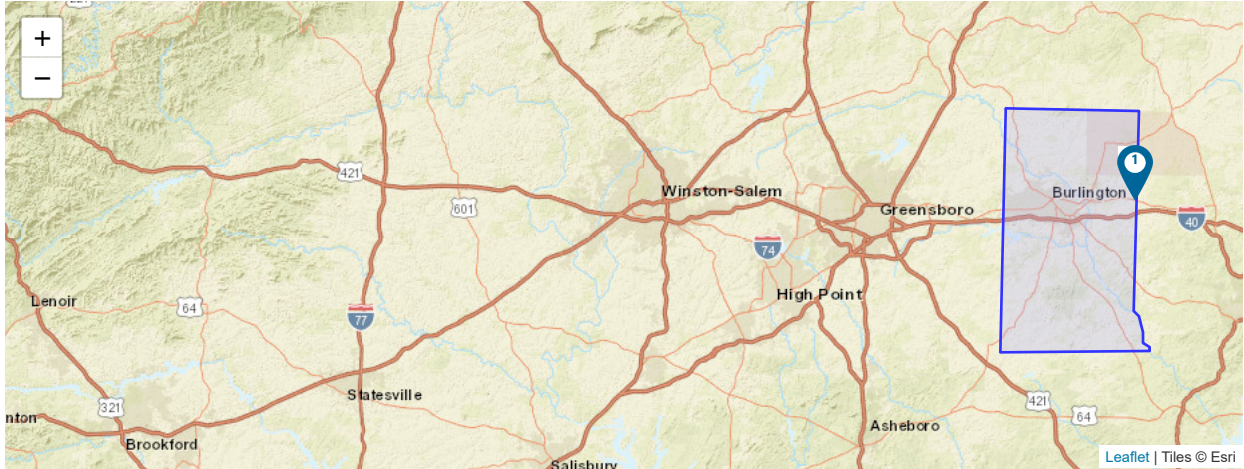




Benefit-Cost Analysis

Project Name: City of Mebane Sewer Rehabilitation



Map Marker	Mitigation Title	Property Type	Hazard	Using 7% Discount Rate			Using 3% Discount Rate (For FY22 BRIC and FMA only)		
				Benefits (B)	Costs (C)	BCR (B/C)	Benefits (B)	Costs (C)	BCR (B/C)
1	Other @ Mebane, North Carolina		DFA - Infrastructure Failure	\$ 5,074,258	\$ 3,102,215	1.64	\$ 9,460,320	\$ 3,340,795	2.83
TOTAL (SELECTED)				\$ 5,074,258	\$ 3,102,215	1.64	\$ 9,460,320	\$ 3,340,795	2.83
TOTAL				\$ 5,074,258	\$ 3,102,215	1.64	\$ 9,460,320	\$ 3,340,795	2.83

Property Configuration

Property Title:	Other @ Mebane, North Carolina
Property Location:	27302, Alamance, North Carolina
Property Coordinates:	36.09579000000008, -79.26617999999996
Hazard Type:	Infrastructure Failure
Mitigation Action Type:	Other
Property Type:	Utilities
Analysis Method Type:	Historical Damages

Cost Estimation

Other @ Mebane, North Carolina

Project Useful Life (years):	50
Project Cost:	\$2,826,200
Number of Maintenance Years:	50 Use Default:Yes
Annual Maintenance Cost:	\$20,000

Damage Analysis Parameters - Damage Frequency Assessment

Other @ Mebane, North Carolina

Year of Analysis was Conducted:	2022
Year Property was Built:	1920
Analysis Duration:	103 Use Default:Yes

Utilities Properties

Other @ Mebane, North Carolina

Type of Service:	Wastewater
Number of Customers Served:	7,660
Value of Unit of Service (\$/person/day):	\$60 Use Default:Yes
Total Value of Service Per Day (\$/day):	\$459,600

Historical Damages Before Mitigation

Other @ Mebane, North Carolina

Damage Year	Recurrence Interval (years)	WASTEWATER			OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL	
		Impact (days)	Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)	Current Dollars?	Inflated Damages (\$)	
2020	0.33	0.33	0	0	0	0	0	0	151,668	No	151,668

Comments

Damages Before Mitigation:

Mebane Public Works director Kyle Smith estimates that approximately 3 times per year, the wastewater system is inundated sufficiently so that the Town cannot accurately measure inflow and infiltration (I&I), meaning they could be pumping at zero percent efficiency and system overflows could be widespread. Approximate downtime for each event is approximately 8 hours.

Annualized Damages Before Mitigation

Other @ Mebane, North Carolina

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
0.33	151,668	459,600
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	151,668	459,600

Expected Damages After Mitigation

Other @ Mebane, North Carolina

Recurrence Interval (years)	WASTEWATER			OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)		
25	5	0	0	0	0	0	2,298,000		

Annualized Damages After Mitigation
Other @ Mebane, North Carolina

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
25	2,298,000	91,920
	Sum Damages and Losses (\$)	Sum Annualized Damages and Losses (\$)
	2,298,000	91,920

Benefits-Costs Summary

Other @ Mebane, North Carolina

Total Standard Mitigation Benefits:	\$5,074,258
Total Social Benefits:	\$0
Total Mitigation Project Benefits:	\$5,074,258
Total Mitigation Project Cost:	\$3,102,215
Benefit Cost Ratio - Standard:	1.64
Benefit Cost Ratio - Standard + Social:	1.64