



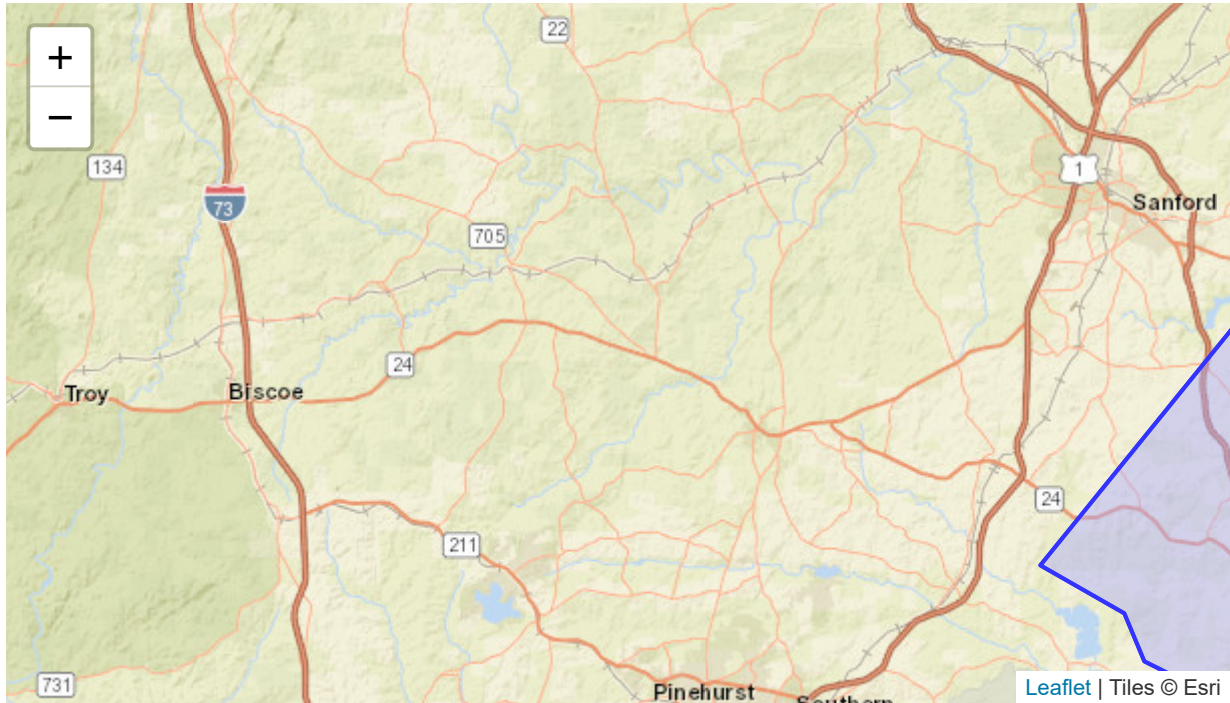
FEMA

# Benefit-Cost Calculator

V.6.0 (Build 20230103.1822 | Release Notes)

## Benefit-Cost Analysis

Project Name: City of Dunn Raw Water Electrical Relocation & 24" line replacement FY2022BRIC



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	Floodproofing Measures @ 35.3273060; -78.6953300		DFA - Riverine Flood	\$ 9,994,321	\$ 9,130,267	1.09	\$ 18,633,161	\$ 9,237,628	2.02
2	Elevation @ 35.3273060; -78.6953300		DFA - Riverine Flood	\$ 9,994,321	\$ 9,130,267	1.09	\$ 18,633,161	\$ 9,237,628	2.02
<b>TOTAL (SELECTED)</b>				<b>\$ 19,988,642</b>	<b>\$ 18,260,534</b>	<b>1.09</b>	<b>\$ 37,266,322</b>	<b>\$ 18,475,256</b>	<b>2.02</b>
<b>TOTAL</b>				<b>\$ 19,988,642</b>	<b>\$ 18,260,534</b>	<b>1.09</b>	<b>\$ 37,266,322</b>	<b>\$ 18,475,256</b>	<b>2.02</b>

**Property Configuration**

**Property Title:** Floodproofing Measures @ 35.3273060; -78.6953300

**Property Location:** 28339, Harnett, North Carolina

**Property Coordinates:** 35.327306, -78.695330

**Hazard Type:** Riverine Flood

**Mitigation Action Type:** Floodproofing Measures

**Property Type:** Utilities

**Analysis Method Type:** Historical Damages

**Cost Estimation**  
Floodproofing Measures @ 35.3273060; -78.6953300

**Project Useful Life (years):** 50

**Project Cost:** \$9,006,060

**Number of Maintenance Years:** 50 Use Default:Yes

**Annual Maintenance Cost:** \$9,000

**Damage Analysis Parameters - Damage Frequency Assessment**  
Floodproofing Measures @ 35.3273060; -78.6953300

**Year of Analysis was Conducted:** 2023

**Year Property was Built:** 1974

**Analysis Duration:** 50 Use Default:Yes

**Utilities Properties**  
Floodproofing Measures @ 35.3273060; -78.6953300

**Type of Service:** Potable Water

**Number of Customers Served:** 37,458

**Value of Unit of Service (\$/person/day):** \$116 Use Default:Yes

**Total Value of Service Per Day (\$/day):** \$4,345,128

**Historical Damages Before Mitigation**  
Floodproofing Measures @ 35.3273060; -78.6953300

Damage Year	Recurrence Interval (years)	POTABLE WATER Impact (days)	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL		
			Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)	Current Dollars?	Inflated Damages (\$)
2016	17	1	0	0	0	0	0	4,345,128	No	4,345,128
2018	6	1	0	0	0	0	0	4,345,128	No	4,345,128

Annualized Damages Before Mitigation  
Floodproofing Measures @ 35.3273060; -78.6953300

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
6	4,345,128	468,592
17	4,345,128	255,595
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	8,690,256	724,187

Expected Damages After Mitigation  
Floodproofing Measures @ 35.3273060; -78.6953300

Recurrence Interval (years)	POTABLE WATER	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
50	0	0	0	0	0	0	0

Annualized Damages After Mitigation  
Floodproofing Measures @ 35.3273060; -78.6953300

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
50	0	0
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	0	0

Benefits-Costs Summary  
Floodproofing Measures @ 35.3273060; -78.6953300

<b>Total Standard Mitigation Benefits:</b>	\$9,994,321
<b>Total Social Benefits:</b>	\$0
<b>Total Mitigation Project Benefits:</b>	\$9,994,321
<b>Total Mitigation Project Cost:</b>	\$9,130,267
<b>Benefit Cost Ratio - Standard:</b>	1.09
<b>Benefit Cost Ratio - Standard + Social:</b>	1.09

**Property Configuration**

Elevation @ 35.3273060; -78.6953300

**Property Title:** Elevation @ 35.3273060; -78.6953300

**Property Location:** 28339, Harnett, North Carolina

**Property Coordinates:** 35.327306, -78.695330

**Hazard Type:** Riverine Flood

**Mitigation Action Type:** Elevation

**Property Type:** Utilities

**Analysis Method Type:** Historical Damages

**Cost Estimation**

Elevation @ 35.3273060; -78.6953300

**Project Useful Life (years):** 50

**Project Cost:** \$9,006,060

**Number of Maintenance Years:** 50 Use Default:Yes

**Annual Maintenance Cost:** \$9,000

**Damage Analysis Parameters - Damage Frequency Assessment**

Elevation @ 35.3273060; -78.6953300

**Year of Analysis was Conducted:** 2023

**Year Property was Built:** 1974

**Analysis Duration:** 50 Use Default:Yes

**Utilities Properties**

Elevation @ 35.3273060; -78.6953300

**Type of Service:** Potable Water

**Number of Customers Served:** 37,458

**Value of Unit of Service (\$/person/day):** \$116 Use Default:Yes

**Total Value of Service Per Day (\$/day):** \$4,345,128

**Historical Damages Before Mitigation**

Elevation @ 35.3273060; -78.6953300

Damage Year	Recurrence Interval (years)	POTABLE WATER Impact (days)	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL		
			Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)	Current Dollars?	Inflated Damages (\$)
2016	17	1	0	0	0	0	0	4,345,128	No	4,345,128
2018	6	1	0	0	0	0	0	4,345,128	No	4,345,128

Annualized Damages Before Mitigation

Elevation @ 35.3273060; -78.6953300

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
6	4,345,128	468,592
17	4,345,128	255,595
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	8,690,256	724,187

Expected Damages After Mitigation

Elevation @ 35.3273060; -78.6953300

Recurrence Interval (years)	POTABLE WATER	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Impact (days)	Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
50	0	0	0	0	0	0	0

Annualized Damages After Mitigation

Elevation @ 35.3273060; -78.6953300

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
50	0	0
Sum Damages and Losses (\$)		Sum Annualized Damages and Losses (\$)
	0	0

Benefits-Costs Summary

Elevation @ 35.3273060; -78.6953300

<b>Total Standard Mitigation Benefits:</b>	\$9,994,321
<b>Total Social Benefits:</b>	\$0
<b>Total Mitigation Project Benefits:</b>	\$9,994,321
<b>Total Mitigation Project Cost:</b>	\$9,130,267
<b>Benefit Cost Ratio - Standard:</b>	1.09
<b>Benefit Cost Ratio - Standard + Social:</b>	1.09