

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Kiowa Creek 1		
REACH :	Kiowa 1		
JURISDICTION :	Arapahoe County		
REACH ID :	Kiowa 1-ReachKiowa 1	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS	
<b>Hydraulic Structures</b>						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
5	250	3.47	6	EA	\$479,943.06	\$2,879,658.00
<b>Landscaping and Maintenance Improvements</b>						
Wetlands Plantings	2	ACRE	\$29,785.00	\$44,678.00		
Reclamation & seeding (native grasses)	2	ACRE	\$1,191.00	\$1,787.00		
<b>Special Items (User Defined)</b>						
Bridge Removal	<----User Defined Items	43680	SF	\$150.00	\$6,552,000.00	For both I-70 bridges
Bridge Replacement	<----User Defined Items	43680	SF	\$25.00	\$1,092,000.00	For both I-70 bridges
<b>Land Acquisition</b>						
Temporary Easements	6	EA	\$10,000.00	\$60,000.00		

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$2,879,658.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$46,465.00
Special Items (User Defined)				\$7,644,000.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$10,570,123.00</b>
Additional Capital Improvement Costs				
Dewatering	\$150,000.00	L.S.		\$150,000.00
Mobilization	5%			\$528,506.00
Traffic Control	\$100,000.00	L.S.		\$100,000.00
Utility Coordination/Relocation	\$50,000.00	L.S.		\$50,000.00
Stormwater Management/Erosion Control	5%			\$528,506.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$1,357,012.00</b>
Land Acquisition Costs				
ROW/Easements				\$60,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$60,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$1,789,070.00
Legal/Administrative	5%			\$596,357.00
Contract Admin/Construction Management	10%			\$1,192,714.00
Contingency	25%			\$2,981,784.00
<b>Subtotal Other Costs</b>				<b>\$6,559,925.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$18,547,060.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs)	520	L.F.	\$1.00	\$1,040.00
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	6	EA	\$596.00	\$7,152.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$8,192.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$175,982.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Kiowa Creek 2		
REACH :	Kiowa 2		
JURISDICTION :	Arapahoe County		
REACH ID :	Kiowa 2-ReachKiowa 2	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS	
<b>Hydraulic Structures</b>						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
5	200	4.2	5	EA	\$403,411.69	\$2,017,058.00
<b>Landscaping and Maintenance Improvements</b>						
Wetlands Plantings	1	ACRE	\$29,785.00	\$37,231.00		
Reclamation & seeding (native grasses)	1	ACRE	\$1,191.00	\$1,489.00		
<b>Land Acquisition</b>						
Temporary Easements	5	EA	\$10,000.00	\$50,000.00		

Master Plan Capital Improvement Cost Summary				
<b>Capital Improvement Costs</b>				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$2,017,058.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$38,720.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$2,055,778.00</b>
<b>Additional Capital Improvement Costs</b>				
Dewatering	\$50,000.00	L.S.		\$50,000.00
Mobilization	5%			\$102,789.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$102,789.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$255,578.00</b>
<b>Land Acquisition Costs</b>				
ROW/Easements				\$50,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$50,000.00</b>
<b>Other Costs (percentage of Capital Improvement Costs)</b>				
Engineering	15%			\$346,703.00
Legal/Administrative	5%			\$115,568.00
Contract Admin/Construction Management	10%			\$231,136.00
Contingency	25%			\$577,839.00
<b>Subtotal Other Costs</b>				<b>\$1,271,246.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$3,632,602.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	5	EA	\$596.00	\$5,960.00
Channel Maintenance (e.g. sediment & debris removal, erosion, tree & weed removal, etc.)	14452.66	L.F.	\$2.00	\$57,811.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$63,771.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$1,369,940.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Kiowa Creek 3		
REACH :	Kiowa 3		
JURISDICTION :	Arapahoe County		
REACH ID :	Kiowa 3-ReachKiowa 3	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS
<b>Hydraulic Structures</b>					
Sloping Drop Structures					
Height (ft)	Bottom Width (ft)	Yn (ft)			
5	185	5.8			
	5	EA	\$399,322.13	\$1,996,611.00	
<b>Landscaping and Maintenance Improvements</b>					
Wetlands Plantings	1	ACRE	\$29,785.00	\$37,231.00	
Reclamation & seeding (native grasses)	1	ACRE	\$1,191.00	\$1,489.00	
<b>Special Items (User Defined)</b>					
Bridge Removal	<----User Defined Items	7740	SF	\$25.00	\$193,500.00
Bridge Replacement	<----User Defined Items	7740	SF	\$150.00	\$1,161,000.00
<b>Land Acquisition</b>					
Temporary Easements	5	EA	\$10,000.00	\$50,000.00	

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$1,996,611.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$38,720.00
Special Items (User Defined)				\$1,354,500.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$3,389,831.00</b>
Additional Capital Improvement Costs				
Dewatering	\$50,000.00	L.S.		\$50,000.00
Mobilization	5%			\$169,492.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$169,492.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$388,984.00</b>
Land Acquisition Costs				
ROW/Easements				\$50,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$50,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$566,822.00
Legal/Administrative	5%			\$188,941.00
Contract Admin/Construction Management	10%			\$377,882.00
Contingency	25%			\$944,704.00
<b>Subtotal Other Costs</b>				<b>\$2,078,349.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$5,907,164.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs)	215	L.F.	\$1.00	\$430.00
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	10	EA	\$596.00	\$11,920.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$12,350.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$265,305.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Kiowa Creek 4		
REACH :	Kiowa 4		
JURISDICTION :	Arapahoe County		
REACH ID :	Kiowa 4-ReachKiowa 4	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS
<b>Hydraulic Structures</b>					
Sloping Drop Structures					
Height (ft)	Bottom Width (ft)	Yn (ft)			
5	200	5.38	5	EA	\$419,537.10 \$2,097,686.00
<b>Landscaping and Maintenance Improvements</b>					
Wetlands Plantings	1	ACRE	\$29,785.00	\$37,231.00	
Reclamation & seeding (native grasses)	1	ACRE	\$1,191.00	\$1,489.00	
<b>Land Acquisition</b>					
Temporary Easements	5	EA	\$10,000.00	\$50,000.00	

Master Plan Capital Improvement Cost Summary				
<b>Capital Improvement Costs</b>				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$2,097,686.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$38,720.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$2,136,406.00</b>
<b>Additional Capital Improvement Costs</b>				
Dewatering	\$50,000.00	L.S.		\$50,000.00
Mobilization	5%			\$106,820.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$106,820.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$263,640.00</b>
<b>Land Acquisition Costs</b>				
ROW/Easements				\$50,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$50,000.00</b>
<b>Other Costs (percentage of Capital Improvement Costs)</b>				
Engineering	15%			\$360,007.00
Legal/Administrative	5%			\$120,002.00
Contract Admin/Construction Management	10%			\$240,005.00
Contingency	25%			\$600,012.00
<b>Subtotal Other Costs</b>				<b>\$1,320,026.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$3,770,072.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	5	EA	\$596.00	\$5,960.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$5,960.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$128,034.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Kiowa Creek 5		
REACH :	Kiowa 5		
JURISDICTION :	Araphaoe County		
REACH ID :	Kiowa 5-ReachKiowa 5	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS
<b>Hydraulic Structures</b>					
Sloping Drop Structures					
Height (ft)	Bottom Width (ft)	Yn (ft)			
5	180	4.44			
	4	EA	\$372,088.62	\$1,488,354.00	
<b>Channel Improvements</b>					
12-inch Riprap, Type M	1050	C.Y.	\$71.00	\$74,550.00	Bank Height = 9 ft, Length = 2100 ft, Thickness = 1.5 ft
Excavation, Low Range	1050	C.Y.	\$13.00	\$13,650.00	
<b>Landscaping and Maintenance Improvements</b>					
Wetlands Plantings	1	ACRE	\$29,785.00	\$42,708.00	
Reclamation & seeding (native grasses)	1	ACRE	\$1,191.00	\$1,191.00	
<b>Special Items (User Defined)</b>					
Bridge Removal	<----User Defined Items	4800	SF	\$25.00	\$120,000.00
Bridge Replacement	<----User Defined Items	4800	SF	\$150.00	\$720,000.00
<b>Land Acquisition</b>					
Temporary Easements	12	EA	\$10,000.00	\$124,000.00	

Master Plan Capital Improvement Cost Summary				
<b>Capital Improvement Costs</b>				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$1,488,354.00
Channel Improvements				\$88,200.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$43,899.00
Special Items (User Defined)				\$840,000.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$2,460,453.00</b>
<b>Additional Capital Improvement Costs</b>				
Dewatering	\$200,000.00	L.S.		\$200,000.00
Mobilization	5%			\$123,023.00
Traffic Control	\$200,000.00	L.S.		\$200,000.00
Utility Coordination/Relocation	\$50,000.00	L.S.		\$50,000.00
Stormwater Management/Erosion Control	5%			\$123,023.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$696,046.00</b>
<b>Land Acquisition Costs</b>				
ROW/Easements				\$124,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$124,000.00</b>
<b>Other Costs (percentage of Capital Improvement Costs)</b>				
Engineering	15%			\$473,475.00
Legal/Administrative	5%			\$157,825.00
Contract Admin/Construction Management	10%			\$315,650.00
Contingency	25%			\$789,125.00
<b>Subtotal Other Costs</b>				<b>\$1,736,075.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$5,016,574.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs)	250	L.F.	\$1.00	\$500.00
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	6	EA	\$596.00	\$7,152.00
Channel Maintenance (e.g. sediment & debris removal, erosion, tree & weed removal, etc.)	2100	L.F.	\$2.00	\$8,400.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$16,052.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$344,832.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary A		
REACH :	Trib A		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib A-ReachTrib A	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS	
<b>Hydraulic Structures</b>						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
5	80	1.21	3	EA	\$154,943.56	\$464,831.00
<b>Landscaping and Maintenance Improvements</b>						
Wetlands Plantings	1	ACRE	\$29,785.00	\$22,339.00		
Reclamation & seeding (native grasses)	1	ACRE	\$1,191.00	\$893.00		
<b>Land Acquisition</b>						
Temporary Easements	3	EA	\$10,000.00	\$30,000.00		

Master Plan Capital Improvement Cost Summary				
<b>Capital Improvement Costs</b>				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$464,831.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$23,232.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$488,063.00</b>
<b>Additional Capital Improvement Costs</b>				
Dewatering	\$30,000.00	L.S.		\$30,000.00
Mobilization	5%			\$24,403.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$24,403.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$78,806.00</b>
<b>Land Acquisition Costs</b>				
ROW/Easements				\$30,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$30,000.00</b>
<b>Other Costs (percentage of Capital Improvement Costs)</b>				
Engineering	15%			\$85,030.00
Legal/Administrative	5%			\$28,343.00
Contract Admin/Construction Management	10%			\$56,687.00
Contingency	25%			\$141,717.00
<b>Subtotal Other Costs</b>				<b>\$311,777.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$908,646.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	3	EA	\$596.00	\$3,576.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$3,576.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$76,820.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary A.1		
REACH :	Trib A.1		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib A.1-ReachTrib A.1	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS
<b>Concrete Box Culverts</b>					
Box Culvert Pipe					
Individual Box Span (ft)	Box Height (ft)	No. of Barrels	Length (ft)		
14	8	2	30	L.F.	\$3,323.93 \$99,718.00
Headwall and Toewalls					
Individual Box Span (ft)	No. of Barrels	Total Span (ft)			
14	2	31.00	2	EA	\$2,938.03 \$5,876.00
Wingwalls (includes wingwalls on either side of channel and concrete apron)					
Individual Box Span (ft)	Box Rise (ft)	No. of Barrels			
14	8	2	2	EA	\$24,621.14 \$49,242.30
<b>Hydraulic Structures</b>					
Sloping Drop Structures					
Height (ft)	Bottom Width (ft)	Yn (ft)			
5	70	1.2	2	EA	\$137,505.51 \$275,011.00
<b>Channel Improvements</b>					
12-inch Riprap, Type M			300	C.Y.	\$71.00 \$21,300.00
Excavation, Low Range			300	C.Y.	\$13.00 \$3,900.00
Length = 1300 ft, Bank Height = 4 ft, Thickness = 1.5 ft					
<b>Landscaping and Maintenance Improvements</b>					
Reclamation & seeding (native grasses)			1	ACRE	\$1,191.00 \$743.00
<b>Land Acquisition</b>					
Temporary Easements			7	EA	\$10,000.00 \$72,000.00

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$154,836.00
Hydraulic Structures				\$275,011.00
Channel Improvements				\$25,200.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$743.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$455,790.00</b>
Additional Capital Improvement Costs				
Dewatering	\$72,000.00	L.S.		\$72,000.00
Mobilization	5%			\$22,790.00
Traffic Control	\$50,000.00	L.S.		\$50,000.00
Utility Coordination/Relocation	\$25,000.00	L.S.		\$25,000.00
Stormwater Management/Erosion Control	5%			\$22,790.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$192,580.00</b>
Land Acquisition Costs				
ROW/Easements				\$72,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$72,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$97,256.00
Legal/Administrative	5%			\$32,419.00
Contract Admin/Construction Management	10%			\$64,837.00
Contingency	25%			\$162,093.00
<b>Subtotal Other Costs</b>				<b>\$356,605.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$1,076,975.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs)	60	L.F.	\$1.00	\$120.00
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	7	EA	\$596.00	\$8,582.00
Channel Maintenance (e.g. sediment & debris removal, erosion, tree & weed removal, etc.)	1300	L.F.	\$2.00	\$5,200.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$13,902.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$298,645.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary A.1.a		
REACH :	Trib A.1.a		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib A.1.a-ReachTrib A.1.a	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS
<b>Hydraulic Structures</b>					
Sloping Drop Structures					
Height (ft)	Bottom Width (ft)	Yn (ft)			
5	40	1.26	3	EA	\$86,421.22 \$259,264.00
<b>Landscaping and Maintenance Improvements</b>					
Wetlands Plantings	1	ACRE	\$29,785.00	\$22,339.00	
Reclamation & seeding (native grasses)	1	ACRE	\$1,191.00	\$893.00	
<b>Land Acquisition</b>					
Temporary Easements	3	EA	\$10,000.00	\$30,000.00	

Master Plan Capital Improvement Cost Summary				
<b>Capital Improvement Costs</b>				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$259,264.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$23,232.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$282,496.00</b>
<b>Additional Capital Improvement Costs</b>				
Dewatering	\$30,000.00	L.S.		\$30,000.00
Mobilization	5%			\$14,125.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$14,125.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$58,250.00</b>
<b>Land Acquisition Costs</b>				
ROW/Easements				\$30,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$30,000.00</b>
<b>Other Costs (percentage of Capital Improvement Costs)</b>				
Engineering	15%			\$51,112.00
Legal/Administrative	5%			\$17,037.00
Contract Admin/Construction Management	10%			\$34,075.00
Contingency	25%			\$85,187.00
<b>Subtotal Other Costs</b>				<b>\$187,411.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$558,157.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	3	EA	\$596.00	\$3,576.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$3,576.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$76,820.00</b>



**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary A.1.b		
REACH :	Trib A.1.b		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib A.1.b-ReachTrib A.1.b	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS	
<b>Hydraulic Structures</b>						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
5	70	1.33	12	EA	\$139,281.01	\$1,671,372.00
<b>Landscaping and Maintenance Improvements</b>						
Reclamation & seeding (native grasses)	3	ACRE	\$1,191.00	\$3,573.00		
<b>Land Acquisition</b>						
Temporary Easements	12	EA	\$10,000.00	\$120,000.00		

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$1,671,372.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$3,573.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$1,674,945.00</b>
Additional Capital Improvement Costs				
Dewatering	\$120,000.00	L.S.		\$120,000.00
Mobilization	5%			\$83,747.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$83,747.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$287,494.00</b>
Land Acquisition Costs				
ROW/Easements				\$120,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$120,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$294,366.00
Legal/Administrative	5%			\$98,122.00
Contract Admin/Construction Management	10%			\$196,244.00
Contingency	25%			\$490,610.00
<b>Subtotal Other Costs</b>				<b>\$1,079,342.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$3,161,781.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	12	EA	\$596.00	\$14,304.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$14,304.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$307,281.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary A.2		
REACH :	Trib A.2		
JURISDICTION :	Araphaoe County		
REACH ID :	Trib A.2-ReachTrib A.2	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS	
<b>Hydraulic Structures</b>						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
5	75	1.2	8	EA	\$146,156.85	\$1,169,255.00
<b>Landscaping and Maintenance Improvements</b>						
Wetlands Plantings	2	ACRE	\$29,785.00	\$59,570.00		
Reclamation & seeding (native grasses)	2	ACRE	\$1,191.00	\$2,382.00		
<b>Land Acquisition</b>						
Temporary Easements	9	EA	\$10,000.00	\$90,000.00		

Master Plan Capital Improvement Cost Summary				
<b>Capital Improvement Costs</b>				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$1,169,255.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$61,952.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$1,231,207.00</b>
<b>Additional Capital Improvement Costs</b>				
Dewatering	\$90,000.00	L.S.		\$90,000.00
Mobilization	5%			\$61,560.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$61,560.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$213,120.00</b>
<b>Land Acquisition Costs</b>				
ROW/Easements				\$90,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$90,000.00</b>
<b>Other Costs (percentage of Capital Improvement Costs)</b>				
Engineering	15%			\$216,649.00
Legal/Administrative	5%			\$72,216.00
Contract Admin/Construction Management	10%			\$144,433.00
Contingency	25%			\$361,082.00
<b>Subtotal Other Costs</b>				<b>\$794,380.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$2,328,707.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	8	EA	\$596.00	\$9,536.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$9,536.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$204,854.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary B		
REACH :	Trib B		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib B-ReachTrib B	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS	
<b>Hydraulic Structures</b>						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
5	100	4.5	3	EA	\$234,501.43	\$703,504.00
<b>Landscaping and Maintenance Improvements</b>						
Reclamation & seeding (native grasses)	1	ACRE	\$1,191.00	\$893.00		
<b>Land Acquisition</b>						
Temporary Easements	3	EA	\$10,000.00	\$30,000.00		

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$703,504.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$893.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$704,397.00</b>
Additional Capital Improvement Costs				
Dewatering	\$30,000.00	L.S.		\$30,000.00
Mobilization	5%			\$35,220.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$35,220.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$100,440.00</b>
Land Acquisition Costs				
ROW/Easements				\$30,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$30,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$120,726.00
Legal/Administrative	5%			\$40,242.00
Contract Admin/Construction Management	10%			\$80,484.00
Contingency	25%			\$201,209.00
<b>Subtotal Other Costs</b>				<b>\$442,661.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$1,277,498.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	3	EA	\$596.00	\$3,576.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$3,576.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$76,820.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary B.1		
REACH :	Trib B.1		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib B.1-ReachTrib B.1	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS	
<b>Pipe Culverts and Storm Drains</b>						
Circular Pipes						
Diameter (in)	Length (ft)	No. of Barrels				
42-inch	152	3	456	L.F.	\$150.00	\$68,400.00
Flare End Sections						
Diameter (in)	Applicable	No. of Barrels				
42-inch	Yes	3	6	EA	\$2,025.00	\$12,150.00
<b>Hydraulic Structures</b>						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
5	80	1.68	21	EA	\$161,362.66	\$3,388,616.00
<b>Channel Improvements</b>						
12-inch Riprap, Type M		275	C.Y.	\$71.00	\$19,525.00	Length = 800 ft, Bank Height=6 ft, Thickness = 1.5ft
Excavation, Low Range		275	C.Y.	\$13.00	\$3,575.00	
<b>Landscaping and Maintenance Improvements</b>						
Reclamation & seeding (native grasses)		5	ACRE	\$1,191.00	\$6,388.00	
<b>Land Acquisition</b>						
Temporary Easements		24	EA	\$40,000.00	\$968,000.00	

Master Plan Capital Improvement Cost Summary					
Capital Improvement Costs					
Pipe Culverts and Storm Drains					\$80,550.00
Concrete Box Culverts					\$0.00
Hydraulic Structures					\$3,388,616.00
Channel Improvements					\$23,100.00
Detention/Water Quality Facilities					\$0.00
Removals					\$0.00
Landscaping and Maintenance Improvements					\$6,388.00
Special Items (User Defined)					\$0.00
<b>Subtotal Capital Improvement Costs</b>					<b>\$3,498,654.00</b>
Additional Capital Improvement Costs					
Dewatering	\$242,000.00		L.S.		\$242,000.00
Mobilization	5%				\$174,933.00
Traffic Control			L.S.		\$0.00
Utility Coordination/Relocation			L.S.		\$0.00
Stormwater Management/Erosion Control	5%				\$174,933.00
<b>Subtotal Additional Capital Improvement Costs</b>					<b>\$591,866.00</b>
Land Acquisition Costs					
ROW/Easements					\$968,000.00
<b>Subtotal Land Acquisition Costs</b>					<b>\$968,000.00</b>
Other Costs (percentage of Capital Improvement Costs)					
Engineering	15%				\$613,578.00
Legal/Administrative	5%				\$204,526.00
Contract Admin/Construction Management	10%				\$409,052.00
Contingency	25%				\$1,022,630.00
<b>Subtotal Other Costs</b>					<b>\$2,249,786.00</b>
<b>Total Capital Improvement Costs</b>					<b>\$7,308,306.00</b>

Master Plan Operation and Maintenance Cost Summary					
Description	Quantity	Unit	Unit Cost	Total Annual Cost	
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs)	456	L.F.	\$1.00	\$912.00	
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	24	EA	\$596.00	\$28,846.00	
Channel Maintenance (e.g. sediment & debris removal, erosion, tree & weed removal, etc.)	800	L.F.	\$2.00	\$3,200.00	
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$32,958.00</b>	
Effective Interest Rate				4.00%	
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$708,010.00</b>	

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary B.2.a		
REACH :	Trib B.2.a		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib B.2.a-ReachTrib B.2.a	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS
<b>Pipe Culverts and Storm Drains</b>					
Circular Pipes					
Diameter (in)	Length (ft)	No. of Barrels			
66-inch	95	1	95	L.F.	\$315.00 \$29,925.00
42-inch	730	4	2920	L.F.	\$150.00 \$438,000.00
Flare End Sections					
Diameter (in)	Applicable	No. of Barrels			
42-inch	Yes	4	8	EA	\$2,025.00 \$16,200.00
Headwalls					
Diameter (in)	Applicable	No. of Barrels			
66-inch	Yes	1	2	EA	\$2,108.00 \$4,216.00
Wingwalls (includes concrete apron)					
Diameter (in)		No. of Barrels			
66-inch		1	2	EA	\$12,377.97 \$24,756.00
<b>Landscaping and Maintenance Improvements</b>					
Reclamation & seeding (native grasses)	1	ACRE	\$1,191.00		\$1,191.00

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$513,097.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$0.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$1,191.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$514,288.00</b>
Additional Capital Improvement Costs				
Dewatering	\$0.00	L.S.		\$0.00
Mobilization	5%			\$25,714.00
Traffic Control	\$25,000.00	L.S.		\$25,000.00
Utility Coordination/Relocation	\$25,000.00	L.S.		\$25,000.00
Stormwater Management/Erosion Control	5%			\$25,714.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$101,428.00</b>
Land Acquisition Costs				
ROW/Easements				\$0.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$0.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$92,357.00
Legal/Administrative	5%			\$30,786.00
Contract Admin/Construction Management	10%			\$61,572.00
Contingency	25%			\$153,929.00
<b>Subtotal Other Costs</b>				<b>\$338,644.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$954,360.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs)	3015	L.F.	\$1.00	\$6,030.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$6,030.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$129,538.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary B.2		
REACH :	Trib B.2		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib B.2-ReachTrib B.2	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS
<b>Pipe Culverts and Storm Drains</b>					
Circular Pipes					
Diameter (in)	Length (ft)	No. of Barrels			
72-inch	80	2	160	L.F.	\$429.00 \$68,640.00
72-inch	118	4	472	L.F.	\$429.00 \$202,488.00
Headwalls					
Diameter (in)	Applicable	No. of Barrels			
72-inch	Yes	2	2	EA	\$3,986.65 \$7,973.00
72-inch	Yes	4	2	EA	\$6,994.93 \$13,990.00
Wingwalls (includes concrete apron)					
Diameter (in)		No. of Barrels			
72-inch		2	2	EA	\$16,212.07 \$32,424.00
72-inch		4	2	EA	\$20,868.87 \$41,738.00
<b>Hydraulic Structures</b>					
Sloping Drop Structures					
Height (ft)	Bottom Width (ft)	Yn (ft)			
5	75	1.06	20	EA	\$144,242.17 \$2,884,843.00
<b>Landscaping and Maintenance Improvements</b>					
Reclamation & seeding (native grasses)		5	ACRE		\$1,191.00 \$5,955.00
<b>Land Acquisition</b>					
Temporary Easements		20	EA		\$10,000.00 \$200,000.00

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$367,253.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$2,884,843.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$5,955.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$3,258,051.00</b>
Additional Capital Improvement Costs				
Dewatering	\$200,000.00	L.S.		\$200,000.00
Mobilization	5%			\$162,903.00
Traffic Control	\$75,000.00	L.S.		\$75,000.00
Utility Coordination/Relocation	\$25,000.00	L.S.		\$25,000.00
Stormwater Management/Erosion Control	5%			\$162,903.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$625,806.00</b>
Land Acquisition Costs				
ROW/Easements				\$200,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$200,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$582,579.00
Legal/Administrative	5%			\$194,193.00
Contract Admin/Construction Management	10%			\$388,386.00
Contingency	25%			\$970,964.00
<b>Subtotal Other Costs</b>				<b>\$2,136,122.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$6,219,979.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs)	632	L.F.	\$1.00	\$1,264.00
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	20	EA	\$596.00	\$23,840.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$25,104.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$539,289.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary C		
REACH :	Trib C		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib C-ReachTrib C	O. Brown, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS		
<b>Pipe Culverts and Storm Drains</b>							
Circular Pipes							
Diameter (in)	Length (ft)	No. of Barrels					
84-inch	61	8	488	L.F.	\$500.00	\$244,000.00	Brick Center Rd
Headwalls							
Diameter (in)	Applicable	No. of Barrels					
84-inch	Yes	8	2	EA	\$15,785.65	\$31,571.00	
Wingwalls (includes concrete apron)							
Diameter (in)		No. of Barrels					
84-inch		8	2	EA	\$35,871.91	\$71,744.00	
<b>Hydraulic Structures</b>							
Sloping Drop Structures							
Height (ft)	Bottom Width (ft)	Yn (ft)					
5	116	3.14	6	EA	\$243,597.25	\$1,461,584.00	
<b>Channel Improvements</b>							
12-inch Riprap, Type M		825	C.Y.	\$71.00	\$58,575.00	Length =2100 , Bank Height = 7 ft, Thickness = 1.5 ft	
Excavation, Low Range		825	C.Y.	\$13.00	\$10,725.00		
<b>Landscaping and Maintenance Improvements</b>							
Reclamation & seeding (native grasses)		2	ACRE	\$1,191.00	\$2,193.00		
<b>Land Acquisition</b>							
Temporary Easements		14	EA	\$10,000.00	\$144,000.00		

Master Plan Capital Improvement Cost Summary					
Capital Improvement Costs					
Pipe Culverts and Storm Drains					\$347,315.00
Concrete Box Culverts					\$0.00
Hydraulic Structures					\$1,461,584.00
Channel Improvements					\$69,300.00
Detention/Water Quality Facilities					\$0.00
Removals					\$0.00
Landscaping and Maintenance Improvements					\$2,193.00
Special Items (User Defined)					\$0.00
<b>Subtotal Capital Improvement Costs</b>					<b>\$1,880,392.00</b>
Additional Capital Improvement Costs					
Dewatering	\$144,000.00		L.S.		\$144,000.00
Mobilization	5%				\$94,020.00
Traffic Control	\$50,000.00		L.S.		\$50,000.00
Utility Coordination/Relocation	\$25,000.00		L.S.		\$25,000.00
Stormwater Management/Erosion Control	5%				\$94,020.00
<b>Subtotal Additional Capital Improvement Costs</b>					<b>\$407,040.00</b>
Land Acquisition Costs					
ROW/Easements					\$144,000.00
<b>Subtotal Land Acquisition Costs</b>					<b>\$144,000.00</b>
Other Costs (percentage of Capital Improvement Costs)					
Engineering	15%				\$343,115.00
Legal/Administrative	5%				\$114,372.00
Contract Admin/Construction Management	10%				\$228,743.00
Contingency	25%				\$571,858.00
<b>Subtotal Other Costs</b>					<b>\$1,258,088.00</b>
<b>Total Capital Improvement Costs</b>					<b>\$3,689,520.00</b>

Master Plan Operation and Maintenance Cost Summary					
Description	Quantity	Unit	Unit Cost	Total Annual Cost	
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs)	488	L.F.	\$1.00	\$976.00	
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	6	EA	\$596.00	\$7,152.00	
Channel Maintenance (e.g. sediment & debris removal, erosion, tree & weed removal, etc.)	2100	L.F.	\$2.00	\$8,400.00	
<b>Total Annual Operation and Maintenance Cost</b>					<b>\$16,528.00</b>
Effective Interest Rate				4.00%	
<b>Total Operation and Maintenance Costs Over 50 Years</b>					<b>\$355,058.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary C.1		
REACH :	Trib C.1		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib C.1-ReachTrib C.1	O. Brown, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS	
<b>Hydraulic Structures</b>						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
5	50	0.97	4	EA	\$99,761.56	\$399,046.00
<b>Landscaping and Maintenance Improvements</b>						
Reclamation & seeding (native grasses)	1	ACRE	\$1,191.00	\$1,191.00		
<b>Land Acquisition</b>						
Temporary Easements	4	EA	\$10,000.00	\$40,000.00		

<b>Master Plan Capital Improvement Cost Summary</b>					
<b>Capital Improvement Costs</b>					
Pipe Culverts and Storm Drains				\$0.00	
Concrete Box Culverts				\$0.00	
Hydraulic Structures				\$399,046.00	
Channel Improvements				\$0.00	
Detention/Water Quality Facilities				\$0.00	
Removals				\$0.00	
Landscaping and Maintenance Improvements				\$1,191.00	
Special Items (User Defined)				\$0.00	
<b>Subtotal Capital Improvement Costs</b>				<b>\$400,237.00</b>	
<b>Additional Capital Improvement Costs</b>					
Dewatering	\$40,000.00	L.S.		\$40,000.00	
Mobilization	5%			\$20,012.00	
Traffic Control		L.S.		\$0.00	
Utility Coordination/Relocation		L.S.		\$0.00	
Stormwater Management/Erosion Control	5%			\$20,012.00	
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$80,024.00</b>	
<b>Land Acquisition Costs</b>					
ROW/Easements				\$40,000.00	
<b>Subtotal Land Acquisition Costs</b>				<b>\$40,000.00</b>	
<b>Other Costs (percentage of Capital Improvement Costs)</b>					
Engineering	15%			\$72,039.00	
Legal/Administrative	5%			\$24,013.00	
Contract Admin/Construction Management	10%			\$48,026.00	
Contingency	25%			\$120,065.00	
<b>Subtotal Other Costs</b>				<b>\$264,143.00</b>	
<b>Total Capital Improvement Costs</b>				<b>\$784,404.00</b>	

<b>Master Plan Operation and Maintenance Cost Summary</b>					
<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Annual Cost</b>	
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	4	EA	\$596.00	\$4,768.00	
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$4,768.00</b>	
Effective Interest Rate				4.00%	
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$102,427.00</b>	



**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary C.2		
REACH :	Trib C.2		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib C.2-ReachTrib C.2	O. Brown, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS		
<b>Pipe Culverts and Storm Drains</b>							
Circular Pipes							
Diameter (in)	Length (ft)	No. of Barrels					
72-inch	120	3	360	L.F.	\$429.00	\$154,440.00	S. Kincaid St.
Headwalls							
Diameter (in)	Applicable	No. of Barrels					
72-inch	Yes	3	2	EA	\$5,432.54	\$10,865.00	
Wingwalls (includes concrete apron)							
Diameter (in)		No. of Barrels					
72-inch		3	2	EA	\$18,540.47	\$37,081.00	
<b>Hydraulic Structures</b>							
Sloping Drop Structures							
Height (ft)	Bottom Width (ft)	Yn (ft)					
5	62.5	1.05	15	EA	\$122,480.59	\$1,837,209.00	Channel Stabilization
<b>Landscaping and Maintenance Improvements</b>							
Reclamation & seeding (native grasses)		4	ACRE		\$1,191.00	\$4,466.00	
<b>Land Acquisition</b>							
Temporary Easements		15	EA		\$10,000.00	\$150,000.00	

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$202,386.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$1,837,209.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$4,466.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$2,044,061.00</b>
Additional Capital Improvement Costs				
Dewatering	\$150,000.00	L.S.		\$150,000.00
Mobilization	5%			\$102,203.00
Traffic Control	\$25,000.00	L.S.		\$25,000.00
Utility Coordination/Relocation	\$25,000.00	L.S.		\$25,000.00
Stormwater Management/Erosion Control	5%			\$102,203.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$404,406.00</b>
Land Acquisition Costs				
ROW/Easements				\$150,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$150,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$367,270.00
Legal/Administrative	5%			\$122,423.00
Contract Admin/Construction Management	10%			\$244,847.00
Contingency	25%			\$612,117.00
<b>Subtotal Other Costs</b>				<b>\$1,346,657.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$3,945,124.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs)	360	L.F.	\$1.00	\$720.00
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	15	EA	\$596.00	\$17,880.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$18,600.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$399,569.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary C.1.a		
REACH :	Trib C.1.a		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib C.1.a-ReachTrib C.1.a	O. Brown, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS
<b>Hydraulic Structures</b>					
Sloping Drop Structures					
Height (ft)	Bottom Width (ft)	Yn (ft)			
5	40	1.67	11	EA	\$92,024.44 \$1,012,269.00
<b>Landscaping and Maintenance Improvements</b>					
Reclamation & seeding (native grasses)	3	ACRE	\$1,191.00	\$3,275.00	
<b>Land Acquisition</b>					
Temporary Easements	11	EA	\$10,000.00	\$110,000.00	

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$1,012,269.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$3,275.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$1,015,544.00</b>
Additional Capital Improvement Costs				
Dewatering	\$110,000.00	L.S.		\$110,000.00
Mobilization	5%			\$50,777.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$50,777.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$211,554.00</b>
Land Acquisition Costs				
ROW/Easements				\$110,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$110,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$184,065.00
Legal/Administrative	5%			\$61,355.00
Contract Admin/Construction Management	10%			\$122,710.00
Contingency	25%			\$306,775.00
<b>Subtotal Other Costs</b>				<b>\$674,905.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$2,012,003.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	11	EA	\$596.00	\$13,112.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$13,112.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$281,674.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary C.1.b		
REACH :	Trib C.1.b		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib C.1.b-ReachTrib C.1.b	O. Brown, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS	
<b>Hydraulic Structures</b>						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
5	45	1.06	15	EA	\$92,336.62	\$1,385,049.00
<b>Landscaping and Maintenance Improvements</b>						
Reclamation & seeding (native grasses)	4	ACRE	\$1,191.00	\$4,466.00		
<b>Land Acquisition</b>						
Temporary Easements	15	EA	\$10,000.00	\$150,000.00		

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$1,385,049.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$4,466.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$1,389,515.00</b>
Additional Capital Improvement Costs				
Dewatering	\$150,000.00	L.S.		\$150,000.00
Mobilization	5%			\$69,476.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$69,476.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$288,952.00</b>
Land Acquisition Costs				
ROW/Easements				\$150,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$150,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$251,770.00
Legal/Administrative	5%			\$83,923.00
Contract Admin/Construction Management	10%			\$167,847.00
Contingency	25%			\$419,617.00
<b>Subtotal Other Costs</b>				<b>\$923,157.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$2,751,624.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	15	EA	\$596.00	\$17,880.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$17,880.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$384,101.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary D		
REACH :	Trib D		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib D-ReachTrib D	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS
<b>Concrete Box Culverts</b>					
Box Culvert Pipe					
Individual Box Span (ft)	Box Height (ft)	No. of Barrels	Length (ft)		
14	10	2	30	L.F.	\$3,593.57 \$107,807.00
<b>Hydraulic Structures</b>					
Sloping Drop Structures					
Height (ft)	Bottom Width (ft)	Yn (ft)			
5	80	2.57	7	EA	\$173,525.73 \$1,214,680.00
<b>Channel Improvements</b>					
12-inch Riprap, Type M		115	C.Y.	\$71.00	\$8,165.00
Excavation, Low Range		115	C.Y.	\$13.00	\$1,495.00
<b>Removals</b>					
Concrete Box Culvert		60	L.F./CELL	\$119.00	\$7,140.00
<b>Landscaping and Maintenance Improvements</b>					
Reclamation & seeding (native grasses)		2	ACRE	\$1,191.00	\$2,141.00
<b>Land Acquisition</b>					
Temporary Easements		9	EA	\$10,000.00	\$90,000.00

Master Plan Capital Improvement Cost Summary				
<b>Capital Improvement Costs</b>				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$107,807.00
Hydraulic Structures				\$1,214,680.00
Channel Improvements				\$9,660.00
Detention/Water Quality Facilities				\$0.00
Removals				\$7,140.00
Landscaping and Maintenance Improvements				\$2,141.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$1,341,428.00</b>
<b>Additional Capital Improvement Costs</b>				
Dewatering	\$90,000.00	L.S.		\$90,000.00
Mobilization	5%			\$67,071.00
Traffic Control	\$25,000.00	L.S.		\$25,000.00
Utility Coordination/Relocation	\$25,000.00	L.S.		\$25,000.00
Stormwater Management/Erosion Control	5%			\$67,071.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$274,142.00</b>
<b>Land Acquisition Costs</b>				
ROW/Easements				\$90,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$90,000.00</b>
<b>Other Costs (percentage of Capital Improvement Costs)</b>				
Engineering	15%			\$242,336.00
Legal/Administrative	5%			\$80,779.00
Contract Admin/Construction Management	10%			\$161,557.00
Contingency	25%			\$403,893.00
<b>Subtotal Other Costs</b>				<b>\$888,565.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$2,594,135.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs)	60	L.F.	\$1.00	\$120.00
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	9	EA	\$596.00	\$10,728.00
Channel Maintenance (e.g. sediment & debris removal, erosion, tree & weed removal, etc.)	500	L.F.	\$2.00	\$2,000.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$12,848.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$276,003.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary D.1		
REACH :	Trib D.1		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib D.1-ReachTrib D.1	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS	
<b>Hydraulic Structures</b>						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
5	50	1.44	7	EA	\$106,180.66	\$743,265.00
<b>Landscaping and Maintenance Improvements</b>						
Reclamation & seeding (native grasses)	2	ACRE	\$1,191.00	\$2,084.00		
<b>Land Acquisition</b>						
Temporary Easements	7	EA	\$10,000.00	\$70,000.00		

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$0.00
Hydraulic Structures				\$743,265.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$2,084.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$745,349.00</b>
Additional Capital Improvement Costs				
Dewatering	\$70,000.00	L.S.		\$70,000.00
Mobilization	5%			\$37,267.00
Traffic Control		L.S.		\$0.00
Utility Coordination/Relocation		L.S.		\$0.00
Stormwater Management/Erosion Control	5%			\$37,267.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$144,534.00</b>
Land Acquisition Costs				
ROW/Easements				\$70,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$70,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$133,482.00
Legal/Administrative	5%			\$44,494.00
Contract Admin/Construction Management	10%			\$88,988.00
Contingency	25%			\$222,471.00
<b>Subtotal Other Costs</b>				<b>\$489,435.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$1,449,318.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	7	EA	\$596.00	\$8,344.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$8,344.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$179,247.00</b>

**MASTER PLAN COST ESTIMATE FOR INDIVIDUAL REACH**

PROJECT :	Kiowa Creek MDP		
DRAINAGEWAY :	Tributary D.2		
REACH :	Trib D.2		
JURISDICTION :	Arapahoe County		
REACH ID :	Trib D.2-ReachTrib D.2	S. Martinez, BHI	DATE : 4/19/2017

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST	USER COMMENTS
<b>Concrete Box Culverts</b>					
Box Culvert Pipe					
Individual Box Span (ft)	Box Height (ft)	No. of Barrels	Length (ft)		
8	6	5	50	L.F.	\$4,323.40 \$216,170.00
Headwall and Toewalls					
Individual Box Span (ft)	No. of Barrels	Total Span (ft)			
8	5	45.00	2	EA	\$3,747.38 \$7,495.00
Wingwalls (includes wingwalls on either side of channel and concrete apron)					
Individual Box Span (ft)	Box Rise (ft)	No. of Barrels			
8	6	5	2	EA	\$22,162.43 \$44,324.90
<b>Hydraulic Structures</b>					
Sloping Drop Structures					
Height (ft)	Bottom Width (ft)	Yn (ft)			
5	50	1.23	6	EA	\$103,312.56 \$619,875.00
<b>Landscaping and Maintenance Improvements</b>					
Reclamation & seeding (native grasses)		2	ACRE		\$1,191.00 \$1,787.00
<b>Land Acquisition</b>					
Temporary Easements		6	EA		\$10,000.00 \$60,000.00

Master Plan Capital Improvement Cost Summary				
Capital Improvement Costs				
Pipe Culverts and Storm Drains				\$0.00
Concrete Box Culverts				\$267,990.00
Hydraulic Structures				\$619,875.00
Channel Improvements				\$0.00
Detention/Water Quality Facilities				\$0.00
Removals				\$0.00
Landscaping and Maintenance Improvements				\$1,787.00
Special Items (User Defined)				\$0.00
<b>Subtotal Capital Improvement Costs</b>				<b>\$889,652.00</b>
Additional Capital Improvement Costs				
Dewatering	\$60,000.00	L.S.		\$60,000.00
Mobilization	5%			\$44,483.00
Traffic Control	\$50,000.00	L.S.		\$50,000.00
Utility Coordination/Relocation	\$25,000.00	L.S.		\$25,000.00
Stormwater Management/Erosion Control	5%			\$44,483.00
<b>Subtotal Additional Capital Improvement Costs</b>				<b>\$223,966.00</b>
Land Acquisition Costs				
ROW/Easements				\$60,000.00
<b>Subtotal Land Acquisition Costs</b>				<b>\$60,000.00</b>
Other Costs (percentage of Capital Improvement Costs)				
Engineering	15%			\$167,043.00
Legal/Administrative	5%			\$55,681.00
Contract Admin/Construction Management	10%			\$111,362.00
Contingency	25%			\$278,405.00
<b>Subtotal Other Costs</b>				<b>\$612,491.00</b>
<b>Total Capital Improvement Costs</b>				<b>\$1,786,109.00</b>

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)	6	EA	\$596.00	\$7,152.00
<b>Total Annual Operation and Maintenance Cost</b>				<b>\$7,152.00</b>
Effective Interest Rate				4.00%
<b>Total Operation and Maintenance Costs Over 50 Years</b>				<b>\$153,641.00</b>