



FEMA

Benefit-Cost Calculator

V.6.0 (Build 20240510.2248 | Release Notes)

Benefit-Cost Analysis

Project Name: Buttonwood Projects 1, 2, & 3 - Preliminary Application Data



Map Marker	Mitigation Title	Property Type	Hazard	Discount Rate (%)	Benefits (B)	Costs (C)	BCR (B/C)
▲	1 Drainage Improvement @ Sarasota County, Florida		DFA - Coastal A Flood	3.1	\$ 22,019,590	\$ 3,543,904	6.21
TOTAL (SELECTED)					\$ 22,019,590	\$ 3,543,904	6.21
TOTAL					\$ 22,019,590	\$ 3,543,904	6.21

Property Configuration

Property Title:	Drainage Improvement @ Sarasota County, Florida
Property Location:	34228, Sarasota, Florida
Property Coordinates:	27.180511, -82.3222581
Hazard Type:	Coastal A Flood
Mitigation Action Type:	Drainage Improvement
Property Type:	Residential Building
Analysis Method Type:	Professional Expected Damages

Cost Estimation

Drainage Improvement @ Sarasota County, Florida

Discount Rate (%):	3.1% Use Default:Yes
Project Useful Life (years):	20
Project Cost:	\$3,470,200
Number of Maintenance Years:	20 Use Default:Yes
Annual Maintenance Cost:	\$5,000

Damage Analysis Parameters - Damage Frequency Assessment

Drainage Improvement @ Sarasota County, Florida

Year of Analysis was Conducted:	2023
Year Property was Built:	1954
Analysis Duration:	70 Use Default:Yes

Comments

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Year Built:

Based on oldest home in the floodplain - neighborhood was originally constructed in the 1950's and 1960's.

Professional Expected Damages Before Mitigation

Drainage Improvement @ Sarasota County, Florida

Recurrence Interval (years)	OTHER	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Damages (\$)	Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
2	0	1,846,052	1,074,966	53,186	0	0	2,974,204
5	0	2,346,169	1,376,981	54,791	0	0	3,777,941
10	0	4,301,652	2,526,844	95,333	0	0	6,923,829
25	0	4,923,895	2,894,530	104,765	0	0	7,923,190
50	0	6,252,848	3,672,540	136,554	0	0	10,061,942
100	0	8,207,761	4,826,378	263,419	0	0	13,297,558

Comments

Damages Before Mitigation:

Based on preliminary modeling. Values will be adjusted / updated during final design phase. Category 1 Damages = Structure Damages; Category 2 Damages = Content Damages; Category 3 Damages = Displacement

Annualized Damages Before Mitigation

Drainage Improvement @ Sarasota County, Florida

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
2	2,974,204	1,005,621
5	3,777,941	511,447
10	6,923,829	444,400
25	7,923,190	178,575
50	10,061,942	115,672
100	13,297,558	132,974
	Sum Damages and Losses (\$)	Sum Annualized Damages and Losses (\$)
	44,958,664	2,388,689

Professional Expected Damages After Mitigation

Drainage Improvement @ Sarasota County, Florida

Recurrence Interval (years)	OTHER	OPTIONAL DAMAGES			VOLUNTEER COSTS		TOTAL
	Damages (\$)	Category 1 (\$)	Category 2 (\$)	Category 3 (\$)	Number of Volunteers	Number of Days	Damages (\$)
2	0	0	0	0	0	0	0
5	0	1,708,464	1,002,708	39,137	0	0	2,750,309
10	0	2,367,462	1,390,677	49,573	0	0	3,807,712
25	0	3,280,539	1,928,477	65,027	0	0	5,274,043
50	0	4,476,629	2,629,298	92,266	0	0	7,198,193
100	0	5,970,664	3,510,906	122,929	0	0	9,604,499

Comments

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Damages After Mitigation:

Based on preliminary modeling. Values will be adjusted / updated during final design phase. Category 1 Damages = Structure Damages; Category 2 Damages = Content Damages; Category 3 Damages = Displacement

Annualized Damages After Mitigation
Drainage Improvement @ Sarasota County, Florida

Annualized Recurrence Interval (years)	Damages and Losses (\$)	Annualized Damages and Losses (\$)
2	0	0
5	2,750,309	323,611
10	3,807,712	268,878
25	5,274,043	123,229
50	7,198,193	83,147
100	9,604,499	96,044
	Sum Damages and Losses (\$)	Sum Annualized Damages and Losses (\$)
	28,634,756	894,909

Standard Benefits - Ecosystem Services
Drainage Improvement @ Sarasota County, Florida

Total Project Area (sq.ft):	0
Percentage of Urban Green Open Space:	0.00%
Percentage of Rural Green Open Space:	0.00%
Percentage of Riparian:	0.00%
Percentage of Coastal Wetlands:	0.00%
Percentage of Inland Wetlands:	0.00%
Percentage of Forests:	0.00%
Percentage of Coral Reefs:	0.00%
Percentage of Shellfish Reefs:	0.00%
Percentage of Beaches and Dunes:	0.00%
Expected Annual Ecosystem Services Benefits:	\$0

Comments

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Total Project Area:

Data not included - damages provide a BCR greater than 1.0

Additional Benefits - Social

Drainage Improvement @ Sarasota County, Florida

Number of Workers: 0

Expected Annual Social Benefits: \$0

Comments

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Number of Residents:

Data not included - damages provide a BCR greater than 1.0

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Number of Workers:

Data not included - damages provide a BCR greater than 1.0

Benefits-Costs Summary

Drainage Improvement @ Sarasota County, Florida

Discount Rate (%): 3.1% Use Default:Yes

Total Standard Mitigation Benefits: \$22,019,590

Total Social Benefits: \$0

Total Mitigation Project Benefits: \$22,019,590

Total Mitigation Project Cost: \$3,543,904

Benefit Cost Ratio - Standard: 6.21

Benefit Cost Ratio - Standard + Social: 6.21