



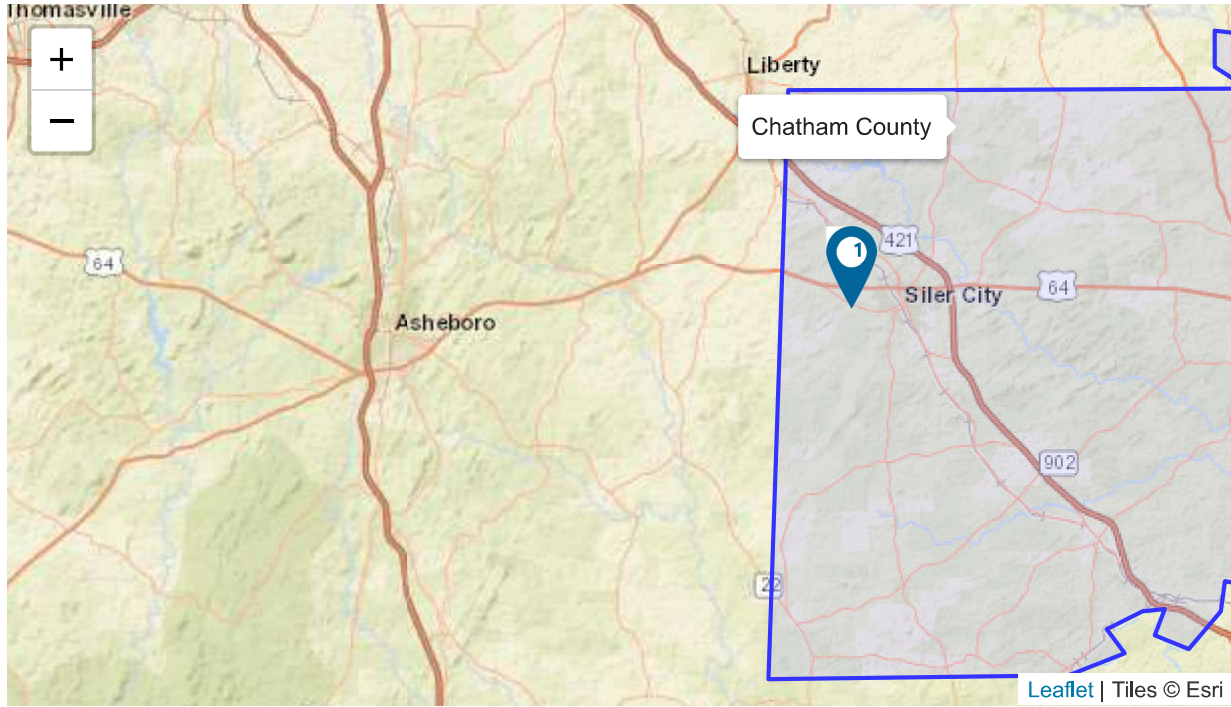
FEMA

Benefit-Cost Calculator

V.6.0 (Build 20211228.2010 | Release Notes)

Benefit-Cost Analysis

Project Name: Blood Run Pump Station Relocation and Sewer Line Replacement



Map Marker	Mitigation Title	Property Type	Hazard	Benefits (B)	Costs (C)	BCR (B/C)
▲ 1	Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344		DFA - Riverine Flood	\$ 11,289,021	\$ 7,203,416	1.57
TOTAL (SELECTED)				\$ 11,289,021	\$ 7,203,416	1.57
TOTAL				\$ 11,289,021	\$ 7,203,416	1.57

Property Configuration

Property Title: Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344

Property Location: 27344, Chatham, North Carolina

Property Coordinates: 35.721938, -79.498256

Hazard Type: Riverine Flood

Mitigation Action Type: Floodplain and Stream Restoration

Property Type: Utilities

Analysis Method Type: Professional Expected Damages

Cost Estimation
 Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344

Project Useful Life (years): 50

Project Cost: \$7,144,857

Number of Maintenance Years: 50 Use Default:Yes

Annual Maintenance Cost: \$4,243.2

Damage Analysis Parameters - Damage Frequency Assessment
 Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344

Year of Analysis Conducted: 2021

Year Property was Built: 1963

Analysis Duration: 59 Use Default:Yes

Utilities Properties
 Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344

Type of Service: Wastewater

Number of Customers Served: 5,938

Value of Unit of Service (\$/person/day): \$58 Use Default:Yes

Total Value of Service Per Day (\$/day): \$344,404

Professional Expected Damages Before Mitigation
 Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344

Recurrence Interval (years)	WASTEWATER	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	Blood Run Pump Station	Sewer Collection	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
2	0.25	0	0	0	0	0	86,101
5	0.5	0	0	0	0	0	172,202
25	7	10,000	0	0	0	0	2,420,828
50	30	75,000	0	0	0	0	10,407,120
100	60	125,000	200,000	0	0	0	20,989,240
500	150	125,000	350,000	0	0	0	52,135,600

Annualized Damages Before Mitigation

Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
2	86,101	36,530
5	172,202	103,305
25	2,420,828	100,387
50	10,407,120	147,796
100	20,989,240	264,640
500	52,135,600	104,266
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	86,211,091	756,924

Professional Expected Damages After Mitigation

Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344

Recurrence Interval (years)	WASTEWATER		OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	Blood Run Pump Station	Sewer Collection	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)	
500	30	75,000	0	0	0	0	10,407,120	

Annualized Damages After Mitigation

Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
500	10,407,120	20,813
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	10,407,120	20,813

Standard Benefits - Ecosystem Services

Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344

Total Project Area (acres):	16.7
Percentage of Green Open Space:	0.00%
Percentage of Riparian:	12.40%
Percentage of Wetlands:	0.00%
Percentage of Forests:	0.00%
Percentage of Marine Estuary:	0.00%
Expected Annual Ecosystem Services Benefits:	\$81,889.78

Benefits-Costs Summary

Floodplain and Stream Restoration @ 300 Elder Rd, Siler City, North Carolina, 27344

Total Standard Mitigation Benefits:	\$11,289,021
Total Social Benefits:	\$0
Total Mitigation Project Benefits:	\$11,289,021
Total Mitigation Project Cost:	\$7,203,416
Benefit Cost Ratio - Standard:	1.57
Benefit Cost Ratio - Standard + Social:	1.57