
This cost estimate quantifies the annual operation and maintenance cost for the May Branch flood damage reduction project. Project features include flood water conveyance channels, road and railroad bridges and culverts, concrete channel lining, and riprap erosion control blankets.

The annual operation and maintenance is envisioned as follows:

1. Annually city personnel or contractor will traverse the entire length of the channel looking at the condition of the channel bottom and side slopes and concrete structures.
2. City representatives will semi-annually examine the slide gates at station 13+75 for wear and vandal damage. The gate stem and operating mechanism will be lubricated. The gate will be run up and down several times to distribute lubrication and assure personnel that the gates will operate as designed. Debris will be removed from the gate opening. Plant growth that interferes with gate operation will be removed.
3. City representatives will mow the channel's earthen side slopes 4 times per year to promote a good sod blanket. Undesirable weeds and woody growth will be removed by herbicides or cutting.
4. The concrete structures will be inspected annually for damage or deterioration of concrete. These problems will be repaired immediately to prevent more severe damage to structure.
5. City representatives will repair damage to riprap sections of the project. Plant growth with the riprap will be removed and/or stopped.

ue 10 Aug 2004
:ff. Date 08/01/04

U.S. Army Corps of Engineers
PROJECT 100OMR: MAY BR-FEASI STUDY-100YR O&M Est - Operation and Maintenance Cost
Preli. Feasibility Cost Estimate - 100YR O&M
** PROJECT OWNER SUMMARY - Feature **

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SUMMARY PAGE 1

	QUANTITY	UOM	CONTRACT	CONTINGY	ESCALATN	TOTAL COST	UNIT COST
15 Floodway Control and Div Str.	1.00	EA	56,665	0	0	56,665	56664.72
TOTAL MAY BR-FEASI STUDY-100YR O&M Est	1.00	EA	56,665	0	0	56,665	56664.72

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U.S. Army Corps of Engineers
 PROJECT 1000MR: MAY BR-FEASI STUDY-100YR O&M Est - Operation and Maintenance Cost
 Preli. Feasibility Cost Estimate - 100YR O&M
 ** PROJECT OWNER SUMMARY - 3rd Level **

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 SUMMARY PAGE 2

		QUANTITY	UOM	CONTRACT	CONTINGY	ESCALATN	TOTAL COST	UNIT COST

15 Floodway Control and Div Str.								
15_01 Project Operation								
15_01.10	Observation of Channel Operation	5.00	EA	1,106	0	0	1,106	221.26
15_01.20	Closing of Slide Gates	1.00	JOB	415	0	0	415	414.51
TOTAL Project Operation		1.00	EA	1,521	0	0	1,521	1520.80

15_02 Project Maintenance								
15_02.10	Annual Inspection of Project	1.00	EA	7,948	0	0	7,948	7947.58
15_02.15	Annual Operation of Slide Gates	3.00	EA	1,419	0	0	1,419	473.14
15_02.20	Annual Mowing & Vegetation Ctrl	4.00	EA	28,131	0	0	28,131	7032.84
15_02.30	Periodic Repair of Project Featr	1.00	EA	9,314	0	0	9,314	9313.51
15_02.40	Erosion Ctrl-Riprap Repair/Maint			6,785	0	0	6,785	
15_02.50	Removal of in-Channel Sediment	50.00	CY	1,547	0	0	1,547	30.93
TOTAL Project Maintenance		1.00	EA	55,144	0	0	55,144	55143.92
TOTAL Floodway Control and Div Str.		1.00	EA	56,665	0	0	56,665	56664.72
TOTAL MAY BR-FEASI STUDY-100YR O&M Est		1.00	EA	56,665	0	0	56,665	56664.72

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U.S. Army Corps of Engineers
 PROJECT 1000MR: MAY BR-FEASI STUDY-100YR O&M Est - Operation and Maintenance Cost
 Preli. Feasibility Cost Estimate - 100YR O&M
 ** PROJECT OWNER SUMMARY - Reach **

TIME 13:16:52
 SUMMARY PAGE 3

	QUANTITY	UOM	CONTRACT	CONTINGY	ESCALATN	TOTAL COST	UNIT COST

15 Floodway Control and Div Str.							
15_01 Project Operation							
15_01.10 Observation of Channel Operation							
15_01.10.10 Observation of Channel Operation	5.00	EA	1,106	0	0	1,106	221.26
TOTAL Observation of Channel Operation	5.00	EA	1,106	0	0	1,106	221.26
15_01.20 Closing of Slide Gates							
15_01.20.10 Closing of Slide Gates	1.00	JOB	415	0	0	415	414.51
TOTAL Closing of Slide Gates	1.00	JOB	415	0	0	415	414.51
TOTAL Project Operation	1.00	EA	1,521	0	0	1,521	1520.80
15_02 Project Maintenance							
15_02.10 Annual Inspection of Project							
15_02.10.10 Inspection of Project	1.00	EA	7,948	0	0	7,948	7947.58
TOTAL Annual Inspection of Project	1.00	EA	7,948	0	0	7,948	7947.58
15_02.15 Annual Operation of Slide Gates	3.00	EA	1,419	0	0	1,419	473.14
15_02.20 Annual Mowing & Vegetation Ctrl							
15_02.20.10 Mowing and Vegetation Control	4.00	EA	28,131	0	0	28,131	7032.84
TOTAL Annual Mowing & Vegetation Ctrl	4.00	EA	28,131	0	0	28,131	7032.84
15_02.30 Periodic Repair of Project Featr	1.00	EA	9,314	0	0	9,314	9313.51
15_02.40 Erosion Ctrl-Riprap Repair/Maint			6,785	0	0	6,785	
15_02.50 Removal of in-Channel Sediment							
15_02.50.10 Removal of in-Channel Sediment	25.00	CY	1,547	0	0	1,547	61.87
TOTAL Removal of in-Channel Sediment	50.00	CY	1,547	0	0	1,547	30.93
TOTAL Project Maintenance	1.00	EA	55,144	0	0	55,144	55143.92
TOTAL Floodway Control and Div Str.	1.00	EA	56,665	0	0	56,665	56664.72
TOTAL MAY BR-FEASI STUDY-100YR O&M Est	1.00	EA	56,665	0	0	56,665	56664.72