removal)	Y		Y	1	$1,000	$1,000
Sediment Removal	Y		Y	10	$700,792	$70,079
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
Totals, Corrective & Infrequent Maintenance Activities						**$71,079**

Total O&M	**$71,673**

Extended Detention Basin

Site Name: 8-Richter Property

Site Location:

Design & Maintenance Options

WATERSHED CHARACTERISTICS	Unit	Model Default	User	Chosen option
Drainage Area (DA)	ac	10.00	1668.00	1668.00
Drainage Area Impervious Cover (IC)*	pct	40%		40%
Watershed Land Use Type *("R"-Residential; "C"-Commercial; "Ro"-Roads; "I"-Industrial)*		R		R

* Included since frequently used to calculate storage volume.

FACILITY STORAGE VOLUME	Unit	Model Default	User	Chosen Option
Water Quality Volume (WQV)*	ft^3	3,027,420		3,027,420
Flood Detention/Attenuation Volume	ft^3			0
Channel Protection/Erosion Control Volume**	ft^3			0
Other Volume (e.g., Recharge Volume)	ft^3			0
TOTAL FACILITY STORAGE VOLUME	ft^3		0	3,027,420

* Model default is 1/2-inch of capture over drainage area; actual volume will depend on regional regulatory requirements and site-specific characteristics, etc.

** For example, 24-hour extended detention storage.

DESIGN & MAINTENANCE OPTIONS	Unit	Model Default	User	Chosen Option
Choose Level of Maintenance *("H"=high; "M"=medium; "L"=low)*	-	M		M
Main Pool Volume	yd^3	112,127		112,127
Pct. Full when sediment removed from Basin*	pct	25%		25%
Quantity of Sediment Removed from Basin	yd^3	28,032		28,032

* Can adjust to be higher if expect heavy soils/sediment deposition to basin.

WHOLE LIFE COST OPTIONS	Unit	Model Default	User	Chosen Option
Discount Rate	%	5.50	4.9	4.9

Extended Detention Basin

CAPITAL COSTS

Site Name: 8-Richter Property
Site Location:

Choose Capital Costing Option

A	Total Facility Cost	$ 2,085,000

"A" - Simple Cost based on Drainage Area
"B" - User-Entered Engineer's Estimate

Method A: Simple Cost based on Drainage Area

Cost based on Drainage Area	Cost per Acre of DA Treated		(Chosen option)
	Model Default	User	
Drainage Area (DA) (acres)	1668.00		1668.00
Base Facility Cost per acre DA*	$ 1,000		$ 1,000
Default Cost Adjustment for Smaller Projects**	1.00		1.00
Resulting Base Cost per acre DA	$ 1,000		$ 1,000
Base Facility Cost (rounded up to nearest $100)	$ 1,668,000		**$ 1,668,000**
Engineering & Planning (default = 25% of Base Cost)	$ 417,000		$ 417,000
Land Cost	$ 0		$ 0
Other Costs	$ 0		$ 0
Total Associated Capital Costs (e.g., Engineering, Land, etc.)			**$ 417,000**
Total Facility Cost	**$ 2,085,000**		**$ 2,085,000**

*** Base Facility Cost guidelines (circa Year 2005)**
Very High = $15,000/acre
High = $5,000/acre
Medium = $3,000/acre
Low = $1,000/acre
** Smaller projects generally incur higher unit costs for many components; factor added to adjust.
Suggestion: Use higher or lower Base Costs to reflect higher or lower regional construction costs.
Some jurisdictions already have cost relationships established; check to see if any available.

Method B: User-Entered Engineer's Estimate

Select from the following list, as applicable to the project or facility type; add items where necessary

Total Facility Base Costs	Unit	Unit Cost	Quantity	Cost
Mobilization	LS			$ -
Clearing & Grubbing	AC			$ -
Excavation/Embankment	CY			$ -
Dewatering	LS			$ -
Haul/Dispose of Excavated Material	CY			$ -
Sediment Pretreatment Struct. (e.g., inlet sump)	LF			$ -
Trash Rack	LF			$ -
Inflow Structure(s)	LS			$ -
Energy Dissipation Apron	LS			$ -
Outflow Structure	LS			$ -
Overflow Structure (concrete or rock riprap)	CY			$ -
Dam/Embankment	CY			$ -
Impermeable Liner	SY			$ -
Site Landscaping (e.g., trees)	LS			$ -
Maintenance Access Ramp/Pad	LS			$ -
Revegetation/Erosion Controls	SY			$ -
Traffic Control	LS			$ -
Amenity Items (e.g. recreational facilities, seating)	LS			$ -
Signage, Public Education Materials, etc.	LS			$ -
Other				$ -
Other				$ -
Other				$ -
Total Facility Base Cost				**$ -**
Associated Capital Costs	**Unit**	**Unit Cost**	**Quantity**	**Cost**
Project Management				$ -
Engineering: Preliminary				$ -
Engineering: Final Design				$ -
Topographic Survey				$ -
Geotechnical				$ -
Landscape Design				$ -
Land Acquisition (site, easements, etc.)				$ -
Utility Relocation				$ -
Legal Services				$ -
Permitting & Construction Inspection				$ -
Sales Tax				$ -
Contingency (e.g., 30%)				$ -
Total Associated Capital Costs				**$ -**
Total Facility Cost				**$ -**

Extended Detention Basin

M User entered MEDIUM maintenance level in Sheet 1.

** Change on Sheet 1 if desired/applicable **

Site Name: 8-Richter Property

Site Location:

Maintenance Costs

User may enter lump sum here

ROUTINE MAINTENANCE ACTIVITIES (Frequent, scheduled events)

Cost Item	Frequency (months betw. maint. events)			Hours per Event			Average Labor Crew Size			Avg. (Pro-Rated) Labor Rate/Hr. ($)			Machinery Cost/Hour ($)			Materials & Inciden-tals Cost/Event ($)			Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input
Inspection, Reporting & Information Management	36		36	2		2	1.0		1.0	40		40	30		30	0		0	140		140
Vegetation Management with Trash & Minor Debris Removal	12		12	4		4	2.0		2.0	30		30	60		60	0		0	480		480
Vector Control	36		36	0		0	1.0		1.0	40		40	200		200	200		200	200		200
add additional activities if necessary			0			0			0.0			0			0			0	0		0
add additional activities if necessary			0			0			0.0			0			0			0	0		0

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or > 3 yrs. betw. events)

Cost Item	Frequency (months betw. maint. events)			Hours per Event			Average Labor Crew Size			Avg. (Pro-Rated) Labor Rate/Hr. ($)			Machinery Cost/Hour ($)			Materials & Inciden-tals Cost/Event ($)			Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input	Model	User	Input
Intermittent Facility Maintenance (Excluding Sediment Removal)	12		12			0			0.0			0			0			0	1,000		1,000
add additional activities if necessary			0			0			0.0			0			0			0	0		0
add additional activities if necessary			0			0			0.0			0			0			0	0		0

Cost Item	Frequency (months betw. maint. events)			Sediment Quantity (yds3) [from Sheet 1]			Cost per yd3 to Remove, Dispose of Sediment												Total cost per visit ($)		
	Model	User	Input	Model	User	Input	Model	User	Input										Model	User	Input
Sediment Removal	120		120	28,032		28,032	25.0		25.0										700,792		700,792
add additional activities if necessary			0			0			0.0										0		0
add additional activities if necessary			0			0			0.0										0		0

Note: For facilities judged to require larger or smaller amounts of maintenance (due to land area, etc.), consider multiplying the Model output in Column U by a multiplier (e.g., 120%) in Column V. Another quick means of adjustment would be to multiply the number of Hours per Event by a multiplier in the User Input field.

Extended Detention Basin

Site Name: 8-Richter Property
Site Location:

Whole Life Costs

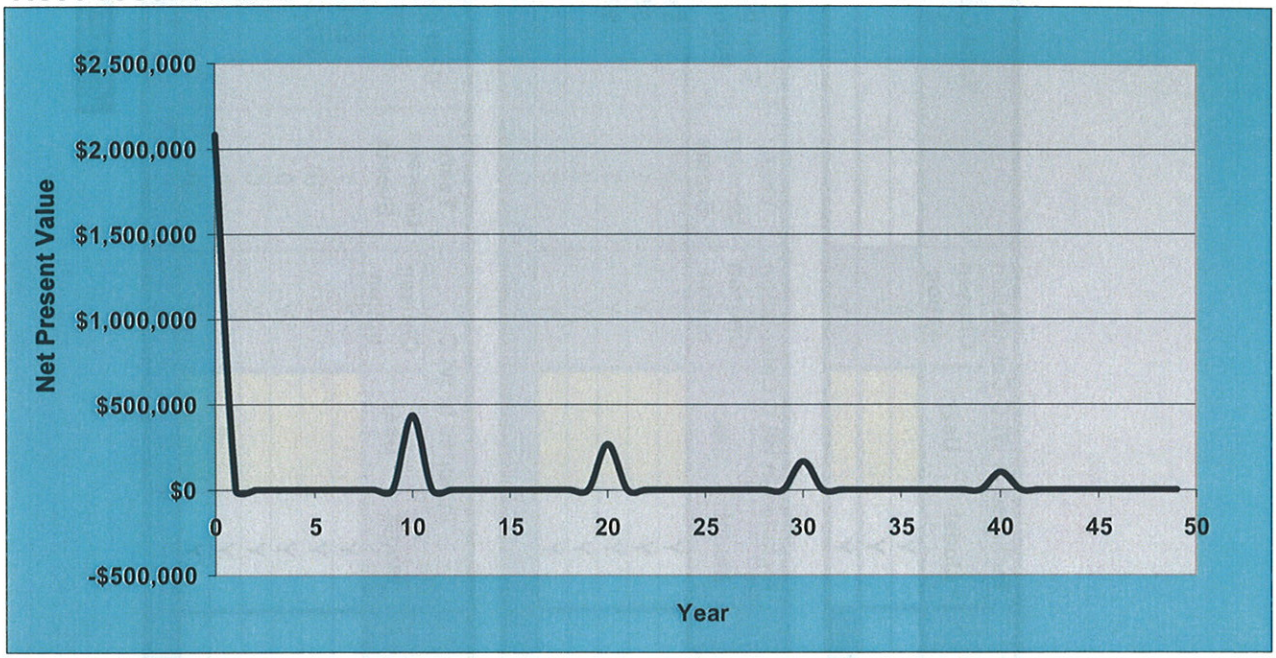
EUAC $ 61,764

Year	Discount Factor	Capital & Assoc. Costs	Regular Maint. Costs	Corrective & Infrequent Maint. Activities: Intermit. Facility Maint.	Sediment Removal	Other [User Entered]	Total Irregular Maint.	Total Costs	Present Value of Costs	Cumulative Costs: Cash	Present Value
Cash Sum ($)								$ 4,966,240	$ 3,088,205		
0	1.000	$ 2,085,000						$ 2,085,000	$ 2,085,000	$ 2,085,000	$ 2,085,000
1	0.953	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,519	$ 2,086,593	$ 2,086,519
2	0.909	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,448	$ 2,088,187	$ 2,087,967
3	0.866	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,380	$ 2,089,780	$ 2,089,347
4	0.826	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,316	$ 2,091,373	$ 2,090,663
5	0.787	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,254	$ 2,092,967	$ 2,091,917
6	0.750	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,196	$ 2,094,560	$ 2,093,113
7	0.715	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,140	$ 2,096,153	$ 2,094,253
8	0.682	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,087	$ 2,097,747	$ 2,095,340
9	0.650	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 1,036	$ 2,099,340	$ 2,096,376
10	0.620	$ -	$ 593	$ 1,000	$ 700,792	$ -	$ 701,792	$ 702,385	$ 435,332	$ 2,801,725	$ 2,531,707
11	0.591	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 941	$ 2,803,318	$ 2,532,649
12	0.563	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 897	$ 2,804,912	$ 2,533,546
13	0.537	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 856	$ 2,806,505	$ 2,534,402
14	0.512	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 816	$ 2,808,098	$ 2,535,217
15	0.488	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 777	$ 2,809,692	$ 2,535,995
16	0.465	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 741	$ 2,811,285	$ 2,536,736
17	0.443	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 707	$ 2,812,878	$ 2,537,442
18	0.423	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 674	$ 2,814,472	$ 2,538,116
19	0.403	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 642	$ 2,816,065	$ 2,538,758
20	0.384	$ -	$ 593	$ 1,000	$ 700,792	$ -	$ 701,792	$ 702,385	$ 269,815	$ 3,518,450	$ 2,808,573
21	0.366	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 583	$ 3,520,043	$ 2,809,156
22	0.349	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 556	$ 3,521,637	$ 2,809,712
23	0.333	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 530	$ 3,523,230	$ 2,810,243
24	0.317	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 505	$ 3,524,823	$ 2,810,748
25	0.302	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 482	$ 3,526,417	$ 2,811,230
26	0.288	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 459	$ 3,528,010	$ 2,811,689
27	0.275	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 438	$ 3,529,603	$ 2,812,127
28	0.262	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 417	$ 3,531,197	$ 2,812,545
29	0.250	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 398	$ 3,532,790	$ 2,812,943
30	0.238	$ -	$ 593	$ 1,000	$ 700,792	$ -	$ 701,792	$ 702,385	$ 167,229	$ 4,235,175	$ 2,980,171
31	0.227	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 362	$ 4,236,768	$ 2,980,533
32	0.216	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 345	$ 4,238,362	$ 2,980,878
33	0.206	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 329	$ 4,239,955	$ 2,981,206
34	0.197	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 313	$ 4,241,548	$ 2,981,519
35	0.187	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 299	$ 4,243,142	$ 2,981,818
36	0.179	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 285	$ 4,244,735	$ 2,982,103
37	0.170	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 271	$ 4,246,328	$ 2,982,374
38	0.162	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 259	$ 4,247,922	$ 2,982,633
39	0.155	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 247	$ 4,249,515	$ 2,982,880
40	0.148	$ -	$ 593	$ 1,000	$ 700,792	$ -	$ 701,792	$ 702,385	$ 103,647	$ 4,951,900	$ 3,086,526
41	0.141	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 224	$ 4,953,493	$ 3,086,750
42	0.134	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 214	$ 4,955,087	$ 3,086,964
43	0.128	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 204	$ 4,956,680	$ 3,087,168
44	0.122	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 194	$ 4,958,273	$ 3,087,362
45	0.116	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 185	$ 4,959,867	$ 3,087,547
46	0.111	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 176	$ 4,961,460	$ 3,087,724
47	0.106	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 168	$ 4,963,053	$ 3,087,892
48	0.101	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 160	$ 4,964,647	$ 3,088,052
49	0.096	$ -	$ 593	$ 1,000	$ -	$ -	$ 1,000	$ 1,593	$ 153	$ 4,966,240	$ 3,088,205
50	0.091	$ 1	$ 593	$ 1,000	$ 700,792	$ -	$ 701,792	$ 702,386	$ 64,239	$ 5,668,626	$ 3,152,444

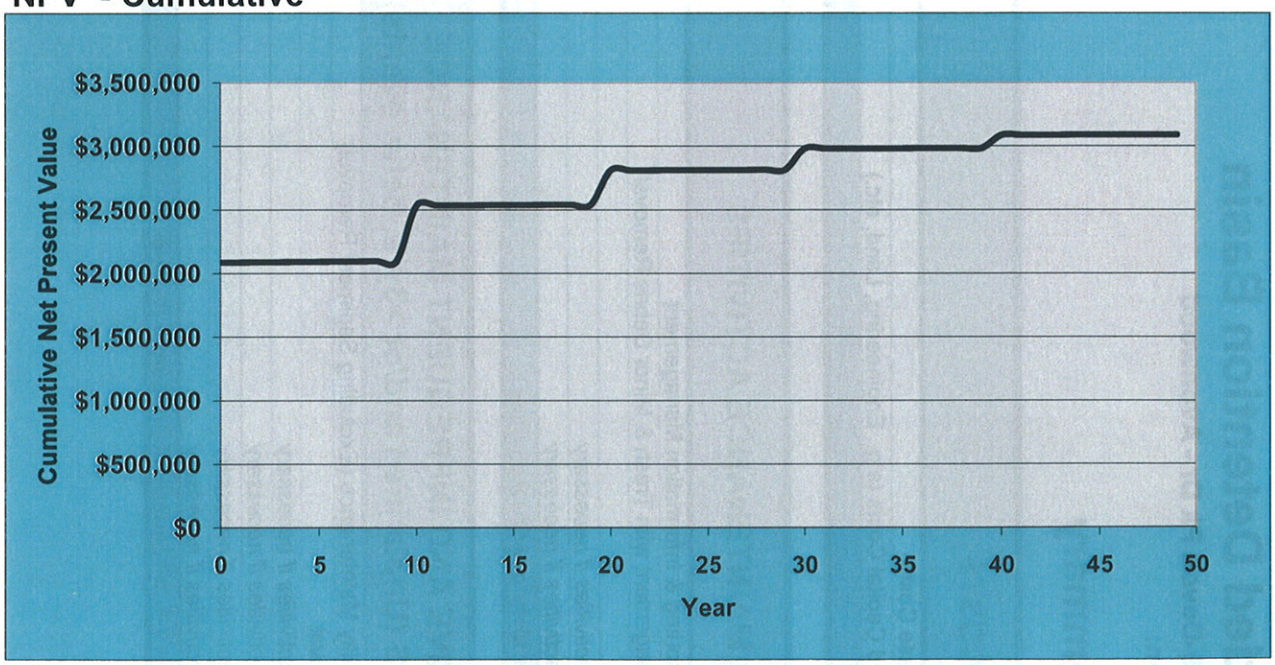
Extended Detention Basin

Site Name: 8-Richter Property
Site Location:

Net Present Value over time



NPV - Cumulative



Extended Detention Basin

Site Name: 9-Devon Pk Dr - Avonwood
Site Location:

Cost Summary

CAPITAL COSTS	Included in WLC Calculation			Total Cost	
	Model	User	Chosen option		
Total Facility Base Cost	Y		Y		$103,300
Total Associated Capital Costs (e.g., Engineering, Land, etc.)	Y		Y		$25,825
Capital Costs	Y		Y		**$129,125**

REGULAR MAINTENANCE ACTIVITIES	Included in WLC Calculation			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Inspection, Reporting & Information Management	Y		Y	3	$140	$47
Vegetation Management with Trash & Minor Debris Removal	Y		Y	1	$480	$480
Vector Control	Y		Y	3	$200	$67
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
Totals, Regular Maintenance Activities						**$593**

CORRECTIVE AND INFREQUENT MAINTENANCE ACTIVITIES (Unplanned and/or >3yrs. betw. events)	Included in WLC			Years between Events	Cost per Event	Total Cost per Year
	Model	User	Chosen option			
Intermittent Facility Maintenance (Excluding Sediment Removal)	Y		Y	1	$1,000	$1,000
Sediment Removal	Y		Y	10	$32,244	$3,224
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
add additional activities if necessary	Y		Y	0	$0	$0
Totals, Corrective & Infrequent Maintenance Activities						**$4,224**

Total O&M	**$4,818**