

Exhibit A to Resolution No. 2021-_____



**SARASOTA COUNTY
FLOODPLAIN MANAGEMENT PLAN UPDATE**

Sarasota County | June 2021

**SARASOTA COUNTY
FLOODPLAIN MANAGEMENT PLAN UPDATE**

Prepared by:

Sarasota County Floodplain Management Plan Committee
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June 2021

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Jones Edmunds Project No.: 19006-049-01
Resolution dated January 2019

Revisions

Date	Revision
01/2021	Full Update (to align with the LMS 5-year update)

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1 INTRODUCTION

PURPOSE

Among natural hazards, floods are the costliest and most pervasive hazard in the United States. Property losses from flooding events in the United States have been steadily increasing since the mid-1900s and have now reached billions of dollars per year.

The U.S. Federal Emergency Management Agency (FEMA) estimates that homes in high-risk areas have at least a 25% chance of flooding during a 30-year period. The National Weather Service estimates direct flood damages to property between 1985 and 2014 averaged approximately \$7.96 billion per year (adjusted to 2014 dollars for inflation).

Sarasota County is a Gulf Coast community located on the west coast of Florida that encompasses approximately 590 square miles of land, with 37 miles of open shoreline along the Gulf of Mexico. There are more than 420 miles of rivers, streams, and canals within the county. In addition, there are 43 named lakes covering 2,091 acres, and over 70 square miles of estuaries and bays that support diverse habitats for plants and animals. The majority of the canals were constructed to function as agricultural drainage canals and were not designed to convey flows from developed areas. After World War II, the county experienced significant growth and development along the shoreline, as well as other areas adjacent to water features.

The sub-tropical weather pattern in this region provides frequent extreme weather events including flooding from tropical depressions and hurricanes. Extreme and severe summer rains can cause flooding in various locations throughout the County. These events may pose a significant threat to life and property.

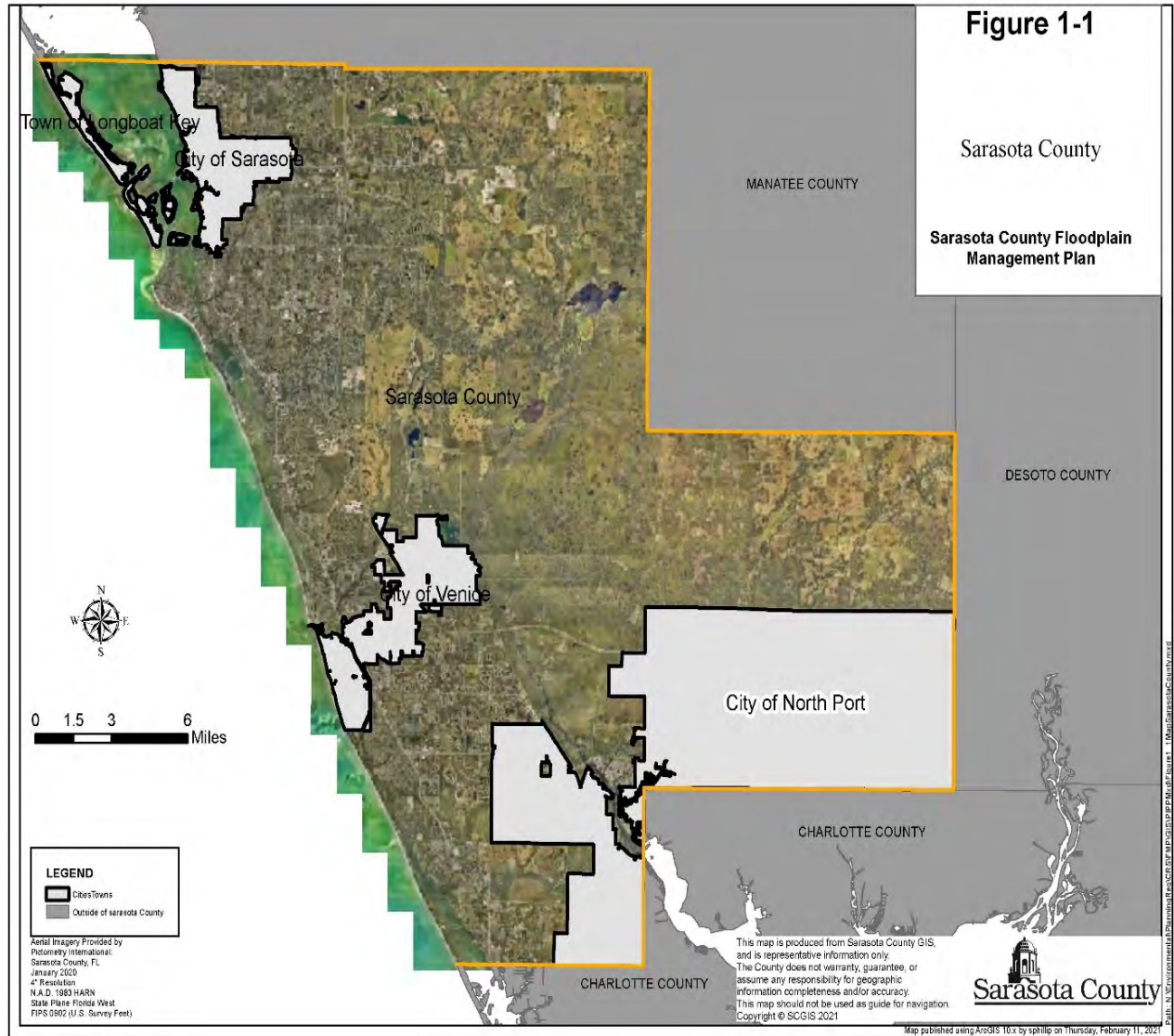
Sarasota County can experience flooding due to hurricanes or tropical storms, as well as heavy rainfall that can occur throughout the year in Florida. Hurricane Hermine, a category 1 hurricane, hit Sarasota County in September 2016 with peak winds of 54 mph and 9.38 inches of rainfall. Tropical Storm Colin caused flooding, power outages and beach erosion throughout the County in June 2016. Hurricane Charley, a category 4 hurricane, severely damaged hundreds of buildings and trees in August 2004. In June of 1992, Tropical Depression One exceeded the 100-year storm conditions, dropping more than 20 inches of rain in northern Sarasota County. An estimated 3,000 structures were flooded during this intense storm. The financial impact of claims paid out through the National Flood Insurance Program (NFIP) totals approximately \$27.4 million since 1978 for unincorporated Sarasota County (FEMA, 2020). These claims only reflect properties that have had flood insurance policies in-force through the NFIP.

To plan for these types of flooding events, Sarasota County developed a Floodplain Management Plan (FMP). An FMP is designed with the following objectives:

- Organize community resources to reduce or eliminate flood risks to people and property.
- Implement strategies prior to a hazardous flooding event to help reduce the impacts of a disaster, which can result in substantial savings in life and property losses.
- Give guidance in developing pre- and post-mitigation plans.
- Identify priority projects and programs for funding.
- Increase the likelihood of State and Federal funding for pre- and post-hazard mitigation projects.

The FMP serves as an annex to Sarasota County's Local Mitigation Strategy (LMS), which is a state-approved, multi-jurisdictional, multi-hazard plan. The geographic and jurisdictional scope of the FMP includes all unincorporated areas of Sarasota County (Figure 1-1). This FMP offers a structure in line with the Floodplain Management Planning activity of the Community Rating System (CRS). The CRS is a voluntary incentive program designed to encourage communities to exceed the minimum NFIP requirements.

Figure 1-1 Map of Sarasota County



COMMUNITY PROFILE

GEOGRAPHIC PROFILE

Sarasota County is located on the west-central coast of Florida. It is bounded on the north by Manatee County, the east by Desoto County, the south by Charlotte County, and the west by the Gulf of Mexico. Unincorporated Sarasota County encompasses a total of 435 square miles. The county has approximately 37 miles of shoreline along the Gulf of Mexico and is renowned for its sandy beaches and sparkling blue water.

TOPOGRAPHY

The generally flat topography of Sarasota County is characterized by pine flatwoods and other upland systems, as well as wetlands including marshy tributary systems. Elevation ranges from sea level in the west to a maximum of 95 feet referenced to the North American Vertical Datum of 1988 (NAVD) in the northeast portion of the County. The barrier islands are low-lying and generally do not exceed 17 feet NAVD. The portion of unincorporated Sarasota County west and south of Interstate 75, where most of the development has occurred, ranges from sea level to less than 20 feet NAVD. The Myakka River is the major stream within the county and, along with its tributaries, drains approximately 75% of the county.

CLIMATE

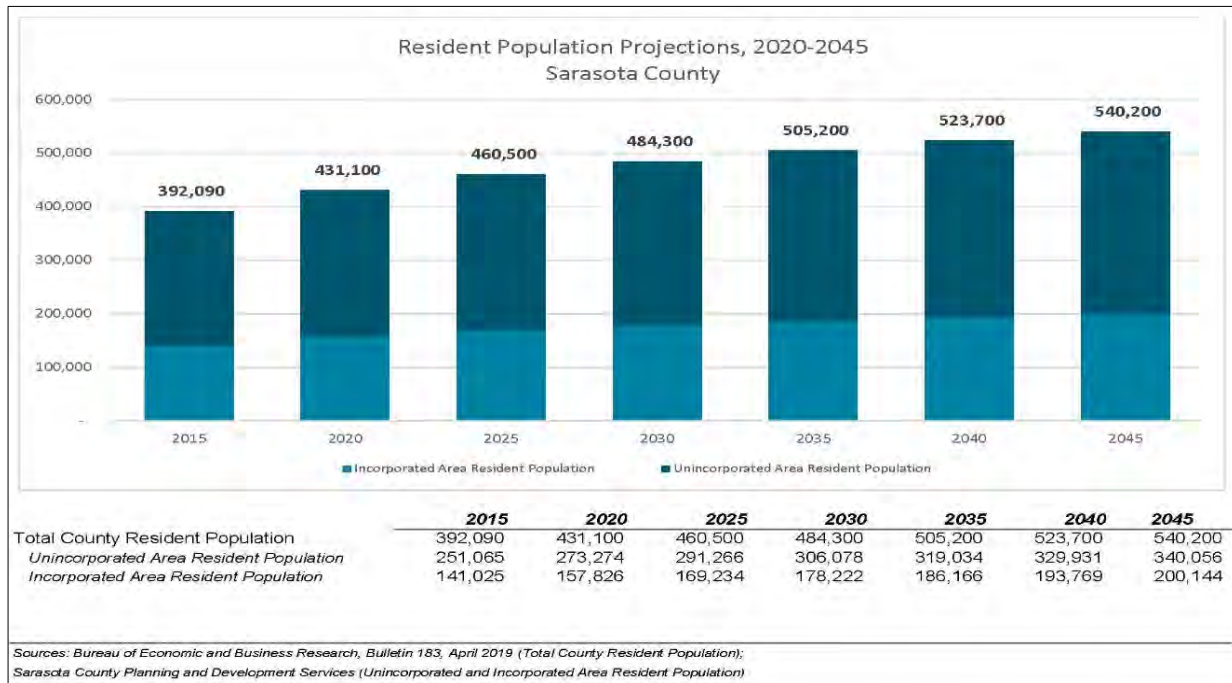
The climate in Sarasota County is characterized as subtropical, with warm and humid summers, mild winters, and dry springs and falls. Summer daytime temperatures commonly reach or exceed 90 degrees Fahrenheit. Average annual precipitation for the county is 53 inches. More than half of the annual rainfall typically falls during the summer months of June through September, mainly a result of convective storms. Winter frontal systems are the source of most of the precipitation during the remaining 8 months.

POPULATION AND DEMOGRAPHICS

Unincorporated Sarasota County's current population is approximately 273,274 according to the Bureau of Economic and Business Research, April 1, 2020, with current estimates of 340,056 by 2045.

In 2015, the Sarasota-Manatee metropolitan region was ranked 11th among America's 20 fastest-growing urban areas according to the US Census Bureau. Between 2014 and 2015, Sarasota County experienced a growth rate of 2.7 percent compared with a less than 1% growth rate four years prior. Figure 1-2 reflects the population growth projection through 2045 in Sarasota County.

Figure 1-2 Population Projections for Sarasota County



In addition, Sarasota County experiences a large influx of tourists and seasonal visitors throughout the year. According to Sarasota County Planning Services, there are approximately 90,000 seasonal residents in Sarasota County.

HOUSING

There are an estimated 243,994 housing units in Sarasota County (U.S. Census Bureau, 2018). Nearly six out of 10 housing units in Sarasota County are detached single-family homes. In 2018, 62% of the residential building permits were issued for single-family detached units. Figure 1-3 shows the percent of housing unit by type. According to the Realtor Association of Sarasota and Manatee, the median prices for Sarasota single-family homes in 2014-2018 was approximately \$234,800.

Figure 1-3 Housing Units by Type



Source: US Census Bureau, 2018

ECONOMY

The economy of Sarasota County is largely service-oriented, driven by tourism and migration of retirees. Approximately half of all Sarasota County jobs are health care, retail trade, and hospitality related. Sarasota County’s Office of Financial Management annually publishes economic reports that contain statistics for the County’s labor force, including the top 10 industries, average wages, and unemployment rates. According to these reports, the average annual wage for Sarasota County was \$ 46,268 in 2019. The breakdown of Industries and their average monthly employment and average annual wages is shown in Attachment 1.

Source: Florida Department of Economic Opportunity, *QCEW*. (Attachment 1).

NATIONAL FLOOD INSURANCE PROGRAM

The National Flood Insurance Program (NFIP) was approved by Congress in 1968 primarily to make flood insurance available to property owners with buildings located in Special Flood Hazard Areas (SFHA) identified on Flood Insurance Rate Maps (FIRM). To qualify for participation, a community develops and adopts a regulatory program designed to reduce exposure to flood damage and, at a minimum, that conforms to the minimum participating requirements of the NFIP (44CFR, Part 60.3). If conforming, flood insurance is available to anyone that lives in that community. Sarasota County fulfills these requirements through the County’s Floodplain Damage Prevention Ordinance and Land Development Regulations (Attachment 2). Sarasota County first adopted its Ordinance, including FEMA’s Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRM), in December 1971. The FIS and FIRMs were last revised on November 4,

2016. FEMA issued preliminary RISK Map and flood study updates on December 31, 2019. These maps are anticipated to become effective in 2021/2022. There were 37,373 NFIP insurance policies in force as of March 2020, representing just under \$10 billion of coverage.

COMMUNITY RATING SYSTEM

The NFIP's Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Sarasota County has participated in the CRS program since 1992. By implementing comprehensive floodplain management activities, Sarasota County has been rated as a Class 5 community under this program since 2007. This means that the NFIP insurance for Sarasota County property owners is discounted annually by up to 25% for high-risk properties and up to 10% for medium to low-risk policies. This represents a current savings of over \$7 million dollars to residents of Sarasota County every year.

2 PLAN ORGANIZATION AND DEVELOPMENT

This Floodplain Management Plan provides a comprehensive overview of best management practices adopted and implemented by the County to improve flood risk reduction and flood protection for its residents, and to support other County regulatory, preservation, conservation, social, and economic needs. Sarasota County developed and adopted the first Floodplain Management Plan in 1997.

The current plan was and continues to be updated by a committee consisting of Sarasota County staff as well as public stakeholders. The committee represents a collaboration of County representatives from Planning and Development, Emergency Services, Building and Stormwater, as well as public and private sector agencies.

PLANNING COMMITTEE

The planning committee (Table 2-1) consists of five members from the County, along with outside stakeholder members.

Table 2-1 Floodplain Management Plan Committee Members

Official Members	Representing
Kathy Croteau, kcroteau@scgov.net	Building Department
Donna Bailey, dabailey@scgov.net	Public Works Stormwater CRS
Michele Norton, mnorton@scgov.net	Planning and Development Services
Edward McCrane, emccrane@scgov.net	Emergency Services
Robert Laura, rlaura@scgov.net	Public Works Stormwater
Stakeholder Members	Representing
Elizabeth Wong, ewong@cityofnorthport.com	City of North Port
Kathleen Weeden, kweeden@venicegov.com	City of Venice
Cindy Cahill, Cynthia.Cahill@sarasotaFL.gov	City of Sarasota
Sal Depaolis, sdepaolis@wraengineering.com	WRA, LLC
Dawn Turner, Dawn.Turner@swfwmd.state.fl.us	Southwest Florida Water Management District
Nicole Mytyk, Nicole.Mytyk@swfwmd.state.fl.us	Southwest Florida Water Management District
James Linkogle, jlinkogle@longboatkey.org	Town of Long Boat Key
Todd Kerkering, Richard.Kerkering@sarasotaFL.gov	City of Sarasota
Martin Duran	Planning and Development Services

The committee meets regularly to review and update the plan. Table 2-2 describes the committee meetings. Key topics during committee meetings include:

- Plan organization
- Public involvement
- Assessment of flood hazards that affect Sarasota County
- Assessment of flood hazard impacts
- Floodplain management goals
- Review of possible floodplain management activities
- Development of an action plan
- Plan adoption and update

Table 2-2 FMP Committee Meetings

Date	Discussion Topics
4-16-2019	Reviewed the newly adopted FMP & score from ISO and potential improvements. Reviewed and compared to the County’s Capital Improvement Program. Discussed the ongoing vulnerability assessment by UF/IFAS extension. Reviewed Long Term Actions.
7-16-2019	Reviewed the FMP Evaluation Report and formal FMP update processes. Discussed the requirements for the FMP Evaluation Report.
10-15-2019	Reviewed and commented on the Projects List & FMP Evaluation Report.
01-21-2020	Reviewed the FMP Evaluation Report final draft. The Committee started review of 2021 FMP update. We reviewed the project list and approved a motion to restructure the list. Discussed upcoming flood map updates.
04-20-2020	Meeting canceled due to Covid-19 pandemic.
07-21-2020	Discussed the FMP Evaluation Report that went to the County Commission June 3, 2020. Reviewed the process for the 2021 update and agreed on a timeline.
10-20-2020	Discussed potential improvements to the plan by removing the repetitive loss data and the flood insurance data. The repetitive loss data is now housed within the newly completed RLAA Report and the flood insurance data is being developed into the Flood Insurance Promotion Plan through the PPI Committee. Discussed the public meeting requirements during a pandemic.

Agendas, sign-in sheets, and meeting notes for the plan update meetings are provided in Attachment 3. All FMP committee meetings are advertised on the County’s website and are open to the public.

PUBLIC INVOLVEMENT

Sarasota County made every effort to involve the public throughout development and update of the FMP and other activities relating to flood risk. Sarasota County provides public outreach through many public meetings. These meetings are sometimes conducted through neighborhoods or associations. Other avenues for public outreach also consist of public meetings conducted through watershed planning and public meetings to recognize capital improvement projects. Watershed management plans cover the entirety of Sarasota County and provide an excellent means to reach out to residents about floodplain management activities, repetitive losses, and benefits of flood insurance.

PUBLIC NOTIFICATION

Due to the pandemic, Sarasota County used online methods to reach out to the public and solicit input for the plan update. The request for input was announced in a variety of formats, including a press release, and social media (Attachment 4). The plan was placed online at scgov.net keyword Floodplain Management Plan for comments on the draft FMP update. Sarasota County continues to follow Center for Disease Control (CDC) guidelines on in-person meetings.

Figure 2-1 FMP Press Release

PRESS RELEASE:

Sarasota County has updated the Floodplain Management Plan (FMP) and is now seeking review and comments from the public.

Sarasota County joined the voluntary National Flood Insurance Program (NFIP) in 1972 making Federal flood insurance available to property owners. In 1992, Sarasota County was approved to join NFIP's voluntary Community Rating System (CRS) program. The program is monitored by Insurance Office Services ISO/Verisk, an approved consultant through the Federal Emergency Management Agency (FEMA).

Sarasota County is currently a CRS Class 5 rated community. As a result, our citizens receive up to 25% in Federal flood insurance premium reductions.

The FMP was redeveloped and adopted by the Board of County Commissioners in January 2019. An update is required every 5 years, but to better align with the update schedule of the County's Local Mitigation Strategy, the FMP is being updated early.

The FMP is not a regulatory plan but rather is a guidance document that identifies and analyzes a wide range of mitigation actions and projects for flood protection. Projects range from public outreach to potential infrastructure construction intended to reduce the impact of flooding on new and existing residential or commercial buildings.

Inclusion of projects in the FMP ensures when funding becomes available through FEMA or other grant funding programs, the County is eligible to apply for funding for an approved project. With each FMP update, the project list is reviewed, evaluated, and updated by the FMP Committee.

The public is encouraged to review the Floodplain Management Plan 2021 Update online at scgov.net, keyword Floodplain Management Plan, and submit comments to: Dorina Bailey, CRS Coordinator, at dbailey@scgov.net. Comments will be received through June 30, 2021.

This FMP update is expected to be presented to the Board of County Commissioners for adoption in the early fall of 2021.

ADDITIONAL PUBLIC INFORMATION ACTIVITIES

The FMP update included other County-developed initiatives to inform the public about the update and encourage input. These initiatives involved updating the County website, FMP surveys, and other activities to connect with residents of Sarasota County. Examples of these activities include:

- County updated the FMP website to provide information about the draft plan to the public and encourage input. Figure 2-2 illustrates the County's FMP website. All FMP committee meetings are advertised online and on the County's website and are open to the public. The website also contains the meeting notes, and other applicable meeting materials and documents such as presentations.

Figure 2-2 Sarasota County Floodplain Management Plan Website

Public Works

- Flood Maps
- Flood Protection
- Floodplain Management Planning Committee**
- Floody the Frog
- Program for Public Information
- Stormwater Utility
- Survey Mapping Data
- Traffic Engineering & Operations
- Transportation Planning
- Water Quality for Bays & Estuaries
- Watersheds
- Casey Key Stabilization Project

Government » Public Works » Flood Protection »

Floodplain Management Planning

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Sarasota County's flat topography and sub-tropical climate means we are prone to flooding from hurricanes or tropical storms, as well as heavy rainfall that can occur throughout the year. We experience coastal, riverine and urban flooding.

Floodplain Management Planning Committee

To plan for these types of flood events, a Floodplain Management Planning Committee was created to develop and maintain the Floodplain Management Plan (or "the plan").

Our timeline:

- The county adopted the first plan in 1997.
- In 2010, the plan was updated in conjunction with the multi-jurisdictional Local Mitigation Strategy.
- In 2015, the plan was updated as required every five years.
- In 2016, to improve the plan, a new committee was created to include staff, members of the public, incorporated municipalities within Sarasota County and other regional stakeholders.
- Our first committee meeting was Nov. 2016.
- Our first public open house meeting was Dec. 7, 2016.
- The final draft of the Floodplain Management Plan document was completed in June 2018.
- The Floodplain Management Plan document was adopted on January 29, 2019.

The Plan Statement

To promote awareness of the floodplain, assess flooding issues and set goals to make our community more resistant to flooding.

The plan is designed with the following objectives:

- To organize community resources to reduce or eliminate flood risks to people and property.
- To implement strategies prior to a hazardous flooding event to help reduce the impacts of a disaster, which can result in substantial savings in life and property following the event.
- To give guidance in developing pre-mitigation and post-mitigation plans.
- To identify priority projects and programs for funding.
- To increase the likelihood of state and federal funding for pre-hazard and post-hazard mitigation projects.

What's Next?

Download the [Floodplain Management Plan](#) below, in the Related Documents section.


The restructured Floodplain Management Plan was formally adopted by the County Commission on January 29, 2019. The plan and projects list are reviewed quarterly by the committee and updated annually. An evaluation of the plan, update and re-adoption is required every 5 years. The Floodplain Management Plan is an annex to the Unified Local Mitigation Strategy (LMS) plan. We will re-adopt the Floodplain Management Plan early in 2021. This will allow us to evaluate, update and re-adopt on the same schedule with the Unified Local Mitigation Strategy (LMS) plan.

RELATED DOCUMENTS

- [PRESS RELEASE FMP - 2020](#)
- [FMP Evaluation Report](#)
- [20 Year Past Hazard Line](#)
- [Resolution 2019-016 FMP-PP1](#)
- [Floodplain Management Plan](#)
- [Floodplain Management Plan Open House](#)
- [Section 510 CRS Manual](#)
- [2018 Floodplain Management Planning Checklist](#)
- [2016 Local Mitigation Strategy Resolution](#)
- [2015 Floodplain Management Plan](#)
- [2010 LMS with Floodplain Management Plan Supplement](#)

Free viewers are required for some of the attached documents. They can be downloaded by clicking on the icons below.

Figure 2-3 Sarasota County Floodplain Management Survey Website


Sarasota County
Floodplain Management Plan (FMP) Survey

- Please share with us your property address or location in Sarasota County.
Name: _____
Address: _____
City: _____
- How long have you lived at this address?
1-2 years: _____ 3-4 years: _____ 5-6 years: _____
7-8 years: _____ 9-10 years: _____ 10+ years: _____
- Has your property, driveway and/or street ever flooded?
Yes: _____ No: _____ If yes, when? _____
- Has your home ever flooded?
Yes: _____ No: _____ If yes, when? _____
- If yes, how deep was the flood water in your home?
Inches: _____
- If yes, how long did the flood water stay in your home?
Days: _____
- If yes, what year(s) did this happen?
Year(s): _____
- If you live near a stream, river or pond, did it overflow?
Yes: _____ No: _____ Almost: _____
- Are there any permanent flood protection measures on your property?
Yes: _____ No: _____ Don't know: _____
Other (please specify): _____
- What type of foundation does your home or building have?
Slab: _____ Crawlspace: _____ Piers/pilings/columns: _____
Other (please specify): _____
- Is your home or building in a FEMA designated flood hazard zone?
Yes: _____ No: _____ Not sure: _____

- Sarasota County developed a survey website to solicit information regarding flood risk from residents throughout the County (Figure 2-3). The survey consisted of questions relating to history of flooding, causes and extent of flooding to property, structures, and roads, as well as insurance information. The survey was advertised through a press release and flyers as well as electronic means via email, the County's website and social media.
- County staff conducts outreach workshops throughout the year to educate the public about flood risks and the County's Floodplain Management Plan. Twenty-four workshops for flood protection were held in 2019 at various locations throughout the County as well as five workshops for grant education. Four flood workshops (Attachment 5) were held in 2020 with the bulk of workshops canceled due to the Covid-19 pandemic. Staff continues to review alternate methods of outreach that conform to CDC guidelines.
- County staff periodically conducts Facebook posts to advertise the workshops and provide several means for the public to provide input, including links to the survey questionnaire, links to the County's Flood Protection website where the FMP can be found, and a telephone number to contact County staff for more information about the FMP.
- County staff periodically posts information on Twitter and continues to review additional methods of outreach.

COORDINATION

The County's watershed management program identifies flooding issues and develops solutions that may become part of the capital improvement program, outreach efforts, and other initiatives for water quality and natural systems. Nearby communities face similar flooding issues and have developed their own plans to address them. While updating this plan, Sarasota County requested any existing studies and plans from other agencies that were not included in the 2019 FMP and that may be relevant to regional floodplain management.

REVIEW OF EXISTING STUDIES AND INFORMATION

The 2021 update of the FMP included review of existing studies, plans, reports and other technical information, including the County's overall goals and strategies for various elements of floodplain management, emergency management, natural resource planning, capital improvement program, and other County functions. These plans included the County's Comprehensive Plan, Sarasota 2050, Native Habitat Land Cover Map and Risk Assessment, Environmentally Sensitive Lands Protection Program and Neighborhood Parkland Acquisition Program, Sarasota County Flood Warning and Response Plan, and various watershed management plans. Some of these plans are described below.

SARASOTA COUNTY COMPREHENSIVE PLAN

The Sarasota County Comprehensive Plan provides the policy direction for framing land use decisions and growth management initiatives. Chapter 1: Environment, Chapter 7: Future Land Use, and Chapter 12: Watershed Management include policy direction to support the NFIP and CRS programs, and provisions to address the problems of development in the floodplain and to address protection of natural drainage features. Policies in Chapter 12 Watershed Management recognize the necessity to address stormwater management with consideration for natural drainage features. Water Policy 1.1.3 says that the county shall continue to fund the continuous maintenance of watershed maps and models for each drainage basin in the County through the Basin Master Planning Program to provide a basis of review for new development and other watershed alteration proposals as well as assure that stormwater management systems are developed to attain the adopted level of service. Each detailed master plan shall be developed, in accordance with the Basin Master Plan Schedule, as a Sarasota County inter-department effort to ensure consideration of natural drainage functions. Basin master plans shall be developed in cooperation with the municipalities and adjacent Counties to address stormwater quality and quantity problems in basins crossing more than one political boundary. Each plan shall be designed to protect downstream and estuarine water from degradation by stormwater runoff. Each basin plan shall define the level of service and a cost-effective capital improvements program shall be developed. As each basin plan is completed, the comprehensive plan, including the Capital Improvements Plan, shall be amended to incorporate and reflect the stormwater management system improvements identified in the basin plan.

The Watershed Management chapter adopted the Water Budget approach. Sarasota County's natural system restoration efforts are ultimately intended to restore a more natural freshwater flow regime from the watershed to their receiving estuaries and bays. The intended basis of measurement for success of these hydrologic restoration efforts are as follows:

- Quantify the existing water budget – existing monthly inflows and outflows to the estuary.
- Estimate the “predevelopment” or natural systems’ water budget monthly inflows and outflows to the estuary.

Water Objective 1.2 says: Protect the functions of natural groundwater recharge areas and natural drainage features by providing for the maintenance of existing, and where feasible the restoration of the pre-development, water budgets to historical watercourses (as identified by the original United States General Land Office Township Plats from the Mid to Late 1800's).

Water Policy 1.2.1 says: The county shall implement its Watershed Management Plan consistent with the National Pollutant Discharge Elimination System (NPDES) permit issued to the county by FDEP. The county's Stormwater Program shall provide for management and control of stormwater runoff to reduce pollution at the source and

discharge of pollutants into receiving waters from the County's stormwater system to the maximum extent possible.

Water Policy 1.2.2 says: The county shall require that the treatment of stormwater discharge meet standards which will ensure that there will not be adverse impacts on the quality of natural surface waters.

Water Policy 1.3.2 states that Sarasota County shall provide design standards for low impact development (LID) measures to mitigate the effect of impervious surfaces and stormwater pollutants on increased runoff volumes. LID design measures may include, but are not limited to, retention with bio-filtration, pervious pavement systems, green roofs, rainwater/stormwater harvesting, etc.

Sarasota County's Low Impact Development Guidance Document, developed in May 2015, supports Sarasota County's goal of applying the LID concept and design where feasible to enhance existing stormwater management measures and reduce the adverse impacts of land development projects on the County's natural resources.

SARASOTA 2050

This is a 50-year land use plan to manage and shape future growth in Sarasota County. Sarasota 2050 primary goals are preserving the county's natural, cultural and physical resources, and making all neighborhoods more livable. Incentive-based and voluntary, not regulation-driven, this addition to the county's comprehensive plan grants density bonuses (increased number of dwelling units allowed) to landowners who preserve open space, agriculture and environmentally sensitive land and build new, compact, mixed use, walkable developments in appropriate areas.

NATIVE HABITAT LAND COVER MAP AND RISK ASSESSMENT

Adopted in 2008, the plan reiterates the beneficial and natural functions of floodplains.

ENVIRONMENTALLY SENSITIVE LANDS PROTECTION PROGRAM (ESLPP) AND NEIGHBORHOOD PARKLAND ACQUISITION PROGRAM

These plans are voter-approved, and taxpayer-funded programs designed to acquire and protect natural lands and parklands. In March 1999, voters approved the ESLPP to protect native habitats by a 0.25 mil ad valorem tax collected through 2019. In November 2005, voters approved a second referendum extending the program through 2029 and expanding the county's land protection efforts to include neighborhood parkland acquisitions.

SARASOTA COUNTY REPETITIVE LOSS AREA ANALYSIS (RLAA)

In 2020, Sarasota County updated their Repetitive Loss Area Analysis. This included a desktop evaluation of the potential repetitive loss areas which include repetitive loss properties as defined by FEMA. A ‘windshield’ review of all structures within a repetitive loss area and field investigations were performed including review of types of construction, stormwater structures in the area, drainage patterns, etc. as outlined in the 2017 Community Rating System Manual. Section 3 of this FMP briefly describes the RLAA.

WATERSHED MANAGEMENT PLANS:

PROCESS, AND METHODOLOGY USED IN THIS ANALYSIS.

Sarasota County conducts a “holistic” approach to watershed planning, incorporating floodplain management, water quality and conservation. Watersheds are areas of land with waterways that flow to a common destination. These watershed management plans provide a tool to evaluate areas that are likely to flood and develop best management practices to reduce the risks associated with flooding while improving water quality and natural systems. The following descriptions from the Sarasota County Water Atlas highlight and summarize the characteristics of the major watersheds within Sarasota County.

The Dona and Roberts Bay Watershed spans a total of 97.4 square miles, 90% of which lies within Sarasota County. The area within the county, totaling 87.4 square miles, is the only portion of the watershed for which information is available on the Sarasota County Water Atlas. The watershed contains 24 named lakes/ponds, 16 named rivers/streams/canals and five (5) named bays/bayous. Drainage basins include: Cow Pen Slough; Fox Creek, Curry Creek; Donna/Roberts Bay Coastal; Hatchett Creek and Island of Venice.

The Lemon Bay Watershed spans a total of 74.5 square miles, 71% of which lies within Sarasota County. The area within the county, totaling 52.6 square miles, is the only portion of the watershed for which information is available on the Sarasota County Water Atlas. The watershed contains 82 named lakes/ponds, 12 named rivers/ streams/canals and 2 named bays/bayous. Drainage basins include: Ainger Creek; Alligator Creek; Forked Creek; Gottfried Creek; Lemon Bay Coastal and Woodmere Creek.

The Little Sarasota Bay Watershed is located within Sarasota County and spans 43.9 square miles. The watershed contains 34 named lakes/ponds, 8 named rivers/streams /canals and 4 named bays/bayous. Drainage basins include: Catfish Creek; Clower Creek; Elligraw Bayou; Holiday Bayou; Little Sarasota Bay Coastal; Matheny Creek; North Creek; and South Creek.

The Manatee River Watershed spans a total of 362.0 square miles, 2% of which lies within Sarasota County. The area within the county, totaling 8.9 square miles, is the only portion of the watershed for which information is available on the Sarasota County Water Atlas. The watershed contains 33 named lakes/ponds, 43 named rivers/streams /canals and 2 named bays/bayous. Drainage basins include: Cypress Strand; East Fork of the Manatee River; Gilley Creek; Lake Manatee; Lower Braden River; Lower Gamble Creek; Manatee River-Warner Bayou; North Fork Manatee River; and Upper Braden River.

The Myakka River Watershed spans a total of 593.8 square miles, 53% of which lies within Sarasota County. The area within the county, totaling 314.7 square miles, is the only portion of the watershed for which information is available on the Sarasota County Water Atlas. The watershed contains 17 named lakes/ponds, and 59 named rivers/streams/canals. Drainage basins include: Big Slough Canal; Curry Creek; Deer Prairie Creek; East Cocoplum Waterway; Harris Camp; Howard Creek; Lake Myakka; Lower Myakka River; Maple Creek; Mossy Island Slough; Mud Lake Slough; North Cocoplum Waterway; Oglegy Creek; Owen Creek; south Cocoplum Waterway; Tatum Sawgrass Swamp; Tippecanoe Bay; West Cocoplum Waterway; Wildcat Slough; and Wingate Creek.

The Sarasota Bay Watershed spans a total of 161.4 square miles, 60% of which lies within Sarasota County. The area within the county, totaling 96.4 square miles, is the only portion of the watershed for which information is available on the Sarasota County Water Atlas. The watershed contains 176 named lakes/ponds, 31 named rivers/streams /canals and 12 named bays/bayous. Drainage basins include: Hudson Bayou; Palma Sola Bay Frontal; Phillippi Creek; Roberts Bay Frontal; Sarasota Bay Coastal; and Whitaker Bayou.

River/stream/canal

Other Plans and Data

Other plans and data reviewed include, but is not limited to:

- Sarasota County Capital Improvement Program
- Sarasota County Post-Disaster Redevelopment Plan
- FDEP Critically Eroded Beaches of Florida, 2019
- Florida Report on Climate Change and Sea Level Rise
- Sarasota County Local Mitigation Strategy
- City of North Port Floodplain Management Plan
- City of Sarasota Floodplain Management Plan
- City of Venice Floodplain Management Plan

- Town of Longboat Key Floodplain Management Plan
- Sarasota County Annual Economic Report
- State of Florida Enhanced Hazard Mitigation Plan
- FEMA Flood Insurance Study and DFIRM

These and other documents that were reviewed are provided along with this FMP in Attachment 6.

For this update to the FMP, Sarasota County reached out to the following communities and agencies for additional flood studies or data that was not included in the 2019 FMP:

- City of North Port
- City of Sarasota
- City of Venice
- Town of Longboat Key
- Southwest Florida Water Management District
- University of South Florida Extension, Sarasota
- Sarasota Bay Estuary Program
- Coastal and Heartlands National Estuary Partnership
- Jennifer Shafer, Shafer Consulting

COORDINATION WITH OTHER AGENCIES AND ORGANIZATIONS

As part of the update of the FMP, the planning committee reached out to other communities and agencies for input. Contact with these agencies was by telephone and/or email correspondence. Some of these agencies provided comments on the various topics of the FMP update, including the organization of the update, review of the hazards and the problems, review of the goals, and reviewing possible additional projects. They also provided comments on the annual FMP Evaluation report that was submitted in early 2020. The 2020 Annual FMP Evaluation report is included as Attachment 15.

The updated FMP report was also submitted to individuals inside and outside of the Sarasota County government for review. Staff from Watershed Engineering, floodplain outreach, planning and development review provided comments on the updated FMP. Other individuals who were contacted and provided comments on the report include the agencies listed in Table 2-3.

Table 2-3 Telephone or In-Person Coordination with Other Agencies

Agency	Point of Contact
Southwest Florida Water Management District	Dawn Turner
City of North Port	Elizabeth Wong (Stormwater Manager)
City of Venice	Kathleen Weeden (City Engineer)
City of Sarasota	Cynthia Cahill (Floodplain Manager)
Sarasota Bay Estuary Program	Darcy Young
UF IFAS Extension	Lee Hayes Byron

3 ASSESSMENT OF FLOOD HAZARDS

This section describes the known flood hazards within Sarasota County, their history of occurrence, and areas that are likely to be impacted by those hazards. Sarasota County is a medium-sized coastal community characterized by low, flat topography and a high-water table. These characteristics make the County highly susceptible to the effects of flood damage caused by hurricanes, tropical storms, and heavy rain. Sarasota County is a StormReady community. Therefore, for many of these natural hazards, County staff coordinates with the National Weather Service to receive warnings regarding the source of flooding, warning times and expected depth of flooding. The County also maintains gages that provide additional information including rainfall amount, flow/velocities and depth.

Since 1978, the NFIP has paid \$27.4 million in flood claims in Sarasota County. Figure 3-1 illustrates Federal Emergency Management Agency (FEMA) Special Flood Hazard Areas (SFHA) within the County. In addition to the flood hazard areas identified on FEMA's maps, Sarasota County takes a proactive approach to identifying flood risks by developing and maintaining numerous Watershed Management Plans that, together, cover the entire County. **These plans identify other at-risk areas currently not mapped on FEMA's current Flood Insurance Rate Maps (FIRM).** Sarasota County refers to these at-risk areas identified by the Watershed Management Plans as the Community Flood Hazard Areas (CFHA).

The population in Sarasota County is projected to increase between 12% and 20% within the next 25 years. This will be accompanied by an increase in new developments and homes, placing more stressors for flooding in terms of increased runoff and location of structures in at-risk areas. To reduce the risk of damage due to flooding for these new developments, the County implements regulations that exceed the minimum requirements of the NFIP. One additional regulatory tool is that the County regulates activities in the CFHA in addition to the SFHA. Sarasota County continues to update the FEMA Flood Insurance Rate Maps (FIRM) with improved risk information based on newer and better data. During 2016 and 2017, the County submitted three MT-2 applications to FEMA for physical map revisions. These applications included updated flood risk data for Little Sarasota Bay, Phillippi Creek, and Lemon Bay watersheds. FEMA issued 316-PMR letters, approving the Phillippi Creek model on 12/29/2017, approving the Little Sarasota Bay model on 9/16/2017, and approving the Lemon Bay model on 2/28/2018. These studies were included on the Preliminary maps issued by FEMA on 12/31/2019. The Dona Bay watershed plan and model update study is currently ongoing and will also be submitted to FEMA, at a later date.

Flooding can be attributed to several types of natural hazards that may occur in this region, including coastal and inland flooding due to frequent and heavy rains, tropical storms, and hurricanes. By nature of its location along the coast of the Gulf of Mexico, the

County is continuously at risk of coastal flooding. High tide conditions increase the effects of storm surge and inland flooding due to high tailwater conditions. Within coastal areas, Phillippi Creek and Myakka River are prone to storm surge, high tailwater conditions and westerly winds.

Sarasota County maintains a Post-Disaster Redevelopment Plan (PDRP) that also describes in detail the threats and vulnerabilities related to these flood hazards. The plan identifies policies, operational strategies, and roles and responsibilities for implementation that will guide decisions that affect long-term recovery and redevelopment of the community after a disaster. The plan can be found in Attachment 7 provided along with this FMP. The PDRP is currently expected to be updated sometime in 2021.

COASTAL FLOODING

The Sarasota County coastline stretches 37 miles along the Gulf of Mexico, making the county extremely vulnerable to coastal flooding. Coastal flooding is usually the result of a severe weather system such as a severe thunderstorm, hurricane, or tropical storm with high winds and intense rainfall. Water driven ashore by the wind, known as a storm surge, is the main cause of coastal flooding that includes low-lying barrier islands and upland-cut canals. The damaging effects to structures in the beach areas are caused by a combination of higher levels of storm surge, winds, waves, rains, erosion, and battering by debris. Sea walls, jetties, and beach areas are affected by coastal flooding, and losses can occur over short or long periods.

Historically, the County has experienced many damaging coastal floods caused by wind-driven water associated with high tide. Significant occurrences of coastal flooding in the past include:

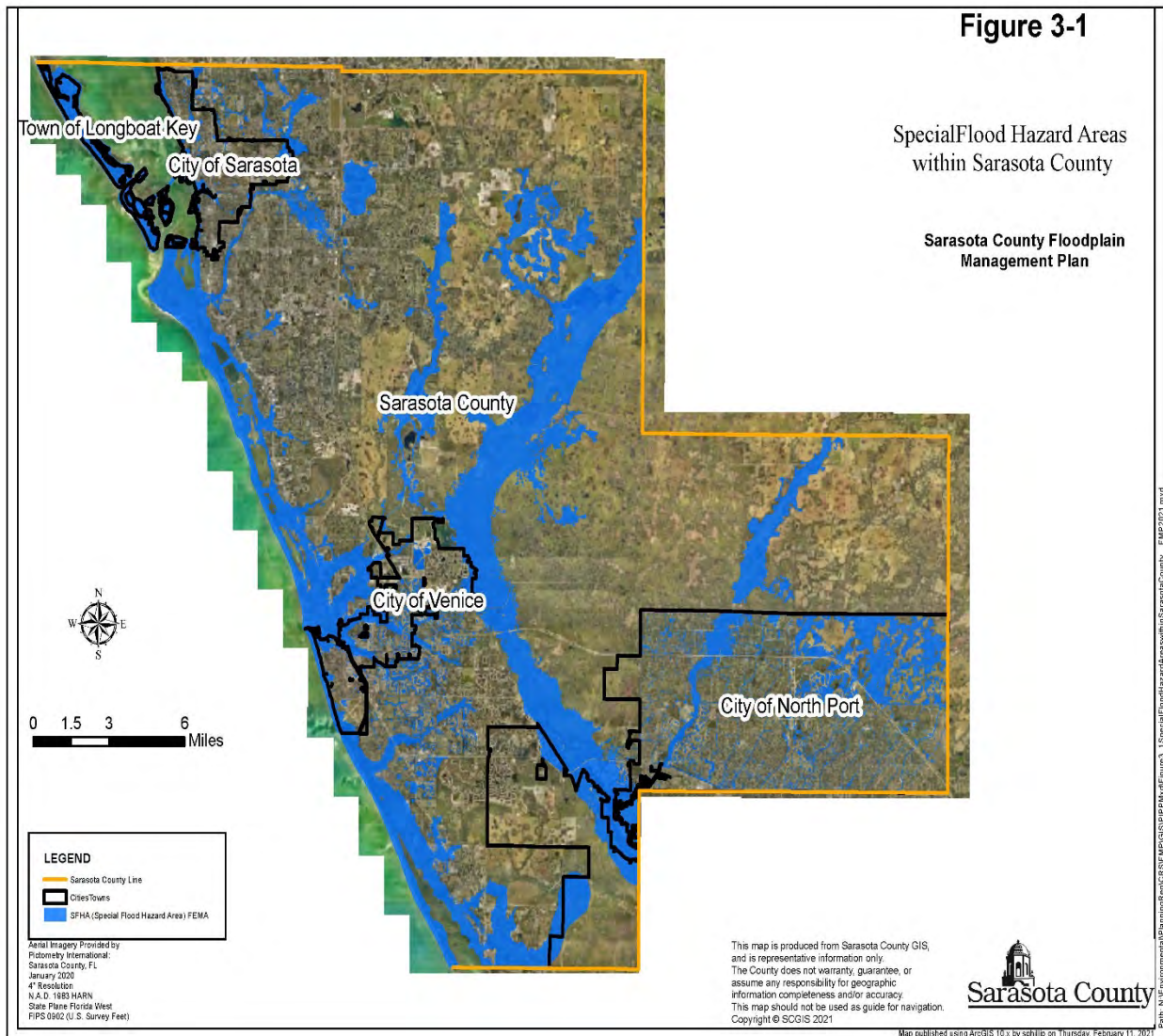
October 1921: An unnamed tropical storm originated in the western Caribbean Sea and made landfall in Florida north of Tarpon Springs. Flooding conditions were prolonged due to the slow forward movement of the storm. A combination of high tides (above 7 feet) with wave action resulted in heavy damage in Sarasota County.

June 1972: Hurricane Agnes originated on the northeastern tip of the Yucatan Peninsula and traveled westward. Although the center of the storm passed approximately 150 miles west of the Florida peninsula, it produced high tides of 3 feet above normal and precipitation of 5 inches in Sarasota County. The high tides caused damage to many homes, seawalls, revetments, and roads along the Sarasota coastline. In addition, wave action produced considerable erosion along the Sarasota County coast.

June 1982: Subtropical Storm One hit the Sarasota area with 60 mile-per-hour winds and 6 inches of rain with little warning. The storm and abnormally high tides caused considerable structural flood damage to properties.

Tropical storms and hurricanes are not the only conditions under which such flooding occurs. Other historical occurrences of coastal flooding in Sarasota County are described later in this section.

Figure 3-1 Special Flood Hazard Areas within Sarasota County



The probability of coastal flooding in Sarasota County is relatively high. This probability increases if the storm strikes the coastline during a high tide. Table 3-1 describes the frequency of occurrence of tidal water elevations based on a study conducted by the Coastal and Oceanographic Engineering Laboratory at the University of Florida.

Table 3-1 Probability of Tidal Water Elevations

Water Level above Mean Sea Level (MSL)	Frequency of Occurrence
3 feet or higher	Once in 3-5 years
4 feet or higher	Once in 20 years
5 feet or higher	Once in 25-30 years
6 feet or higher	Once in 30-50 years
7 feet or higher	Once in 60-90 years
8 feet or higher	Once in 90-100 years

Source: Coastal and Oceanographic Engineering Laboratory, University of Florida, 2016.

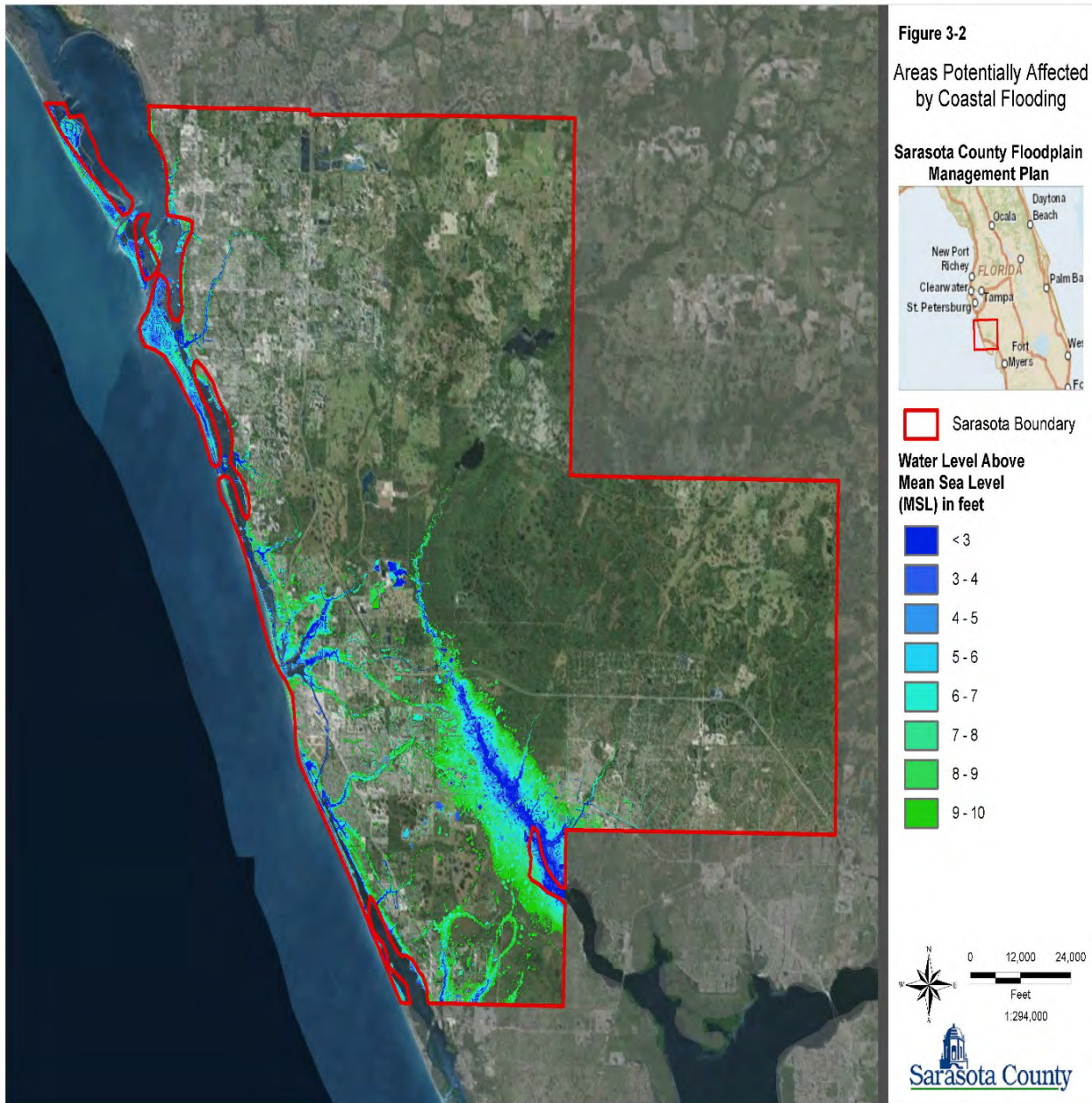
Residences along the Sarasota County coast and barrier islands are highly vulnerable to coastal flooding due to storm surge and/or high tide. The most vulnerable locations to storm surge are the barrier islands and areas along the Myakka River in the southern portion of the county. This often occurs because these areas are closest to the coast or are low-elevation areas located along inland waterways. Using the County’s latest Digital Terrain Model (DTM), County staff mapped the areas that would be inundated by certain water levels above the MSL. The DTM was developed using 2007 Light Detection and Ranging Technology (LiDAR) to accurately capture the topography of the land. Figure 3-2 illustrates the areas potentially affected by coastal flooding.

INLAND FLOODING

Flooding is the most frequently occurring natural hazard in Sarasota County, including inland flooding due to heavy rains, whether or not the rains are associated with tropical storms or hurricanes. Flood depths throughout the County range from less than a foot up to 10 feet. Prolonged periods of rainfall have shown increased potential for causing damage to property and requiring residents to evacuate due to flooding. This problem can become more severe if the heavy rainfall occurs at the same time as a high tide, which prevents rainwater from flowing through the drainage systems into the bays or Gulf of Mexico.

Sarasota County has experienced many damaging floods in recent history. Numerous flood events have been recorded in Sarasota County by the National Oceanic and Atmospheric Administration’s (NOAA) National Centers for Environmental Information. The types of events recorded include coastal flood, flash flood, flood, heavy rain, hurricane, storm surge/tide, tropical depression, and tropical storm.

Figure 3-2 Areas Potentially Affected by Coastal Flooding



Flood events that have affected Sarasota County include the following:

September 1962: Exceptionally heavy rains covered Florida's west coast, including 5,000 square miles over six counties. The highest amount of precipitation reported in a 24-hour period was 14.5 inches measured at the Manasota Tower. Over 1,000 residences were flooded, many to depths of 3 feet or more. Automobiles, streets, and bridges were severely damaged. Numerous roads were underwater for several hours, and many were impassable. The greatest damages occurred in the residential area of Sarasota, which comprises much of the 57-square-mile drainage area of Phillippi Creek. In addition to urban areas, approximately 60,000 acres of ranch land sustained damages. Floods at Phillippi Creek and US Hwy 41 measured 6 feet in depth. Sarasota County suffered significant damages in the Phillippi Creek Basin, in addition to one death. An estimated 10,000 to 15,000 people were directly impacted.

June 1992: Tropical Depression One exceeded the 100-year storm conditions, dropping more than 20 inches of rain in northern Sarasota County. An estimated 3,000 structures were flooded during this intense storm.

July 1995: Tropical Storm Dean dropped more than 11 inches of rain within a 15-hour period, resulting in structural flooding throughout the County.

October 1996: Heavy rainfall of 4 to 6 inches associated with rain bands from Tropical Storm Josephine caused flooding of several homes and streets.

November 1997: In less than 14 hours, more than 10 inches of rain fell in the Phillippi Creek Basin, located in the southern portion of the City of Sarasota, flooding about 190 structures. The rain fell on already saturated soils, causing runoff to flow shortly after the storm began, with water levels rising quickly in the County's Main A Canal.

August 2012: Tropical Storm Isaac crossed eastern Cuba on August 25 and moved northwest through the Florida Keys and into the eastern Gulf of Mexico. In Sarasota County, the Myakka River at Ramblers Mobile Home Park flooded its banks and caused minor flooding to several mobile homes. Water reached the doorsteps of several units and flooded parking lots and grassy areas.

Tropical storms and hurricanes often produce inland flooding, although they are not the only conditions under which such flooding occurs. Other historical occurrences of inland flooding in Sarasota County are described later in this section.

Storm events can be described as the amount of precipitation that occurs over a given duration (e.g., 10 inches of rain over a 24-hour period). Typically, the probability of these storm events is categorized as follows, consistent with United States Geological Survey (USGS) and FEMA terminology:

- 100-year flood (1 percent chance per year)
- 50-year flood (2 percent chance per year)
- 25-year flood (4 percent chance per year)
- 10-year flood (10 percent chance per year)

These categories indicate a probability of occurrence (a 100-year flood has a 1-percent chance of occurrence in any given year). The smaller the chance of occurrence, the more devastating the flood potential. Each of the flood categories is associated with a specific amount of rainfall over a given duration for a specific region. For Sarasota County, the 10-year flood is characterized as receiving 7 inches of rain within a 24-hour period, while the 100-year flood is associated with 10 inches of rain within a 24-hour period.

A high probability of flooding and continued development throughout the County, make the entire County vulnerable to inland flooding. Most vulnerable are structures built before the county entered the NFIP in 1971, designated pre-FIRM structures. Sarasota County has approximately 30,000 of these

The combination of the County's stormwater models, historical records, and repetitive loss area evaluations help identify those areas within the County that are susceptible to flooding, including areas not mapped within the FIRM. In addition, both the County and SWFWMD maintain a highwater mark database to track reported

structures built prior to flood mapping or regulations. Sarasota County has developed and maintained a comprehensive Watershed Management Plan for all watersheds within the County. These plans include stormwater models developed to describe the flooding potential. The plans were developed in coordination with the Southwest Florida Water Management District (SWFWMD), which oversees the management of the region's water resources and includes flood protection and issuing of permits to ensure that new developments do not cause flooding. The results of these plans help to identify those areas that are vulnerable to flooding from small storms or less frequent, larger storms. The following descriptions highlight the watersheds and the drainage systems that they contain.

Dona and Roberts Bay Watershed: Cow Pen Slough, Fox Creek, Curry Creek, Dona/Roberts Bay Coastal, Hatchett Creek, and Island of Venice.

Lemon Bay Watershed: Ainger Creek, Alligator Creek, Forked Creek, Gottfried Creek, Lemon Bay Coastal, and Woodmere Creek.

Little Sarasota Bay Watershed: Catfish Creek, Clower Creek, Elligraw Bayou, Holiday Bayou, Little Sarasota Bay Coastal, Matheny Creek, North Creek, and South Creek.

Manatee River Watershed: Cypress Strand, East Fork of the Manatee River, Gilley Creek, Lake Manatee, Lower Braden River, Lower Gamble Creek, Manatee River-Warner Bayou, North Fork of the Manatee River, and Upper Braden River.

Myakka River Watershed: Lower Myakka River, Upper Myakka/Howard Creek.

Sarasota Bay Watershed spans: Hudson Bayou, Palma Sola Bay Frontal, Phillippi Creek, Roberts Bay Frontal, Sarasota Bay Coastal, and Whitaker Bayou.

Gulf of Mexico Watershed: Coastal areas of Sarasota County.

The combination of the County's stormwater models, historical records, and repetitive loss area evaluations help identify those areas within the County that are susceptible to flooding. The County also maintains data describing locations that have flooded in the past. Figure 3-3 illustrates the community's flood hazard areas, including areas not mapped on the FIRM. Figure 3-4 illustrates the historical flooding complaints and issues within the County. Using a heat map, Figure 3-5 illustrates where the majority of these issues occur.

Figure 3-3 Sarasota County Community Flood Hazard Areas

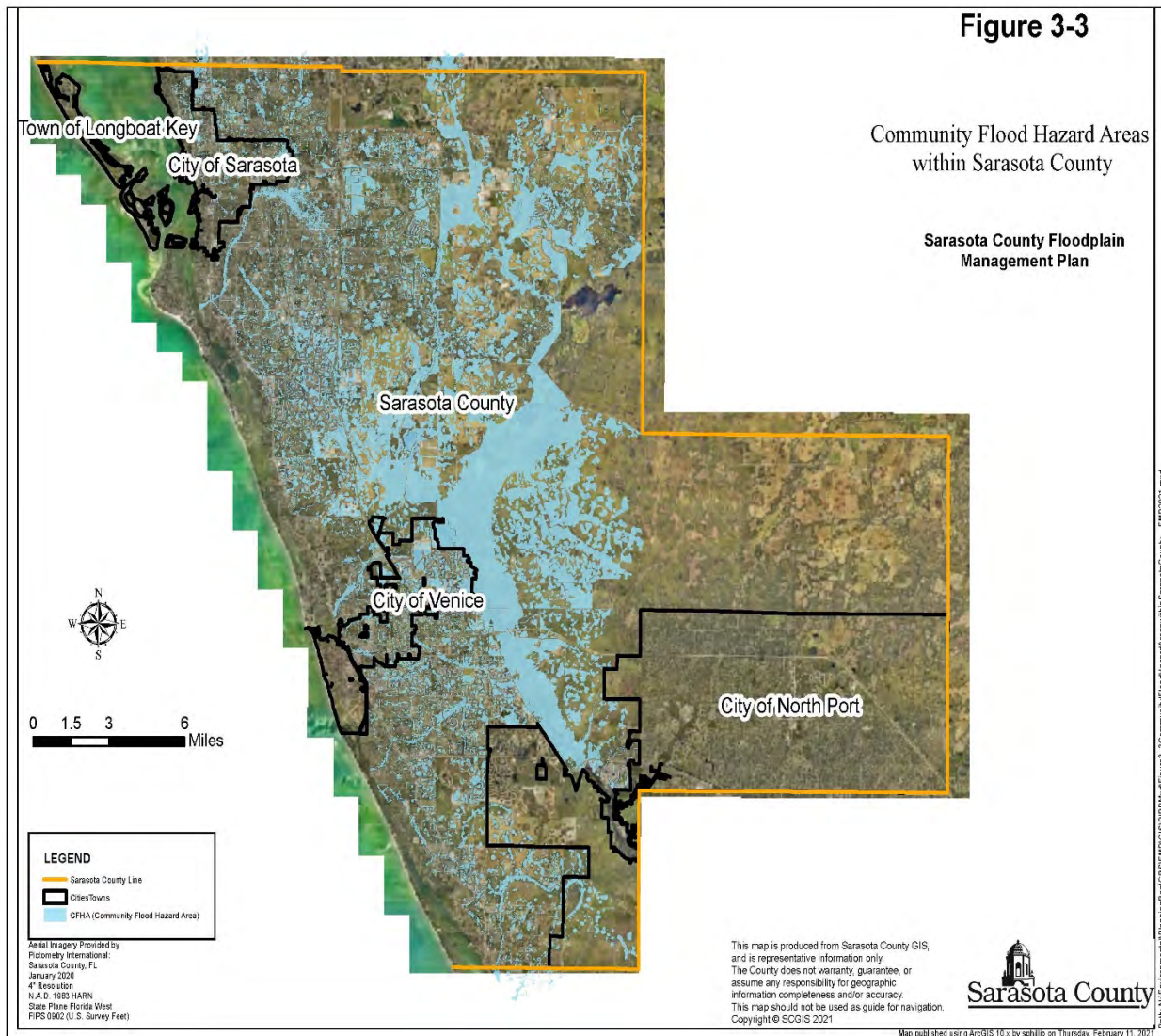


Figure 3-4 Sarasota County Historical Flooding Issues/Complaints (Points)

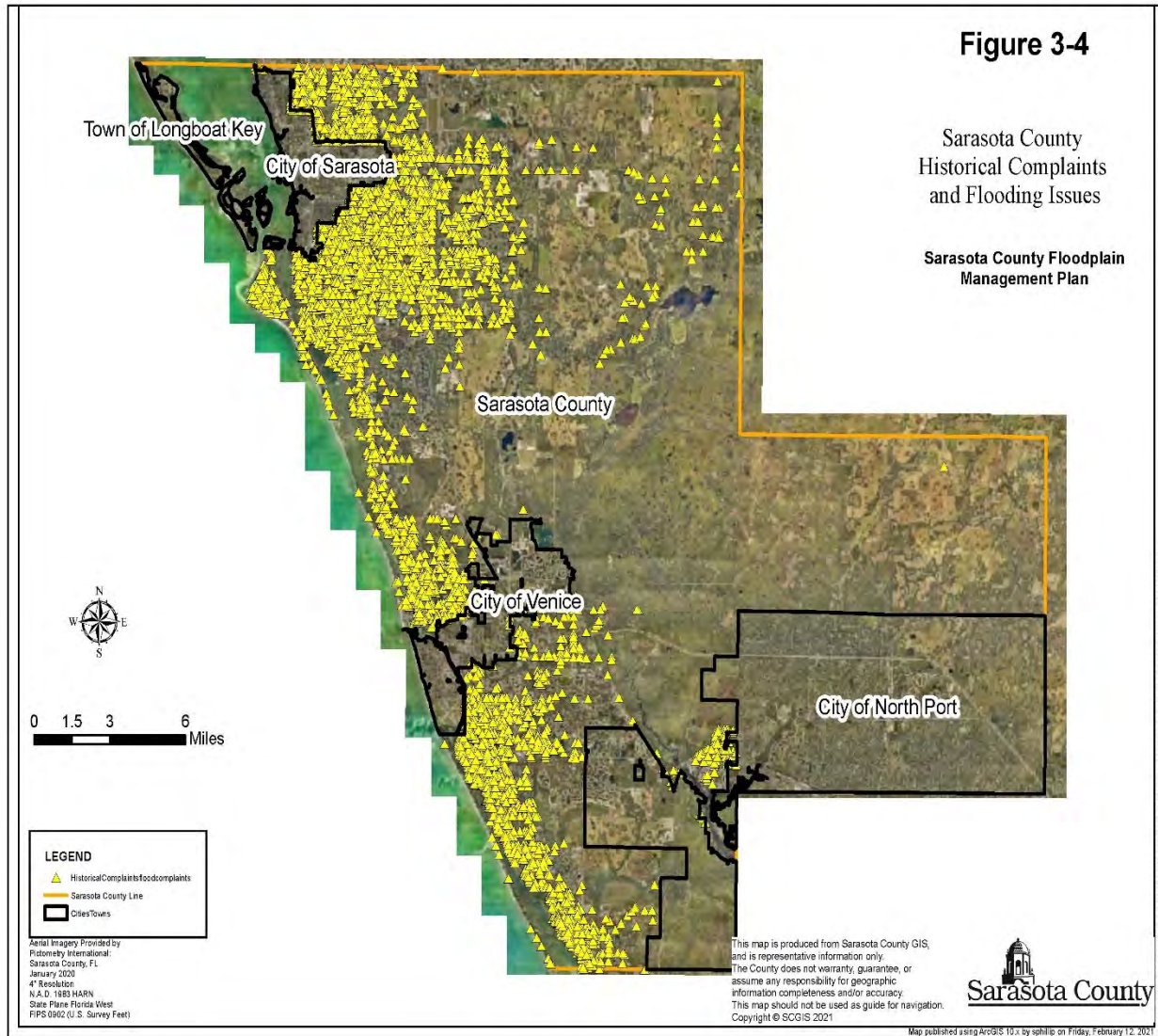
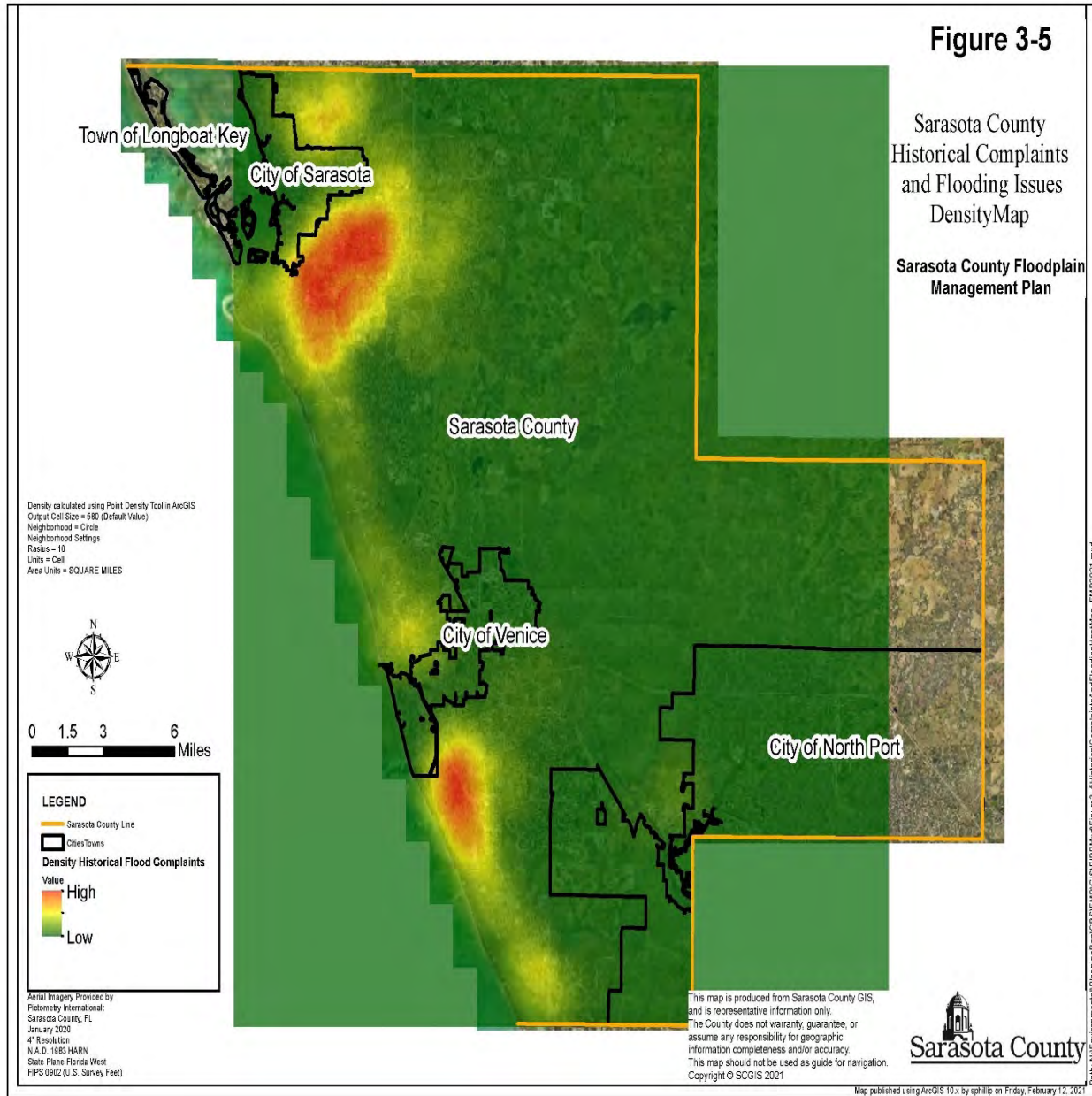


Figure 3-5 Sarasota County Historical Flooding Issues/Complaints (Heat Map)



TROPICAL STORM / HURRICANE

Tropical storms and hurricanes are large cyclonic storms with counterclockwise winds of 39 mph or greater. If the conditions are right, with warm ocean water and favorable high-altitude winds, the system could develop winds in excess of 155 miles per hour, with catastrophic results if it makes landfall in populated areas. The following are descriptions of the three general levels of development for tropical cyclones:

- Tropical depression: The formative stages of a tropical cyclone in which the maximum sustained surface wind is 38 mph or less.
- Tropical storm: A warm core tropical cyclone in which the maximum sustained surface wind ranges from 39–73 mph.
- Hurricane: A warm core tropical cyclone in which the maximum sustained surface wind is 74 mph or greater.

Hurricanes are categorized according to the Saffir-Simpson Hurricane Wind Scale (Table 3-2), which is based on estimates of potential property damage. Hurricanes rated Category 3 and higher are considered major hurricanes because of their potential for significant damage and loss of life. While less devastating, Category 1 and 2 hurricanes are still dangerous, and they, too, require preventative measures.

Table 3-2 Saffir-Simpson Hurricane Wind Scale

Category	Sustained Winds	Potential Damage
Tropical Storm	39-73 mph	Some
1	74-95 mph	Some
2	96-110 mph	Extensive
3	111-130 mph	Devastating
4	131-155 mph	Catastrophic
5	156 mph or higher	Catastrophic

NOAA describes the damage potential for each category as follows:

- **Category 1:** Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding, and gutters. Large branches of trees will snap, and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
- **Category 2:** Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly

rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.

- **Category 3:** Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
- **Category 4:** Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted, and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
- **Category 5:** Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

Although hurricanes are categorized according to sustained wind speeds, they are often accompanied by heavy rains and storm surge that can cause flooding throughout Sarasota County. In addition, fallen trees and debris can obstruct water flow, contributing to flood damage to structures.

Sarasota County has experienced several tropical storms and hurricanes in recent years. In addition to the storms described previously in this section, other notable storms include:

September 1960: Hurricane Donna resulted in tidal heights approximately 3 feet above normal in Sarasota. Pre-storm rainfall of nearly 10 inches saturated the ground, that when combined with rainfall of 5 to 7 inches during the storm, caused extensive flood damage.

October 1968: Hurricane Gladys originated in the Caribbean Sea and entered the Florida Straits on October 18, 1968. Tides up to 5 feet above normal produced considerable damage in Sarasota County. The storm also caused erosion and the lowering of beach profiles throughout the County.

September 1985: Hurricane Elena's storm surge and wave action caused beach erosion and flooding along the barrier islands. Building on the effects of Elena, tropical storm Juan caused serious structural damage to shoreline areas of Sarasota County. Elena required the evacuation of 37,000 people, of whom about 6,500 stayed in shelters.

October 1987: Hurricane Floyd formed off the Yucatan Peninsula. Floyd brought heavy rains and strong winds, resulting in flooding.

November 1988: Tropical Storm Keith made landfall in Sarasota County at 65 mph. Damages resulted from storm surge and wave action.

September 2001: Hurricane Gabrielle made landfall in Venice, then quickly moved northeast across central Florida. The storm spawned tornadoes and caused heavy rain with significant flooding. Storm surge flooding and wave action occurred immediately southeast of where Gabrielle made landfall, including the Englewood coastline of Sarasota County.

August 2004: Hurricane Charley, which developed into a Category 4 storm, was forecast to remain just offshore of the west coast of Florida and make landfall near the mouth of Tampa Bay. However, the storm took an easterly turn and made landfall in the Punta Gorda area, about 50 miles south of Sarasota. It then proceeded northeast through Arcadia, Lake Wales, and Orlando before exiting the state between Daytona and Jacksonville. Because the storm was fast-moving and relatively compact, it made little impact on Sarasota County in the form of wind or rainfall.

September 5, 2004: Hurricane Frances was a very slow-moving Category 2 storm, with a diameter approximately the size of the state of Texas, that impacted virtually the entire state of Florida. The eye of the storm made landfall near Stuart, and then moved northwest across the state and entered the Gulf of Mexico near New Port Richey. The eye stayed northeast of Sarasota, but several inches of rainfall fell in Sarasota during the storm, which resulted in flooding of some structures.

September 16, 2004: Hurricane Ivan, a strong Category 4 storm, made landfall near Gulf Shores, Alabama. The storm remained west of Sarasota, far enough in the Gulf of Mexico that the only impact to Sarasota County was beach erosion and damage to some docks as a result of changing tides.

September 26, 2004: Hurricane Jeanne made landfall on the east coast of Florida near Stuart. The storm then moved northwest, but the eye remained northeast of Sarasota. During the storm, up to 8 inches of rainfall in Sarasota County resulted in the flooding of some structures.

October 2005: Hurricane Wilma made landfall in Florida near Cape Romano and moved across the peninsula in less than 5 hours. The location of the landfall was southerly enough that winds and rain in Sarasota County were minimal.

June 2007: Tropical Storm Barry made landfall near Tampa, dropping a few inches of rain and creating high surf conditions along the west coast of Florida, including Sarasota.

June 2016: Tropical Storm Colin stayed far offshore as it passed Sarasota, delivering intermittently heavy rainfall and causing erosion along the coast.

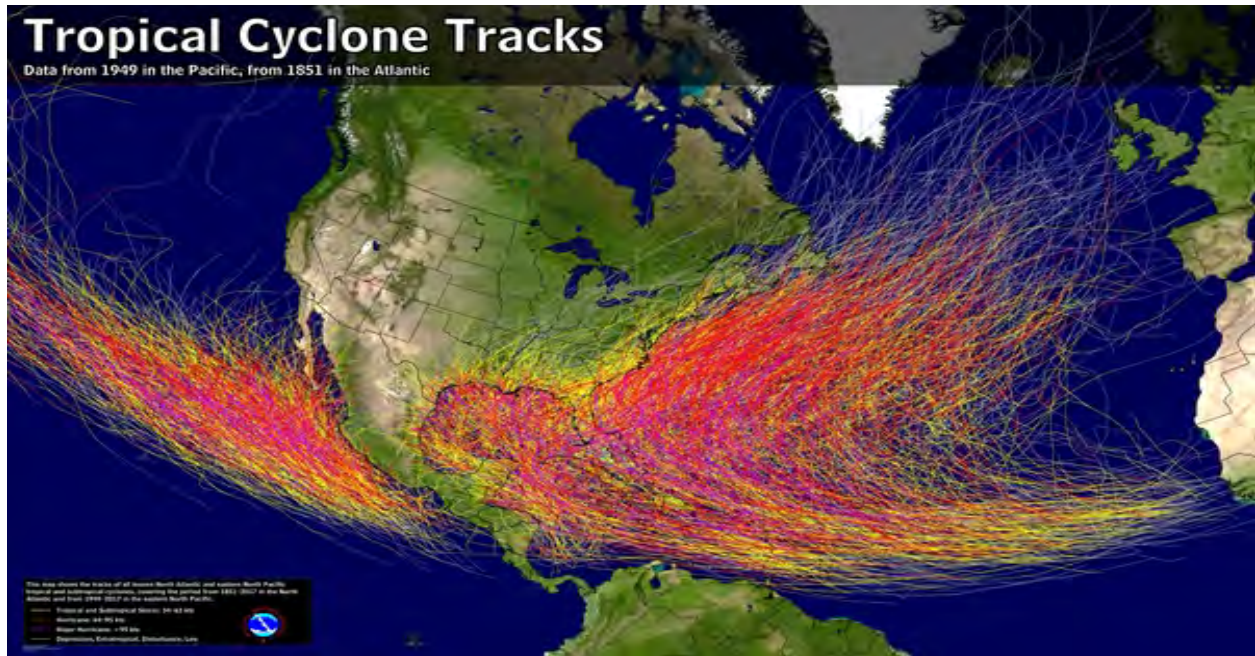
September 2016: Hurricane Hermine caused storm surges and erosion along the coast.

September 2017: Hurricane Irma entered Florida as a Category 4 hurricane. When it passed the Sarasota area, it was a Category 1 hurricane that brought substantial winds, flooding, downed power lines, and debris.

November 2020: Tropical Storm Eta passed by the Sarasota coastline and brought heavy rains and localized flooding to the area. Originally a hurricane, Eta was the 28th named storm, the 12th hurricane, and the 5th major hurricane of a very active 2020 hurricane season.

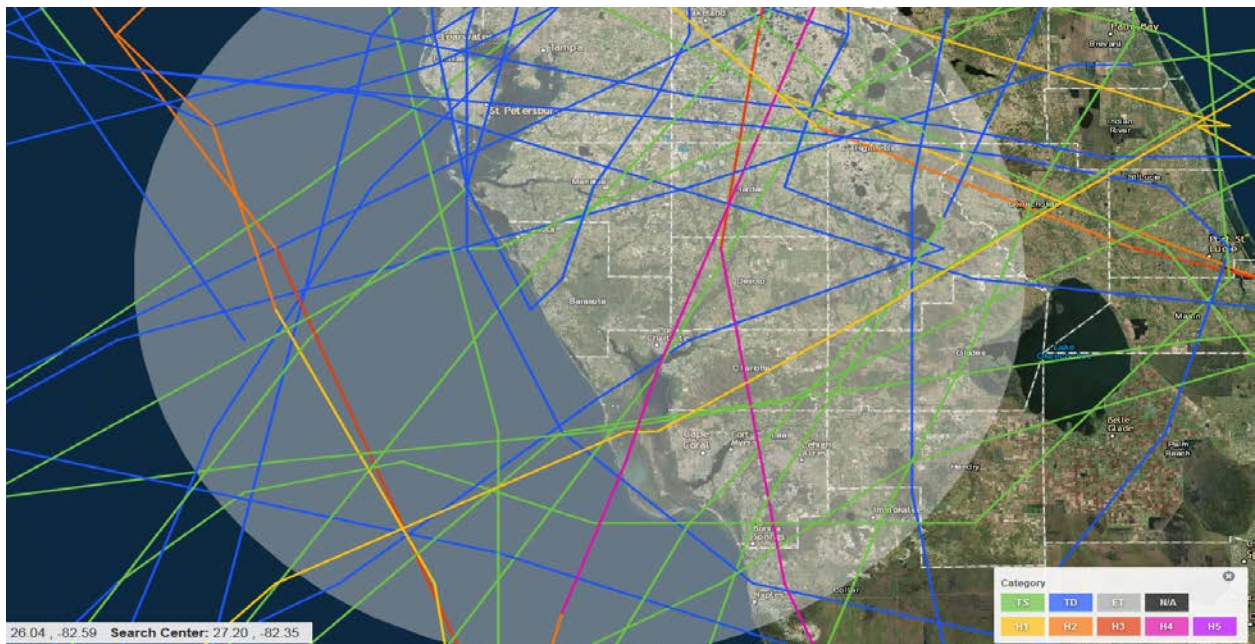
Every year the state of Florida is at risk of being impacted by tropical storms and hurricanes. Figure 3-6 illustrates the historical tropical storm and hurricane tracks for the United States from 1842 to 2020. Figure 3-7 illustrates the tropical storm and hurricane tracks since 1950 for the Sarasota area. Based on events recorded by the NOAA, 37 of these tracks were within 75 nautical miles of Sarasota County since 1950. On average, The Tampa Bay Region, which includes Sarasota County, sustains a hurricane every 4.5 years based on the National Hurricane Center's (NHC) historical assessment of tropical storms and hurricanes. Table 3-3 and Table 3-4 describe the frequency of occurrences of tropical storms and hurricanes in the Tampa Bay Region, which includes Sarasota County.

Figure 3-6 Historical Tropical Storm and Hurricane Tracks for the United States Since 1851



(National Hurricane Center (NHC), 2020).

Figure 3-7 Historical Tropical Storm and Hurricane Tracks for the Sarasota Area Since 1950 (within 75 nautical mile radius)



(National Hurricane Center (NHC), 2020).

Table 3-3 NHC Hurricane or Tropical Storms Return Intervals for the Tampa Bay Region

Number of Years	135
Number of Hurricanes and Tropical Storms	100
Mean Number of Occurrences per Year	0.74
Mean Recurrence Interval	1.35 Years

Table 3-4 NHC Hurricane Return Intervals for the Tampa Bay Region

Number of Years	135
Number of Hurricanes	30
Mean Number of Occurrences per Year	0.22
Mean Recurrence Interval	4.5 Years

Due to its geographic location in the subtropics, adjacent to the Gulf of Mexico, the entire County is vulnerable to damage caused by tropical storm and hurricane-force winds and related flooding. Vulnerability to hurricane related flooding is dependent upon the severity of storm surge, a general rise in sea level caused by the low pressure and strong winds around a hurricane's eye, and the amount of rain carried by the hurricane. Storm surge is influenced by the hurricane's velocity and can rise 20 feet or more above normal sea level to cause massive flooding and destruction along shorelines in its path. During tropical storms and hurricanes, flooding due to heavy rainfall may extend over widespread areas of the County.

HISTORICAL CLAIMS AND REPETITIVE LOSS AREAS

The NFIP has paid over \$27.4 million in claims in Sarasota County. Of these paid losses, approximately \$19.9 million were for pre-FIRM structures, representing 1,660 claims while post-FIRM structures accounted for 548 claims totaling approximately \$5.7 million, illustrating the importance of maintaining accurate flood risk information and the benefits of Sarasota County floodplain management practices and regulations. Table 3-5 and Table 3-6 on the following page describes the policy and claim statistics for Sarasota County.

Table 3-5 Policy and Claim Statistics for Pre-FIRM Structures

Flood Zone	Policies*	Number of Closed Paid Losses*	Closed Paid Losses*
A01-30, AE Zones	11,673	433	\$1,981,370.36
A Zones	526	282	\$2,021,337.19
AO Zones	0	0	\$0
AH Zones	0	0	\$0
AR Zones	0	0	\$0
A99 Zones	0	0	\$0
V01-30, VE Zones	254	35	\$121,042.41
V Zones	0	0	\$0
D Zones	19	6	\$107,002.14
B, C, X Zones	13,309	265	\$1,728,814.58
Grand Total	25,781	1,021	\$5,959,566.68

*As of 03/24/2020

Table 3-6 Policy and Claim Statistics for Post-FIRM Structures

Flood Zone	Policies*	Number of Closed Paid Losses*	Closed Paid Losses*
A01-30, AE Zones	8,753	1,635	\$12,725,988.76
A Zones	173	241	\$ 3,399,361.35
AO Zones	0	0	\$0
AH Zones	0	0	\$0
AR Zones	0	0	\$0
A99 Zones	0	0	\$0
V01-30, VE Zones	376	238	\$2,364,364.39
V Zones	0	0	\$0
D Zones	0	48	\$364,889.30
B, C, X Zones	2,287	277	\$2,565,506.89
Grand Total	11,589	2,439	\$21,420,110.69

*As of 03/24/2020

The County maintains insurance for facilities that it owns, including flood insurance for facilities that are shown to be at risk for flooding.

There are approximately 40,000 policies compared to the approximately 37,000 structures that are located in the SFHA (see Section 6 for an analysis of the residential and commercial buildings located in the SFHA). This high percentage is thanks to the outreach efforts and regular flood information workshops that the County conducts every year. The flood insurance policies cover much of the inland areas as well as buildings in the coastal areas. Sarasota County is proactive in identifying areas with flooding issues by conducting watershed management plans throughout the County, and by conducting public meetings and workshops to educate residents about their risks.

Flood insurance details will be moved from this report and incorporated into a new stand-alone document. Sarasota County is currently working on a multijurisdictional Flood Insurance Promotion Plan through the Program for Public Information (PPI) committee. This plan will outline the flood insurance needs by identifying those areas throughout the County where flood insurance is deficient. The PPI committee will review projects that provide coordinated outreach to residents and businesses and will measure these efforts annually.

Sarasota County performed a repetitive loss areas analysis using the most recent repetitive loss properties data from FEMA, with the goal of reducing the number of repetitive loss properties (RLPs) within Sarasota County. A Repetitive Loss Structure is an NFIP-insured structure that has had at least two paid flood losses of more than \$1,000 each in any 10-year period since 1978. There are currently 198 RLPs for Sarasota County. A Severe Repetitive Loss (SRL) Structure is defined as a residential property that is covered under an NFIP flood insurance policy and (a) has at least four NFIP claim payments (including building and contents) over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. For both (a) and (b) above, at least two of the referenced claims must have occurred within any 10-year period and must be more than 10 days apart. Sarasota County has twenty SRL properties. Eleven of these properties have since been mitigated either by demolition or by providing flood protection.

Sarasota County is deemed a Class C community in the Community Rating System program and is required to have a floodplain management plan or area analyses for its repetitive loss areas.

Stormwater Public Works and the CRS Coordinator adhere to the data pertaining to SRLs and RLPs as protected under the Federal Privacy Act of 1974.

Sarasota County completed a comprehensive Repetitive Loss Area Analysis that will be adopted in early 2021. The FMP report will describe repetitive loss properties and the program but will no longer contain repetitive loss data within this report. This report is included as Attachment 16 in this FMP.

4 LESS FREQUENT FLOOD HAZARDS AND OTHER TYPES OF HAZARDS

This Section describes less frequent hazards that may affect Sarasota County including dam or levee failure and coastal erosion.

Dam or levee failure can take several forms, including a collapse of, or breach in, the structure. These failures can result from any one or combination of the following:

- Prolonged periods of rainfall and flooding, which cause most failures.
- Inadequate spillway capacity, resulting in excess overtopping of the embankment.
- Internal erosion caused by embankment or foundation leakage or piping.
- Improper maintenance, including failure to remove trees, repair internal seepage problems, or maintain gates, valves, and other operational components.
- Improper design or use of improper construction materials.
- High winds, which can cause significant wave action and result in substantial erosion.
- Earthquakes, which typically cause longitudinal cracks at the tops of the embankments, leading to structural failure.

DAM FAILURE

According to the US Army Corps of Engineers (USACE) National Inventory of Dams, there are no dams in Sarasota County.

No recorded failures of dams have caused significant flooding in the community.

The Peace River/Manasota Regional Water Supply Authority (PRMRWSA) Reservoir is located in neighboring DeSoto County. Failure of this dam may affect Sarasota County and/or one of its incorporated municipalities. Depending on the location of the failure and water level of the reservoir, properties within the inundation area could experience water depths from 2 to 4 feet. The dam failure could impact non-elevated homes and temporarily impact critical facilities that directly support these homes.

The PRMRWSA Reservoir is located in rural Desoto County, with some population residing in the potential impact area. There would be minimal impact to the economy and major employers. However, flooding from a dam failure could damage property, and may cause drowning and/or injury to residents in the potential impact area. There is an Emergency Action Plan for this dam. The PRMRWSA has a reverse-911 system to alert and advise nearby property owners and residents in the event of an emergency condition at the reservoir.

The Reservoir is bounded by 4 miles of highly engineered earthen embankment. The embankment was designed to withstand a Category 5 hurricane and a simultaneous 48-hour, 60-inch rainfall event. The probability of a dam failure at the Reservoir is low.

Approximately 3,942 properties exist within the potential impact area and are vulnerable to the dam failure. PRMRWSA analyzed several breach scenarios and mapped the affected areas. The PRMRWSA performed a breach analysis to evaluate the impacts of a failure during extreme rain events (Attachment 8). The resulting inundation maps are based on a Probable Maximum Precipitation condition along with a failure of the dam.

LEVEE FAILURE

A levee failure is defined as a break in the water-retaining earthwork, allowing water to flood the land that the levee was designed to protect. There are no certified levees per 44CFR65.10 in unincorporated Sarasota County. Two non-certified levees exist that may affect Sarasota County:

The Bahia Vista Flood Reclamation Project in Sarasota County is designed to alleviate flooding along a portion of Phillippi Creek (see Attachment 9). This structure was designed to provide flood protection from the 100-year, 24-hour rainfall storm event, and is operated and maintained by Sarasota County Public Works. This levee does not meet all the requirements of 44CFR65.10 to be accredited by FEMA.

There is a privately owned and maintained levee on the Myakka River at the Hidden River Subdivision (Attachment 10) that has breached in the past after large rain events and flooding of the upper Myakka River. Emergency Management monitors the Myakka River for flood stages and notifies residents when the river reaches pre-flood stage so they can prepare. This levee does not meet all the requirements of 44CFR65.10 to be accredited by FEMA.

COASTAL EROSION

Coastal erosion is the loss of land and the removal of beach or dune sediments by wave action, tidal currents, wave currents, drainage, or high winds. Waves generated by coastal storms or hurricanes cause coastal erosion, which may take the form of long-term losses of sediment and rocks, or merely the temporary redistribution of coastal sediments. Erosion in one location may result in accretion nearby.

The beaches and inland waterways of Sarasota County will continue to shift and change over time, presenting an identifiable hazard. Whether or not coastal erosion takes place over a long period of time or by a single incident, coastal erosion is a continued hazard.

Sarasota County has 37 miles of Gulf beach shoreline. Approximately 23 of these miles stretch along several barrier islands. The vast majority of privately owned properties on the County's barrier islands have been developed, while the publicly held properties are predominantly used as natural area parks, including Siesta Key Public Beach, Caspersen Public Beach, and Blind Pass Park. As land values have increased, redevelopment of the finite number of privately owned, previously developed coastal properties has become common. Observed trends include the conversion of commercial marinas to

condominiums, and the teardown and reconstruction of single-family residences with larger structures and, often, additional ancillary features such as pools, garages, docks, and patios. These trends have placed new demands and threats on coastal resources, which are being managed with regulatory and public educational programs. These trends can also have a positive result: for example, redevelopment results in modernized structures that comply with improved building codes, better enabling the structures to withstand the adverse effects of hurricanes and coastal erosion. These improvements will enhance public health, safety, and general welfare and will reduce the need for Bay and Gulf-front coastal armoring.

Coastal erosion and/or accretion occur in various parts of Sarasota County’s coastline and inland waterways throughout the year. The erosion and accretion rates within Sarasota County are dynamic between the barrier islands and at different locations on the same island. The bay waters shaped by these dynamic features include Sarasota Bay, Little Sarasota Bay, Dona/Roberts Bays, and Lemon Bay. Changes in barrier island shorelines are a direct result of the energy associated with winds, waves, currents, and tides.

All coastal structures as well as the critical facilities that support these structures could be impacted by coastal erosion. The State Enhanced Hazard Mitigation Plan (2018) identifies Sarasota County’s erosion risk as ‘high’. Florida Department of Environmental Protection (FDEP) “Critically Eroded Beaches in Florida”, June 2019 references specific areas of coastal erosion and has identified eight critical areas as defined by the FDEP (with 24.2 miles at risk) and one non-critical area (with 0.7 miles at risk). Erosion is “critical” if there is a threat to or loss of one of four specific interests – upland development, recreation, wildlife habitat, or important cultural resources. Table 4-1 summarizes the critical erosion areas for Sarasota County.

Table 4-1 Sarasota County Coastal Erosion

Erosion Location	Description	Critical Miles
Longboat Key South	Critical	5.4
Lido Key North	Critical	2.7
Big Sarasota Pass	Critical Inlet	0.8
Siesta Key North	Critical	0.4
Siesta Key South	Critical	2.4
Casey Key - Venice	Critical	8.
Manasota Key	Critical	4.5
Caspersen Beach	Non-critical	0.7

Events that have resulted in significant erosion of the Sarasota County coast include:

September 1926: The “Great Miami” hurricane originated in the Atlantic Ocean near Cape Verde Island. It landed in South Florida near Perrine, 15 miles south of Downtown Miami. It swiftly crossed the southern portion of Florida before making landfall near Perdido Beach, Alabama. This was one of the most destructive storms of the 20th century. Wave action resulted in considerable erosion along the Sarasota Coast.

August 2008: Tropical Storm Fay caused significant coastal beach erosion.

June 2012: Tropical Storm Debby developed from a trough of low pressure in the central Gulf of Mexico and made landfall near Steinhatchee, Florida. Initial predictions anticipated the storm to move towards Louisiana or Texas, but instead the storm moved northeast across Florida. Up to 10 inches of rain fell in Sarasota County and flooded many secondary roads. The Lido Beach parking lot was flooded due to surf and high tide conditions. In addition, the Myakka River reached flood stage on June 27 from heavy rains and flooding continued through the end of the month, resulting in over one-foot above flood stage.

Based on historical trends, coastal erosion occurs in Sarasota County several times each year with an average erosion rate of -0.8 ± 0.9 meters per year (*National Assessment of Shoreline Change: Part 1 Historical Shoreline Changes and Associated Coastal Land Loss along the US Gulf of Mexico*, pg 27, USGS 2004). This rate is considered low, and results from relatively low wave energy along the Gulf Coast. Under the Florida Department of Environmental Protection (FDEP), the Bureau of Beaches and Coastal Systems develops and publishes annually the *Critically Eroded Beaches of Florida Report*. The data from this report is gathered from a set of monitoring locations along Florida’s coastlines. Data from these stations is compiled into a GIS database for modeling and analysis. The continual reporting and analysis is combined with historical data for detailed records about the status of Florida beaches. Erosion is a constant issue as development persists near the beaches and inlets. Erosion can also be instantly exacerbated by a large storm or a hurricane. Several coastal beach areas and inlets within Sarasota County are designated as ‘Critically Eroded’ and are tracked and reported in the FDEP annual report.

Sarasota County tracks the historic Mean High-Water data from the Florida Department of Environmental Protection in a GIS layer. This data covers erosion and accretion rates in various years from 1993 through 2015.

Sarasota County on the Gulf Coast is lined mostly with fine, white sandy beaches. These beaches, a main tourist attraction, are highly vulnerable to erosion from coastal events. These events can cause considerable loss of the beachfront and widespread damage to structures that line those beaches.

OTHER HAZARDS

Sarasota County has adopted a Local Mitigation Strategy (LMS) that encompasses an all-hazards approach to mitigation. The LMS is a comprehensive plan aimed at reducing or eliminating risks associated with natural or man-made hazards. The plan considers the impacts of these hazards to human life, the economy, and safety of residences, properties, critical facilities. The plan also considers activities that will reduce or eliminate these impacts and provides a guideline for implementing programs and projects within the communities. A committee consisting of Sarasota County, incorporated cities and towns within the county, as well as other public stakeholders, develops and regularly updates the plan. The LMS is scheduled for the 5-year update in early 2021. This FMP report is being updated early to align with the LMS 5-year updates. Once the FMP update is completed and adopted, the next full update will be due in 2026.

In addition to the hazards described here in this Floodplain Management Plan, the LMS also considers less frequent hazards that may affect the county. These other hazards include:

HAIL STORM

Hail is a form of precipitation that occurs when updrafts in thunderstorms carry raindrops upward into extremely cold areas of the atmosphere where they freeze into balls of ice. Hail can damage aircraft, homes, and cars, and can be deadly to livestock and people. Hail is usually pea-sized to marble-sized, but big thunderstorms can produce big hail. Hailstorms usually accompany thunderstorms, which are common occurrences in Sarasota County. However, instances of hailstorms are low in Sarasota County. Since 1969, the largest recorded hail in Sarasota County was 1.75 inches. According to NOAA, Sarasota County and its jurisdictions have experienced 42 hailstorm events during the period from January 1, 1950 to November 1, 2016. The probability of hailstorm occurrence is low since the freezing level – the elevation at which freezing temperatures occur – in a Florida thunderstorm is so high that hailstones typically melt before they reach the ground.

LIGHTNING

Lightning is a discharge of electrical energy resulting from the buildup of positive and negative charges within a thunderstorm, creating a “bolt” when the buildup of charges becomes strong enough. This flash of light usually occurs within clouds or between clouds and the ground. A bolt of lightning can reach temperatures approaching 50,000° Fahrenheit. Florida is the most lightning-prone area in the United States, with about 90 thunderstorm days per year. Because of this, Florida experiences more lightning deaths than any other state. In fact, in Florida lightning kills more people than do all other weather hazards combined. In the Florida Peninsula, thunderstorm season generally has two periods. Historically, the most dangerous months for lightning strikes are June, July, and August. NOAA has recorded lightning in Sarasota County 24 times since 1950 that

resulted in deaths, injuries and/or damages. Structural damage resulting from lightning in these recorded events has totaled over \$1.13 million, for an average of \$51,000 per event. Lightning was attributed to at least one death in Sarasota County and another in adjacent Manatee County in 2016.

FREEZE

A freeze is weather marked by temperatures at or below the freezing point (0° Celsius or 32° Fahrenheit) for a significant period. Freezing temperatures can damage agricultural crops and burst water pipes in homes and buildings. Frost, often associated with freezes, can increase damaging effects. Frost is a layer of ice crystals that is produced by the deposit of water from the air onto a surface that is at or below freezing. The damage that can result from a freeze is typically associated with the agriculture industry, and does not often affect persons, structures, or associated property directly. During extended periods of low temperatures, individuals can suffer hypothermia and frostbite. Sarasota County is most susceptible to freeze events from December through February. Freeze warnings for Sarasota County occur every few years, but severe freezes have occurred statewide. In 1985 and 1989, the freeze was so severe that it wiped out entire groves across the state, killing both mature and young citrus trees. These freezes caused a significant economic impact on the citrus industry.

TORNADO

Tornadoes are cyclonic windstorms that usually accompany thunderstorms and hurricanes. While relatively short-lived in duration, tornadoes are intensely focused, making them one of the most destructive natural hazards. The weather conditions that tend to generate this phenomenon are unseasonably warm and humid earth surface air, cold air at the middle atmospheric levels, and strong upper-level jet stream winds. Waterspouts are weak tornadoes that form over warm water and occasionally move inland to become tornadoes. Florida has two tornado seasons. The summer tornado season runs from June to September and has the highest frequencies of occurrences, with usual intensities of EF0 or EF1 on the Enhanced Fujita Scale. The spring tornado season runs from February to April and is characterized by fewer, but more powerful tornadoes on the Enhanced Fujita Scale. Sarasota County has experienced 79 tornado and 12 waterspout events between March 1950 and May 2020. Several tornadoes have caused \$500,000 or more in damage per incident.

The last recorded tornado in Sarasota County was on Sunday, January 16, 2016 on Siesta Key. The EF-2 tornado formed at 3:15 am and first touched down on Midnight Pass Road. The tornado damaged condominiums then traversed the Intracoastal Water Way and impacted a residential neighborhood destroying one home and damaging several dozen others. It was estimated the tornado had sustained winds of 132 mph, cutting a path 350 yards wide and 1.14 miles long. During the cleanup, hundreds of tons of storm-

related debris was collected throughout the neighborhoods and from the Intra-coastal Water Way.

LAND SUBSIDENCE / SINKHOLES

Land subsidence is the lowering of a portion of the earth's crust and can occur naturally or as a result of human activity. Natural subsidence may occur when limestone, which is easily carved by underground water, collapses, leaving sinkholes on the surface, or due to earthquakes along fault lines. Human activities such as mining or the extraction of oil, gas, or water may also lead to land subsidence. Sinkholes are a common feature of Florida's landscape due to land subsidence.

Sinkholes are only one of many kinds of karst landforms, which include caves, disappearing streams, springs, and underground drainage systems, all of which occur in Florida. Sinkholes form in karst terrain principally from the collapse of surface sediments into underground cavities in the limestone bedrock. Slightly acidic groundwater slowly dissolves cavities and caves in the limestone over a period of many years. When a cavity enlarges to the point that its ceiling can no longer support the weight of overlying sediments, the earth collapses into the cavity, forming a sinkhole. Sinkhole probability in Sarasota County is considered by the Florida Geologic Survey to be uncommon, but deep collapse types and small subsidence sinkholes are possible. Since July 1981, Sarasota County has recorded seven sinkhole events, each less than 10 feet in diameter and centered on a single property.

WILDFIRES

A wildfire is an intense fire that is usually in an uninhabited or sparsely habited area. Sarasota County has experienced several wildfires each year of varying degrees of scale. This is a major concern for all the jurisdictions, directly or indirectly, within the County because over 75% of the County is vulnerable to wildfires. While the Town of Longboat Key is the only jurisdiction not directly vulnerable to wildfires, it may be indirectly affected by smoke and other associated hazards. The fire departments located within the County work closely with outside fire suppression agencies on fire mitigation and controlled burns, and recently instituted a local Firewise Communities Program.

The Firewise program includes:

- Prescribed burning and fuel mitigation on County managed land,
- Risk assessments of all County managed land,
- Free consultations and risk assessments to the public and landowners,
- Public education as it relates to fire management and risk management,
- Training with multiple agencies as well as County partners to mitigate wildfires, and
- Partnering with the Florida Forest Service to assist with identifying potential FIREWISE USA communities.

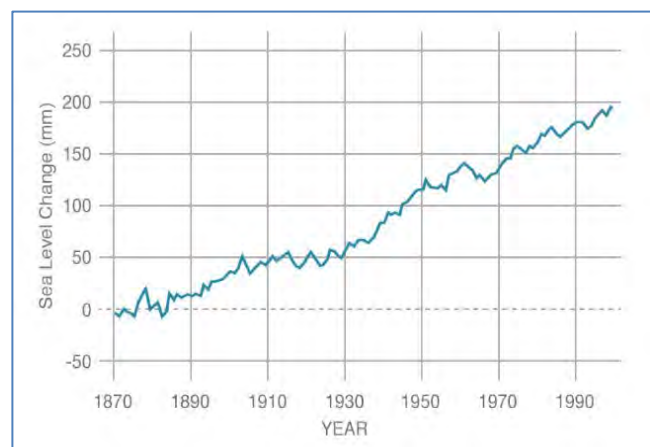
5 FUTURE FLOODING

CLIMATE CHANGE AND SEA LEVEL RISE

Global sea level has been rising over the past century, and the rate has increased in recent decades. The two major causes of global sea level rise (SLR) are thermal expansion caused by warming of the ocean and the increased melting of land-based ice, such as glaciers and ice sheets. Figure 5-1 shows the estimated amount of global sea level change from 1870 to 2000 (NOAA, 2016).

As sea level rises, low-lying coastal areas will be increasingly prone to coastal and inland flooding, especially during spring and fall high tides and during storm surge due to seaward storms, strong onshore winds, and other causes. Storm surge and wave heights created by hurricanes will increase as coastal water depths increase with sea level rise, amplifying the damage potential of hurricanes. Because stormwater drainage systems rely mainly on gravity, sea level rise may reduce their effectiveness and potentially result in sunny day tidal flooding, as well as exacerbated inland flooding during rain events, especially in low-lying interior floodplains. Climate change can potentially increase the impact and frequency of flooding events.

Figure 5-1 Estimated Global Sea Level Change



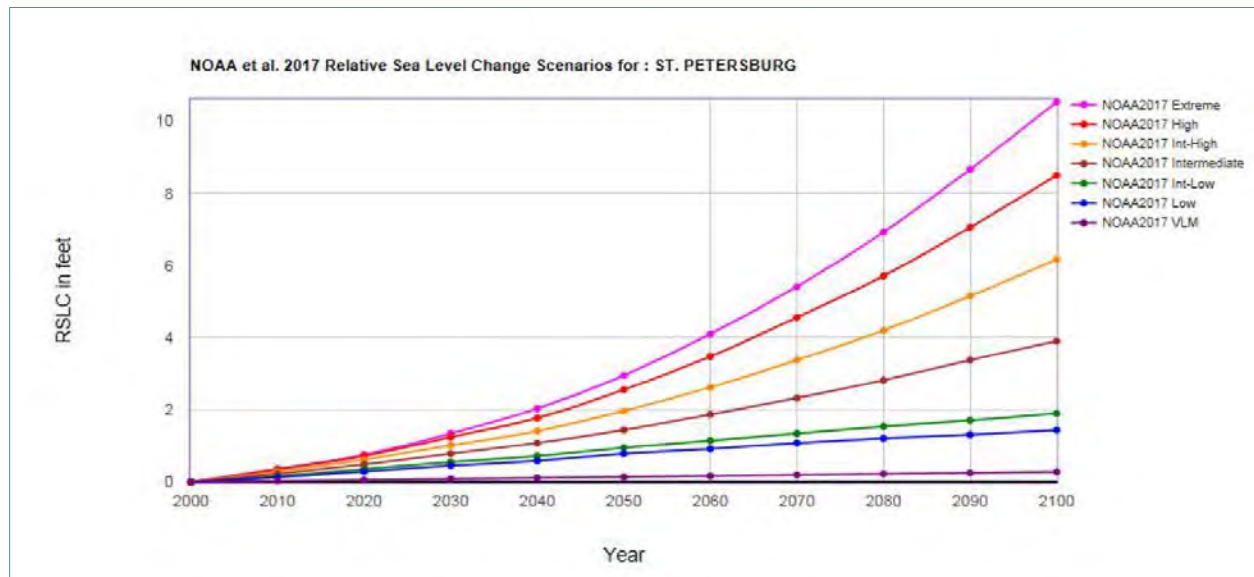
Continued sea level rise will exacerbate erosion. Rising sea level may shift the beach profile. New inlets can cut through barrier islands by waves superimposed on storm surges. When barrier island dune elevations are reduced to a threshold that allows complete inundation during storms, the overland flow of water can cut a channel that connects the ocean and estuary. The threshold may be reached due to increasing surge elevations, rising sea level, or the progressive eroding and lowering of dune elevations.

According to NOAA, the pace of global sea level rise, almost doubled from 1.7 mm/year throughout most of the 20th century to 3.2 mm/year since 1993. The USACE developed the Sea Level Change Curve Calculator to provide guidance in evaluating future coastal projects with respect to changes in sea level.

The U.S. Interagency Sea Level Rise Task Force developed the rise scenarios for the United States and now provides six scenarios. Estimates for the non-climate attributed vertical land movement (VLM) were also developed to describe natural subsidence processes of the land. Figure 5-2 illustrates the Relative Sea Level Change (RSLC) Scenarios for St. Petersburg, Florida, as calculated using the NOAA projections and

regional corrections (NOAA, 2017). Based on these projections, this region may experience from 1.7 inches to 2.95 feet of rise by year 2050, and from 3.5 inches to over 10 feet by year 2100.

Figure 5-2 Relative Sea Level Change Projections – Gauge: 8726520, St. Petersburg, FL



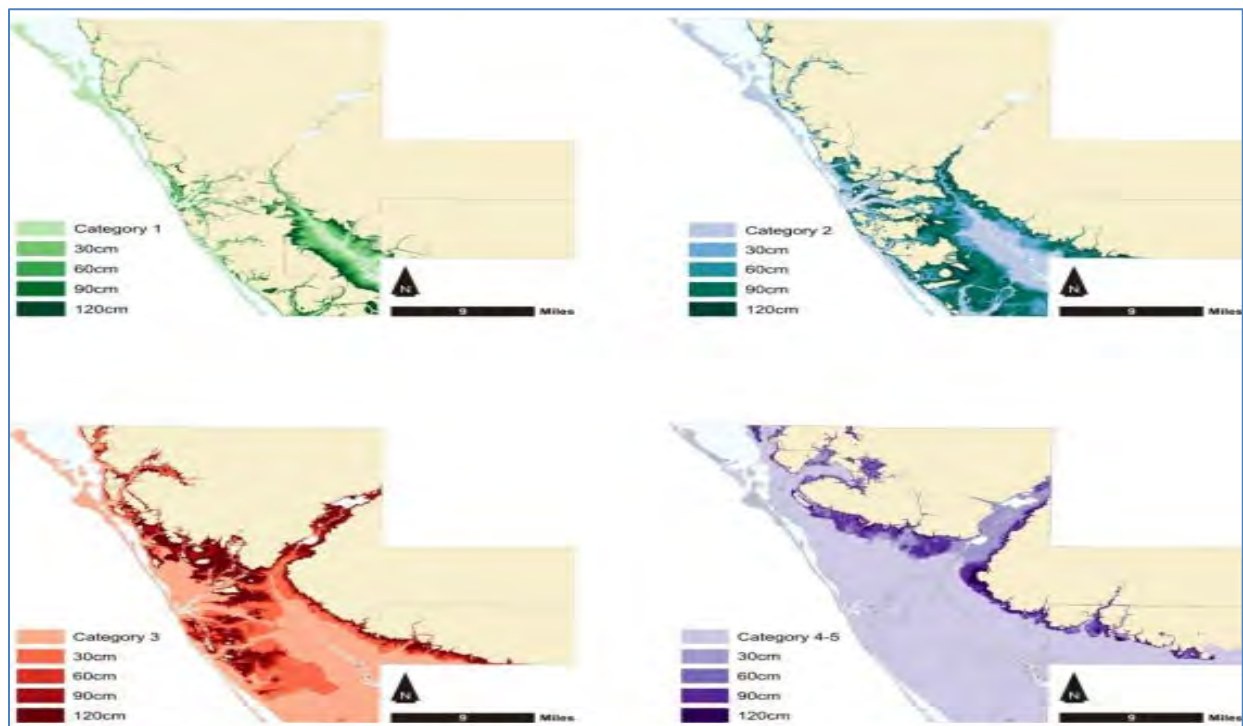
The sea level rise scenarios represent different likelihoods based on several models that take into account probabilistic estimates of contributions from ocean, cryospheric, geological, and anthropogenic processes.

As sea level rises, coastal communities now vulnerable to flooding are likely to flood more frequently, whereas other communities not currently subjected to coastal flooding are likely to be at gradually increased risk of flooding. Consequently, the risk of flood damage to coastal infrastructure is likely to increase in parallel with sea level rise (U.S. Global Change Research Program, 2009). Infrastructure such as beach facilities, roads, bridges, residential properties, and other structures that must be located at or near the water line are very likely to be at gradually increased risk of damage from flooding, hydrodynamic pressure from storm surge, and wave impact because of sea level rise. Sea level rise will stress infrastructure physically, since salinity changes may affect the structural integrity and/or functionality of physical materials that compose the features of roads, ports, airports, and rail systems. Even roads farther inland may be threatened because road drainage systems become less effective as sea levels rise. Many roads in Sarasota County were built lower than the surrounding land, so reduced drainage capacity will further increase their susceptibility to flooding during rainstorms. Even if coastal and riverside properties themselves are elevated enough not to flood, the roads and infrastructure leading to them could be inundated on a regular basis in the future.

In 2010, the USGS and Penn State University performed a comprehensive vulnerability assessment of Sarasota County to hurricanes and storm surge, considering sea level rise. The assessment provides guidelines for implementing scientific and community-based actions to mitigate impacts from sea level rise, hurricanes, and storm surge. Figure 5-3 illustrates the flooding extent of each hurricane category in combination with sea level rise at increments of 30 cm, 60 cm, 90 cm, and 120 cm. Sea level rise can increase the impact of storm surge the equivalent of a full category or more of a hurricane. For example, a category 1 hurricane may have the same impact of a category 2 or 3 hurricane, depending on the amount of sea level rise.

The University of Florida IFAS program prepared a Sea Level Rise Working Group Report in November 2020 (Attachment 12) on a vulnerability assessment for Sarasota County and will incorporate the effects of sea level rise ensuring the criteria outlined in the 2017 CRS Manual, Section 404 for coastal communities is met. The Sea Level Rise Working Group was established to develop a strategy to address expected Sea Level Rise (SLR) impacts, with a focus on public facilities and infrastructure. The goal of this group and report is to conduct a vulnerability assessment and develop an action plan with recommended strategies for review by Administration. A strategic plan item to complete the initial assessment of the county's vulnerability to sea level rise and consider feasible recommendations that will make county-owned assets more resilient was included in 2020.

Figure 5-3 Sea, Lake, and Overland Surges from Hurricane Model

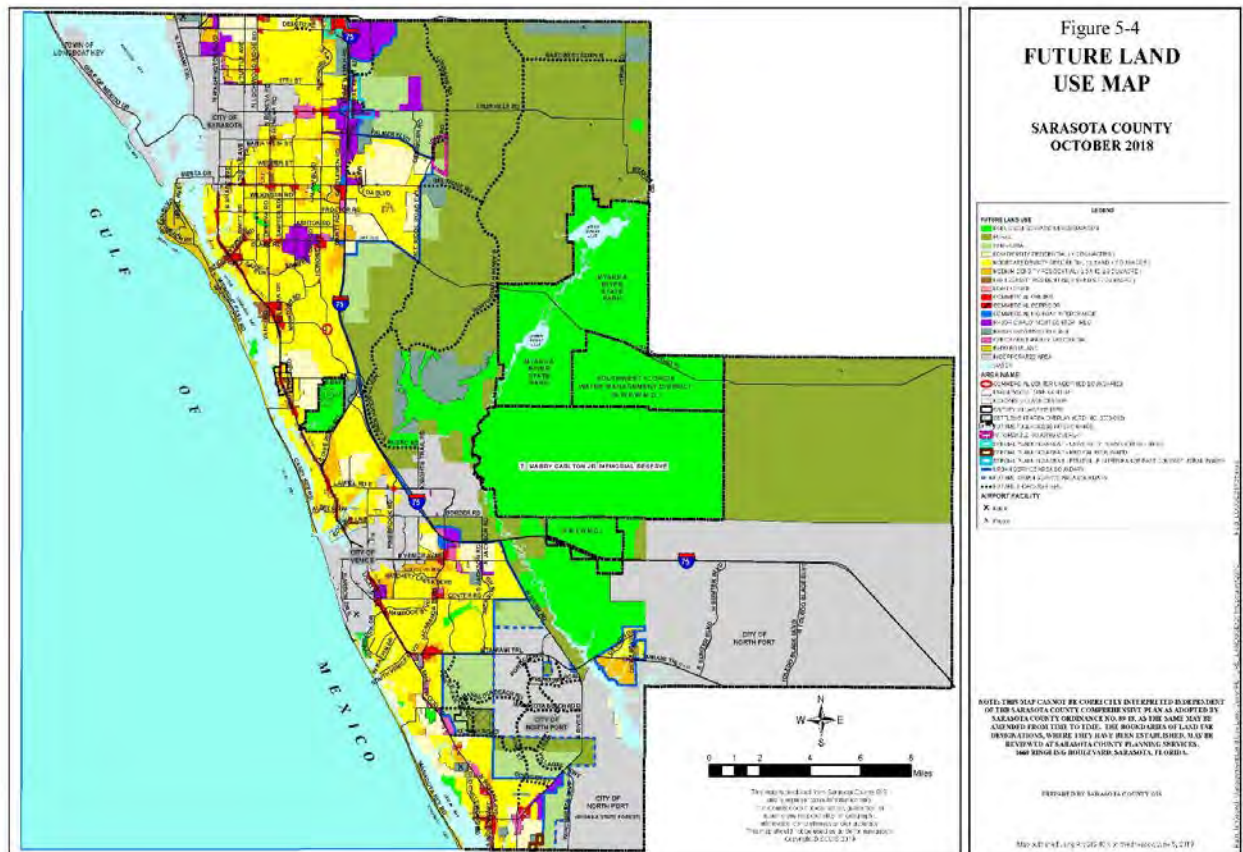


FUTURE DEVELOPMENT IN THE WATERSHED

As Sarasota County recovers from the recent economic downturn, the next 5-year period indicates an increased growth rate with almost 32,000 new residents projected from 2020 to 2025, at an average annual increase of approximately 1.5% per year. Long-term projections indicate that the County could reach nearly a half-million residents by 2030. The County takes proactive measures to reduce flooding impacts due to new developments that arise in conjunction with population growth. These measures include conducting and regularly updating the watershed management plans that identify areas at risk for flooding beyond what is shown on the FEMA maps. These plans also help prioritize projects that may be implemented to prevent or reduce the effects of flooding. Sarasota County also implements regulations that consider the FEMA flood zones as well as areas that the County has identified to be at risk. In addition, County regulations for development go above and beyond what is required by the NFIP.

Sarasota County is characterized by several land use categories shown on the Future Land Use Map (Figure 5-4) which reflects the projected growth of Sarasota County through time. By law, all land use regulations and capital improvements must be consistent with the Future Land Use Map.

Figure 5-4 Sarasota County Future Land Use



Geographically, the unincorporated County is bisected by the Urban Service Boundary (USB), which is the County's demarcation for more "urban" types of development west of the USB, and more "rural" types of development east of the USB. East of the USB, a large percentage of property is devoted to Public Conservation and Preservation. Many of these areas already provide natural floodplain functions and the focus of the future land use planning is to preserve these areas. These properties include the Myakka River State Park, the T. Mabry Carlton Jr. Memorial Reserve, and many properties acquired, or under the control of, the SWFWMD. Over 68,000 acres Countywide are devoted to Public Conservation and Preservation uses. Outside of the Public Conservation and Preservation lands, the majority of lands east of Interstate 75 (I-75) – over 104,000 acres – are currently designated as Rural. The optional 2050 overlay of the Future Land Use Map allows for village-style development on some of these eastern lands.

The lands to the west of the USB can be characterized as urban and suburban in nature, with most areas suburban. A very high percentage of the lands are designated for Moderate Density Residential uses. This designation recognizes the pattern of existing development at densities between two and four dwelling units per acre in the unincorporated County.

Based on the Future Land Use Map, approximately 18 percent of Sarasota County is in the Moderate Density Residential land use category. Pockets of Low Density, Medium Density, and High Density Residential designated lands are dispersed throughout the County, but none approach the overall percentage of land area covered by the Moderate Density Residential classification.

Several land use categories in the County provide opportunities for economic development. Major Employment Centers clustered along I-75, arterial roadways, and at other locations around the County offer the most land for economic diversification at just under 6,000 acres. Commercial Centers, primarily located at or adjacent to major roadway intersections, continue to be popular for development and redevelopment opportunities. Commercial Corridors, which predominantly recognize areas of historic commercial zoning along arterials, are located mainly along US Hwy 41 (US-41), with a few areas located along Bee Ridge Road and Clark Road. The Commercial Highway Interchange designation covers property at the interchanges of I-75. As noted in the Future Land Use chapter of the County's Comprehensive Plan, these areas are located in one or both of the quadrants on the west and south sides of I-75. Limited land in the unincorporated County is devoted to office-type uses. The Light Office designation is mainly located along the southern side of the University Parkway corridor. The Office/Multi-Family Residential designation applies to a few concentrated areas throughout the County.

Changes in future development will influence the peak discharge of floods by modifying how rainfall is stored on and/or runs off the land into tributaries. In undeveloped areas such as forests and grasslands, rainfall is collected and stored on vegetation, in the soil

column, and in surface depressions. When this storage capacity is filled, runoff flows slowly over land or as subsurface flow. In contrast, urban areas have less capacity to store rainfall since much of the urban land surface is covered by roads and buildings. Construction of these roads and buildings often involves removing vegetation, soil, and depressions from the land surface. The permeable soil is replaced by impermeable surfaces such as roads, roofs, parking lots, and sidewalks that store little water, reduce infiltration of water into the ground, and accelerate runoff to ditches and streams. Even in suburban areas, where lawns and other permeable landscaping may be common, rainfall can saturate thin, compressed soils and produce overland flow, which runs off quickly. Dense networks of ditches and culverts in cities reduce the distance that runoff must travel overland or through subsurface flow paths to reach streams and rivers.

Changes in the future development as described above, in conjunction with the projected increase in population, have the potential to put more homes and lives at risk due to flooding. Some of these areas are in existing Special Flood Hazard Areas. Future land use planning considers existing Special Flood Hazard Areas, as well as areas known to exhibit flooding not identified on the FEMA maps. Many areas that provide natural floodplain functions, including existing Special Flood Hazard Areas, are preserved. For urbanized areas, to prevent and reduce loss due to flooding, the County has taken proactive steps to identify risk, develop projects to prevent or reduce damages, and plan for future flooding scenarios. As early as 1981, the County took the first step towards developing a stormwater program by creating the Stormwater Management Division. Around that time, the County implemented its first Land Development Regulation (LDR), requiring stormwater controls to be designed for a 25-year storm. The Sarasota County Stormwater Environmental Utility (SEU) was established in 1989 to implement the plan. By early 1990, the Sarasota County SEU initiated a countywide basin master planning project to develop hydrologic and hydraulic models to identify problematic flooding areas by quantifying excessive runoff volumes for all the County's major watersheds. These models are used to explore possible drainage improvements to the County's stormwater system. The SEU continues to maintain the model by updating it periodically. The updated model is made available to developers so that proposed projects will not affect neighboring areas. By the mid-1990s the regulations were modified to require stormwater systems be designed for a 100-year storm. These efforts by the County aim to reduce the probability of flooding due to future developments.

Sarasota County has several areas designated for redevelopment, including downtown Sarasota and Englewood. The goal of redevelopment projects is to revitalize an area and improve the quality of life for residents. In addition to requiring new buildings to meet the current building standards (for hurricane, fire, wind, etc.), these projects undergo the same reviews for flooding impact and are governed by the same regulations that aim to prevent losses due to flooding.

In addition, during LDR reviews, Sarasota County environmental staff works with developers to avoid and minimize impacts to wetlands and preserve wetlands and wetland buffers as much as possible. In most cases where minimal impacts to wetlands are allowed, on-site mitigation is preferred. These natural wetlands or mitigated features provide valuable stormwater attenuation, among other values to our developed spaces.

Although the County took a proactive approach in requiring new developments to control stormwater for a 100-year storm, there are areas within the County that are still susceptible to flooding. These areas may consist of older neighborhoods that may lack sufficient drainage features or may be located adjacent to creeks and other water bodies. The County continually maintains its watershed management plans to identify these areas of risk.

FUTURE CONDITIONS MODEL

Sarasota County developed future conditions watershed models and flood plain mapping that incorporates future conditions and sea level rise (SLR). This includes evaluating the impact of future conditions for multiple storm events, including the 100-year storm. The County modeled the effects of future land use conditions as if no additional stormwater management facilities are required for new developments.

Tailwater conditions were revised to account for effects of SLR. The CRS encourages communities to model, at minimum, the projected intermediate-high relative sea level change (RSLC) for year 2100. According to the recent NOAA 2017 projections, this value is currently 6.17 feet using the St. Petersburg gage that is applicable for this area. Communities may use other projections provided they are equal to or greater to NOAA's intermediate-high projection for 2100. Since these values are subject to change, the County evaluated five watersheds, Lemon Bay (Figure 5-5), Roberts Bay (Figure 5-6), Dona Bay (Figure 5-7), Little Sarasota Bay (Figure 5-8), and Sarasota Bay (Figure 5-9) to reflect RSLC values of 2, 4, 6.17, 8 and 10 feet so that the County will have a planning tool that will allow region-specific solutions. The Future Conditions Report by Jones Edmunds Associates is included as Attachment 17.

The Future Conditions floodplain maps were developed by Jones Edmunds as part of the study and are shown on the following pages.

Figure 5-5 Future Conditions Inundation Map – Lemon Bay

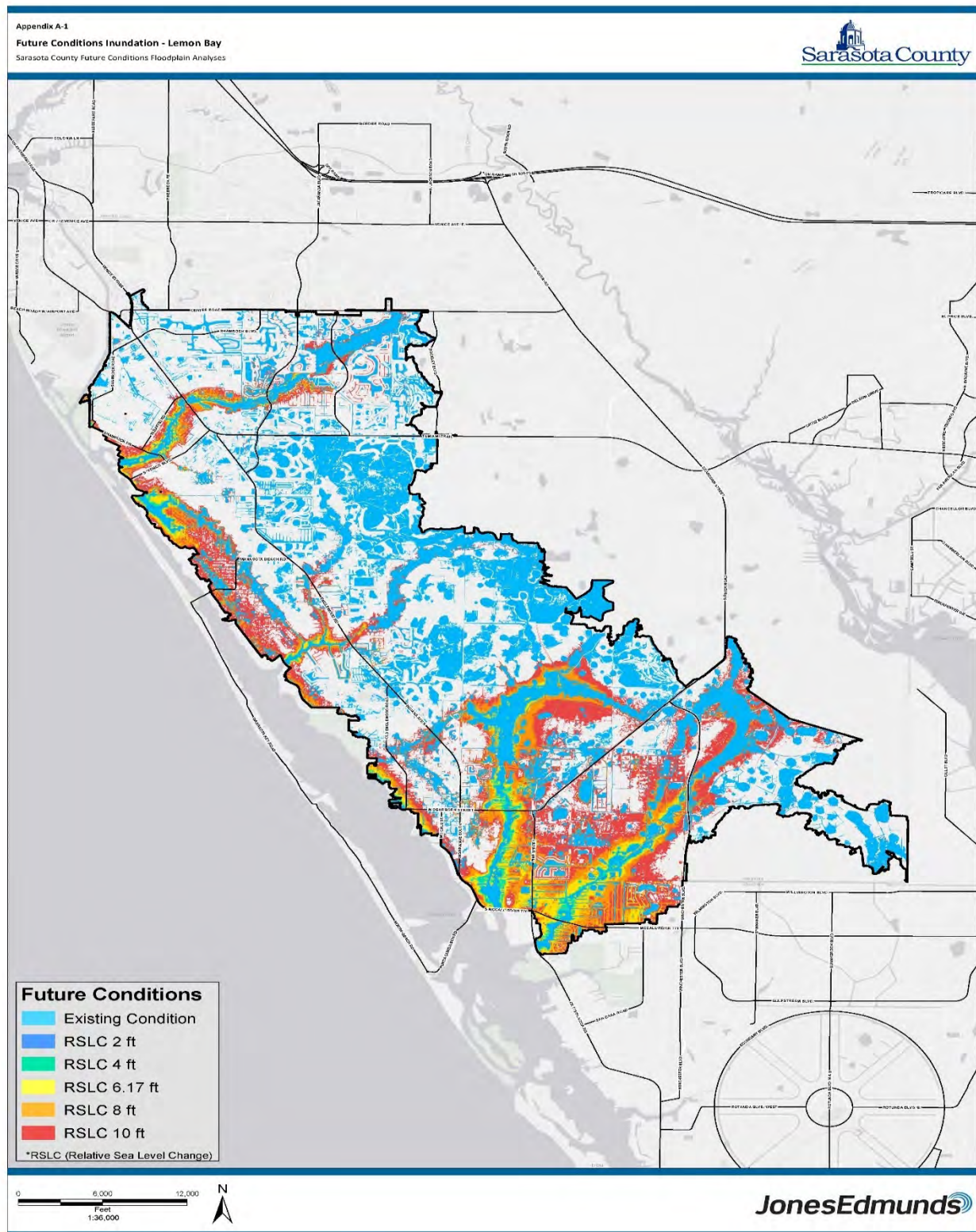


Figure 5-6 Future Conditions Inundation Map – Roberts Bay

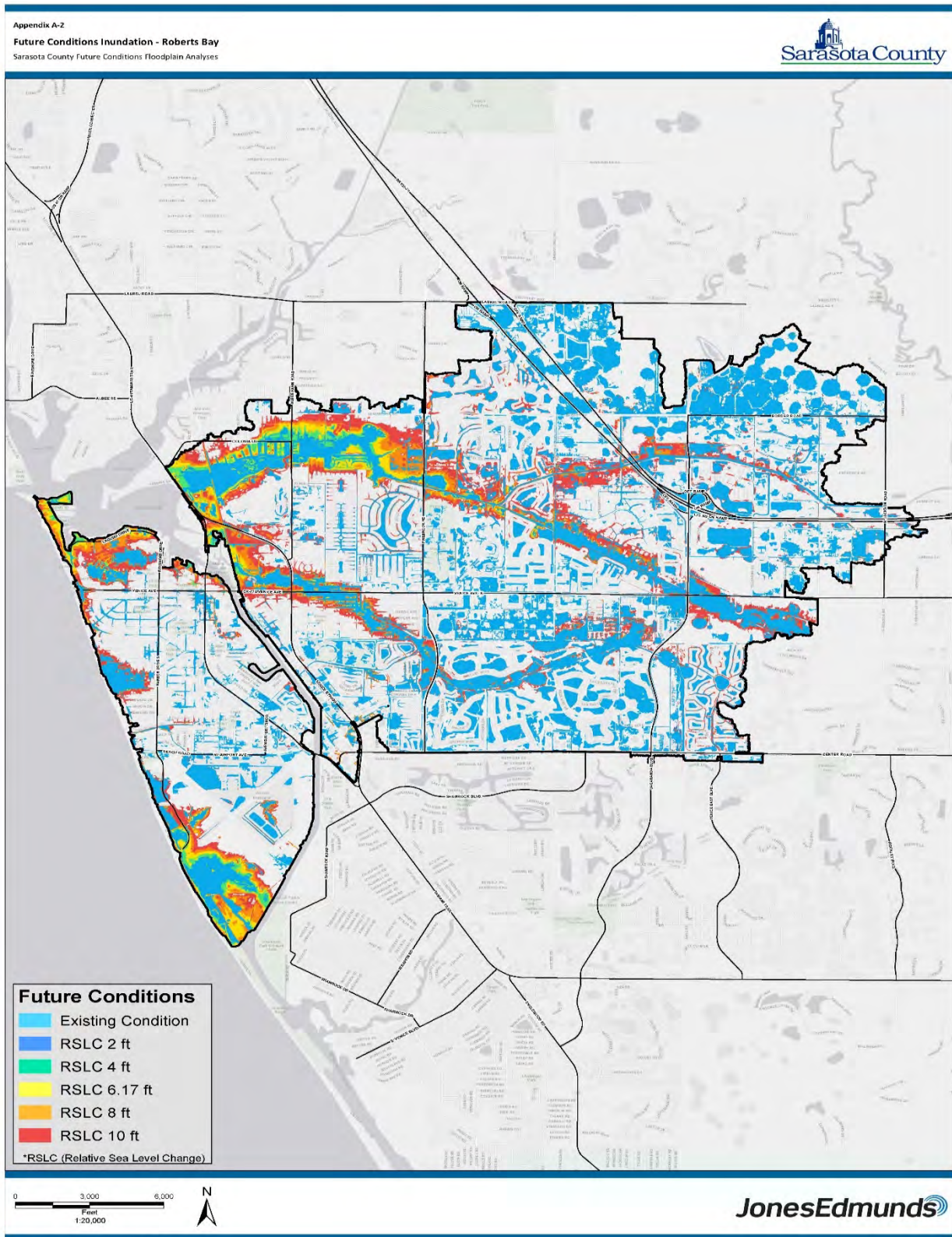


Figure 5-7 Future Conditions Inundation Map – Dona Bay

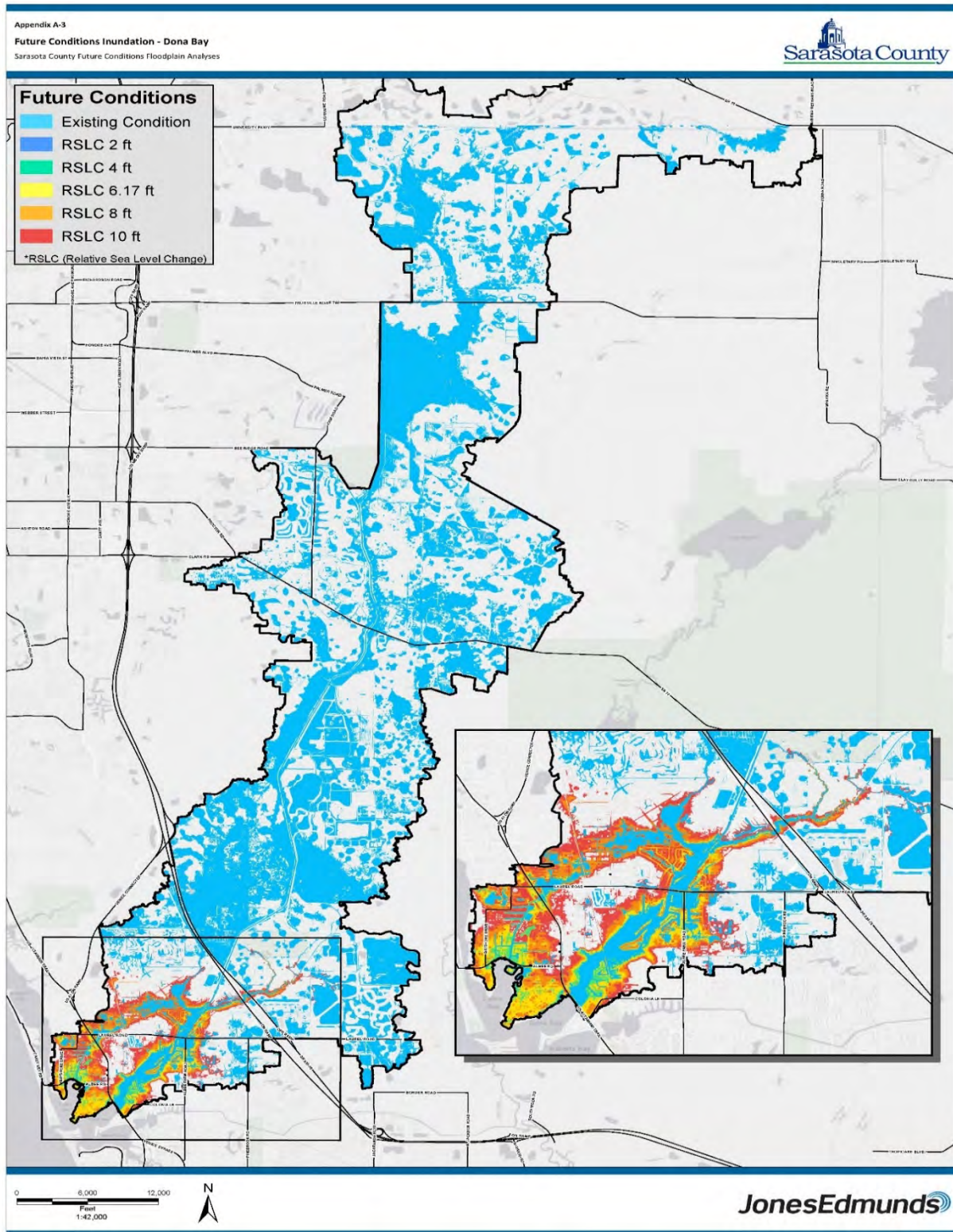


Figure 5-8 Future Conditions Inundation Map – Little Sarasota Bay

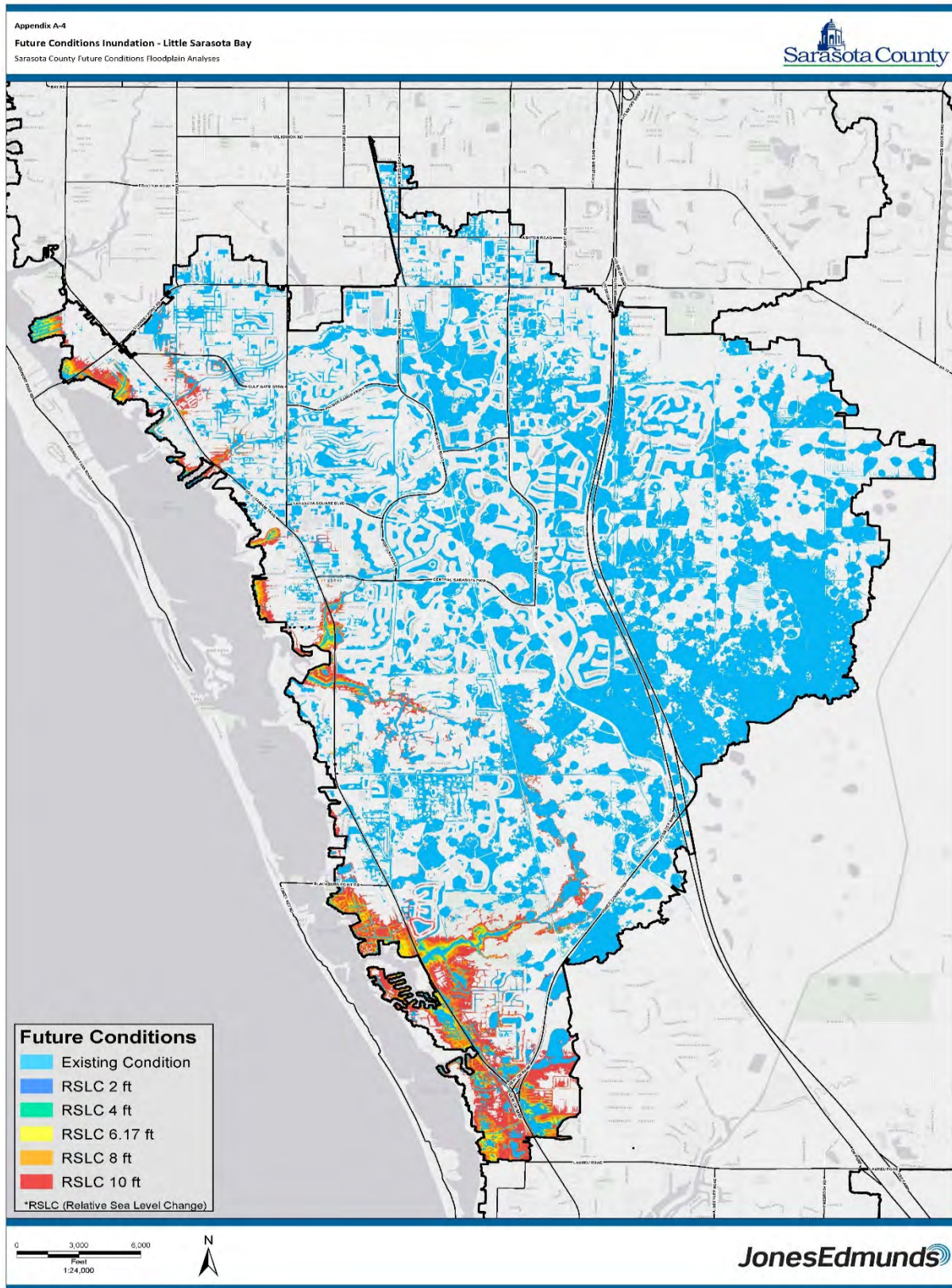
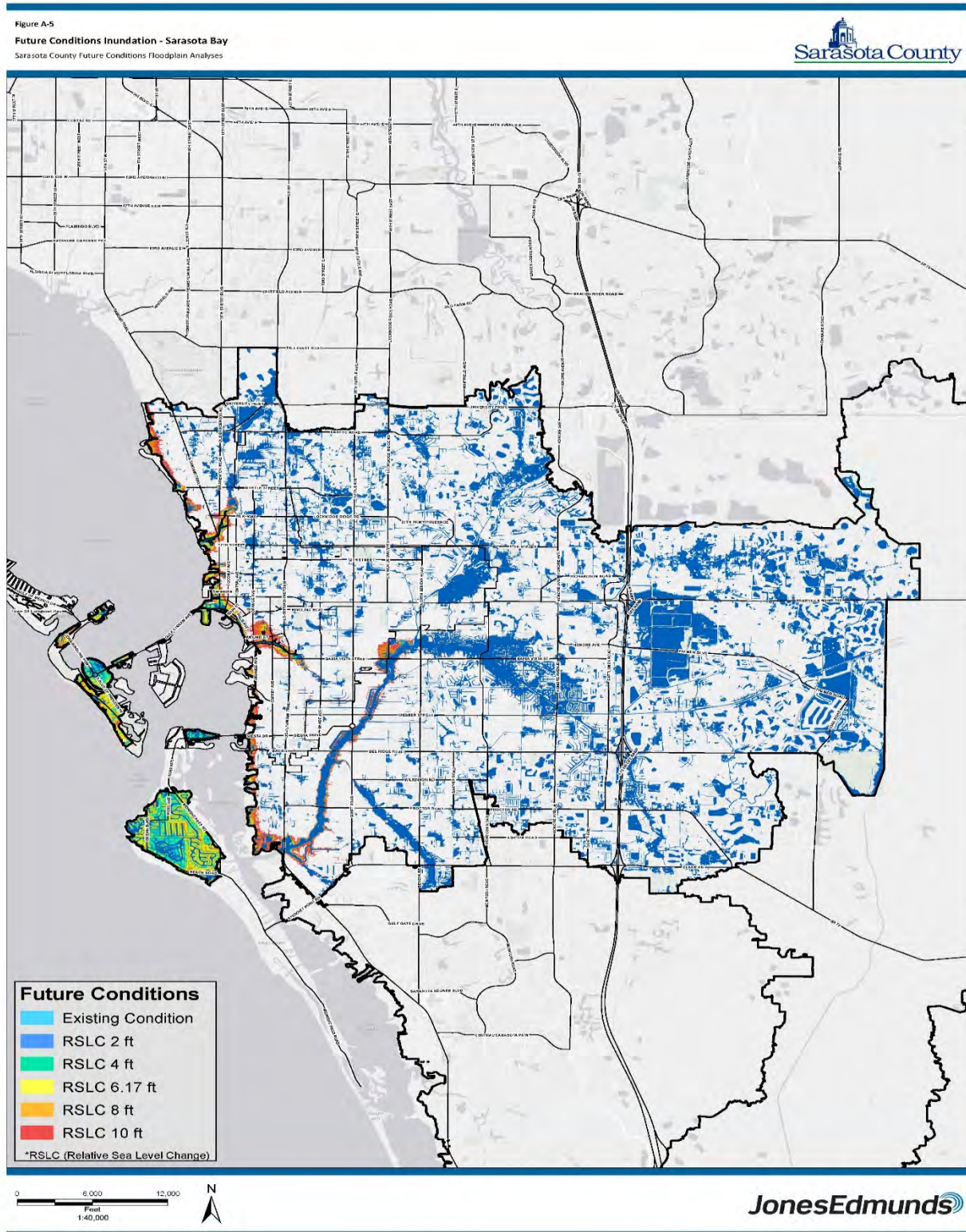


Figure 5-9 Future Conditions Inundation Map – Sarasota Bay



6 ASSESSMENT OF IMPACTS DUE TO HAZARDS

Coastal and inland flooding, tropical storms, and hurricanes are among the costliest hazards for Sarasota County. These hazards often occur simultaneously as tropical storms or hurricanes can bring heavy rain, affecting both coastal and inland communities.

Major flooding in the County would have a significant impact on the population, causing threats to property, the economy, and potentially human life. In addition, floodwaters could cause wastewater treatment facilities to shut down, contaminate local water supplies, and disrupt utilities. Floodwaters could also submerge portions of I-75, US-41 and other highways. The loss of these transportation networks would hinder evacuation and relief efforts, making it difficult to provide emergency response services. Furthermore, impact to non-elevated structures could cause a temporary disruption to critical facilities such as hospitals, schools, and shelters.

The three major hazards produced by a hurricane are storm surge, high winds, and rainfall. Storm surge typically poses the greatest threat to life and property located within surge-prone areas. The more intense the hurricane, and the more perpendicular its track is in relation to the coastline, the higher the potential storm surge and resulting destruction. Also impacting the height of storm surge is the depth of the water along a threatened coastline. Because of the high shoaling factor – shallow water and gradually sloping Gulf bottom – off the central west coast of Florida, Sarasota County receives higher surges than those indicated in the generalized Saffir/Simpson Hurricane Scale.

High winds can render segments of the population particularly vulnerable to a passing hurricane. Throughout Sarasota County, mobile and manufactured homes will be unable to withstand hurricane-force winds. High winds also impact the timing of an evacuation order, since winds hit the coastline several hours before the eye of the storm makes landfall. All evacuation activities must be completed prior to the arrival of sustained gale-force winds (40 mph with significantly higher gusts).

This section describes the impact to life, safety, health, critical facilities and infrastructure, economy and buildings within Sarasota County from these flood hazards. Additional descriptions of the vulnerabilities and impacts from these hazards can also be found in Sarasota County's Post-Disaster Redevelopment Plan (provided in Attachment 7).

LIFE SAFETY

In Florida, common hazards to life safety include coastal and inland flooding, tropical storms, hurricanes, and lightning. Deep, fast flowing, or rapidly rising floodwaters can cause physical injury and loss of life. A mere 6 inches of moving water can sweep a person as well as a vehicle away. The risk for drowning and physical injury increases when floodwaters carry debris. Floodwaters can also hide other hazards for wading pedestrians, such as dangerous animals and manhole openings that have had covers lifted by flood flow. In addition, roads can be washed away. Downed power lines or other

energized systems in the water can cause electrocution. Stresses to gas lines can lead to a natural gas leak, further putting lives at risk. Flooding from rainfall itself will not warrant an emergency evacuation of many residents and visitors; however, residents along the many tributaries within Sarasota County may be evacuated as result of rising floodwater overflow.

Storm surge associated with tropical storms or hurricanes poses the greatest threat to life. A Category 3 hurricane could potentially inundate Sarasota County's barrier islands, all of which are below 18 feet of elevation. Surges can be especially dangerous because water levels can rise quickly and flood large areas. This leaves no time to act and poses a significant threat of drowning. During the peak of a storm surge, it is unlikely that emergency responders will be able to respond to a call for help. Therefore, it is very important for residents and visitors to heed early warnings from officials. A tropical storm or hurricane can leave thousands of homes and businesses without power. Power outages can also result in injuries or death from fires. Storm surge inundation describes the water height above sea level. In Sarasota County, storm surge inundation is explained through heights known as hurricane evacuation levels. The heights range from ground level up to a height of 32 feet. The evacuation levels are classified with letters A through E, with A being lower than E (see Attachment 11).

Flooding is one of the most devastating natural disasters in the world. Having a warning system and evacuation plan will reduce injuries and loss of life. A specific evacuation procedure, including levels, routes, shelters, and means of communication helps reduce confusion for Sarasota County residents and visitors, and provides a smooth evacuation from high-risk areas. Sarasota County is a StormReady community and has several programs to better prepare the community for these events. A StormReady community must:

- Establish a 24-hour warning point and emergency operations center
- Have more than one method for receiving severe weather warnings and forecasts, and for alerting the public
- Create a system that monitors local weather conditions
- Promote the importance of public readiness through community seminars
- Develop a formal hazardous weather plan, which includes training severe weather spotters and holding emergency exercises

Sarasota County no longer uses the CodeRED Notification System and instead have updated to a new system called Alert Sarasota County. This partnership with the State of Florida and the communities within Sarasota County provides notification to residents, businesses and property owners in cases of emergencies such as tropical storms, hurricanes and other major flooding issues.

Table 6-1 describes the potential impacts to life safety of these and other identified hazards for Sarasota County.

Table 6-1 Potential Impacts on Life Safety in Sarasota County

Hazard	Probability of Occurrence	Potential Impact
Coastal Flooding	Low to Moderate	Major coastal flooding as result of storm surge and/or high tide in the County can pose a threat to human life.
Inland Flooding	Low to Moderate	Floodwaters have the potential to cause drowning. The risk for drowning and physical injury is increased if floodwater is carrying debris. Floodwaters can also hide other hazards for wading pedestrians, such as dangerous animals and manhole openings that have had covers lifted by flood flow.
Tropical Storm / Hurricane	Low to Moderate	Storm surge or flooding from tropical storms and hurricanes can be extremely dangerous since water levels can rise quickly and flood large areas, potentially causing drowning. Additional dangers include flying debris, falling trees, and electrocution from downed power lines.
Dam Failure	Low	Potential impact of a dam failure is low.
Levee Failure	Low	A breach of the PRMRWSA Reservoir or the Bahia Vista levee could cause drowning or injury to residents in the affected areas.
Coastal Erosion	High	Coastal erosion accompanying tropical storms or hurricanes has a higher potential to cause injury or drowning.

In the event of a community emergency, Sarasota County has 20 emergency shelters for residents and visitors available as a last resort. All shelters are dog and cat friendly. Special needs shelters are available for people requiring more skilled medical care than is available in a public shelter but not requiring an acute care facility such as a hospital. Contact information that may be important during these emergencies are listed in Table 6-2. A list of the shelters is provided in Attachment 11.

Table 6-2 Important Contact Information

Entity	Contact Information
Sarasota County Contact Center	941-861-5000 www.scgov.net
Evacuation Information	941-861-5000
TTY-Deaf Communications	941-861-1833
Special Needs Registry	941-861-5000
American Red Cross SW Florida Chapter	941-379-9300
<p>Suncoast Communities Blood Banks</p> <p>1760 Mound Street, Sarasota, FL 34236</p> <p>539 Us Hwy 41 Bypass North Venice, FL 34285</p> <p>1731 Lakewood Ranch Blvd. Lakewood Ranch, FL 34211</p>	<p>For more information, Call toll free 1-866-97-BLOOD or visit www.scbb.org</p>
Catholic Charities	941-355-4680
Friendship Volunteer Center	941-953-5965
Salvation Army	941-954-4673
United Way	941-366-2686
Animal Services	941-861-9500
Florida Power And Light	800-468-8243
Highway Patrol	941-492-5850
Sheriff	941-861-5800
Solid Waste	941-861-5000
NOAA Weather Radio	Freq 162.40 Mhz FIPS Code 012115

Entity	Contact Information
Radio Stations	<p>Radio AM WLSS 930 WTMY 1280 WWPR 1490 WSDV 1450 WSRQ 1220 WBRD 1420 WENG 1530</p> <p>Radio FM WJIS 88.1 WSMR 89.1 WLTV 92.1 WHPT 102.5 WSRQ 106.9 WKZM 104.3 WTZB 105.9 WCTQ 106.5 WSRZ 107.9 WSLR 96.5</p>
Note: Do Not Call 9-1-1 For Hurricane Information	

PUBLIC HEALTH

Of all hazards, flooding presents the most prevalent risk to public health. Floodwater is generally contaminated by various pollutants such as sewage, human and animal feces, pesticides and insecticides, fertilizers, oil, asbestos, rusting building material, and others. Prolonged flooding also provides breeding grounds for mosquitoes. Flooded homes are exposed to mold and mildew and can cause flood victims to contract upper respiratory diseases, as well as trigger cold-like symptoms. Molds can grow in as little as 24 to 48 hours in wet and damp areas of buildings and homes that have not been adequately cleaned after flooding by water infiltrating through walls, floors, carpets, and toilets.

Floodwaters can also contain dangerous animals such as alligators or snakes. These animals are often found in rivers, creeks and ponds in Sarasota County. Flooding can bring these animals onto normally dry land. Residences and visitors need to be careful, as these animals may be hard to see in the floodwaters.

Flooding resulting from a tropical storm or hurricane can compromise the safety of water supplies and the integrity of sewage disposal, leading to threats of foodborne and waterborne illness. Power line damage and power outages increase the risk of foodborne illness and electrocution. Medical care can be disrupted as the result of a storm; a major storm can leave victims isolated without water and medicine. Restoring medical care for

individuals who were injured in the storm or whose care for chronic conditions lapsed when they were cut off from services is a public health priority.

A flood can also cause both emotional and physical stress. Exposure to extreme disaster events, including loss or injury of loved ones, home damage, or home destruction can pose a long-term psychological impact on victims. Vulnerable populations such as seniors, the disabled, or those with long-term illnesses are less capable than others to cope with floods.

CRITICAL FACILITIES AND INFRASTRUCTURE

The services and functions provided by critical facilities are essential to a community during and after a disaster. Typical critical facilities include hospitals, fire stations, police stations, emergency operation centers, and similar facilities. All the hazards identified in this report have the potential to affect critical facilities. However, in Florida, these facilities are most often affected by flooding and/or high winds associated with tropical storms, hurricanes, and heavy rain. Flooding at these critical facilities can render such facilities powerless or inaccessible, thus posing a threat to the delivery of vital services. In Sarasota County, floodwaters could also submerge portions of I-75, US-41 and other highways. Storm surges could submerge bridges connecting the barrier islands to the mainland. The loss of these transportation networks would hinder evacuation and relief efforts, making it difficult to provide emergency response services. In addition, floodwaters could cause wastewater treatment facilities to shut down, contaminate local water supplies, and otherwise disrupt utilities. Flooding of electricity substations can result in a loss of power over the affected area. Communications and access can be severed in hard-hit areas and compromise the process of assessing and prioritizing needs for aid. Sarasota County maintains an inventory and list of contact points for critical facilities including fire stations, hospitals, nursing homes, and other types of facilities that may need to be contacted during times of emergency. Certain facilities are also required to maintain comprehensive emergency management plans. These plans are reviewed annually by Sarasota County Emergency Management Services.

Based on historical events, floodwaters in Sarasota County typically range from one to two feet. Impacts to non-elevated structures historically have caused temporary disruptions to critical facilities. Figure 6-1 illustrates the critical facilities with SFHA and CFHA overlaid, within Sarasota County. Table 6-3 outlines the facilities within the SFHA. The County is currently reviewing the flood insurance policies for all County-owned buildings to ensure all structures are properly insured.

Figure 6-1 Critical Facilities

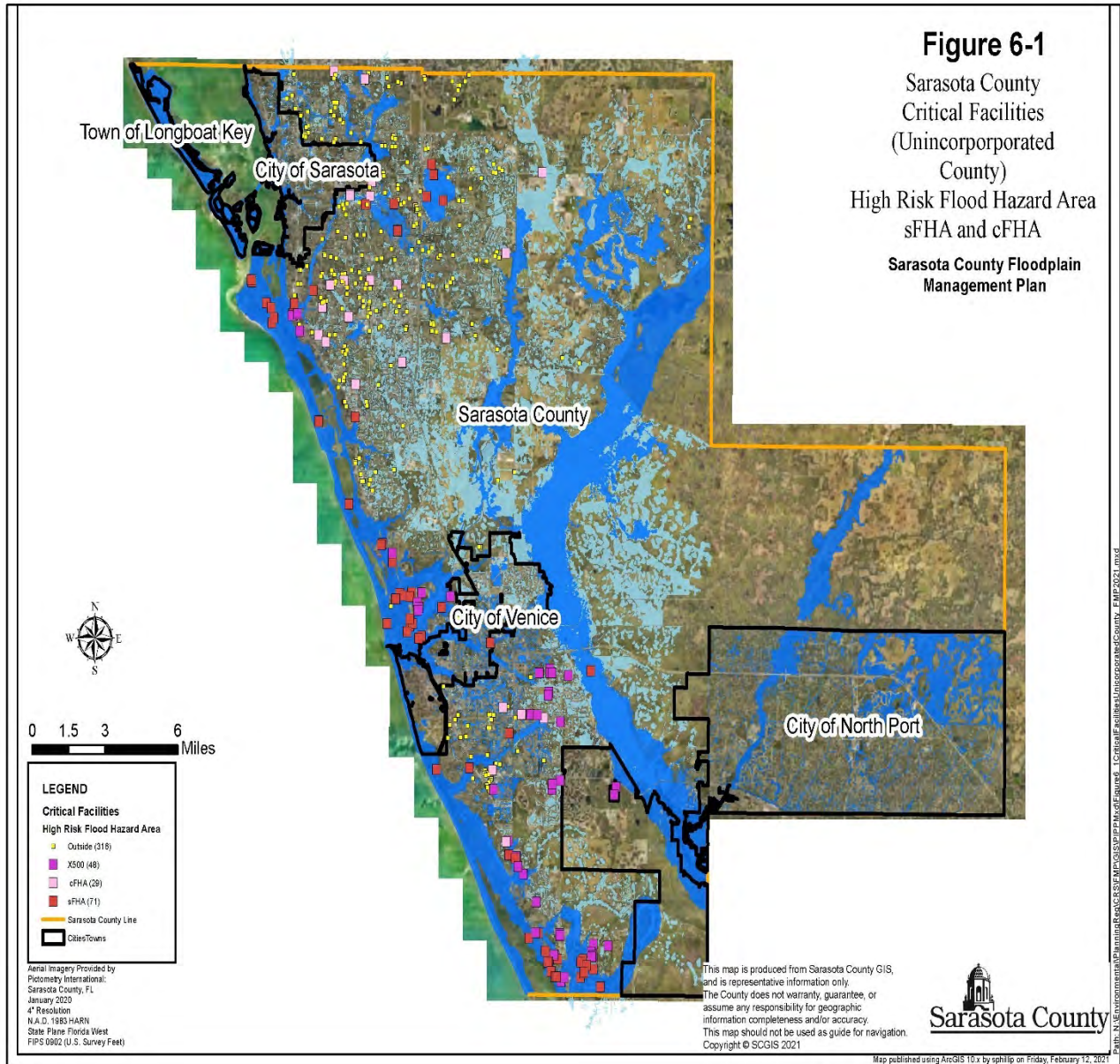


Table 6-3 Critical Facilities in the SFHA

Facility Type	SFHA Count
Public High School	1
Assisted Living Facility	5
Hospital	1
Nursing Home	1
Fire Stations	5
Garage – Maintenance	1
Library	2
Multipurpose	11
Office-Administration	7
Postal Service	2
Shelters	1
House of Worship	26

ECONOMY AND MAJOR EMPLOYERS

Flooding is the costliest natural hazard in the United States. The closure of roads and public transportation services can prevent employees from getting to work and employers from providing goods and services. The closure of businesses can affect the economy due to loss of revenue, fixed costs, replacement costs, and other expenses.

The top three public employers for Sarasota County are Sarasota County School Board, Sarasota County Board of County Commissioners, and Sarasota County Sheriff and Jail with 5,968, 2,232, and 926 employees, respectively. The top three private employers for Sarasota County are SMH Health Care, Publix Supermarkets, and PGT Industries with 4,871, 3,514, and 1,912 employees, respectively. Facilities serving these industries are located throughout the County and can quickly be disrupted by tropical storms, hurricanes and flooding.

Many visitors come to Sarasota County to enjoy the Gulf Coast beaches. Businesses along the coast cater to residents and tourists year-round. These areas are vulnerable to many hazards, including coastal erosion, storm surge, heavy rains, and high winds from tropical storms and hurricanes. The economy of the coastal community would be significantly impacted due to loss of business from such events. In addition, potential impacts of long-term erosion and sea level rise represent significant economic risk.

Impacts of these occurrences can be minimized through proper planning and flood mitigation projects identified in the Sarasota County Watershed Management Plans, Emergency Services and other plans.

RESIDENTIAL AND COMMERCIAL BUILDINGS

Flooding and wind damage from tropical storms, hurricanes, and heavy rain can cause major losses to residential and commercial buildings. Flooding in particular can cause

severe damage to property. Floodwaters can cause structural damages as well as damage to wood furniture, upholstery, electronics, household appliances, and plumbing equipment. Floodwaters can increase the risk of mold, which is expensive to remediate. Structures on the County's barrier islands are particularly susceptible to flooding.

Throughout Sarasota County, mobile and manufactured homes will be unable to withstand hurricane-force winds. Strong wind sends debris, signs, roofing material, and items left outside flying, which causes damage to residential and commercial structures. Water can also breach through windows and doors, resulting in mold and mildew if not remediated in a timely manner.

Significant wave action along the coastal areas can result in structure failure, as well as damage to utilities, enclosures, and accessory structures. Buildings with first-floor elevation lower than the currently required minimum as identified in the Flood Insurance Rate Maps or the County's CFHA could sustain a higher degree of damage from wave action, debris impact, and floodwaters.

Average individual property flood claims for unincorporated Sarasota County are over \$11,600 for the period 1978-2016. Flood losses from a major event can potentially reach tens of millions of dollars for Sarasota County. Tropical storms and hurricanes can exponentially increase that amount to over \$100 million depending on the severity of the storm.

Sarasota County maintains its building structure outlines in GIS. These GIS features can be used to analyze the potential impact to buildings due to flooding. Figure 6-2 illustrates the building outlines overlaid against the County's SFHA. Figure 6-3 and Table 6-4 describe the distribution of buildings in the SFHA.

A review of damaged buildings / historical claims indicates there is the potential to improve flood insurance coverage. As outlined in Section 3, the Sarasota County Program for Public Information committee is developing a Unified Flood Insurance Promotion Plan for the entire county. Flood insurance data will be contained in that report.

Figure 6-2 Sarasota County Building Outlines

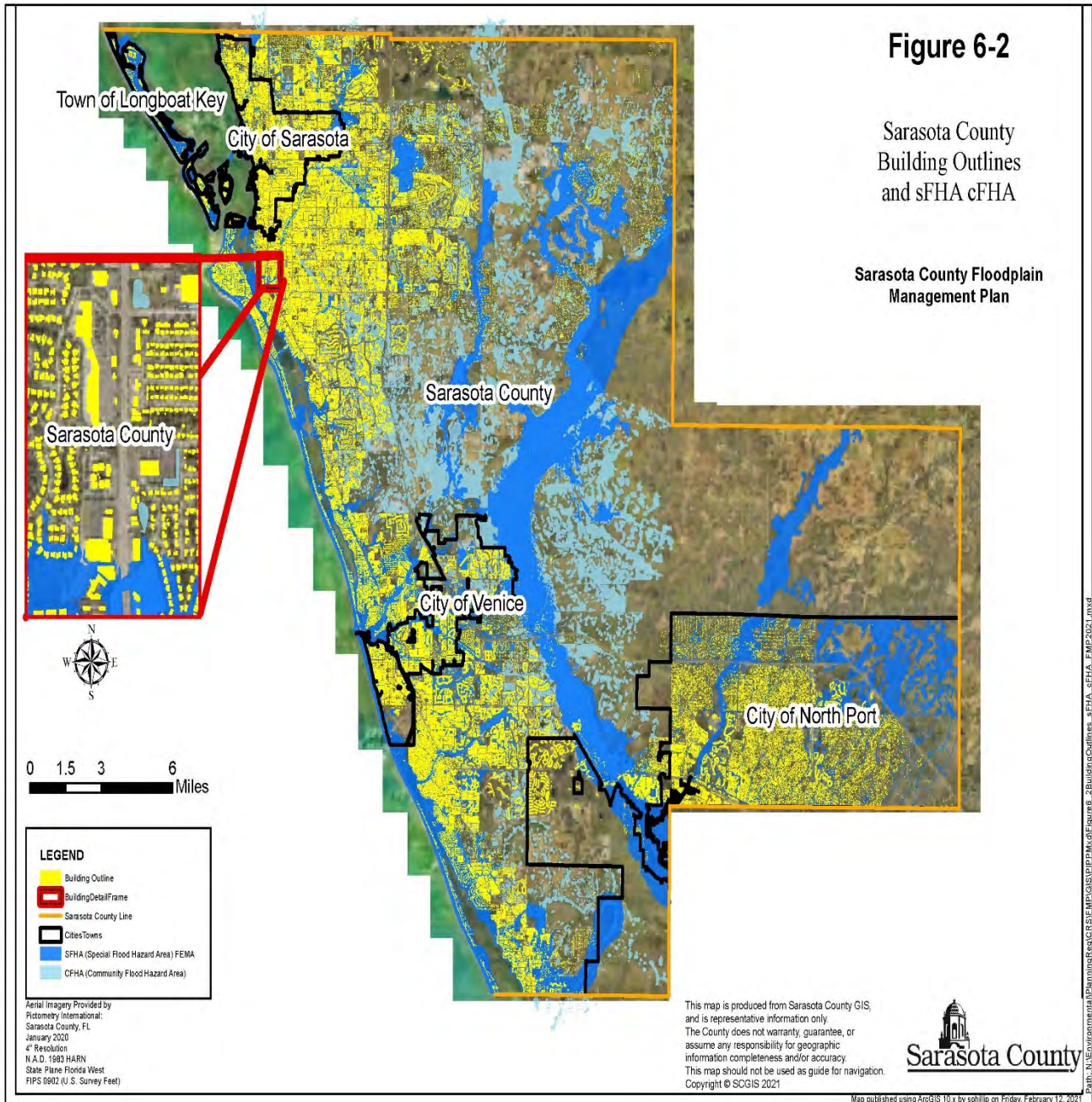
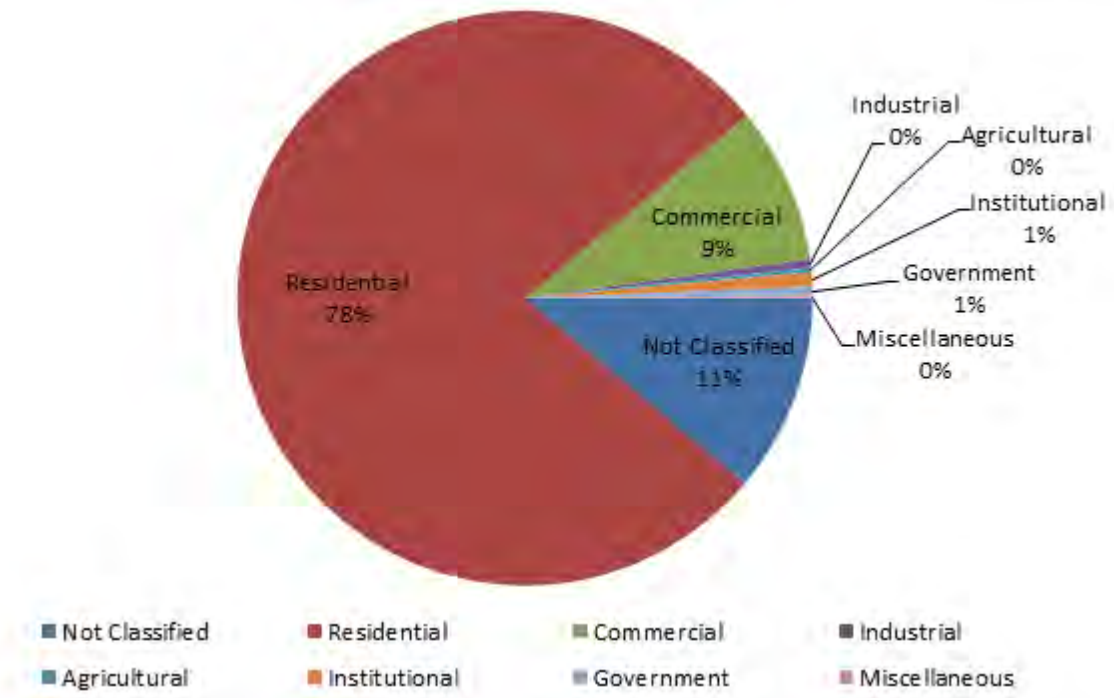


Figure 6-3 Buildings in the SFHA



*Source: Sarasota County building footprints and property appraiser parcel data

Table 6-4 Building Types in the SFHA

Classification	Count	Percent
Not Classified	4,130	11.17%
Residential	28,804	77.91%
Commercial	3,235	8.75%
Industrial	180	0.49%
Agricultural	88	0.24%
Institutional	300	0.81%
Government	183	0.49%
Miscellaneous	53	0.14%
Total	36,973	

7 NATURAL FLOODPLAIN FUNCTIONS

Floodplains are areas of low elevation adjacent to rivers, lakes, marshes and oceans that periodically experience flooding. Floodplains that are left intact perform many natural functions including providing flood and erosion control, recharging aquifers, improving surface water quality and protecting ecologically sensitive areas. They support diverse populations of flora and fauna and provide opportunities to educate residents on the importance of protecting this valuable natural resource. In addition, they provide recreation and economic benefits to the community.

BENEFICIAL RESOURCES AND FUNCTIONS OF NATURAL FLOODPLAINS

NATURAL FLOOD STORAGE AND EROSION CONTROL

Floodplains (such as the Celery Fields shown in Figure 7-1) provide areas that temporarily store floodwater. This helps to reduce downstream peak flood stages. In addition, the broad storage area diminishes the velocity of water flow, thus reducing erosion. In urbanized areas, natural floodplains can provide storage and/or result in less runoff that can be carried overland and lead to flooding in streets and neighborhoods.

Figure 7-1 Celery Fields



The Celery Fields in Sarasota County provide multiple benefits, such as flood storage, wildlife habitat, and recreation.

Due to the relatively flat topography in Sarasota County, flood attenuation is an important function of the floodplain in urbanized and rural areas. This attenuation is particularly important in low-lying areas that can experience flooding during even relatively small storms. One acre of floodplain flooded one foot deep holds 330,000 gallons of water. Vegetated floodplains are especially advantageous due to plant structure hindering water movement, thus slowing the rate of flow that reaches the main water body. The diminished velocity, as well as plant roots, provides erosion protection and stability to the banks of waterbodies, especially in coastal environments.

WATER QUALITY AND AQUIFER RECHARGE

Natural floodplains not only provide runoff storage, but also serve to improve water quality by reducing the number of contaminants including chemicals and unnatural levels of nutrients from reaching the main water bodies. In the process of suppressing water flow,

vegetative floodplains allow sediment and debris to sink and settle within the floodplain. In natural floodplain areas outside of a main channel system, the water flow is slowed, giving more time to seep into the ground where it can help replenish the groundwater. As the water slowly seeps into the soil, natural purification of the water takes place.

FISH AND WILDLIFE HABITAT

Natural floodplains support a wide variety of plants and animals. Natural floodplain habitats vary in vegetation, with some having grasses and others being forested. What they have in common is that they are ephemeral, meaning there is a wet and dry period. The length of period in which they are wet fluctuates. Floodplains and associated wetlands provide food and cover for both terrestrial and aquatic wildlife. The areas where water and land converge are generally more biologically diverse than the surrounding uplands. Natural floodplains are a critical habitat for several imperiled species such as the wood stork (*Mycteria americana*) and piping plover (*Charadrius melodus*).

RECREATION

Most of the natural floodplains and surrounding natural areas of Sarasota provide many recreational opportunities including hiking, bicycling, fishing, boating and wildlife viewing. Several commercial and game fish utilize these areas as hatcheries. Preserving these natural resources is critical for the fishing industry's economy.

ECONOMIC BENEFIT

Not only does the fishing industry bring money into the area, but so does ecotourism. Sarasota is well known for its natural beauty and great birding opportunities, drawing people from around the world. Natural floodplains also have an economic value in the reduction of flood and storm damage to infrastructure.

PROTECTING OUR NATURAL FLOODPLAINS

Poor planning and/or development in floodplains can result in degradation of water quality, loss of habitats, loss of property, erosion, and increased severity and frequency of flood losses. Sarasota County Comprehensive Plan provides strategies to address the protection of natural floodplains. The County's Water Quality Management Plans identify locations and projects on public lands that enhance the County's natural systems, including natural floodplains. These enhancements provide a diversity of benefits, such as increasing quality of wildlife habitat, attenuating stormwater flows, enhancing downstream water quality, and reducing erosion and sediment loading.

Sarasota County implements these strategies through a variety of measures, including development of water quality management plans, implementing policies intended to protect environmentally sensitive lands, as well as enforcing regulations aimed at protecting wetlands (Chapter 54, Article XII (Earthmoving), Section 54-346 of the Sarasota County Code of Ordinances: Requirements for natural resource protection).

Sarasota County maintains an inventory of wetlands that provide the natural functions and benefits described earlier in this section. Figure 7-2 illustrates the wetlands inventory for Sarasota County. In addition to regulating development in wetlands, Sarasota County also maintains an inventory of parks and natural lands (Figure 7-3) with the objective of managing and preserving natural resources and their beneficial functions for the community. Table 7-1 describes the parks that are managed and the types of natural assets they contain. The Sarasota County Comprehensive Plan, Land Management Master Plan, and The Parks, Preserves and Recreation Strategic Master Plan all aim to develop policies and management practices, and implement strategies to maintain the County's precious natural resources. These and other plans can be found in the reference documents that accompany this FMP (Attachment 6).

Figure 7-2 Sarasota County Wetlands Inventory

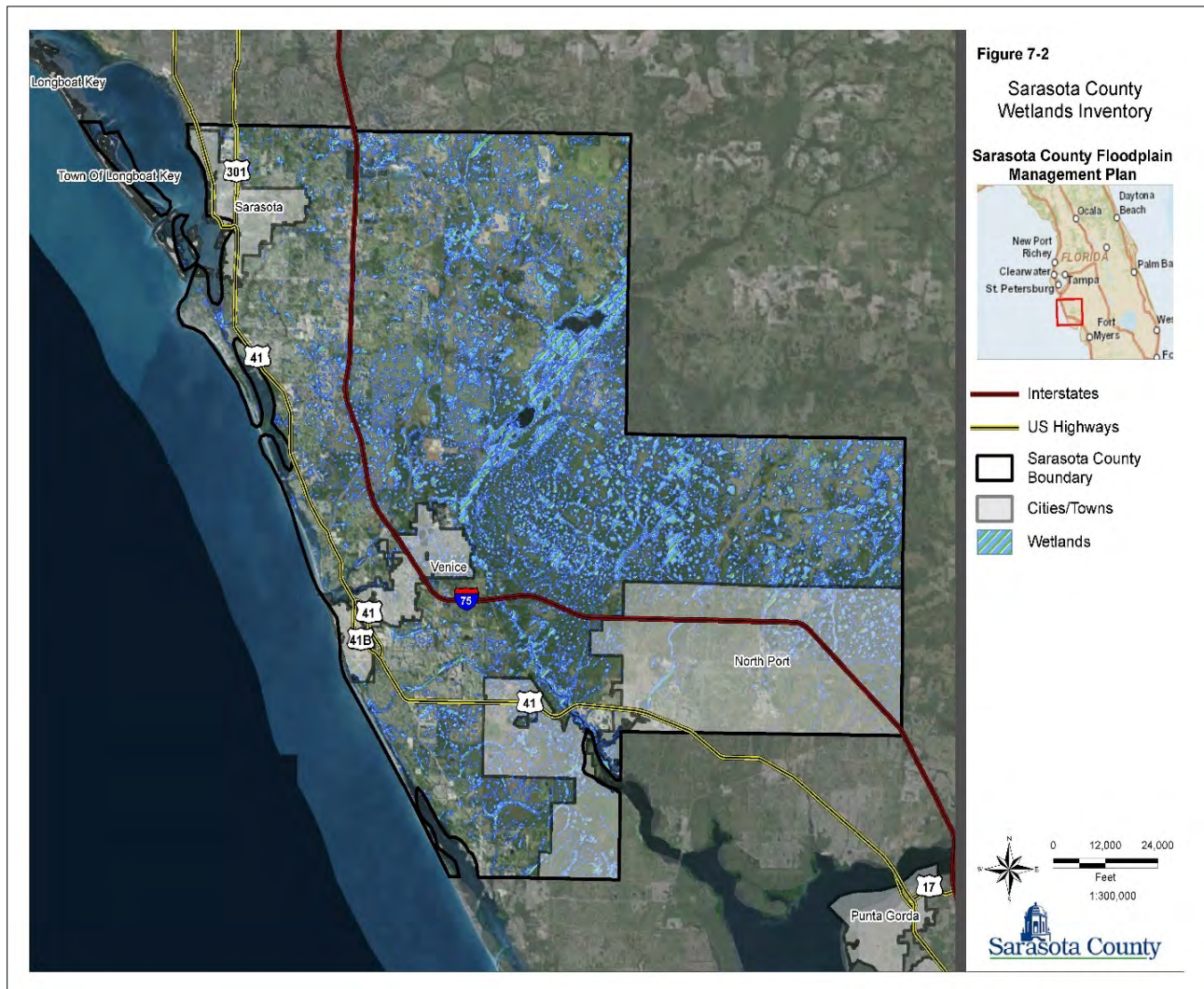


Figure 7-3 Parks, Preserves and Environmentally Sensitive Lands
 (co-owned by Sarasota County and Southwest Florida Water Management District)

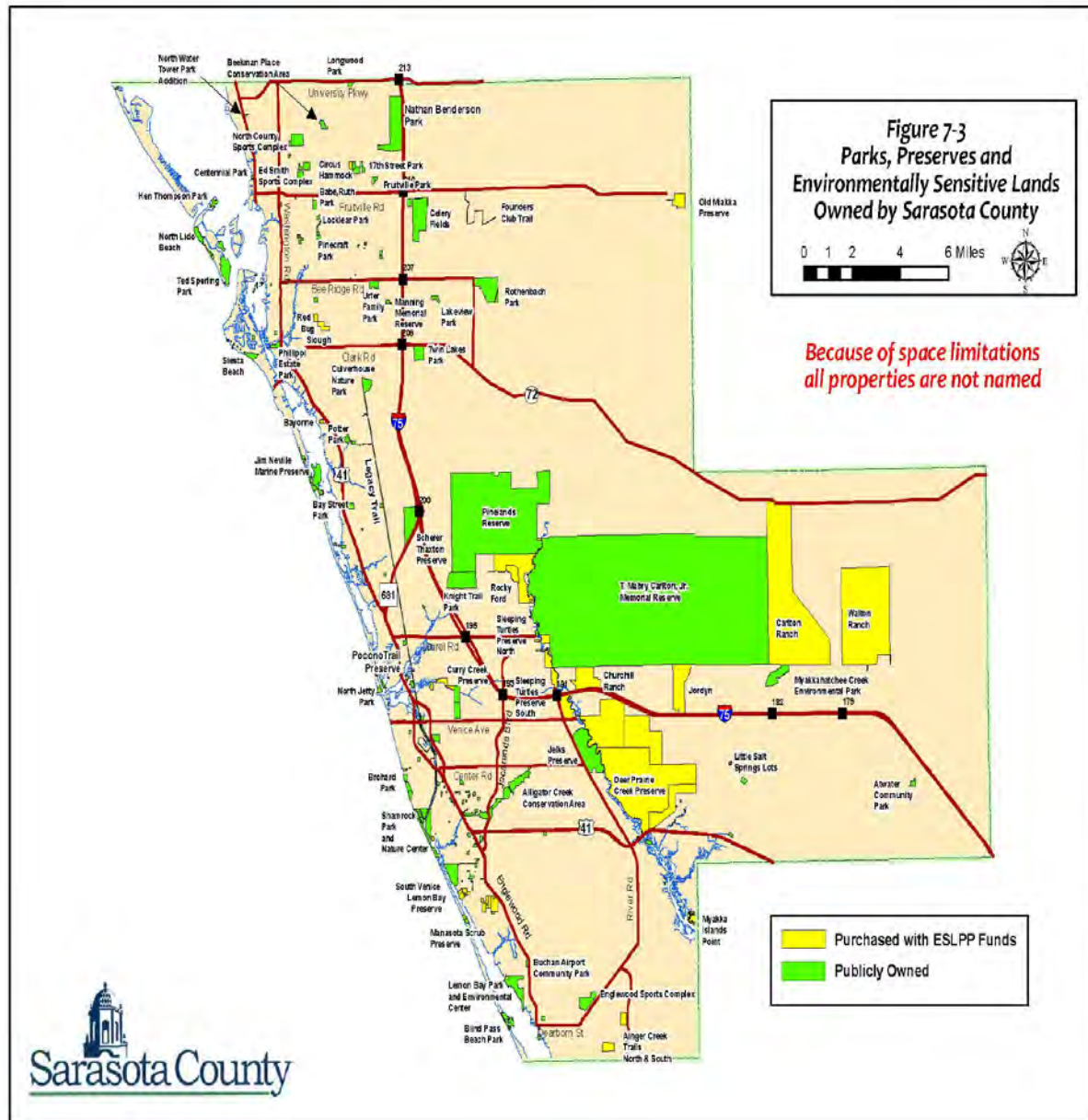


Table 7-1 Parks and Natural Lands

Park Name	Latitude	Longitude	Natural Functions Asset
17th Street Park and Paw Park	27.34943	-82.47874	Emergent Aquatic Vegetation; Freshwater Marshes; Reservoirs; Wetland Forested Mixed
Ackerman Park	27.33157	-82.44202	Reservoirs
Ainger Creek	26.96423	-82.31004	Riverine Wetlands, Hammock & Pine Flatwoods
Ainger Creek Trails North	26.9642	-82.30602	Riverine Wetlands, Hammock & Pine Flatwoods
Ainger Creek Trails South	26.95164	-82.31658	Riverine Wetlands, Hammock & Pine Flatwoods
Alligator Creek Conservation and Recreation Area	27.06261	-82.3898	Freshwater Marshes; Mixed Rangeland; Reservoirs; Stream and Lake Swamps (Bottomland)
Alligator Creek Site (Woodmere Park Addition)	27.05761	-82.40688	Pine Flatwoods; Stream and Lake Swamps (Bottomland)
Bay Point Park	27.11989	-82.46124	Bays and Estuaries
Bay Street Park	27.19796	-82.48378	Freshwater Marshes; Pine Flatwoods; Reservoirs; Wetland Forested Mixed
Bayonne	27.23542	-82.50484	Shrub and Brushland
Beekman Place Preservation Area	27.36735	-82.49773	Wetland Forested Mixed
Bird Colony Islands	27.2946	-82.54449	Bays and Estuaries; Mangrove Swamps
Blackburn Point Park	27.17913	-82.49037	Bays and Estuaries; Mangrove Swamps; Pine Flatwoods

Park Name	Latitude	Longitude	Natural Functions Asset
Blind Pass Beach	26.96442	-82.38193	Bay & Gulf Shoreline, Beach, Dune, Mangroves, Coastal Hammock, Sea Turtle Nesting
Blind Pass Beach Addition	26.9612	-82.38249	Bay & Gulf Shoreline, Beach, Dune, Mangroves, Coastal Hammock, Sea Turtle Nesting
Caspersen Beach Park	27.04822	-82.43694	Bays and Estuaries; Mangrove Swamps; Shrub And Brushland; Stream And Lake Swamps (Bottomland)
Celery Fields	27.3268	-82.43589	Emergent Aquatic Vegetation; Freshwater Marshes; Reservoirs
Christopher Wheeler Park	27.25346	-82.53197	Bays and Estuaries
Circus Hammock	27.34951	-82.48146	Wetland Forested Mixed
Colonial Oaks Park North	27.31103	-82.46276	Emergent Aquatic Vegetation
Colonial Oaks Park South	27.30919	-82.46295	Reservoirs; Stream and Lake Swamps (Bottomland)
Colonial Oaks Preserve	27.31744	-82.46917	Freshwater Marshes; Pine Flatwoods; Stream and Lake Swamps (Bottomland)
Deer Prairie Creek - Churchill Ranch	27.12067	-82.33394	Lakes; Pine Flatwoods; Wet Prairies
Deer Prairie Creek Preserve	27.07504	-82.30523	Bay Swamps; Bays and Estuaries; Cypress; Emergent Aquatic Vegetation; Freshwater Marshes; Lakes; Mixed Rangeland; Pine Flatwoods; Saltwater Marshes; Shrub And Brushland; Stream and Lake Swamps (Bottomland); Streams and Waterways; Upland Coniferous Forest; Wet Prairies; Wetland Coniferous Forests; Wetland Forested Mixed
Downs East	27.18172	-82.35281	Freshwater Marshes; Pine Flatwoods; Shrub and Brushland; Stream and Lake Swamps (Bottomland); Streams and Waterways
Eastern Ranchlands - Carlton Ranch Fee Parcel	27.13774	-82.18386	Emergent Aquatic Vegetation; Freshwater Marshes; Herbaceous; Mixed Rangeland; Pine Flatwoods; Shrub and Brushland; Stream and Lake Swamps

Park Name	Latitude	Longitude	Natural Functions Asset
			(Bottomland); Upland Coniferous Forest; Wet Prairies
Edwards Islands (Big and Little)	27.29551	-82.54847	Bays and Estuaries; Mangrove Swamps; Upland Hardwood Forests - Part 1
Fox Creek	27.15013	-82.43481	Emergent Aquatic Vegetation; Pine Flatwoods; Reservoirs; Streams and Waterways
Indian Mound Park	26.95687	-82.36309	Bay Shoreline, Shell Mound
Island - Myakka River	27.04298	-82.28686	Bays and Estuaries; Saltwater Marshes
Jelks Preserve	27.08114	-82.32774	Cypress; Emergent Aquatic Vegetation; Freshwater Marshes; Intermittent Ponds; Mixed Rangeland; Pine Flatwoods; Saltwater Marshes; Shrub and Brushland; Stream and Lake Swamps (Bottomland); Streams and Waterways; Wet Prairies; Wetland Coniferous Forests
Jim Neville Marine Preserve	27.21246	-82.50779	Bays and Estuaries; Mangrove Swamps; Salt Flats; Saltwater Marshes
Knight Trail Park	27.16293	-82.41928	Freshwater Marshes; Pine Flatwoods; Shrub and Brushland
Legacy Trail	27.14689	-82.45123	Bays and Estuaries; Mixed Rangeland; Pine Flatwoods; Stream and Lake Swamps (Bottomland); Wetland Forested Mixed
Lemon Bay Park and Environmental Center	26.98183	-82.38012	Scrub, Spoil Mounds, FL Scrub-Jays
Lemon Bay Preserve - A Miller	27.04865	-82.41842	Saltwater Marshes

Park Name	Latitude	Longitude	Natural Functions Asset
Lemon Bay Preserve - Griifis	27.04937	-82.43112	Stream and Lake Swamps (Bottomland)
Lemon Bay Preserve - Pitts	27.04893	-82.4308	Stream and Lake Swamps (Bottomland)
Locklear Park	27.32686	-82.50463	Lakes
Lyons Bay Park	27.11561	-82.46303	Bays and Estuaries
Manasota Beach Park	27.01175	-82.41246	Bays and Estuaries; Mangrove Swamps
Manasota Scrub Preserve	27.01773	-82.39868	Pine Flatwoods; Stream and Lake Swamps (Bottomland)
Myakka Prairie	27.18859	-82.29803	Bay Swamps; Freshwater Marshes; Pine Flatwoods; Shrub and Brushland; Stream and Lake Swamps (Bottomland); Wet Prairies
Myakka River State Park	27.26277	-82.28386	Bay Swamps; Cypress; Emergent Aquatic Vegetation; Freshwater Marshes; Lakes; Mixed Rangeland; Pine Flatwoods; Reservoirs; Shrub and Brushland; Stream and Lake Swamps (Bottomland); Streams and Waterways; Wet Prairies; Wetland Forested Mixed
Myakka State Forest	27.03333	-82.27942	Bays and Estuaries; Freshwater Marshes; Pine Flatwoods; Reservoirs; Saltwater Marshes; Shrub and Brushland
Myakka State Forest Addition - E Schwartz	27.02688	-82.27695	Saltwater Marshes
Myakka State Forest Addition - Mayer	27.02442	-82.27723	Pine Flatwoods

Park Name	Latitude	Longitude	Natural Functions Asset
Myakka State Forest Addition - Schaub	27.02443	-82.27676	Pine Flatwoods
Nokomis Beach Park	27.12453	-82.47016	Bays and Estuaries; Mangrove Swamps
Nokomis Community Park	27.11591	-82.44477	Stream and Lake Swamps (Bottomland)
North Borrow Pit	27.22036	-82.3953	Emergent Aquatic Vegetation; Freshwater Marshes; Herbaceous; Pine Flatwoods; Reservoirs; Shrub and Brushland; Stream and Lake Swamps (Bottomland); Wet Prairies; Wetland Forested Mixed
North Jetty Park	27.11465	-82.46734	Gulf Shoreline, Beach, Dune, Mangrove
Old Miakka Preserve	27.3289	-82.26408	Pine Flatwoods
Oscar Scherer State Park	27.16877	-82.47291	Bays and Estuaries; Freshwater Marshes; Pine Flatwoods; Reservoirs; Saltwater Marshes; Shrub and Brushland; Stream and Lake Swamps (Bottomland); Wet Prairies; Wetland Forested Mixed
Osprey Fishing Pier	27.19769	-82.49338	Bays and Estuaries
Palmer Point Beach Park	27.20575	-82.50835	Bays and Estuaries; Mangrove Swamps; Salt Flats; Saltwater Marshes; Shrub and Brushland; Upland Hardwood Forests - Part 1
Phillippi Creek Levee Trail	27.32449	-82.50365	Bays and Estuaries
Phillippi Estate Park	27.27011	-82.53473	Bays and Estuaries; Mangrove Swamps
Phillippi Shores Park	27.27596	-82.53419	Reservoirs
Pinecraft Park	27.31842	-82.50389	Bays and Estuaries; Reservoirs
Pinelands Reserve	27.1816	-82.36851	Cypress; Freshwater Marshes; Herbaceous; Mixed Rangeland; Pine Flatwoods; Reservoirs; Shrub and Brushland; Stream and Lake Swamps (Bottomland);

Park Name	Latitude	Longitude	Natural Functions Asset
			Streams and Waterways; Wet Prairies; Wetland Coniferous Forests; Wetland Forested Mixed
Pocono Trail Preserve	27.11967	-82.449	Bays and Estuaries; Stream and Lake Swamps (Bottomland)
Rattlesnake Island	27.117	-82.4651	Bays and Estuaries; Mixed Rangeland; Stream and Lake Swamps (Bottomland)
Rocky Ford - Collett	27.15239	-82.36376	Stream and Lake Swamps (Bottomland); Streams and Waterways
Rocky Ford - Green	27.15322	-82.36379	Stream and Lake Swamps (Bottomland); Streams and Waterways
Rocky Ford - Myakka River Trust	27.15698	-82.37122	Riverine Wetlands, Oak Hammock, Pine Flatwoods, Florida Panther
Rocky Ford - Schmidt Hines	27.18025	-82.35845	Stream and Lake Swamps (Bottomland); Streams and Waterways
Rocky Ford - Venice Minerals	27.16736	-82.37299	Pine Flatwoods; Stream and Lake Swamps (Bottomland)
Rothenbach Park	27.29341	-82.38572	Freshwater Marshes; Mixed Rangeland; Reservoirs; Stream and Lake Swamps (Bottomland); Wet Prairies
Sand Islands	27.03163	-82.27463	Bays and Estuaries, Mangrove Swamps, Pine Flatwoods, Saltwater Marshes, Stream and Lake Swamps (Bottomland)

Park Name	Latitude	Longitude	Natural Functions Asset
Senator Bob Johnson's Landing	27.04452	-82.29532	Bays and Estuaries; Saltwater Marshes; Stream and Lake Swamps (Bottomland); Streams and Waterways
Shamrock Park Addition	27.04718	-82.43313	Bays and Estuaries; Mangrove Swamps; Stream and Lake Swamps (Bottomland)
Shamrock Park and Nature Center	27.05207	-82.43545	Pine Flatwoods; Shrub and Brushland; Stream and Lake Swamps (Bottomland)
Shamrock Park Submerged	27.04427	-82.42984	Bays and Estuaries; Mangrove Swamps; Shrub and Brushland; Stream and Lake Swamps (Bottomland)
Shoreland Park	27.17028	-82.48139	Bays and Estuaries
Siesta Beach Park	27.26612	-82.55086	Shrub and Brushland; Upland Hardwood Forests - Part 1
Siesta Key Access Givens St	27.28382	-82.56469	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 2	27.27624	-82.56919	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 1	27.29887	-82.55967	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 10	27.26903	-82.55829	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 11	27.26756	-82.5558	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 12	27.25064	-82.53604	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 13	27.24706	-82.53504	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 3	27.2744	-82.5677	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 3B	27.27355	-82.56651	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 4	27.27318	-82.56556	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 5	27.27252	-82.56448	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 7	27.27132	-82.5621	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 7 Additions	27.27064	-82.56315	Beach, Dune, Shrub and Brushland

Park Name	Latitude	Longitude	Natural Functions Asset
Siesta Key Beach Access 7 Additions	27.27151	-82.56249	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 7 Additions	27.27131	-82.56231	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 8	27.27053	-82.56056	Beach, Dune, Shrub and Brushland
Siesta Key Beach Access 9	27.27013	-82.55998	Beach, Dune, Shrub and Brushland
Skiers Island	27.28763	-82.54894	Bays and Estuaries; Mangrove Swamps; Upland Hardwood Forests - Part 1
Sleeping Turtles North - Embry	27.1355	-82.35485	Freshwater Marshes; Pine Flatwoods; Stream and Lake Swamps (Bottomland); Streams and Waterways
Sleeping Turtles Preserve North	27.12617	-82.35374	Emergent Aquatic Vegetation, Freshwater Marshes, Hardwood Conifer Mixed, Pine Flatwoods, Reservoirs, Stream and Lake Swamps (Bottomland), Streams and Waterways
Sleeping Turtles Preserve South	27.1048	-82.34193	Emergent Aquatic Vegetation, Freshwater Marshes, Hardwood Conifer Mixed, Pine Flatwoods, Reservoirs, Stream and Lake Swamps (Bottomland), Streams and Waterways
Snake Island	27.11321	-82.46333	Bays and Estuaries
Snook Haven	27.10063	-82.33403	Stream and Lake Swamps (Bottomland); Streams and Waterways
Snook Haven Addition	27.10033	-82.33531	Streams and Waterways
South River Road	27.0735	-82.3222	Freshwater Marshes; Pine Flatwoods; Saltwater Marshes; Shrub and Brushland; Stream and Lake Swamps (Bottomland); Wetland Forested Mixed
South Venice Lemon Bay Preserve	27.03185	-82.42136	Bays and Estuaries; Cypress; Emergent Aquatic Vegetation; Freshwater Marshes; Lakes; Mangrove Swamps; Pine Flatwoods; Saltwater Marshes; Shrub and Brushland; Wetland Forested Mixed
South Venice Park 6	27.06478	-82.42037	Wetland Forested Mixed
South Venice Park 13	27.06444	-82.40181	Reservoirs
South Venice Park 16	27.0598	-82.4096	Wetland Forested Mixed
South Venice Park 18	27.05827	-82.40619	Stream and Lake Swamps (Bottomland)
South Venice Park 19	27.05823	-82.41015	Stream and Lake Swamps (Bottomland)
South Venice Park 21	27.05168	-82.43382	Stream and Lake Swamps (Bottomland)
South Venice Park 22	27.04475	-82.41767	Reservoirs
South Venice Park 29	27.03483	-82.40441	Wetland Forested Mixed

Park Name	Latitude	Longitude	Natural Functions Asset
South Venice Park 30	27.03205	-82.40986	Stream and Lake Swamps (Bottomland)
South Venice Park 32	27.03063	-82.40822	Reservoirs
South Venice Park 33	27.02794	-82.41358	Wetland Forested Mixed
South Venice Park 34	27.02903	-82.40798	Stream and Lake Swamps (Bottomland)
South Venice Park 35	27.0285	-82.39992	Reservoirs; Wetland Forested Mixed
South Venice Park 36	27.02759	-82.40695	Stream and Lake Swamps (Bottomland)
Spice Islands	27.04186	-82.28325	Bays and Estuaries; Saltwater Marshes
T. Mabry Carlton, Jr. Memorial Reserve	27.14488	-82.35267	Cypress; Emergent Aquatic Vegetation; Freshwater Marshes; Pine Flatwoods; Reservoirs; Shrub and Brushland; Stream and Lake Swamps (Bottomland); Streams and Waterways; Wet Prairies; Wetland Coniferous Forests; Wetland Forested Mixed
Turtle Beach Park and Campground	27.21964	-82.51739	Bays and Estuaries; Shrub and Brushland
Venetian Waterway Park	27.05155	-82.43729	Bays and Estuaries; Pine Flatwoods; Shrub and Brushland; Stream and Lake Swamps (Bottomland)
Venice Area Audubon Rookery	27.04619	-82.40084	Pine Flatwoods; Reservoirs
Warm Mineral Springs	27.05861	-82.26159	Vacant Lots Along Creek
Warm Mineral Springs Creek - Baltzer	27.05081	-82.27166	Vacant Lots Along Creek
Warm Mineral Springs Creek - Culpepper	27.05043	-82.27243	Vacant Lots Along Creek
Warm Mineral Springs Creek - Dailey	27.05205	-82.26974	Vacant Lots Along Creek
Warm Mineral Springs Creek - Egner	27.05179	-82.26952	Vacant Lots Along Creek

Park Name	Latitude	Longitude	Natural Functions Asset
Warm Mineral Springs Creek - Fiedosewicz	27.05658	-82.26285	Vacant Lots Along Creek
Warm Mineral Springs Creek - Fraser	27.05253	-82.27	Vacant Lots Along Creek
Warm Mineral Springs Creek - Hordienko	27.05684	-82.26297	Vacant Lots Along Creek
Warm Mineral Springs Creek - Mischena	27.05506	-82.26502	Vacant Lots Along Creek
Warm Mineral Springs Creek - Mityanski, O	27.0572	-82.2632	Vacant Lots Along Creek
Warm Mineral Springs Creek - Mityanski, V	27.05705	-82.26311	Vacant Lots Along Creek
Warm Mineral Springs Creek - Red Rock Investments	27.05444	-82.26711	Vacant Lots Along Creek
Warm Mineral Springs Creek - Skelly	27.05223	-82.2699	Vacant Lots Along Creek
Warm Mineral Springs Creek - Trappman	27.0507	-82.27187	Vacant Lots Along Creek
Warm Mineral Springs Creek - Zinchuk	27.05734	-82.26329	Vacant Lots Along Creek

Park Name	Latitude	Longitude	Natural Functions Asset
Warm Mineral Springs Parcels	27.05875	-82.26842	Bays and Estuaries; Freshwater Marshes
Warm Mineral Springs Parcels	27.0519	-82.2703	Bays and Estuaries; Freshwater Marshes
Warm Mineral Springs Parcels	27.05244	-82.26971	Bays and Estuaries; Freshwater Marshes
Warm Mineral Springs Parcels	27.05019	-82.27322	Bays and Estuaries; Freshwater Marshes
Warm Mineral Springs - Holst-Jensen	27.05467	-82.26665	Vacant Lots Along Creek
Warm Minerals Springs Creek Hamrich	27.05238	-82.27016	Vacant Lots Along Creek
Wharf Road Park	27.22197	-82.50231	Bays and Estuaries
Woodmere Park and Paw Park	27.05737	-82.3982	Freshwater Marshes; Reservoirs; Shrub and Brushland; Stream and Lake Swamps (Bottomland)

8 FLOODPLAIN MANAGEMENT PLAN GOALS AND ACTIVITIES

GOALS

The goals of the Sarasota County's Floodplain Management Plan are to:

1. Minimize the loss of life and property due to flood hazards.
2. Protect public health and safety.
3. Improve identification of high flood risk areas.
4. Increase public awareness of risks associated with flooding.
5. Improve the County's emergency response to flood hazards.

These goals include developing activities to address the flood-related hazards through preventative measures, property protection, natural resource protection, emergency services, structural projects, and public information activities.

REVIEW OF POSSIBLE FLOODPLAIN MANAGEMENT ACTIVITIES

Sarasota County has identified various activities to achieve the goals of the floodplain management plan. Depending on available resources, the County has developed a prioritized action plan to implement these activities. The types of activities implemented by the County include the following:

PREVENTATIVE ACTIVITIES

The most beneficial and cost-effective approach to reduce damage due to flood is to identify and implement measures to prevent or reduce the risk before flooding occurs. Sarasota County achieves this through their watershed management plans, development review process using the County's CFHA and detailed watershed models, and regulatory standards that exceed the minimum NFIP criteria. Sarasota County's codes and ordinances were recently evaluated to address flood risk and ensure that building codes meet or exceed the minimum NFIP requirements. As a result, the floodplain regulations were revised and formally adopted by the Board of County Commissioners on September 2016. In addition, the County requires development to consider the 100-year storm event impacts by reviewing proposed developments using the County's stormwater models. Permits received by the County are reviewed by building officials who are also Certified Floodplain Managers. These permits are also reviewed by County stormwater engineers using the County's most up-to-date stormwater model for the area of interest. **These regulations and measures, in conjunction with the requirement of new developments to be consistent with the County's Future Land Use Map, help the County ensure that developments do not exacerbate existing flood issues or lead to problems related to future conditions.**

A 2017-18 Sarasota County initiative was the development of a Unified Development Code that updated and consolidated the County's Land Development Regulations and

Zoning Regulations, while ensuring they align with the County's Comprehensive Plan. This plan was adopted by the Sarasota County Commission to guide land development and other activities to improve the quality of life, health and safety for residents of the county. One of the goals of this effort was to remove inconsistencies and make the regulatory code easier to read, understand and interpret. The outcome also simplified the ability to determine significant regulatory information applicable to any given piece of property.

Sarasota County will continue to implement preventative measures that will reduce the risk of flood damage to life and property through activities such as:

- Conducting activities consistent with the County's Comprehensive Plan.
- Developing and maintaining watershed management plans.
- Periodic evaluation and maintenance of major drainage systems.
- Proper planning and zoning to reduce flood risks.
- Preservation of open space through acquisition, and land development and zoning ordinances.
- Regulating building and development in the floodplain.

PROPERTY PROTECTION

Property protection activities help reduce the risk of damage to structures and property through activities such as:

- Acquiring high-risk land, particularly if the lands also represent environmentally sensitive lands or natural systems that can be preserved.
- Elevating structures.
- Retrofitting.
- Maintaining proper insurance on structures.

Sarasota County staff provides outreach to educate residents about methods for protecting their property. This includes information on the County website as well as personal contact with existing homeowners or potential buyers. Residents may contact Sarasota County by phone or email to schedule a property consultation to evaluate drainage and potential retrofitting options.

NATURAL RESOURCE PROTECTION

Natural floodplains help provide storage for surface runoff, recharge of aquifers, improve water quality, support a biologically diverse population, and many other functions. Protecting these natural resources is an essential element of successful floodplain management. Activities to protect natural resources include:

- Adopting and implementing floodplain management policies that reduce impacts to natural systems.
- Preserving or restoring natural areas.
- Protecting wetlands.
- Preventing pollution of natural systems.
- Improving water quality.
- Preventing erosion and sedimentation in waterways.

Sarasota County also protects natural resources through acquisition of land as well as implementing capital improvement projects aimed at improving the water quality and protecting the water resources within the County. An example of this is the Dona Bay and Roberts Bay Water Quality Management Plan projects.

Sarasota County's Environmentally Sensitive Lands Protection Program (ESLPP) and Neighborhood Parkland Acquisition Program (NPP) are voter approved and taxpayer-funded programs designed to acquire and protect natural lands and parklands. Sarasota County's protected lands provide valuable natural floodplain functions as well as safe habitats for many threatened and native species including gopher tortoises, Florida scrub-jays, eagles and many migratory birds. Acquisition and protection of these lands ensures that their environmentally sensitive nature and habitats will exist for future generations.

EMERGENCY SERVICES

Sarasota County Emergency Services coordinates the overall response to hazards, including major flood events that can result from hurricanes, tropical storms and other major weather occurrences. The Sarasota County Emergency Operations Center coordinates warning and response activities with other municipalities within the County.

Emergency Services activities conducted by Sarasota County include:

- Developing a flood warning system
- Developing a flood response plan
- Developing a monitoring system or plan for collecting data describing rainfall, stage and discharge
- Developing a plan for coordinating with local municipalities and agencies during emergencies
- Updating and maintaining evacuation plans
- Protecting critical facilities
- Performing routine emergency exercises

Sarasota County utilizes the Alert Sarasota County Notification System - an ultra-high-speed telephone communication service - for emergency notifications. This system sends critical communications to all or targeted areas within the county in the event of a situation that requires immediate action. This system can dial the entire county within minutes. It delivers a recorded message from Sarasota County describing the situation and any instructions for immediate or future action.

These and other activities conducted by the Sarasota County Emergency Services Department will be an integral part of the FMP as the committee evaluates the best strategies for protecting Sarasota County residents from flooding.

STRUCTURAL PROJECTS

Sarasota County has a Capital Improvement Program that includes construction of improvements that reduce the risk of flooding or damage from flooding. Such projects in the program include:

- Constructing or maintaining seawalls
- Constructing or maintaining stormwater management facilities
- Making channel modifications

Existing projects will be evaluated, and new projects incorporated into the FMP with each annual evaluation and 5-year update.

PUBLIC INFORMATION

Public information activities advise residents, property owners, potential property owners, and visitors about hazards, methods for protecting people and property from hazards, and the beneficial functions of natural floodplains. Sarasota County implements these activities using a variety of mediums, including electronic, audio/visual, and printed media. Activities identify target audiences and deliver specific messages about the risks that affect them. These audiences include residents, as well as managers of local, state, and federal agencies. Public information activities include:

- Flyers / door hangers
- Real estate disclosure programs
- Map information
- Education programs
- Mailings
- Social media
- News media
- Public outreach events

- Technical assistance

Sarasota County currently implements the above types of activities that aim to protect the life, safety, health and property of its residents and visitors. The County reviews possible floodplain management activities on a regular basis through periodic evaluations of this Floodplain Management Plan, the County's Comprehensive Plan, and other initiatives related to flood protection and preservation of natural systems. The review process begins with evaluating existing projects and initiatives. It is important to know how the County is currently conducting floodplain management to effectively plan for future projects. This can indicate areas or goals that are lacking that the FMP committee should address. The review includes evaluating whether the projects meet the specific goals of the FMP and if they can be updated; for example, to be more efficient or provide consistent messaging about floodplain management topics. Table 8-1 describes existing activities that aim to reduce the risk associated with flooding in the County. Overall, Sarasota County implements activities that cover all major activity types and goals set forth in this FMP. Many of the activities are ongoing or were recently completed. However, some of the activities should be periodically revisited or updated, and there will be opportunities to improve a study, streamline the information about flood risk, or better protect the health, safety and property of residents and visitors. In 2019 Sarasota County implemented a Unified Program for Public Information (PPI) that included all municipalities within Sarasota County. The PPI Plan was adopted and made an annex to the FMP in January 2019 along with the restructured FMP. The PPI includes a committee of staff and stakeholders that review and implement coordinated floodplain management messaging throughout the county. This Plan must be evaluated annually as part of the CRS Recertification process and a full update made every 5 years. Activities to monitor and consider for future updates include:

1. Local Mitigation Strategy – The LMS and FMP should be monitored for consistency in flood topics, goals and activities. This current, early update to the FMP is intended to align future FMP updates with the LMS update schedule.
2. Codes & Ordinances – The codes and ordinances will be periodically reviewed and updated to accommodate changes in building codes, NFIP and CRS requirements.
3. Drainage Maintenance – There may be opportunities to streamline or integrate NPDES and CRS requirements. This maintenance can also be improved through better GIS integration.
4. Flood Warning and Response Plan – This plan should be updated based on lessons learned after each flooding event.
5. Watershed Management Plans – The detailed studies are periodically updated to address changes that occur over the years. The County can consider incorporating

effects of sea level rise or mapping less frequent storms (i.e., 500-year floodplains) during these plan updates.

FLOODPLAIN MANAGEMENT PLAN GOALS AND ACTIVITIES

The goals of the Sarasota County's Floodplain Management Plan are to:

1. Minimize the loss of life and property due to flood hazards
2. Protect public health and safety
3. Improve identification of high flood risk areas
4. Increase public awareness of risks associated with flooding
5. Improve the County's emergency response to flood hazards

FLOODPLAIN MANAGEMENT PLAN ACTIVITY TYPES

Activity types include developing activities/projects to address the flood-related hazards through the following measures:

1. Preventive Measures
2. Property Protection
3. Natural Resources Protection
4. Emergency Services
5. Structural Projects
6. Public Information Activities

The project list includes additional projects identified and described. To better define the projects from this plan, all projects have been broken down into sections and categorized as follows:

- **Section A: Current**

Existing projects that aim to reduce the risk associated with flooding throughout the county. Overall, Sarasota County implements

projects that cover all the major activity types and goals set forth in the FMP.

- **Section B: Proposed**

Describes potential projects to implement as they relate to the types of activities and goals set in the FMP.

- **Section C: Completed**

Those projects that have been completed and the year of completion.

- **Section D: Deleted**

Projects that have been determined unfeasible with the reason noted.

The following current projects (Table 8-1 Review of Current Floodplain Management Activities) and potential projects (Table 8-2 Review of Potential Floodplain Management Activities) were reviewed by the FMP committee and recommendations were given and incorporated into this Report. All updates are highlighted in red.

The full project list is included as attachment 13.

Table 8-1 Review of Current Floodplain Management Activities

Item	Title	Description	Preventative	Property Protection	Natural Resource Protection	Emergency Services	Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B Only: Potential Projects Prioritization
SECTION A: CURRENT PROJECTS																
A1	Comprehensive Plan	The Sarasota County Comprehensive Plan provides the policy direction used in framing land use decision and growth management initiatives. The plan includes policy direction to support programs that address the problems of development in the floodplain and protection of natural drainage features.	X		X	X			X	X				UPDATED FROM 2016 TO Ongoing	Continue to review the comprehensive plan and update as necessary.	
A2	Codes & Ordinances	Sarasota County's codes and ordinances were evaluated to address flood risk and ensure that building codes meet NFIP requirements or higher. Floodplain regulations were revised and formally adopted by the Board of County Commissioners on September, 2016.	X						X	X				UPDATED FROM 2016 TO Ongoing	Educate contractors and the public as to any changes in the FBC and Amendments with emphasis on flood protection techniques and requirements by including in annual outreach meetings.	
A3	Sarasota 2050	A 50-year land use plan to manage future growth in Sarasota County. Sarasota 2050's primary goals are preserving the county's natural, cultural and physical resources. East of I-75 focus.	X		X				X					UPDATED FROM 2013 TO Ongoing	Continue to monitor the plan and its alignment with the CRS program. Update as necessary.	
A4	Post Disaster Redevelopment Plan	The plan identifies policies, operational strategies, and roles and responsibilities for implementation that will guide decisions that affect long term recovery and redevelopment of the community after a disaster.	X			X			X	X				UPDATED FROM 2015 TO Ongoing	Work closer with staff to ensure activities developed remain in coordination with the PDRP and mitigation activities are reviewed annually.	
A5	Local Mitigation Strategy Plan	Multi-jurisdiction plan developed by the county and incorporated municipalities to reduce and or eliminate the risks associated with natural and man-made hazards	X						X	X			X	UPDATED FROM 2016 TO Ongoing	Continue involvement with coordination between Sarasota County and the LMS plan. Continued participation in the LMS Working Group reaching goals and objectives identified by the group. The next LMS update due 2021.	
A6	Capital Improvement Program	A plan for capital expenditures to be incurred each year, including for projects that aim to identify and reduce flood risks within the County.					X		X	X				Ongoing	Continue to monitor, review and revise the list of projects. Projects become implemented as funding becomes available.	
A7	Environmentally Sensitive Lands Protection Program and Neighborhood Parkland Acquisition Program	Programs designed to acquire and protect natural lands and parklands.			X				X	X				Ongoing	Continue to review lands acquired for their protection of Natural Functioning Floodplains and open space and how it pertains to the CRS program.	

Item	Title	Description	Preventative Property Protection	Natural Resource Protection	Emergency Services Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B Only: Potential Projects Prioritization
A8	Drainage Maintenance Program	Sarasota County uses the Maximo asset management system to inspect and maintain drainage systems throughout the County.	X				X					Ongoing	Continue to track maintenance of the drainage system through the Maximo asset management system. Provide reports for the CRS program as needed. Train staff as needed.	
A9	Repetitive Loss Areas Analysis and Plan	Perform site evaluations to evaluate flood risk and provide appropriate mitigation options to property owners.	X			X			X	X		UPDATED FROM 2017 TO Ongoing	The report is expected to go to the Board for adoption in 2020. Continue to review the repetitive loss data from FEMA annually and update the RLAA as necessary. Evaluate insurance data and make recommendations to property owners for mitigation. Continue to protect the data that qualifies under Federal Privacy Act of 1974 provision.	
A10	Dona Roberts Bay Watershed Management Plan	Detailed study to identify flood risks and update flood maps	X			X			X	X		UPDATED FROM 2018 TO 2020	Follow the required procedures for FEMA Map updates and perform coordinated map update outreach as needed.	
A11	North County/Phillippi Creek Stormwater Water Quality Program	Projects may include stormwater reuse, stormwater retrofits, LID techniques, habitat creation and restoration, and others as identified. Park amenities will be incorporated into the design where feasible.	X	X	X	X	X					UPDATED FROM 2021 TO Ongoing	Continue to review possible opportunities for funding for these projects.	
A12	South County/Alligator Creek Stormwater Water Quality Program	Projects may include stormwater reuse, stormwater retrofits, LID techniques, habitat creation and restoration, and others as identified. Park amenities will be incorporated into the design where feasible.	X	X	X	X	X					2021	Ongoing. Continue to review possible opportunities for funding for these projects.	
A13	Asset & Infrastructure Management System Program	Stormwater program to replace or rehabilitate aging infrastructure Countywide.	X		X	X						Ongoing	Ongoing. Continue to search for additional funding through grants.	
A14	Dona Bay Watershed Hydrology Enhancements and Conveyance System	Activities associated with, but not limited to a surface water storage facility, historic flood plain restoration, water budget restoration, and control structure construction.		X	X	X	X					UPDATED FROM 2018 TO 2024	Phase 2 completion expected in 2024. Continue to review possible grant funding opportunities.	

Item	Title	Description	Preventative					Emergency Services					Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B Only: Potential Projects Prioritization	
			Property Protection	Natural Resource Protection	Emergency Services	Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5				
A15	Sediment Abatement and Stabilization Program	Reshape stormwater conveyance systems to more gentle slopes, and stabilize them with vegetation, erosion control matting, or other material to prevent erosion throughout the County.		X		X		X						UPDATED FROM 2021 TO Ongoing	Continues throughout the County.	
A16	Sea Level Rise Vulnerability Assessment	Assess the impact of sea level rise on critical structures, public health and safety, natural systems and economy from the effects of sea level rise. This is appropriate for planning/preparing for future conditions.	X	X		X		X	X	X	X	X	X	Ongoing	MOVED FROM PROPOSED TO CURRENT. Continue to review the progress and ensure FEMA's CRS future conditions criteria is incorporated into the assessment.	
A17	Sarasota Bayfront Basin Master Plan	Detailed study to evaluate floodplain level of service issues, alternative analysis to address issues, develop conceptual plans for capital improvements and present results at public meetings.	X	X		X	X	X	X	X	X	X		2020	NEW PROJECT. This project is scheduled for 2020. Review scope and see if the developed CIP project will positively impact any repetitive loss areas.	
A18	Whitaker Bayou Alternative Analysis	Detailed study to evaluate the floodplain level of service issues and water quality issues, alternative analysis to address issues, develop conceptual plans for capital improvements and present results at public meetings.	X	X		X	X	X	X	X	X	X		2020	NEW PROJECT. Review scope and see if the project will positively impact any repetitive loss areas. If repetitive loss areas are involved, reach out to residents within the area to notify them of the public meeting.	
A19	Harbor Acres Alternative Analysis	Detailed study to evaluate floodplain level of service issues, alternative analysis to address issues, develop conceptual plans for capital improvements and present results at public meetings.	X	X		X	X	X	X	X	X	X		2020	NEW PROJECT. Review scope and see if the project will positively impact any repetitive loss areas. If repetitive loss areas are involved, reach out to residents within the area to notify them of the public meeting.	
A20	Phillippi Creek Watershed Model Maintenance	Detailed study to identify flood risks and update flood maps.	X	X			X	X	X	X	X	X		UPDATED FROM 2018 TO 2020	Review scope and see if the project will positively impact any repetitive loss areas. If repetitive loss areas are involved, reach out to residents within the area to notify them of the public meeting.	
A21	Cooper Creek Watershed Model Maintenance	Detailed study to identify flood risks and update flood maps.	X	X		X	X	X	X	X	X	X		2023	MOVED FROM PROPOSED TO CURRENT. Review scope and see if the project will positively impact any repetitive loss areas. If repetitive loss areas are involved, reach out to residents within the area to notify them of the public meeting.	

Item	Title	Description	Preventative Property Protection					Natural Resource Protection					Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B Only: Potential Projects Prioritization	
			Emergency Services	Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5						
A22	Lyons Bay Basin Update	Detailed study to identify flood risks and update flood maps.	X	X			X	X	X	X	X	X	X	2023	NEW PROJECT. Review scope and see if the project will positively impact any repetitive loss areas. If repetitive loss areas are involved, reach out to residents within the area to notify them of the public meeting.	
A23	Sarasota Bay Watershed Management Plan	Detailed study to evaluate floodplain level of service issues and water quality issues, alternative analysis to address issues, develop conceptual plans for capital improvements and present results at public meetings	X	X			X	X	X	X	X	X	X	2022	NEW PROJECT. Review scope and see if the project will positively impact any repetitive loss areas. If repetitive loss areas are involved, reach out to residents within the area to notify them of the public meeting	
A24	Development Review - FEMA Regulations and Standards	Sarasota County continues to enforce FEMA regulations and standards through its development review process and local ordinances and includes provisions for compliance with the National Flood Insurance Program (NFIP).	X	X	X			X	X	X	X	X		Ongoing	NEWLY IDENTIFIED PROJECT. Monitor status of the Florida Building Codes and potential adoption of International Codes. Continue with the annual public outreach and education programs for understanding of all applicable local, state and federal codes as they pertain to floodplain management principles.	
A25	FEMA FIRM Maintenance	Sarasota County continues to maintain FEMA Flood Insurance Rate Map (FIRM) information for the public. Sarasota County developed a GIS based flood zone locator application SarcoFlood that displays digitized FEMA FIRM maps. These maps show the Special Flood Hazard Area (SFHA) determined by FEMA as well as local flood studies shown as the Community Flood Hazard Area (CFHA). Sarasota County regulates the Community Flood Hazard Area (CFHA) per Article XVI, Section 54-516.	X	X				X	X	X	X	X		Ongoing	NEWLY IDENTIFIED PROJECT. Continue to monitor the FEMA Risk Map updates for the local flood study preliminary maps expected in December 2019. Follow the required procedures for FEMA Map updates and perform coordinated map update outreach as needed	

Item	Title	Description	Preventative	Property Protection	Natural Resource Protection	Emergency Services	Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B Only: Potential Projects Prioritization
A26	Community Rating System (CRS) 3-Yr Cycle Verification Audit	Sarasota County continues to participate in the NFIP/CRS program. Staff completed the 3-year CRS Verification process in May 2019. ISO confirmed a total audit score of 3,605 points which would qualify for a higher classification with specific prerequisites met. A confirmation letter from FEMA maintaining our Class 5 community is expected by May 2020. Maintaining this class will provide for a total of up to 25% discount to NFIP flood insurance holders.	X	X	X			X	X	X	X	X		Ongoing	NEWLY IDENTIFIED PROJECT. Staff recommends a revision to the Uniform Development Code (UDC) to address and implement the Class 4 prerequisite in development needed to move to a higher classification.	
A27	Sarasota County Unified Development Code (UDC)	Sarasota County is currently working on the Unified Development Code update which brings together the County's Land Development Regulations and Zoning Regulations, while making sure they align with the County's Comprehensive Plan.	X	X	X			X	X	X	X	X		Ongoing	NEWLY IDENTIFIED PROJECT. Continue to update and monitor for consistencies and make the regulatory code easier to read, understand and interpret. This update should simplify the ability to find significant regulatory information applicable to any given piece of property.	
A28	Building Code Effectiveness Grading Scale (BCEGS)	Sarasota County continues to participate in the BCEGS program. Senate Bill 7000 (SB7000) and House Bill 901 (HB901) were introduced in 2017 with the intent of limiting Nationally approved changes to the base building code used in Florida. The implications are noted by the Florida Floodplain Managers Association as follows: Potential retroversion of the BCEGS rating for the Building Department, and thus a retroversion of the CRS Classification rating resulting in a potential to increase flood insurance premium payments by more than \$60 million for Florida policy holders in 95 communities (currently offset by the National Flood Insurance Program's Community Rating System) Potential loss or reduction in post-disaster funding through the Federal Emergency Management Agency's (FEMA's) Public Assistance program.	X	X				X	X	X				Ongoing	NEWLY IDENTIFIED PROJECT. Monitor status of the SB7000 and HB901. Continue with public outreach and education programs for understanding of all applicable local, state and federal codes as they pertain to floodplain management principles.	

Item	Title	Description	Preventative	Property Protection	Natural Resource Protection	Emergency Services	Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B Only: Potential Projects Prioritization
A29	Southwest Florida Water Management District (SWFWMD) Partnership	Sarasota County continues to work with the SWFWMD to identify projects to collaborate on and grants to use for project implementation. Identify projects to collaborate on and grants to use for project implementation.						X	X					ongoing	NEWLY IDENTIFIED PROJECT. Continue collaborations with SWFWMD. Investigate opportunities for additional project funding for activities in the CRS manual, identify additional opportunities to coordinate projects.	
A30	Sarasota County School Board Partnership	Sarasota County continues to work with the Sarasota County School Board to identify projects to collaborate on and grants to use for project implementation.						X						Ongoing	NEWLY IDENTIFIED PROJECT. Continue our relationship with the Sarasota County School Board. Investigate opportunities for additional project funding for activities outlined in the CRS manual, identify additional opportunities to coordinate natural floodplain functions projects	
A31	Sarasota Bay Estuary Program (SBEP) Partnership	Sarasota County is a member and provides financial support to the Sarasota Bay Estuary Program to enhance the preservation and/or creation of the local floodplains and wetlands.			X		X	X						Ongoing	NEWLY IDENTIFIED PROJECT. Continue current support, investigate opportunity for restoration and protection of wetlands, Natural Beneficial Functions of the Floodplains and preservation of Open Space. Identify additional opportunities to coordinate natural floodplain functions outreach and water quality outreach projects.	
A32	University of South Florida (USF) Extension Program Partnership	Sarasota County continues to work with the USF Extension Program to identify projects to collaborate on and grants to use for project implementation.						X	X					Ongoing	NEWLY IDENTIFIED PROJECT. Continue our relationship with the USF Extension Program. Investigate opportunities for additional project funding for activities outlined in the CRS manual, identify additional opportunities to coordinate natural floodplain functions projects.	

Item	Title	Description	Preventative	Property Protection	Natural Resource Protection	Emergency Services	Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B Only: Potential Projects Prioritization
A33	Coastal and Heartland National Estuary Partnership (CHNEP)	Sarasota County is a member and provides financial support to the CHNEP to enhance preservation and water quality throughout the watersheds within this area. The CHNEP mission includes water quality improvement, hydrologic restoration, fish, wildlife and habitat protection, and public engagement.			X			X	X	X				Ongoing	NEWLY IDENTIFIED PROJECT. Continue to support the program to protect our watersheds. Continue to foster water quality projects throughout our watersheds.	
A34	Neighborhood Environmental Stewardship Team (NEST) Program Partnership	Sarasota County developed the NEST program, recognizing that one way to achieve comprehensive watershed management is to involve the community or homeowners. This creates awareness that what we do on the land impacts our water resources. The NEST program operates at the neighborhood-level to improve watershed-scale resources. Collaborate with the CRS program when able for outreach.						X						Ongoing	NEWLY IDENTIFIED PROJECT. Continue to support the NEST program and community involvement in environmentally friendly projects to protect and restore our shared water resources. Continue to focus on both education and hands-on activities that improve neighborhoods and enhance watersheds. Continue to support the program to protect our watersheds. Continue to foster water quality projects throughout our watersheds.	
A35	Enhancement of the evacuation program for residents, including special needs residents	The Special Needs Evacuation lists are updated annually at the county level.	X			X		X	X	X				Ongoing	NEWLY IDENTIFIED PROJECT. Monitor progress of improvements and maintenance of evacuation routes through participation in the monthly Metropolitan Planning Organization and Fla. Dept. of Transportation. Maintain lists on an annual basis.	
A36	Flood Information Story Map	StoryMap format for flood prevention information website. This StoryMap will include links to our flood zone locator map and FEMA links.	X	X				X	X	X	X	X		Ongoing	MOVED FROM PROPOSED TO CURRENT. Developed and will be hosted by Water Atlas. We expect it to go 'live' in March or April 2020.	
A37	Flood Zone Workshops	Flood workshops at various locations throughout the County to inform residents of risk, the FMP process, and gain input about flooding in the area.						X				X		Ongoing	NEWLY IDENTIFIED PROJECT. Additional dates were added for evening and weekends. Additional workshops for information on FEMA grants were also added.	

Item	Title	Description	Preventative	Property Protection	Natural Resource Protection	Emergency Services	Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B Only: Potential Projects Prioritization
A38	Outreach - Education of Repetitive Loss Area Property Owners	Annual outreach through Sarasota County Notification Letters. A notification letter is mailed annually to each property identified in a repetitive loss area. The mailing for 2020 will be completed by February 2020. Included in the letter is a list of mitigation measure options and a flyer listing free local flood workshops and FEMA Grant workshops.	X	X				X	X	X	X	X		Ongoing	NEWLY IDENTIFIED PROJECT. Continue to improve the Sarasota County formal outreach program to inform Repetitive Loss property owners of options for mitigation and funding. Continue to include updated information about the free local flood workshops and FEMA Grant workshops available.	
A39	Floody the Frog, Children's Flood Outreach Initiative	Creation of a flood mascot for children's flood outreach. An interactive website is being developed that will link to posters for download and to various activity pages from FEMA. A frog costume was purchased and Floody the Frog appears at various events throughout the year for additional outreach. Floody was first introduced through the NEST calendar coloring contest. The NEST calendar theme this year (2019) was water quality and flooding.	X		X			X	X	X			X	Ongoing	NEW PROJECT. Flood posters have been developed to give the messages of flood protection and safety in a non-threatening manner. Continue to work on flood messaging to children and continue to identify events that would give us the opportunity for flood outreach and Floody the Frog.	
A40	Cattfish Creek Basin Regional Facility and Conveyance Improvements	Modifications to retention pond and make improvements to infrastructure to get water to it	X	X	X		X	X	X	X			X	UPDATED FROM 2017 TO Ongoing	Project just started.	
A41	Honore Ave. Pipe Stormwater Rehabilitation	Rehabilitate 800 linear feet of 48" by 76" diameter RCP conveying runoff under Honore Avenue.					X		X	X				UPDATED FROM 2017 TO 2020	Expected completion date of 2020.	
A42	Ocean Blvd. / Higel Ave. Flood Protection Project	2019 FEMA Hazard Mitigation Grant Program (HMGP) project for flood protection. In 2018 Stormwater applied for funding to address flooding level of service issues on Siesta Key near Ocean Blvd. and Higel Ave. September 2019, the Florida Department of Environmental Management (FDEM) approved the application and forwarded it to FEMA for their review (not yet complete).	X	X			X	X	X	X	X	X		2022	NEW PROJECT. Continue working with FEMA and FDEM to respond to requests for additional information and receive the grant monies to implement and complete the project. Investigate additional areas where flood protection and level of service issues are needed. Investigate additional opportunities for grant funding as it becomes available.	
A43	Alligator Creek Stream Restoration	Restoration of approximately 40 acres of Alligator Creek corridor. It will include removal of nuisance/invasive vegetation, planting of native and/or Florida-friendly vegetation, reshaping of banks, and enhancement of historical wetlands.	X	X	X			X	X	X	X	X		2024	NEW PROJECT. Develop scope for design and solicit proposals.	

Item	Title	Description	Preventative	Property Protection	Natural Resource Protection	Emergency Services	Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B Only: Potential Projects Prioritization
A44	Dona Bay Phase 4 - King's Gate Weir Replacement	To replace and relocate (upstream) the weir on Cow Pen Canal near King's Gate Mobile Home Park in Venice, Fl.	X	X			X		X	X					NEW PROJECT. Restore funding. Structural analysis pending.	
A45	Midnight Pass Stormwater Improvements	Address flooding Level of Service and drainage issues in the 8100 block.	X	X		X	X	X	X	X					NEW PROJECT. In-house design ongoing. In-house construction anticipated.	
A46	Bahia Vista Levee Improvements	Attain 44 CFR 65-10 Certification.	X	X		X	X		X	X		X			NEW PROJECT. Will go out for solicitation 2020.	
A47	Site Visits	CRS Staff provides individual reviews of flooding issues, identifying current, proposed drainage and potential remedies for homeowners as requested.	X	X					X	X	X	X			NEWLY IDENTIFIED PROJECT. Continue to provide this service for the residents of Sarasota County.	
A48	Fire Station 9 (To be renamed Fire Station 8)	Construct a new building to withstand natural hazards and provide added service capacity in times of emergency.	X	X		X	X		X	X			X	2020	MOVED FROM PROPOSED TO CURRENT. Currently under construction. Once complete it will be renamed Fire Station #8.	
A49	Fire Station 8 (To be renamed Fire Station 9)	Construct a new building to withstand natural hazards and provide added service capacity in times of emergency. Bee Ridge Rd. Fuel Site replacement.	X	X		X	X		X	X			X	2021	MOVED FROM PROPOSED TO CURRENT. Currently in design. Anticipated construction in May 2020. Once completed it will be renamed Fire Station #9.	
A50	Fire Station 13	Construct a new building to withstand natural hazards and provide added service capacity in times of emergency. Siesta Key.	X	X		X	X		X	X			X	2021	MOVED FROM PROPOSED TO CURRENT. Currently in design. Anticipated construction in April 2020.	
A51	Englewood Interstate Connector (River Rd.)	Raise roadbed; add traffic lanes for evacuation route. This is appropriate for reducing potential for structural damage while also allowing for more efficient emergency evacuation procedures when a natural disaster such as flooding, hurricanes, tornados,	X	X			X	X	X	X			X	2021	NEW PROJECT. The 6-mile portion of River Road from I-75 to US 41 (a portion of the Englewood Interstate Connector), Sarasota County is currently completing ROW acquisition (by Spring 2020) and the FDOT is slated to begin Design-Build activity in Winter 2021. Construction start is scheduled for Spring/Summer 2021 with estimated roadway widening completion in early 2023. Funding sources have been identified in the County CIP and FDOT Work Programs.	

Table 8-2 Review of Potential Floodplain Management Activities

Item	Title	Description	Preventative	Property Protection	Natural Resource Protection	Emergency Services	Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B: Potential Projects Prioritization
SECTION B: POTENTIAL PROJECTS																
B1	Flood Insurance Improvement Plan	Evaluate flood insurance coverage in Sarasota County and educate the public about flood risk and insurance. Residents need to know what their options are for protecting their assets. This is especially important given how frequently floods occur and rising insurance rates.	X	X				X	X	X		X			Remains as a future project. The PPI Committee is reviewing ways to create a flood insurance improvement plan for the entire county. As determinations are made on the most effective way to conduct this activity, the federal privacy act of 1974 must be maintained in order to remain compliant in the NFIP program, making this activity more complex.	Medium. This is a medium priority because although not critical to County operations, this is an opportunity to target specific audiences for maximum changes of improving flood insurance coverage. GIS and policy statistics are readily available to move this project forward.
B2	Dona Bay WQMP	Identify water quality and natural systems improvements and flood protection CIPs.	X		X			X				X	X		Continue to look for funding sources such as grants for this project.	
B3	U.S. 41 Canal Rehabilitation	Rehabilitate existing stormwater infrastructure including an upland cut drainage canal west of U.S. 41.					X		X	X					Delayed to 2020. Continue to review funding opportunities.	
B4	Sapphire Shores Stormwater Improvements	Rehabilitate and or replace existing stormwater infrastructure including pipes and drainage structures.					X		X	X					Continue to look for funding sources such as grants for this project.	
B5	Canal 4-86 Rehabilitation	This project will rehabilitate the existing stormwater drainage canal between Webber Street and Cattlemen Road, canal 4-112, and canal 4-115 in the Colonial Cables neighborhood. Rehabilitation to reestablish the slopes and stabilize canal banks include regrading side slopes.					X		X	X					MOVED FROM CURRENT TO PROPOSED. Continue to search for additional funding through grants.	
B6	Beach Road Drainage Improvements	Rehabilitate existing drainage. This is appropriate for reducing flood damage.	X	X			X	X	X	X					Investigate funding source opportunities for this project, such as grants.	
B7	North Beach Road	Public access and shoreline protection. This is appropriate for protecting the County's natural resources while reducing the potential for damage due to flood and erosion for landward structures.	X	X	X			X	X	X		X			Investigate funding source opportunities for this project, such as grants.	High. This is a high priority because this project will improve conditions to alleviate flooding and protect the shoreline from damage due to natural hazards.
B8	Oak Street Drainage Improvements	Increase capacity of conveyance systems to alleviate roadway flooding and standing water.	X	X		X	X	X	X	X		X			Investigate funding source opportunities for this project, such as grants.	
B9	Montana Avenue	Expand existing pond and increase outfall capacity to alleviate roadway and structural flooding in the area.	X	X	X	X	X	X	X	X		X			Investigate funding source opportunities for this project, such as grants.	

Item	Title	Description	Preventative	Property Protection	Natural Resource Protection	Emergency Services	Structural Projects	Public Information	Goal #1	Goal #2	Goal #3	Goal #4	Goal #5	Year Completed or Anticipated Completion Date	2020 Evaluation Report Recommendations	Section B: Potential Projects Prioritization
SECTION B: POTENTIAL PROJECTS																
B10	DOC Center for BOB Building	Harden an area of the BOB Building or locate a building to house our DOC Center for this area.	X		X		X	X	X						NEW PROPOSED PROJECT. Investigate funding source opportunities for this project, such as a FEMA BRIC grant.	
B11	Fire Station 19	Remove and replace current fire station to better withstand multiple natural hazards, including flood, fire, hurricane and severe weather. This building will also ensure continuation of service during times of emergency.	X	X		X	X		X	X			X		Investigate funding source opportunities for this project, such as grants. Not scheduled for replacement in the immediate future.	High. This is a high priority because it is a critical facility that needs to be better protected from structural damage due to natural hazards. Natural hazards include flood, hurricane winds and fire.
B12	Rita Street and Vamo area drainage improvements	Design and implement a drainage system to alleviate flooding in this area.	X	X		X	X	X	X	X		X			Investigate funding source opportunities for this project, such as grants. Not scheduled for replacement in the immediate future.	

INTEGRATION WITH SARASOTA COUNTY POST-DISASTER REDEVELOPMENT PLAN

As part of the annual review of the FMP, activities will be developed in coordination with the County’s Post-Disaster Redevelopment Plan (PDRP). The FMP committee will review the policies and procedures of the PDRP, as well as mitigation activities.

INTEGRATION WITH SARASOTA COUNTY LOCAL MITIGATION STRATEGY

As part of the annual review of the FMP, activities will be developed in coordination with the County’s Local Mitigation Strategy. Action items identified under this plan will be coordinated with projects identified in the LMS. The FMP committee will meet with the LMS committee to evaluate the activities and share information. As a result, many of the action items identified in this plan will also be updated in the pertinent sections of the LMS plan. In addition, the LMS plan contains information and activities related to other hazards that the FMP committee has reviewed and provided recommendations for action items.

9 FLOODPLAIN MANAGEMENT ACTION PLAN

The FMP Committee reviewed the activities in Table 8-1, which included preventative, property protection, natural resource protection, emergency services, structural projects, and public information. Some of the activities have been completed, while others are ongoing. The committee updated the list and considered recommendations for new projects as well as updating existing projects. Examples of updates include re-evaluating watershed management plans to incorporate new developments that have occurred since the completion of the original study.

The FMP committee sets priorities for each of the recommended/potential projects, with rankings are noted in the last column of the project list. The FMP committee considered many factors that included the benefits to the community, the audience the project can reach, whether the project was a one-time effort or would require periodic monitoring and/or maintenance, the amount of effort and resources the project will require, and the availability of staff and funds to implement the project. Projects that offer high benefits and are relatively inexpensive to implement received a high priority rating while others may receive either a medium or low rating if they do not offer a large benefit or reach a smaller audience. Projects that may qualify for grants or cooperative funding from the Southwest Florida Water Management District, regional, state, or federal agencies also receive a higher ranking.

. Projects were scored based on the following:

- Number of CRS Activities Affected – the activities are described in Section 8.
- Size of the Audience – whether the affected audience was at the local level, watershed-wide or regional level, or countywide.
- Require Period Updates – whether the project requires an annual update, an update every several years, or only implemented once.
- Funding Available – whether the County has allocated funding for the project.
- Cooperative Funding Potential – the project may have joint funding opportunities with the Southwest Florida Water Management District, or other municipalities/agencies.
- Implement for current cycle – whether the project will be or is currently being implemented.
- Comment – describes why the project is currently not implemented. It may be due to availability of funding, high cost, ineffectiveness, etc. These comments will also serve to provide information to future evaluators who may decide to implement the projects in the future.

Structural projects include removing and replacing fire stations to reduce damage from flood risk as well as other hazards such as fire, hurricane, wind, and severe weather.

The FMP committee periodically evaluates and updates this project list.

COORDINATION WITH OTHER COUNTY INITIATIVES

As part of this FMP's action plan, it is necessary to coordinate the efforts of the FMP committee with those of other County strategies and plans to ensure consistency. The committee will evaluate potential conflicts with other County initiatives as well as identify complementary activities. This includes evaluating the County's Post-Disaster Redevelopment Plan as it contains many of the related activities that will need to be considered and/or updated, including policies and procedures that may be affected by decisions and projects identified by this FMP and the FMP committee. The Post-Disaster Redevelopment Plan addresses the flood hazards described in this FMP as well as other hazards, such as wildfires and tornadoes.

The FMP committee will also regularly coordinate with the Sarasota County LMS committee to evaluate potential updates to the LMS or this FMP based on decisions and projects identified between these initiatives. Many of the committee members serve on both the FMP and LMS committees. In addition to this FMP being incorporated as an appendix to the LMS, the FMP committee will also evaluate and make recommendations for action items for mitigation of other types of hazards that are described in the LMS and as funding becomes available.

10 PLAN ADOPTION, IMPLEMENTATION, EVALUATION AND REVISION

This FMP serves as an annex to Sarasota County's LMS, which is a state-approved multi-jurisdictional, multi-hazard plan, and was adopted by Sarasota County in January 2019. A copy of the resolution that updated the FMP s provided in Attachment 14.

This FMP update was made available for review and comments from the public by placing the document online. The request for review and comments was advertised by press release and through social media. Sarasota County chose this method to follow CDC guidelines for the Pandemic. The plan was also sent to other stakeholders for review and comment and made available on the County's website.

The FMP committee meets quarterly each year to evaluate progress of the projects as described in Sections 7 and 8 and make necessary updates to the plan. Potential updates may include updates to GIS information and statistics, addition of new County staff and public stakeholders to the committee, and development of new projects and/or revisions to existing projects.

To implement and update the FMP:

1. The County's CRS Specialist and/or Coordinator will review the FMP to identify which sections and data require updating.
2. The CRS Specialist and/or Coordinator will be responsible for coordinating with the contact person for each project to determine its status.
3. After the status information is gathered, the CRS Specialist and/or Coordinator prepares a summary of required changes to the FMP and project updates for review by the FMP Committee.
4. The FMP Committee will conduct a meeting (noticed and open to the public) to review the progress and recommend additional changes to the FMP.
5. The CRS Specialist and/or Coordinator assigns the revision items to members of the committee or other designated County support staff.
6. The FMP Committee will conduct a meeting (noticed and open to the public) to review the draft document.
7. The DRAFT document will be sent to Insurance Services Office (ISO) for a courtesy review.
8. The updated plan will be posted on the County website for public input.

9. The Final document will be sent to the Board for adoption and the document will be placed on the website for the public to download.

An annual evaluation report will be submitted with the County's annual CRS recertification to indicate progress of the plan implementation. The plan itself will be updated at least every five years.

To align with the LMS update, Sarasota County is updating the FMP early, in 2021. The next update will be due in 2026.

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Sarasota County
Repetitive Loss Area Analysis



Cover Photo: Siesta Key, Sarasota County

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September 2018

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TERMINOLOGY

BCA– FEMA’s Mitigation Benefit Cost Analysis Tool Kit — Benefit Cost Analysis (BCA). A computer program that determines the estimated future benefits of a hazard mitigation project and compares them to its costs.

BFE– Base Flood Elevation — The elevations shown on the Flood Insurance Rate Map (FIRM) indicate the water surface elevation resulting from a flood that has a 1 percent chance of equaling or exceeding that level in any given year. All elevations shown are in the current NAVD88 datum.

CIP – Capital Improvement Program or Plan — A short-range plan, usually four to ten years, which identifies various capital improvement projects with a cost over \$50,000.00, including stormwater and equipment purchases, provides a planning schedule and identifies options for financing the project.

CRS– Community Rating System — A program developed by FEMA to provide flood insurance reduction incentives for those communities in the NFIP that have gone beyond the minimum floodplain management requirements.

FEMA- Federal Emergency Management Agency — The agency responsible for administering the elements of the NFIP and the CRS programs. FEMA coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made.

FIRM- Flood Insurance Rate Map — Official map of a community on which FEMA has delineated both the special hazard areas and the risk premium zones applicable to the community.

GIS- Geographic Information Systems — A framework for gathering, managing and analyzing spatial or geographic data.

HOA- Homeowner’s Association — A private organization that makes and enforces rules for the properties within a subdivision.

ICC- Increased Cost of Compliance — Increased Cost of Compliance (ICC) coverage is one of several resources for flood insurance policyholders who need additional help rebuilding after a flood. It provides up to \$30,000 to help cover the cost of mitigation measures that will reduce flood risk. ICC coverage is a part of most standard flood insurance policies available under FEMA's National Flood Insurance Program (NFIP).

NFIP- National Flood Insurance Program — Provides the availability of flood insurance in exchange for the adoption of a minimum local floodplain management ordinance that regulates new and substantially improved development in identified flood hazard areas.

OLP- Other Loss Properties — An NFIP-insured property that has had one paid flood insurance loss within a ten (10) year period.

RLA- Repetitive Loss Area — An area that has multiple Repetitive Loss Properties as defined by the NFIP and Other Loss Properties within its boundaries.

RLP- Repetitive Loss Property — An NFIP-insured property that has had at least two paid flood losses of more than \$1,000 each in any 10-year period since 1978.

SRL– Severe Repetitive Loss Property — A SRL property is defined as a residential property that is covered under a NFIP flood insurance policy and that a). has at least 4 NFIP claim payments (including building and contents) over \$5,000.00 each and the cumulative amount of such claims payments exceeds \$20,000.00; b). for which at least 2 separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least 2 of the above referenced claims must have occurred within any 10-year period and must be greater than 10 days apart.

EXECUTIVE SUMMARY

The purpose of this report is to assist homeowners in understanding the existing and potential flooding problems on their properties and to identify potential solutions and mitigation opportunities.

Communities with one or more repetitive loss properties on FEMA's list must have at least one repetitive loss area delineated in accordance with the CRS manual. Currently there are one hundred ninety-three (193) properties in Sarasota County that meet the National Flood Insurance Program's (NFIP's) definition of Repetitive Loss Properties (RLPs) and as such, a Repetitive Loss Area Analysis (RLAA) is required for Sarasota County as a part of its participation in the Community Rating System (CRS) program. The RLAA is one component of Sarasota County's overall Local Mitigation Strategy (LMS) Plan.

Seventy-nine areas with a combined 2,646 structures were identified to contain 193 RLPs. This report contains all 79 identified Repetitive Loss Areas (RLAs) within Sarasota County.

The identified RLAs were developed through a process of combining FEMA data for both RLPs and properties with a single insurance claim. This process gives us a better understanding of the extent of local flooding throughout the county.

Included in this process was a comparison of ground elevations of the properties with flood insurance claims vs the ground elevations of surrounding properties. Structures with similar types of construction, drainage patterns, and flood exposures were identified and included within these areas.

To create this RLAA report, the County followed a process prescribed by the CRS program. An area analysis must be prepared and adopted for each Repetitive Loss Area (RLA) in the community for full CRS credit, and must meet the following criteria:

- The RLAs must be mapped.
- A five-step process must be followed.
 1. Step 1: Notification
 2. Step 2: Collaboration
 3. Step 3: Data collection
 4. Step 4: Mitigation options
 5. Step 5: Findings and recommendations
- Although all five steps must be completed, steps 2– 4 do not have to be done in the order listed. For example, staff may want to contact agencies and organizations to see if they have useful data (Step 2) after the site visit is conducted (Step 3).
- The RLAA report(s) must be submitted to the community's governing body and made available to the media and the public. If private or sensitive information is included in the report, then a summary report may be prepared for the media and the public. The complete RLAA report(s) must be adopted by the community's governing body or by an office that has been delegated approval authority by the community's governing body.
- An annual evaluation report must be performed.
- The analysis must be updated in time for each CRS cycle verification visit.

During the analysis, property owners in defined RLAs were notified by letter of the project and given a survey asking for their input. In addition, data was collected and reviewed from various sources to identify the flood hazards and the funding sources available to mitigate them.

The following pages of this report describe the specific steps that were followed including identifying recommended flood hazard mitigation measures and funding assistance for these measures, and annually updating this Report.

1. Background

1.1 PROBLEM STATEMENT

Among natural hazards, floods are the costliest and most pervasive hazard in the United States. Property losses from flooding events in the United States have been steadily increasing since the mid-1900s and have now reached billions of dollars per year.

Sarasota County is a Gulf Coast community located on the west coast of Florida that encompasses approximately 590 square miles of land, with 37 miles of open shoreline along the Gulf of Mexico. There are more than 420 miles of rivers, streams, and canals within the county. In addition, there are 43 named lakes covering 2,091 acres, and over 70 square miles of estuaries and bays that support diverse habitats for plants and animals. Many of the canals were constructed to function as agricultural drainage canals and were not designed to convey flows from developed areas. After World War II, the county experienced significant growth and development along the shoreline, as well as other areas adjacent to water features.

Figure 1: Aerial of Sarasota County typical coastline & watershed



The sub-tropical weather pattern in this region provides frequent extreme weather events including flooding from tropical depressions and hurricanes. Extreme and severe summer rains can cause flooding in various locations throughout the County. These events may pose a significant threat to life and property.

Sarasota County can experience flooding from rainfall and storm surge due to hurricanes or tropical storms, as well as heavy rainfall that can occur throughout the year. Flooding can cause extreme impacts to a community from the loss of housing, displacement of residents, contamination of utilities, damage to infrastructure, and damage or destruction of natural resources.

In the low-lying areas along the coastlines and barrier islands, additional relief from stormwater improvements are unlikely as sea levels are expected to rise. Sarasota County experiences ‘sunny day’ flooding in these areas. High tides and King tides rise above the stormwater structures and sea water backs up through the stormwater system onto roads and yards, causing them to become temporarily inundated.

The frequency and severity of these events is expected to increase with time in coastal communities across the nation facing similar flooding issues. We will continue to identify new methods to mitigate these effects. As additional methods of mitigation are identified, they will be added to our list as available options for homeowners to consider and identified in our annual outreach letters to these RLAs. In 2014, the Sarasota Bay Estuary Program (SBEP) released a study on the economic valuation of Sarasota Bay resources and the ecosystem service that the Bay provides to the surrounding community. The study concluded the value of Sarasota Bay resources to households in Sarasota and Manatee counties is \$11.8 Billion.

According to the Florida Department of Environmental Protection (FDEP), there are 8 designated critically eroded beach areas that comprise 24.2 miles; 1 non-critically eroded beach area of .7 miles; and 2 critically eroded inlet shoreline areas that comprise 1.1 miles in Sarasota County (see *FDEP Critically Eroded Beaches in Florida, June 2019*).

These areas of erosion threaten private development and recreational interests. In areas such as Lido Key, beach restoration has been conducted along the island and maintenance dredging material has been obtained from the federal navigation channel at New Pass.

As events both natural and man-made occur, dunes can become compromised and increased flooding may occur. Areas of repetitive loss can occur where previously there was none. Beachfront dunes, beachfront bluffs and beachfront vegetation are essential factors in promoting shoreline stability and protecting upland properties from erosion and flooding.

Sarasota County has implemented regulations that protect our dune system to minimize the effects to structures and reduce the potential for flooding. All designated RLAs in this report will be reviewed annually with appropriate recommendations presented.

1.2 NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

The NFIP is an agreement between the Department of Homeland Security’s Federal Emergency Management Agency (FEMA) and local units of government. Participating communities adopt the minimum floodplain regulations of the NFIP and the NFIP makes federally backed flood insurance available to residents. Federal aid for damage to insurable buildings in the floodplain is available to participating communities.



The three basic components of the NFIP are floodplain mapping, flood insurance, and floodplain management regulations. Floodplain mapping is provided by FEMA on a series of maps called Flood Insurance Rate Maps (FIRMs), which designate areas of a community according to various levels of flood risk. Areas of moderate and high-risk are shown as Special Flood Hazard Areas (SFHAs). Regardless of its risk level, any building in an NFIP participating community can be covered by a flood insurance policy, even buildings outside of the SFHA. A flood insurance policy is only mandated for federally backed loans.

In 1971, Sarasota County joined the voluntary NFIP. When communities join the NFIP, property owners and renters become eligible to purchase Federal flood insurance to protect themselves from financial losses. When FEMA identifies a community as flood-prone but community officials choose not to participate in the NFIP within a year of being notified of that status, property owners in mapped flood hazard areas will be ineligible for most forms of disaster assistance. This does not affect communities where FEMA has not identified flood hazards.

Special Flood Hazard Areas are defined as areas that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent chance flood is also referred to as the base flood or 100-year flood. Sarasota County has a large area of SFHA designated by FEMA and identified on FEMA FIRM maps, as well as Community Flood Hazard Areas (CFHA) identified by local flood studies as also having a 1-percent chance of flood. The SFHA in Sarasota County is defined by FEMA as follows:

Flood Zones

- V: SFHA subject to coastal high hazard flooding without a determined base flood elevation
- VE: SFHA subject to coastal high hazard flooding with a determined base flood elevation
- A: SFHA where no base flood elevation is provided
- AE: SFHA where base flood elevations are provided
- AH: Shallow flooding SFHA. Base flood elevations are provided
- AO: SFHA with sheet flow, ponding, or shallow flooding. Base flood depths (feet above grade) are given
- Shaded X: Moderate flood hazard areas that have a 0.2-percent probability of flooding every year
- X: Moderate to low risk areas of SFHA
- ❖ Coastal A-Zones: A FEMA delineated area of Limit of Moderate Wave Action (LiMWA). Sarasota County received preliminary Coastal RISK maps from FEMA in late 2019 that identify Coastal A-Zones.

The NFIP is responsible for paying flood claims while trying to keep the price of flood insurance at an affordable level. One challenge is with Repetitive Flood Loss (RFPs) properties, which are estimated to cost \$3.5 million per year in flood insurance claim payments throughout the United States. RFPs represent only 1.3% of all flood insurance policies, yet historically they have accounted for 15 – 20% of losses (over \$9 Billion dollars to date). Mitigating these RFPs will reduce the overall costs to the NFIP, the communities in which they are located and the individual homeowners. The claims paid through the NFIP total approximately \$25.7 million since 1978 for unincorporated Sarasota County (FEMA, 2017).

This Repetitive Loss Area Analysis (RLAA) follows FEMA guidelines to determine why an area has repeated flood losses and to determine what alternative flood protection measures could help break the cycle of repetitive flooding.

1.3 COMMUNITY RATING SYSTEM (CRS)

The CRS is a voluntary program that rewards a community for going above and beyond the NFIP minimum requirements to reduce flood damages. Communities are rewarded for activities in the CRS manual such as reducing flood damage to existing buildings, managing development in areas not shown in the SFHA on the FIRMs, helping insurance agents obtain flood data, and helping people obtain flood insurance. The reward for these activities comes in the form of reduced premiums for flood insurance policy holders in the community.

When a community is accepted into the CRS program, the community's floodplain management activities are rated according to the scoring system described in the CRS Coordinator's Manual. CRS communities are rated on a scale of 1-10 with 1 being the highest/best class. A Class 10 community receives no reduction in flood insurance premiums, but every class above 10 receives an additional 5% premium reduction. Class 1 requires the most credit points and provides a 45% premium reduction.

Sarasota County is a Class 5 community; therefore, property owners receive up to 25% in flood insurance premium reductions through the NFIP.

Sarasota County remains readied for a flood event by maintaining oversight of the overall floodplain management program and by keeping the following items current:

- Floodplain maps
- Flood-Prone Ordinance

- Floodplain Management Plan
- Local Mitigation Strategy plan (so disaster funding remains available to the community in the event of a declared disaster)

1.4 SARASOTA COUNTY FLOOD-PRONE ORDINANCE

The Sarasota County Flood-prone Ordinance regulates what types of development activities are allowed in the floodplain and how proposed development may be permitted. The ordinance sets higher regulatory standards than the minimum requirements of the NFIP to reduce damage to structures and infrastructure and to minimize the risk of human casualties, and is reviewed and updated as needed.

Sarasota County developed a GIS-based flood zone locator application (SarcoFlood) that displays digitized FEMA FIRM maps. These maps show the SFHA determined by FEMA as well as CFHA identified by local flood studies. Local development is regulated to the higher elevation for the CHFA and the SFHA. Several MT-2 applications were submitted to FEMA to incorporate these local studied areas into the official FEMA FIRMs. Some of these applications were accepted by FEMA in 2017 and 2018 and updates are expected to the FIRMs in 2020/2021. A MT-2 application for the Dona Bay Watershed will be sent to FEMA in 2020.

Additional flood hazard information is located on these digitized maps such as elevation certificates, if available, and Letters of Map Change (LOMC). The Property Appraiser website displays the flood zone data with a link to these digital flood maps.

1.5 REPETITIVE LOSS AREA (RLA)

The NFIP considers a property a repetitive loss property (RLP) if two or more flood insurance claims of more than \$1,000 have been paid within any 10-year period since 1978.

A property may also be identified as a severe repetitive loss (SRL) property. An SRL property is defined as a residential property that is covered under a NFIP flood insurance policy and that:

- has at least 4 NFIP claim payments (including building and contents) over \$5,000 each and the cumulative amount of such claims payments exceeds \$20,000, or
- for which at least 2 separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.

10 STATES DOMINATE FLOOD PROGRAM

Of the nearly 5 million homes and businesses covered by the National Flood Insurance Program, about 80 percent are in 10 states.



For both (a) and (b) above, at least 2 of the referenced claims must have occurred within any 10-year period and must be greater than 10 days apart.

Every year FEMA sends a report to participating communities outlining the flood insurance claims on properties insured through the NFIP. According to FEMA's records for 2018, there are currently 193 RLPs within Sarasota County. The property information is protected by the Federal Privacy Act of 1974 and will be protected throughout this report.

Properties without Federal flood insurance may have reached the damage threshold for RLPs. These properties and private insurance claims are not tracked through the NFIP. Other property owners may not submit claims for flood damage sustained for various reasons.

A Repetitive Loss Area (RLA) consists of RLPs and surrounding properties with similar construction and drainage patterns that may experience the same or similar flooding conditions,

whether or not the buildings on those surrounding properties have been damaged by flooding. Figure 1 shows the 79 RLAs in Sarasota County.

It should be noted that RLPs are not limited to just the FEMA-designated floodplains. Any property that meets the NFIP flood claim thresholds listed above can be designated as an RLP or SRL, regardless of the mapped floodplain. For example, In Sarasota County only 64.3% of the RLPs are in the FEMA 100-year flood zones. Another 14.3% are in the 500-year flood zone (Shaded X), and 21.4% are outside the FEMA-designated floodplain.

1.6 REPETITIVE LOSS AREA ANALYSIS (RLAA)

A RLAA is a detailed mitigation plan for a defined RLA that provides more specific guidance on how to reduce damage from repetitive flooding than a community-wide floodplain management or hazard mitigation plan. Before beginning the RLAA process, the community must review its repetitive loss list to determine if any properties have been mitigated or incorrectly assigned to the community. Necessary updates are approved as per CRS Section 502 and remaining unmitigated RLPs are used to form the basis for the RLAA. The summary RLAA can be found in the Sarasota County Multi-Jurisdictional Local Mitigation Strategy (LMS) Plan.

For CRS purposes, there are three categories of repetitive loss communities based on the number of properties on the community's UPDATED repetitive loss list. Every CRS community with one or more unmitigated RLP on FEMA's current list must keep the list updated. Additional requirements depend on the community's repetitive loss category, which is determined by the number of RLPs without mitigation measures AFTER the community has updated the RLP information and submitted it for approval.

These categories are:

- Category A: no repetitive loss properties or all repetitive loss properties have been mitigated.
- Category B: at least one but fewer than 50 repetitive loss properties that have not been mitigated.
- Category C: 50 or more repetitive loss properties that have not been mitigated.

Sarasota County is a Category C community. Therefore, per the CRS requirements, at each verification visit the county must:

- a) Prepare a map of the repetitive loss areas,
- b) Review and describe the repetitive loss problem,
- c) Prepare a list of the addresses of all properties with insurable buildings in those areas, and
- d) Undertake an annual outreach project to those addresses.
- e) Prepare and adopt a repetitive loss area analysis for all repetitive loss areas or prepare and adopt a floodplain management plan that includes full credit for Step 5(c) of the CRS floodplain management planning process.

CRS credit is dependent upon the community following an appropriate process outlined in the CRS manual. Outlined in the Summary of this report and detailed in Section 2 are the five steps for creating a detailed analysis. The analysis must evaluate each building in the RLAs. For full CRS credit, a separate analysis must be made for each RLA and it must be made available to the residents of those areas.

As part of the County's floodplain management program, RLPs and RLAs will be mitigated over time through flood damage reduction measures. Therefore, the County's repetitive loss category may change to a Category B, with the ultimate goal being a Category A.

2. The RLAA Process

2.1 MAPPING THE REPETITIVE LOSS AREAS

To support mapping of the RLAs and the RLAA, a data discovery and initial document review step was required in which all relevant local, State, and Federal data and information was obtained through coordination with Sarasota County's CRS Specialist, Public Works Stormwater Utility, and GIS Department. The result was an extensive array of geospatial data, as well as ancillary data to include floodplain management plans, mitigation activities and status, permits, stormwater models, and other supporting documentation relevant to the RLAA project. This information was then utilized in the step-by-step guidance and process as provided in the NFIP/CRS Handout "Mapping Repetitive Loss Areas for CRS" (October 2015) and consistent with requirements of FEMA's FIA-15/2013 CRS Coordinator's Manual, Sections 501-503. These steps are listed below, along with a summarized description of the process improvements implemented based on the extensive geospatial data infrastructure, floodplain management, and CRS data and documentation available from Sarasota County:

2.1.1 Geocode Repetitive Loss Data: Locate each of the RLPs on a map. To perform this step, the confidential, Privacy Act protected list of RLPs, as well as the Historical Claims, AW-501s (mitigated and un-mitigated), were provided by FEMA/ISO (as of May 31, 2016) thru the CRS Specialist. These addresses were then geocoded using the county's address-points GIS layer with review and matching/editing also using street addresses, resulting in a point feature GIS layer representing the 253 RLPs on the list. In addition to address (location) and ownership information, this data also included the dates of loss (related to flooding source/storm event) and amount of losses (related to level of damage) and mitigation status (yes/no), which was reviewed while interactively delineating the RLAs to include nearby properties with similar construction and exposure to similar flooding conditions.

2.1.2 Add Historic Claims Data: Locate single insurance claims on the map. The confidential, Privacy Act protected "Historical Claims" data Excel spreadsheet provided by FEMA/ISO thru the CRS Specialist, was geocoded to develop an additional point feature GIS layer representing locations of 3,299 single insurance claims in the FEMA Historical Claims spreadsheet, referred to hereafter as Other Loss Properties (OLPs). This provided opportunity to perform a GIS overlay as a visual representation of the location of OLPs in relation to the RLPs, as well as comparison of date of loss and amount of loss during interactive delineation of the RLAs, to include nearby properties with exposure to similar flooding conditions. While this is considered an optional step in the RLA delineation process, this FEMA dataset provided another layer of information that was used in visualizing the patterns of historical insurance claims that are indicative of flood exposure in the vicinity of RLPs.

2.1.3 Add Data Sets: Overlay a topographic data set to identify areas that are lower in elevation than areas that have repetitive claims. To facilitate this step, a desktop screening was conducted using an ArcGIS map document for the project, which incorporated the following GIS layers:

- RLPs
- OLPs,
- Latest FEMA effective flood zones in NAVD88 datum (updated November 2016), with varying color-coded designations for each flood zone: V Zones (100-year coastal), A Zones (100-year non-coastal), and Shaded X Zones (500-year), along with Base Flood Elevation (BFE) data.
- Topographic contour data derived from 2007 LiDAR-based survey,
- County's Digital Elevation Model (DEM) web service to include Elevation Certificates and Community Flood Hazard Areas,
- 2016 and historical aerial imagery,
- Building footprints,
- Parcels,
- Property appraiser's database,
- Streets,
- Address points,
- Permits database,
- Historical complaints database

- Critical flooding areas database
- Stormwater infrastructure assets and inspections database, and
- Stormwater model data layers.

The parcel and property appraiser's database also provided building information, such as year built and square footage, and was combined with the building footprint GIS layer for simplified representation in the Desktop Screening ArcGIS map. In addition, during data discovery, several other GIS layers were identified as providing site-specific flooding related information such as the Inspections point feature. These were incorporated into the Desktop Screening, and interactively queried to review their occurrence in relationship to nearby RLPs and OLPs.

To incorporate the highly developed and recently updated watershed models into the interactive RLA delineation, the county's GIS layers for catchments (detailed street/neighborhood level drainage areas) and Interconnected Channel and Pond Routing (ICPR) modeling nodes were utilized to create a new GIS layer indicating the warning stage elevations for the 24-hour, 100-year storm event based on output from stormwater models. Another important GIS layer derived from the County's detailed watershed modeling geodatabase was the CFHAs. These data layers were also added to the Desktop Screening environment for interactive review, listed above during Step 4 as described below.

The metadata for each GIS layer including brief description, date, and source is included in section 2.9 herein.

2.1.4 Property Comparisons: Delineate areas with similarly situated properties (i.e., subject to flooding and lower lying than the surrounding properties). To complete this step, the Desktop Screening described in Step 3 was utilized in the ArcMap editing environment to interactively identify similarly situated properties to the RLPs. For the RLA delineation, individual structures were labeled with their LiDAR-derived elevation of the base of structure, then overlaid on an enhanced locally color-shaded rendering of the LiDAR-derived DEM to allow visualization of site-specific drainage patterns and similarly situated properties in context of the RLPs, OLPs, stormwater infrastructure, historical complaints points, and critical areas (flood prone) points. Interactively identified spatial and attribute queries were used to facilitate assessment of other attributes for the structures such as: year built, type of dwelling, flood zone, BFE, date of loss, and total amount of claims. The CFHAs and catchment with warning stages GIS layer derived from the county's detailed watershed models were interactively reviewed in relation to the location and elevations of the base of existing structures as indicated by the DEM-derived building footprints layer, which provided an additional source of useful information when delineating the RLAs for inland areas. Additionally, the county's 2007 LiDAR survey-derived DEM was incorporated as a subset for each individual RLA and color shaded to provide maximum visual discrimination of local range of topographic variations and drainage patterns relative to the RLPs, OLPs, and other similarly situated structures in the prospective RLA. The county's Flood Hazard Locator web mapping application (SarCo3 Flood) was referenced during the RLA delineation process, as well as Google Street View to provide further clarification of flood risk and site conditions during the review and RLA delineation. Heads-up digitizing with interactive review and edits to the RLA boundaries was utilized to ensure that the similarly situated structures were included as intended within each of the RLA polygons. The resulting seventy-nine (79) preliminary RLAs were organized according to their watersheds and assigned a unique ID descriptor. Please refer to **Figure 3** and **Table 4** which provide an overview map and summary list (respectively).

2.2 STEP 1: NOTIFICATION Advise all the properties in the repetitive loss areas that the analysis will be conducted and request their input on the hazard and recommended actions.

Once the RLA boundaries were established, letters were mailed to all property owners within each RLA, informing them of their location within an area of repetitive flooding and the analysis being conducted on the area. The letter requested that property owners provide information via an online survey related to observed conditions and suggestions for mitigation options. The letter also informed the property owner of data and survey collection efforts that would be taking place, provided contact information for county staff, and encouraged review of online material regarding property protection measures, flood insurance, and methods to reduce flood risk.

2.3 STEP 2: COLLABORATION Contact agencies or organizations that may have plans or studies that could affect the cause or impacts of the flooding.

For the analysis to be as complete and accurate as possible, Sarasota County identified other agencies and organizations who might have information on flood hazards in the area. The county provided a list of data being evaluated to the cities of North Port, Sarasota, and Venice, and the Town of Longboat Key. In addition, Weiler Engineering Co. requested any additional reports, data, or other documentation relevant to flood risk and damage in the area. The county also submitted the same information and requests to the Southwest Florida Water Management District, Sarasota Bay Estuary Program, and Coastal and Heartland National Estuary Partnership.

2.4 STEP 3: DATA COLLECTION Visit each building in the repetitive loss area and collect basic data.

As part of the process, field visits were conducted for each property, collecting data on the structures and site, evaluating current flood risk and conditions, and assessing potential options for mitigation of the property or area. To facilitate objective data-driven prioritization of the individual structures within each RLA, the individual structures between separate RLAs, and prioritization between the overall RLAs, a detailed modeling framework was developed. This model included multiple variable inputs to allow for scoring each structure from a lowest (1) to highest (1,000) priority.

2.5 STEP 4: MITIGATION OPTIONS Review alternative approaches and determine whether any property protection measures or drainage improvements are feasible. In evaluating options for mitigation on each structure, a variety of methods were considered:

MITIGATION OPTIONS – STRUCTURAL:

- Acquisition: demolishing or relocating the building;
- Elevation: elevating the building above the flood level;
- Elevating Utilities and/or Equipment: elevating damage-prone equipment and machinery;
- Floodproofing: dry and wet floodproofing;
- Back-flow Protection: sewer backup protection;
- Drainage: redirecting on-site drainage away from the building;
- Stormwater: repair or maintenance of existing stormwater systems, storm drains, streams, and ditches;
- Modifications: channel or stormwater system improvements or modifications;
- Detention: stormwater detention or retention facilities;
- Diversions: flow diversions; and
- Levees: berms, levees, or floodwalls.

MITIGATION OPTIONS – NON-STRUCTURAL:

- Relocate internal supplies, products/goods, and belongings above the flood depth;
- Improve local floodplain and zoning ordinances (i.e. cumulative improvements);
- Provide public education through posting information about local flood hazards on our website, posting signs at various locations in neighborhoods or discussing flood protection measures through workshops at local libraries and at local neighborhood association meetings;
- Promote the purchase of flood insurance;
- Continue coordination with the National Weather Service (NWS), and the United States Geological Survey (USGS) to further enhance our flood warning system, including the use of rain/stream gauges, to provide greater warning time for citizens.

Flood insurance remains one of the best methods for residents to protect themselves from flood impacts and may be the only source of assistance to help owners of flood-damaged property pay for cleanup and repairs. Coverage is available for the contents of the home as well as the structure. Renters can buy content coverage, even if the building owner does not buy coverage for the structure.

2.6 POSSIBLE FUNDING SOURCES

Sarasota County has identified the following potential funding sources to support mitigation strategies. By utilizing existing outside funding sources, it is the county's intention to increase the number of recommended projects that can be implemented.

Typically, FEMA grant programs provide 75% of the cost of a project. In most communities, the 25% non-FEMA share is paid by the benefitting property owner. Each program has different Congressional authorization and slightly different rules. The FEMA grant program is a 'pass-through' grant that goes through the County to homeowners.

- **FEMA Hazard Mitigation Grant Program (HMGP):** grants for states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. Projects must provide a long-term solution to a problem (e.g., elevation of a home to reduce the risk of flood damages as opposed to buying sandbags and pumps to fight the flood). Examples of eligible projects include acquisition and elevation, as well as local drainage projects.
- **FEMA Flood Mitigation Assistance (FMA) program:** grants for states and local governments to implement measures that reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP. Project grants may be used to implement measure to reduce flood losses, such as elevation, acquisition, or relocation of NFIP-insured structures. States are encouraged to prioritize FMA funds for applications that include repetitive loss properties; these include structures with 2 or more losses each with a claim of at least \$1,000 within any ten-year period since 1978.
- **FEMA Pre-Disaster Mitigation (PDM) program:** grants for states, territories, Indian tribal governments, local governments, and universities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. For more information visit: www.fema.gov/pre-disaster-mitigation-grant-program#
- **Increased Cost of Compliance (ICC) & Flood Insurance** can help the homeowner be ready for a flood event. Purchasing flood insurance typically requires a 30-day waiting period from the date of purchase before the policy goes into effect. Increased Cost of Compliance (ICC) is a special funding provision in the National Flood Insurance Program (NFIP) for insured buildings that have been substantially damaged by a flood). ICC coverage pays for the cost to comply with floodplain management regulations after a flood if the building has been declared substantially damaged. ICC will pay up to \$30,000 to help cover elevation, relocation, demolition, and (for non-residential buildings) floodproofing. It can also be used to help pay the 25% owner's share of a FEMA funded mitigation project.

To qualify for ICC, the building's flood insurance policy must have been in effect during the flood. This payment is in addition to the damage claim payment that would be made under the regular policy coverage if the total claim does not exceed \$250,000. ICC payments are limited to \$30,000 per structure. Claims must be accompanied by a substantial or repetitive damage determination made by the local Floodplain Administrator and the structure must be in flood zone with a determined base flood elevation (BFE). For more information, contact your insurance agent or visit: www.fema.gov/increased-cost-compliance-coverage

- **Small Business Administration (SBA) Mitigation Loans** can provide additional funds for the homeowner in the form of a low-interest loan. The SBA offers home & business disaster loans. To find out more, go to: www.sba.gov.

Table 1: Mitigation Grant Programs - types of projects funded (HMGP; FMA; PDM; ICC; SBA)

Types of Projects Funded	HMGP	FMA	PDM	ICC	SBA
Acquisition of the entire property by a government agency	X	X	X		
Relocation of the building to a flood free site	X	X	X	X	X
Demolition of the structure	X	X	X	X	X
Elevation of the structure above flood levels	X	X	X	X	X
Replacing the old building with a new elevated one	X			X	X
Local drainage and small flood control projects	X				
Dry floodproofing (non-residential buildings only)		X	X	X	X
Percent paid by Federal program	75%	75%	75%	100%	0
Application Notes	1,2	1	1	3	2,4

Application notes:

1. Requires a grant application from your local government
2. Only available after a Federal disaster declaration
3. Requires the building to have a flood insurance policy and to have been flooded to such an extent that the local government declares it to be substantially damaged. Pays 100% up to \$30,000
4. This is a low interest loan that must be paid back

Depending on the type of structure, severity of flooding and proximity to additional structures with similar flooding conditions, the most appropriate measure can be determined. In addition to these grant funded projects, several mitigations measures can be taken by the homeowner to protect their home.

2.7 METHODOLOGY

Based on the RLA structure data aggregation and GIS processing, along with the site visits for field data collection in accordance with the CRS Program guidelines, a detailed database was developed for each structure within the County RLAs. This allowed objective characterization of each of the structures within the RLAs based on building-specific site, structural, and various other attributes. In order to develop a model for prioritization and scoring, each of the data inputs were first normalized to represent the full range of the data for continuous variables, or the appropriate value (input score) to be applied to each binary or categorical variable. Consistency in assignment and representation of each variable from 0 (lowest) to 1,000 (highest) priority was also a critical step in the model development. In addition, each variable was assigned a weight parameter (%) within the scoring model. The model was then applied to each structure record (row) in the RLA structure database to generate an input score for each of the eleven (11) input variables for that individual structure. Next, the individual input scores were added to generate the total score for each of the RLA structures. A description of the eleven (11) model inputs, the weight parameter, type, range of values and categories, and score values for each variable used in the modeling framework is included in Table 2. The eleven (11) variables combine for a weighting of 100%, and the maximum possible score (highest priority ranking) is 1,000.

Table 2: Variable, weights, and scores for RLA Structure¹ prioritization model

Variable	Description	Weight	Type	Values/Range	Variable Score
1	Flood Zone	10.0%	Categorical	VE	100
				Coastal AE/A	85
				A	70
				AE	65
				CFHA	50
				X (Shaded)	25
				X (Unshaded)	0
2	Flood Depth ² (Footprint < BFE)	10.0%	Numerical	>= 3.0	100
				2.0	75
				1.0	50
				0.0	20
				<= -0.5	0
3	Drainage ³	7.5%	Binary	Yes	75
				No	0
4	Just Value	10.0%	Numerical	<= 150,000	100
				275,000	75
				500,000	40
				750,000	20
				1,000,000	10
				> =8,000,000	0
5	Year Built	5.0%	Numerical	< =1928	50
				1972 (FIRM)	30
				1984 (+MSSW)	15
				1992 (+ERP)	10
				>= 2002 (+FBC)	0
6	Year Regs	5.0%	Categorical	< =1971 (Pre-FIRM)	100
				1972 (FIRM)	50
				>=2002 (+FBC)	0
7	Structure Type	10.0%	Categorical	Wood Frame	100
				Masonry/Block/Steel	0
				Undetermined	75
8	Structure Condition	10.0%	Categorical	Poor	100
				Fair	50
				Good	0
9	Foundation Type	10.0%	Categorical	Slab on Grade	100
				Raised Slab on Grade	75
				Slab on Stem wall w/Fill	75
				Elevated Walls w/ Encl.	50
				Elevated Posts/Piles w/ Encl	50
				Elevated Posts/Piles w/o Encl	0
10	Stories	3.0%	Categorical	1	30
				2	10
				>2	0
				>=9.0	145
11	Bldg FFE < BFE ⁴ (Calc w/field data)	14.5%	Numerical	8.0	73
				7.0	65
				6.0	58
				5.0	52
				4.0	46
				3.0	38
				2.0	30
				1.0	22
				<= 0.0	0

The model weights and variable score assignments were initially established based on an evaluation of the collected data and initial logical assumptions as to relative importance of the model variables. These were then refined as part of team discussions and model validation. To comply with the Privacy Act of 1974, the modeled evaluation did not include information that identified specific RLPs or whether properties had flood insurance policies. This allowed the results of the analysis to prioritize mitigation of flooding risk without bias towards properties that had historically carried flood insurance. This data will be used as part of the review process to prioritize future Capital Improvement Projects (CIPs).

2.8 STEP 5: FINDINGS AND RECOMMENDATIONS Document the Findings

Each property was evaluated for seven (7) feasible flood mitigation options, and the top three (3) potential methods for each structure are included in Table 6 of the corresponding individual RLA reports.

Each of the following methods was evaluated for cost-effectiveness and opportunity based on the structure construction and potential funding available:

Property Acquisition and/or relocation. This is a complex process requiring purchase of private property by the local government for open space purposes. Acquisition is a relatively expensive mitigation measure but provides the greatest benefit in that lives and property are protected from flood damage. The major cost for the acquisition method is for purchasing the structure and land. The total estimated cost for acquisition should be based on the following:

- Purchase of structure and land
- Demolition
- Debris removal, including any landfill processing fees
- Grading and stabilizing the property site
- Permits and plan review

There are criteria that must be met for FEMA to fund an acquisition project. Currently Sarasota County does not have an acquisition program.

Relocation involves lifting and placing a structure on a wheeled vehicle and transporting that structure to a site outside of the 100-year floodplain. The structure must be placed on a new permanent foundation. Like acquisition, this is one of the most effective mitigation measures. The cost for relocation will vary based on the type and condition of the structure. It is considerably less expensive to relocate a home that is built above a crawl space as opposed to a structure that is slab on grade. Additionally, wood sided structures are less expensive to relocate than structures with brick veneer or concrete block. There are additional costs to consider when estimating the cost for relocation, such as:

- Site selection, and analysis and design of the new location
- Analysis of existing size of structure
- Analysis and preparation of the moving route
- Moving the structure to the new location
- Preparation of the new site
- Construction of the new foundation
- Connection of the structure to the new foundation
- Restoration of the old site

Elevating a structure to prevent floodwaters from reaching living areas is an effective method and one of the most common mitigation methods. The goal of the elevation process is to raise the lowest floor of a structure to or above the required level of protection. This method often reduces flood insurance premiums. When elevating to or above the BFE requirements, it allows a substantially damaged or substantially improved house to be brought into compliance. Although this method is effective, it may be cost-prohibitive based on the type of structure.

Wet Floodproofing consists of modifying the uninhabited portions (such as the crawl space) to allow floodwaters to enter and exit. This ensures equal hydrostatic pressure on the interior and exterior of the structure which reduces the likelihood of wall failures and structural damage. Often less costly than other mitigation methods, there may be extensive cleanup if the structure becomes wet inside or possibly contaminated by sewage, chemicals or other materials borne by floodwaters. This method also does not minimize the potential damage from high-velocity flood flow and wave action.

Dry floodproofing a structure makes it watertight below the level that needs flood protection to prevent floodwaters from entering. Making the structure watertight involves sealing the walls with waterproof coatings, impermeable membranes, or a supplemental layer of masonry or concrete; installing shields over windows and doors; and installing measures to prevent sewer back-up. Although often less costly than other retrofitting methods it does require human intervention and adequate warning to install the protective measures.

Sewer back-up prevention requires installing a backflow preventer to ensure sewer systems don't back-up during flooding events. In some flood-prone areas, flooding can cause sewage from sanitary sewer lines to back up through drainpipes into buildings. These backups not only cause damage that is difficult to repair but also create health hazards.

Barriers are usually an earthen levee/berm or a concrete retaining wall. While levees and retaining walls can be large, spanning miles along a river, they can also be constructed on a much smaller scale to protect a single home or group of homes. The cost of a barrier will depend on the type of barrier and the size required to provide adequate protection. An earthen berm will generally be less expensive compared to an equivalent concrete barrier primarily due to the cost of materials. Another consideration is space; an earthen barrier requires a lot of additional width per height of structure compared to a concrete barrier to ensure proper stability. Maintenance and human intervention may be required.

Elevation of utilities is a cost-effective solution for flood protection. It is achieved through elevating flood prone utility components, machinery, and equipment. It does not prevent flood waters from entering lower floor elevations.

Drainage Improvements include overflow channels, channel straightening, restrictive crossing replacements, and runoff storage. Modifying the channel attempts to provide a greater carrying capacity for moving floodwaters away from areas where damage occurs. Whenever drainage improvements are considered as a flood mitigation measure, the effects upstream and downstream from the proposed improvements need to be considered, as they may help one area but create new problems upstream or downstream. These methods may require property owner cooperation and right-of-way acquisition. Sarasota County maintains a Capital Improvement Program (CIP) that includes stormwater system improvement projects that may add flood protection to areas identified as RLAs. It is recommended that the CIP projects be reviewed annually against the RLAs to identify any possible funding sources and flood protection benefits for these areas. Stormwater system improvements can be a cost-effective and efficient mitigation measure for reducing flood hazards for buildings clustered together or affected by the same stormwater system. However, due to the low-lying nature of many areas within the county including stormwater systems and outfalls themselves, stormwater system improvements may not be effective or may need to be paired with other measures, such as property-owner improvements to individual properties. This could include filling and regrading to direct runoff to existing or improved stormwater systems.

Property owners can call Sarasota County at (941) 861-5000 for a property consultation or site visit to evaluate drainage and retrofitting options. Visit www.scgov.net (keywords flood protection).

Major stormwater flood control projects have been completed in Sarasota County through our CIP program along with other smaller stormwater projects designed to alleviate flooding throughout the county.

One completed major County project, The Celery Fields, located south of the Fruitville Initiative properties in the Phillippi Creek Watershed, is a multi-purpose regional stormwater flood control facility and a multi-faceted stormwater project that incorporates flood protection, water quality improvements, wetland habitat restoration and integration of public recreation and educational opportunities. The primary objective is to alleviate flooding in the downstream urban area of the Phillippi Creek drainage basin.

The project includes four wet detention cells comprising 360 acres of floodplain storage and conveyance. Mainly consisting of open marshlands, deep ponds, shallow pools, and canals, more than 200,000 aquatic plants and trees were planted, and two boardwalks installed. The Celery Fields provide for numerous low-impact activities: walking, biking, fishing, kayaking, and wildlife viewing. This successful project is now part of the Florida Great Birding Trail with an observation

mound, trails and ponds adjacent to the newly constructed Sarasota Audubon Nature Center. To date, 246 species of birds have been recorded at the site.

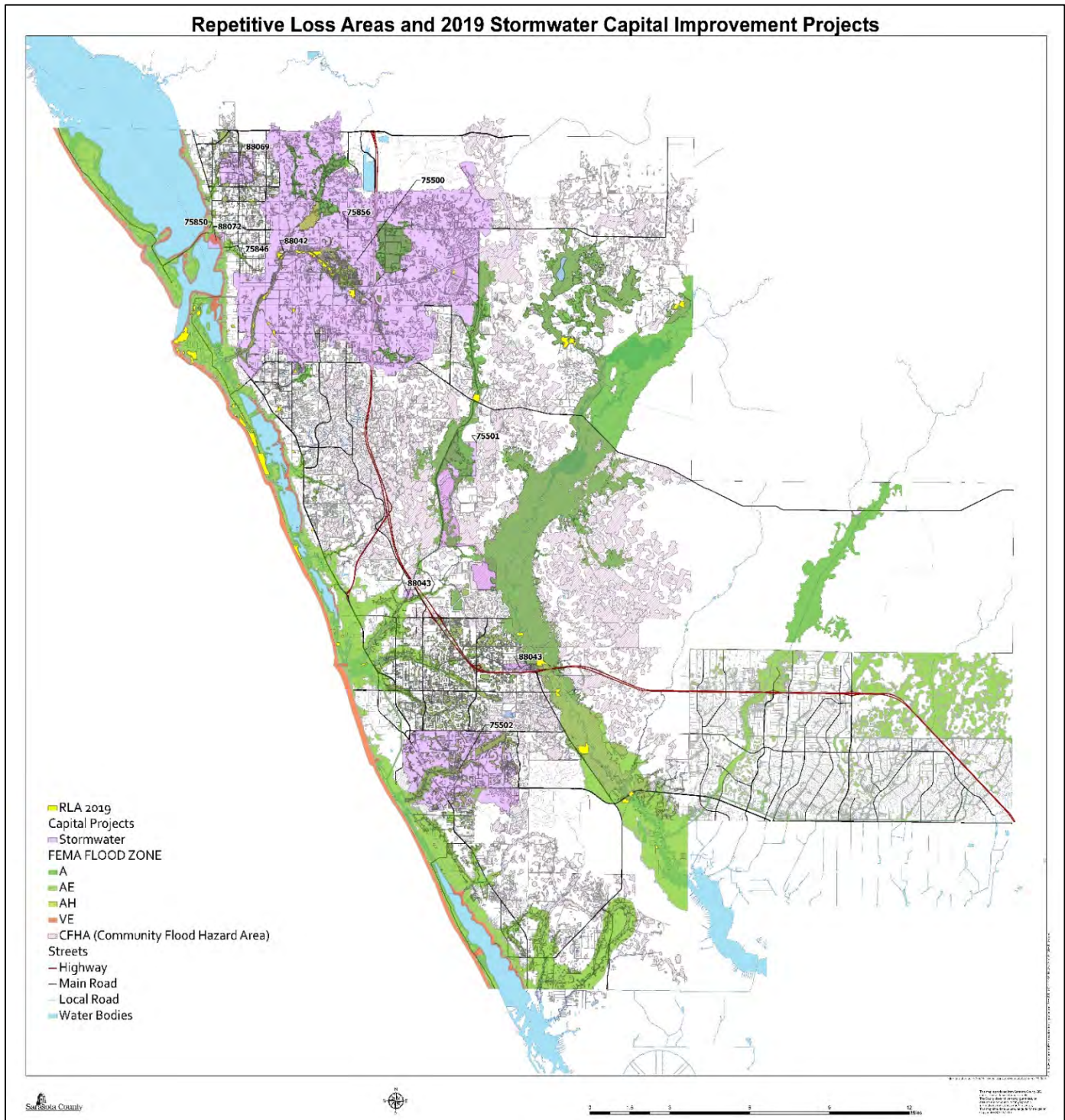
Another major project, The Bahia Vista Flood Reclamation Project, is a regional stormwater project consisting of an earthen berm and pump station located within the Phillippi Creek drainage basin along the west side of Phillippi Creek between Bahia Vista Street and Locklear Avenue. The primary objective is to reduce the risk of flooding to approximately 100 homes in the Oak Shores and Bellevue Terrace subdivisions, and other benefits include a passive park to promote resource conservation and outdoor recreation.

Current list of CIP projects:

- ID 75500 North County/Phillippi Creek Stormwater Water Quality Program
- ID 75501 Dona Bay Watershed Hydrology Enhancements & Conveyance System (Phase 1 & 2)
- ID 75502 South County Alligator Creek Stormwater Water Quality Program
- ID 75832 Asset & Infrastructure Management System Program (county-wide, unincorporated)
- ID 75846 Sediment Abatement & Stabilization Program (county-wide, unincorporated)
- ID 75850 US41 Canal Rehab
- ID 75856 Honore Ave Pipe Stormwater Rehab
- ID 88042 Bahia Vista Levee Improvements
- ID 88043 Kings Gate Weir Replacement (Dona Bay Phase 4)
- ID 88069 Whitaker Basin SW Improvements
- ID 88072 Bayfront Coastal SW Improvements

A map of these current CIP projects and corresponding RLAs and flood zones, “Repetitive Loss Areas and 2019 Stormwater Capital Improvement Projects”, is shown on **Figure 2**.

Figure 2: RLA and 2019 Stormwater CIP projects



In Table 6 of each individual RLA section, the top three recommended mitigation options are listed, as referenced in Table 3 below.

The actual implemented mitigation measure for each building will depend on the project limitations of the funding sources as referenced below and will need to be determined at the time of project execution. In addition, property owner input will greatly impact which of these three options is viable. Once the mitigation options were identified, a recommendation per the CRS manual was completed to identify the following:

- **Who is responsible for implementing the mitigation action?**

For the three primary mitigation options proposed the responsible party will either be Sarasota County or the property owner.

- **When will the action be completed?**

Typically the mitigation action will be completed when or if funding becomes available to either the property owner or the county; when the property owner makes a personal decision to pursue the mitigation proposed; when a natural event occurs where damage or losses exceed 50% of the value of the structure; when the cost of flood insurance is no longer affordable; or if the mitigation alternative becomes part of the county's annual maintenance plan.

- **How the mitigation will be funded?**

The mitigation will be funded as annual allocations for FEMA grants, PDM grants, FMA grants, SBA loans, or when CIP funding becomes available for either the property owner or Sarasota County.

Table 3: Mitigation method and responsibility breakdown

	Mitigation Method	Responsibility	Timeline	Funding - Comments
1.	Elevation of structure	Property Owner	As soon as possible	Dependent on private or grant funding.
2.	Acquisition and/or relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Requires owner to sell. Sarasota County does not have a funding program for acquisition.
3.	Demolition and rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Will solve the problem of structure flooding.
4.	Elevate utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
5.	Backflow preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & stormwater improvements	Sarasota County	As soon as possible	Dependent on private or grant funding. Stormwater system improvements may not be effective in critically low areas such as along the coastline.

Additional information on floods and floodplain management in Sarasota County can be found in the Sarasota County Floodplain Management Plan document. Go to www.scgov.net (keyword floodplain management plan).

INDIVIDUAL REPORT CRITERIA:

A separate report following the process outlined in this report was generated for each repetitive loss area and is detailed for each respective area in the appendices to this plan.

Each report includes:

- Repetitive loss area overview map with area description and types of flooding concerns
- Problem statement
- Table with repetitive loss properties and claims
- Summary of public outreach, property owner comments, survey results
- Analysis of repetitive loss properties and historical storms
- Field data summary from site visits
- Summary of the stormwater management system
- Determined causes of flooding
- Mitigation alternatives and action items
- Table showing basic information for each building
- Recommendations & funding opportunities
- Annual review & update of repetitive loss areas form

Figure 3: RLAA Overview Map



Table 4: RLAA Overview

ID_NO	RLAID	Acre	Building Count
1	CFC01	5.49	20
2	CPS02	42.48	13
3	CPS03	3.97	16
4	DRB01	4.92	13
5	DRB02	11.53	10
6	DRB03	4.52	13
7	DRB04	10.69	23
8	ELB01	20.71	46
9	FRC01	11.47	13
10	LBC01	6.89	13
11	LBC02	2.29	9
12	LBC03	2.13	6
13	LBC04	6.46	23
14	LBC05	5.93	21
15	LSB01	7.55	13
16	LSB02	2.80	9
17	LSB03	11.14	47
18	LSB04	5.26	10
19	LSB05	32.31	29
20	LSB06	27.95	52
21	LSB07	72.02	83
22	LSB08	116.15	142
23	LSB10	40.15	66
24	MYR01	83.86	435
25	MYR02	22.14	48
26	MYR03	18.66	31
27	MYR04	19.54	46
28	MYR05	74.55	56
29	MYR06	25.24	27
30	MYR07	84.53	23
31	MYR08	47.77	13
32	MYR09	10.32	15
33	PHC01	9.08	25
34	PHC02	17.21	48
35	PHC03	18.52	69
36	PHC04	18.48	8
37	PHC05	27.15	34
38	PHC06	26.27	80
39	PHC07	3.91	4
40	PHC08	9.90	20

ID_NO	RLAID	Acre	Building Count
41	PHC09	11.19	26
42	PHC10	1.81	6
43	PHC11	9.35	25
44	PHC12	1.02	4
45	PHC14	15.46	26
46	PHC15	4.90	5
47	PHC16	9.16	17
48	PHC17	1.68	3
49	PHC18	6.27	14
50	PHC19	12.77	12
51	PHC20	0.92	3
52	PHC21	36.88	123
53	PHC22	5.80	17
54	PHC23	7.53	13
55	PHC24	3.19	7
56	PHC25	2.61	9
57	PHC26	4.49	7
58	PHC27	7.56	12
59	SBC01	17.35	36
60	SBC02	3.55	10
61	SBC03	8.13	24
62	SBC05	1.64	4
63	SBC06	5.36	9
64	SBC07	7.30	9
65	SBC09	3.27	7
66	SBC10	118.50	183
67	SBC11	7.13	24
68	SBC12	5.12	26
69	SBC13	4.89	16
70	SBC14	53.71	142
71	SBC15	15.06	44
72	SBC17	3.95	11
73	SBC18	3.09	7
74	SBC19	4.81	14
75	SBC20	7.14	25
76	SBC21	7.20	15
77	SBC22	3.75	9
78	WDC01	3.07	21
79	WTB01	6.21	9
TOTALS:		1404.76	2646

2.9 REFERENCES:

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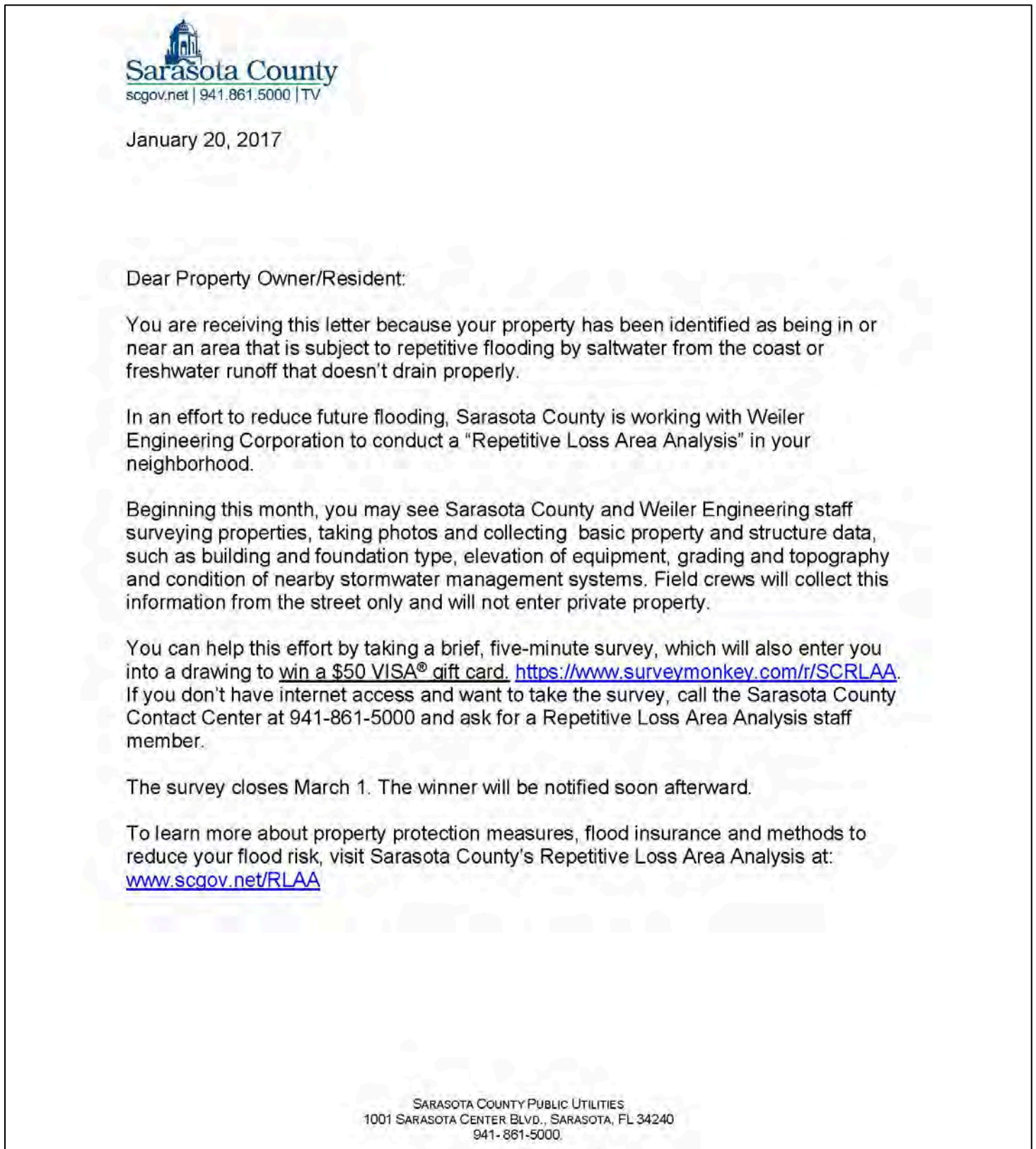
Table 5 details the references used in the RLA mapping process.

Table 5: References used in the RLA mapping process

GIS Data	Date	Source	Description
RLPs	5/31/2016	FEMA ISO	List of RLP locations and attribute data geocoded to create GIS layer [Privacy Act Protected]
OLPs	5/31/2016	FEMA ISO	List of Historical Claims and attribute data geocoded to create GIS layer [Privacy Act Protected]
AW-501s Mitigated and Unmitigated	5/31/2016	FEMA ISO	NFIP Repetitive Loss Update Worksheets (AW-501) [Privacy Act Protected]
FEMA Effective Flood Zones	11/16/2016	FEMA MSC	msc.fema.gov/portal/advanceSearch
Topographic Contours (Small Scale Ref Only)	3/27/2008	SCGOV	2' contours derived from 2007 LiDAR data (original source Woolpert)
LiDAR-derived DEM Service (5'x5' grid)	2007	SCGOV/FDEM	utility.arcgis.com/usrvcs/servers/e0b5489a648a4de7868407b8b98c6d05/services/ImageServices/SarcoDem/ImageServer
Elevation Certificates (Partial Coverage)	10/3/2016	SCGOV	Elevation Certificates point feature class with links to scan of ECs from County, subset by WEC to represent buildings in RLAs
Sarasota County High-Risk Flood Zones	11/2016	SCGOV	https://ags3.scgov.net/SarcoFlood/
Community Flood Hazard Areas	11/2016	SCGOV	https://ags3.scgov.net/SarcoFlood/
Aerials (2016)	2016	SCGOV	ags3.scgov.net/arcgis/rest/services/ImageServices/SC2016/ImageServer
Building Footprints	7/2016	SCGOV	www.scgov.net/GIS/Pages/DataDownload.aspx
Parcels	7/2016	SCGOV	www.scgov.net/GIS/Pages/DataDownload.aspx
Property Appraisers Database	7/2016	SCGOV/SCPA	www.scgov.net/GIS/Pages/DataDownload.aspx
Streets	7/2016	SCGOV	www.scgov.net/GIS/Pages/DataDownload.aspx
Address Points	7/2016	SCGOV	www.scgov.net/GIS/Pages/DataDownload.aspx
Permits Database	10/21/2016	SCGOV	CRS related permit data from the County's Amanda system & Building Department as GIS layer
Historical Complaints	11/21/2016	SCGOV	Point feature GIS layer for historical complaints related to flooding issues
Critical Flooding Areas	11/21/2016	SCGOV	Pre-storm critical locations for stormwater issues; areas of known stormwater maintenance concern after storm event
Stormwater Infrastructure Assets	10/21/2016	SCGOV	Stormwater Infrastructure geodatabase for existing structures, pipe, culverts, swales, ditches, conveyances, etc.
Detailed Stormwater Models by Watershed	2009-2016	SCGOV	ftp.scgov.net/PUB/StormWater/Baysheds

3. Supplemental Information

Figure 4: Outreach Letter to Notify Properties within RLAs



Protect your property from flooding.

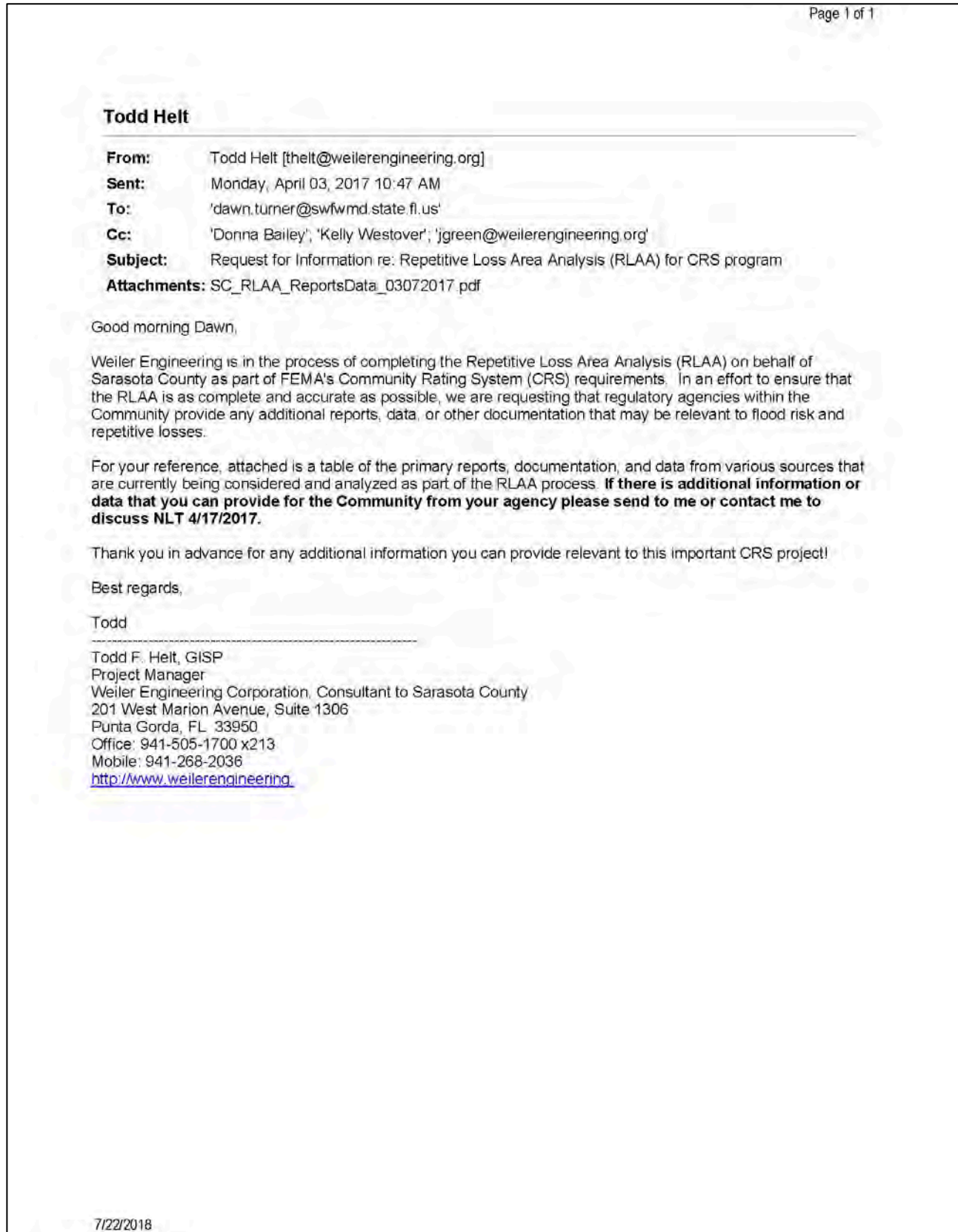
1. **Know your flood hazard.** Sarasota County is prone to flooding from fresh water and saltwater. To find your FEMA flood zone and hazards in your area, visit www.scgov.net/FloodMaps/ or call 941-861-5000. Sarasota County staff can help you evaluate your flood risk and flood protection alternatives.
2. **Find out your flood costs.** Visit www.floodsmart.gov/floodsmart/. All it takes is a few inches of water to cause major damage to your home and its contents.
3. **Get flood insurance.** Hurricanes, tropical storms and heavy rainfall can occur at any time in Sarasota County, potentially subjecting your property to flooding. Flood insurance is recommended and may be mandatory to protect your property from flood events. Contact your insurance agent for more information on rates and coverage options, or visit www.floodsmart.gov/ to find an agent.

Did you know?

 - Homeowners insurance policies do not cover damage from floods.
 - There is a 30-day waiting period before flood coverage will take effect.
 - Standard flood insurance policies offer separate building and contents coverage.
 - You may qualify for a lower-cost Preferred Risk Policy.
 - Flood insurance is also available to renters for their contents.
4. **Protect yourself and your loved ones.** Monitor your surroundings and follow emergency instructions. Tune to 1450 AM or 970 AM for up-to-date information, and remember to "turn around, don't drown." As little as six inches of water can cause your tires to lose traction, and 12 inches of water may cause your car to float.
5. **Protect your property.**
 - Consider elevating your house or business above flood levels. To see if you are eligible for hazard mitigation grants and loans, visit www.fema.gov/hazard-mitigation-assistance.
 - Know how to shut off the electricity and gas to your house or business.
 - Inventory, photograph or videotape your home or business.
 - Put insurance policies, valuable papers and medicine in a safe place.
 - Develop a disaster response plan. Visit www.redcross.org for information about preparing your home and family.
 - For specific information on emergency preparedness and flooding in Sarasota County, visit www.scgov.net/AllHazards/.
6. **Build responsibly.** Find out what permits are required before you build and be aware of the substantial improvement rules. Visit www.scgov.net/DevelopmentServices/ for more information. Get a copy of "Repairing Your Flooded Home" from <http://www.redcross.org>.
7. **Prevent pollution and localized flooding.** Keep lawn clippings, leaves, waste and other debris out of streets, storm drains and waterways. Everything that goes into a storm drain or conveyance system will eventually end up in our bays and has the potential to clog the drainage system. This can cause flooding and damage to roadways and surrounding properties. There are regulations against dumping. If you observe dumping, please call the Sarasota County Contact Center at 941-861-5000

For more information, visit the Sarasota County Flood Information website at www.scgov.net/RLAA or call the Sarasota County Contact Center at 941-861-5000.

Figure 5: Coordination Letter to Agencies/Organizations



Todd Helt

From: Todd Helt [thelt@weilerengineering.org]
Sent: Monday, April 03, 2017 11:07 AM
To: 'mark@sarasotabay.org'
Subject: Request for Information re: Repetitive Loss Area Analysis (RLAA) for CRS program
Attachments: SC_RLAA_ReportsData_03072017.pdf

Good morning Mark,

Weiler Engineering is in the process of completing the Repetitive Loss Area Analysis (RLAA) on behalf of Sarasota County as part of FEMA's Community Rating System (CRS) requirements. In an effort to ensure that the RLAA is as complete and accurate as possible, we are requesting that agencies within the Community provide any additional reports, data, or other documentation that may be relevant to flood risk and repetitive losses.

For your reference, attached is a table of the primary reports, documentation, and data from various sources that are currently being considered and analyzed as part of the RLAA process. **If there is additional information or data that you can provide for the Community from your organization please send to me or contact me to discuss NLT 4/17/2017.**

Thank you in advance for any additional information you can provide relevant to this important CRS project!

Best regards,

Todd

Todd F. Helt, GISP
Project Manager
Weiler Engineering Corporation, Consultant to Sarasota County
201 West Marion Avenue, Suite 1306
Punta Gorda, FL 33950
Office: 941-505-1700 x213
Mobile: 941-268-2036
<http://www.weilerengineering.com>

7/22/2018

Todd Helt

From: Todd Helt [thelt@weilerengineering.org]
Sent: Monday, April 03, 2017 11:09 AM
To: 'Jhecker@chnep.org'
Cc: 'Donna Bailey'; 'Kelly Westover'; 'jgreen@weilerengineering.org'
Subject: FW: Request for Information re: Repetitive Loss Area Analysis (RLAA) for CRS program
Attachments: SC_RLAA_ReportsData_03072017.pdf

Good morning Jennifer,

Weiler Engineering is in the process of completing the Repetitive Loss Area Analysis (RLAA) on behalf of Sarasota County as part of FEMA's Community Rating System (CRS) requirements. In an effort to ensure that the RLAA is as complete and accurate as possible, we are requesting that agencies within the Community provide any additional reports, data, or other documentation that may be relevant to flood risk and repetitive losses.

For your reference, attached is a table of the primary reports, documentation, and data from various sources that are currently being considered and analyzed as part of the RLAA process. **If there is additional information or data that you can provide for the Community from your organization please send to me or contact me to discuss NLT 4/17/2017.**

Thank you in advance for any additional information you can provide relevant to this important CRS project!

Best regards,

Todd

Todd F. Helt, GISP
Project Manager
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201 West Marion Avenue, Suite 1306
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Office: 941-505-1700 x213
Mobile: 941-268-2036
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7/22/2018

Figure 6: Responses for Outreach Survey

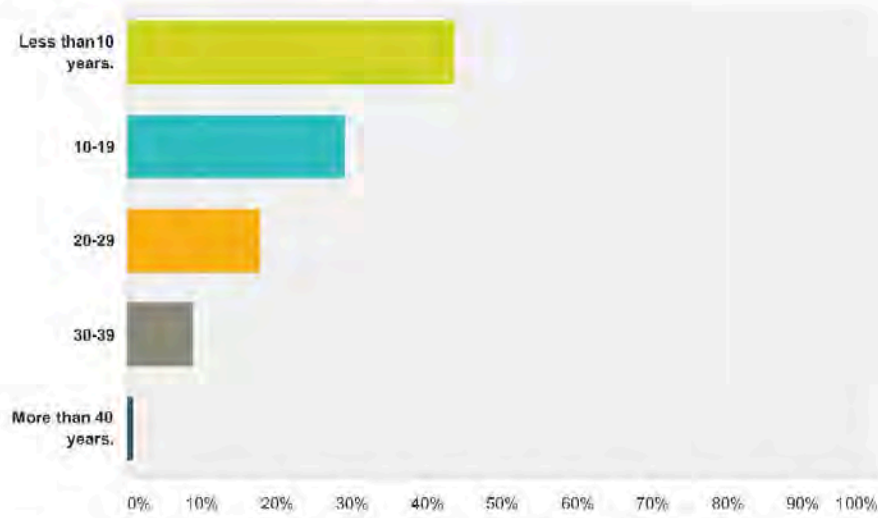
Q1 Address

Answered: 124 Skipped: 0

Answer Choices	Responses	
Name	100.00%	124
Company	0.00%	0
Address	100.00%	124
Address 2	0.00%	0
City/Town	100.00%	124
State/Province	0.00%	0
ZIP/Postal Code	100.00%	124
Country	0.00%	0
Email Address	91.13%	113
Phone Number	93.55%	116

Q2 How many years have you lived in your home?

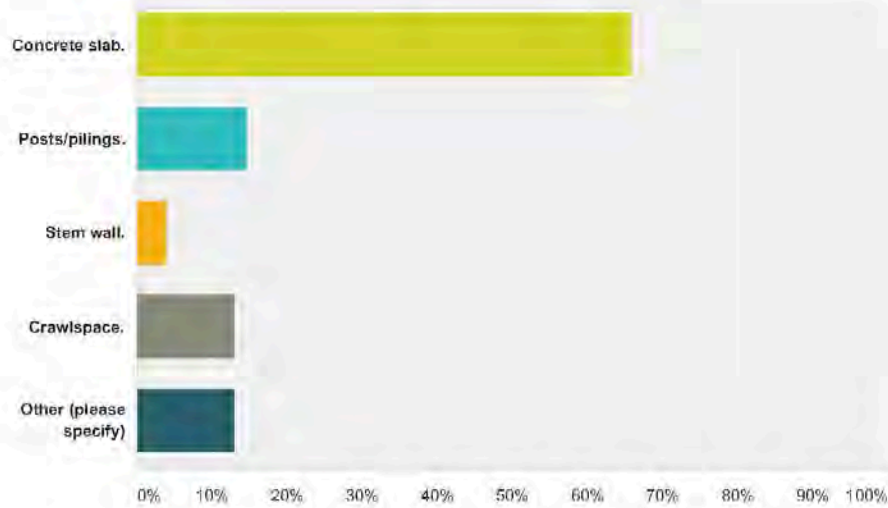
Answered: 124 Skipped: 0



Answer Choices	Responses	Count
Less than 10 years.	43.55%	54
10-19	29.03%	36
20-29	17.74%	22
30-39	8.87%	11
More than 40 years.	0.81%	1
Total		124

Q3 What type of foundation does your home have?

Answered: 123 Skipped: 1



Answer Choices	Responses
Concrete slab.	65.85% 81
Posts/pilings.	14.63% 18
Stent wall.	4.07% 5
Crawlspace.	13.01% 16
Other (please specify)	13.01% 16
Total Respondents: 123	

#	Other (please specify)	Date
1	I don't know	3/17/2017 2:49 PM
2	mobile home on blocks on sand	2/18/2017 9:40 AM
3	Mobile home	2/15/2017 11:17 AM
4	uncertain- in condo building	2/8/2017 3:50 PM
5	The house is on a concrete slab, but we are able to easily access the underside of the house, so I'm not sure if it's posts/pilings or a crawlspace...	2/6/2017 2:13 AM
6	Stilt house supported by posts, stemwall; lower level is slab	2/4/2017 10:11 AM
7	Don't know.	2/3/2017 3:35 PM
8	Both	2/1/2017 10:35 AM
9	not sure--I was told it was pilings but ground filled in below the foundation--11' elevation	1/31/2017 9:35 PM
10	Mobile home / steps to enter home.	1/30/2017 10:51 AM
11	Unknown - high rise building	1/29/2017 3:33 PM

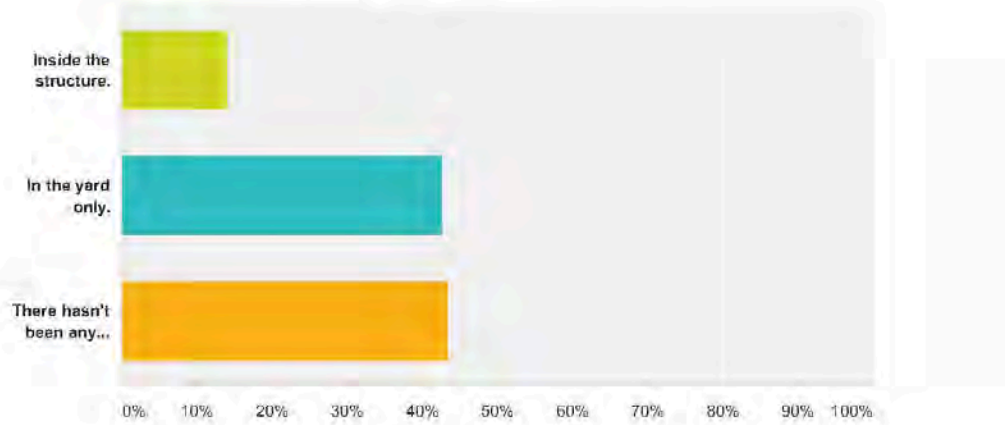
Sarasota County Repetitive Loss Area Analysis Survey

SurveyMonkey

12	don't know the foundation of the condo bldg	1/28/2017 12:19 PM
13	Mobile home	1/28/2017 9:52 AM
14	Concrete block	1/27/2017 7:53 PM
15	Cinder blocks	1/27/2017 5:55 PM
16	Original structure on slab, later addition with crawl space.	1/27/2017 4:16 PM

Q4 Where has flooding/water occurred on your property?

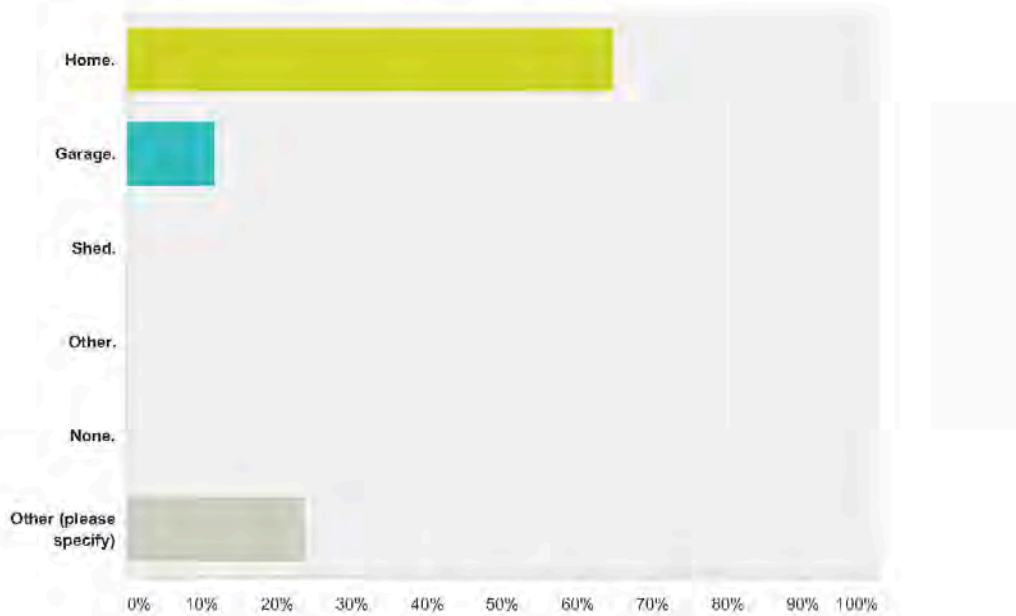
Answered: 122 Skipped: 2



Answer Choices	Responses
Inside the structure.	13.93% 17
In the yard only.	42.62% 52
There hasn't been any flooding on my property.	43.44% 53
Total	122

Q5 What part of the structure was flooded?

Answered: 17 Skipped: 107

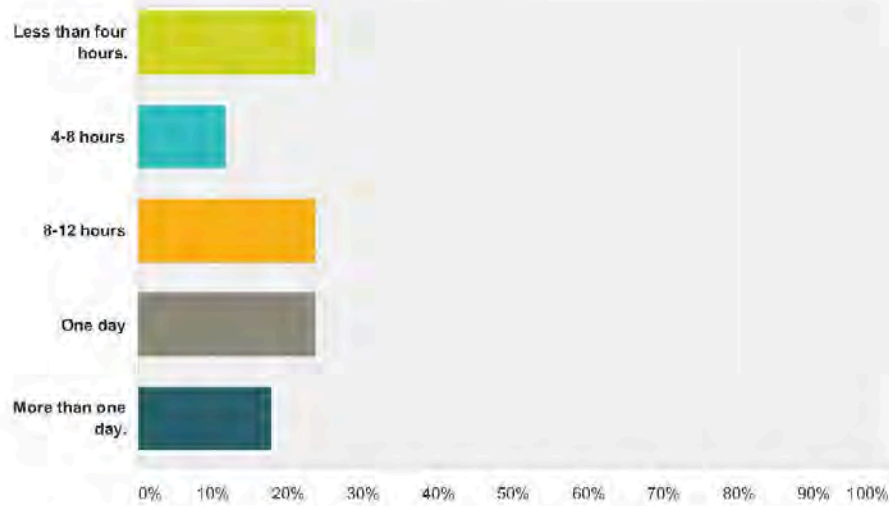


Answer Choices	Responses
Home.	64.71% 11
Garage.	11.76% 2
Shed.	0.00% 0
Other.	0.00% 0
None.	0.00% 0
Other (please specify)	23.53% 4
Total	17

#	Other (please specify)	Date
1	Garage and workshop	2/12/2017 9:37 AM
2	Inside unit in back yard and possibly in the main house as well.	1/30/2017 3:51 PM
3	Home, garage	1/30/2017 1:00 PM
4	In the four foot concrete crawl space under first floor	1/27/2017 7:30 PM

Q6 How long did water stay in the structure?

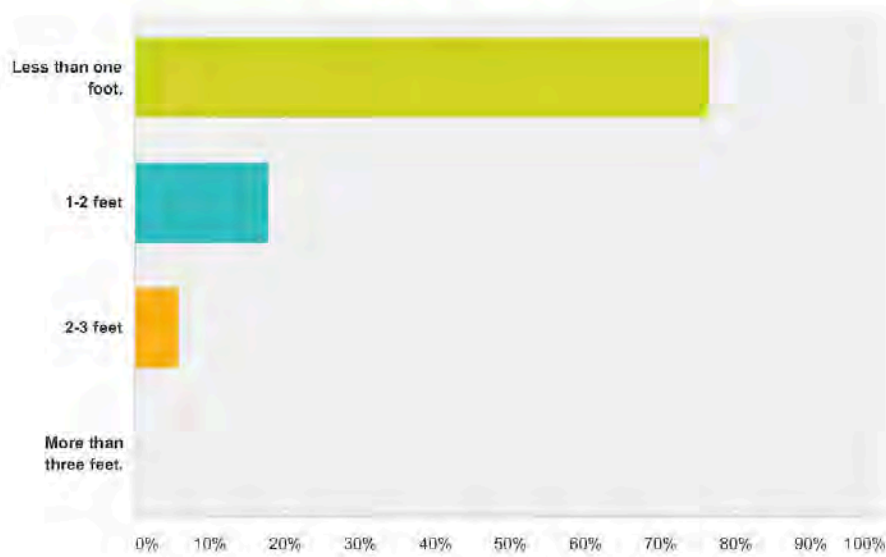
Answered: 17 Skipped: 107



Answer Choices	Responses
Less than four hours.	23.53% 4
4-8 hours	11.76% 2
8-12 hours	23.53% 4
One day	23.53% 4
More than one day.	17.65% 3
Total	17

Q7 How deep was the water?

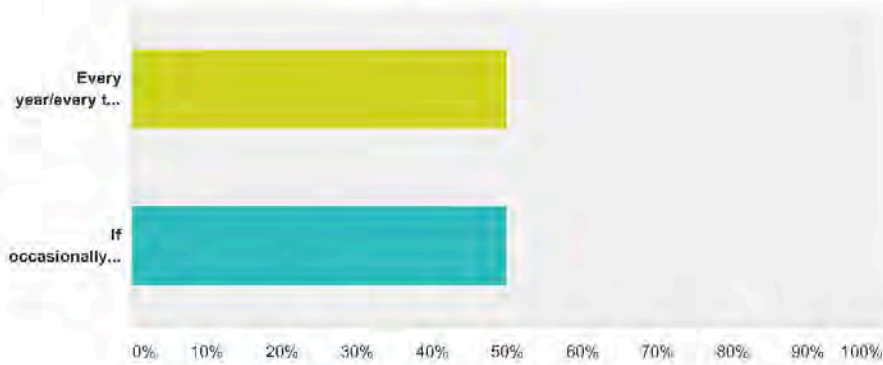
Answered: 17 Skipped: 107



Answer Choices	Responses
Less than one foot.	76.47% 15
1-2 feet	17.65% 3
2-3 feet	5.88% 1
More than three feet.	0.00% 0
Total	17

Q8 What year(s) did it flood?

Answered: 10 Skipped: 114

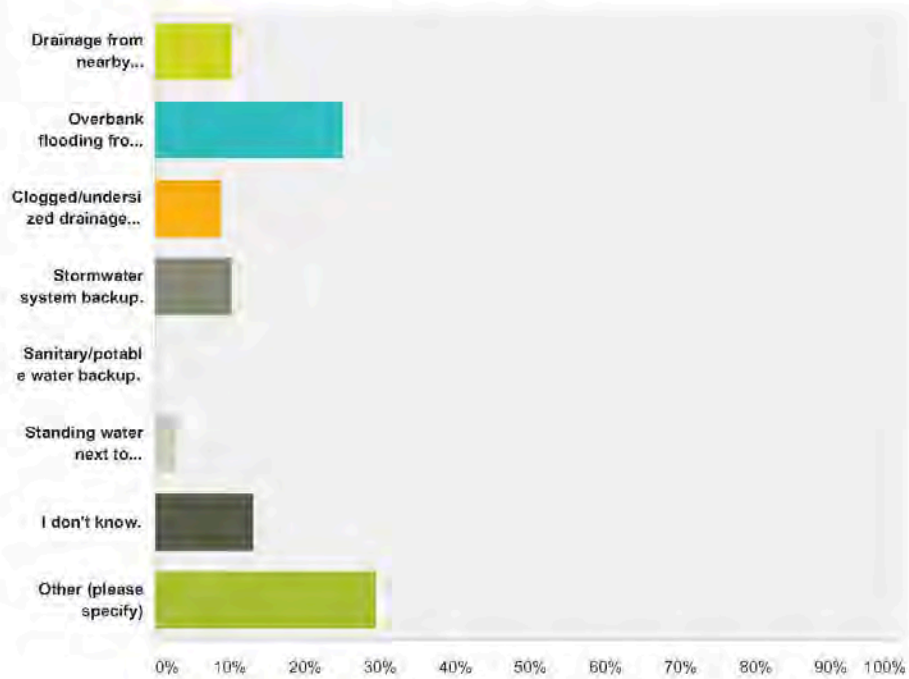


Answer Choices	Responses
Every year/every time it rains.	50.00% 5
If occasionally, list year(s) below.	50.00% 5
Total	10

#	Year(s)	Date
1	1994, 1995	2/20/2017 12:35 PM
2	Hard extended rain every year. Only less than 1 inch	2/12/2017 9:38 AM
3	It happened before we bought the house	2/11/2017 10:35 AM
4	1991, 1995, 2005???	2/10/2017 4:03 PM
5	2001	2/6/2017 11:55 AM
6	?	2/1/2017 1:43 PM
7	2001, water intrusion in bedroom wall another year.	1/31/2017 4:06 PM
8	20-25 years ago. Yard floods during large events.	1/30/2017 1:00 PM
9	2016	1/27/2017 7:30 PM
10	2003, 1992	1/27/2017 4:20 PM
11	1992	1/27/2017 4:10 PM

Q9 What was the cause of the flooding?

Answered: 68 Skipped: 56



Answer Choices	Responses
Drainage from nearby properties.	10.29% 7
Overbank flooding from nearby waterways.	25.00% 17
Clogged/undersized drainage ditch/culvert.	8.82% 6
Stormwater system backup.	10.29% 7
Sanitary/potable water backup.	0.00% 0
Standing water next to house/building.	2.94% 2
I don't know.	13.24% 9
Other (please specify)	29.41% 20
Total	68

#	Other (please specify)	Date
1	Very heavy rain could not drain from rear yard	3/3/2017 9:25 PM
2	my property is the "drainage" spot from street and sunken sidewalk	2/23/2017 6:24 AM
3	dam overflow on the Myakka	2/18/2017 9:41 AM
4	does not appear to be any drainage system in place-affects drive and only place on road where all flows to	2/8/2017 8:19 AM
5	HEAVY RAINS	2/7/2017 8:58 AM

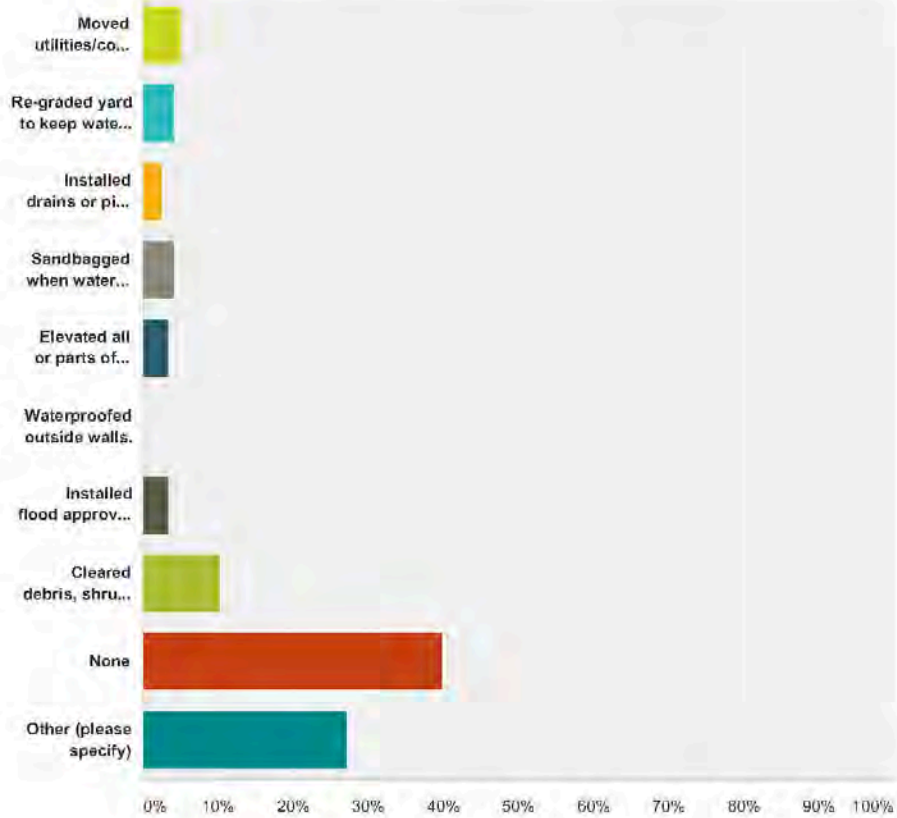
Sarasota County Repetitive Loss Area Analysis Survey

SurveyMonkey

6	Excessive water release all at one time from the celery fields	2/6/2017 11:55 AM
7	Every summer rain floods our street 8 feet up our drive. Street floods, no drainage ditch near us in front. Ditch behind property clogged	2/3/2017 5:22 PM
8	Excessive rain event	2/3/2017 2:33 PM
9	Tropical Storm in Gulf	2/1/2017 11:39 AM
10	No drainage in parking lot	1/30/2017 5:39 PM
11	drainage from Midnight Pass Road because no storm water drains in front of our property	1/30/2017 4:04 PM
12	drainage from nearby properties and from the street.	1/30/2017 3:51 PM
13	During heavy rains temporary flooding occurs between the neighboring buildings.	1/30/2017 2:09 PM
14	storm surge from the Gulf of Mexico x 2 times	1/30/2017 1:55 PM
15	Drainage from Nearby Properties, Stormwater backup, Standing water next to house.	1/30/2017 11:18 AM
16	Standing water and pond overflow	1/28/2017 4:58 PM
17	Drainage from other properties, overbank flooding from Mayaka river, clogged undersized drainage ditch/culvert	1/28/2017 2:23 PM
18	Too much rain in a short time period; saturated ground	1/27/2017 7:58 PM
19	Backup from Philipi Creek	1/27/2017 7:30 PM
20	"100 year flood"	1/27/2017 4:10 PM

Q10 What measures have you taken to prevent flooding? (Check all that apply.)

Answered: 113 Skipped: 6



Answer Choices	Responses	Count
Moved utilities/contents to a higher level.	5.08%	6
Re-graded yard to keep water away from building.	4.24%	5
Installed drains or pipes to improve drainage.	2.54%	3
Sandbagged when water threatened.	4.24%	5
Elevated all or parts of building.	3.39%	4
Waterproofed outside walls.	0.00%	0
Installed flood approved vents.	3.39%	4
Cleared debris, shrubs or overgrowth.	10.17%	12
None	39.83%	47
Other (please specify)	27.12%	32

Sarasota County Repetitive Loss Area Analysis Survey

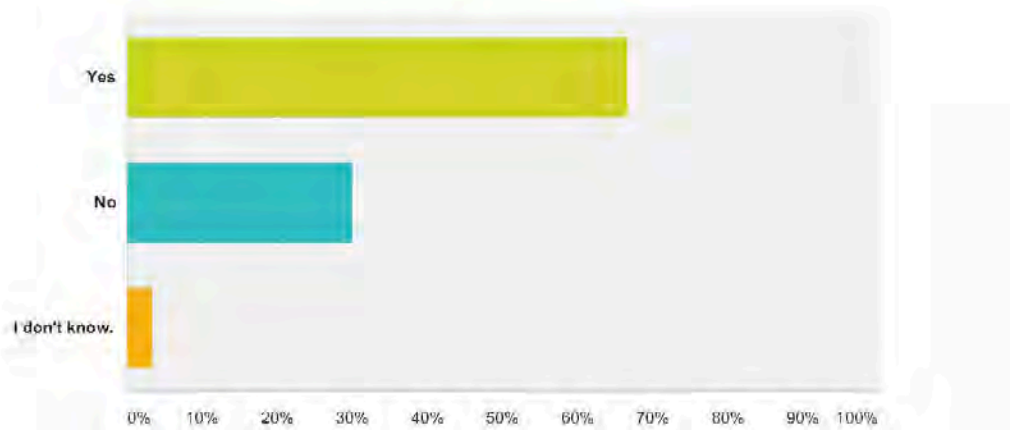
SurveyMonkey

Total 118

#	Other (please specify)	Date
1	Dug hole for water to drain into; sort of works	3/3/2017 9:25 PM
2	installed underground tanks and drainage pipes - too much water for one property	2/23/2017 6:24 AM
3	I live in a mid rise dwelling	2/16/2017 2:19 PM
4	Landscape and added plants to absorb water	2/14/2017 12:43 PM
5	Installed pumping	2/12/2017 9:38 AM
6	County installed better drainage	2/11/2017 10:35 AM
7	I live in a condominium and the Association maintains the building	2/9/2017 2:30 PM
8	can't do anything as road problem	2/8/2017 8:19 AM
9	City/County installed a berm/levee to meet 100 year flood specs	2/6/2017 11:55 AM
10	Demolished old house that flooded in 1992. Built a stilt house	2/4/2017 10:13 AM
11	We are gone during most severe part of rainy season. Water has not reached house since we've moved here.	2/3/2017 5:22 PM
12	raised unit	2/1/2017 1:43 PM
13	Beach re-nourishment	2/1/2017 11:39 AM
14	Re-graded a little bit, installed drains, waterproofed a portion of outside walls.	1/31/2017 4:06 PM
15	Moved contents to higher level, elevated all or parts of building, installed flood approved vents	1/31/2017 1:48 PM
16	added a bilge pump to move the water from next to the home to the rear of the property (canal).	1/30/2017 3:51 PM
17	Regrading of driveway, berm and use of sandbags.	1/30/2017 1:00 PM
18	Regraded, installed drainage, built a berm to block street water	1/30/2017 11:18 AM
19	keep your gutters cleaned for drainage.	1/30/2017 10:52 AM
20	Built home to same height as street.	1/30/2017 10:46 AM
21	shoreline refurbishment	1/30/2017 10:40 AM
22	installed sump pump	1/30/2017 9:11 AM
23	Purchased a 4th floor unit	1/29/2017 3:33 PM
24	this is not letting me check all that apply. We move to contents to a higher level during warnings and clear debris, shrubs overgrowth. Vents, elevation, etc are all as came with the house. We have had standing water in our back yard with storms but no flooding approaching the driveway, house or front yard.	1/29/2017 6:40 AM
25	COUNTY HAS SINCE IMPROVED PHILLIPI DRAINAGE SYSTEM	1/28/2017 7:42 PM
26	moved utilities higher, some regrading, cleared overgrowth	1/28/2017 2:23 PM
27	Sealed home. Water pools in the backyard. No drain in the back however there are pipes for a drain. The front yard and street always floods with minimal rain. Ditch lines are filled and overflow easily due to small, blocked drain pipes. Ditch lines are not maintained regularly.	1/28/2017 9:11 AM
28	Cleaned and maintain existing drainage	1/28/2017 4:41 AM
29	Doesn't allow multiple ans; installed drains, etc.; regared parking & driveway, added railroad ties	1/27/2017 8:33 PM
30	Purchased property in 2005, have not experienced any flooding since we have been owners. Information provided above is from previous owners' experience.	1/27/2017 4:20 PM
31	Not necessary	1/27/2017 3:15 PM
32	graveled drive-way	1/27/2017 11:20 AM

Q11 Do you have flood insurance?

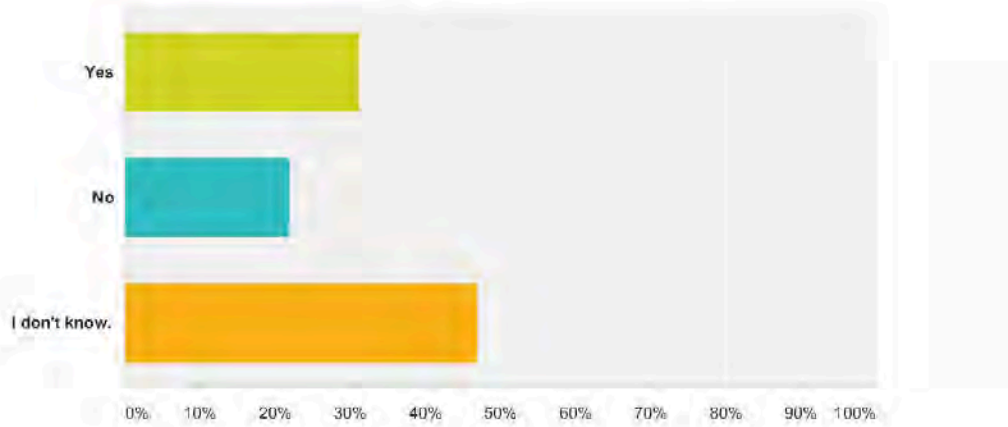
Answered: 120 Skipped: 4



Answer Choices	Responses
Yes	66.67% 80
No	30.00% 36
I don't know.	3.33% 4
Total	120

Q12 Do you have an elevation certificate for your home?

Answered: 119 Skipped: 5



Answer Choices	Responses	
Yes	31.09%	37
No	21.85%	26
I don't know.	47.06%	56
Total		119

Table 6: RLA Individual Report Listing

RLA Map/Report Number	No. of Pages
RLA 01	8
RLA 02	8
RLA 03	8
RLA 04	8
RLA 05	8
RLA 06	8
RLA 07	8
RLA 08	8
RLA 09	8
RLA 10	8
RLA 11	8
RLA 12	8
RLA 13	8
RLA 14	8
RLA 15	8
RLA 16	8
RLA 17	8
RLA 18	8
RLA 19	8
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RLA 29	8
RLA 30	8
RLA 31	8
RLA 32	8
RLA 33	8
RLA 34	8
RLA 35	8
RLA 36	8
RLA 37	8
RLA 38	9
RLA 39	8
RLA 40	8

RLAA Map/Report Number	No. of Pages
RLA 41	8
RLA 42	8
RLA 43	8
RLA 44	8
RLA 45	9
RLA 46	8
RLA 47	8
RLA 48	8
RLA 49	8
RLA 50	8
RLA 51	8
RLA 52	8
RLA 53	8
RLA 54	8
RLA 55	8
RLA 56	8
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RLA 62	8
RLA 63	8
RLA 64	8
RLA 65	8
RLA 66	10
RLA 67	8
RLA 68	8
RLA 69	8
RLA 70	9
RLA 71	8
RLA 72	8
RLA 73	8
RLA 74	8
RLA 75	8
RLA 76	8
RLA 77	8
RLA 78	8
RLA 79	8

Appendix A: Individual Repetitive Loss Area Analysis (RLAA)

RLA 01-CFC01 Catfish Creek

Repetitive Loss Area (RLA) Overview

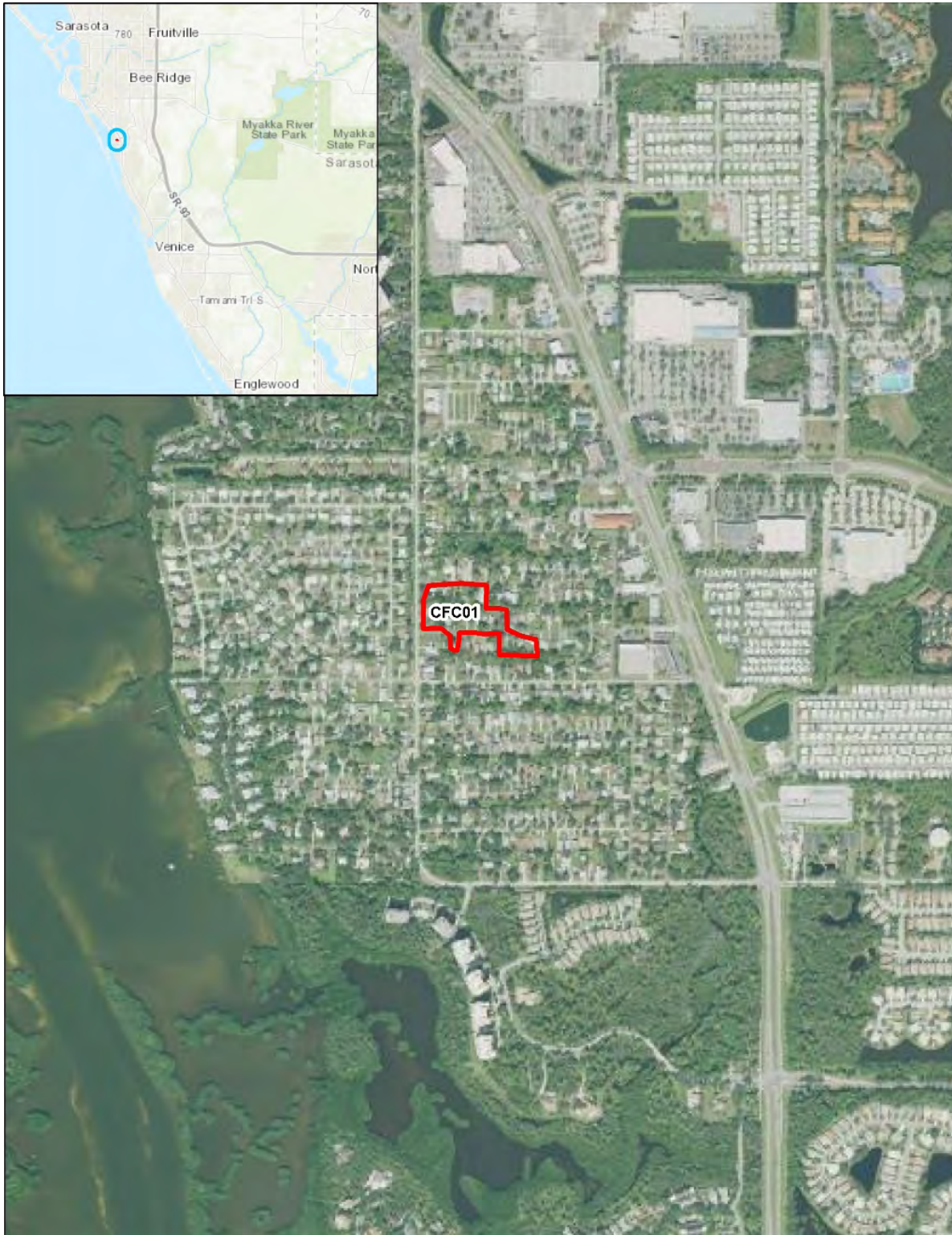


Figure 1: CFC01 Boundaries

AREA DESCRIPTION

WATERSHED: Dona Bay
 BASIN: Catfish Creek
 LANDFORM: Riverine Shoreline
 AREA: 5.49 acres

FLOODING PROBLEMS AND CONCERNS

- Storm surge from Bays and Gulf of Mexico
- Excessive rainfall
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is located inland, east of Sarasota Bay within the Catfish Creek watershed area. About 80% of the structures within this RLA are pre-FIRM and were constructed during the 1950s-1970s. Approximately 83% of the structures are minimally elevated slab-on-grade construction, with an average grade elevation at the structures of 12.4 feet NAVD. These slab-on-grade structures are typically at minimal risk of flooding, and the RLA is located within FEMA Zone X (shaded), outside of the special flood hazard area (SFHA). Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

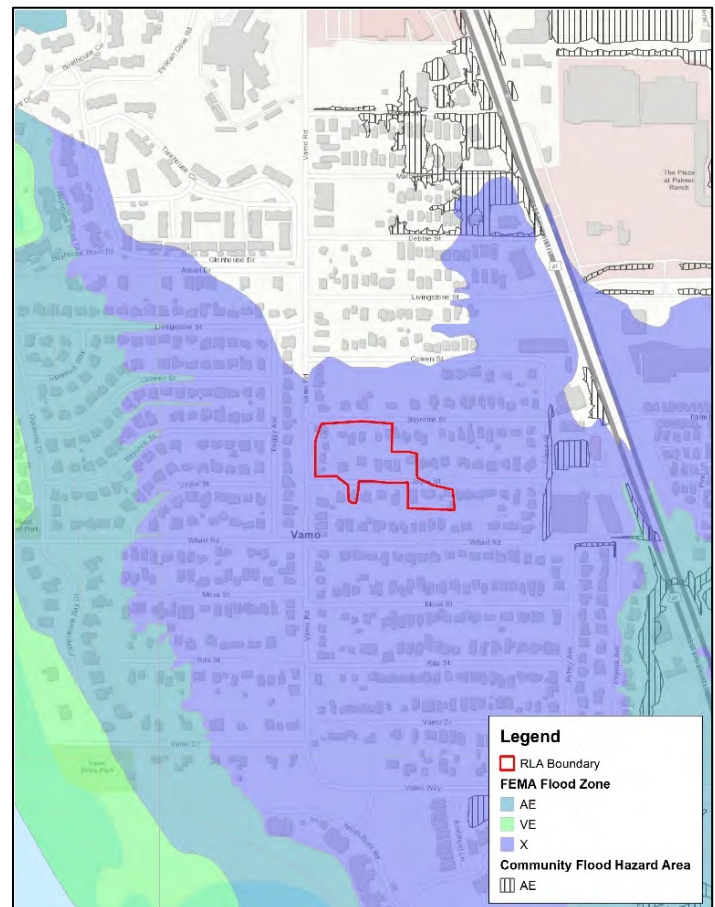


Figure 3: Spatial Distribution of Structures vs Flood Zones

Total	Repetitive Loss Data
20	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
2	Properties w/ Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
2	Insurance Claims (since 1978)
\$9.34	Total Insurance Claims (in thousands)
\$4.67	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Joyce St	Resident with a 10-19 year residency, elevated concrete slab with crawlspace, reports no flooding on the property and has no flood insurance.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the two (2) individual claims in the RLA, of which one (1) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: NFIP Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
83%	Slab on grade
6%	Elevated slab on stem wall with fill
11%	Elevated on post/piles or walls
Composition	Frame Type
61%	Wood frame
39%	Concrete block/masonry
Composition	Number of Stories
89%	Single story
11%	Two story
Composition	Flood Zones
100%	Within Zone X (shaded)

Table 4: Field Data Summary from site visits



Figure 4: Average Wood Frame, Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 9 to 11 inches or more of rainfall, coincident with high tides and high winds. These effects have likely caused flood inundation from excessive rainfall runoff and stormwater drainage from these low elevation areas. This RLA is characterized by low-lying areas. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

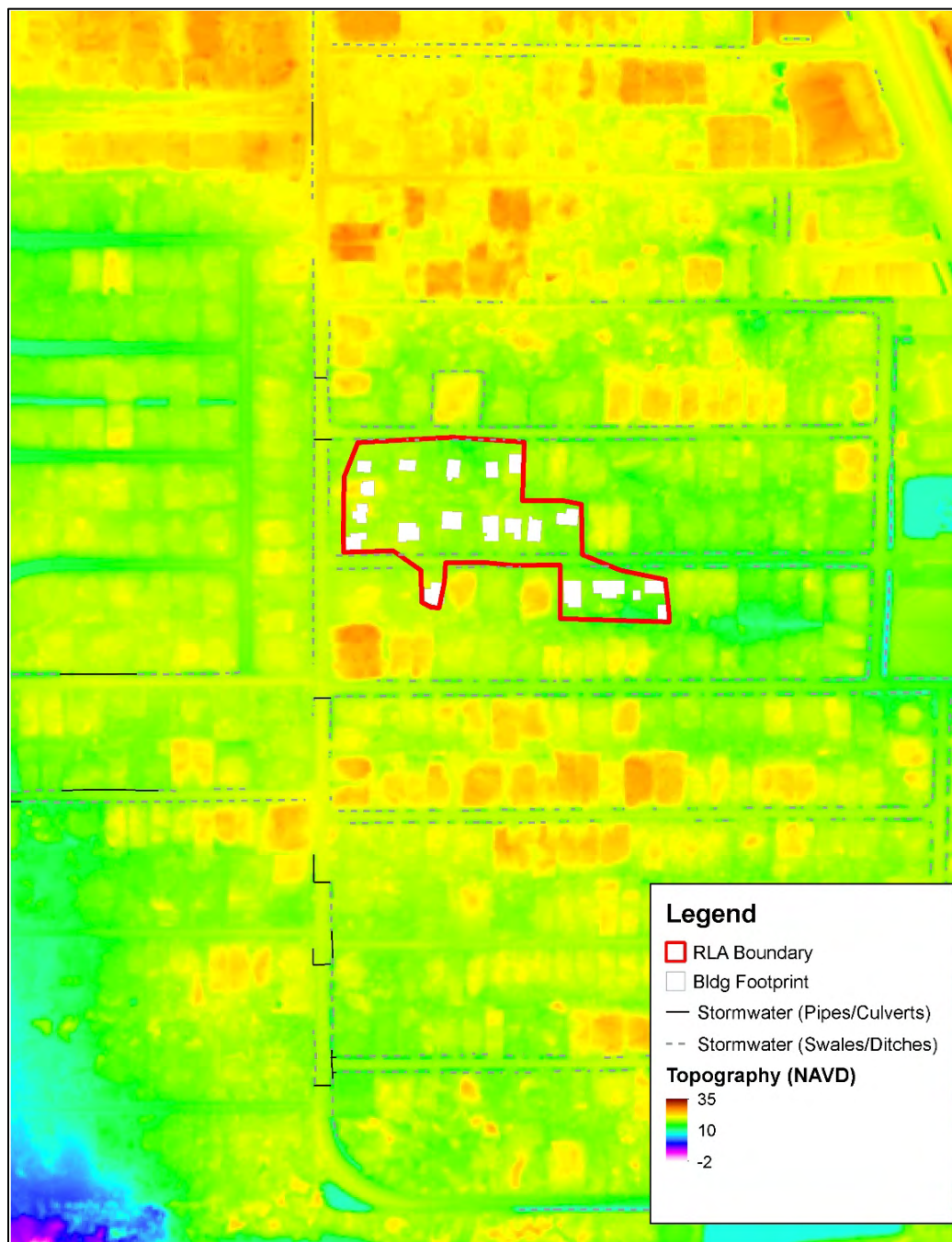


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is primarily limited to roadside swales with runoff pooling and moving down along the street and over lower elevated properties. The average elevation of existing grades is 12.4 feet NAVD. This RLA is located outside of the high risk SFHA. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The high existing grades and the average Finished Floor Elevation (FFE) of the structures at 12.4 feet NAVD, which is above the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 01 are subject to flooding due to heavy rainfall events and possible extreme storm-surge events. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
01 – CFC01 Catfish Creek	1	0	20	Shaded X	Bayonne St. Joyce St. Vamo Rd.	1, 2, 3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 01: Catfish Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	20					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	2					
Total insurance claims (in thousands)	\$9.34					
Average insurance claim (in thousands)	\$4.67					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 02-CPS02 Cowpen Slough

Repetitive Loss Area (RLA) Overview



Figure 1: CPS02 Boundaries

AREA DESCRIPTION

WATERSHED: Cowpen Slough
 BASIN: Cowpen Slough
 LANDFORM: Riverine (Creek)
 AREA: 42.48 acres

FLOODING PROBLEMS AND CONCERNS

- Overbank flooding from Cowpen Slough
- High Rainfall Events
- Slab on grade structures
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is situated inland east of SR-72 in the Cowpen Slough watershed. This area borders Cowpen Slough Creek and is subject to overbank flooding. Most of the structures within this area were constructed in the 1970s and 1990s, with foundations that are primarily concrete slab-on-grade and have an average grade elevation of 23.6 feet NAVD. The RLA is located within FEMA Zone A and X, with most of the structures in Zone A, making them at moderate risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

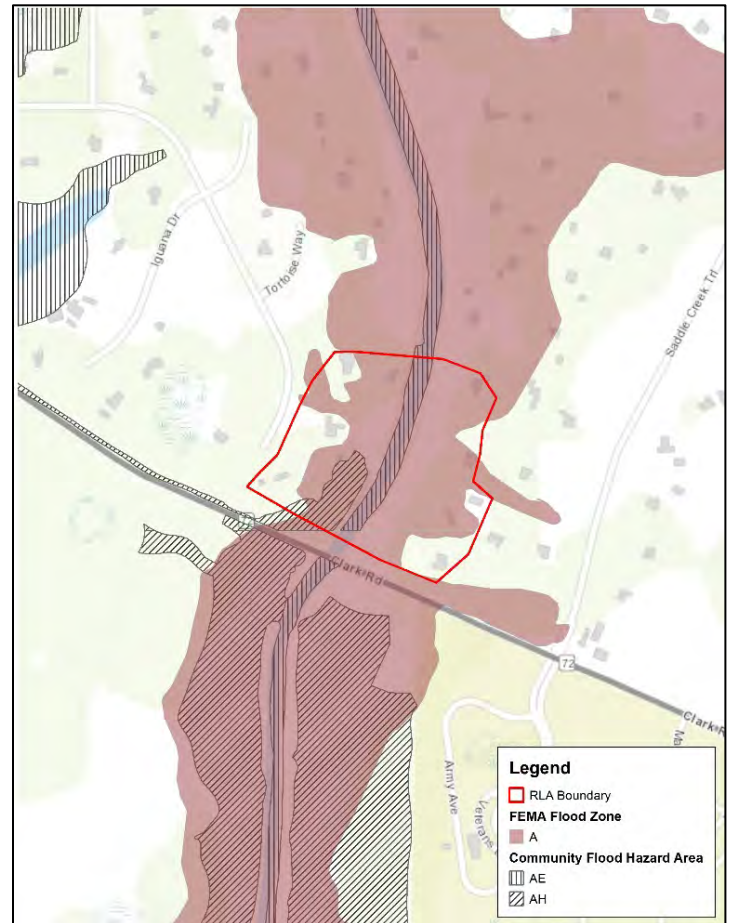


Figure 3: Spatial Distribution of Structures vs Flood Zones

Total	Repetitive Loss Data
11	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
1	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
4	Insurance Claims (since 1978)
\$50.6	Total Insurance Claims (in thousands)
\$12.65	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Structures and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Gator Creek Blvd Saddle Creek Trl	No comments were provided

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the four (4) individual claims in the RLA, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019). Records indicate that there have been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	1
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
75%	Slab on grade
12.5%	Raised Slab on Grade
12.5%	Elevated slab on stem wall with fill
Composition	Frame Type
12%	Wood frame
88%	Concrete block/masonry
Composition	Number of Stories
67%	Single story
33%	Two story
Composition	Flood Zones
84%	Within SFHA Zone A
16%	Within Zone X
16%	Within CFHA Zone AH

Table 4: Field Data Summary from Site Visits



Figure 4: Average Concrete Block, Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals flood damage coincides with storm events with 6 inches or more of rainfall. The adjoining creek overtops during large rain events. The topography map below indicates elevated areas (berms) on the back side of some properties along the creek. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

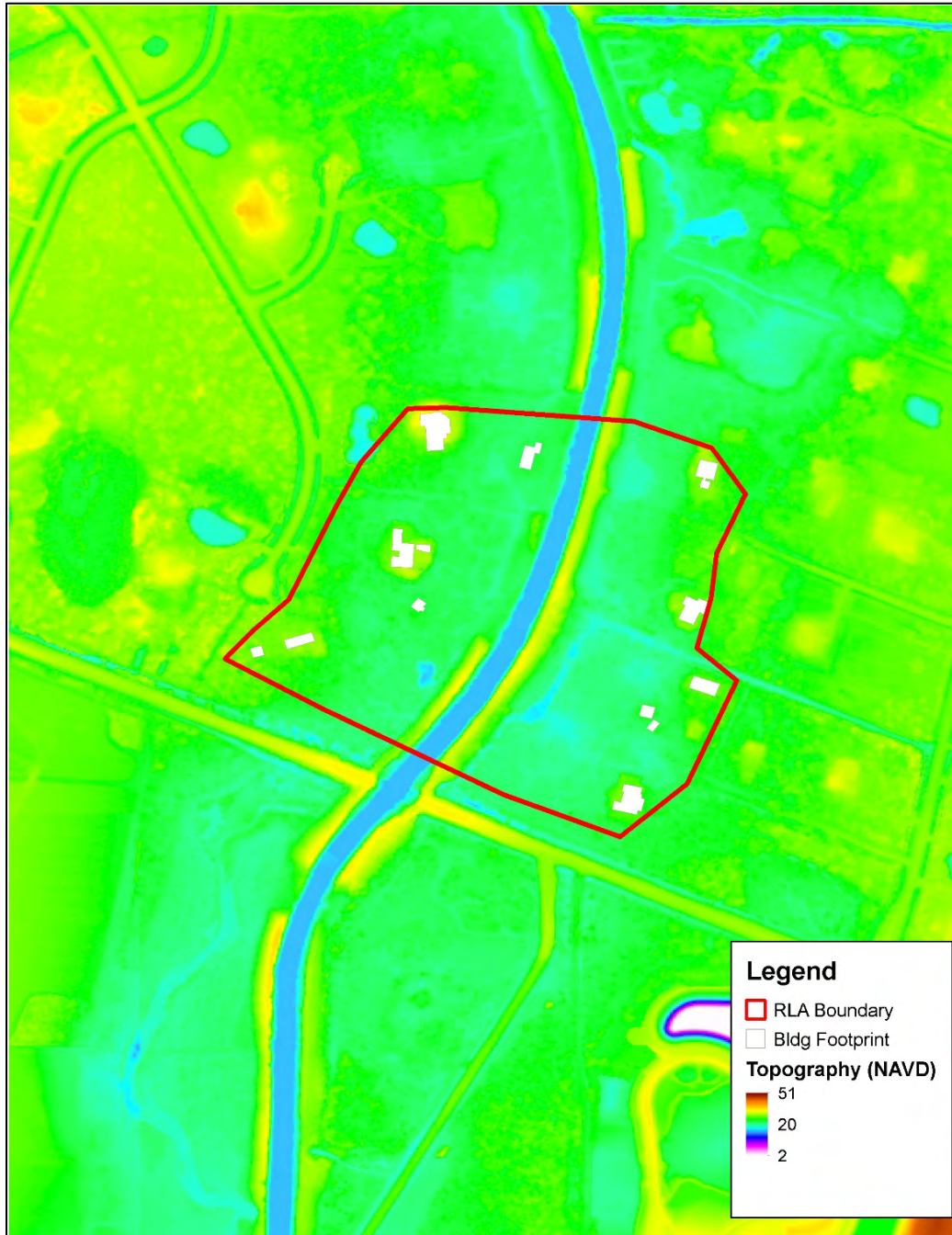


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is limited to roadside swales for conveyance of stormwater, with runoff pooling and moving down along the street and sheet-flowing to the creek or retention pond. Because the average elevation of existing grades, 23.6 feet NAVD, is relatively high compared to surrounding topography, and flooding occurs when Cowpen Slough Creek overtops its banks, stormwater improvements in this area are not warranted for mitigation for flooding.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The average Finished Floor Elevation (FFE) of the structures at 21.5 feet NAVD, which is above the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain. Some properties in this area use berms along the back of their properties to assist in preventing flooding on their property. This additional mitigation measure may add some level of protection during a large rain event.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event.

Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 02 are subject to flooding due to heavy rainfall events. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Structures	# of SRL Structures	Total # of Structures	Flood zone	Name of Streets within the RL area	Mitigation Method Recommendations
02 – CPS02 Cowpen Slough	1	0	11	X, A(FEMA) AE, AH (CFHA)	Gator Creek Blvd Saddle Creek Trl	1,2,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 02: Cowpen Slough	Report Statistics						
	Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	11						
Repetitive Loss (RL) Properties	1						
Severe RL properties	0						
Mitigated RL properties	0						
Mitigated Severe RL properties	0						
Insurance claims since 1978	4						
Total insurance claims (in thousands)	\$50.6						
Average insurance claim (in thousands)	\$12.65						
Recommended Mitigation: Demolition or relocate the building							
Recommended Mitigation: Elevate the building							
Recommended Mitigation: Elevate the components							
Recommended Mitigation: Dry flood proof the building							
Recommended Mitigation: Wet flood proof the building							
Recommended Mitigation: Sewer backup protection							
Recommended Mitigation: Redirect on-site drainage away							
Recommended Mitigation: Repair or maintenance of systems							
Recommended Mitigation: System improvements or modification							
Recommended Mitigation: Flow diversions							
Recommended Mitigation: Berms, levees, or floodwalls							

RLA 03-CPS03 Cowpen Slough

Repetitive Loss Area (RLA) Overview

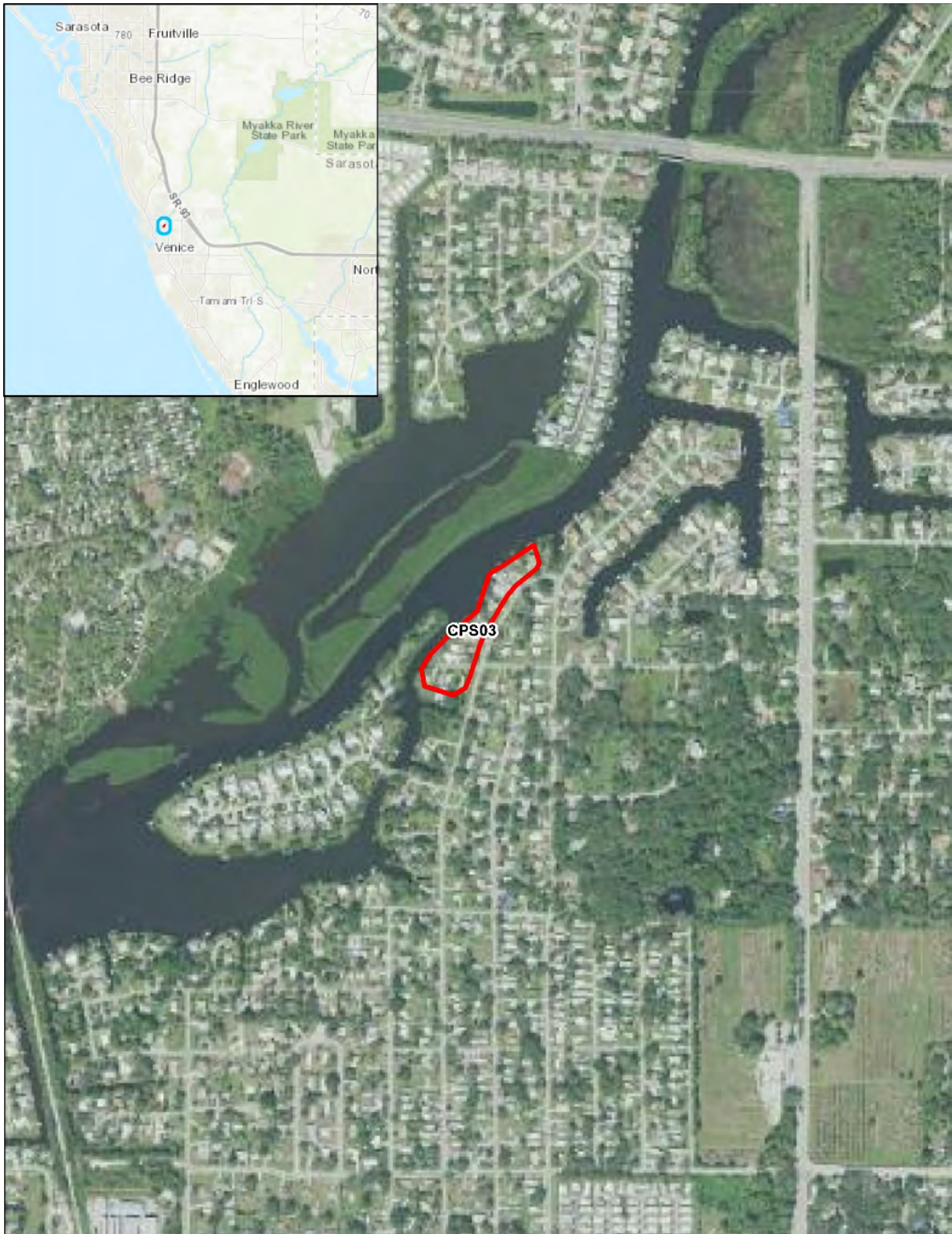


Figure 1: CPS03 Boundaries

AREA DESCRIPTION

WATERSHED: Cowpen Slough
 BASIN: Cowpen Slough
 LANDFORM: Peninsula (Creek)
 AREA: 3.97 acres

FLOODING PROBLEMS AND CONCERNS

- Overbank flooding from Shakett Creek
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures
- Many lots below street grade
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is situated on a peninsula adjacent to Shakett Creek to the West. Most of the residential structures within this area are pre-FIRM, built before the initial Flood Insurance Rate Maps (FIRMs) for Sarasota County. They have foundations that are concrete slab-on-grade with an average grade of 3.1 feet NAVD. Since 100% of the structures are within SFHA, AE-10 Flood Zone, these older, slab-on-grade structures are at risk of flooding, particularly during high tides, as shown in Figure 3. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
13	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
3	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
2	Insurance Claims (since 1978)
\$10.06	Total Insurance Claims (in thousands)
\$5.03	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Structures and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Revenna St Dona Way	No comments were provided

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for two (2) individual claims in the RLA, of which one (1) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been no NFIP insurance claims since 1993 for structures within this RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
60%	Slab on grade
10%	Elevated slab on stem wall with fill
30%	Elevated on post/piles or walls
Composition	Frame Type
30%	Wood frame
50%	Concrete block/masonry
20%	Manufactured Home
Composition	Number of Stories
90%	Single story
10%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE
15.4%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Slab on Grade Structures

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 15 to 20 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

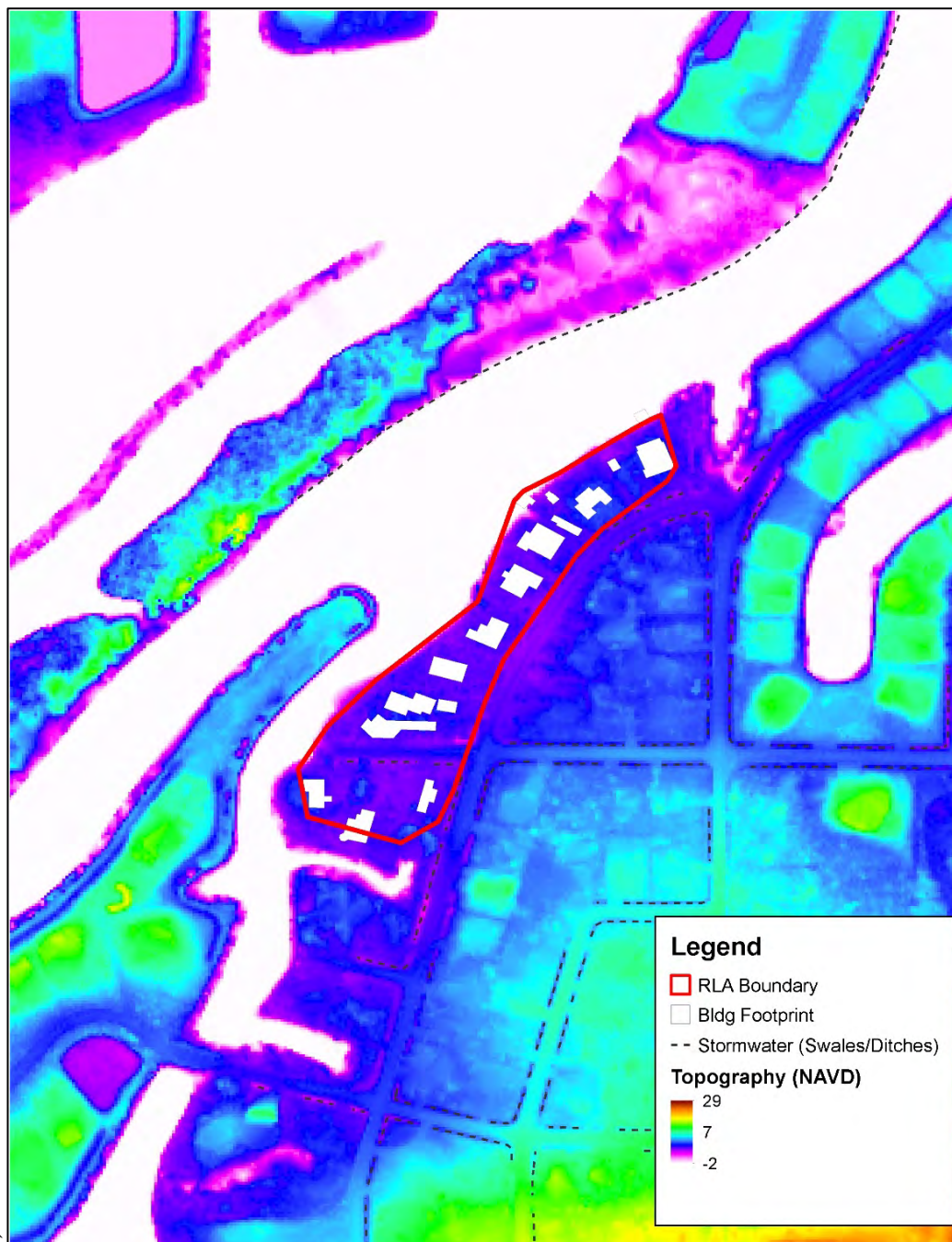


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is limited to swales or stormwater pipes for conveyance of stormwater along Ravenna St N, with runoff pooling and moving down along the street and over lower elevated properties. There was no connection observed leading to the County's stormwater infrastructure or to an outfall. With the average elevation of existing grades (3.1 feet NAVD) versus the Base Flood Elevation (BFE) (10 feet NAVD), improvements alone to the stormwater infrastructure would not provide mitigation for flooding from major storm events.

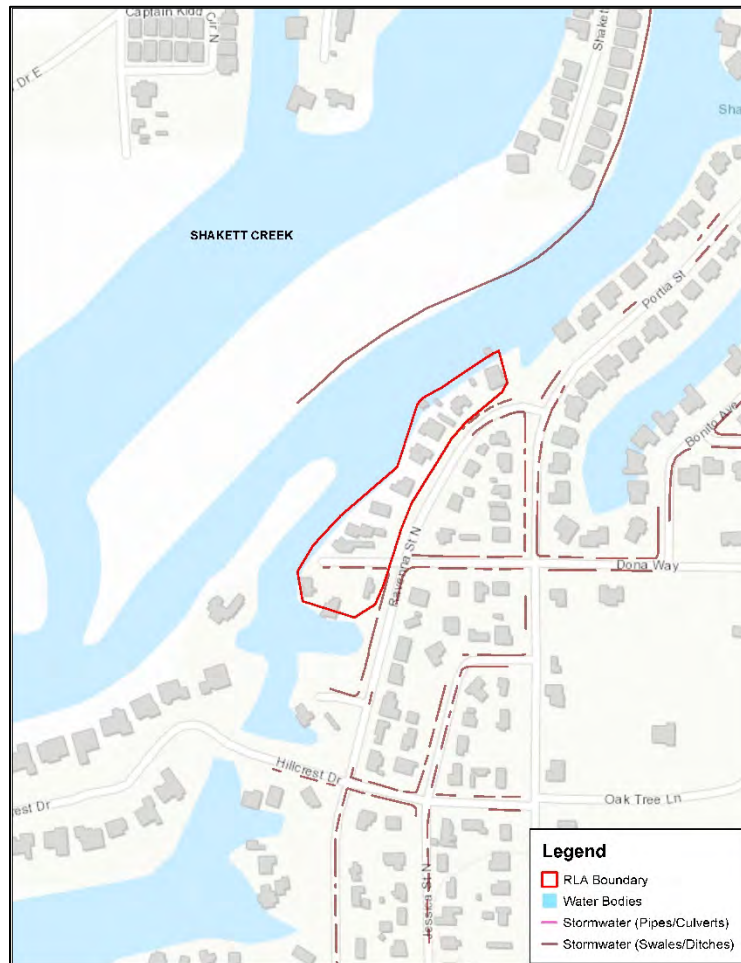


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to Shaket Creek flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 5.4 feet below the BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RL area utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 03 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
03 – CPS03 Cowpen Slough	1	0	13	AE (SFHA), AE (CFHA)	Dona Way Ravenna St. N	1, 2, 3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 03: Cowpen Slough	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	13					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	2					
Total insurance claims (in thousands)	\$10.1					
Average insurance claim (in thousands)	\$5.03					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 04-DRB01 DONA ROBERTS BAY

Repetitive Loss Area (RLA) Overview

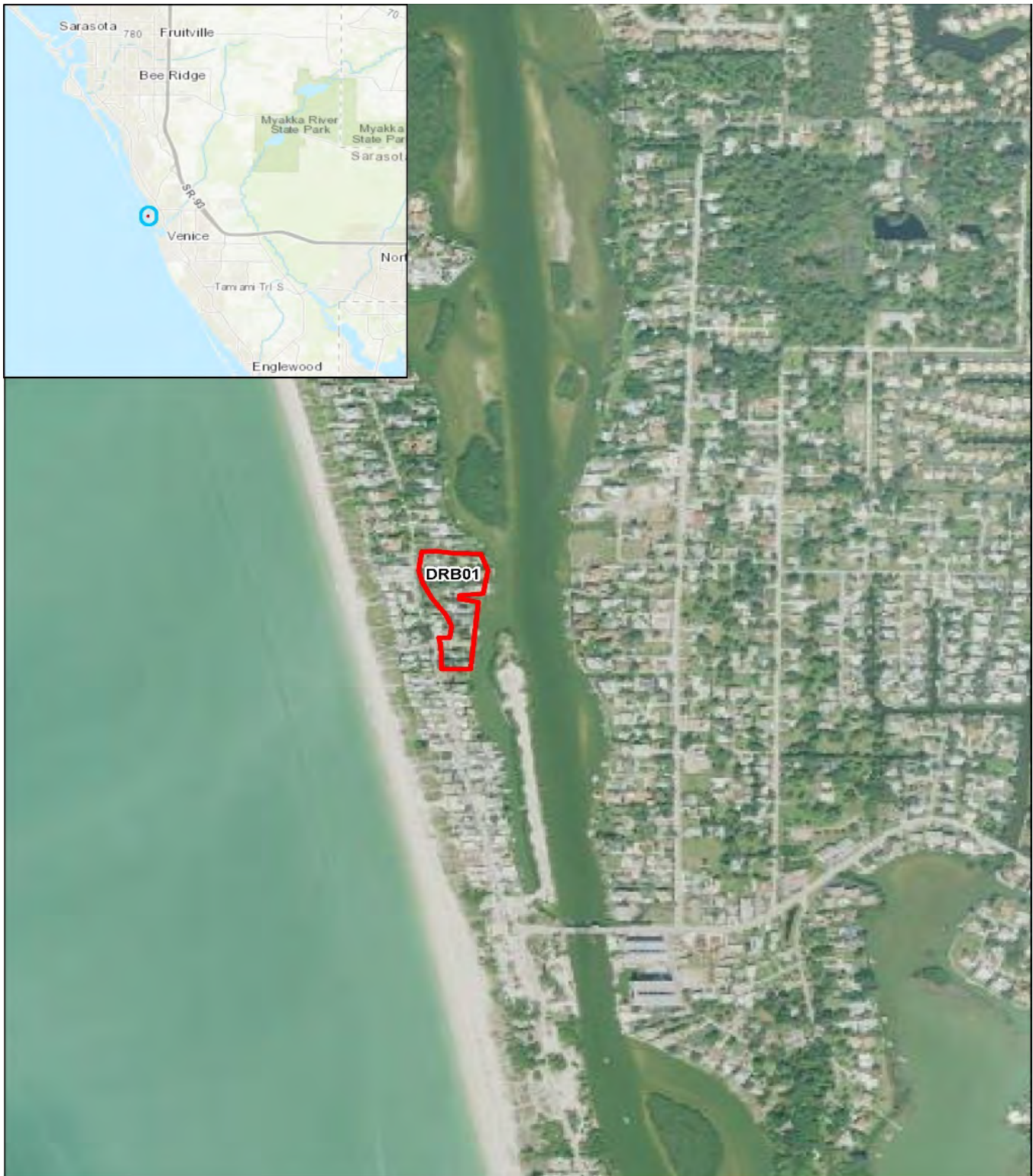


Figure 1: DRB01 Boundaries

AREA DESCRIPTION

WATERSHED: Dona Bay / Roberts Bay
 BASIN: Dona/Roberts Bay Coastal
 LANDFORM: Peninsula (Bay)
 AREA: 4.92 acres

FLOODING PROBLEMS AND CONCERNS

- Peninsula between Dona and Roberts Bays
- Storm surge Thru Venice Inlet/Gulf of Mexico
- Storm surge from Bays
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures
- Many lots below street grade
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is situated on a portion of the peninsula separating Blackburn Bay to the east and the Gulf of Mexico to the west. This is a narrow peninsula, subject to tidal action, waves, and surge from Blackburn Bay, as well as coastal influences from the Gulf of Mexico. Most of the structures within this area were constructed before the 1990s, with concrete slab-on-grade foundations elevated above an average grade of 2.8 feet NAVD. Newer structures are on a stemwall. Since 100% of the structures are within the SFHA Zone AE-10, the older, slab-on-grade structures are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Structure Elevated on Stemwall Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
12	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
6	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
2	Insurance Claims (since 1978)
\$9.04	Total Insurance Claims (in thousands)
\$4.70	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Casey Key Rd	No Comments were provided.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for one (1) individual claim in the RLA, which corresponded to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been no NFIP claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
11%	Raised Slab on grade
44%	Elevated slab on stem wall with enclosure
45%	Elevated on post/piles or walls
Composition	Frame Type
22%	Wood frame
78%	Concrete block/masonry
Composition	Number of Stories
66%	Single story
17%	Two story
17%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structures

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 15 to 20 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bay and prevent normal rainfall runoff and stormwater drainage from these low elevation areas into the bay. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

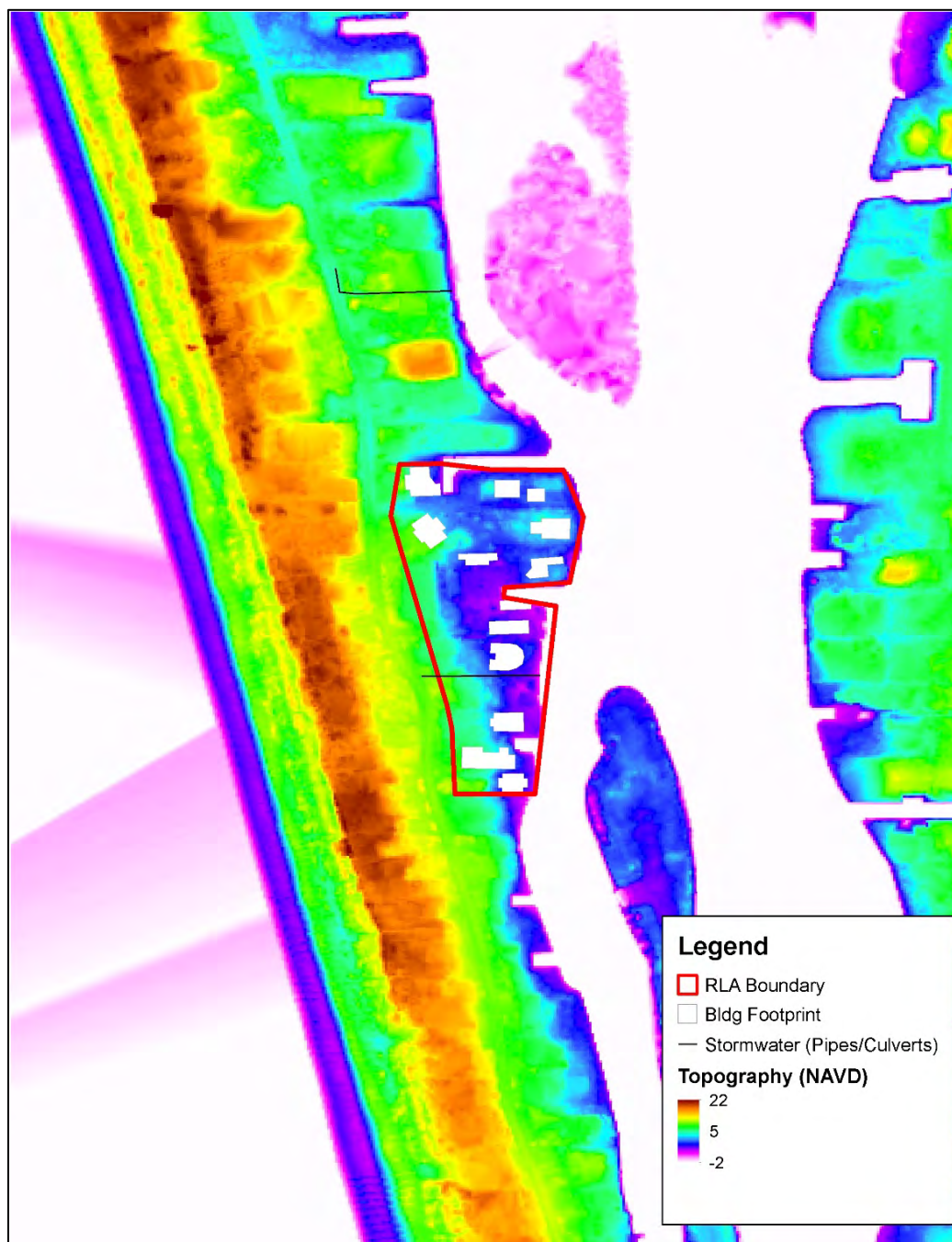


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is limited to one outfall structure and sheet-flow directly into Blackburn Bay. There are no swales or stormwater pipes for conveyance of stormwater along Casey Key Road, with runoff pooling and moving down along the street toward the outfall structure; however, no connection was observed leading to the County's stormwater infrastructure or the outfall. The average elevation of existing grades (2.8 feet NAVD) versus the Base Flood Elevation (BFE) (10 feet NAVD), suggests that stormwater improvements may provide some mitigation for flooding from major storm events.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to Blackburn Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 2.5 feet below the BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event.

Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 04 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for this area is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
04 – DRB01 Dona Roberts Bay	1	0	12	AE (SFHA)	Casey Key Rd.	1, 2, 3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 04: Dona Roberts Bay	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	12					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	2					
Total insurance claims (in thousands)	\$9.04					
Average insurance claim (in thousands)	\$4.70					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 05-DRB02 Dona Roberts Bay

Repetitive Loss Area (RLA) Overview

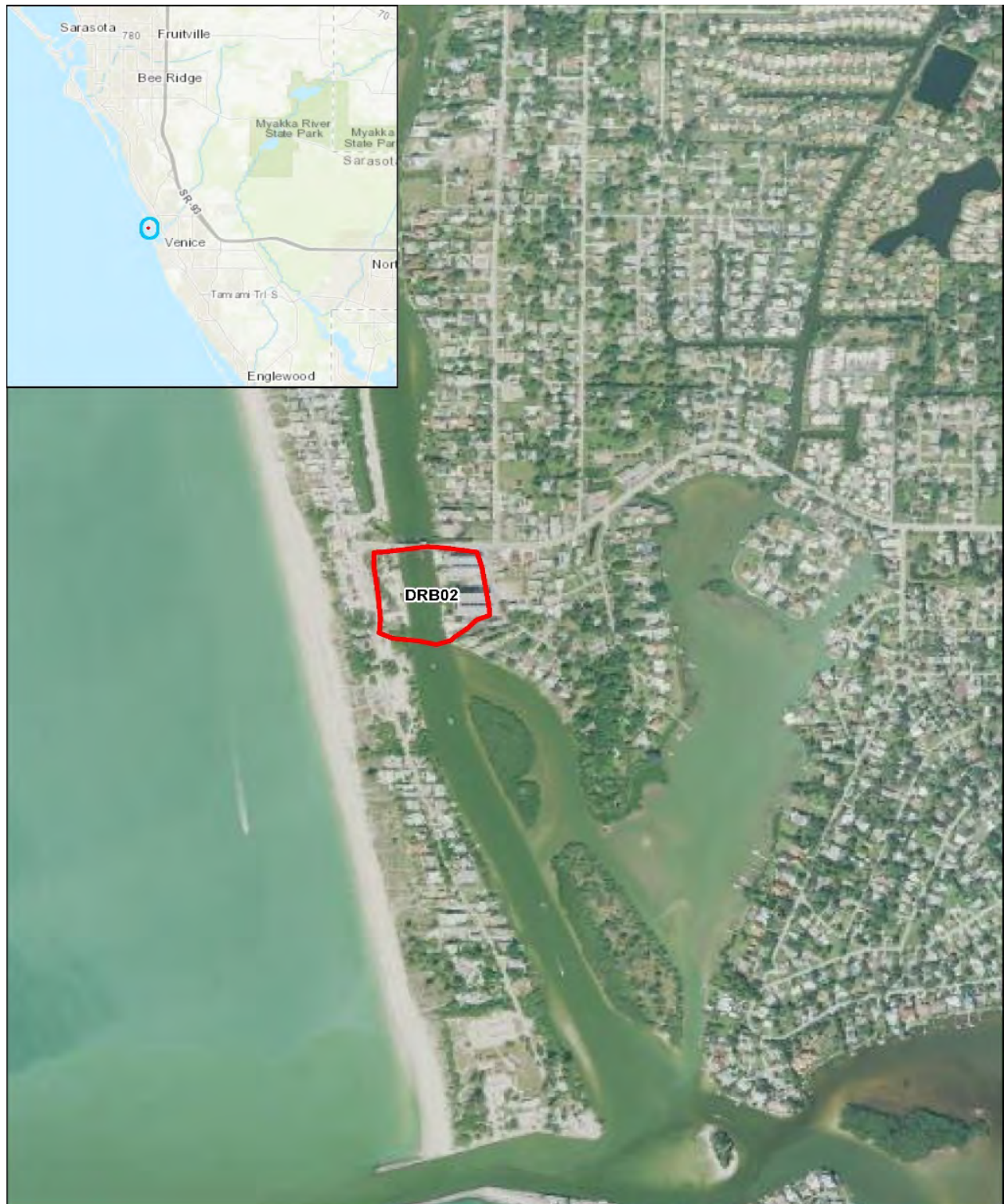


Figure 1: DRB02 Boundaries

AREA DESCRIPTION

WATERSHED: Dona Bay / Roberts Bay
 BASIN: Dona/Roberts Bay, Coastal
 LANDFORM: Peninsula, Bayside
 AREA: 11.53 acres

FLOODING PROBLEMS AND CONCERNS

- Peninsula between Dona and Roberts Bays
- Storm surge through Venice Inlet/Gulf of Mexico
- Storm surge from Bays
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many lots below street grade
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is situated on a portion of the peninsula separating Blackburn Bay from Casey Key and the mainland south of Albee Rd. This area is subject to tidal action, waves, and surge from the Blackburn Bay, as well as coastal influences from the Gulf of Mexico from the western side of the narrow peninsula. The structures within this area were primarily constructed in the early 1990s, with concrete slab-on-grade foundations, elevated above an average grade of 2.1 feet NAVD. Since 100% of the structures are within the SFHA Zone AE-12, these slab-on-grade structures are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

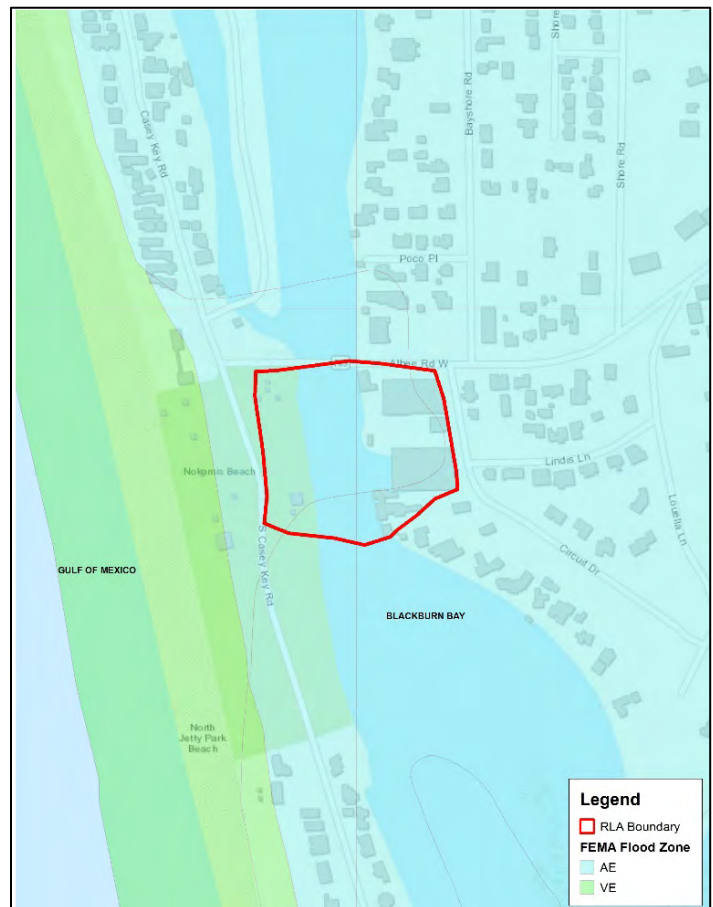


Figure 3: Spatial Distribution of Structures vs Flood Zones

Total	Repetitive Loss Data
8	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
3	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
11	Insurance Claims (since 1978)
\$63	Total Insurance Claims (in thousands)
\$5.71	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Circuit Rd	No comments were provided.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for eleven (11) individual claims in the RLA, of which seven (7) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	1
September 1, 1985	Hurricane Elena	3	2
November 23, 1988	Tropical Storm Keith	1-3	1
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
40%	Slab on grade
60%	Elevated on post/piles or walls
Composition	Frame Type
60%	Wood frame
40%	Concrete block/masonry
Composition	Number of Stories
67%	Single story
33%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides, high winds, and storm surge. These effects have likely caused flood inundation from the bay and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bay. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

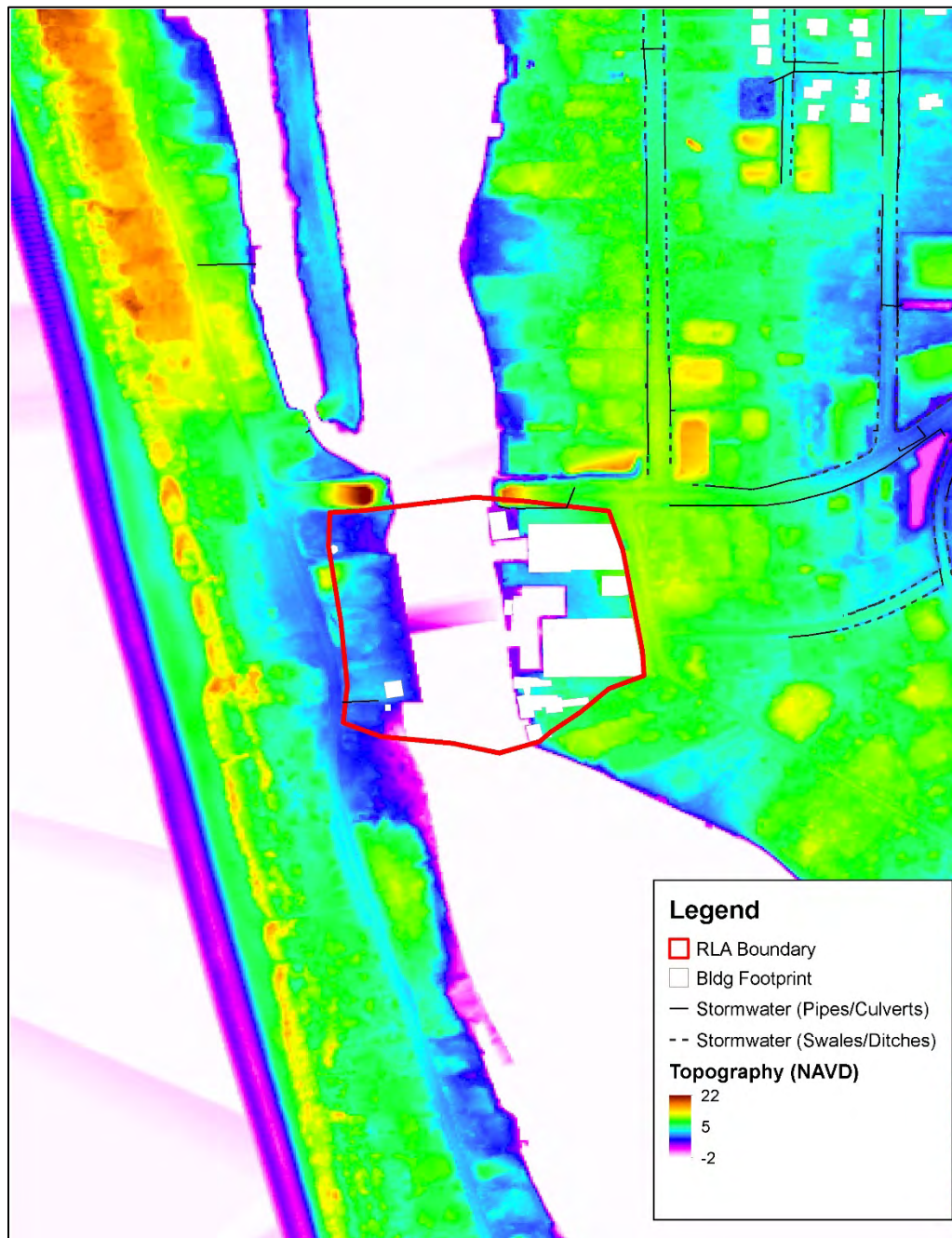


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is limited to two outfall structures to discharge points at Blackburn Bay. There are no swales or stormwater pipes for conveyance of stormwater along Circuit Dr., with runoff pooling and moving down along the street and over lower elevated properties. The average elevation of existing grades (2.1 feet NAVD) versus the Base Flood Elevation (BFE) (12 feet NAVD), indicates stormwater improvements along with the other recommended mitigation strategies in this RLA would provide mitigation for flooding from major storm events.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to Blackburn Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 9.5 feet below the BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 05 are subject to flooding due to heavy rainfall events, high tides, and storm surge. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
05 – DRB02 Dona Roberts Bay	0	1	8	AE (SFHA)	Circuit Rd Albee Rd Casey Key Rd	1, 2, 3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 05: Dona Roberts Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	8					
Repetitive Loss (RL) Properties	0					
Severe RL properties	1					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	11					
Total insurance claims (in thousands)	\$63					
Average insurance claim (in thousands)	\$5.71					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 06-DRB03 Dona Roberts Bay

Repetitive Loss Area (RLA) Overview

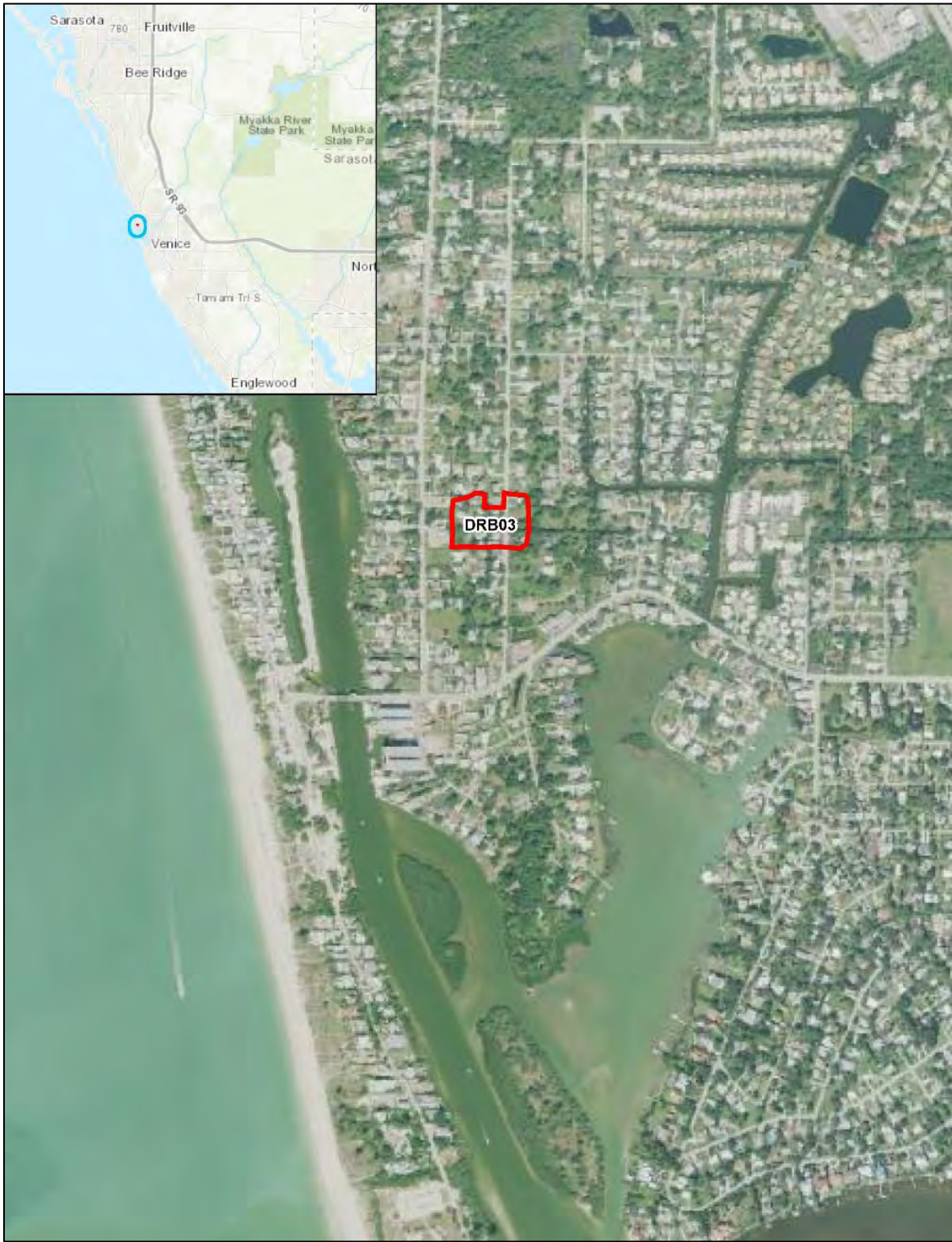


Figure 1: DRB03 Boundaries

AREA DESCRIPTION

WATERSHED: Dona Bay / Roberts Bay
 BASIN: Dona/Roberts Bay Coastal
 LANDFORM: Peninsula (Bay)
 AREA: 4.52 acres

FLOODING PROBLEMS AND CONCERNS

- Peninsula between Dona and Roberts Bays
- Storm surge from Bays
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures
- Many lots below street grade
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is situated on a portion of the peninsula separating Lyons Bay to the east and Blackburn Bay to the west. This area provides adequate buffer between the bays to help prevent surge but is subject to tidal flooding as well as coastal influences from the Gulf of Mexico. Most of the structures within this area were constructed in the 1950s, with concrete slab-on-grade foundations, elevated above an average grade of 5.4 feet NAVD, with 100% of the structures located within SFHA Zone AE. Tables 1 and 4 provide a summary of the structures within this RLA.

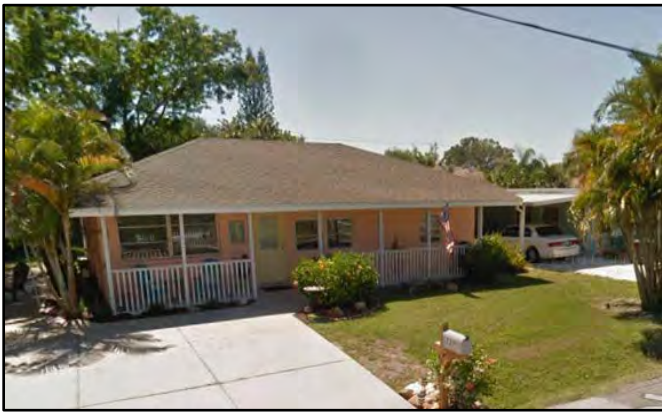


Figure 2: Slab on Grade Structure

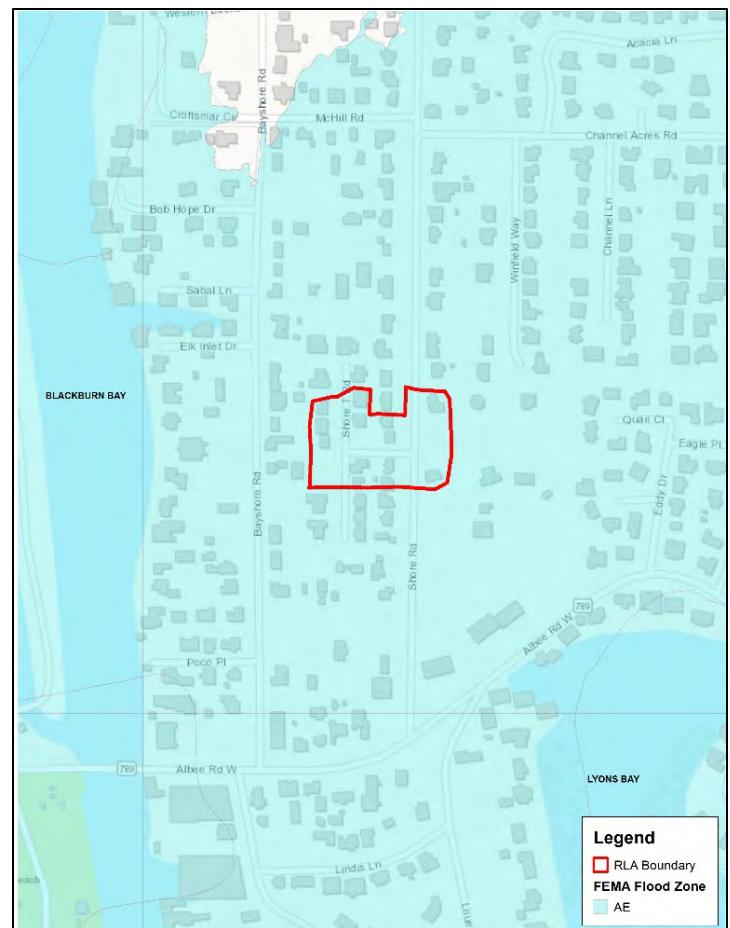


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
13	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
6	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
2	Unmitigated RL & SRL Properties
11	Insurance Claims (since 1978)
\$48.64	Total Insurance Claims (in thousands)
\$4.42	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Shore Rd Shore T Rd	Resident with less than 10 years residency, concrete slab on grade, reports no flooding. No flood insurance, cleared debris, shrub and overgrowth to prevent flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the eleven (11) individual claims in the RLA, of which eight (8) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remainder of the claims for RLPs are presumed to be from lesser storms. Records indicate that there have been four (4) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	2
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	2
July 18, 1995	Un-Named Storm	9-11	2
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	2
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
85%	Slab on grade
15%	Elevated foundation walls with enclosure
Composition	Frame Type
0%	Wood frame
100%	Concrete block/masonry
Composition	Number of Stories
92%	Single story
8%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

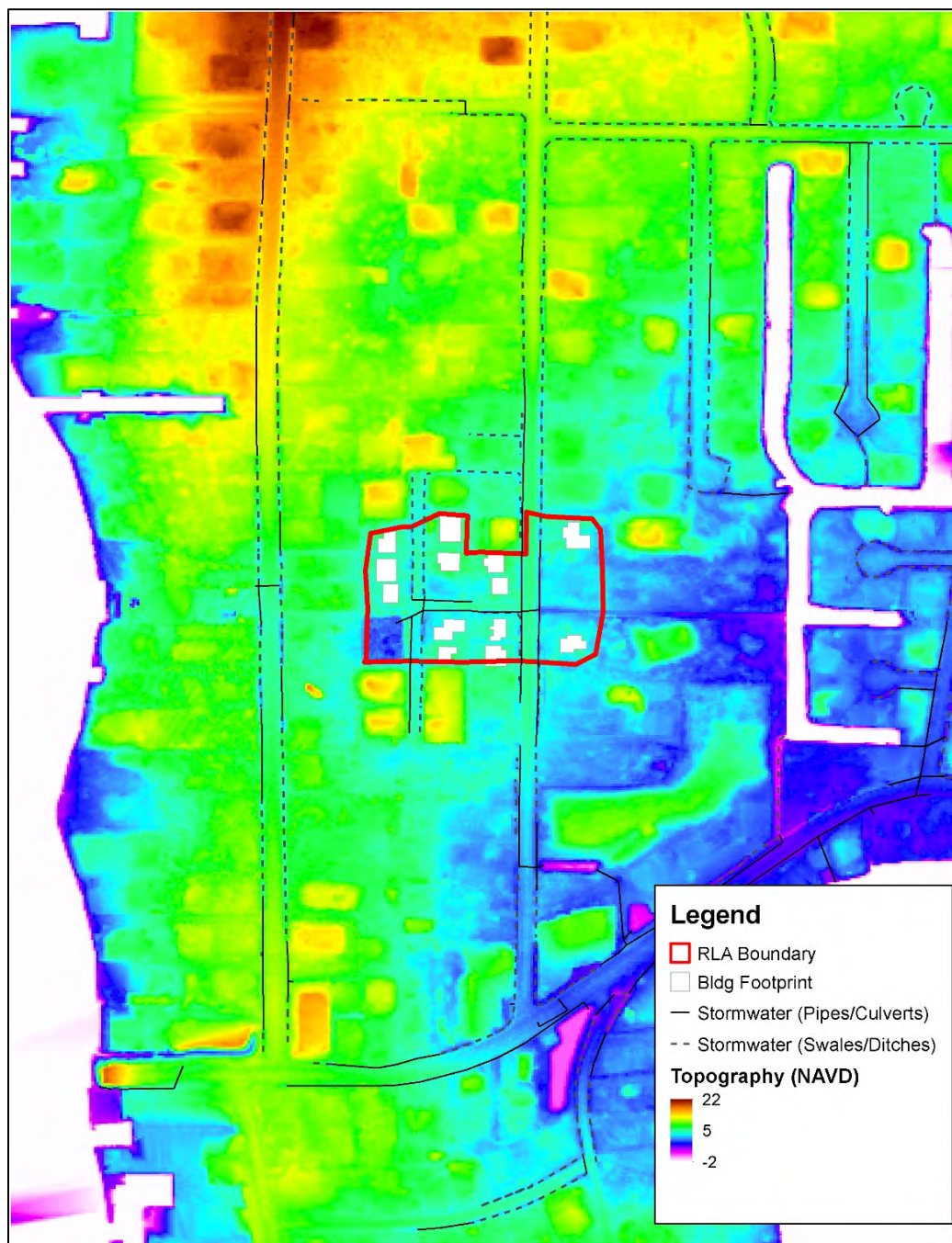


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is coupled with both roadside swales and pipes to direct the stormwater to an outfall structure which discharges into a wet retention area west of Shore T Rd. Residents described no flooding in the survey response. However, with the average elevation of existing grades (5.4 feet NAVD) versus the Base Flood Elevation (BFE) (10 feet NAVD), stormwater infrastructure improvements would not provide mitigation for flooding from major storm events.

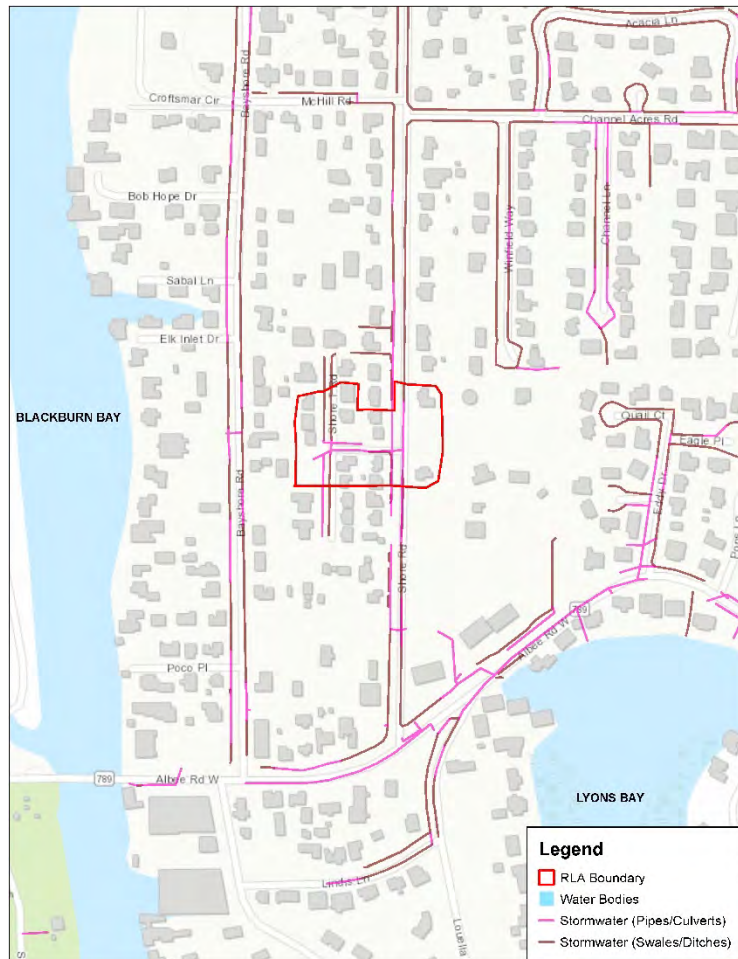


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to Blackburn Bay and Lyons Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 4.2 feet below the BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA utilize both on-site septic systems and sewer to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 06 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
06 – DRB03 Dona Roberts Bay	2	0	13	AE (SFHA)	Shore Rd Shore T Rd	2, 3, 1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 06: Dona Roberts Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	13					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	11					
Total insurance claims (in thousands)	\$49					
Average insurance claim (in thousands)	\$4.42					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 07-DRB04 Dona Roberts Bay

Repetitive Loss Area (RLA) Overview

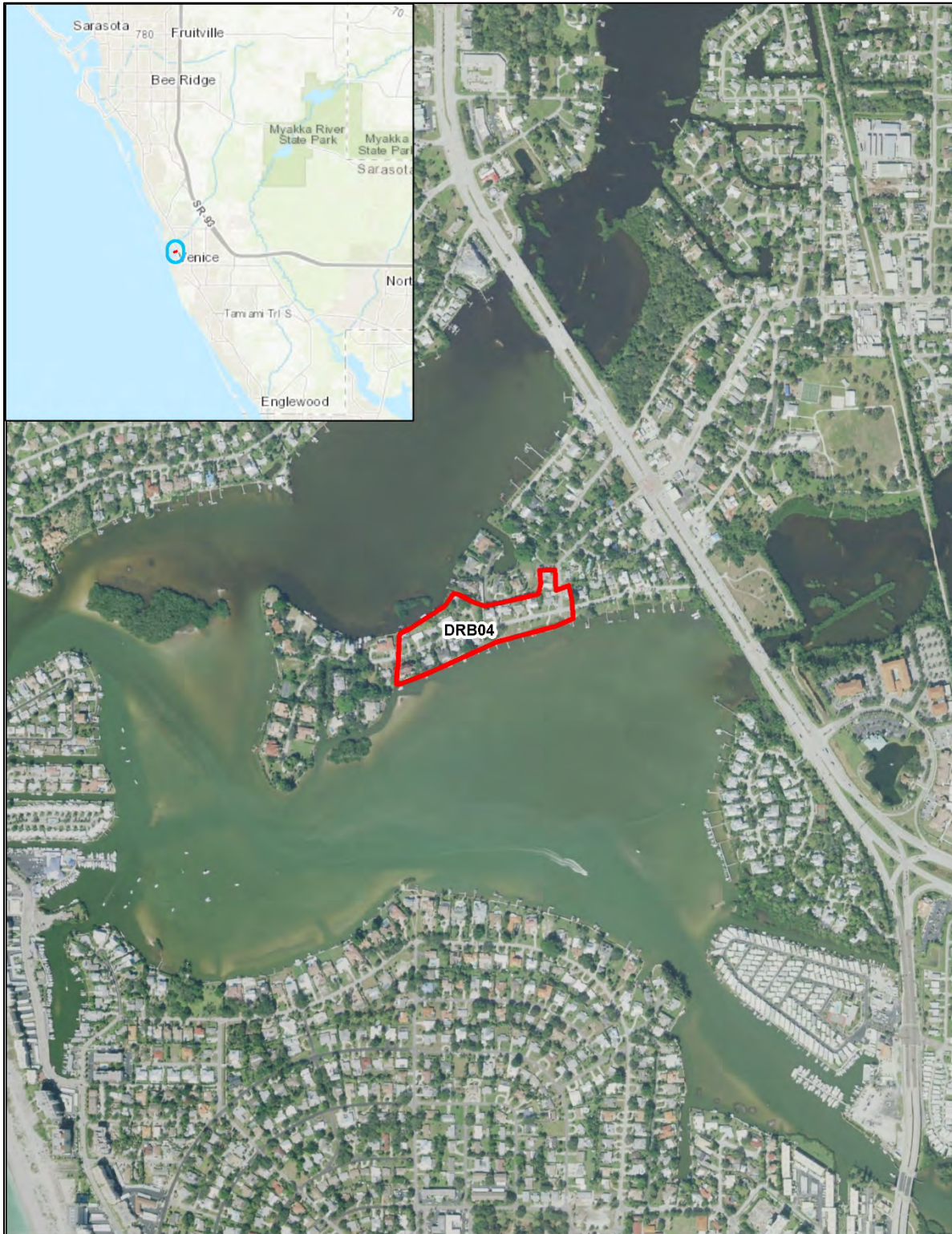


Figure 1: DRB04 Boundaries

AREA DESCRIPTION

WATERSHED: Dona Bay / Roberts Bay
 BASIN: Dona/Roberts Bay Coastal
 LANDFORM: Peninsula (Bay)
 AREA: 10.69 acres

FLOODING PROBLEMS AND CONCERNS

- Peninsula between Dona and Roberts Bays
- Storm surge Thru Venice Inlet/Gulf of Mexico
- Storm surge from Bays
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures
- Many lots below street grade
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is situated on a portion of the peninsula separating Dona and Roberts Bays just to the east of Bird Island and just west of US-41. This is the narrowest and lowest section of the peninsula at the confluence of the two bays, subject to tidal action, waves, and surge from the north (Dona Bay) and south (Roberts Bay), as well as coastal influences from the Gulf of Mexico through Venice Inlet less than one mile to the west. Most of the structures within this area were constructed in the 1950s, with concrete slab-on-grade foundations, elevated above an average grade of 2.6 feet NAVD. Since 100% of the structures are within SFHA Zone AE-11, these older, slab-on-grade structures are at risk of flooding. Most of the structures are situated in a low "bowl" area when compared to surrounding properties, which likely accounts for some flooding from stormwater runoff particularly during high tides, as shown in Figure 3. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
20	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
10	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
9	Insurance Claims (since 1978)
\$19	Total Insurance Claims (in thousands)
\$2.10	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Sunrise Dr	Resident with 20-29 years residency, slab on grade, reports about 1 feet of flooding in garage/workshop for 8-12 hours every year after extended hard rain of +/- 1 inch, cited drainage/runoff from nearby properties as source. Installed sump pump.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for seven (7) of the nine (9) individual claims in the RLA, of which five (5) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remainder of the claims for RLPs are presumed to be from lesser storms. Records indicate that there have been no NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	1
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	4
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
60%	Slab on grade
10%	Elevated slab on stem wall with fill
30%	Elevated on post/piles or walls
Composition	Frame Type
30%	Wood frame
70%	Concrete block/masonry
Composition	Number of Stories
75%	Single story
15%	Two story
10%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Wood Frame, Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.



Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is limited to a couple drop structures leading to a single Roberts Bay outfall (spillway) at the intersection of Sunrise Dr. and Colonia Ln. There are no swales or pipes for conveyance of stormwater along Sunrise Dr., with runoff pooling and moving down along the street and over lower elevated properties toward the spillway outfall, and "outward" from the street to the lower elevated properties to the north and south. There is a street drain at the driveway of 404 Sunrise Dr., but no connection was observed leading to the County's stormwater infrastructure or the spillway outfall. Some low-level flooding as described by the resident survey response may be reduced through the expansion of the stormwater infrastructure to include Sunrise Dr. However, with the average elevation of existing grades (2.6 feet NAVD) versus the Base Flood Elevation (BFE) (11 feet NAVD), such improvements would not provide mitigation for flooding from major storm events.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to Dona and Roberts Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 6.5 feet below the BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 07 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
07 – DRB04 Dona Roberts Bay	1	0	20	AE (SFHA)	Sunrise Dr Colonia Ln Colonia Ln W	1, 2, 3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 07: Dona Roberts Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	20					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	9					
Total insurance claims (in thousands)	\$19					
Average insurance claim (in thousands)	\$2.10					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 08-ELB01 Elligraw Bayou

Repetitive Loss Area (RLA) Overview

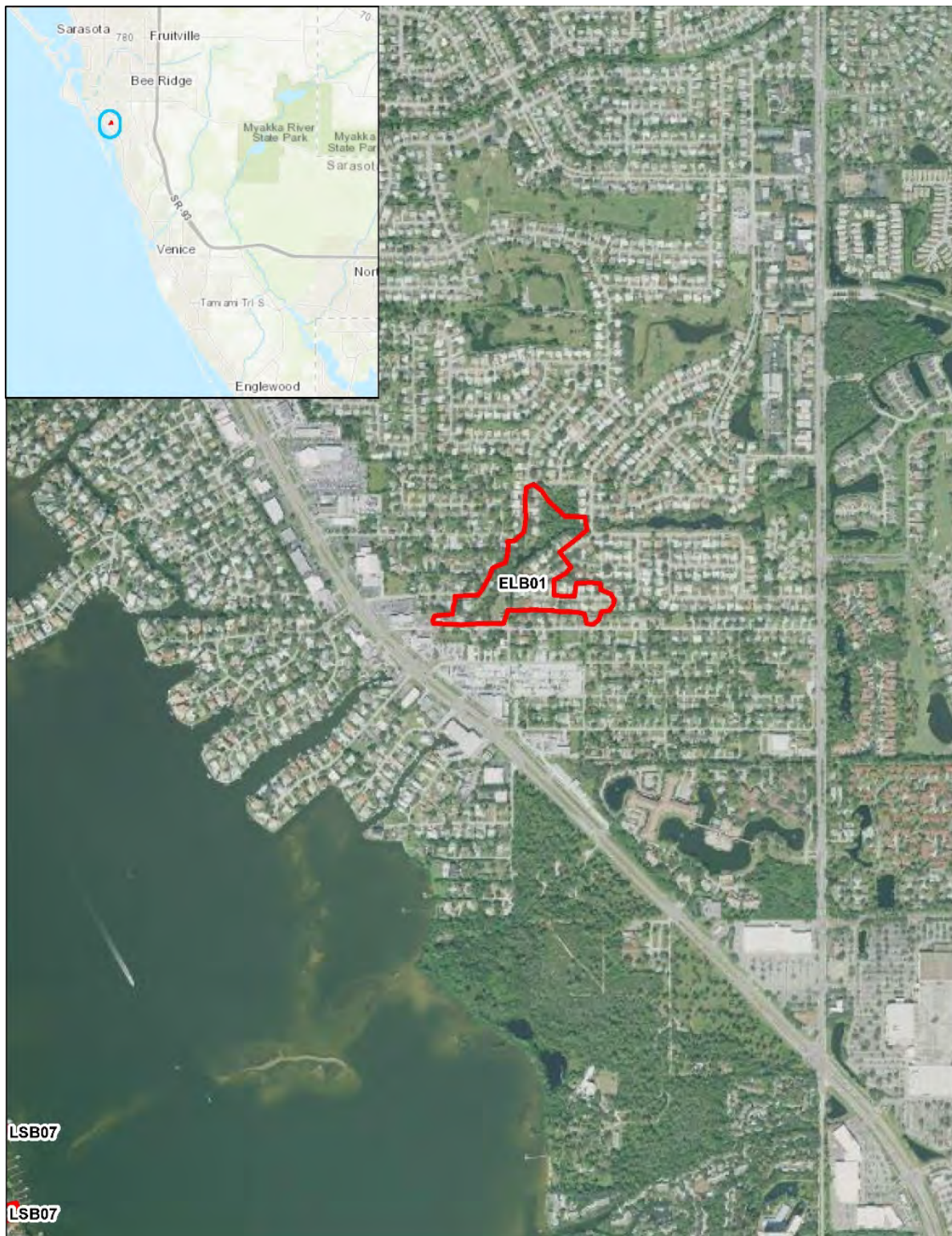


Figure 1: ELB01 Boundaries

AREA DESCRIPTION

WATERSHED: Little Sarasota Bay
 BASIN: Elligraw Bayou
 LANDFORM: Riverine Shoreline
 AREA: 20.71 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Elligraw Bayou
- Storm surge from Sarasota Bay

Problem Statement

This Repetitive Loss Area (RLA) is situated on a riverine shoreline in a residential neighborhood east of Sarasota Bay. Most of the structures within this area were constructed in the 1970s, with concrete slab-on-grade foundations, elevated 12.9 feet above the Base Flood Elevation (BFE) of the adjacent special flood hazard area (SFHA). Since the structures are within the CFHA Zone AE, as well as the FEMA Zone Shaded X, these older, slab-on-grade structures are at a greater risk of coastal influences and overtopping of banks from the adjacent riverine area, as opposed to regular storm event flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade, Wood Frame Structure

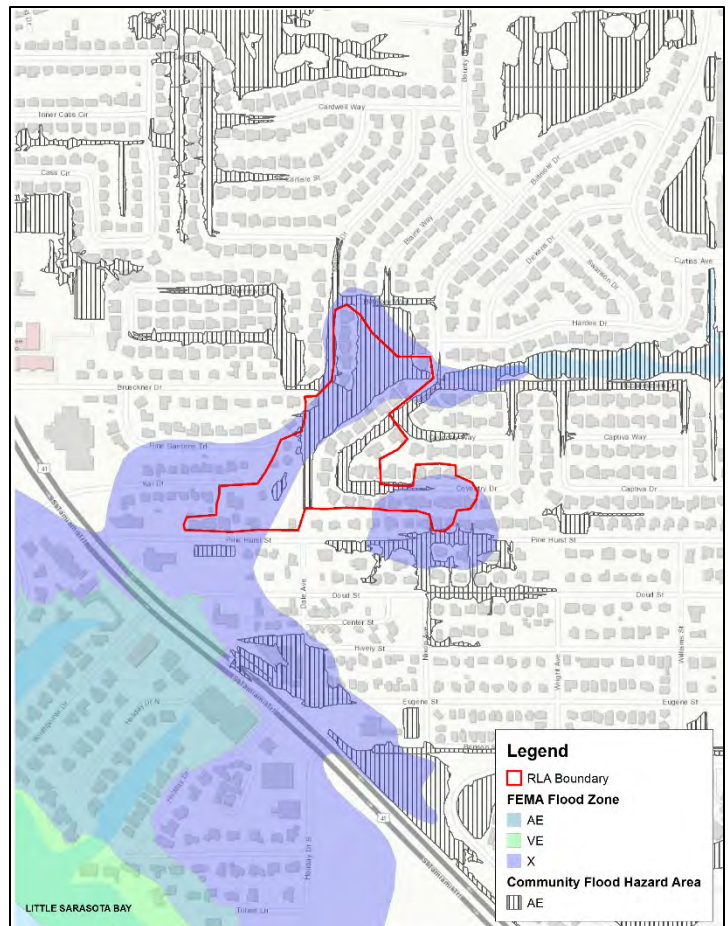


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
45	Total Structures in Repetitive Loss Area
4	Total Repetitive Loss Structures in this Area
14	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
4	Unmitigated RL & SRL Properties
22	Insurance Claims (since 1978)
\$329.4	Total Insurance Claims (in thousands)
\$14.97	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were three (3) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Pinehurst Street	Resident with 20-29 years residency, slab on grade, reports flooding in yard only due to undersized/clogged drainage ditch/culvert, homeowner sealed home to combat flooding.
Mariana Drive	Resident with less than 10 years residency, slab on grade, reported no flooding on property.
Coventry Drive	Resident with 20-29 years residency, concrete slab on grade, reported flooding inside structure less than 1-foot for less than 4 hours cause of flooding unknown, homeowner indicated that County improved drainage within the right-of-way to improve drainage.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for fifteen (15) of the twenty-two (22) individual claims in the RLA, of which eleven (11) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remainder of the claims for RLPs are presumed to be from lesser storms. Records indicate that there have been sixteen (16) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	4
July 18, 1995	Un-Named Storm	9-11	14
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
93%	Slab on grade
7%	Elevated on posts/piles
Composition	Frame Type
11%	Wood frame
89%	Concrete block/masonry
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
75.6%	Within Zone Shaded X
24.4%	Within Zone X
6.7%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

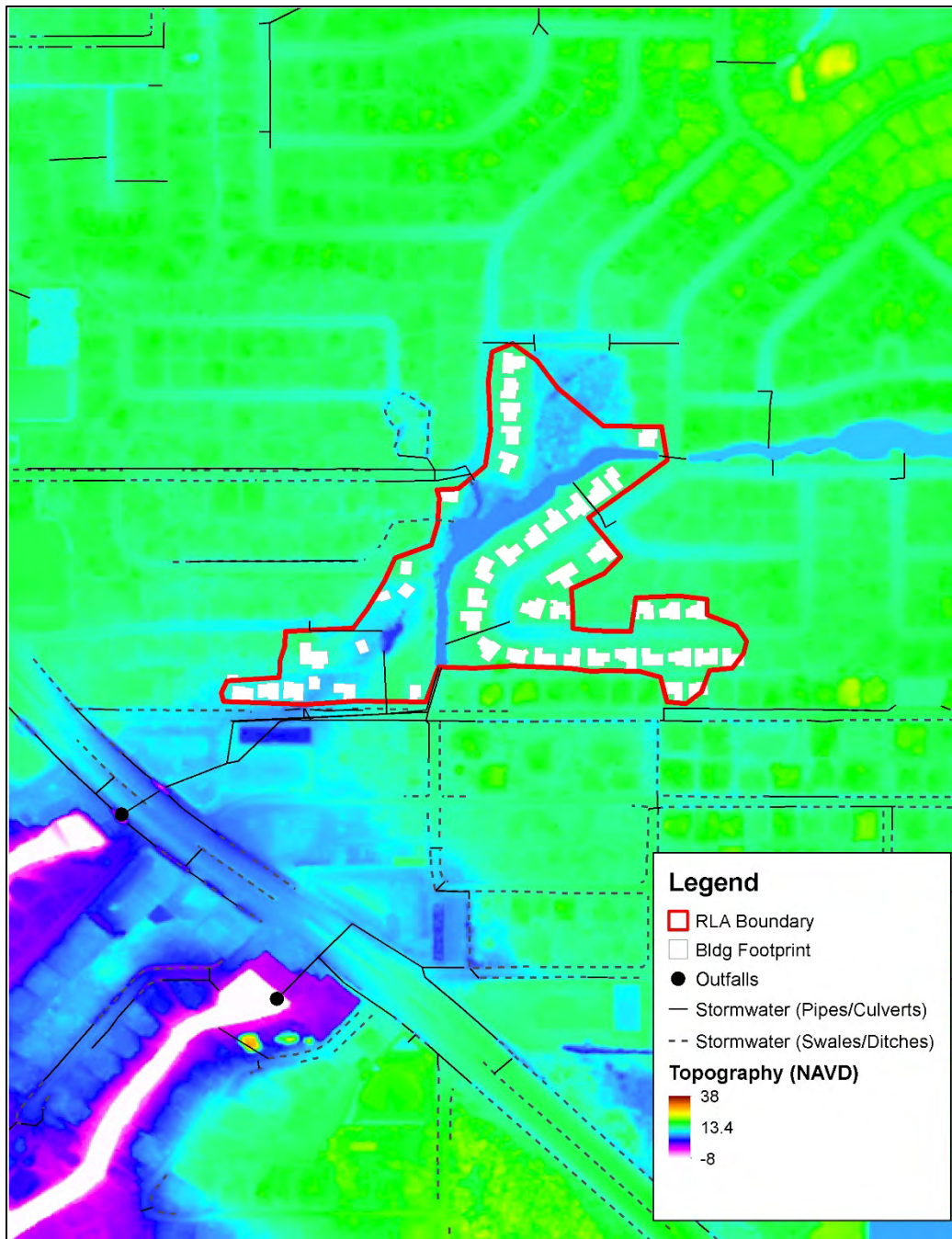


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA primarily consists of F-curb along each side of the roadways on Biltmore Dr. and Coventry Dr. that lead to five (5) outfall structures discharging into Elligraw Bayou. Some low-level flooding as described by the resident survey response may be reduced through the expansion of the stormwater infrastructure.

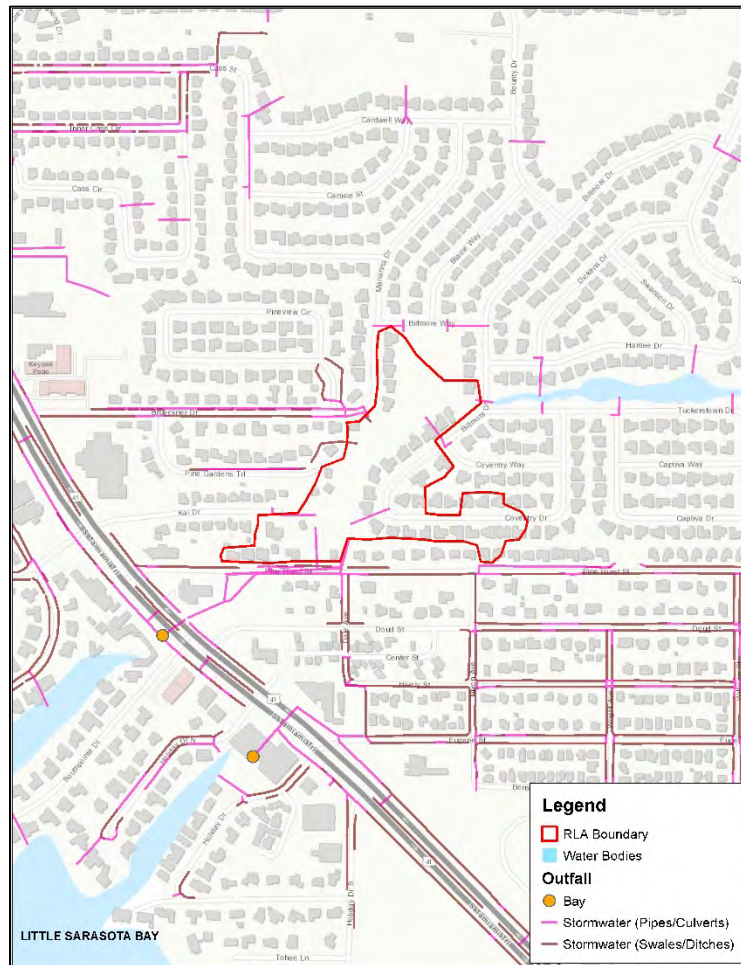


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. Based on the slab-on-grade structures, the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA area are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 08 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
08 – ELB 01 Elligrow Bayou	4	0	45	Shaded X, X, AE (CFHA)	Pinehurst St Kai Dr Pine Gardens Trl Biltmore Way Coventry Dr Marianna Dr	1, 2, 3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 08: Elligrow Bayou	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	45					
Repetitive Loss (RL) Properties	4					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	22					
Total insurance claims (in thousands)	\$329.4					
Average insurance claim (in thousands)	\$14.97					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 09-FRC01 Forked Creek

Repetitive Loss Area (RLA) Overview

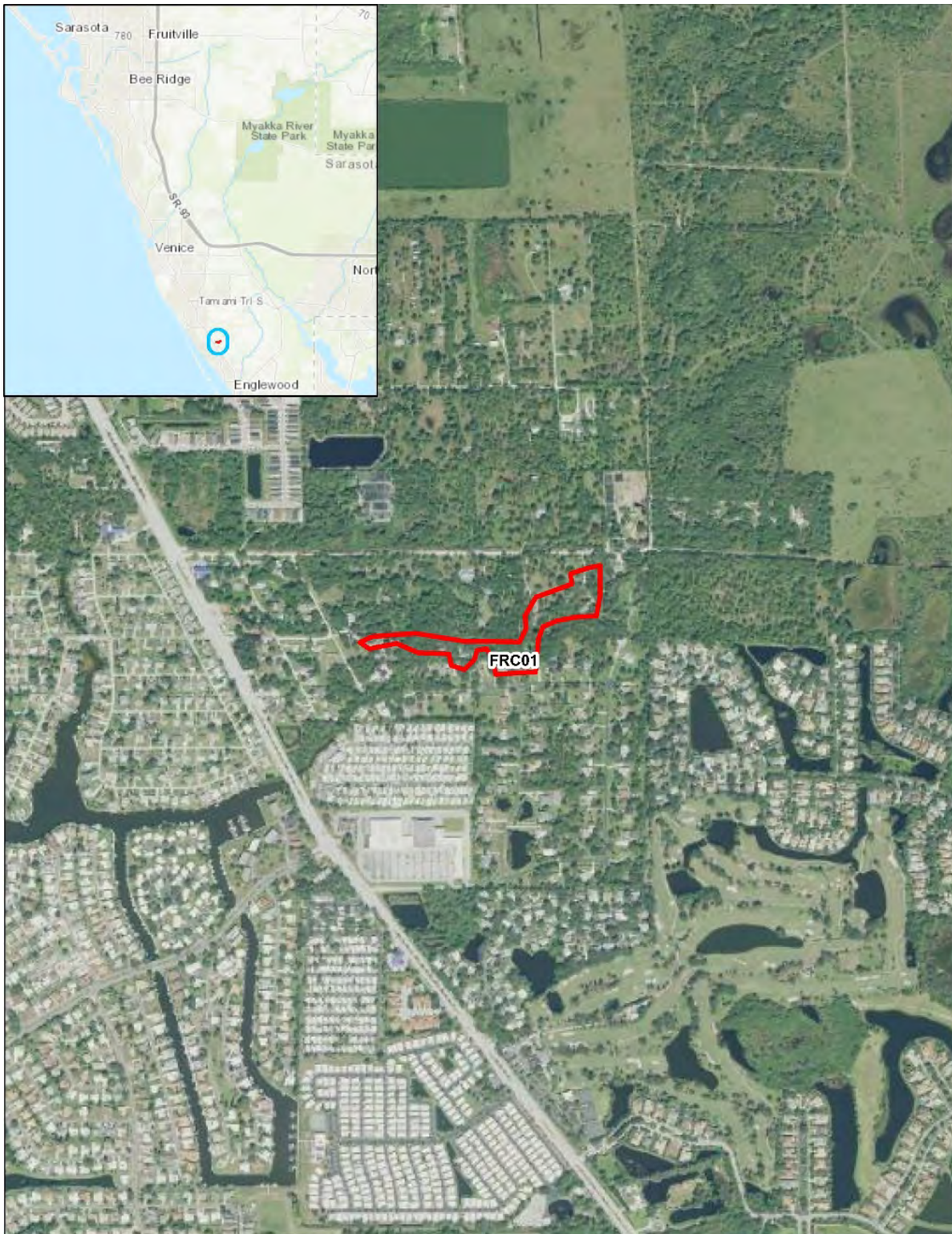


Figure 1: FRC01 Boundaries

AREA DESCRIPTION

WATERSHED: Forked Creek
 BASIN: Forked Creek
 LANDFORM: Riverine/Creek
 AREA: 11.47 acres

FLOODING PROBLEMS AND CONCERNS

- Overbank flooding from Forked Creek
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is located on the banks of Forked Creek. Due to the area's low elevation, structures are subject to flooding from overtopping of the banks of the river, particularly during high rainfall events corresponding with high water levels in Forked Creek. Most of the structures within this area were constructed prior to 1990, with concrete slab-on-grade or raised slab-on-grade foundations. Since 55% of the structures are within the SFHA Zone AE, these structures are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

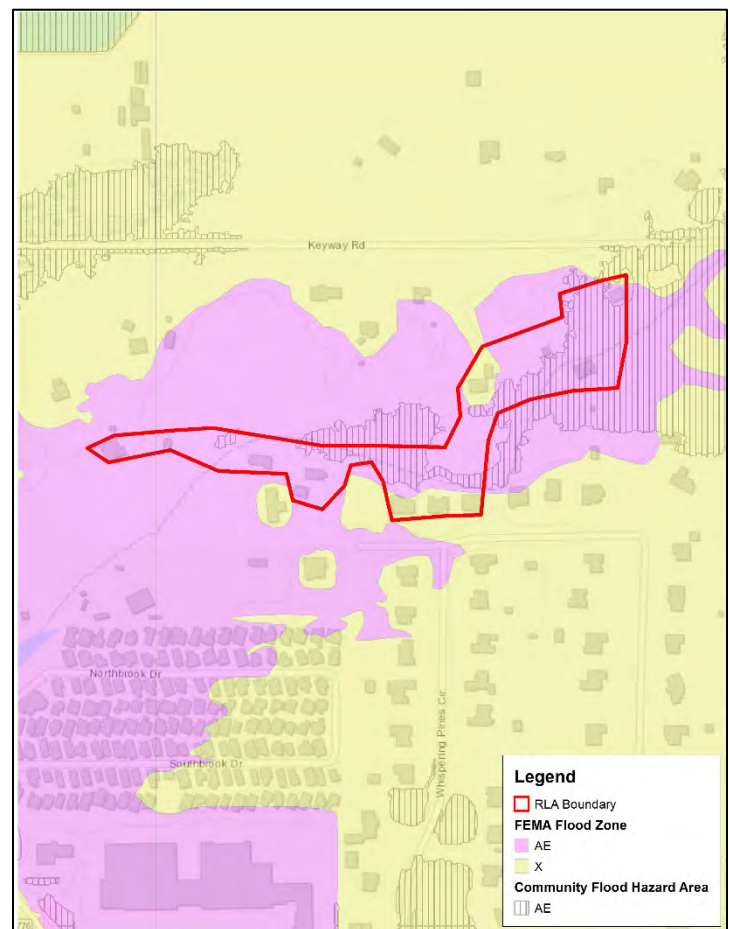


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
11	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
5	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
5	Insurance Claims (since 1978)
\$159.2	Total Insurance Claims (in thousands)
\$31.84	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Keyway Rd	Resident with 10-19 years residency, slab on grade, reported flooding in yard, relocated contents to higher elevation, elevated all/parts of building, and installed flood approved vents to reduce flooding.
Whispering Pines Pt.	Resident with 30-39 years residency, slab on grade, reported no flooding on property, homeowner elevated all/parts of structure to avoid flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for five (5) individual claims in the RLA, of which two (2) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remainder of the claims for RLPs are presumed to be from lesser storms. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
78%	Slab on grade
11%	Elevated on stem walls
11%	Elevated on posts/piles
Composition	Frame Type
44%	Wood frame
56%	Concrete block/masonry
Composition	Number of Stories
73%	Single story
27%	Two story
0%	Three story or greater
Composition	Flood Zones
55%	Within SFHA Zone AE
45%	Within Zone Shaded X
13%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are in proximity to the creek banks, where the lots are moderately low in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

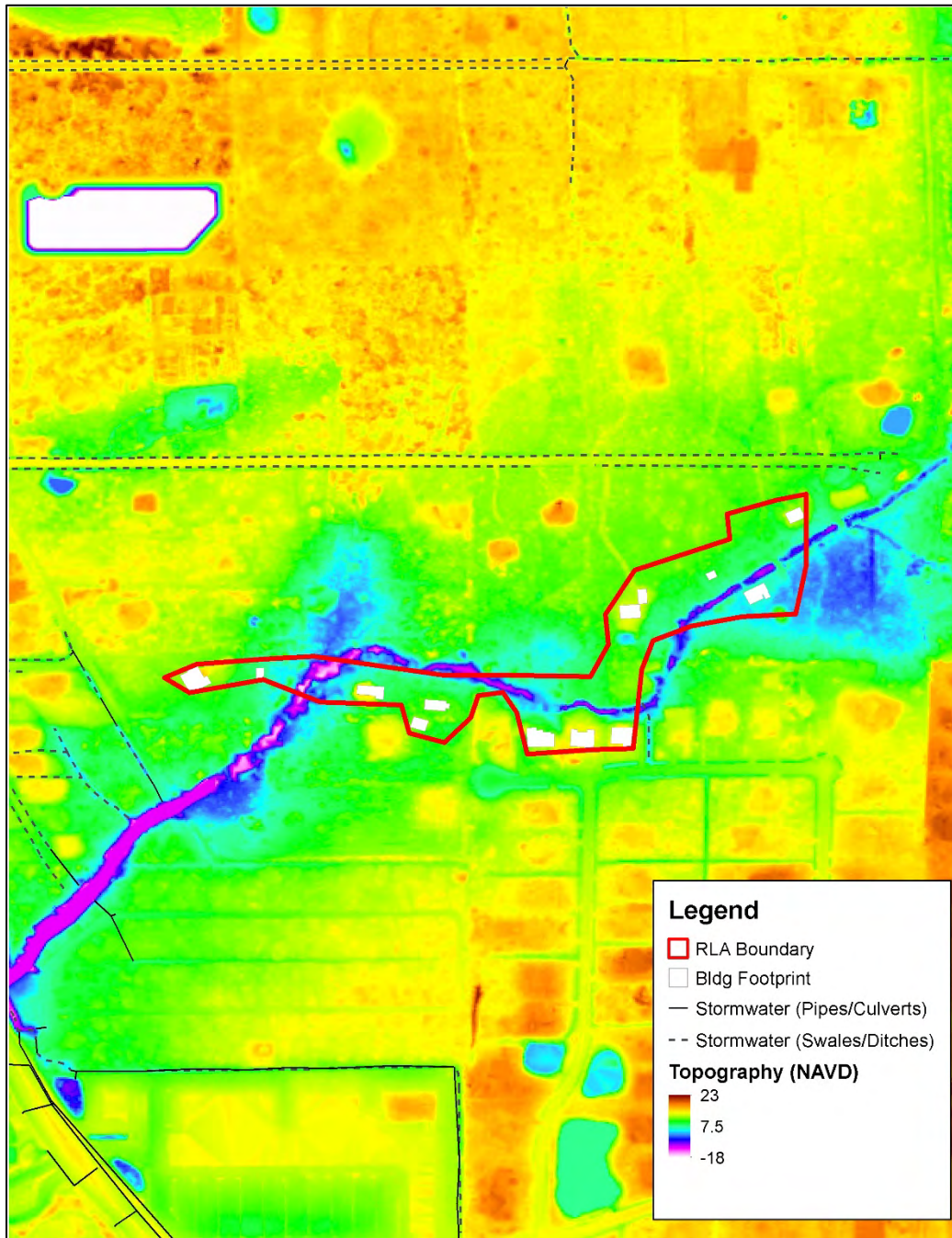


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is limited to one outfall control structure connected to conveyance swales and pipes on Whispering Pine Cir. On Keyway Rd there are minimal overgrown swales and pipes with a discharge structure located at the end of the road. There was no connection observed leading to the County's stormwater infrastructure. Some low-level flooding in the yard was described by the resident survey response on Keyway Dr which may be reduced through the expansion of the stormwater infrastructure.

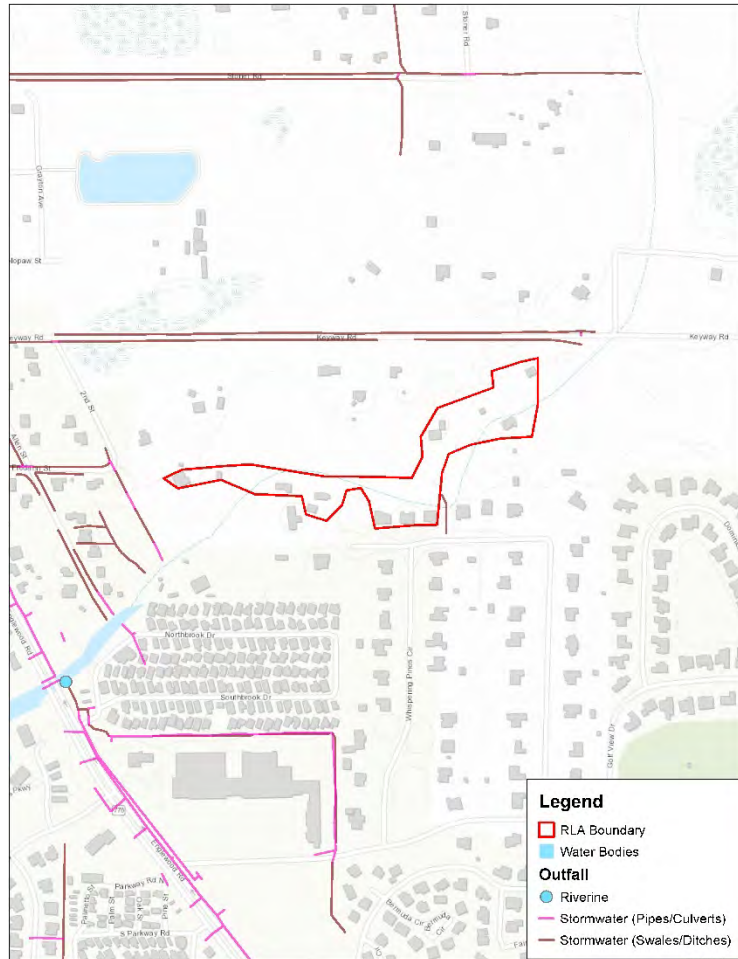


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The existing grades, exposure to Forked Creek flooding, and the average Finished Floor Elevation (FFE) of the structures at 6.1 feet above the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 09 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA 09 are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
09 – FRC01 Forked Creek	1	0	11	AE (SFHA), AE (CFHA), Shaded X	Keyway Rd Whispering Pines Pt Whispering Pines Cir 2 nd St	1, 2, 3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 09: Forked Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	11					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	5					
Total insurance claims (in thousands)	\$159.2					
Average insurance claim (in thousands)	\$31.84					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 10-LBC01 Lemon Bay

Repetitive Loss Area (RLA) Overview

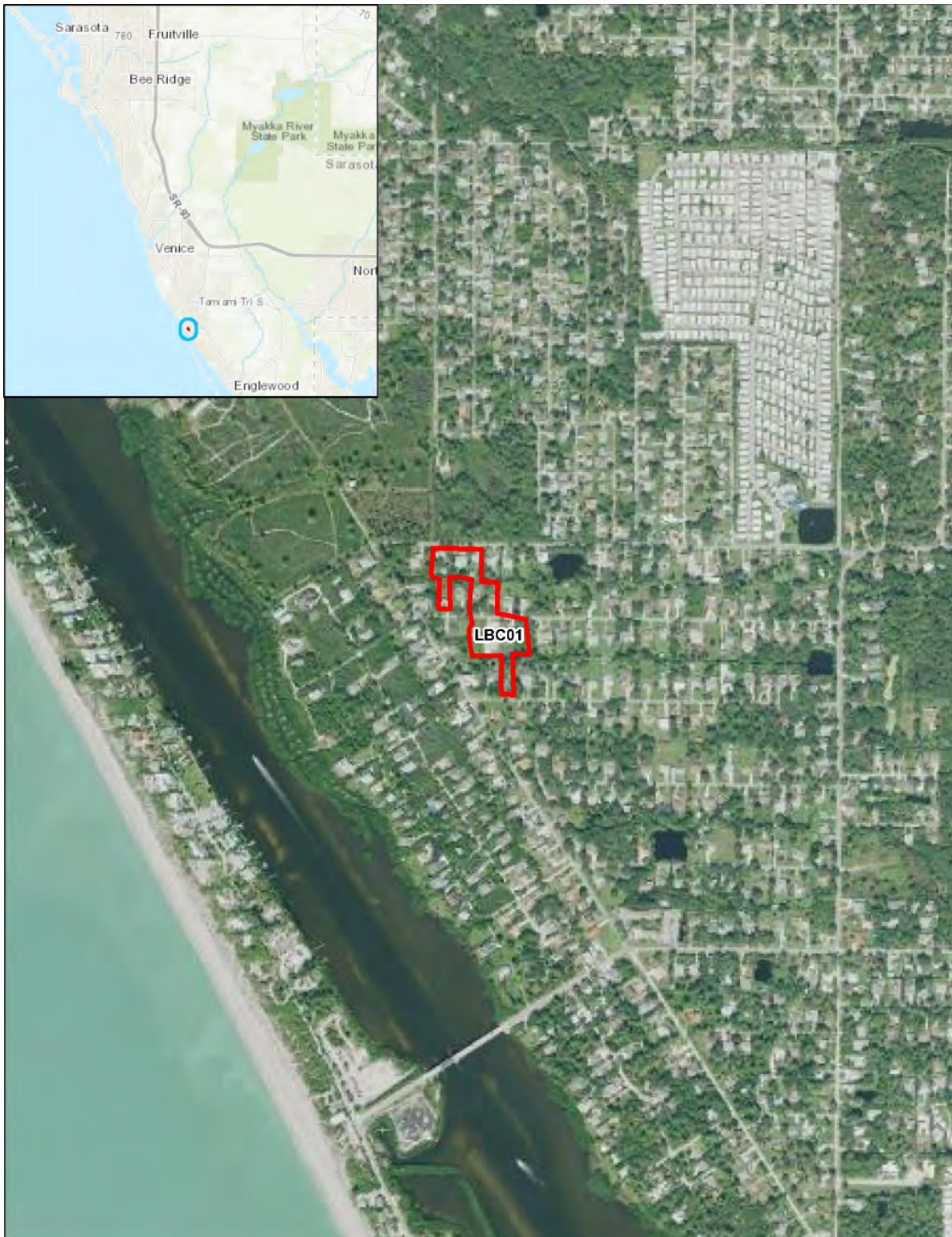


Figure 1: LBC01 Boundaries

AREA DESCRIPTION

WATERSHED: Lemon Bay
 BASIN: Lemon Bay Coastal
 LANDFORM: Coastal (Bay)
 AREA: 6.89 acres

FLOODING PROBLEMS AND CONCERNS

- Storm surge from Lemon Bay
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is located inland approximately 0.5 miles east of Lemon Bay in a residential neighborhood. This area is subject to storm surge from Lemon Bay, as well as flooding from overflow of stormwater drainage conveyance systems. Most of the structures within this area were constructed in the 1970s, with concrete slab-on-grade foundations and average grade of 8.8 feet NAVD. Since 100% of the structures are within the SFHA Zone AE-10, these slab-on-grade structures are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

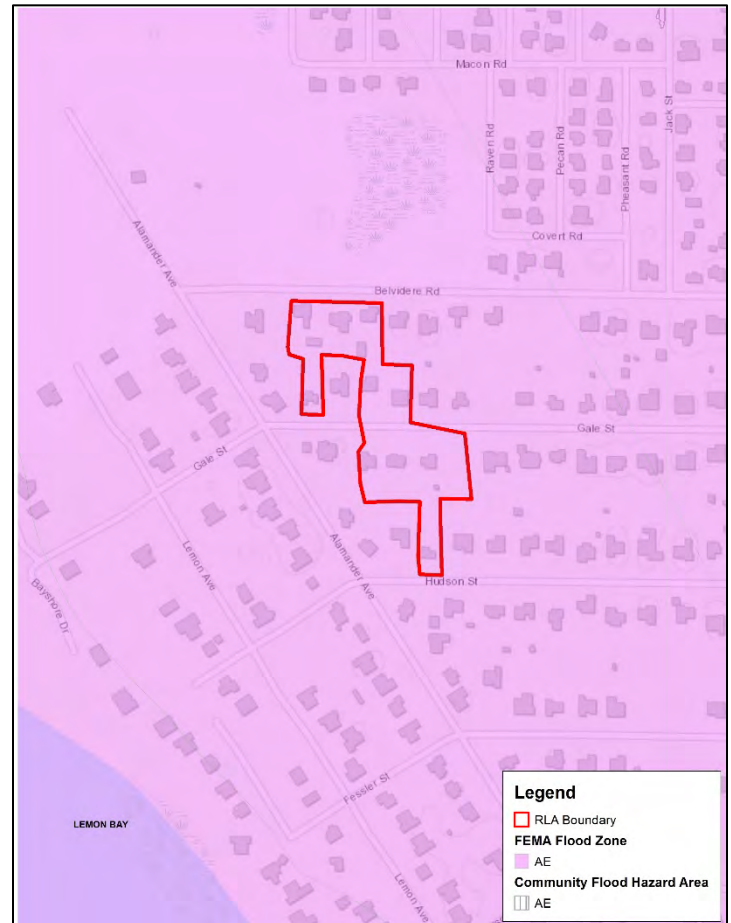


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
12	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
2	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
3	Insurance Claims (since 1978)
\$21.5	Total Insurance Claims (in thousands)
\$7.17	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Belvidere Rd	Resident with 20-29 years residency, slab on grade, reported flooding in yard only caused by heavy storm event.
Gale Street	Resident with 10-19 years residency, slab on grade, reported flooding in yard only caused by stormwater system backup, homeowner cleared debris, shrubs, and overgrowth to improve drainage.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for three (3) individual claims in the RLA, all of which correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
8%	Wood frame
92%	Concrete block/masonry
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Raised Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

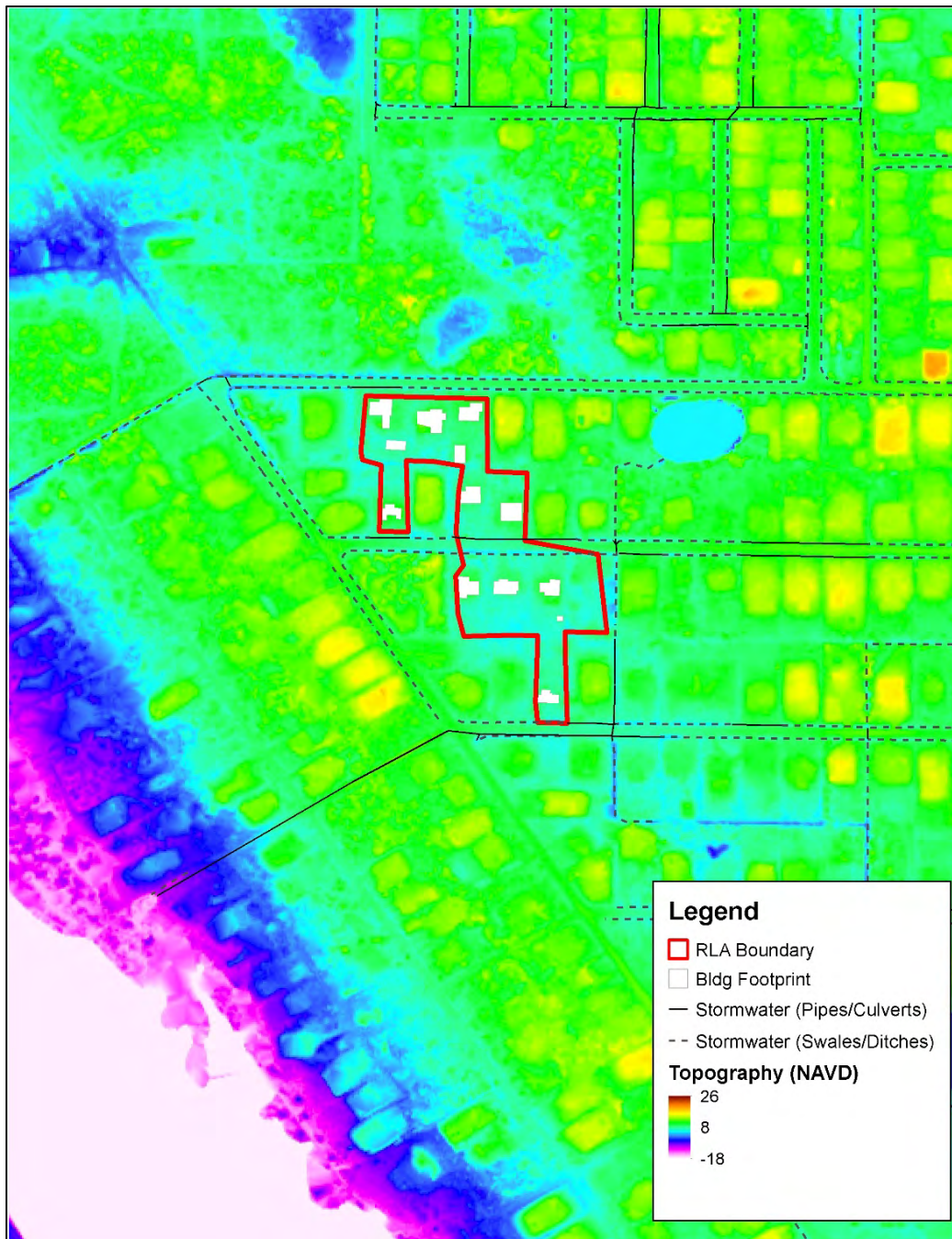


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes roadside swales and pipes connecting to an outfall structure which discharges into a wet retention area between Belvidere Rd and Gale St. Some low-level flooding in yards as described by the resident survey response may be reduced through the expansion of the stormwater infrastructure on Belvidere Rd. With the average elevation of existing grades (8.8 feet NAVD) versus the Base Flood Elevation (BFE) (10 feet NAVD), such improvements would help provide mitigation for flooding from major storm events.

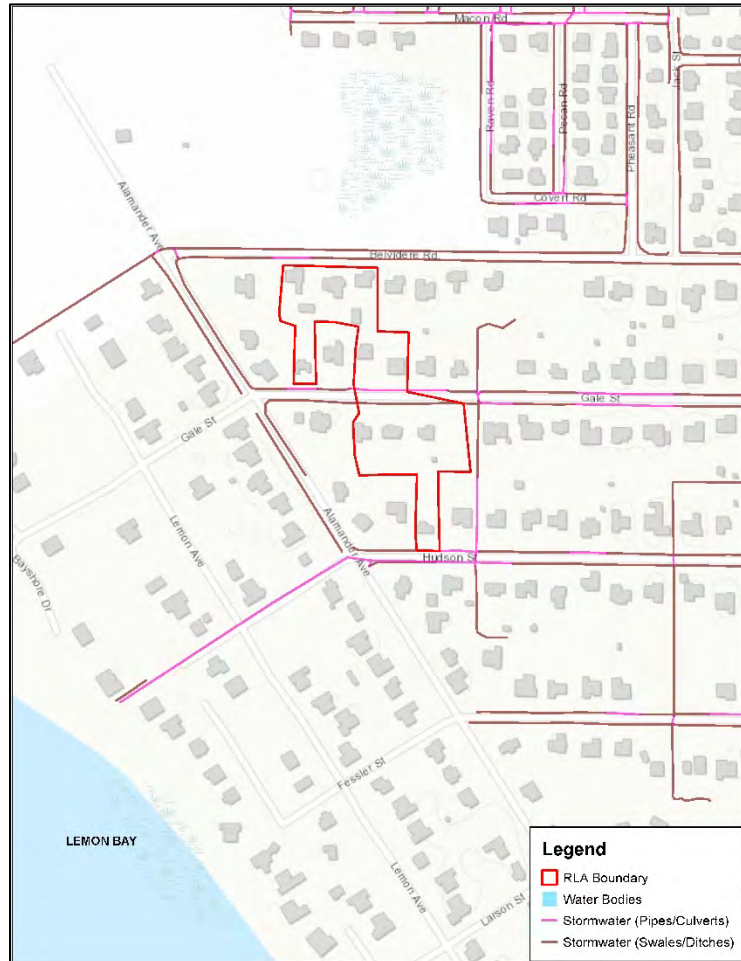


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The higher existing grades, exposure to Lemon Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 1.6 feet below the BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 10 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
10 – LCB 01 Lemon Bay	1	0	12	AE (SFHA)	Belvidere Rd Gale St Hudson St	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 10: Lemon Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	12					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$21.5					
Average insurance claim (in thousands)	\$7.17					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 11-LBC02 Lemon Bay

Repetitive Loss Area (RLA) Overview

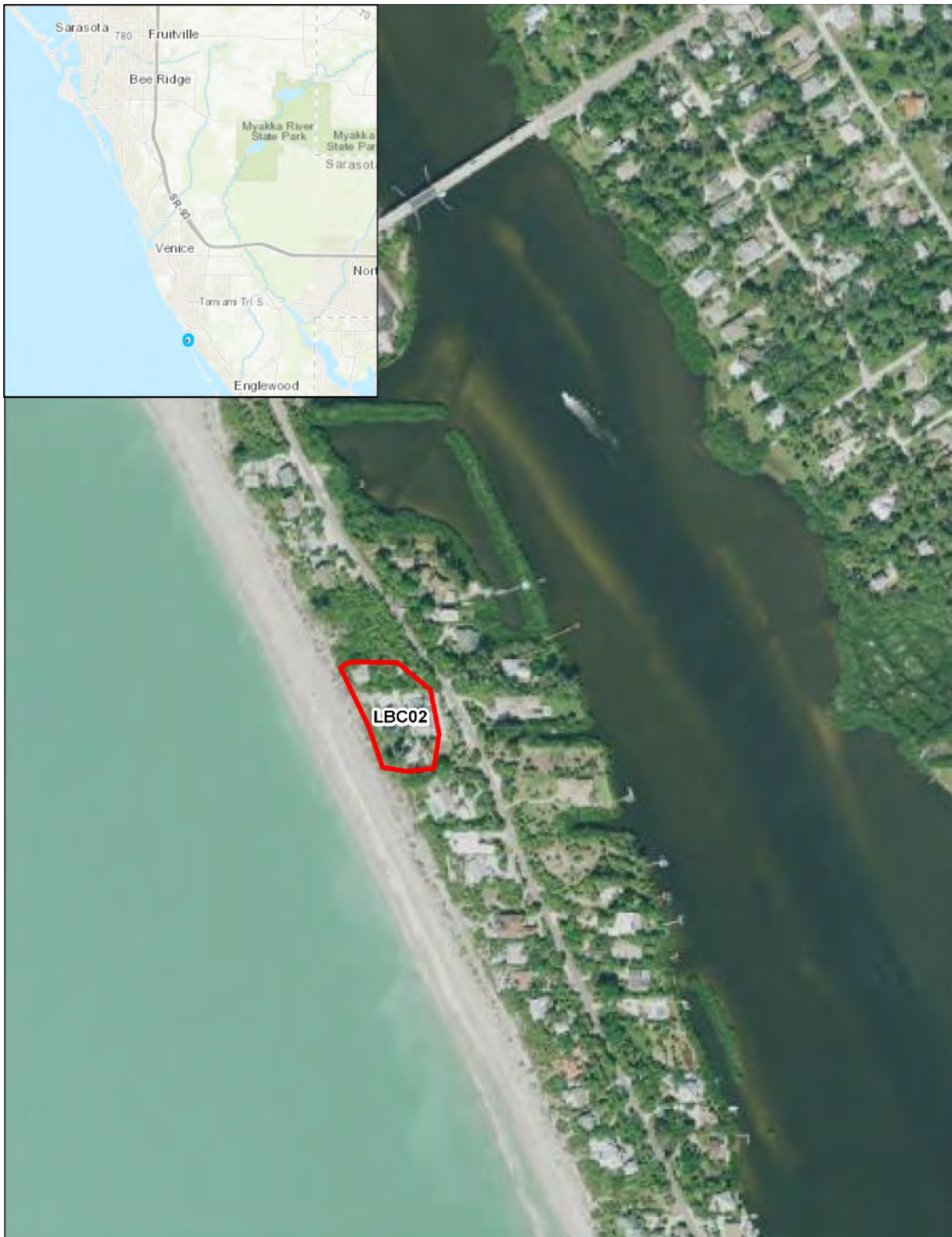


Figure 1: LBC02 Boundaries

AREA DESCRIPTION

WATERSHED: Lemon Bay
 BASIN: Lemon Bay Coastal
 LANDFORM: Peninsula (Bay)
 AREA: 2.29 acres

FLOODING PROBLEMS AND CONCERNS

- Peninsula between Gulf of Mexico and Lemon Bay
- Storm surge from Gulf & Bay
- High Tide with High Rainfall Events
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is located on the Manasota Key peninsula with the Gulf of Mexico adjacent to the properties on the west. Due to overgrowth around the properties in this RLA, assessment of the existing structures was mostly undetermined. Data used in this RLA came primarily through Sarasota County. This RLA is subject to tidal action, waves, and surge from the west by the Gulf of Mexico and the east by Lemon Bay. Most of the structures within this area were constructed in the 1950s, with foundations that are “assumed” to be concrete slab-on-grade, above the average grade of 11.2 feet NAVD. Since 100% of the structures are within SFHA Zone AE-10, these older, slab-on-grade structures are at risk of flooding and storm surge by the neighboring gulf and bay. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

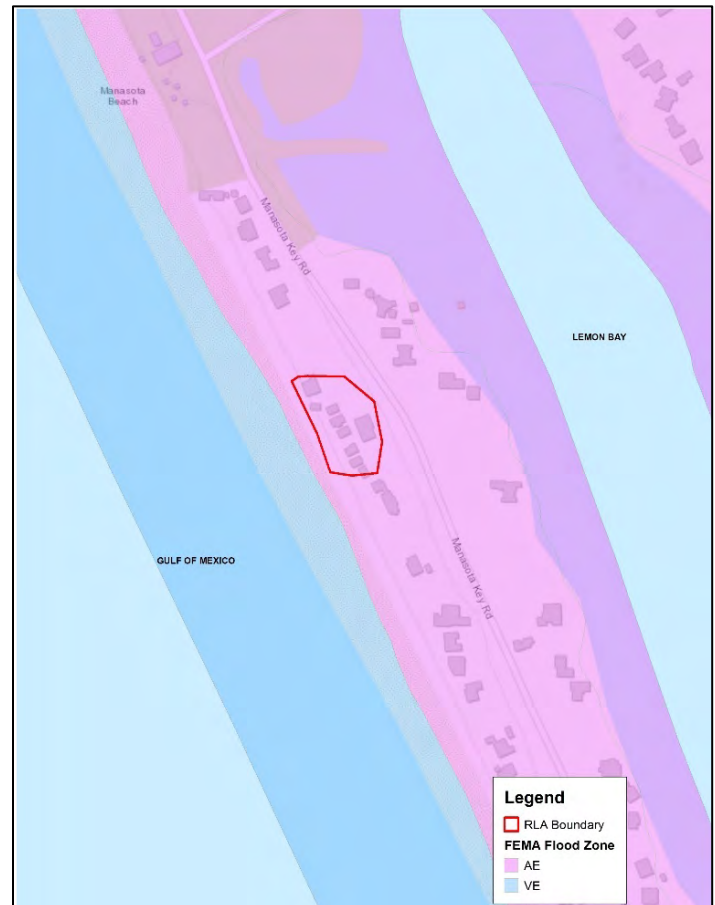


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
9	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
8	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
3	Insurance Claims (since 1978)
\$14.4	Total Insurance Claims (in thousands)
\$4.81	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Manasota Key Rd	No resident responses/comments to survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for three (3) individual claims in the RLA, of which two (2) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remaining claim for RLPs is presumed to be from a lesser storm. Records indicate that there have been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	2
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
11%	Elevated on posts/piles
89%	Undetermined due to heavy vegetation/no access to property
Composition	Frame Type
22%	Wood frame
78%	Concrete block/masonry
Composition	Number of Stories
67%	Single story
33%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Elevated on Post Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

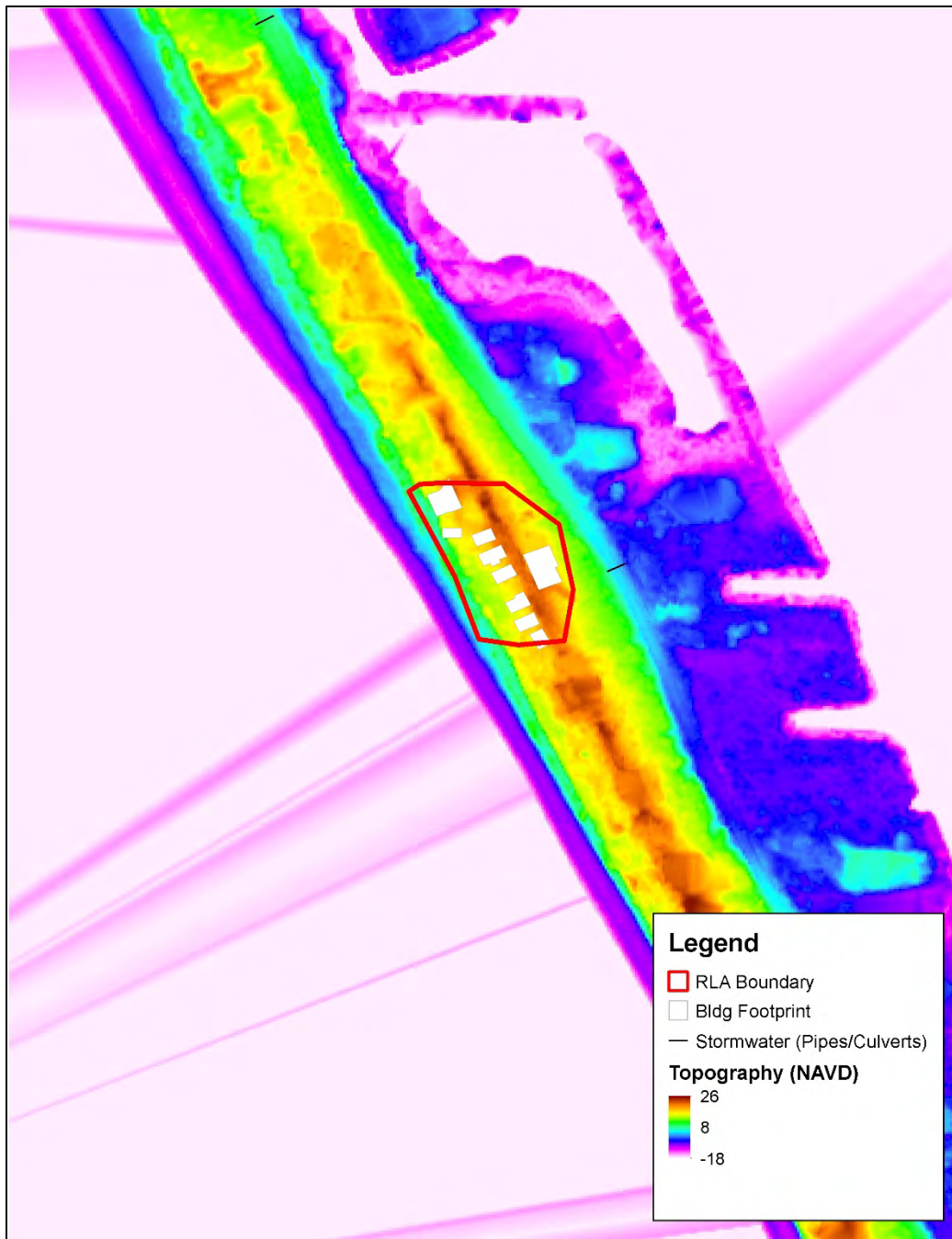


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is limited to one catch basin that outfalls to Lemon Bay. There are no swales or pipes for conveyance of stormwater along Manasota Key Rd, with runoff pooling and moving down along the street and over lower elevated properties toward the outfall structure. No connection was observed leading to the County's stormwater infrastructure. The average elevation of existing grades (11.2 feet NAVD) versus the Base Flood Elevation (BFE) (10 feet NAVD), does not warrant stormwater infrastructure improvements to provide mitigation for flooding from major storm events; flooding will primarily be from storm surge and heavy rain events.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The exposure to the Gulf of Mexico and Lemon Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 11.6 feet below the BFE, indicates the most appropriate mitigation alternatives includes elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 11 are subject to flooding due to heavy rainfall events, high tides and storm surge. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5. Prior to implementing the mitigation strategy, additional data should be collected for the structures that were inaccessible.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
11 – LBC 02 Lemon Bay	1	0	9	AE (SFHA)	Manasota Key Rd.	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 11: Lemon Bay Coastal	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	9					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$14.4					
Average insurance claim (in thousands)	\$4.81					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 12-LBC03 Lemon Bay

Repetitive Loss Area (RLA) Overview

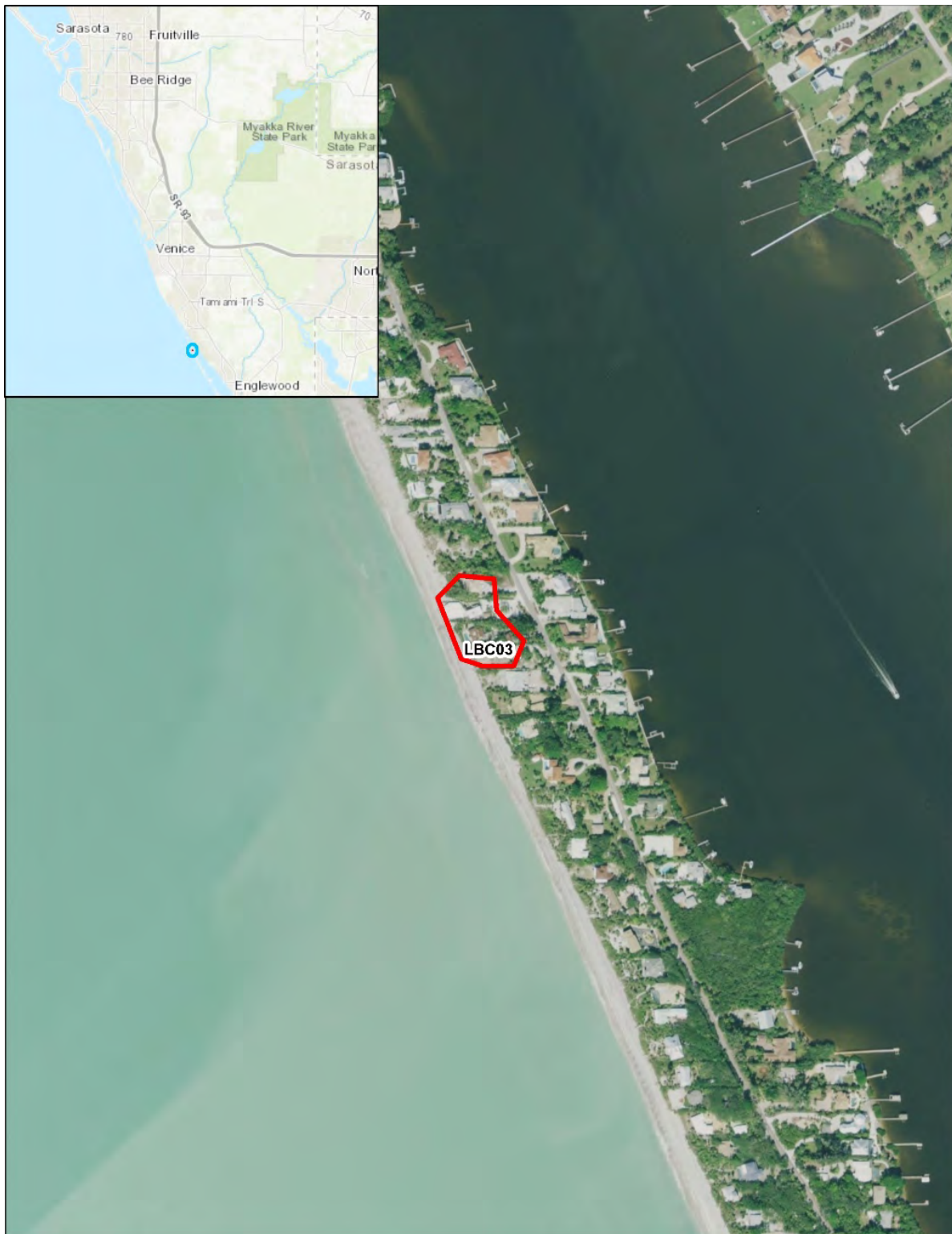


Figure 1: LBC03 Boundaries

AREA DESCRIPTION

WATERSHED: Lemon Bay
 BASIN: Lemon Bay Coastal
 LANDFORM: Peninsula (Bay)
 AREA: 2.13 acres

FLOODING PROBLEMS AND CONCERNS

- Peninsula between Gulf of Mexico and Lemon Bay
- Storm surge from Gulf & Bay
- Extreme Rainfall Events
- High Tide with High Rainfall Events
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is located on the Manasota Key peninsula with the Gulf of Mexico immediately adjacent to the properties on the west. This RLA is subject to tidal action, waves, and storm surge from the west by the Gulf of Mexico and the east by Lemon Bay. The structures within this area were constructed in varying timeframe as early as the 1960s and as recent as 2002; all of the structures in this RLA are within SFHA Zone AE-10. However, since all but one structure has a Finished Floor Elevation (FFE) above the Base Flood Elevation (BFE), the main concern for this area is storm surge and coastal influences. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Elevated Structure

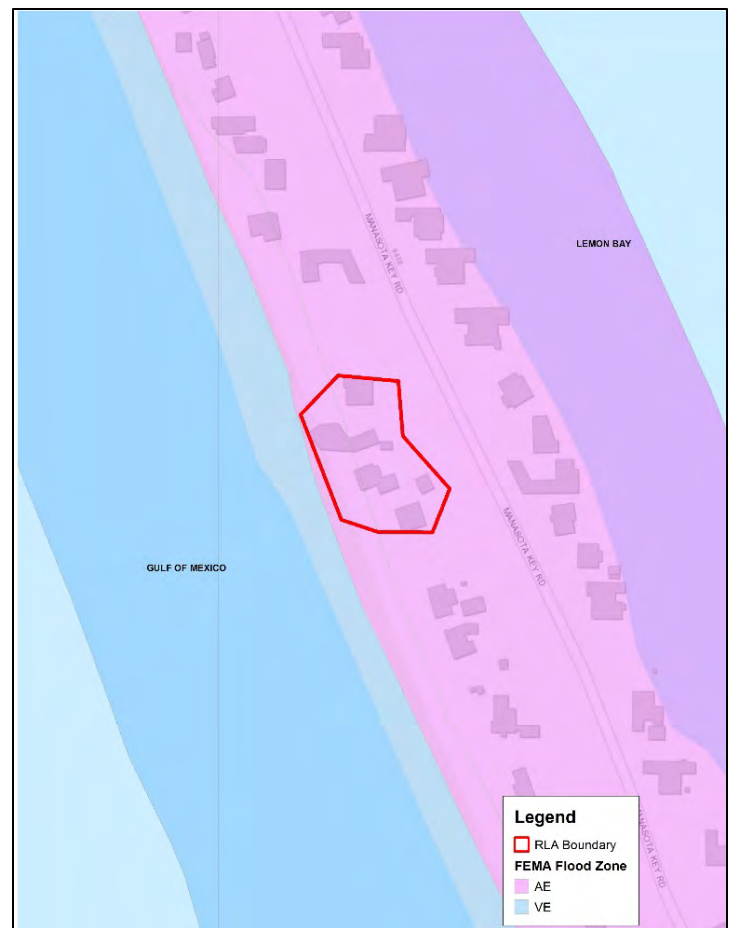


Figure 3: Spatial Distribution of Structures VS Flood Zone

Total	Repetitive Loss Data
6	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
3	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
4	Insurance Claims (since 1978)
\$62.1	Total Insurance Claims (in thousands)
\$15.53	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Manasota Key Rd	No responses/comments received from survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the four (4) individual claims in the RLA, of which one (1) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remainder of the claims for RLPs are presumed to be from lesser storms. Records indicate that there have been two (2) NFIP insurance claims since 1993 for any structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
40%	Slab on grade
40%	Elevated foundation walls with enclosure
20%	Undetermined due to heavy vegetation/ no access to property
Composition	Frame Type
100%	Concrete block/masonry
Composition	Number of Stories
83%	Single story
17%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Elevated Structures

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides, high winds and storm surge. These effects have likely caused flood inundation from the Gulf and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the Gulf. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

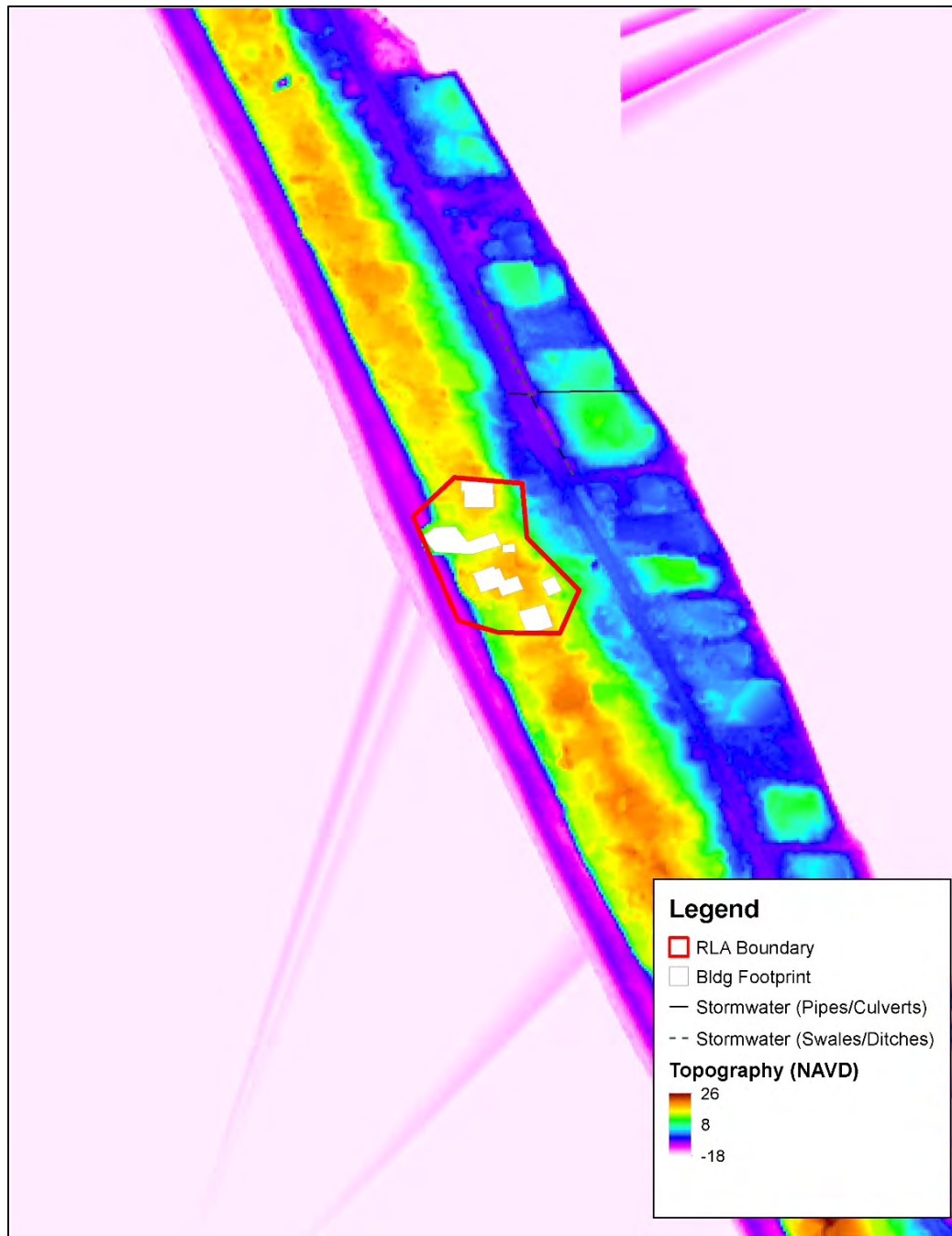


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is limited to one catch basin that outfalls to Lemon Bay. There are minimal swales and pipes for conveyance of stormwater along Manasota Key Rd, with runoff pooling and moving down along the street and over lower elevated properties toward the outfall structure. No connection was observed leading to the County's stormwater infrastructure. The average elevation of existing grades (11.4 feet NAVD) versus the BFE (10 feet NAVD), does not warrant stormwater infrastructure improvements to provide mitigation for flooding from major storm events; flooding will primarily be from storm surge and heavy rain events.

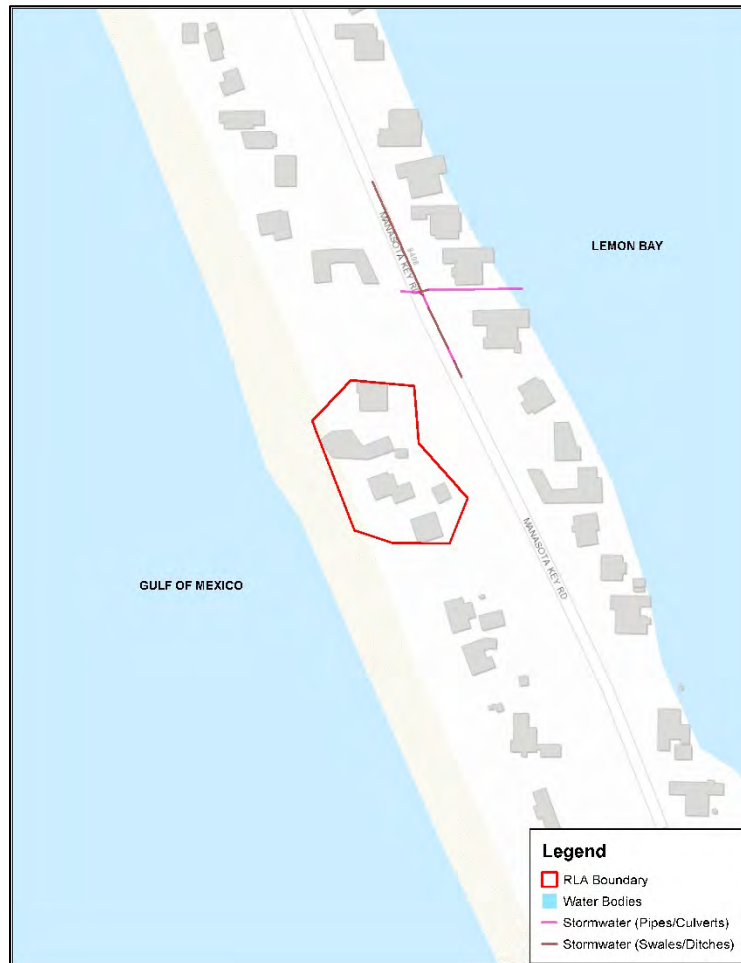


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The exposure to the Gulf of Mexico and Lemon Bay flooding sources, and the average FFE of the structures at 11.4 feet above the BFE, indicates the most appropriate mitigation alternatives includes elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 12 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5. Prior to implementing the mitigation strategy, additional data shall be collected for the structures that were inaccessible.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
12 – LBC03 Lemon Bay	1	0	6	AE (SFHA)	Manasota Key Rd	1, 2, 4

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 12: Lemon Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	6					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	4					
Total insurance claims (in thousands)	\$62.1					
Average insurance claim (in thousands)	\$15.53					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 13-LBC04 Lemon Bay

Repetitive Loss Area (RLA) Overview

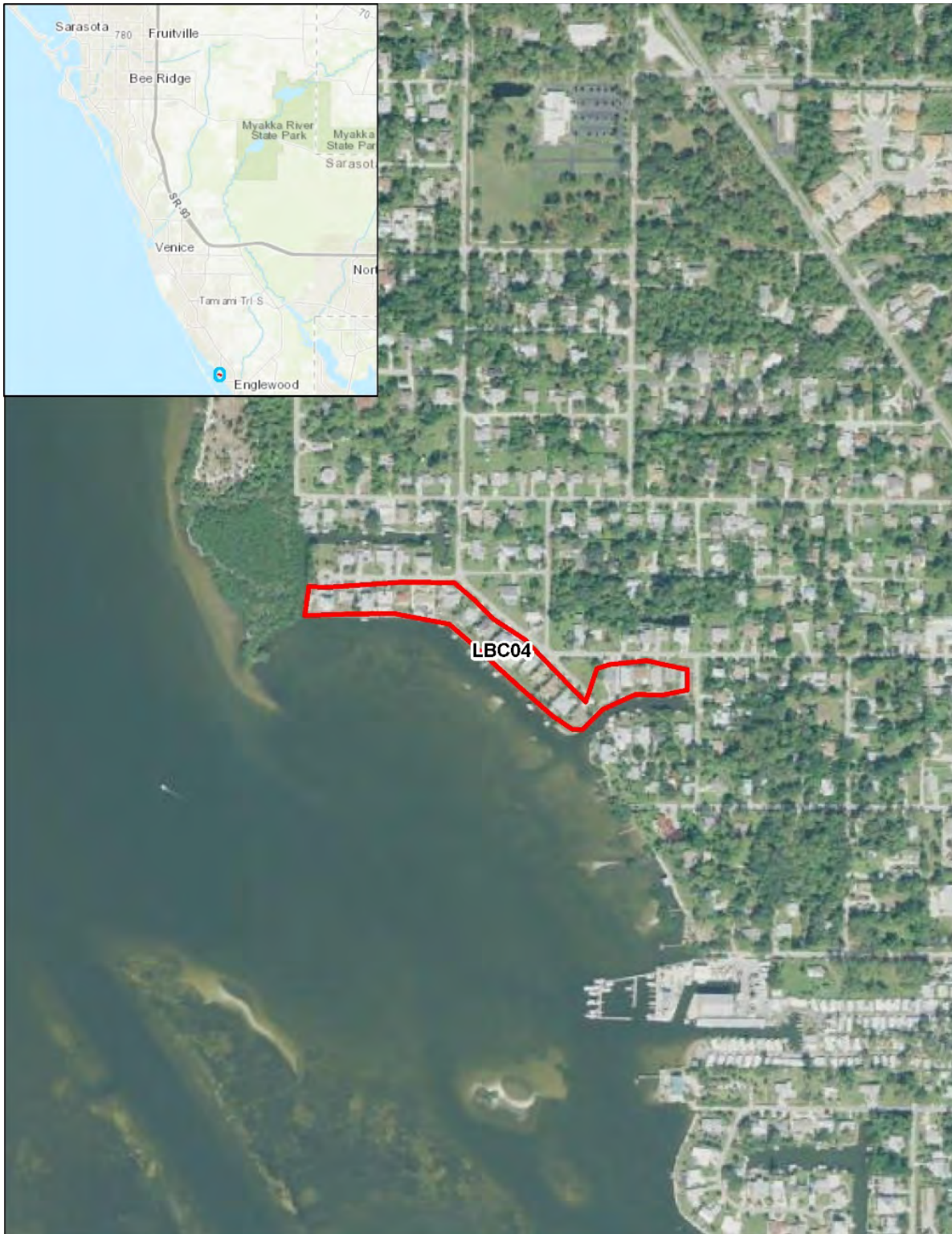


Figure 1: LBC04 Boundaries

AREA DESCRIPTION

WATERSHED: Lemon Bay
 BASIN: Lemon Bay Coastal
 LANDFORM: Peninsula (Bay)
 AREA: 6.46 acres

FLOODING PROBLEMS AND CONCERNS

- Peninsula within Lemon Bay
- Storm surge from Lemon Bay
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures

Problem Statement

This Repetitive Loss Area (RLA) is located on a peninsula with Lemon Bay to the north and west. This area is subject to tidal action, waves, and surge from Lemon Bay, as well as coastal influences from the nearby Gulf of Mexico. Many of the structures within this area were constructed with concrete slab-on-grade foundations, and above an average grade of elevation 3 feet NAVD. All the structures are within the SFHA Zone AE-11 or Zone VE-12/13; all but two have Finished Floor Elevations (FFE) below the Base Flood Elevation (BFE), and are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

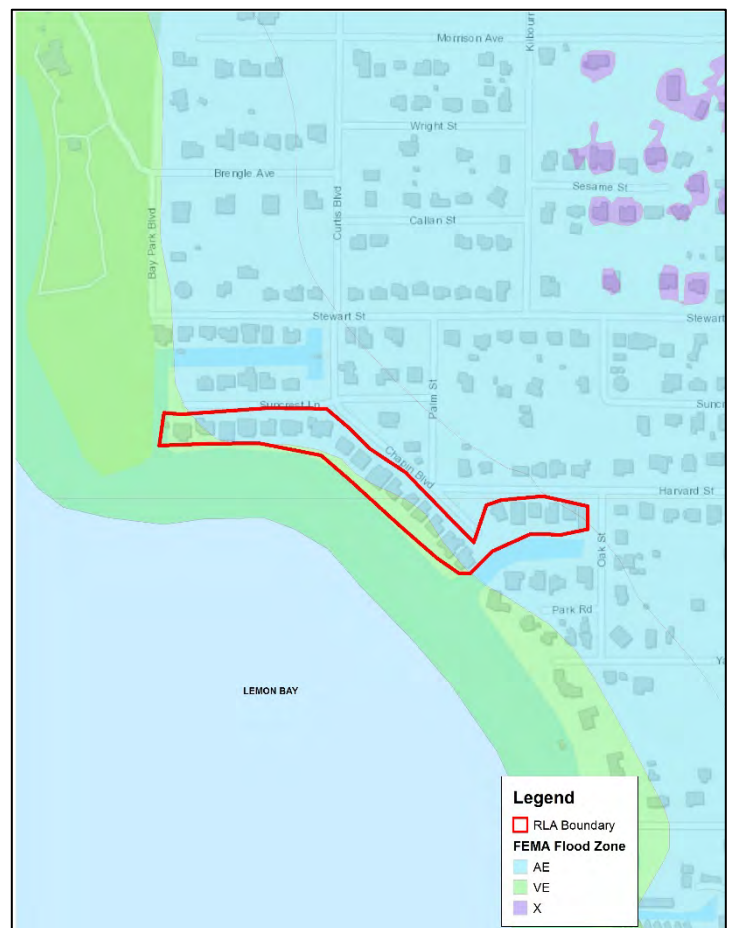


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
22	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
11	Properties w/Active Insurance Policies
1	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
6	Insurance Claims (since 1978)
\$47.4	Total Insurance Claims (in thousands)
\$7.9	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Harvard St Chapin Blvd Suncrest Ln	No response/comments received from resident survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs account for five (5) of the six (6) individual claims in the RLA, of which two (2) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remainder of the claims for RLPs are presumed to be from lesser storms. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	1
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	1
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
64%	Slab on grade
27%	Elevated foundation walls with enclosure
9%	Elevated on Posts/Piles
Composition	Frame Type
100%	Concrete block/masonry
Composition	Number of Stories
68%	Single story
32%	Two story
Composition	Flood Zones
41%	Within SFHA Zone AE
59%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Elevated Foundation Wall with Enclosure Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

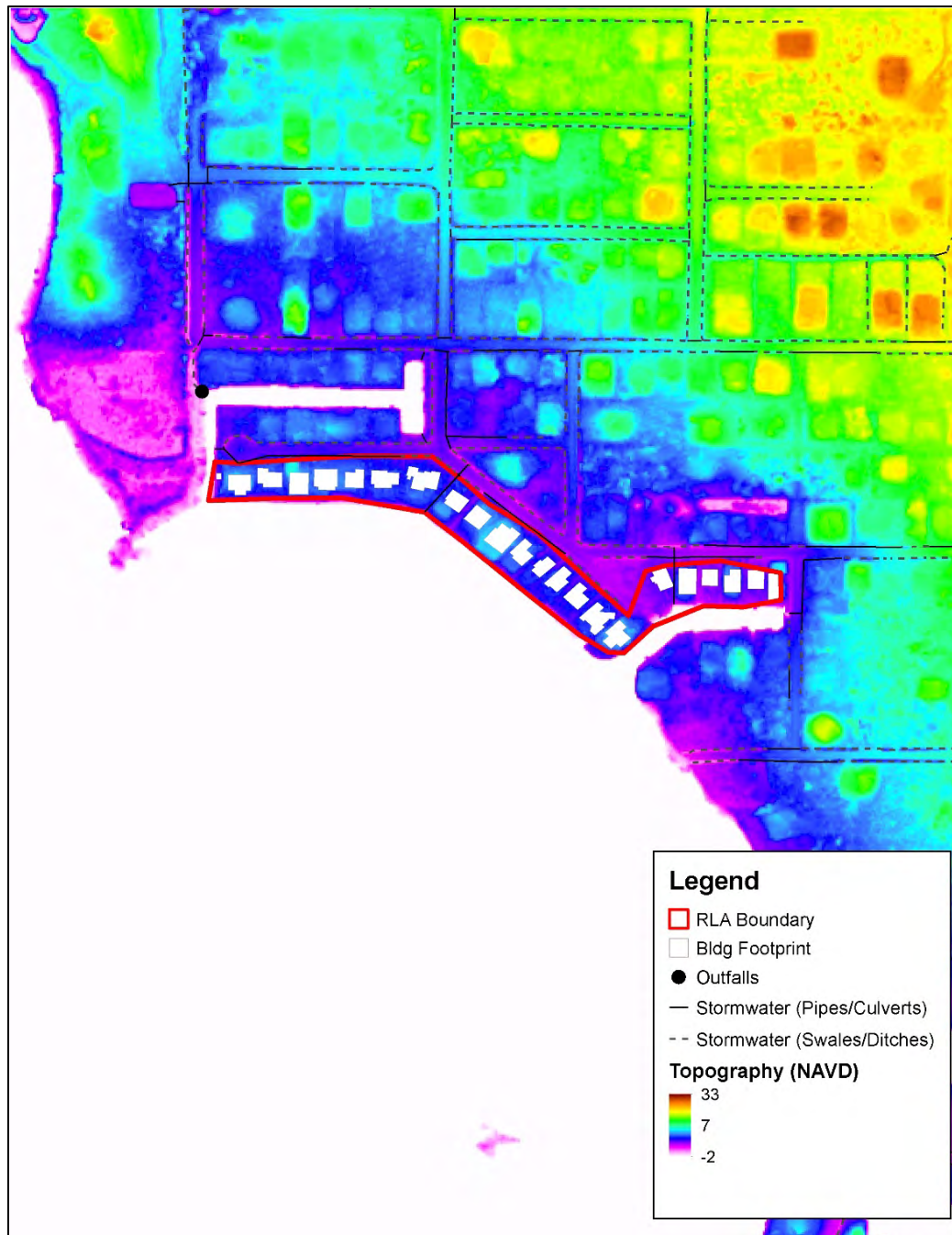


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes roadside swales and pipes connecting to three (3) outfall structures that discharge the stormwater into Lemon Bay. Based on field investigation the stormwater infrastructure in this area appears to be properly designed and maintained. Due to the average elevation of existing grades (3.4 feet NAVD) versus the BFEs (11, 12 and 13 feet NAVD), including some properties with both non-coastal and coastal flood zones, improvements to the existing stormwater system would not provide mitigation for flooding from major storm events.

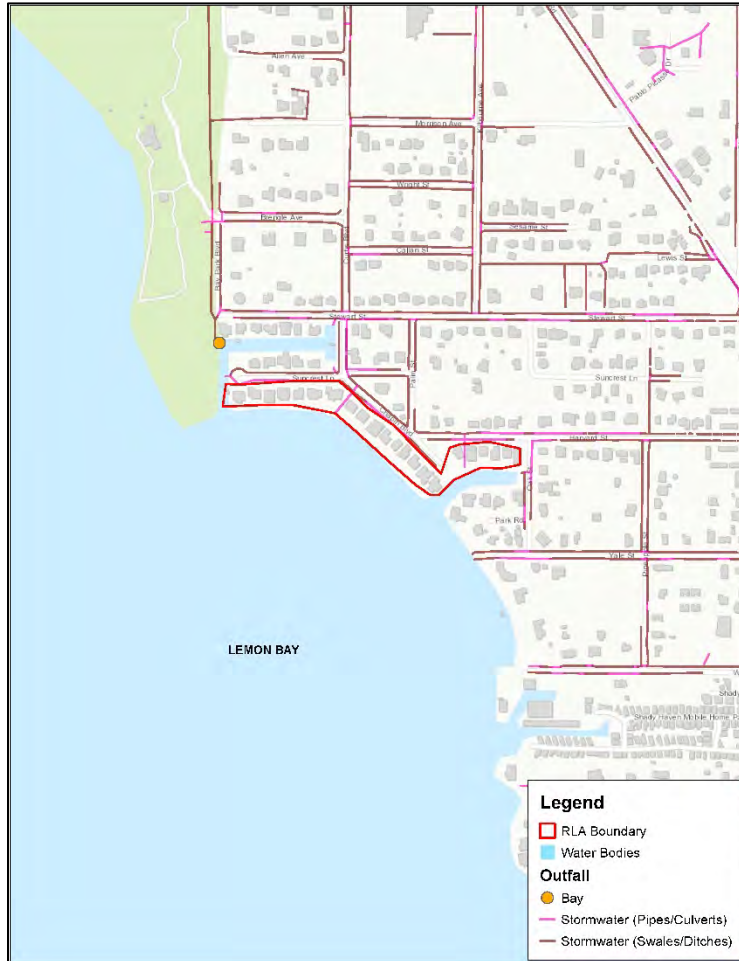


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to Lemon Bay flooding sources, and the average FFE of the structures at 7 feet below the BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 13 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
13 – LBC04 Lemon Bay	1	0	22	VE, AE (SFHA)	Harvard St Chapin Blvd Suncrest Ln	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 13: Lemon Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	22					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	1					
Mitigated Severe RL properties	0					
Insurance claims since 1978	6					
Total insurance claims (in thousands)	\$47.4					
Average insurance claim (in thousands)	\$7.90					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 14-LBC05 Lemon Bay

Repetitive Loss Area (RLA) Overview

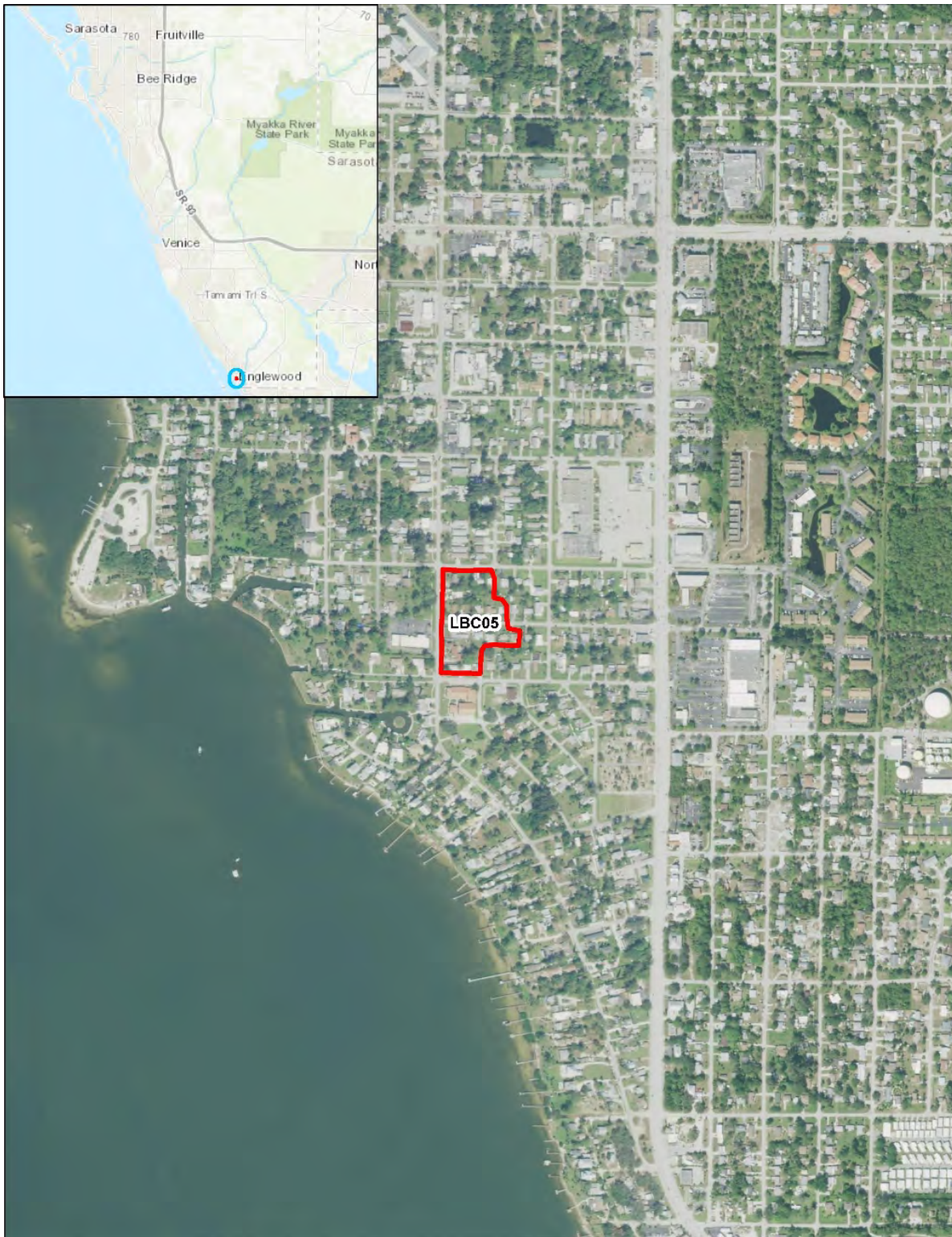


Figure 1: LBC05 Boundaries

AREA DESCRIPTION

WATERSHED: Lemon Bay
 BASIN: Lemon Bay Coastal
 LANDFORM: Coastal (Bay)
 AREA: 5.93 acres

FLOODING PROBLEMS AND CONCERNS

- Storm surge from Lemon Bay
- High Tide with High Rainfall Events
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is located inland from Lemon Bay, but is still subject to storm surge from Lemon Bay as well as surcharge from stormwater drainage conveyance systems. Most of the structures within this area were constructed in the 1950s, with concrete slab-on-grade foundations, above an average grade of 9.4 feet NAVD. All of the structures are within SFHA Zone AE-11, and these older, slab-on-grade structures are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

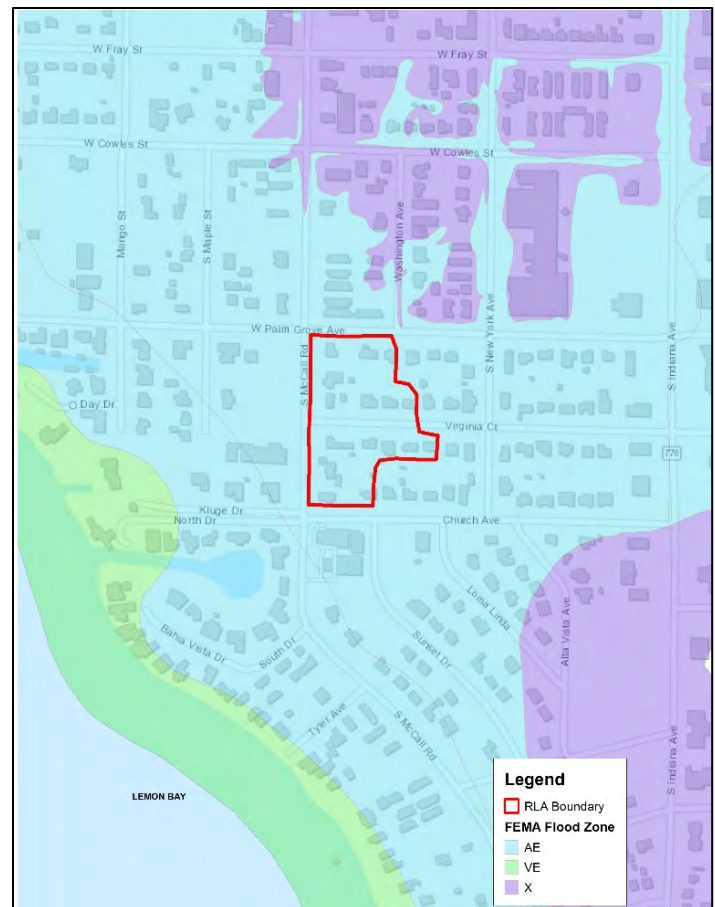


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
18	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
4	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
7	Insurance Claims (since 1978)
\$55.7	Total Insurance Claims (in thousands)
\$7.95	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Virginia Ct.	Resident with 10-19 years residency, elevated structure with crawlspace, reported flooding in yard only near structure.
Chapin Blvd	Resident with less than 10 years residency, slab on grade, reported no flooding on property.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs account for five (5) of the seven (7) individual claims in the RLA, of which three (3) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	1
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
0%	Elevated foundation walls with enclosure
Composition	Frame Type
6%	Wood frame
94%	Concrete block/masonry
Composition	Number of Stories
94%	Single story
6%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

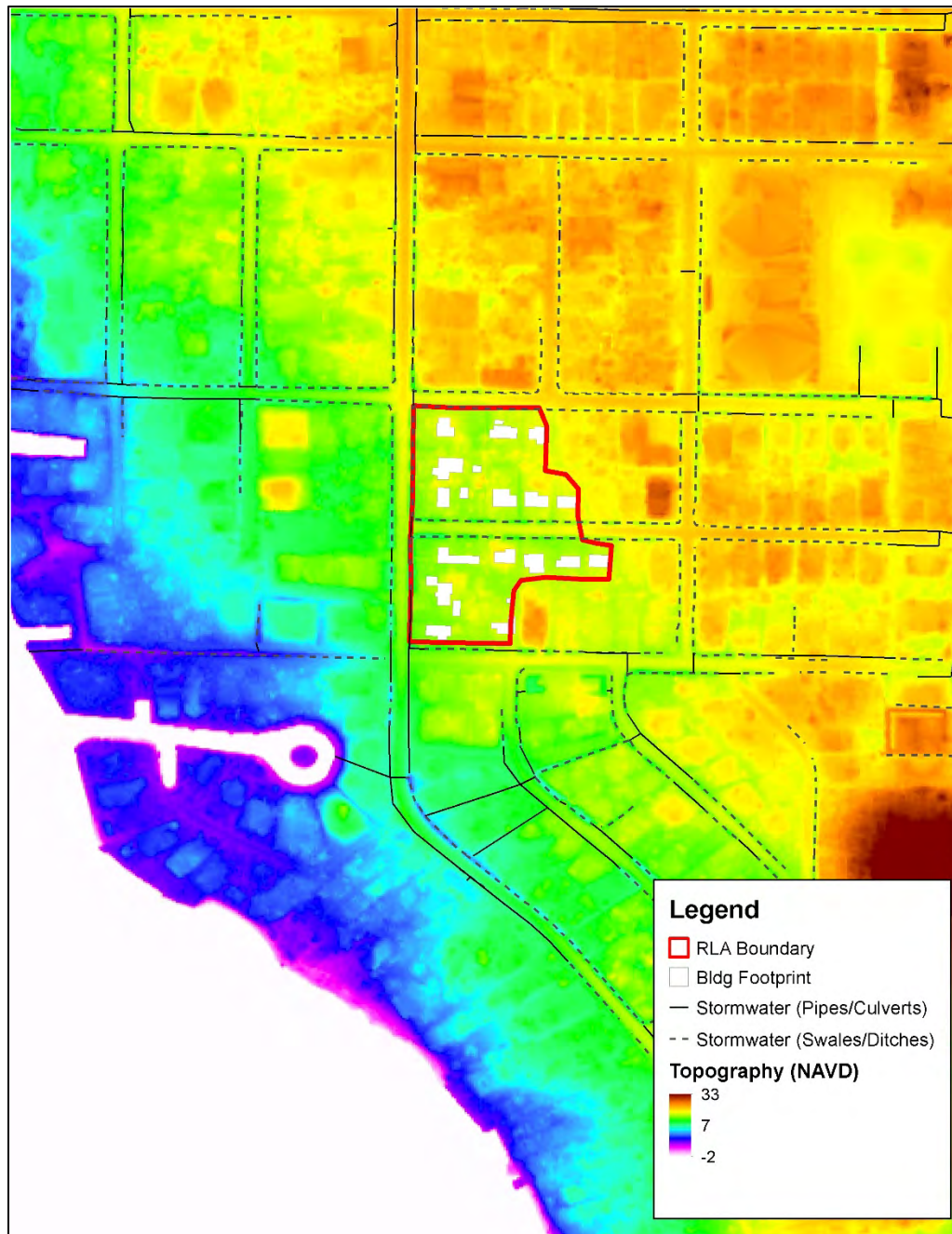


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is limited swales or pipes for conveyance of stormwater along Virginia Ct. and McCall Rd., which discharges through an outfall pipe to Lemon Bay. Some low-level yard flooding as described by the resident survey response may be reduced through improvements of the stormwater infrastructure. However, with the average elevation of existing grades (9.4 feet NAVD) versus the Base Flood Elevation (BFE) (11 feet NAVD), such improvements would not provide mitigation for flooding from major storm events.

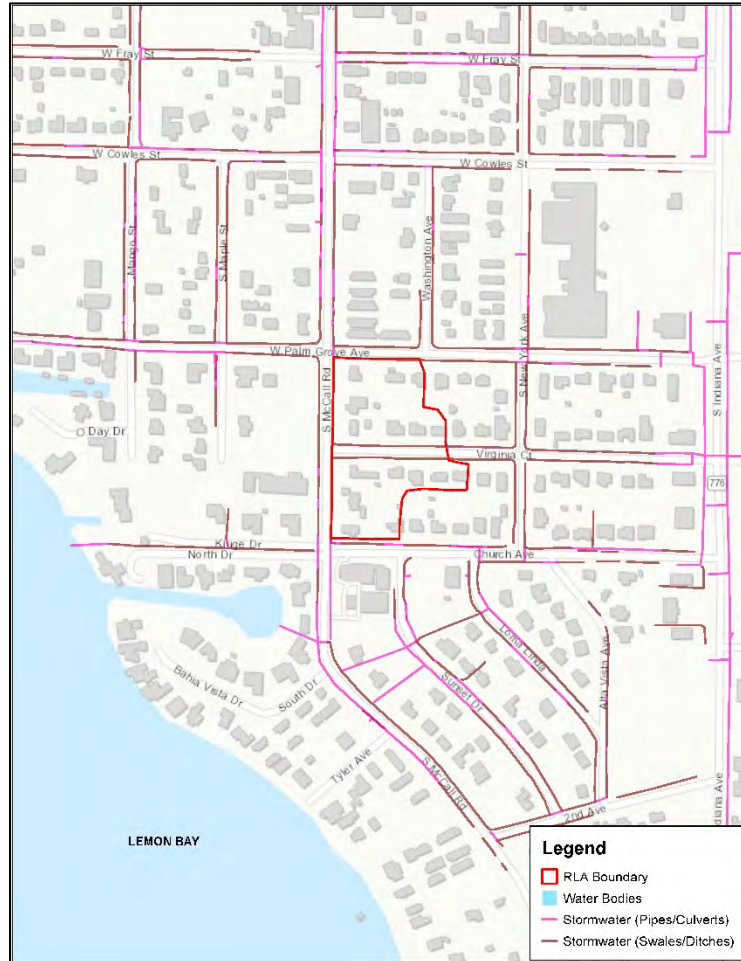


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to Lemon Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 1.6 feet below the BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA area are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 14 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
14 – LBC05 Lemon Bay	1	0	18	AE (SFHA)	Virginia Ct Palm Grove Ave McCall Rd	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 14: Lemon Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	18					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	7					
Total insurance claims (in thousands)	\$55.7					
Average insurance claim (in thousands)	\$7.95					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 15-LSB01 Little Sarasota Bay

Repetitive Loss Area (RLA) Overview

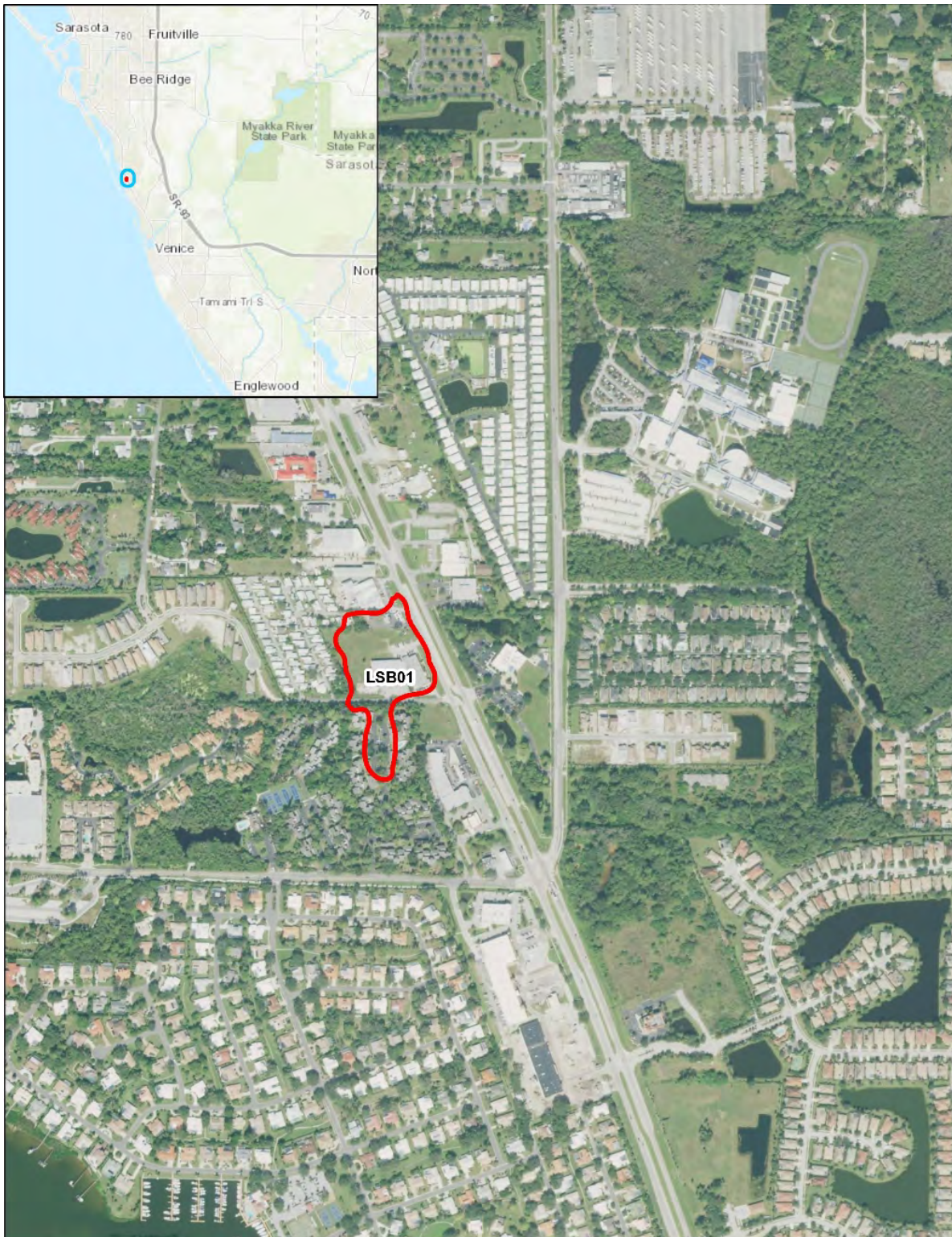


Figure 1: LSB01 Boundaries

AREA DESCRIPTION

WATERSHED: Little Sarasota Bay
 BASIN: Little Sarasota Bay Coastal
 LANDFORM: Coastal (Bay)
 AREA: 7.55 acres

FLOODING PROBLEMS AND CONCERNS

- High Rainfall Events
- Low terrain with slab on grade structures
- Ponding

Problem Statement

This Repetitive Loss Area (RLA) is located on Tamiami Trail and Happy Haven Dr. The area includes commercial buildings with varying material, concrete block and manufactured, and is identified as Zone X. The drainage for this RLA appears to be adequately sized and maintained. With the exception of puddling in the yards during heavy storm events, this RLA is at a low risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

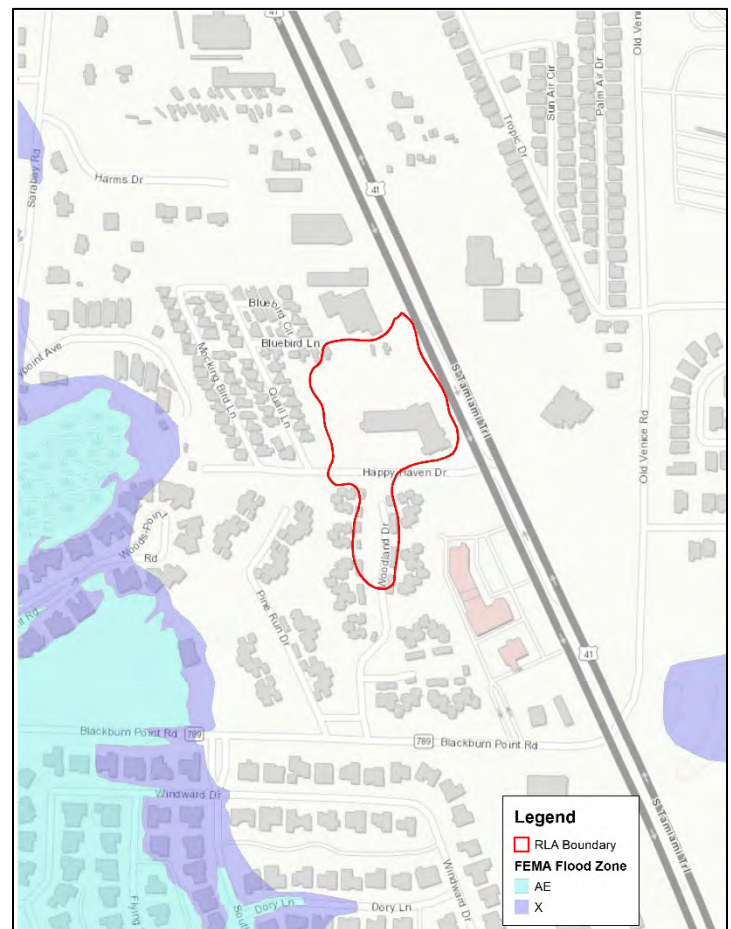


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
4	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
5	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
7	Insurance Claims (since 1978)
\$40.3	Total Insurance Claims (in thousands)
\$5.77	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Tamiami Trl Happy Haven Dr Woodland Dr	No responses/comments to resident survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for six (6) of the seven (7) individual claims in the RLA, of which six (6) correspond to the Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been six (6) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	4
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	2
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
25%	Slab on grade
75%	Elevated on posts/piles, no enclosure
Composition	Frame Type
67%	Wood frame
33%	Concrete block/masonry
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
100%	Within Zone X

Table 4: Field Data Summary from Site Visits

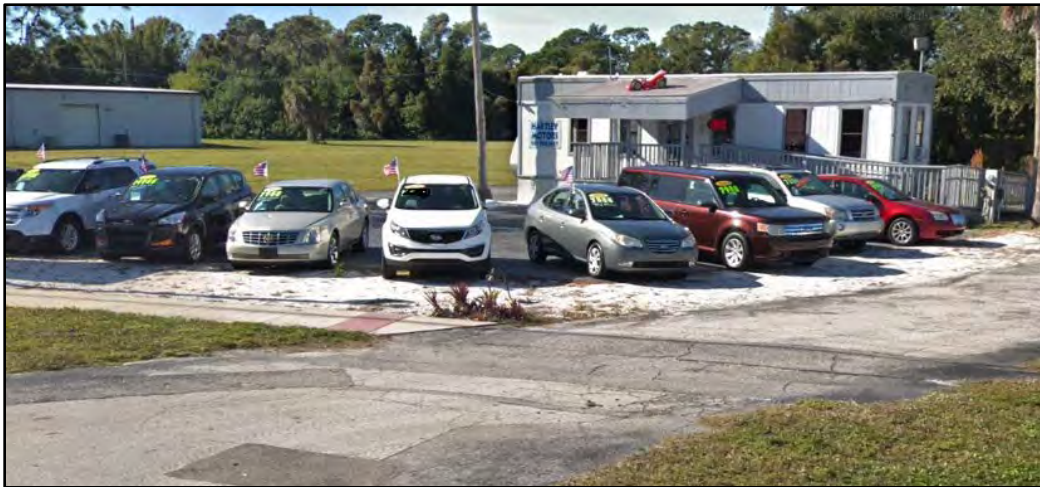


Figure 4: Average Manufactured Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

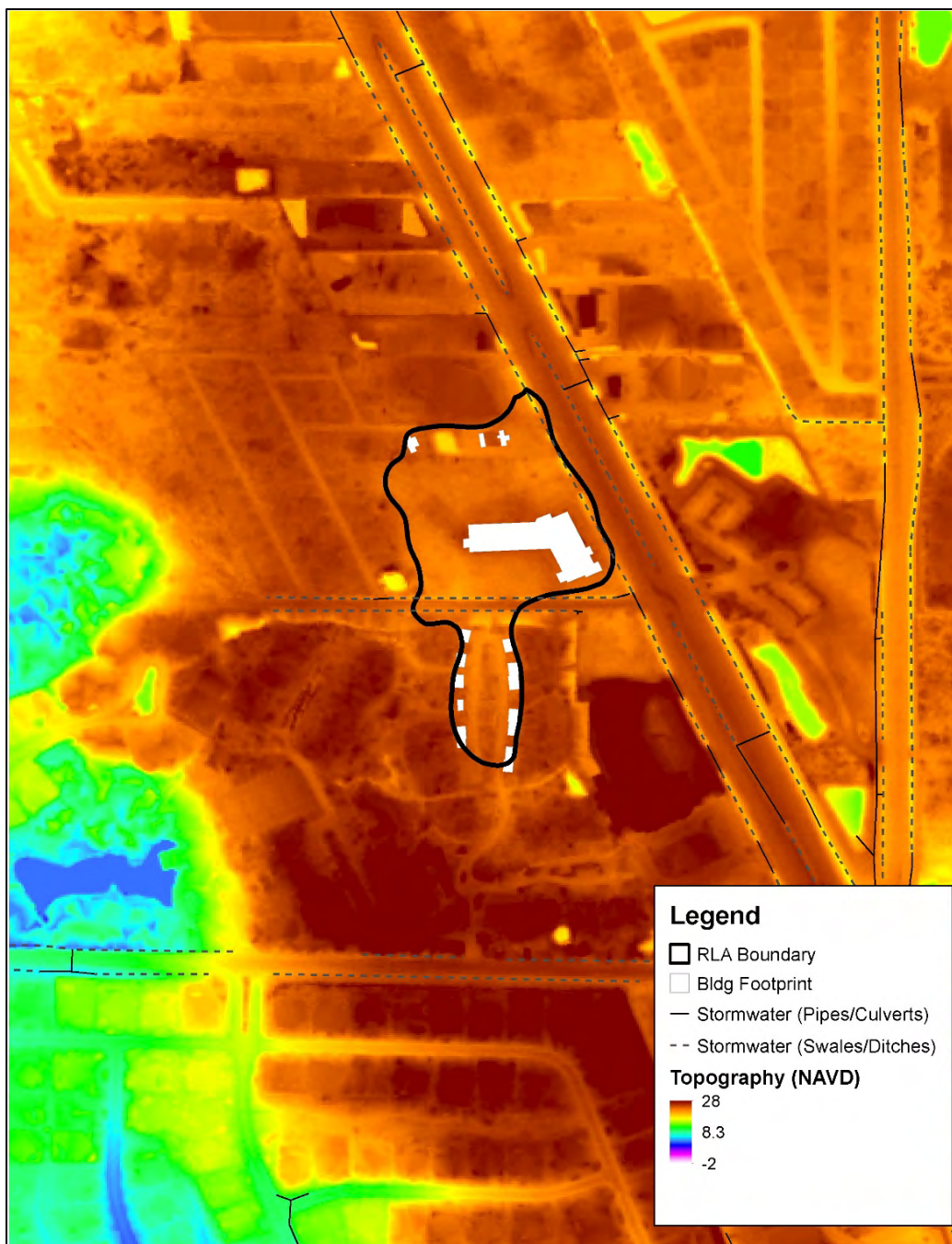


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes swales and pipes for conveyance of stormwater along Tamiami Trail and Happy Haven Dr., there appeared to be no pooling in the street and water was sufficiently directed to the stormwater system. Tamiami Trail is a State road that is regulated by the Florida Department of Transportation, and subject to additional design and maintenance requirements beyond local regulations. Flooding due to stormwater infrastructure is very unlikely for this area and yard pooling from heavy rainfall events can be addressed with minor regrading, if necessary, by property owner.

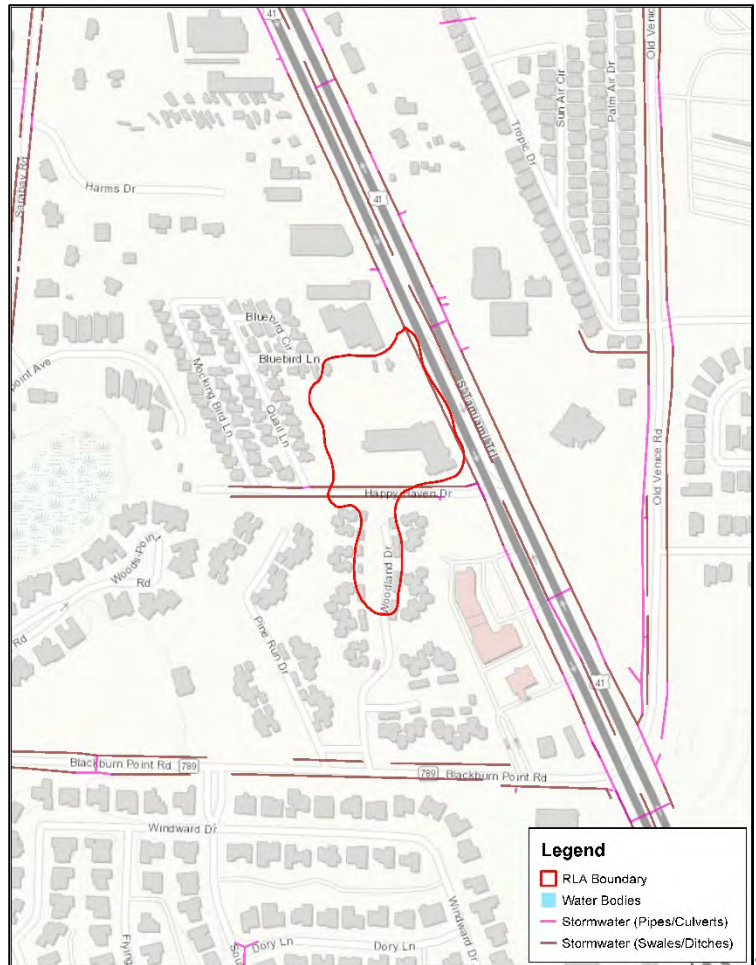


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA area are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 15 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5. Prior to implementing the mitigation strategy, additional data should be collected for the structures that were inaccessible.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
15 – LSB 01 Little Sarasota Bay	1	0	4	X	Happy Haven Dr Tamiami Tr Woodland Dr	1, 2, 3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 15: Little Sarasota Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	4					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	7					
Total insurance claims (in thousands)	\$40.4					
Average insurance claim (in thousands)	\$5.77					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 16-LSB02 Little Sarasota Bay

Repetitive Loss Area (RLA) Overview

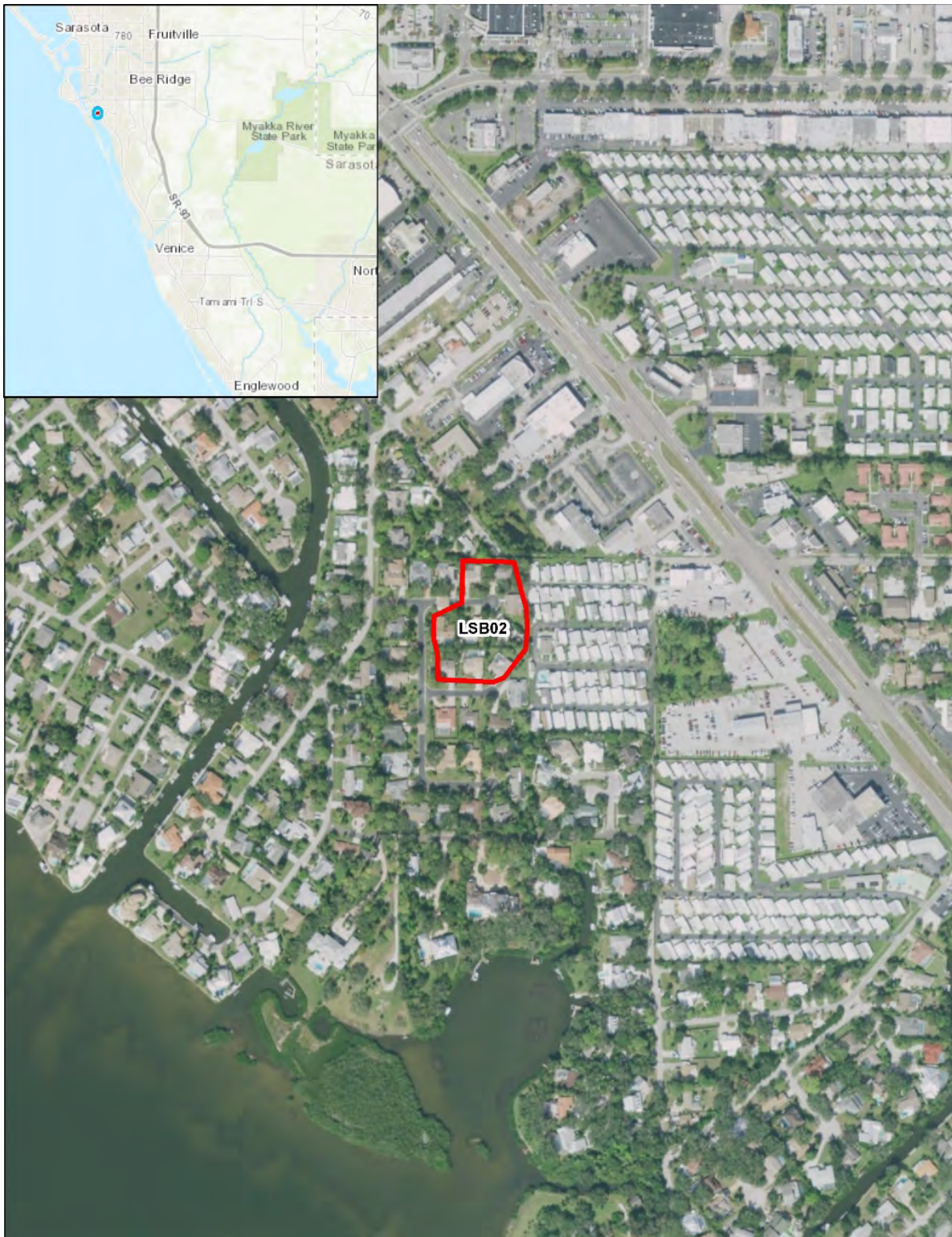


Figure 1: LSB02 Boundaries

AREA DESCRIPTION

WATERSHED: Little Sarasota Bay
 BASIN: Little Sarasota Bay Coastal
 LANDFORM: Peninsula (Bay)
 AREA: 2.80 acres

FLOODING PROBLEMS AND CONCERNS

- Peninsula within Little Sarasota Bay
- Storm surge from Bay
- High Tide with High Rainfall Events
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is a neighborhood residential area situated on a portion of a peninsula with Little Sarasota Bay and a canal system. This RLA is subject to tidal action, waves, and surge from Little Sarasota Bay, as well as coastal influences from the Gulf of Mexico. Most of the structures are within Zone Shaded X, with a portion in SFHA Zone AE-10, and were constructed in the 1970s and 1980s. These structures have concrete slab-on-grade foundations and are partially at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

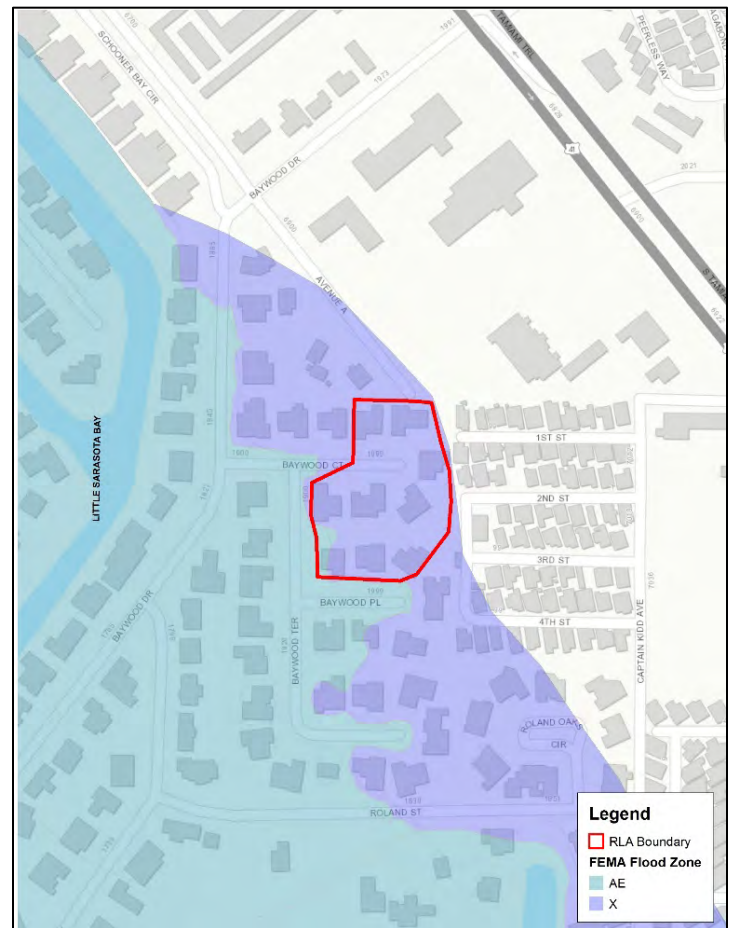


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
9	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
6	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
4	Insurance Claims (since 1978)
\$10.65	Total Insurance Claims (in thousands)
\$2.64	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Baywood Court; Baywood Place	No responses/comments received by resident survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the four (4) individual claims in the RLA, of which two (2) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remainder of the claims are presumed to be from lesser storms. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
0%	Elevated foundation walls with enclosure
Composition	Frame Type
55%	Wood frame
45%	Concrete block/masonry
Composition	Number of Stories
67%	Single story
33%	Two story
Composition	Flood Zones
89%	Within Zone Shaded X
11%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. Review of the Historical Storms and insurance claims revealed the major tropical storm events with 9 inches or more of rainfall, along with the accompanying storm surge, wave inundation, and stormwater system backup, coincided with the repetitive loss claims for the RLA. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

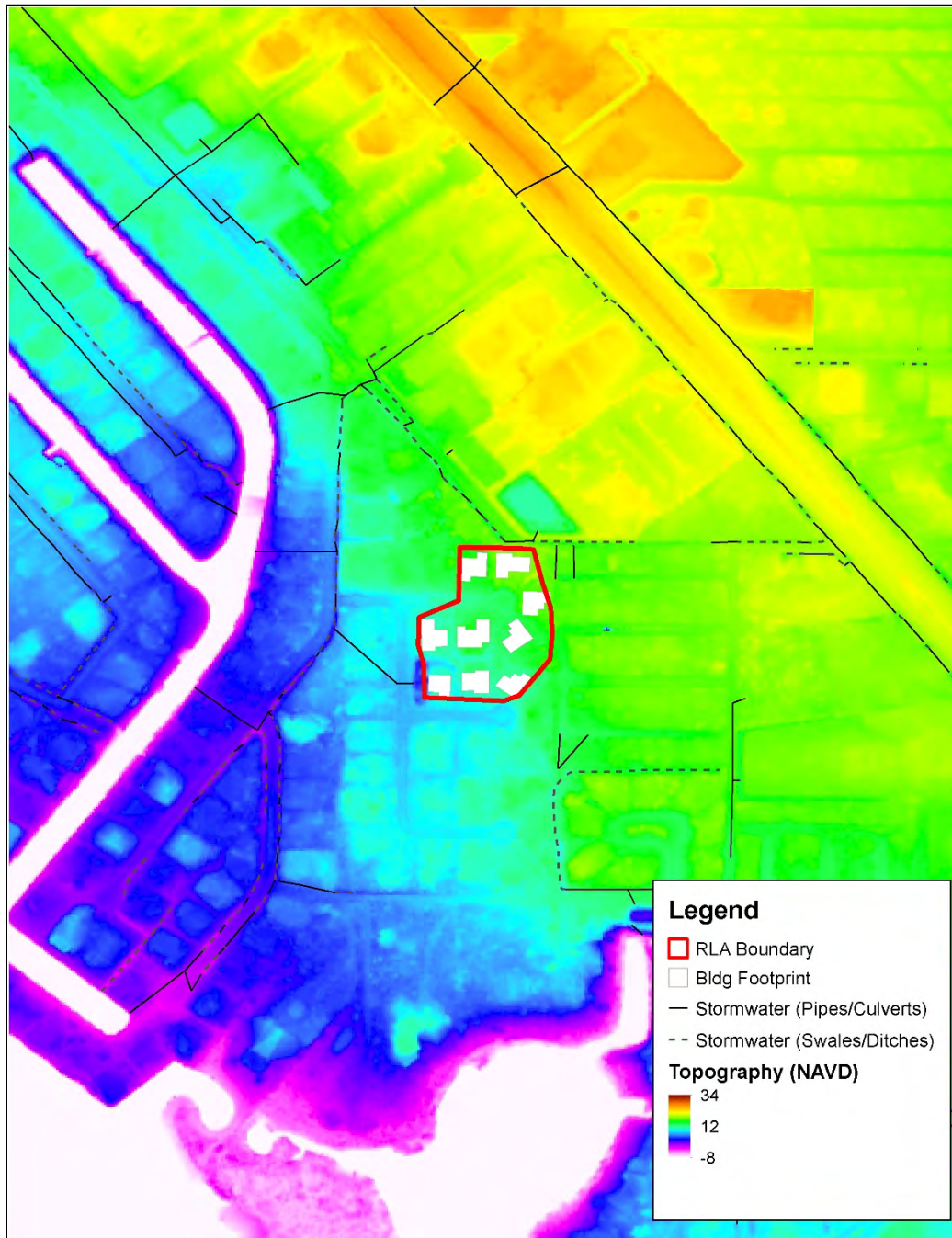


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA primarily consists of F-curb along each side of the roadways on Baywood Ct. and Baywood Ter. that connect to the County's stormwater infrastructure, leading to three (3) outfall structures discharging into Sarasota Bay. With the average elevation of existing grades (11.6 feet NAVD) versus the Base Flood Elevation (BFE) (10 feet NAVD) of the Zone AE, stormwater improvements would not provide mitigation for flooding from major storm events.

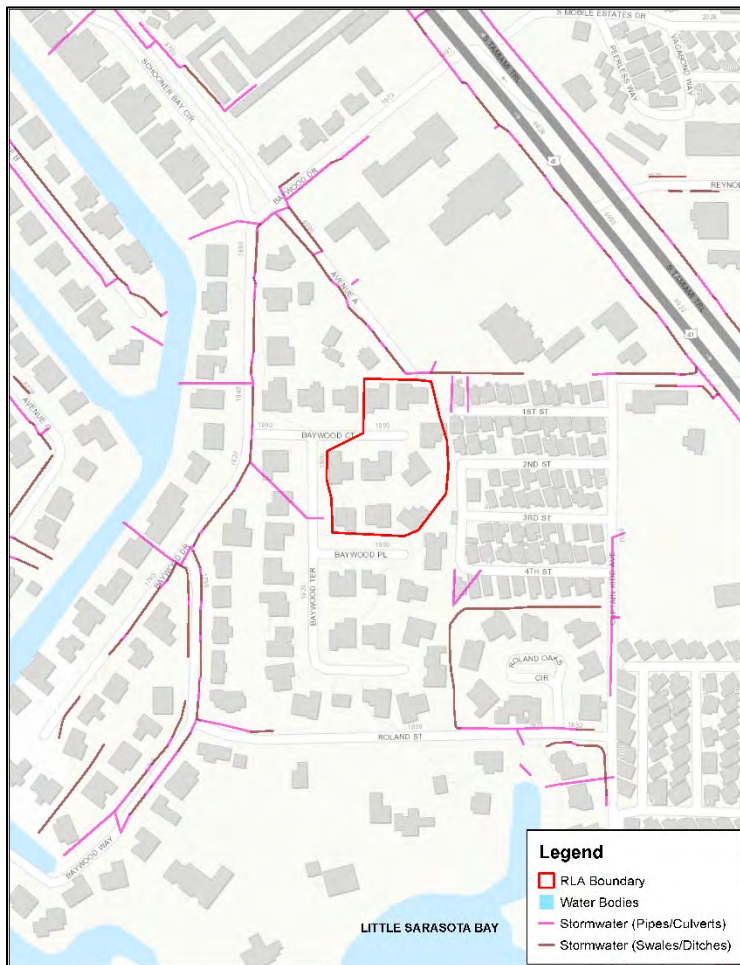


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The most appropriate mitigation alternatives for this RLA include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 16 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
16 – LSB 02 Little Sarasota Bay	1	0	9	AE(SFHA), Shaded X	Baywood Pl Baywood Ct	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 16: Little Sarasota Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	9					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	4					
Total insurance claims (in thousands)	\$10.6					
Average insurance claim (in thousands)	\$2.64					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 17-LSB03 Little Sarasota Bay

Repetitive Loss Area (RLA) Overview

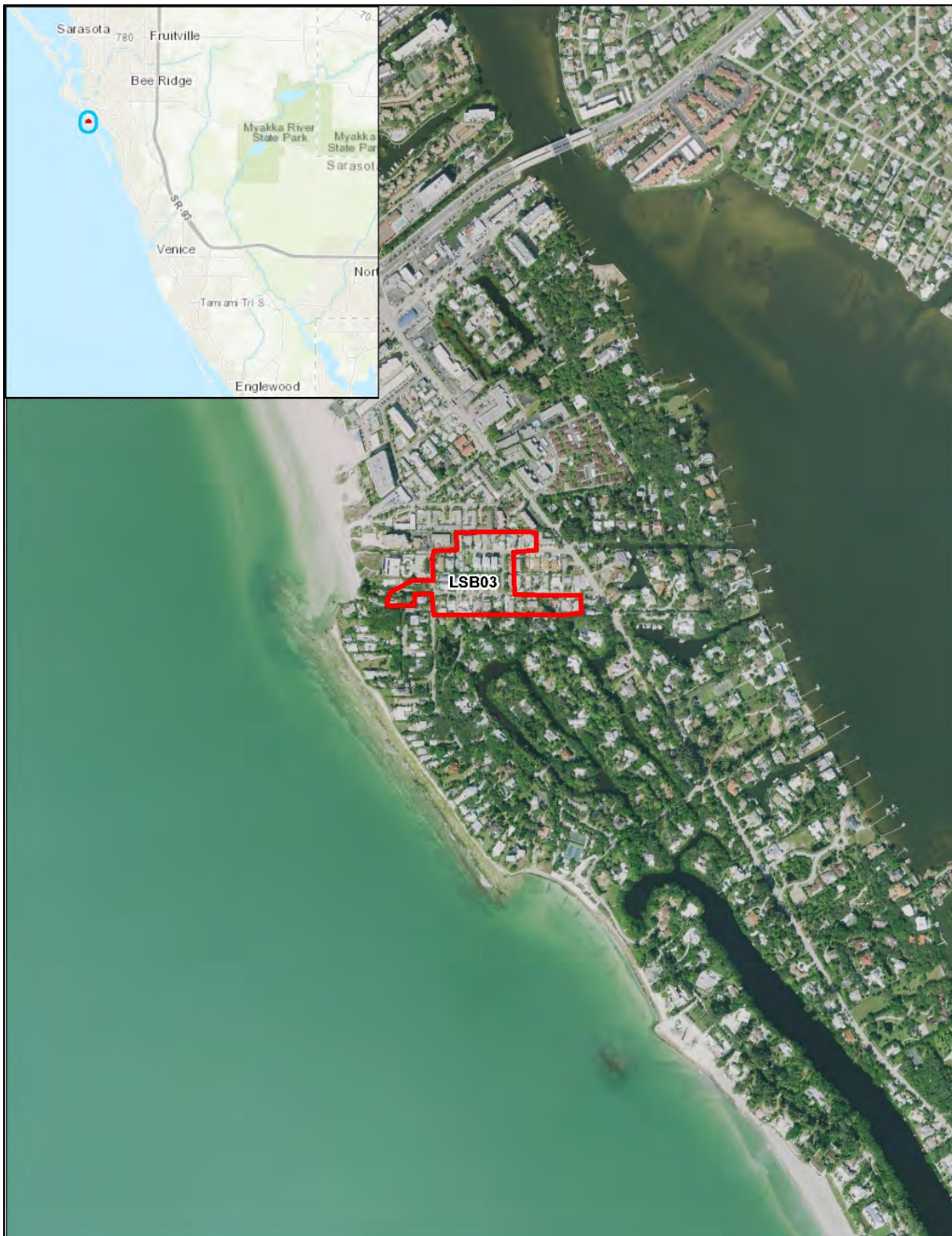


Figure 1: LSB03 Boundaries

AREA DESCRIPTION

WATERSHED: Little Sarasota Bay
 BASIN: Little Sarasota Bay Coastal
 LANDFORM: Island (Bay)
 AREA: 11.14 acres

FLOODING PROBLEMS AND CONCERNS

- Island between Little Sarasota Bay and Gulf of Mexico
- Storm surge Gulf of Mexico
- Storm surge from Bay
- High Tide with High Rainfall Events

Problem Statement

This Repetitive Loss Area (RLA) is located on a portion of the island separating Little Sarasota Bay to the east and the Gulf of Mexico to the west. This area is subject to tidal action, waves, and surge from Little Sarasota Bay, as well as coastal influences from the Gulf of Mexico. The structures within this area were constructed from the 1940s to present, with foundations that range from elevated enclosed to concrete slab on grade, above an average grade of elevation 2.8 feet NAVD. All of the structures are within SFHA Zone AE-10, are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

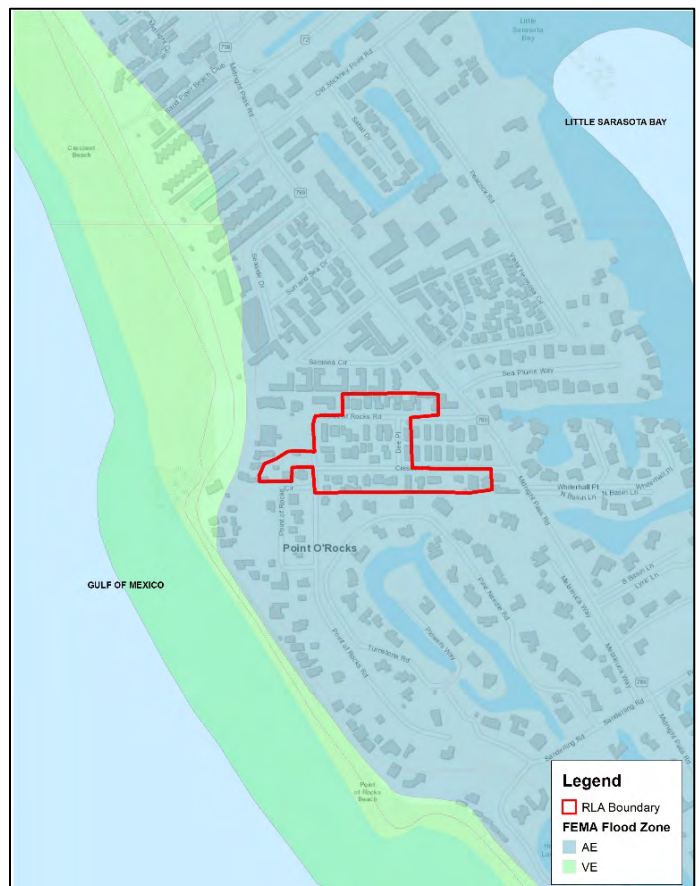


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
47	Total Structures in Repetitive Loss Area
4	Total Repetitive Loss Structures in this Area
28	Properties w/Active Insurance Policies
2	Mitigated RL & SRL Properties
2	Unmitigated RL & SRL Properties
35	Insurance Claims (since 1978)
\$171.4	Total Insurance Claims (in thousands)
\$4.9	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Crescent Street	Resident with less than 10 years residency, slab on grade, reported flooding in yard only caused by drainage from adjacent properties, homeowner cleared debris, shrubs, and overgrowth to help combat flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for twenty-eight (28) of the thirty-five (35) individual claims in the RLA, of which seventeen (17) correspond to the Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been ten (10) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	1
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	6
July 18, 1995	Un-Named Storm	9-11	8
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
52%	Slab on grade
25%	Elevated foundation walls with enclosure
14%	Elevated posts/piles
9%	Undetermined due to vegetation/access
Composition	Frame Type
26%	Wood frame
74%	Concrete block/masonry
Composition	Number of Stories
51%	Single story
33%	Two story
16%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Wood Frame, Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

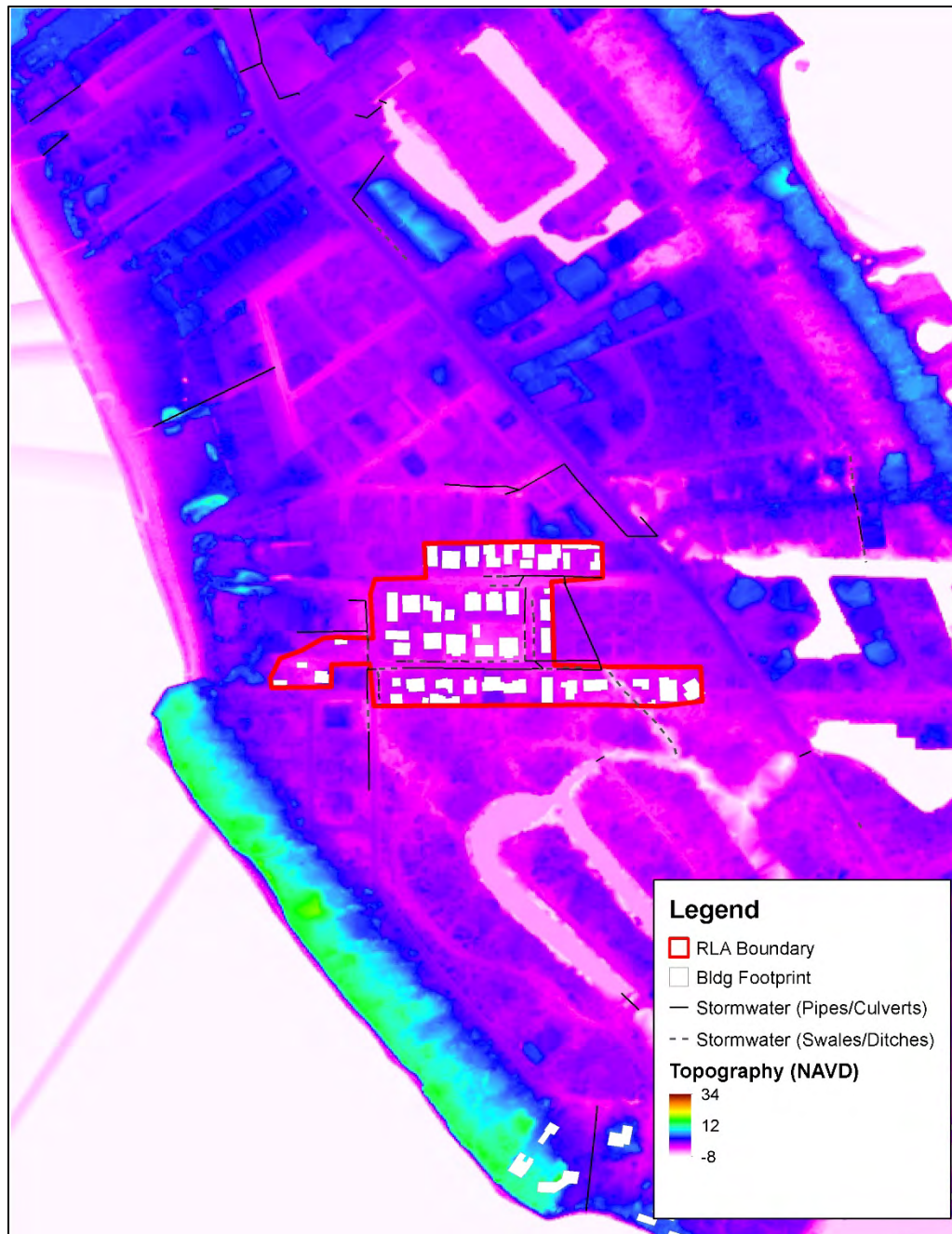


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes swales and pipes for conveyance along the streets before connecting to the County's stormwater infrastructure and discharging into a nearby canal. Some low-level flooding in yards as described by the resident survey response may be reduced through the expansion of the stormwater infrastructure. However, with the average elevation of existing grades (2.8 feet NAVD) versus the Base Flood Elevation (BFE) (10 feet NAVD), such improvements would not provide mitigation for flooding from major storm events.

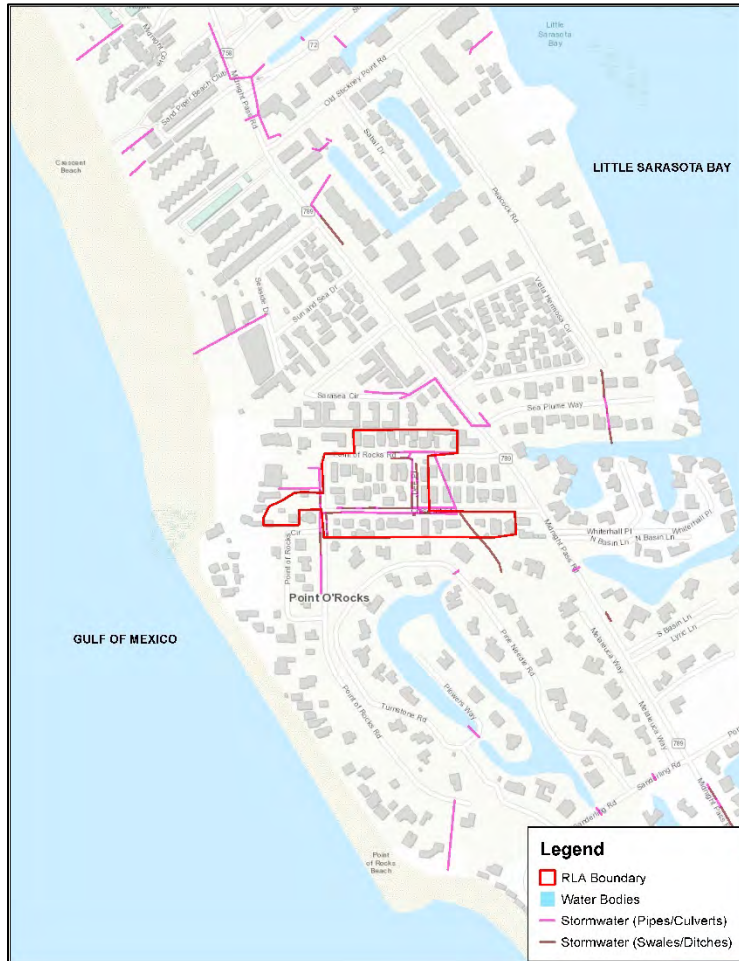


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to Little Sarasota Bay and the Gulf of Mexico, and the average Finished Floor Elevation (FFE) of the structures at 4.2 feet below the BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 17 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5. Prior to implementing the mitigation strategy, additional data should be collected for the structures that were inaccessible.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
17 – LSB 03 Little Sarasota Bay	1	1	47	AE (SFHA)	Crescent St Point of Rocks Rd Point of Rocks Cir	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 17: Little Sarasota Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	47					
Repetitive Loss (RL) Properties	3					
Severe RL properties	1					
Mitigated RL properties	2					
Mitigated Severe RL properties	0					
Insurance claims since 1978	35					
Total insurance claims (in thousands)	\$171.4					
Average insurance claim (in thousands)	\$4.9					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 18-LSB04 Little Sarasota Bay

Repetitive Loss Area (RLA) Overview

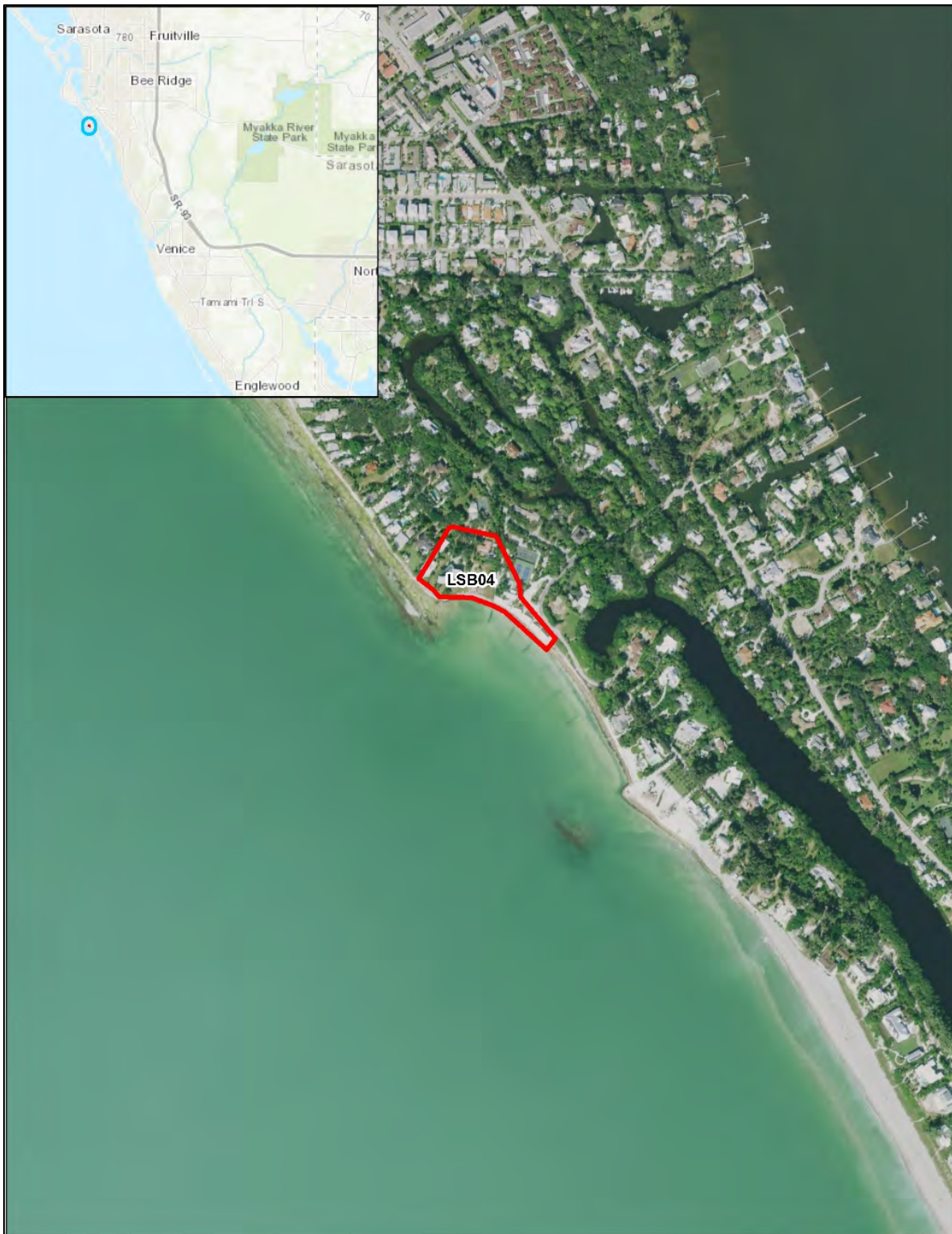


Figure 1: LSB04 Boundaries

AREA DESCRIPTION

WATERSHED: Little Sarasota Bay
 BASIN: Little Sarasota Bay Coastal
 LANDFORM: Island, Coastal (Bay)
 AREA: 5.26 acres

FLOODING PROBLEMS AND CONCERNS

- Island between Little Sarasota Bay and Gulf of Mexico
- Storm surge Gulf of Mexico
- Storm surge from Bay
- High Tide with High Rainfall Events
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is located directly parallel to the Gulf of Mexico on the west and is subject to tidal action, waves, and surge from both the Gulf of Mexico and Little Sarasota Bay. Most of the structures within this area were constructed in the 1960s, with an average Finished Floor Elevation (FFE) of 8.7 feet NAVD. The structures are located within SFHA Zones AE-10, AE-11 or VE-14, and are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Raised Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
10	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
2	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
2	Unmitigated RL & SRL Properties
3	Insurance Claims (since 1978)
\$3.1	Total Insurance Claims (in thousands)
\$1.05	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Point of Rocks Road	Resident with 30-39 years residency, slab on grade, reported no flooding on property.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for three (3) individual claims in the RLA, of which two (2) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been no NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	1
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	1
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
67%	Raised/Slab on grade
22%	Elevated foundation walls with enclosure
11%	Undetermined due to no access/ intense vegetation
Composition	Frame Type
67%	Wood frame
33%	Concrete block/masonry
Composition	Number of Stories
67%	Single story
22%	Two story
11%	Three story or greater
Composition	Flood Zones
80%	Within SFHA Zone AE
20%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Raised Slab on Grade Structures

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides, high winds and storm surge. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

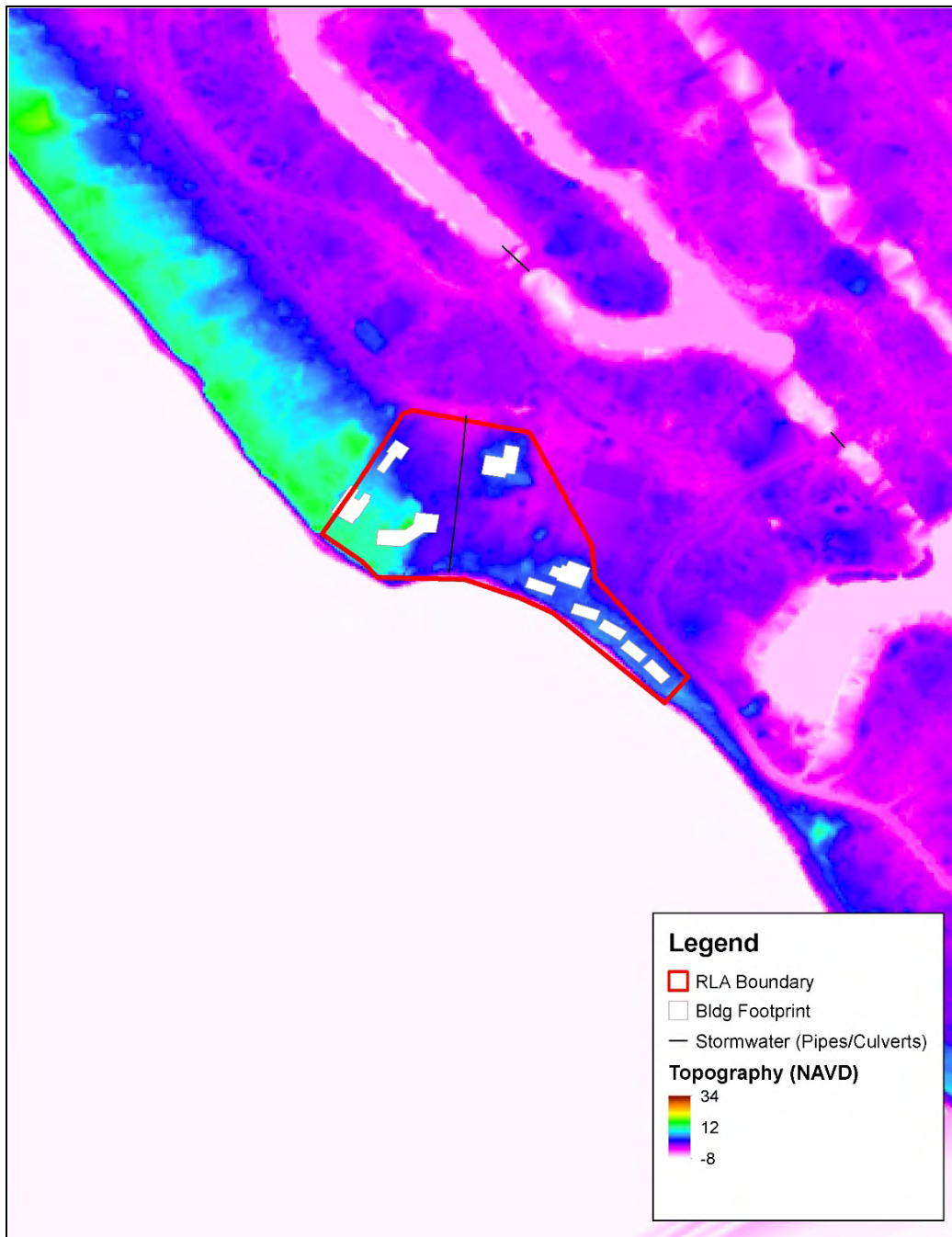


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is limited to one curb inlet located at the end of Point of Rocks Rd before discharging to an outfall structure and into the Gulf of Mexico. The properties in this RLA located on Sanderling Rd. are a condominium, which is responsible for maintaining its own stormwater onsite. Elevating the structures on Sanderling Dr. would help combat flooding but the structures in this area will likely still flood due to coastal influences. Therefore, stormwater infrastructure improvements would likely not provide mitigation for flooding from major storm events.



Figure 4: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. Due to the location of the structures in relation to the Gulf of Mexico the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 18 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5. Prior to implementing the mitigation strategy, additional data should be collected for the structures that were inaccessible.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
18 – LSB 04 Little Sarasota Bay	2	0	10	AE, VE (SFHA)	Sanderling Rd Point of Rocks Rd	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 18: Little Sarasota Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	10					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$3.1					
Average insurance claim (in thousands)	\$1.05					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 19-LSB05 Little Sarasota Bay

Repetitive Loss Area (RLA) Overview

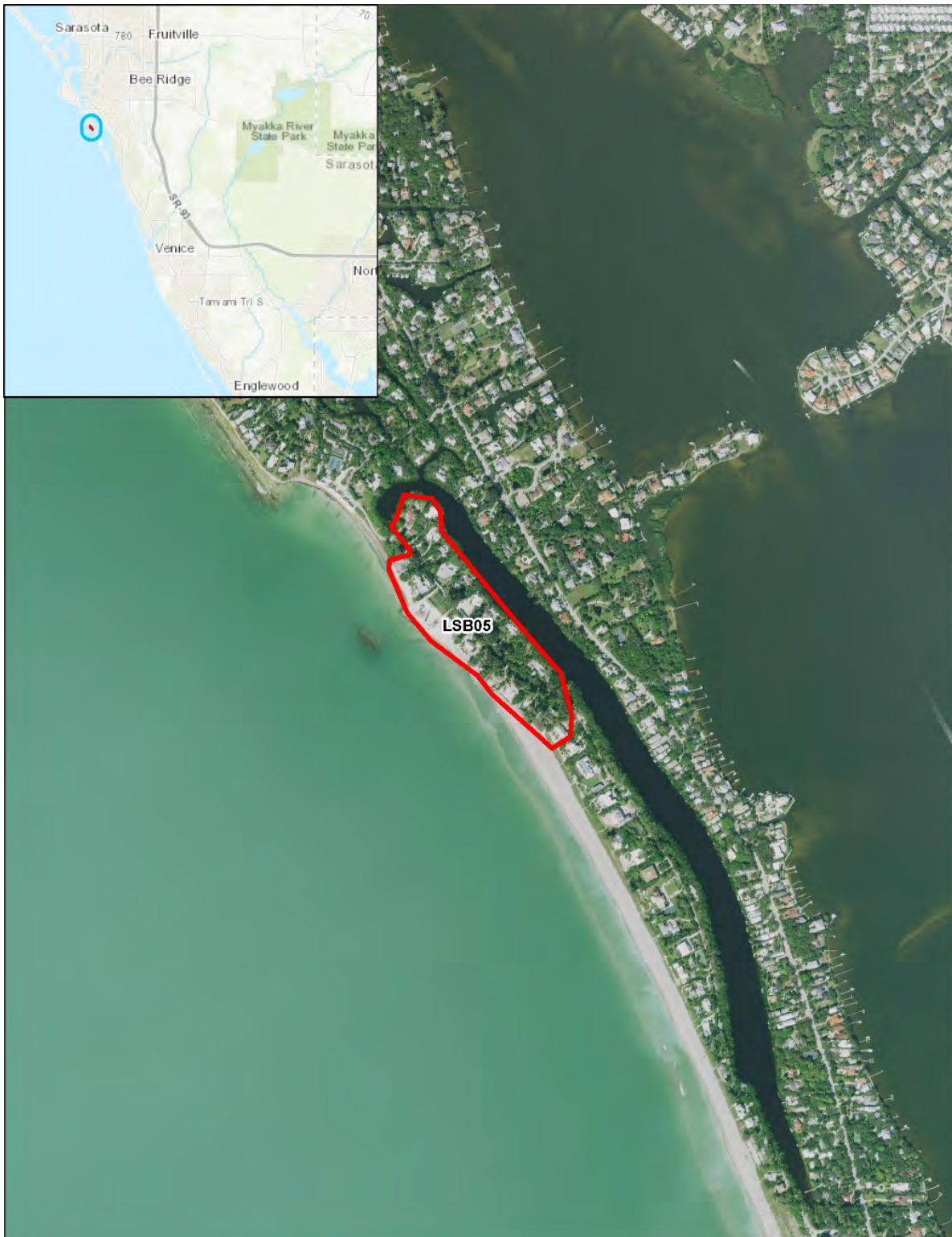


Figure 1: LSB05 Boundaries

AREA DESCRIPTION

WATERSHED: Little Sarasota Bay
 BASIN: Little Sarasota Bay Coastal
 LANDFORM: Island/Coastal (Bay)
 AREA: 32.31 acres

FLOODING PROBLEMS AND CONCERNS

- Island between Little Sarasota Bay and Gulf of Mexico
- Storm surge from Gulf of Mexico
- Storm surge from Bays
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures
- No stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is located on a portion of an island between the Gulf of Mexico to the west and Heron Lagoon on the east. All the structures in this RLAA are constructed on waterfront lots. This area is subject to tidal action, waves, and surge from the Gulf of Mexico, Heron Lagoon, and coastal influences from the nearby Little Sarasota Bay. Most of the structures within this area were constructed in the 1950s and 1960s, with concrete slab-on-grade foundations, above an average grade of 3.6 feet NAVD. The structures are within SFHA Zone AE and Zone VE, and are at a high risk of flooding and storm surge. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Stemwall with Slab Structure

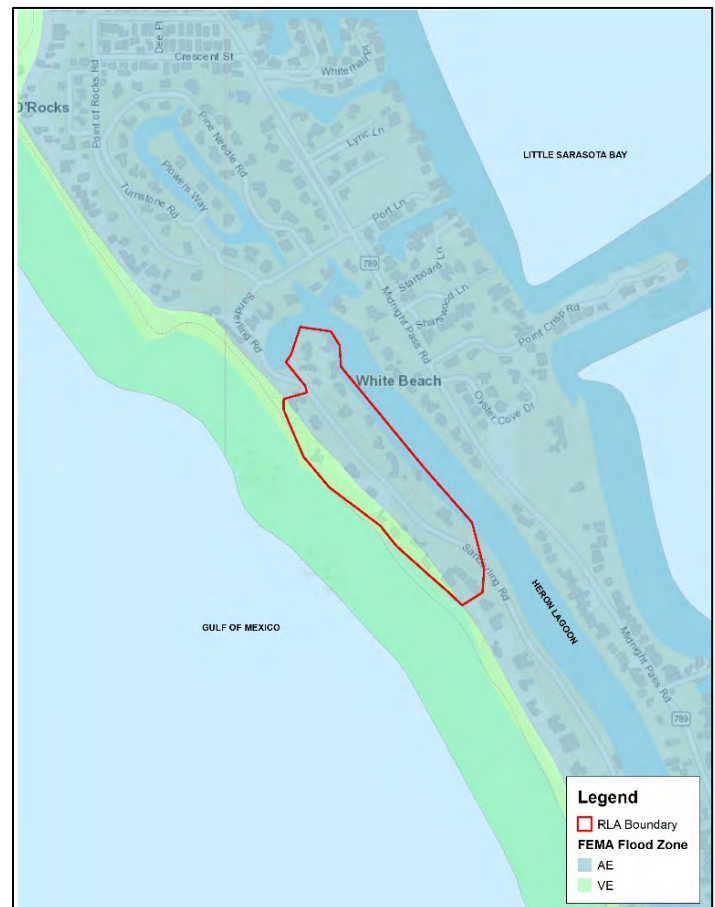


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
26	Total Structures in Repetitive Loss Area
8	Total Repetitive Loss Structures in this Area
15	Properties w/Active Insurance Policies
4	Mitigated RL & SRL Properties
4	Unmitigated RL & SRL Properties
52	Insurance Claims (since 1978)
\$832.1	Total Insurance Claims (in thousands)
\$16	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Sanderling Rd.	No responses/comments received from resident survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for forty-nine (49) of the fifty-two (52) individual claims in the RLA, of which twelve (12) correspond to the Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remainder of the claims are presumed to be from lesser storms. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	5
September 1, 1985	Hurricane Elena	3	1
November 23, 1988	Tropical Storm Keith	3	3
June 23, 1992	Un-Named Storm	15-20	2
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
62%	Slab on grade
29%	Elevated foundation walls with enclosure
9%	Stemwall w/ Slab
Composition	Frame Type
52%	Wood frame
48%	Concrete block/masonry
Composition	Number of Stories
67%	Single story
33%	Two story
Composition	Flood Zones
92%	Within SFHA Zone AE
8%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structures

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides, high winds and storm surge. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

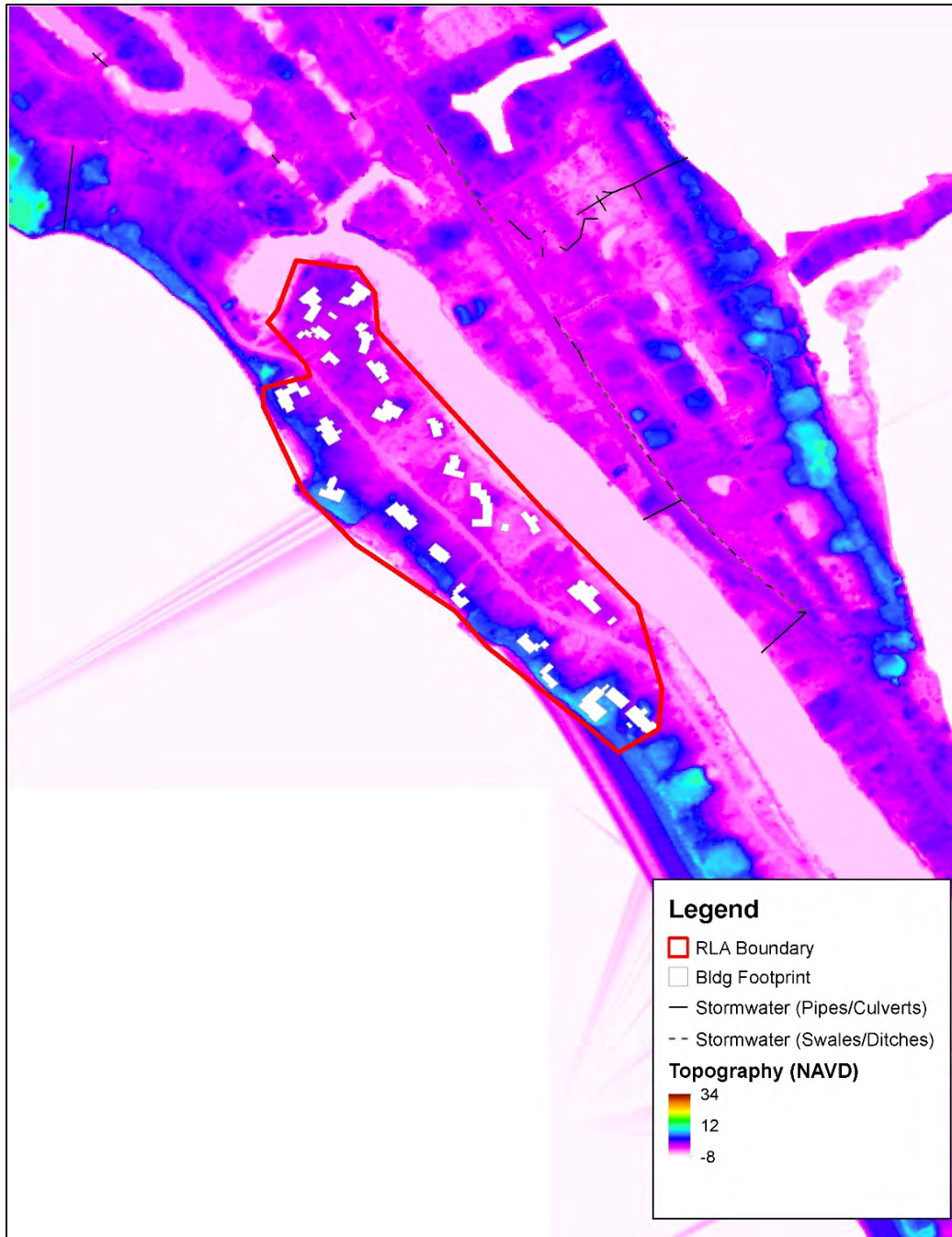


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no stormwater utility infrastructure identified within this RLA; however due to the close proximity to the Gulf of Mexico and risk of storm surge/high tides and excessive rainfalls, it is very unlikely that construction of stormwater infrastructure would provide adequate mitigation for flooding from major storm events.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to the Gulf of Mexico and Little Sarasota Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 4.6 feet below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA area are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 19 are subject to flooding due to heavy rainfall events, high tides and storm surge. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
19 – LSB 05 Little Sarasota Bay	4	0	26	AE, VE (SFHA)	Sanderling Rd	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

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Repetitive Loss Area 19: Little Sarasota Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	26					
Repetitive Loss (RL) Properties	6					
Severe RL properties	2					
Mitigated RL properties	2					
Mitigated Severe RL properties	2					
Insurance claims since 1978	52					
Total insurance claims (in thousands)	\$832.1					
Average insurance claim (in thousands)	\$16					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 20-LSB06 Little Sarasota Bay

Repetitive Loss Area (RLA) Overview

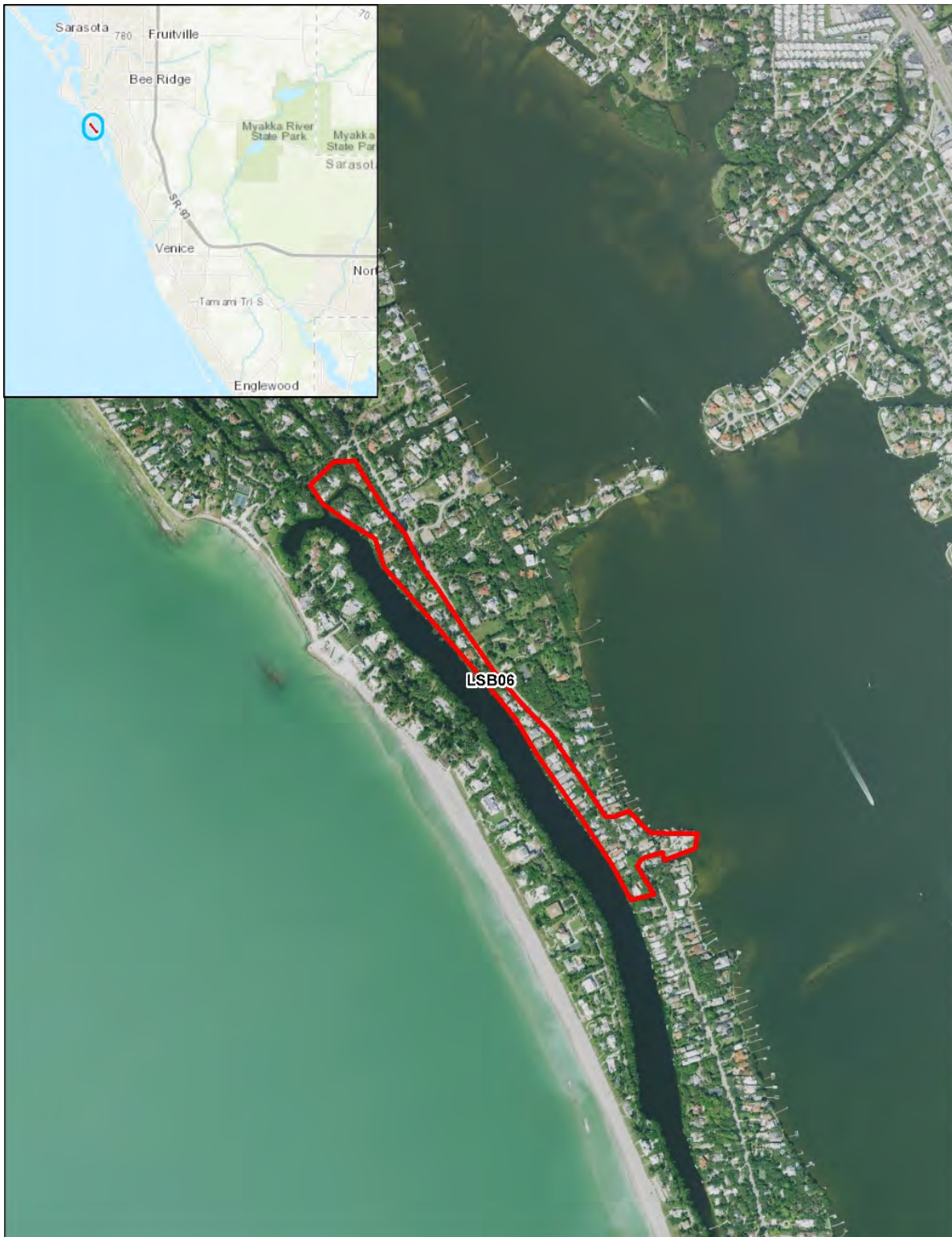


Figure 1: LSB06 Boundaries

AREA DESCRIPTION

WATERSHED: Little Sarasota Bay
 BASIN: Little Sarasota Bay Coastal
 LANDFORM: Island/Coastal (Bay)
 AREA: 27.95 acres

FLOODING PROBLEMS AND CONCERNS

- Island between Little Sarasota Bay and Gulf of Mexico
- Storm surge from Gulf of Mexico
- Storm surge from Bays
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures
- Many lots below street grade

Problem Statement

This Repetitive Loss Area (RLA) is located on a portion of an island between Little Sarasota Bay to the east and Heron Lagoon on the west. All the structures in this RLAA are constructed on waterfront lots. This area is subject to tidal action, waves, and surge from Little Sarasota Bay, Heron Lagoon, and coastal influences from the nearby Gulf of Mexico. Most of the structures within this area were constructed in the 1950s, with concrete slab-on-grade foundations, just above an average grade of 3.0 feet NAVD. All of the structures are within SFHA Zone AE-10 and are at a high risk of flooding and storm surge. Tables 1 and 4 provide a summary of the structures within this RLA.

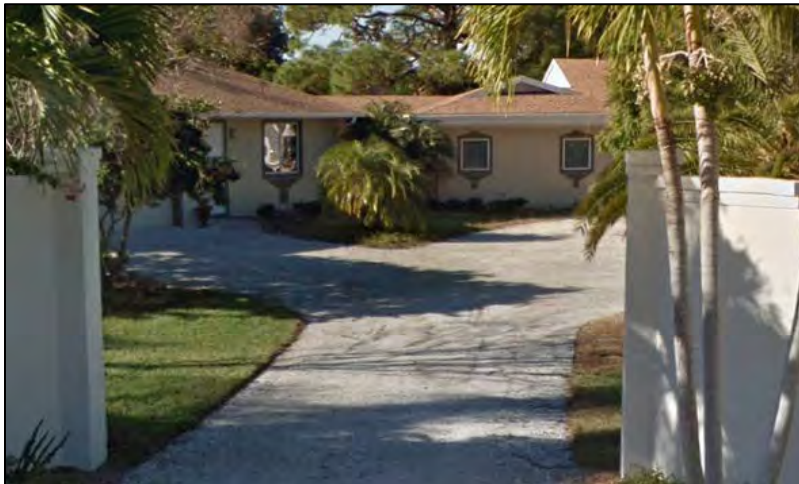


Figure 2: Slab on Grade Structure

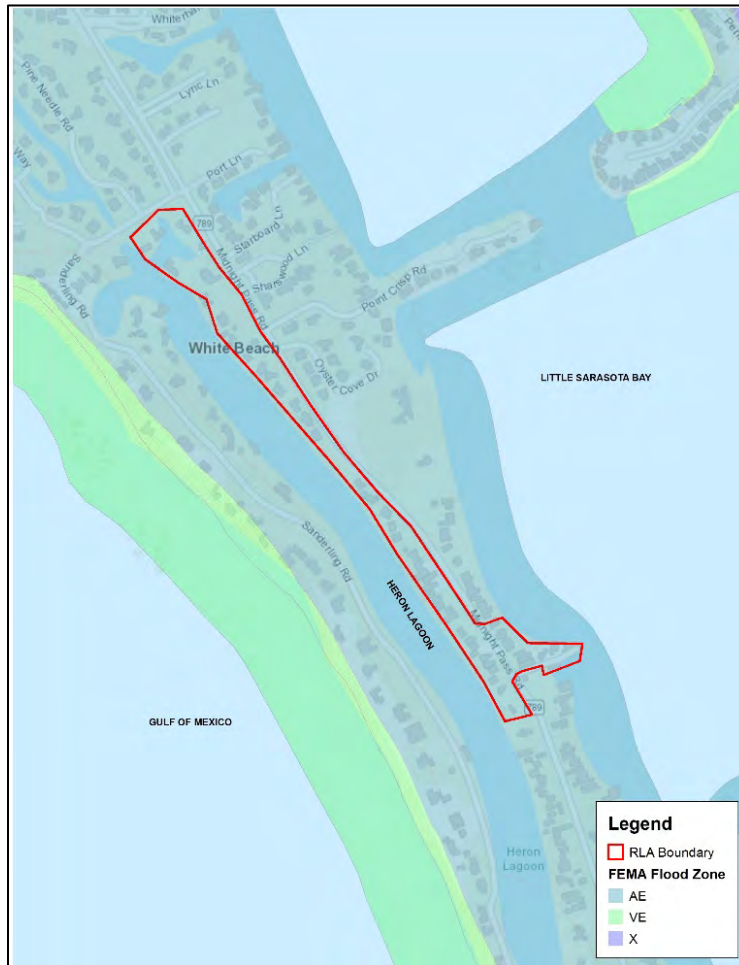


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
49	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
40	Properties w/Active Insurance Policies
1	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
36	Insurance Claims (since 1978)
\$403.9	Total Insurance Claims (in thousands)
\$11.2	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were eight (8) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Midnight Pass Rd	Resident with 10-19 years residency, slab on grade, reports flooding in yard only, no remedial action has been taken.
Midnight Pass Rd	Resident with less than 10 years residency, slab on grade, reports no flooding, installed flood vents to improve drainage.
Midnight Pass Rd	Resident with 20-29 years residency, slab on grade, reports no flooding on property.
Midnight Pass Rd	Resident with 10-19 years residency, slab on grade, reports flooding in yard only.
Midnight Pass Rd	Resident with less than 10 years residency, stemwall, reported no flooding on property.
Midnight Pass Rd	Resident with less than 10 years residency, stemwall, reported no flooding on property.
Midnight Pass Rd	Resident with less than 10 years residency, slab on grade, reported flooding in yard only caused by lack of roadside drainage system.
Midnight Pass Rd	Resident with less than 10 years residency, slab on grade, reported flooding inside structure less than 1-foot for a duration less than 24 hours as frequent as regular storm events, homeowner noted poor right-of-way drainage and surrounding properties as cause of flooding, homeowner installed pipes and underground tanks to collect water and reduce flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for twenty-four (24) of the thirty-six (36) individual claims in the RLA, of which thirteen (13) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	9
September 1, 1985	Hurricane Elena	3	1
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
45%	Slab on grade
43%	Elevated foundation walls with enclosure
4%	Elevated on posts/piles
2%	Stem wall w/ slab
6%	Undetermined due to vegetation/access
Composition	Frame Type
36%	Wood frame
64%	Concrete block/masonry
Composition	Number of Stories
49%	Single story
42%	Two story
9%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Raised Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides, high winds and storm surge. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

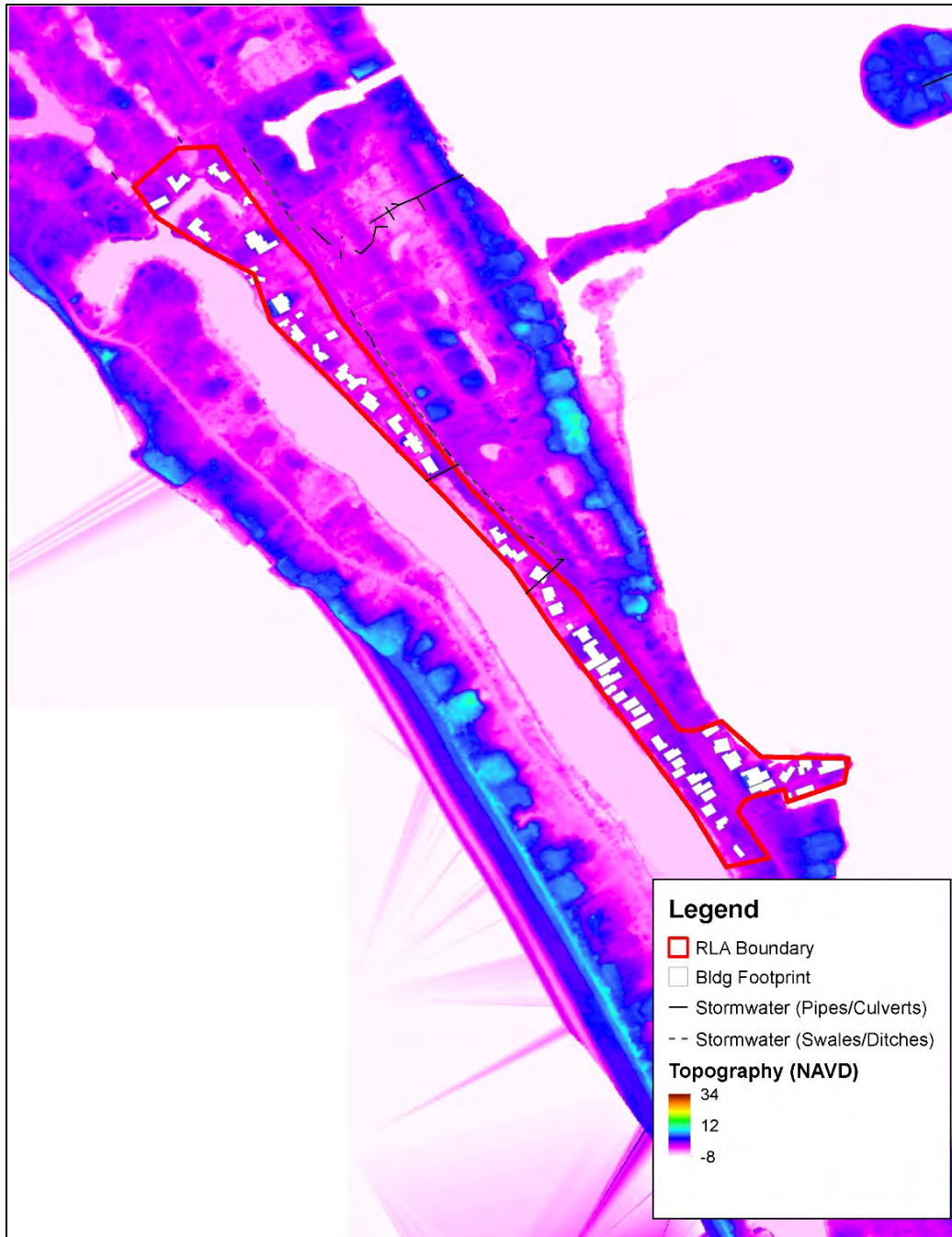


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes roadside swales and pipes for conveyance of stormwater along Midnight Pass Rd., with runoff discharging out two (2) outfall structures into Heron Lagoon. Some flooding was described by the resident survey response which was noted to be caused by the drainage system during regular storm events. Expansion of the stormwater infrastructure in this area may provide some mitigation for flooding from major storm events, but not complete mitigation due to the proximity to the Gulf of Mexico, Heron Lagoon, and Little Sarasota Bay.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to the Gulf of Mexico and Little Sarasota Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 4.0 feet below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA area are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 20 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
20 – LSB 06 Little Sarasota Bay	1	0	49	AE (SFHA)	Sanderling Rd Midnight Pass Rd Mandalay Point Ln	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 20: Little Sarasota Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	49					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	1					
Mitigated Severe RL properties	0					
Insurance claims since 1978	36					
Total insurance claims (in thousands)	\$403.9					
Average insurance claim (in thousands)	\$11.2					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 21-LSB07 Little Sarasota Bay

Repetitive Loss Area (RLA) Overview

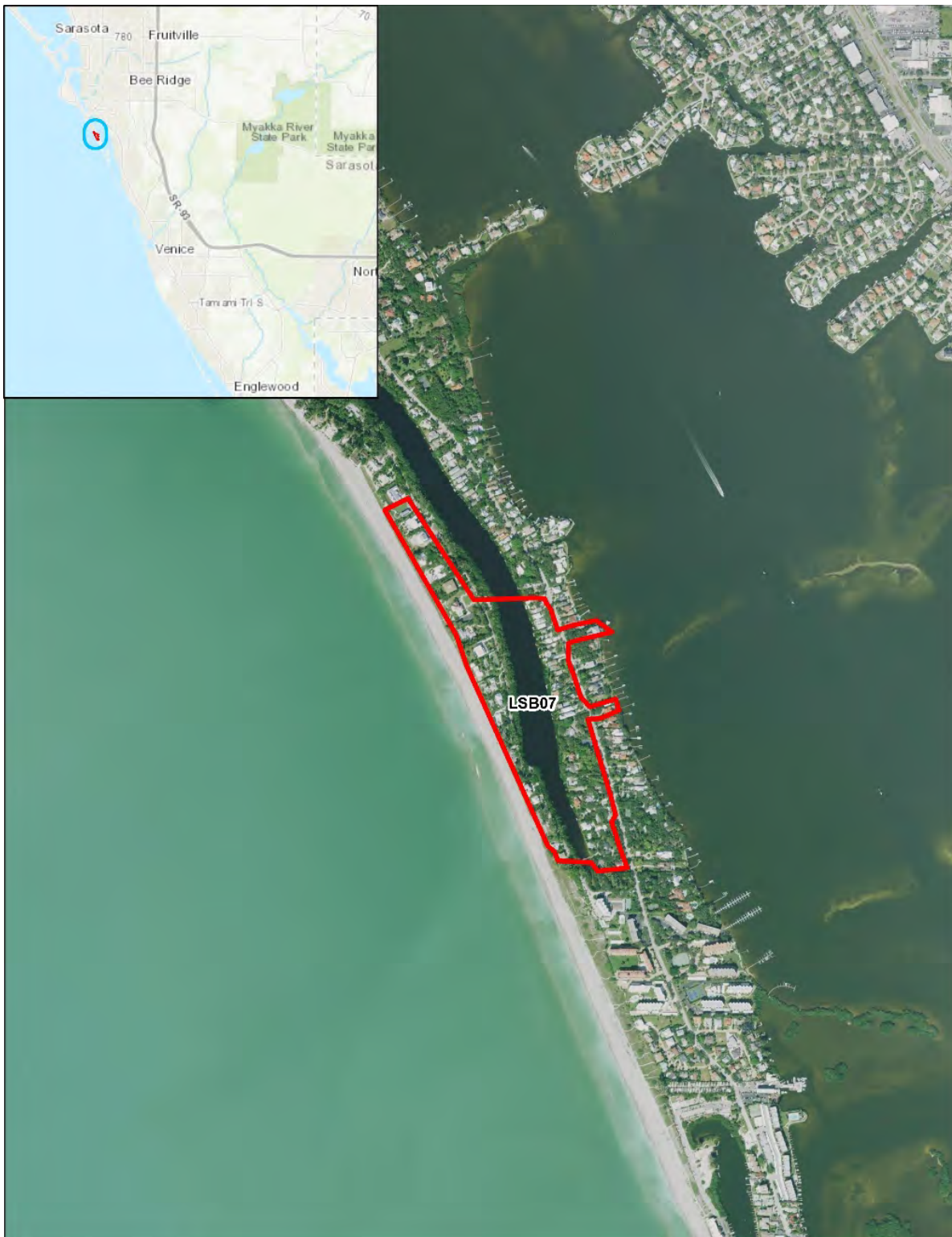


Figure 1: LSB07 Boundaries

AREA DESCRIPTION

WATERSHED: Little Sarasota Bay
 BASIN: Little Sarasota Bay Coastal
 LANDFORM: Island/Coastal (Bay)
 AREA: 72.02 acres

FLOODING PROBLEMS AND CONCERNS

- Island between Little Sarasota Bay and Gulf of Mexico
- Storm surge from Gulf of Mexico
- Storm surge from Bays
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures
- Many lots below street grade
- Minimal stormwater conveyances

Problem Statement

This Repetitive Loss Area (RLA) is located on a portion of an island between Little Sarasota Bay to the east and the Gulf of Mexico to the west, with Heron Lagoon in the middle. Over 80% of the structures in this RLA are constructed on waterfront lots. This area is subject to tidal action, waves, and surge from the Little Sarasota Bay, Heron Lagoon, and the Gulf of Mexico. Most of the structures within this area were constructed in the 1950s and 1960s, with concrete slab-on-grade foundations, minimally above an average grade of 3.2 feet NAVD. Most of the structures are within SFHA Zone AE- 10, and are at a high risk of flooding and storm surge. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
79	Total Structures in Repetitive Loss Area
8	Total Repetitive Loss Structures in this Area
45	Properties w/Active Insurance Policies
3	Mitigated RL & SRL Properties
5	Unmitigated RL & SRL Properties
60	Insurance Claims (since 1978)
\$869.2	Total Insurance Claims (in thousands)
\$14.5	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were eight (8) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Heron Lagoon Cir	Resident with 20-29 years residency, slab on grade, reports flooding in yard only due to overflowing pond, homeowner relocated utilities to higher level to combat flooding.
Midnight Pass Rd	Resident with less than 10 years of residency, elevated structure with crawlspace, reported flooding in yard only caused from drainage of nearby properties.
Sanderling Rd	Resident with 20-29 years residency, elevated structure on posts/pilings, reported flooding in yard only primarily from storm surge, homeowner elevated all or parts of building to avoid flooding.
Midnight Pass Rd	Resident with 20-29 years residency, elevated structure on posts/pilings, reported flooding in yard only caused by adjacent properties.
Midnight Pass Rd	Resident with less than 10 years of residency, slab on grade, reported flooding inside structure less than 1-foot for less than 24 hours caused by frequent heavy storm events, homeowner relocated utilities/contents to higher level to avoid flooding.
Heron Lagoon Cir	Resident with less than 10 years residency, slab on grade, reported flooding in yard only.
Midnight Pass Rd	Resident with 20-29 years of residency, slab on grade, reported flooding in yard only caused from overbank flooding of nearby waterways.
Hidden Lagoon Cir	Resident with 20-29 years of residency, elevated structure on posts/pilings, reported no flooding on property, installed flood approved vents to reduce flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for fifty-one (51) of the sixty (60) individual claims in the RLA, of which seventeen (17) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been five (5) insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	10
September 1, 1985	Hurricane Elena	3	1
November 23, 1988	Tropical Storm Keith	1-3	2
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
51%	Slab on grade
24%	Elevated foundation walls with enclosure
6%	Elevated on posts/piles
1%	Slab on stem wall
18%	Undetermined due to vegetation/access
Composition	Frame Type
48%	Wood frame
52%	Concrete block/masonry
Composition	Number of Stories
58%	Single story
28%	Two story
14%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE
2.5%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Slab on Grade Structures

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

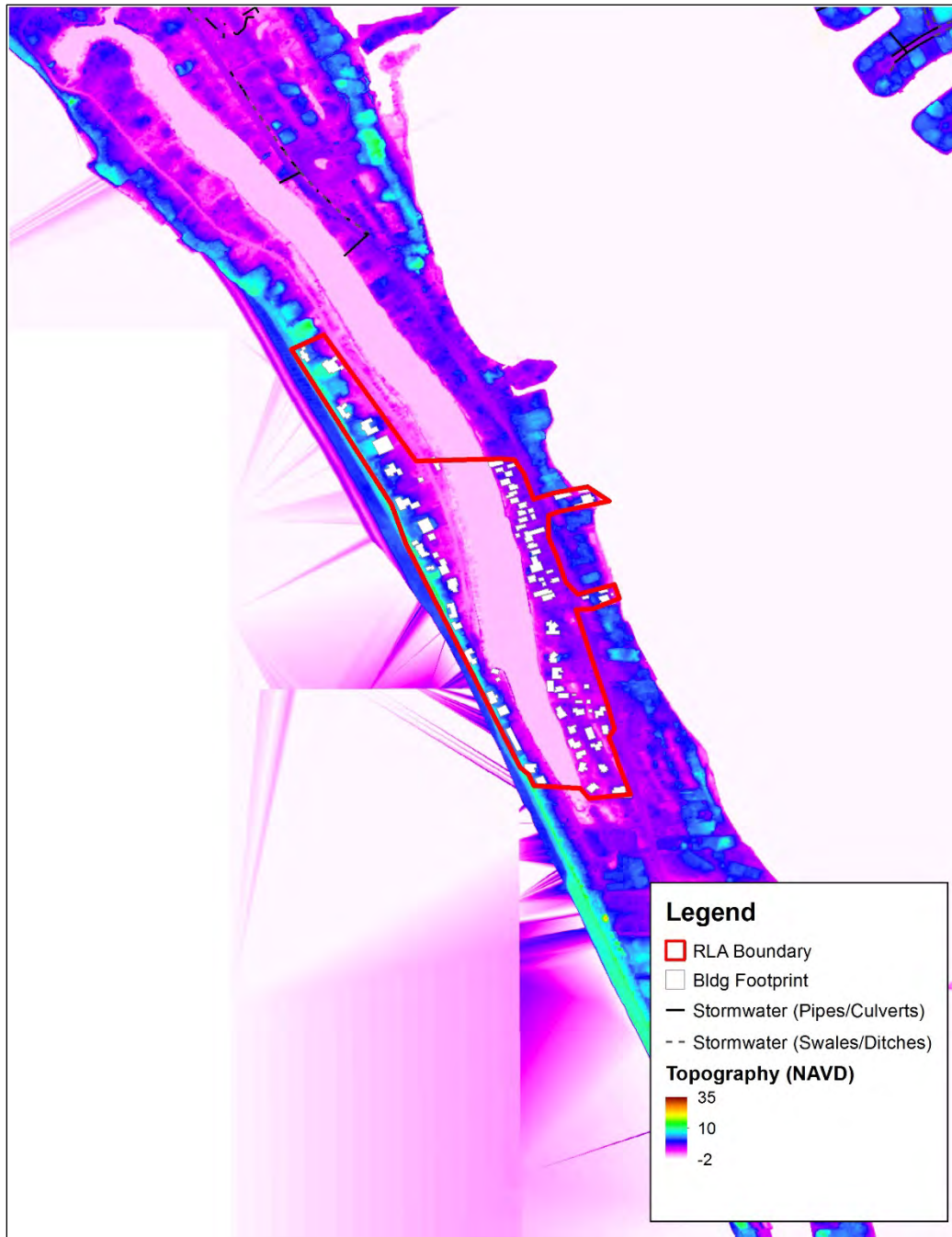


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no stormwater utility infrastructure identified within this RLA; however due to the location in proximity to the Gulf of Mexico and risk of storm surge/high tides, it is very unlikely that construction of stormwater infrastructure would provide adequate mitigation for flooding from major storm events.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to the Gulf of Mexico and Little Sarasota Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 4.4 feet below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 21 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
21 – LSB 07 Little Sarasota Bay	4	1	79	AE, VE (SFHA)	Sanderling Rd Midnight Pass Rd Heron Lagoon	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 21: Little Sarasota Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	79					
Repetitive Loss (RL) Properties	6					
Severe RL properties	2					
Mitigated RL properties	2					
Mitigated Severe RL properties	1					
Insurance claims since 1978	60					
Total insurance claims (in thousands)	\$869.2					
Average insurance claim (in thousands)	\$14.5					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 22-LSB08 Little Sarasota Bay

Repetitive Loss Area (RLA) Overview

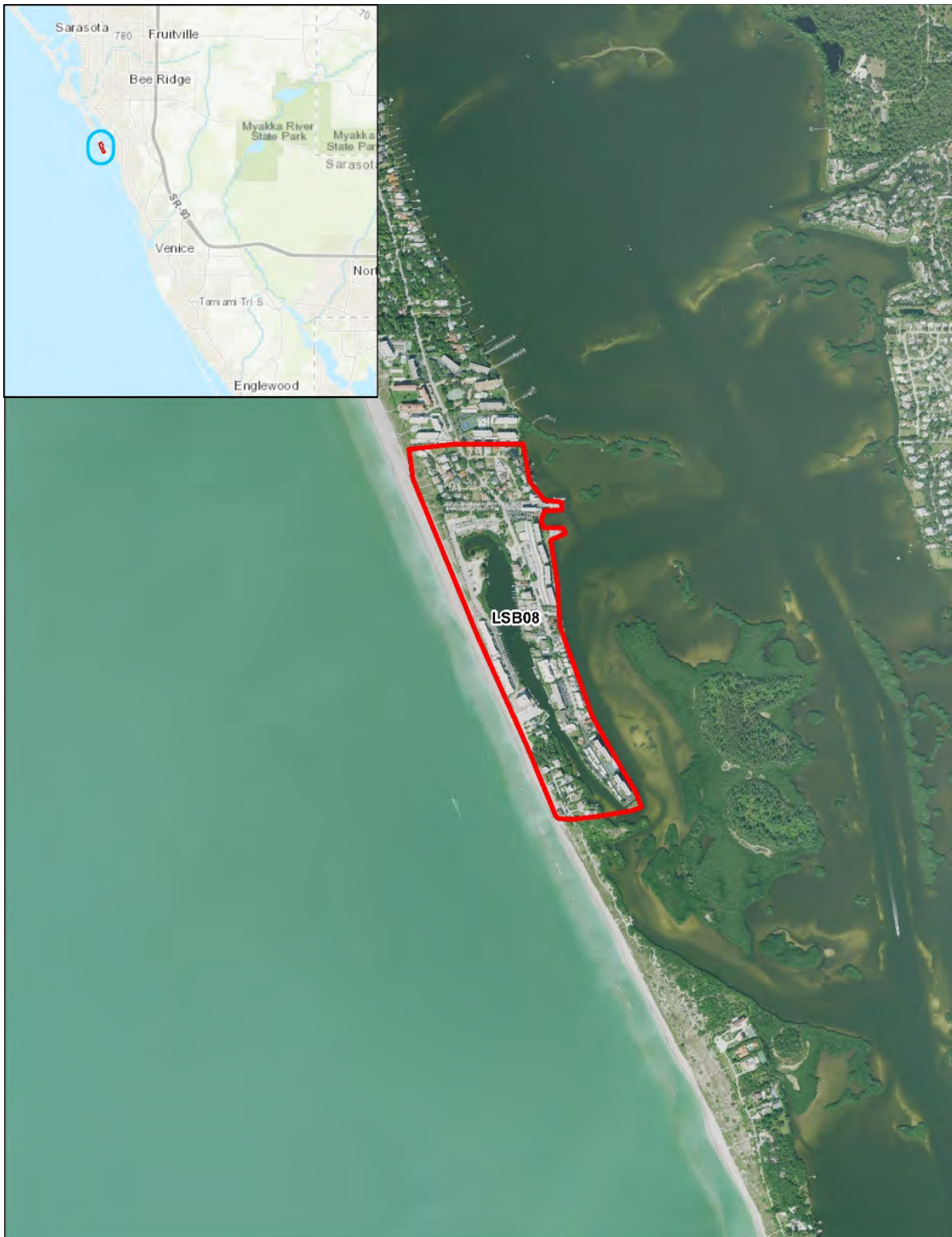


Figure 1: LSB08 Boundaries

AREA DESCRIPTION

WATERSHED: Little Sarasota Bay
 BASIN: Little Sarasota Bay Coastal
 LANDFORM: Island/Coastal (Bay)
 AREA: 116.15 acres

FLOODING PROBLEMS AND CONCERNS

- Island between Little Sarasota Bay and Gulf of Mexico
- Storm surge from Gulf of Mexico
- Storm surge from Bays
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures
- Many lots below street grade

Problem Statement

This Repetitive Loss Area (RLA) is located on a portion of an island between Little Sarasota Bay to the east and the Gulf of Mexico to the west. This area is subject to tidal action, waves, and surge from Little Sarasota Bay and coastal influences from the Gulf of Mexico. Most of the structures within this area were constructed on waterfront lots during various times in the past 50 years, many with concrete slab-on-grade foundations or elevated on foundation walls. All of the structures are within SFHA Zone AE or VE (see Figure 3), and these structures are at a high risk of flooding and storm surge. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Elevated Coastal Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
127	Total Structures in Repetitive Loss Area
5	Total Repetitive Loss Structures in this Area
73	Properties w/Active Insurance Policies
1	Mitigated RL & SRL Properties
4	Unmitigated RL & SRL Properties
68	Insurance Claims (since 1978)
\$1,201.5	Total Insurance Claims (in thousands)
\$17.67	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were eleven (11) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Midnight Pass Road	Resident with 10-19 years residency, reports no flooding on property, resident noted home is elevated on all parts of building.
Midnight Pass Road	Resident with less than 10 years residency, reports no flooding on property, elevated on post/pilings on all parts of building.
Horizon View Drive	Resident with less than 10 years residency, home elevated on posts/pilings, reported no flooding on property, installed drains/pipes to improve drainage.
Blind Pass Road	Resident with 30-39 years residency, slab on grade condominium building, reports flooding in yard only caused by overbank flooding of nearby waterways, cleared debris, shrubs, and overgrowth to help combat flooding.
Midnight Pass Road	Resident with less than 10 years residency, slab on grade high rise condominium, homeowner reports no flooding on property, cleared debris, shrubs, and overgrowth to help combat flooding.
Midnight Pass Road	Resident with 20-29 years residency, slab on grade, reports no flooding on property, resident relocated utilities to higher level to avoid flooding.
Midnight Pass Road	Resident with 20-29 years residency, stemwall, reports flooding in yard between neighboring buildings.
Blind Pass Road	Resident with 10-19 years residency, elevated structure on posts/pilings, reports flooding in yard only during heavy storm, beach renourishment project to combat flooding.
Midnight Pass Road	Resident with 20-29 years residency, slab on grade condominium building, reported no flooding on property.
Midnight Pass Road	Resident with less than 10 years residency, slab on grade condominium building, reported no flooding on property.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for fifty-nine (59) of the sixty-eight (68) individual claims in the RLA, of which twenty-eight (28) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been thirteen (13) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	5
September 1, 1985	Hurricane Elena	3	1
November 23, 1988	Tropical Storm Keith	1-3	10
June 23, 1992	Un-Named Storm	15-20	2
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	6
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	2

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
33%	Slab on grade
52%	Elevated foundation walls with enclosure
7%	Elevated on posts/piles
3%	Stem wall with slab
5%	Undetermined due to vegetation/access
Composition	Frame Type
37%	Wood frame
63%	Concrete block/masonry
Composition	Number of Stories
24%	Single story
47%	Two story
29%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE
1.6%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Wood Frame Slab on Grade Structure, and Coastal Beachfront Concrete Block Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides, high winds and storm surge. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

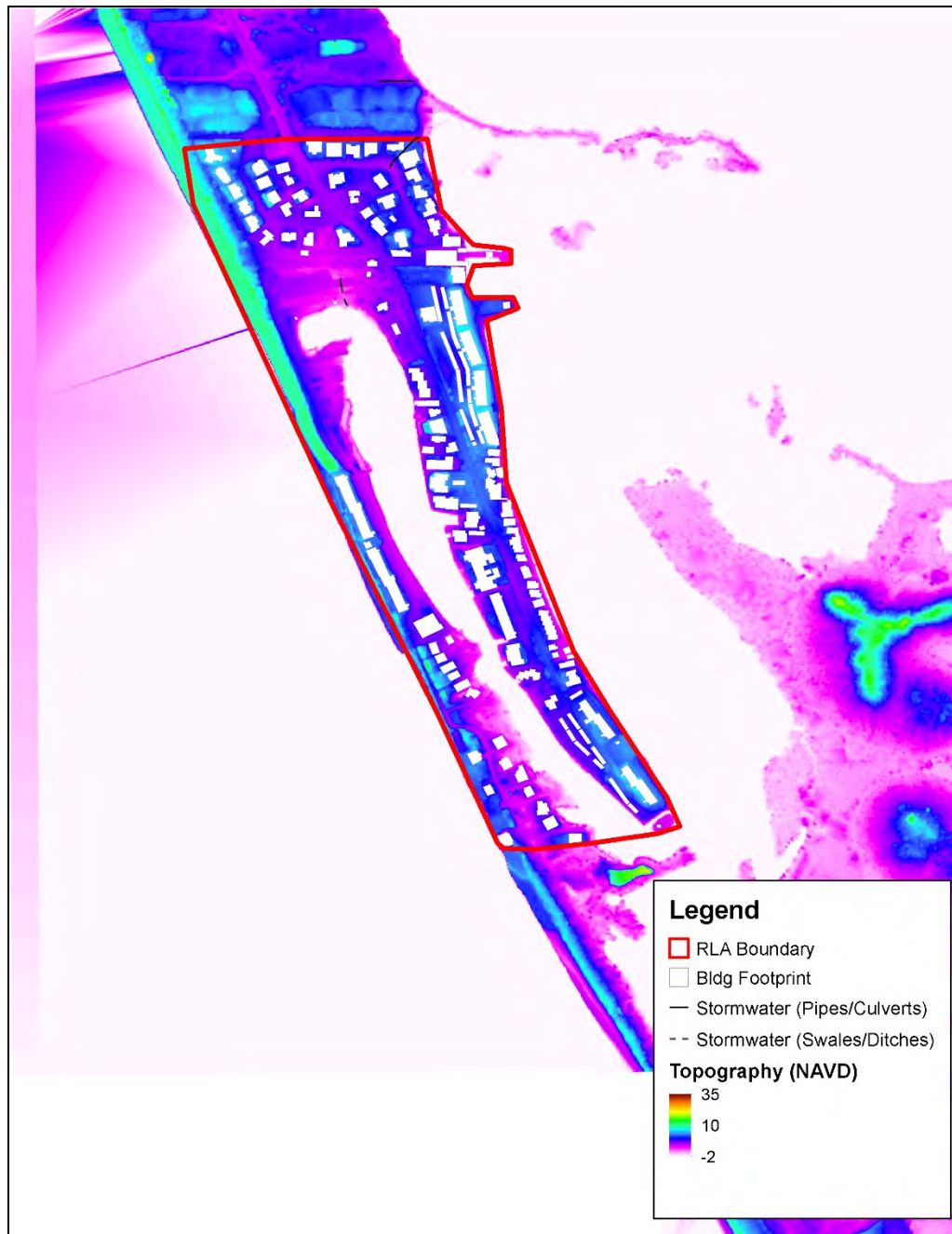


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes two (2) outfall structures, one on Blind Pass Rd. and one on Tree Bay Ln., both discharging to Little Sarasota Bay. There were no roadside swales or pipes for conveyance of stormwater located during the field investigation. Some minor yard flooding was described in the resident survey response for regular storm events. Expansion of the stormwater infrastructure in this area may provide some mitigation for flooding from major storm events, but not full mitigation due to the proximity to the Gulf of Mexico and Little Sarasota Bay.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to the Gulf of Mexico and Little Sarasota Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 1.9 feet below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA area are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 22 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5. Prior to implementing the mitigation strategy, additional data should be collected for the structures that were inaccessible.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
22 – LSB 08 Little Sarasota Bay	4	0	127	AE, VE (SFHA)	Horizon View Dr Tree Bay Ln Midnight Pass Rd Blind Pass Rd	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 22: Little Sarasota Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	127					
Repetitive Loss (RL) Properties	4					
Severe RL properties	1					
Mitigated RL properties	0					
Mitigated Severe RL properties	1					
Insurance claims since 1978	68					
Total insurance claims (in thousands)	\$1,201.5					
Average insurance claim (in thousands)	\$17.67					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 23-LSB10 Little Sarasota Bay

Repetitive Loss Area (RLA) Overview

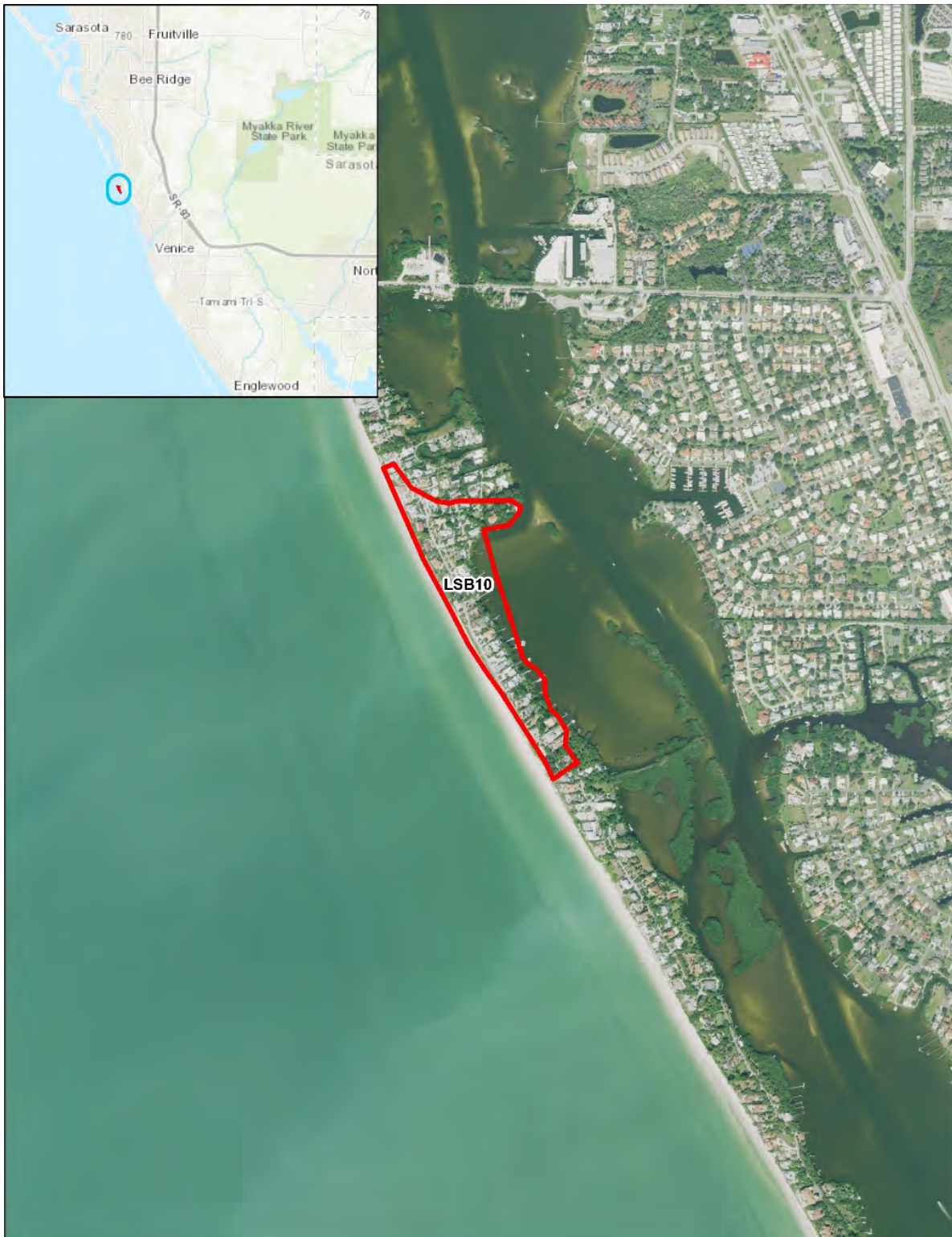


Figure 1: LSB10 Boundaries

AREA DESCRIPTION

WATERSHED: Little Sarasota Bay
 BASIN: Little Sarasota Bay Coastal
 LANDFORM: Island/Coastal (Bay)
 AREA: 40.15 acres

FLOODING PROBLEMS AND CONCERNS

- Island between Little Sarasota Bay and Gulf of Mexico
- Storm surge from Gulf of Mexico
- Storm surge from Bay
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures

Problem Statement

This Repetitive Loss Area (RLA) is located on a portion of an island between Little Sarasota Bay to the east and the Gulf of Mexico to the west. This area is subject to tidal action, waves, and surge from the Little Sarasota Bay and coastal influences from the Gulf of Mexico. Most of the structures within this area were constructed on waterfront lots during various times in the past 50 years, many with concrete slab-on-grade foundations or elevated on foundation walls. All of the structures are within SFHA Zone AE-10, and are at a high risk of flooding and storm surge. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
60	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
34	Properties w/Active Insurance Policies
1	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
23	Insurance Claims (since 1978)
\$177.3	Total Insurance Claims (in thousands)
\$7.71	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Sandspur Lane	Resident with 10-19 years residency, elevated structure on pilings/posts, reported no flooding on property. Homeowner installed approved vents to reduce flooding.
Sandspur Lane	Resident with 30-39 years residency, elevated structure on pilings/posts, reported flooding in yard only caused by overbank flooding from nearby waterways, relocated utilities to a higher level to avoid flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for twelve (12) of the twenty-three (23) individual claims in the RLA, of which twelve (12) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	8
September 1, 1985	Hurricane Elena	3	2
November 23, 1988	Tropical Storm Keith	1-3	1
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
61%	Slab on grade
11%	Elevated foundation walls with enclosure
12%	Elevated on posts/piles
12%	Stem wall with slab
4%	Undetermined due to vegetation/access
Composition	Frame Type
35%	Wood frame
65%	Concrete block/masonry
Composition	Number of Stories
42%	Single story
46%	Two story
12%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE
6.7%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Concrete Block, Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 inches or more of rainfall, unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

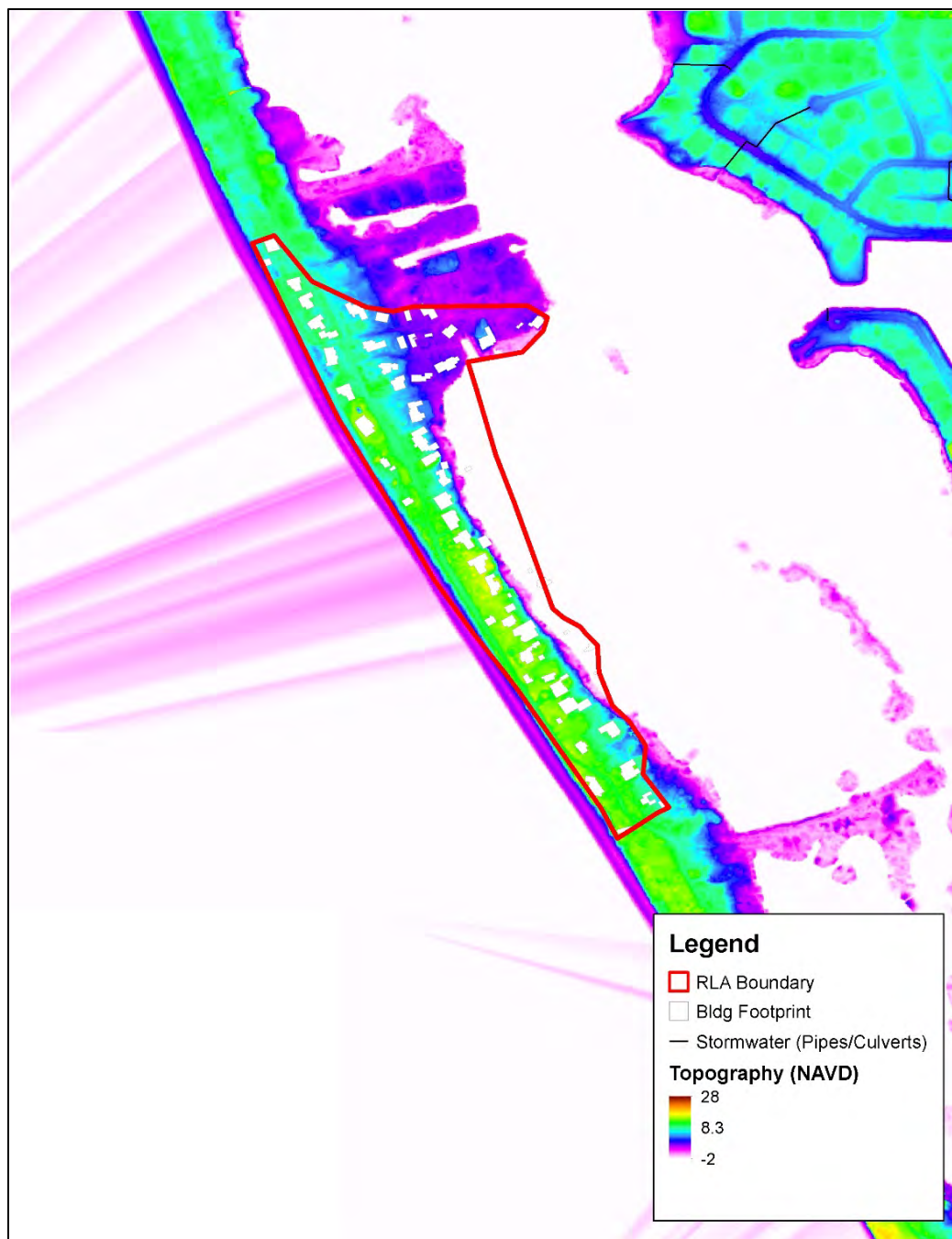


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no stormwater utility infrastructure observed during the field inspection within this RLA. There are no swales or pipes for conveyance of stormwater along Casey Key Rd., with runoff pooling and moving down along the street and over lower elevated properties with no connection leading to the County's stormwater infrastructure. Some low-level flooding as described by the resident survey response may be reduced through the construction of stormwater infrastructure. However, with the average elevation of existing grades (7.0 feet NAVD) versus the Base Flood Elevation (BFE) (10 feet NAVD), such improvements would not provide mitigation for flooding from major storm events.

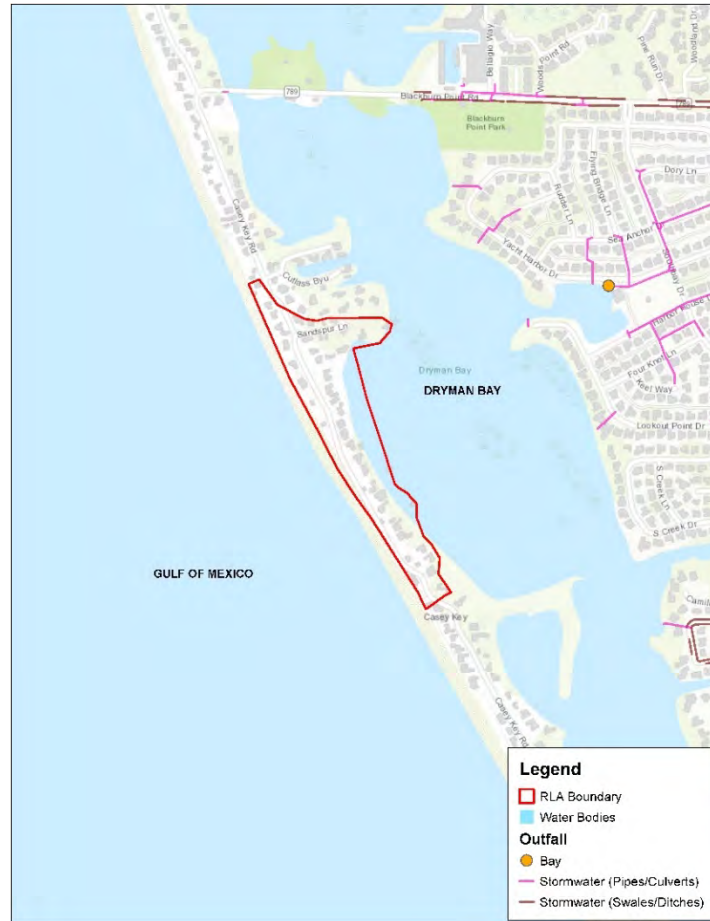


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to the Gulf of Mexico and Little Sarasota Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 9 feet below the BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 23 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5. Prior to implementing the mitigation strategy, additional data should be collected for the structures that were inaccessible.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
23 – LSB 10 Little Sarasota Bay	1	0	60	AE, VE (SFHA)	Casey Key Rd Sandspur Ln	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 23: Little Sarasota Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	60					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	1					
Mitigated Severe RL properties	0					
Insurance claims since 1978	23					
Total insurance claims (in thousands)	\$177.27					
Average insurance claim (in thousands)	\$7.71					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 24-MYR01 Myakka River

Repetitive Loss Area (RLA) Overview



Figure 1: MYR01 Boundaries

AREA DESCRIPTION

WATERSHED: Myakka River
 BASIN: Curry Creek
 LANDFORM: Riverine Confluence/Island
 AREA: 83.86 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping of banks from river
- Confluence with major drainage canal
- River crests up to 72 hours after storms
- Limited road accessibility, single route in/out

Problem Statement

This Repetitive Loss Area (RLA) is located on the western shoreline of the Myakka River just south of the I-75 river crossing. Due to this location, the area is subject to flooding from overtopping of the banks of the river and possible stormwater system backup and capacity overflows, particularly during high rainfall events corresponding with high water levels in the Myakka River. The structures in this RLA were primarily constructed in 1973, pre-FIRM, and although they are elevated structures, most are still below the Base Flood Elevation (BFE) of 7 feet NAVD. The RLA also includes 99% wood frame and manufactured/mobile home structures, which are particularly susceptible to damage during flooding. This RLA lies within SFHA Zone AE and CFHA Zone AE. This is due to extremely low-elevation terrain (average 3.4 feet NAVD), combined with the river overtopping its banks during periods of extreme rainfall. Tables 1 and 4 provide a summary of the structures within this RLA.

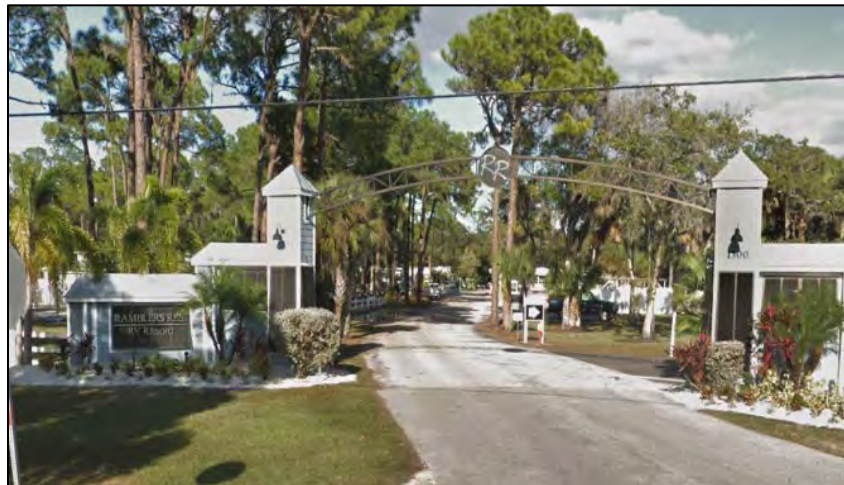


Figure 2: Manufactured/Mobile Home Park

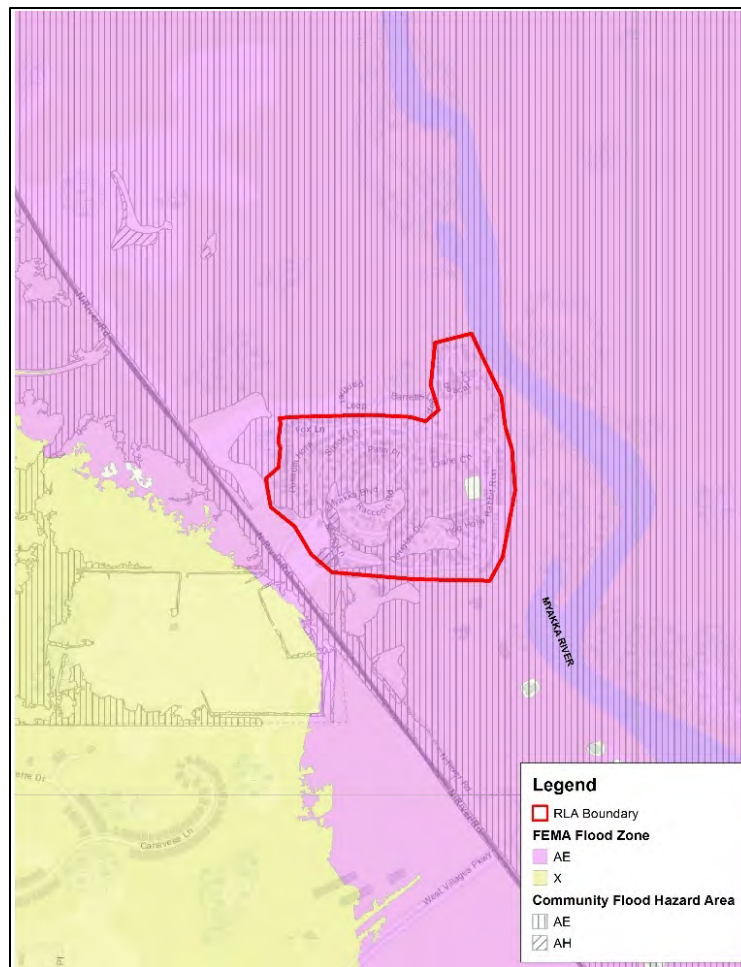


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
379	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
0	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
13	Insurance Claims (since 1978)
\$68.93	Total Insurance Claims (in thousands)
\$5.30	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were seven (7) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
River Rd	Resident less than 10 years, home elevated on cinder blocks, noted flooding in yard only, causes of flooding clogged/undersize drainage ditch/culvert, no measure have been taken to reduce flooding by homeowner.
River Rd	Resident less than 10 years residency, elevated mobile home, reported flooding in yard only due to clogged/undersized drainage ditch/culvert.
River Rd	Resident 20-29 years residency, elevated home on post/pilings with crawlspace, reports flooding in yard caused by overbank flooding from Myakka River, homeowner relocated utilities, regraded yard, and cleared overgrowth to combat flooding.
River Rd	Resident with less than 10 years residency, elevated home with crawlspace, reported flooding in yard only resulting from stormwater system backup, homeowner installs sandbags when anticipated flooding.
River Rd	Resident with 30-39 years residency, elevated on posts/pilings, reported flooding inside structure less than 1-foot for more than 24 hours caused by overbank flooding from nearby waterways.
River Rd	Resident with less than 10 years residency, elevated structure with crawlspace, reports flooding in yard cause unknown, homeowner added plantings to help absorb water.
River Rd	Resident with less than 10 years residency, elevated home on post/pilings with crawlspace, reports flooding in yard caused by overbank flooding from Myakka River.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

There are thirteen (13) individual claims in the RLA, all of which correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been thirteen (13) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	13
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
2%	Slab on grade
1%	Elevated slab on foundation walls
96%	Elevated on post/piles or walls
1%	Undetermined due to vegetation/access
Composition	Frame Type
2%	Wood frame
1%	Concrete block/masonry
97%	Manufactured/Mobile Home
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
100%	Within SFHA Zone AE
85.5%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structures

Causes of Flooding

Overtopping of the Myakka River banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms. The Myakka River often crests up to 72 hours after a storm. A high-water mark survey conducted June 23-26, 2003 indicated a high-water crest of 10.3 feet that resulted in flooding for all the one-story structures not well-elevated, along with well, pump and HVAC equipment. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

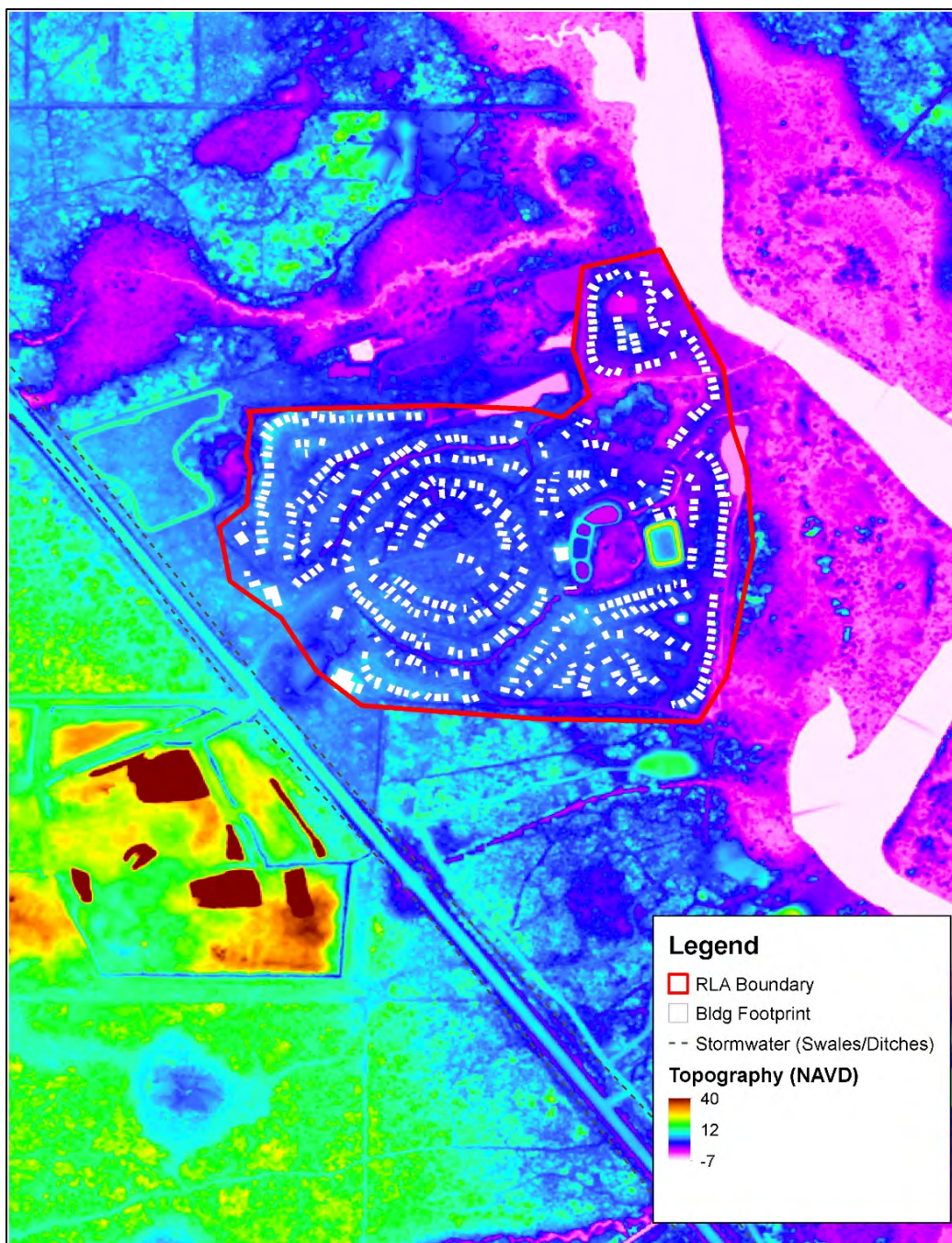


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure in this RLA appears to be inconsistent throughout the site. During the site visit it was noted that many lots have been regraded on a case by case basis to sheet-flow the water away from the structures. There are several large wet retention ponds that collect stormwater for a small contributing area of the mobile home park. Expansion of the stormwater system to include roadside swales and pipes directed to the ponds and discharging to the Myakka River would provide some mitigation for flooding in this area. However, there is extensive back up of the stormwater system when the river overtops its banks, which in this area is at approximately 3 feet; therefore stormwater expansion would not eliminate the flooding for these structures.

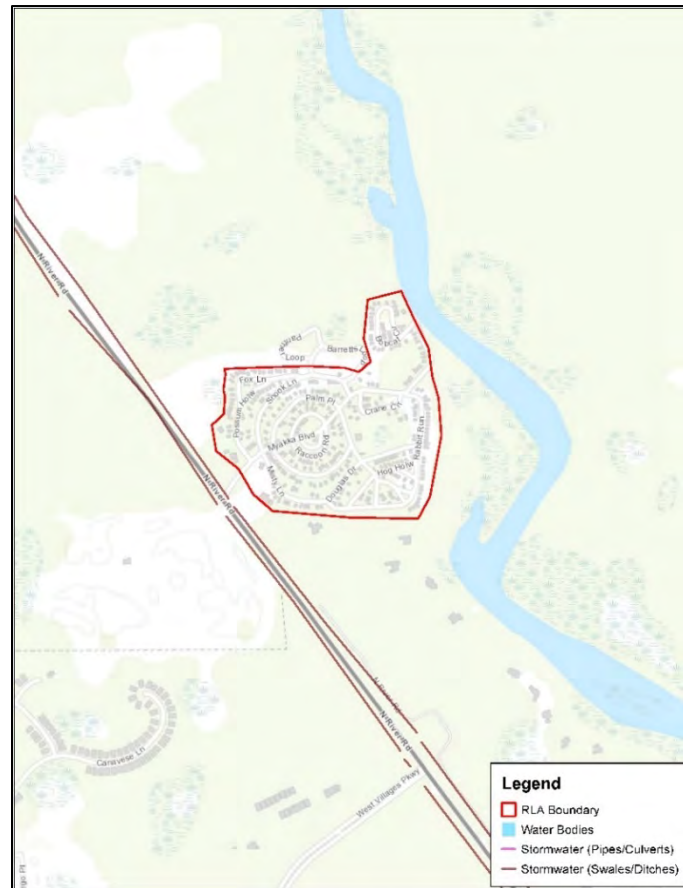


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, extensive exposure to flooding from overtopping of the banks of the Myakka River, and most of the structures being wood frame, indicates the most appropriate mitigation alternatives include rebuilding or elevating of structure and/or flood prone components, or acquisition.

The properties located within this RLA utilize a combination of both County sewer and on-site septic systems to dispose of wastewater. With proper maintenance and the installation of a backflow preventer, if needed, the properties will not have sewer backup during a flooding event. Septic systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 24 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
24 – MYR 01 Myakka River	1	0	379	AE (SFHA), AE (CFHA)	MH Park Numbered Lots River Rd	2, 1, 3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 24: Myakka River	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	379					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	13					
Total insurance claims (in thousands)	\$69					
Average insurance claim (in thousands)	\$5.30					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 25-MYR02 Myakka River

Repetitive Loss Area (RLA) Overview



Figure 1: MYR02 Boundaries

AREA DESCRIPTION

WATERSHED: Myakka River
 BASIN: Curry Creek
 LANDFORM: Riverine
 AREA: 22.14 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping of banks from river
- Major highway infrastructure on N side
- River crests up to 72 hours after storms
- Limited road accessibility, single route in/out
- low land elevations

Problem Statement

This Repetitive Loss Area (RLA) is located west of the Myakka River, just south of US-41. It includes two peninsulas. Due to this location, the area is subject to flooding from overtopping of the banks of the river and possible stormwater system backup and capacity overflows, particularly during high rainfall events corresponding with high water levels in the Myakka River. All of the structures in this RLA are within SFHA Zone AE and some are within CFHA Zone AE. These structures were constructed in the 1950s with slab-on-grade foundations, and are below the Base Flood Elevation (BFE) of 7 feet NAVD. There are no public utilities, so each residence is required to maintain a well and pump equipment which, along with HVAC, is also susceptible to flood damage. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

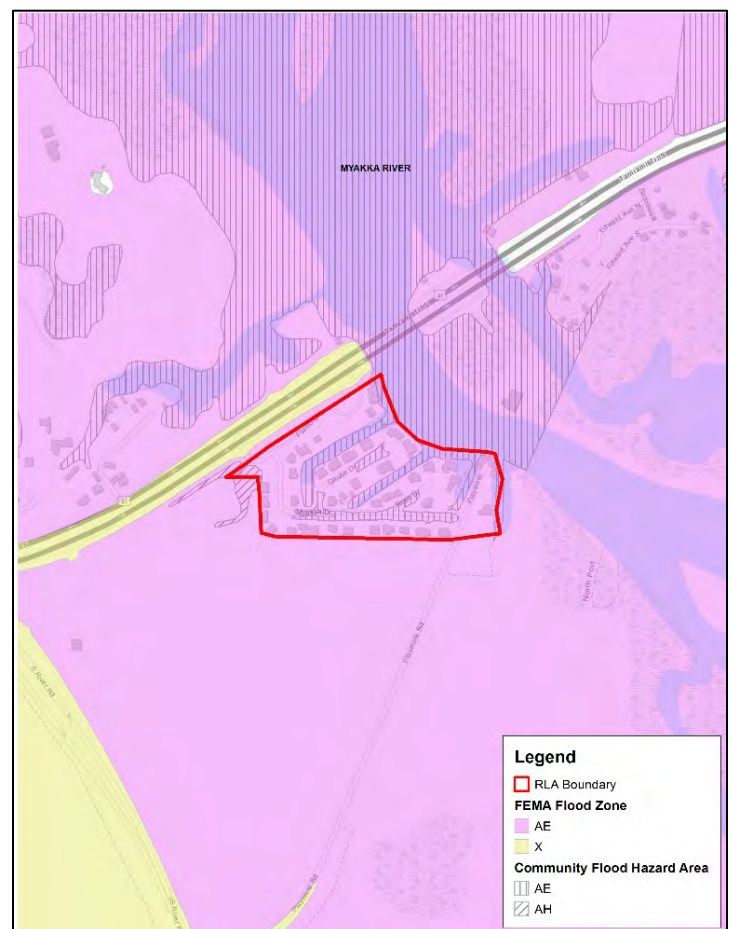


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
43	Total Structures in Repetitive Loss Area
9	Total Repetitive Loss Structures in this Area
14	Properties w/Active Insurance Policies
1	Mitigated RL & SRL Properties
8	Unmitigated RL & SRL Properties
57	Insurance Claims (since 1978)
\$587.44	Total Insurance Claims (in thousands)
\$10.31	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were four (4) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Myakka Dr	Resident responded with flooding in the yard only and the cause being the stormwater system backup. The resident installed a gravel driveway to help combat the flooding.
Myakka Dr	Resident less than 10 years, slab on grade, flooding in home for 8-12 hours less than 1-foot, resident report frequent flooding every storm event due to flooding of overbanks from nearby waterway, homeowner sandbags property openings when anticipating flood event.
Myakka Dr	Resident with less than 10 years residency, slab on grade, reported flooding in yard only caused by clogged/undersized drainage ditch/culvert.
Rose St	Resident with 10-19 years residency, slab on grade, reported flooding in yard only caused by overbank flooding of nearby waterways.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for fifty-four (54) of the fifty-seven (57) individual claims in the RLA, of which thirty (30) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been twenty-two (22) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	7
September 1, 1985	Hurricane Elena	3	1
November 23, 1988	Tropical Storm Keith	1-3	4
June 23, 1992	Un-Named Storm	15-20	3
July 18, 1995	Un-Named Storm	9-11	2
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	6
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	7

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
90%	Slab on grade
8%	Elevated foundation walls w/ enclosure
2%	Elevated on post/piles or walls
Composition	Frame Type
13%	Wood frame
87%	Concrete block/masonry
Composition	Number of Stories
82.5%	Single story
17.5%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE
9.3%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Wood Frame Structure & Slab on Grade Structure

Causes of Flooding

Overtopping of the Myakka River banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms. The Myakka River often crests up to 72 hours after a storm. The lots in this area are relatively low in elevation, and the structures are not significantly elevated above existing lot grade and are below the BFE (7 feet NAVD). Most (86%) of the structures within this RLA are pre-FIRM and some structures are located within CFHA Zone AE. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

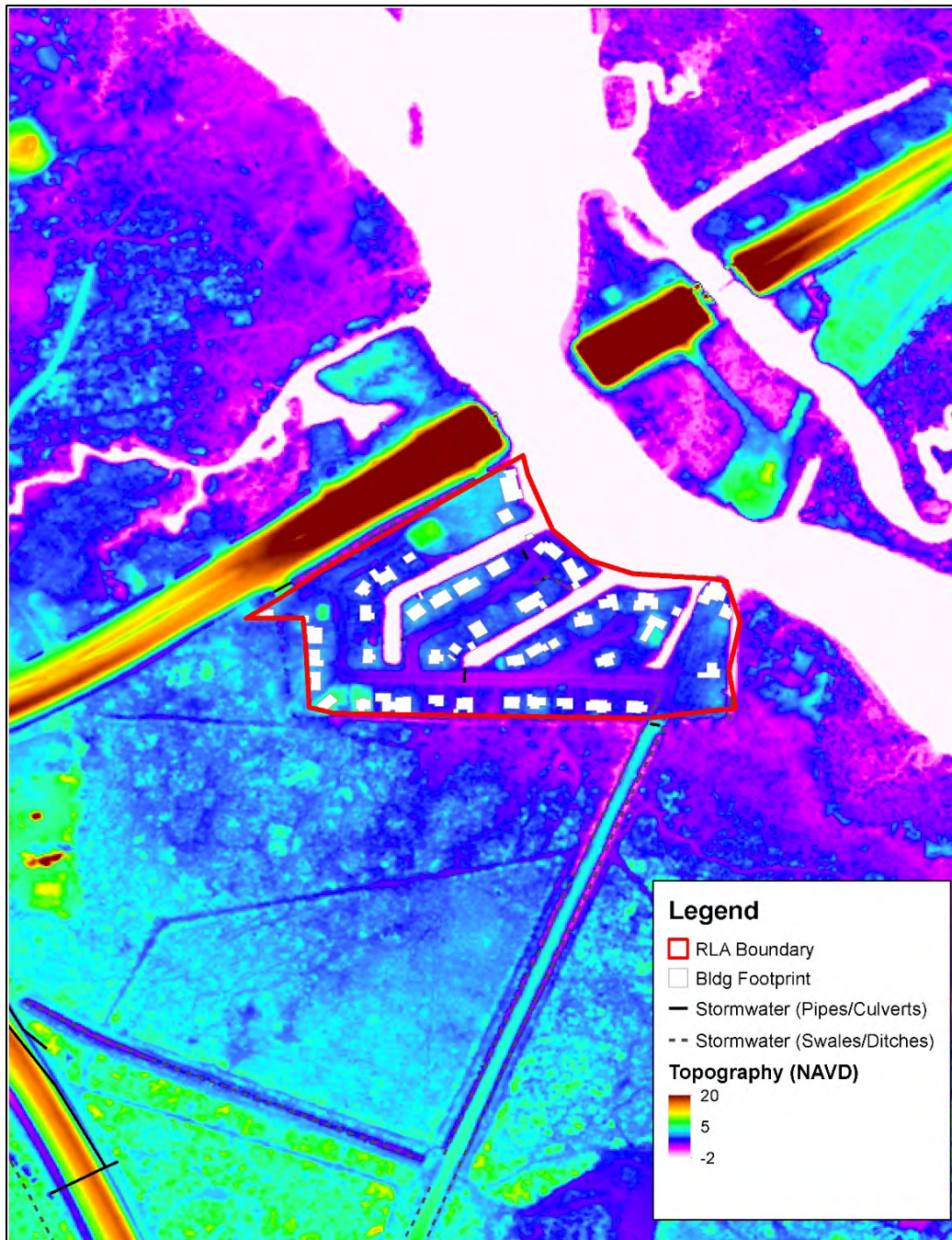


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure in this RLA includes five (5) outfall control structures that discharge to Myakka River with no swales and limited pipes. Based on observations from the field visits and the survey responses, water accumulates on the street and in the yards before potentially reaching the discharge points. Expansion of the stormwater infrastructure in this area would help provide mitigation to the properties that have low-level flooding.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades and extensive exposure to flooding from overtopping of the banks of the Myakka River, indicates the most appropriate mitigation alternatives include rebuilding or elevating of structure and/or flood prone components, or acquisition.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 25 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# or SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
25 – MYR 02 Myakka River	4	4	43	AE (SFHA), AE (CFHA)	Myakka Dr Gause Dr Plamore Dr Rose St	1, 2, 3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 25: Myakka River	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	43					
Repetitive Loss (RL) Properties	4					
Severe RL properties	5					
Mitigated RL properties	0					
Mitigated Severe RL properties	1					
Insurance claims since 1978	57					
Total insurance claims (in thousands)	\$587.44					
Average insurance claim (in thousands)	\$10.31					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 26-MYR03 Myakka River

Repetitive Loss Area (RLA) Overview

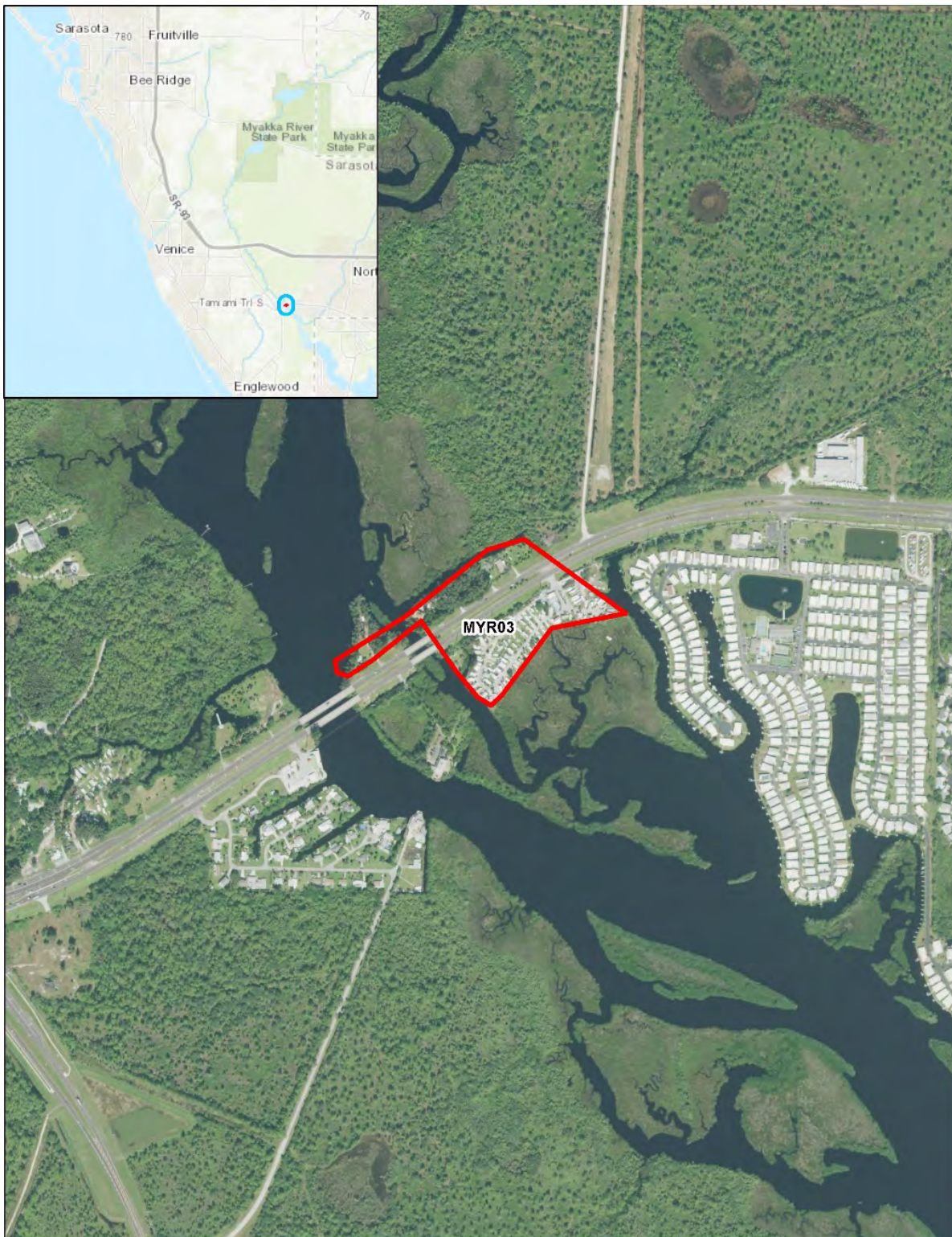


Figure 1: MYR03 Boundaries

AREA DESCRIPTION

WATERSHED: Myakka River

BASIN: Curry Creek

LANDFORM: Riverine Confluence/Island

AREA: 18.66 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping of banks from river
- Island within river
- Major highway infrastructure
- River crests up to 72 hours after storms
- Limited road accessibility, single route in/out

Problem Statement

This Repetitive Loss Area (RLA) straddles the Myakka River and US-41. Due to this location, the area is subject to flooding from overtopping of the banks of the river, particularly during high rainfall events corresponding with high water levels in the Myakka River. All of the structures in this RLA are within SFHA Zone AE and most of the structures are manufactured/mobile homes that are susceptible to damage during flooding. These structures, constructed in 1979, are below the Base Flood Elevation (BFE) of 7 feet NAVD. There are no public utilities, so each residence is required to maintain a well and pump equipment which, along with HVAC, is also susceptible to flood damage. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Manufactured/Mobile Home Structure

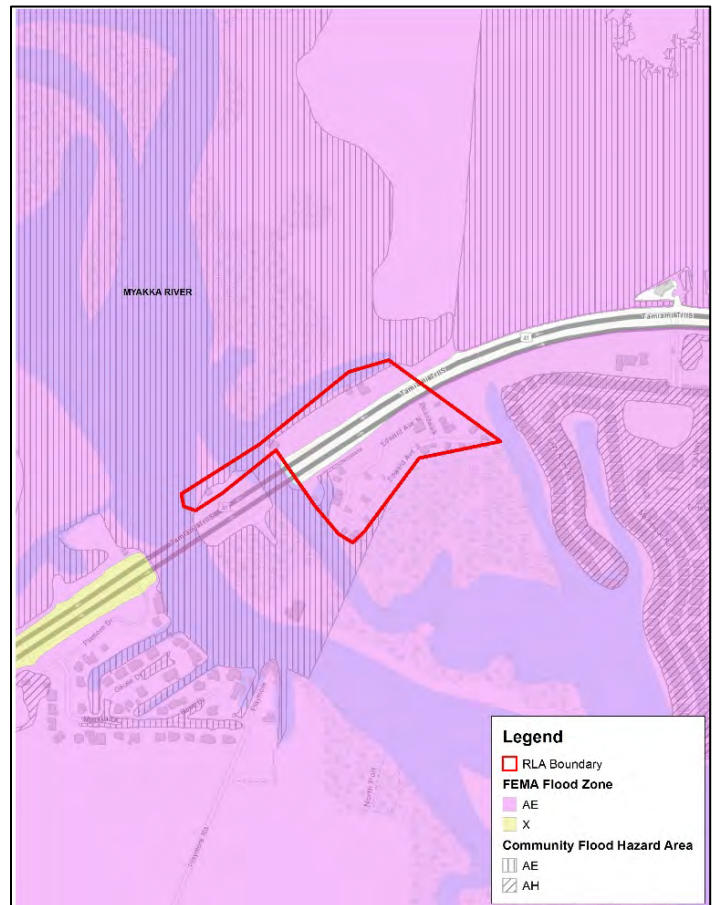


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
26	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
4	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
3	Insurance Claims (since 1978)
\$2.64	Total Insurance Claims (in thousands)
\$0.88	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Tamiami Trail	No survey responses received, no resident comments during field site visits

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the three (3) individual claims in the RLA, of which one (1) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remainder of the claims are presumed to be from lesser storms. Records indicate that there have been no NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
12%	Slab on grade
4%	Elevated foundation walls w/ enclosure
80%	Elevated on post/piles or walls
4%	Undetermined due to vegetation/access
Composition	Frame Type
12%	Wood frame
8%	Concrete block/masonry
80%	Manufactured/Mobile Home
Composition	Number of Stories
92%	Single story
8%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE
11.5%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Elevated on Post/Piles or Walls Structures

Causes of Flooding

Overtopping of the Myakka River banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms. The Myakka River often crests up to 72 hours after a storm. The lots in this area are relatively low in elevation, and the structures are not significantly elevated above existing lot grade. Most of the structures are estimated to be below the BFE (7 feet NAVD). Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

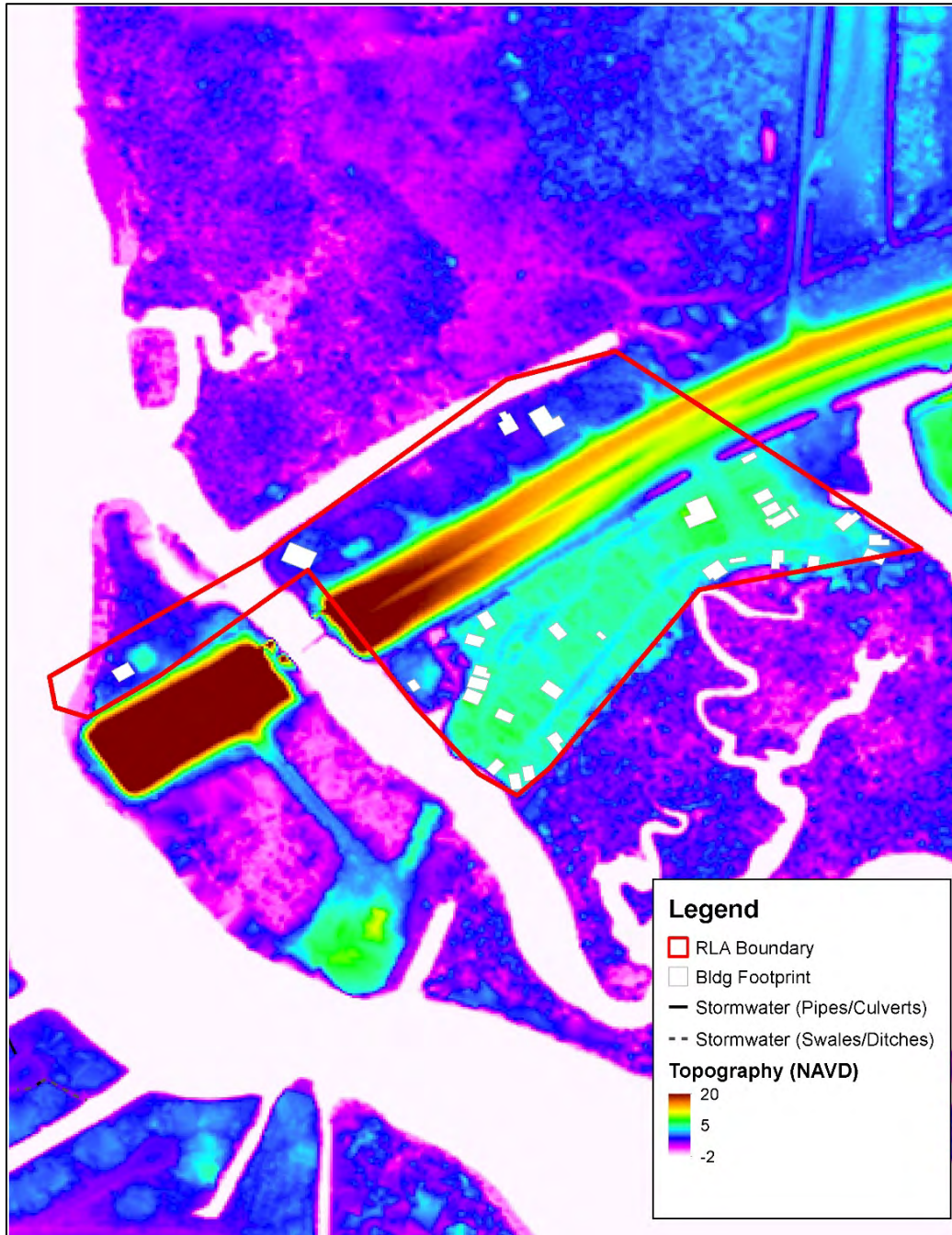


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no stormwater utility infrastructure identified within this RLA; however due to the location in proximity to the Myakka River and risk of flooding due to excessive rainfall events and high tides, it is unlikely that construction of stormwater infrastructure would provide adequate mitigation for flooding from major storm events.

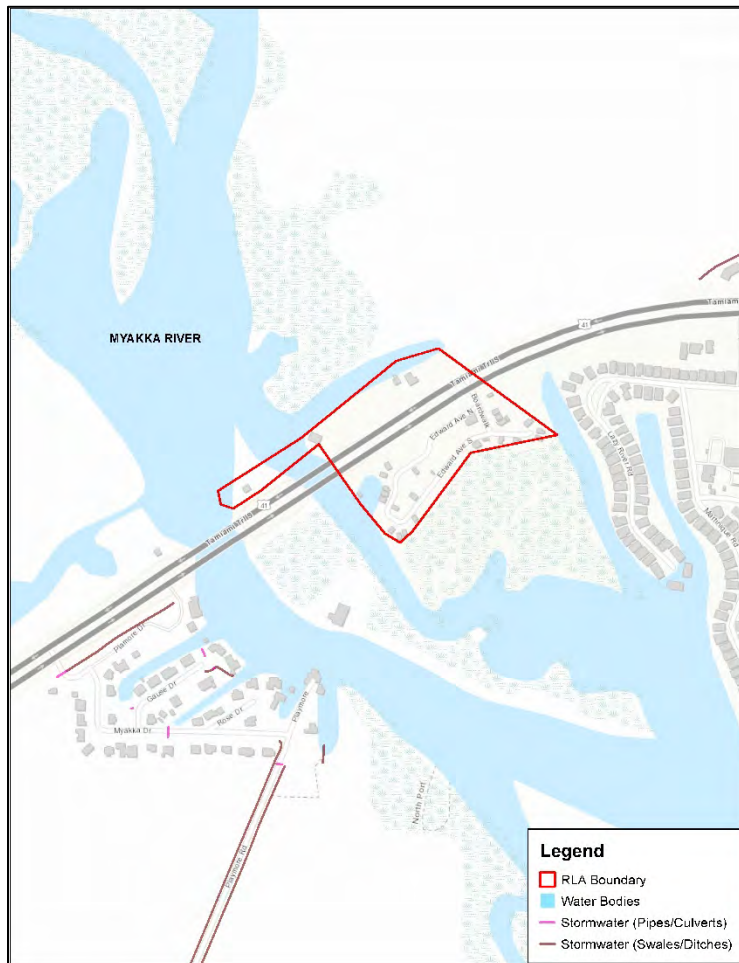


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, extensive exposure to flooding from overtopping of the banks of the Myakka River, and most of the structures being manufactured/mobile home, indicates the most appropriate mitigation alternatives include rebuilding or elevating of structure and/or flood prone components, or acquisition.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 26 are subject to flooding due to heavy rainfall events and high tides for these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
26 – MYR 04 Myakka River	1	0	26	AE (SFHA)	Tamiami Trl	2, 3, 1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 26: Myakka River	Report Statistics					
Review Year	2020	2021	2022	2023	2024	20235
Total Structures in the RLA	26					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$2.64					
Average insurance claim (in thousands)	\$0.88					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 27-MYR04 Myakka River

Repetitive Loss Area (RLA) Overview



Figure 1: MYR04 Boundaries

AREA DESCRIPTION

WATERSHED: Myakka River
 BASIN: Curry Creek
 LANDFORM: Riverine
 AREA: 19.54 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping of banks from river
- River crests up to 72 hours after storms
- Limited road accessibility, single route in/out

Problem Statement

This Repetitive Loss Area (RLA) is located west of the Myakka River, north of the I-75 river crossing. Due to this location, the area is subject to flooding from overtopping of the banks of the river during high rainfall events corresponding with high water levels in the Myakka River. Most of the structures in the RLA were constructed between 1970 and 1990, and are located within SFHA Zone A and CFHA Zone AE. More recent structures are elevated on fill, stem walls, or posts to meet or exceed the regulatory requirements of having their lowest floor 2 feet above the highest adjacent natural grade. The RLA also includes 62% wood frame structures, which are particularly susceptible to damage during flooding. There are no public utilities, so each residence is required to maintain a well and pump equipment which, along with HVAC, is also susceptible to flood damage. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Elevated on Stem Wall Structure

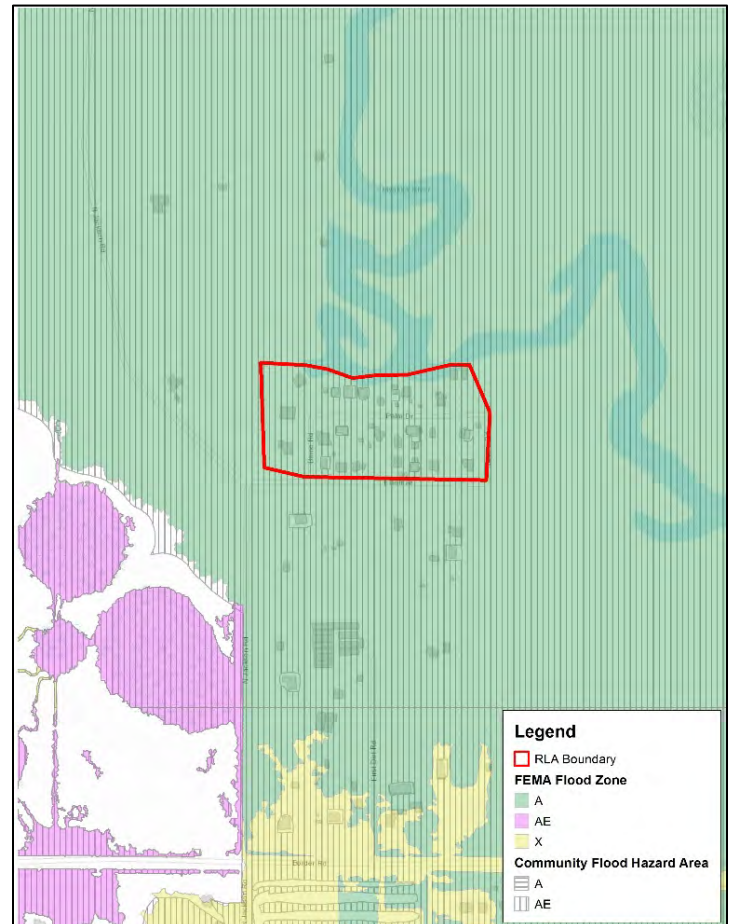


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
35	Total Structures in Repetitive Loss Area
6	Total Repetitive Loss Structures in this Area
19	Properties w/Active Insurance Policies
2	Mitigated RL & SRL Properties
4	Unmitigated RL & SRL Properties
45	Insurance Claims (since 1978)
\$472.55	Total Insurance Claims (in thousands)
\$10.5	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Palm Drive	Residents noted 10-19 years residency, concrete stem wall with crawlspace, homeowner noted flooding inside structure for a duration of one day approximately 1-2 feet in 1992 & 2003, noted flooding from overbanks of nearby waterway, no measures have been taken to prevent future flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for forty (40) of the forty-five (45) individual claims in the RLA, of which thirty-four (34) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been twenty-six (26) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	8
July 18, 1995	Un-Named Storm	9-11	5
November 14, 1997	Un-Named Storm	10	3
September 14, 2001	Tropical Storm Gabrielle	5-10	4
June 23, 2003	Un-Named Storm	8-10	14
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
63%	Slab on grade
4%	Elevated slab on stem wall with fill
13%	Elevated on post/piles or walls
16%	Elevated on foundation walls w/ enclosure
4%	Undetermined due to vegetation/access
Composition	Frame Type
63%	Wood frame
37%	Concrete block/masonry
Composition	Number of Stories
50%	Single story
50%	Two story
Composition	Flood Zones
100%	Within SFHA Zone A
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Myakka River banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms. The Myakka River often crests up to 72 hours after a storm. Most of the structures are elevated at least 2 feet above the highest adjacent grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

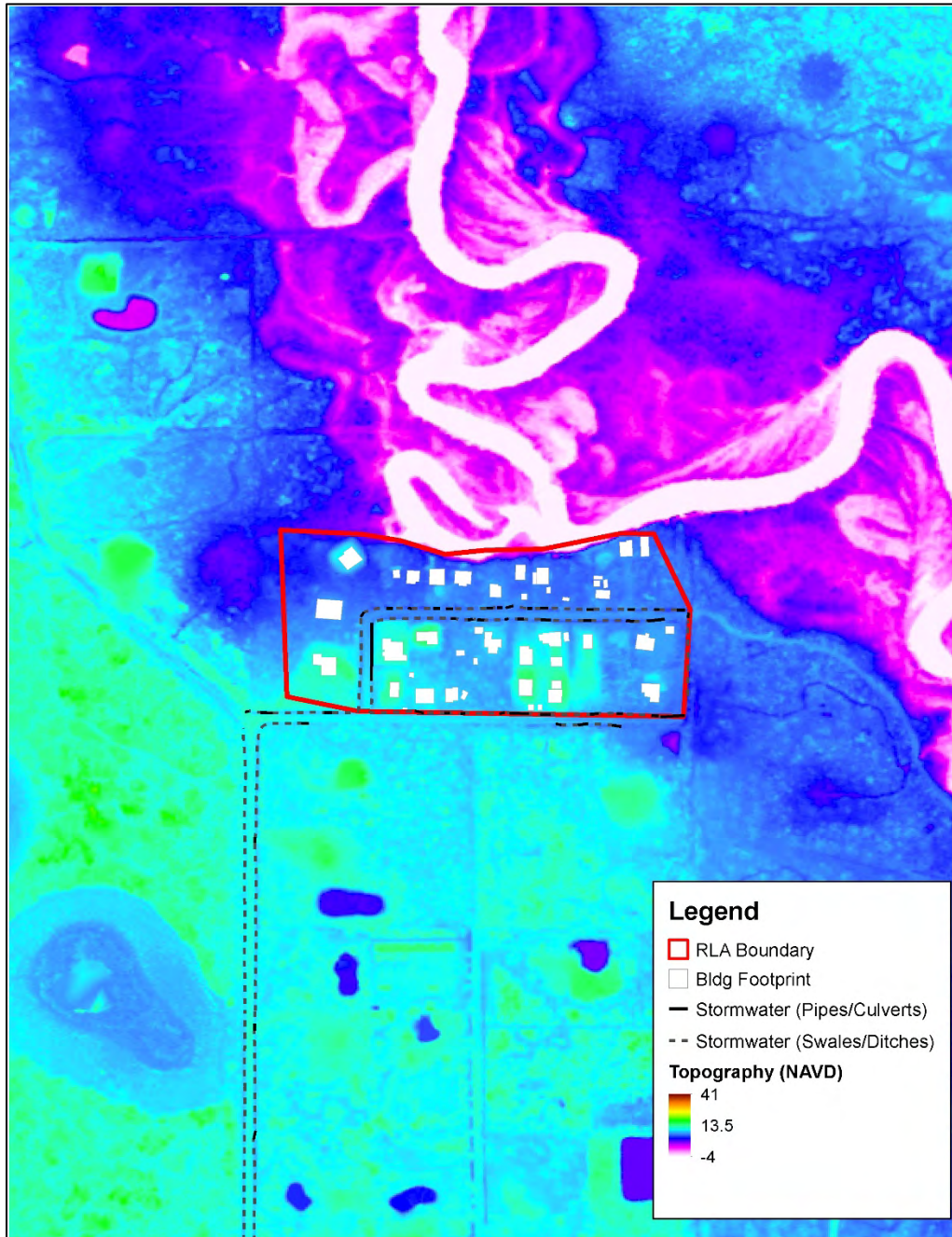


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure is limited to roadside swales and pipes with no outfall structures located. Some low-level flooding of one structure as described by the resident survey could be mitigated with expansion of the stormwater infrastructure and construction of an outfall structure.

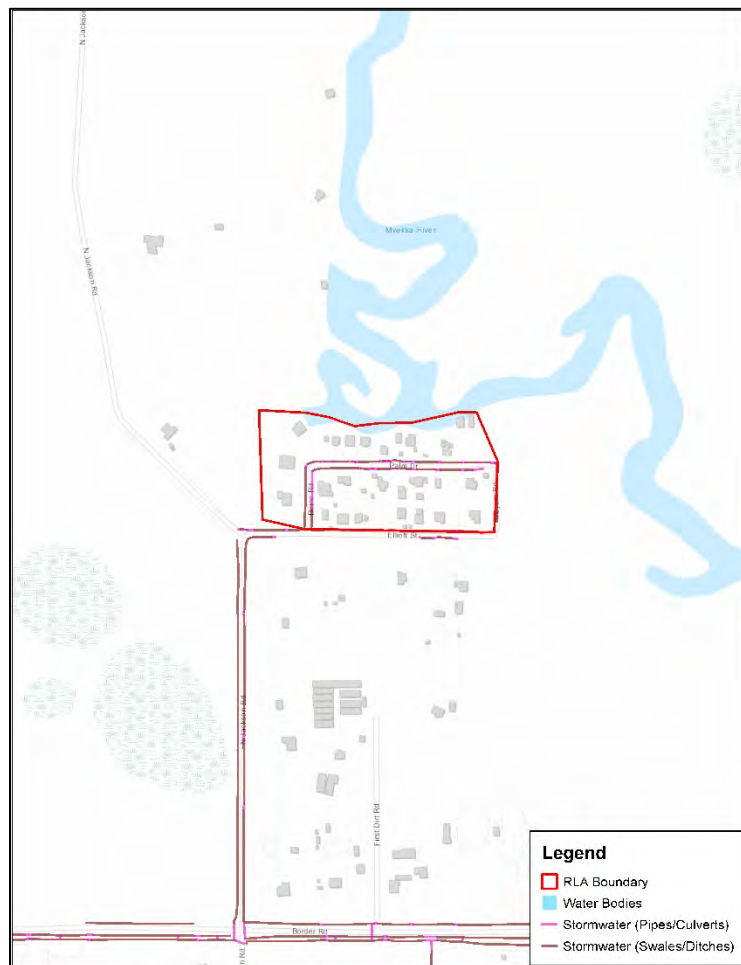


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, extensive exposure to flooding from overtopping of the banks of the Myakka River, and most of the structures being wood frame, indicates the most appropriate mitigation alternatives include rebuilding or elevating of structure and/or flood prone components, or acquisition.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 27 are subject to flooding due to heavy rainfall events and high tides for these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
27 – MYR 04 Myakka River	2	2	35	A (SFHA), AE (CFHA)	Palm Dr Meyers Rd Baine Rd Elliott St	2, 3, 1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 27: Myakka River	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	35					
Repetitive Loss (RL) Properties	4					
Severe RL properties	2					
Mitigated RL properties	2					
Mitigated Severe RL properties	0					
Insurance claims since 1978	45					
Total insurance claims (in thousands)	\$472.5					
Average insurance claim (in thousands)	\$10.5					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 28-MYR05 Myakka River

Repetitive Loss Area (RLA) Overview



Figure 1: MYR05 Boundaries

AREA DESCRIPTION

WATERSHED: Myakka River

BASIN: Curry Creek

LANDFORM: Riverine Confluence/Island

AREA: 74.55 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping of banks from river
- Confluence with major drainage canal
- Low terrain within historical riverbed/oxbows
- Island within river
- Major highway infrastructure on W and S sides
- River crests up to 72 hours after storms
- Limited road accessibility, single route in/out

Problem Statement

This Repetitive Loss Area (RLA) straddles the Myakka River just north of the I-75 river crossing. It includes an island, and the east and west banks of the river oxbow, and is at the confluence of the Blackburn Canal, a major tributary to the Myakka River. Due to this location, the area is subject to flooding from overtopping of the banks of the river and possible stormwater system backup and capacity overflows, particularly during high rainfall events corresponding with high water levels in the Myakka River. The median year built for the structures in the RLA is 1980, so while typically post-FIRM, there are several dating between 1930 and 1970. More recent structures are elevated on fill, stem walls, or posts to meet or exceed the Base Flood Elevation (BFE) of 7 feet NAVD. The RLA also includes 84% wood frame structures, which are particularly susceptible to damage during flooding. There are no public utilities, so each residence is required to maintain a well and pump equipment which, along with HVAC, is also susceptible to flood damage. This RLA includes a high number of Repetitive Loss Properties (RLPs). This is due to extremely low-elevation terrain (average 3.3 feet NAVD), combined with the river overtopping its banks during periods of extreme rainfall. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Wood Frame Structure

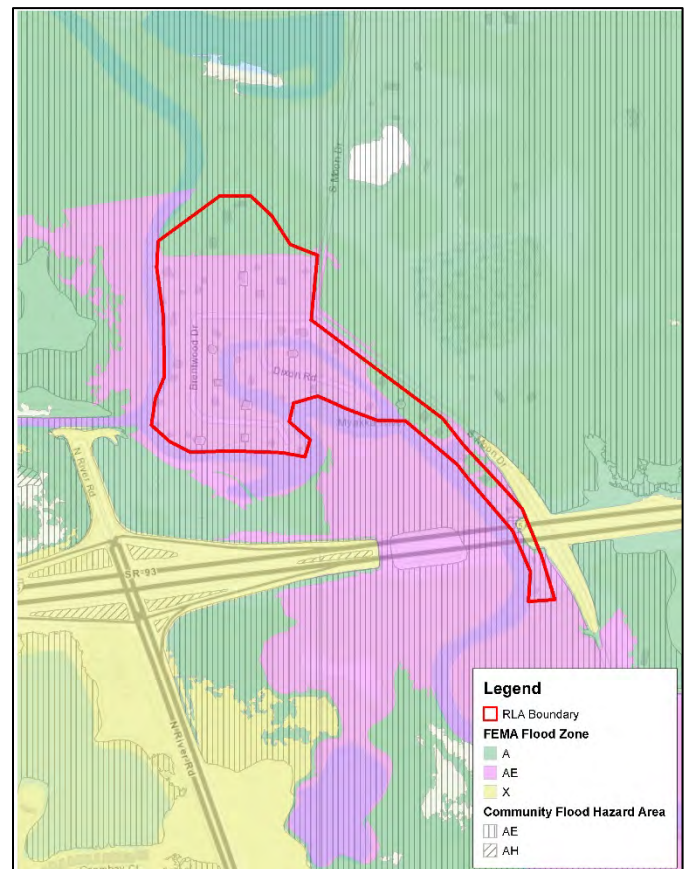


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
50	Total Structures in Repetitive Loss Area
25	Total Repetitive Loss Structures in this Area
28	Properties w/Active Insurance Policies
6	Mitigated RL & SRL Properties
19	Unmitigated RL & SRL Properties
146	Insurance Claims (since 1978)
\$1,934	Total Insurance Claims (in thousands)
\$13.25	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
S Moon Dr Dixon Rd Brentwood Dr	No survey responses received, no resident comments during field site visits

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs account for one hundred and forty (140) of the one hundred and forty-six (146) individual claims, of which sixty-two (62) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. The remainder of the claims are presumed to be from lesser storm events. Records indicate that there have been forty-four (44) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	18
July 18, 1995	Un-Named Storm	9-11	9
November 14, 1997	Un-Named Storm	10	5
September 14, 2001	Tropical Storm Gabrielle	5-10	12
June 23, 2003	Un-Named Storm	8-10	18
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
30%	Slab on grade
12%	Elevated slab on stem wall with fill
56%	Elevated on post/piles or walls
2%	Unable to determine
Composition	Frame Type
84%	Wood frame
16%	Concrete block/masonry
Composition	Number of Stories
54%	Single story
40%	Two story
6%	Three story or greater
Composition	Flood Zones
82%	Within SFHA Zone AE
18%	Within SFHA Zone A
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Wood Frame Structure and Slab on Grade Structure

Causes of Flooding

Overtopping of the Myakka River banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms. The Myakka River often crests up to 72 hours after a storm. The lots in this area are relatively low in elevation, and the structures are not significantly elevated above existing lot grade. While there were some normal system maintenance issues observed during the field work, these areas appear to be routinely maintained by County staff based on review of the maintenance callouts. Most of the structures are estimated to be elevated at or above the BFE (7 feet NAVD). A high-water mark survey conducted June 23-26, 2003 indicated a high-water crest of 10.3 feet that resulted in flooding for all the one-story structures not well-elevated, along with well, pump and HVAC equipment.

A number of the elevated two-story structures were observed during the site visits to include some form of enclosure. These lower levels are prone to flooding such as was experienced in 2003. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

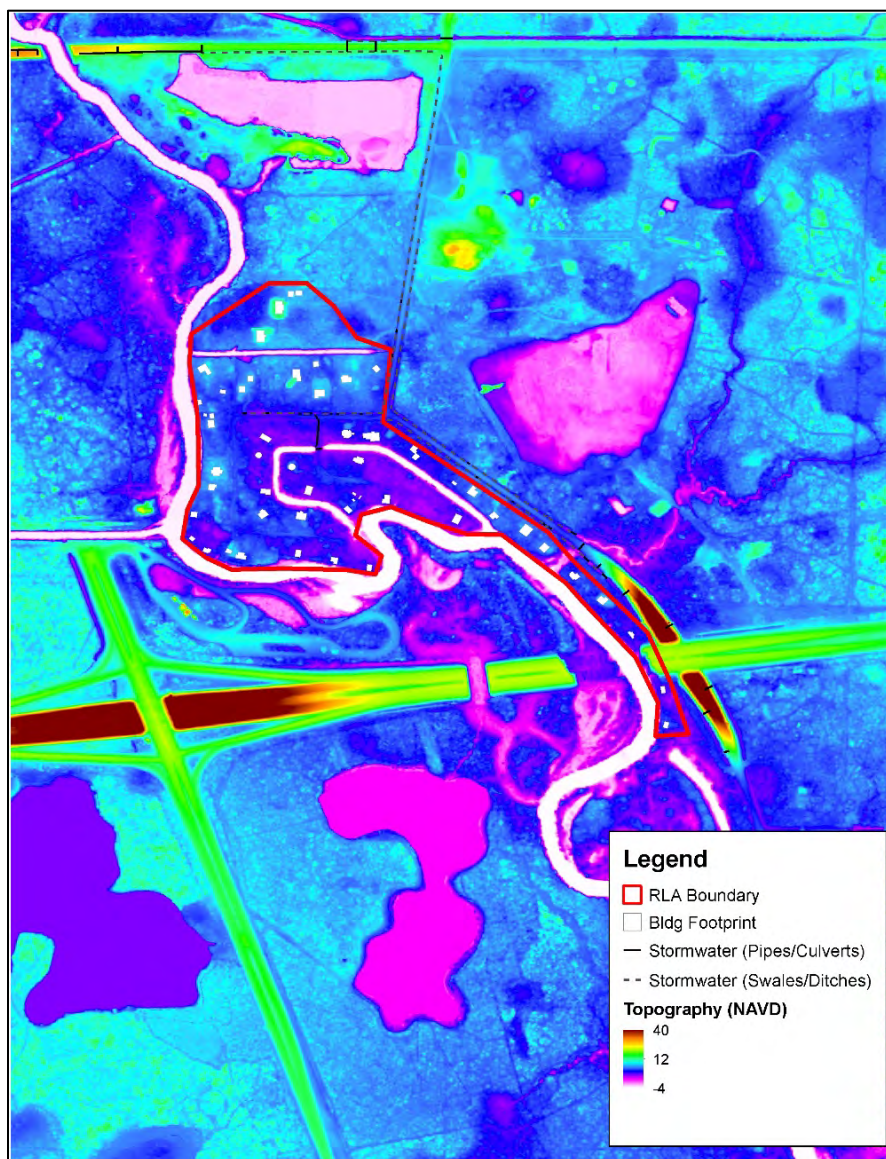


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure is limited to S. Moon Dr. running north/south, with one (1) outfall to the river side. There is one (1) outfall off Dixon Rd. near the large box culvert under the entrance to the island, and one (1) outfall from the stormwater system on S. Moon Dr. to the ditch running east-west which connects to the river. Based on observations from the field visits, the waterfront lots typically have positive drainage toward the river. However, there is extensive back up of the stormwater system when the river overtops its banks, which in this area is approximately 3 feet. Records indicate the County does maintain the right of way swales, but the main east-west ditch and island portion of Dixon Rd. is private property.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, extensive exposure to flooding from overtopping of the banks of the Myakka River, and most of the structures being wood frame, indicates the most appropriate mitigation alternatives include rebuilding or elevating of structure and/or flood prone components, or acquisition. In some cases where ground level has been enclosed on two-story (or higher) structures, it may also be appropriate to remove enclosures or limit living areas to upper floors (wet floodproofing) depending on structure-specific engineering analysis, construction methods and materials, and condition of the existing structures.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event.

Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 28 are subject to flooding due to heavy rainfall events and high tides for these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
28 – MYR 05 Myakka River	14	5	50	A, AE (SFHA) AE (CFHA)	Moon Dr Dixon Rd Brentwood Dr	2, 3, 1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 28: Myakka River	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	50					
Repetitive Loss (RL) Properties	17					
Severe RL properties	8					
Mitigated RL properties	3					
Mitigated Severe RL properties	3					
Insurance claims since 1978	146					
Total insurance claims (in thousands)	\$1,934					
Average insurance claim (in thousands)	\$13.25					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 29-MYR06 Myakka River

Repetitive Loss Area (RLA) Overview

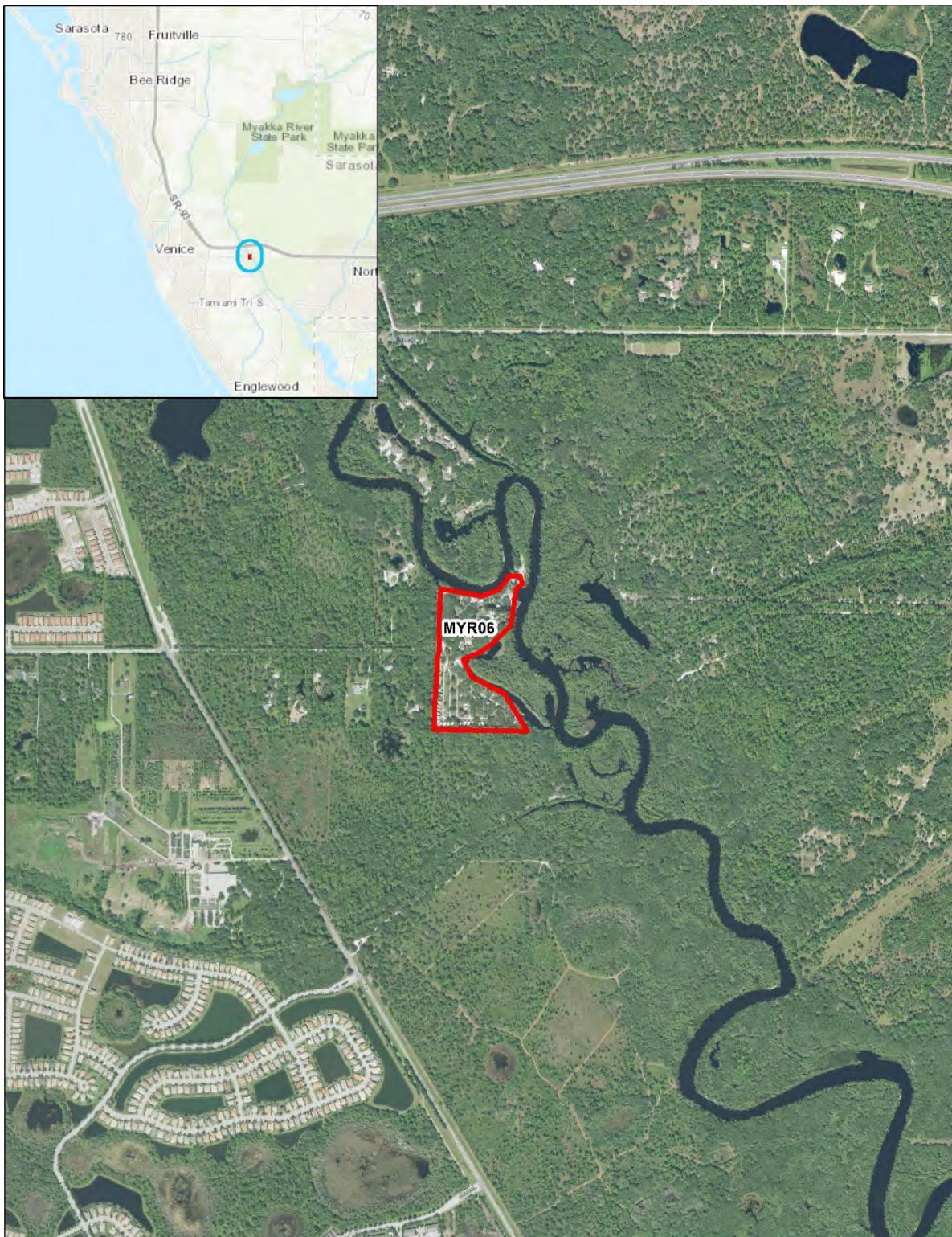


Figure 1: MYR06 Boundaries

AREA DESCRIPTION

WATERSHED: Myakka River
 BASIN: Curry Creek
 LANDFORM: Riverine
 AREA: 25.24 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping of banks from river
- River crests up to 72 hours after storms
- Limited road accessibility, single route in/out

Problem Statement

This Repetitive Loss Area (RLA) is located west of the Myakka River with meandering confluences to the north and east of the RLA. All the structures in this RLA are located within SFHA Zone AE and CFHA Zone AE. Due to this location, the area is subject to flooding from overtopping of the banks of the river, particularly during high rainfall events corresponding with high water levels in the Myakka River. Most of the structures in this RLA are manufactured/mobile homes constructed in 1972 that are susceptible to damage during flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Overhead View of Structures (Google)

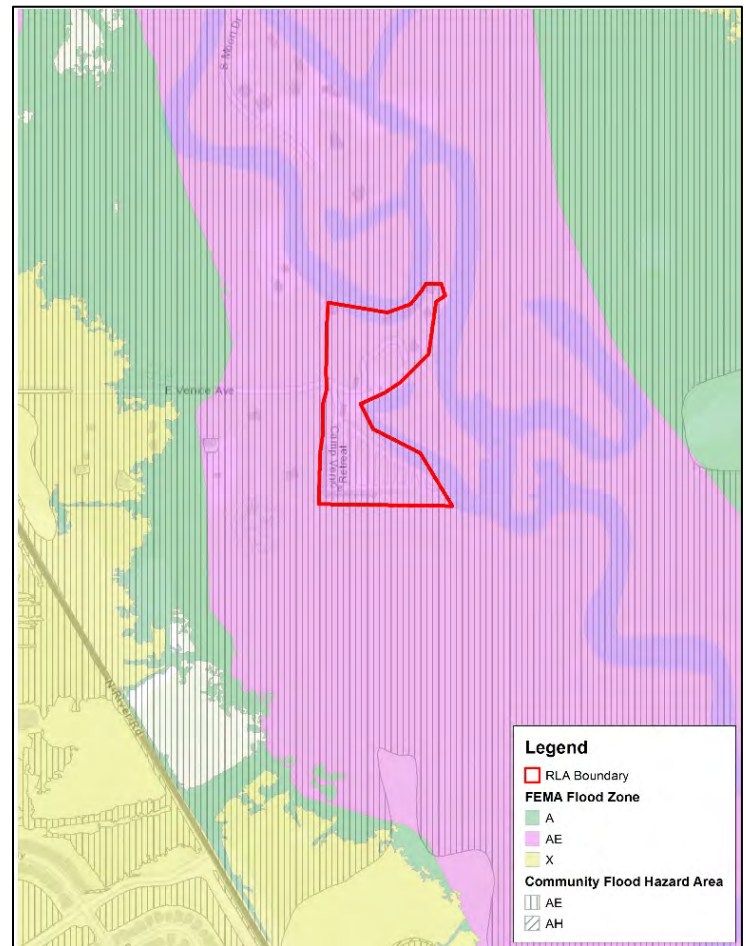


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
24	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
5	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
23	Insurance Claims (since 1978)
\$138.4	Total Insurance Claims (in thousands)
\$6.02	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
E Venice Ave	No survey responses received, no resident comments during field site visits

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the twenty-three (23) individual claims in the RLA, of which twenty (20) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been ten (10) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	10
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	8
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
21%	Slab on grade
79%	Elevated on post/piles
Composition	Frame Type
17%	Wood frame
13%	Concrete block/masonry
70%	Manufactured/mobile home
Composition	Number of Stories
92%	Single story
8%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Elevated on post/piles Structures

Causes of Flooding

Overtopping of the Myakka River banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms. The Myakka River often crests up to 72 hours after a storm. The lots in this area are relatively low in elevation, and the structures are not significantly elevated above existing lot grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

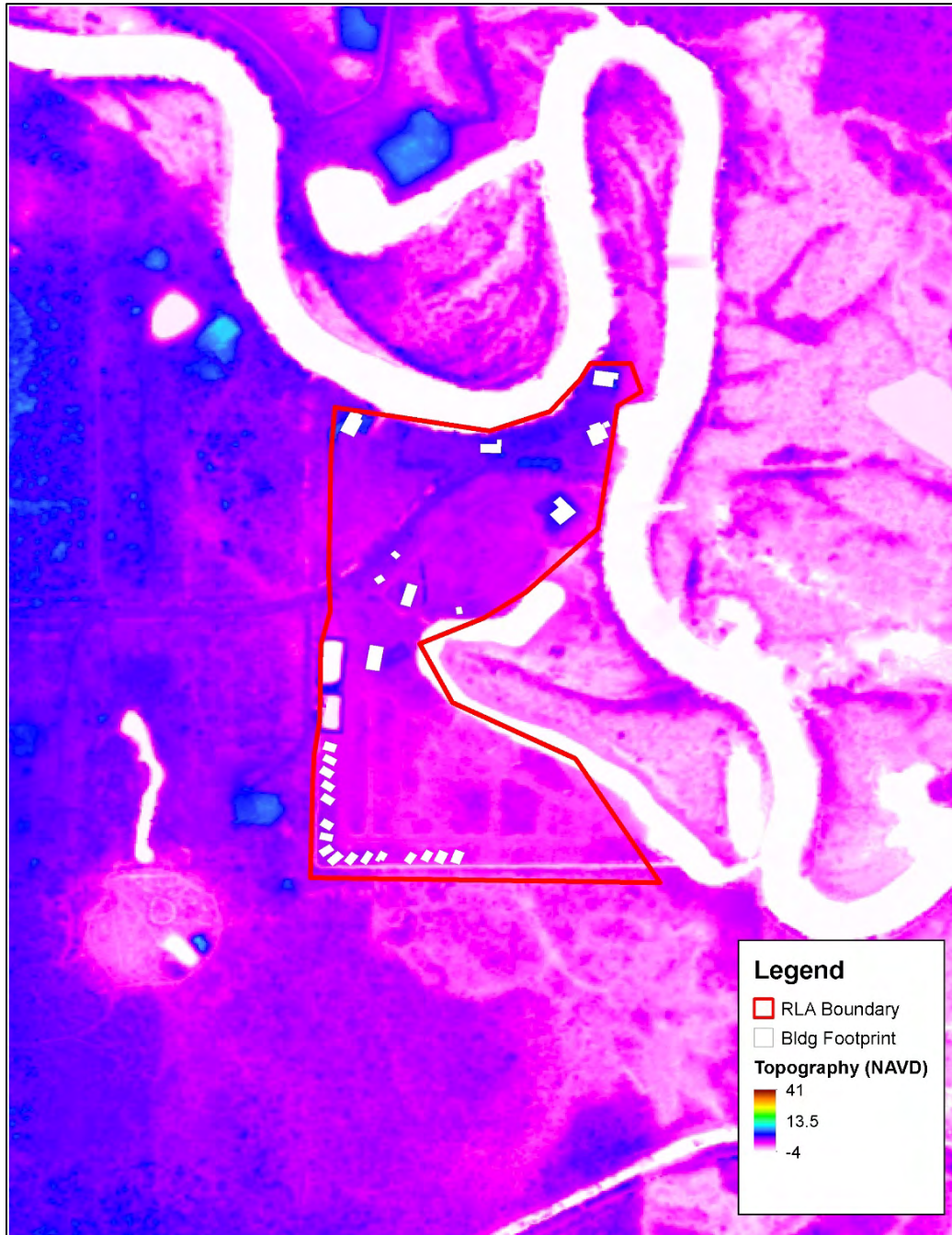


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no stormwater utility infrastructure identified within this RLA; however due to the close proximity to the Myakka River and risk of flooding due to extreme rain events and high tides, it is unlikely that construction of stormwater infrastructure would provide adequate mitigation for flooding from major storm events.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, extensive exposure to flooding from overtopping of the banks of the Myakka River, and most of the structures being wood frame or manufactured/mobile homes, indicates the most appropriate mitigation alternatives include rebuilding or elevating of structure and/or flood prone components, or acquisition.

The properties located within this RLA utilize a combination of both County sewer and on-site septic systems to dispose of wastewater. With proper maintenance and the installation of a backflow preventer, if needed, there will not be sewer backup during a flooding event. Septic systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 29 are subject to flooding due to heavy rainfall events and high tides for these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	# of Additional Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
29 – MYR 06 Myakka River	1	0	24	AE (SFHA) AE (CFHA)	Venice Ave	2, 3, 1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 29: Myakka River	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	24					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	23					
Total insurance claims (in thousands)	\$138.4					
Average insurance claim (in thousands)	\$6.02					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 30-MYR07 Myakka River

Repetitive Loss Area (RLA) Overview

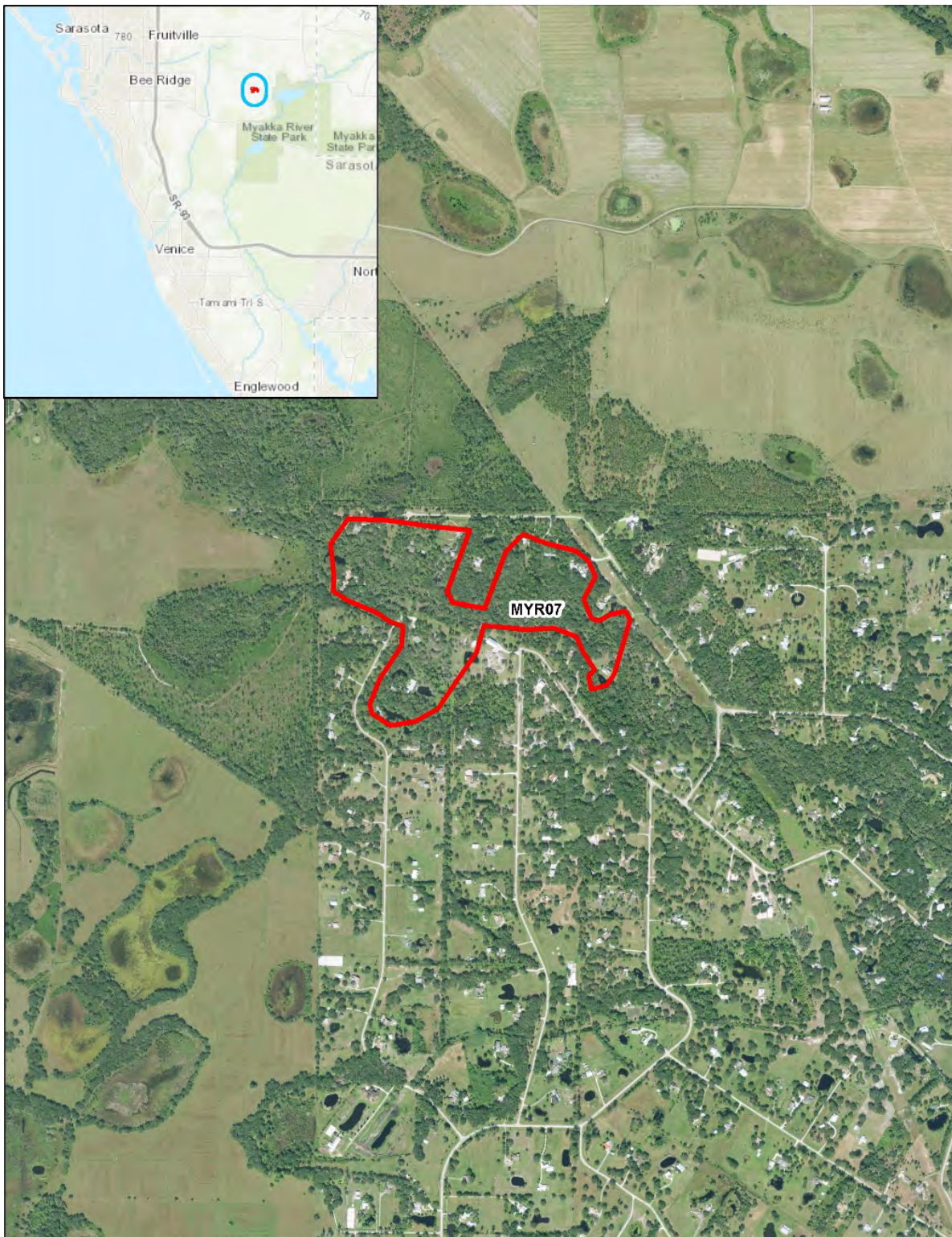


Figure 1: MYR07 Boundaries

AREA DESCRIPTION

WATERSHED: Myakka River
 BASIN: Curry Creek
 LANDFORM: Riverine
 AREA: 84.53 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping of banks from river
- Overtopping of banks from Howard Creek
- River crests up to 72 hours after storms
- Limited road accessibility

Problem Statement

This Repetitive Loss Area (RLA) straddles Howard Creek. Due to this location, the area is subject to flooding from overtopping of the banks of the creek and the high tides of the Myakka River, particularly during high rainfall events corresponding with high water levels in the Myakka River. The RLA is located within SFHA Zone A and CFHA Zone D (undetermined). The median construction year for the structures is 1980, and most structures are elevated 2 feet above the highest adjacent grade. There are no public utilities, so each residence is required to maintain a well and pump equipment which, along with HVAC, is also susceptible to flood damage. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade, Concrete Block Structure

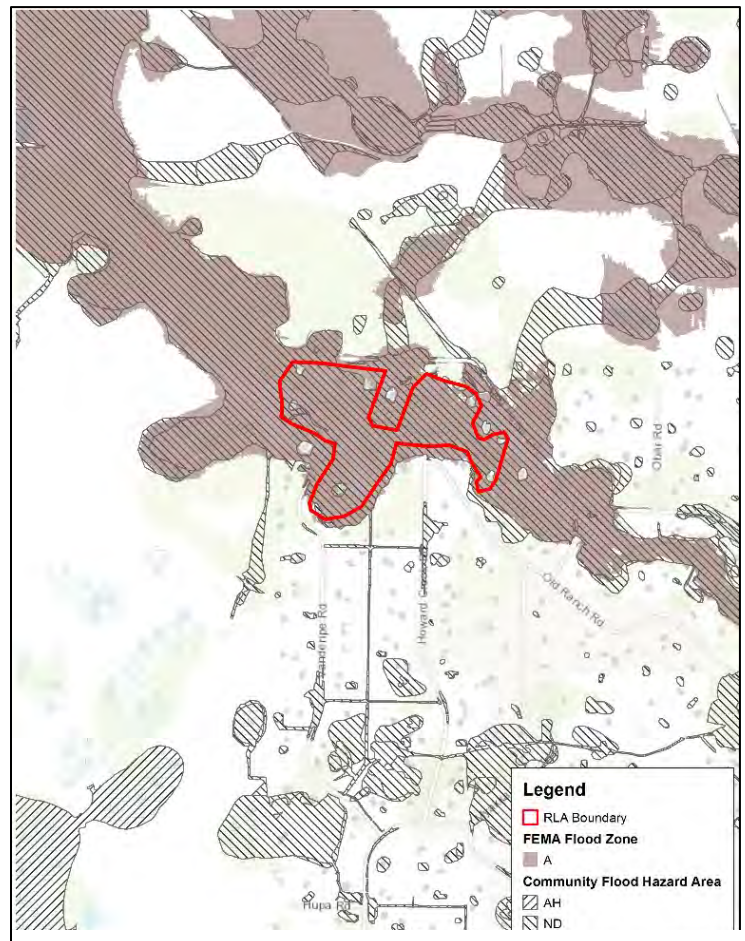


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
19	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
5	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
7	Insurance Claims (since 1978)
\$117.1	Total Insurance Claims (in thousands)
\$16.74	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Rocking Horse Ln	Resident with 20-29 years residency, stemwall with crawlspace, reported flooding in yard only.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for five (5) of the seven (7) individual claims in the RLA, of which all seven (7) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been seven (7) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	2
September 14, 2001	Tropical Storm Gabrielle	5-10	2
June 23, 2003	Un-Named Storm	8-10	3
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
50%	Slab on grade
50%	Undetermined due to vegetation/access
Composition	Frame Type
56%	Wood frame
38%	Concrete block/masonry
6%	Steel
Composition	Number of Stories
62%	Single story
38%	Two story
Composition	Flood Zones
100%	Within SFHA Zone A
100%	Within CFHA Zone D (undetermined)

Table 4: Field Data Summary from Site Visits



Figure 4: Average Wood Frame Structure

Causes of Flooding

Overtopping of the Howard Creek and Myakka River banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms. The Myakka River often crests up to 72 hours after a storm. All structures within this area are estimated to be elevated at or above 2 feet above the highest adjacent grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

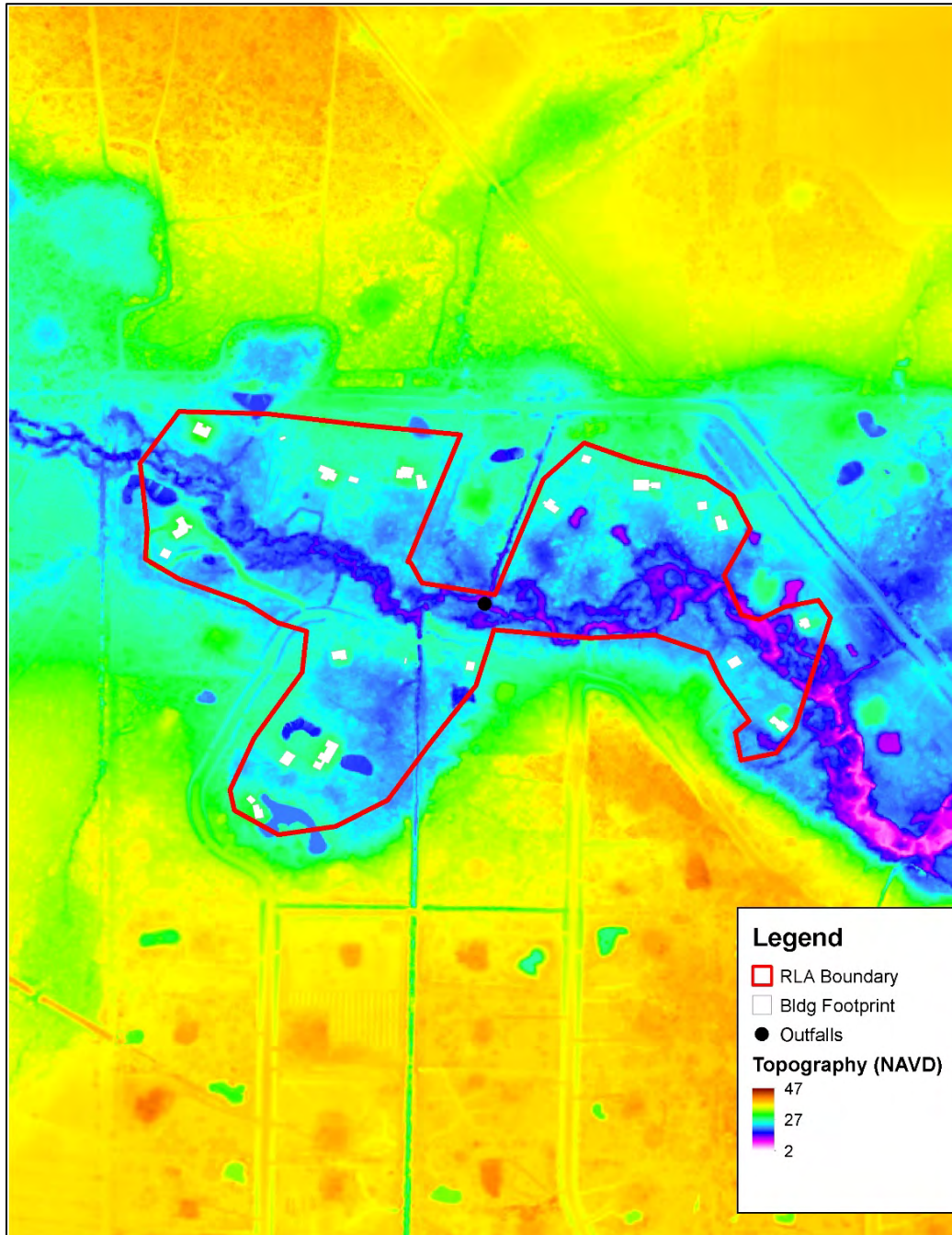


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no stormwater utility infrastructure identified within this RLA; however due to the close proximity to Howard Creek and the Myakka River, it is unlikely that construction of stormwater infrastructure would provide adequate mitigation for flooding from major storm events.

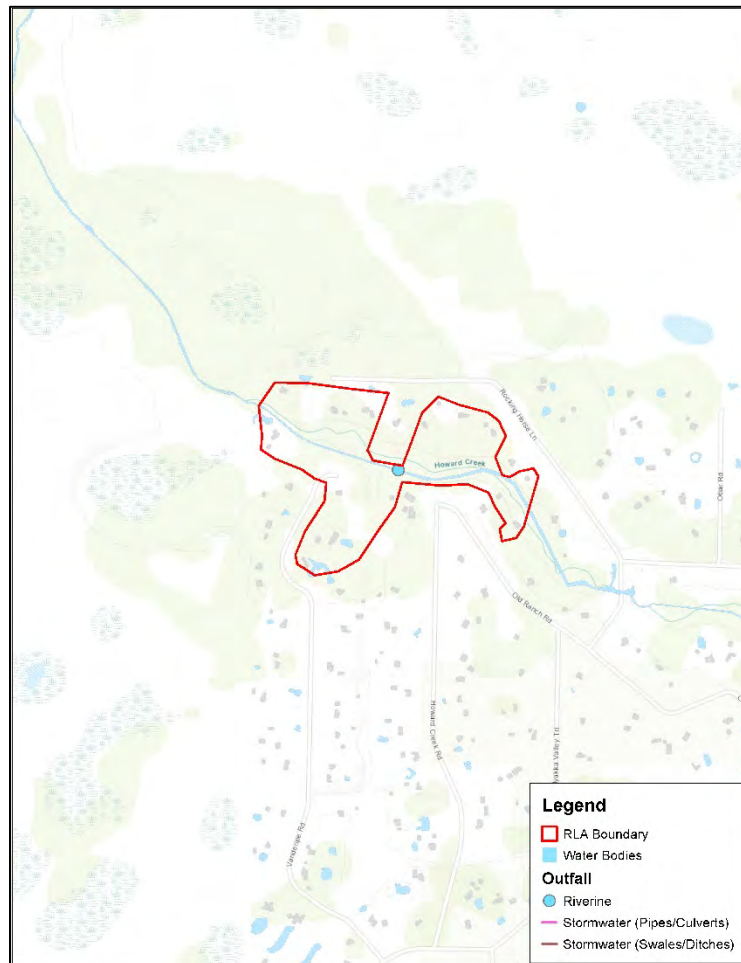


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The exposure to flooding from overtopping of the banks of Howard Creek and the Myakka River, indicates the most appropriate mitigation alternatives include rebuilding or elevating of structure and/or flood prone components, or acquisition.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 30 are subject to flooding due to heavy rainfall events. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5. Prior to implementing the mitigation strategy, additional data should be collected for the structures that were inaccessible.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
30 – MYR 07 Myakka River	1	0	19	A (SFHA) Shaded X (CFHA)	Venice Ave	1, 4, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 30: Myakka River	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	19					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	7					
Total insurance claims (in thousands)	\$117.1					
Average insurance claim (in thousands)	\$16.73					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 31-MYR08 Myakka River

Repetitive Loss Area (RLA) Overview

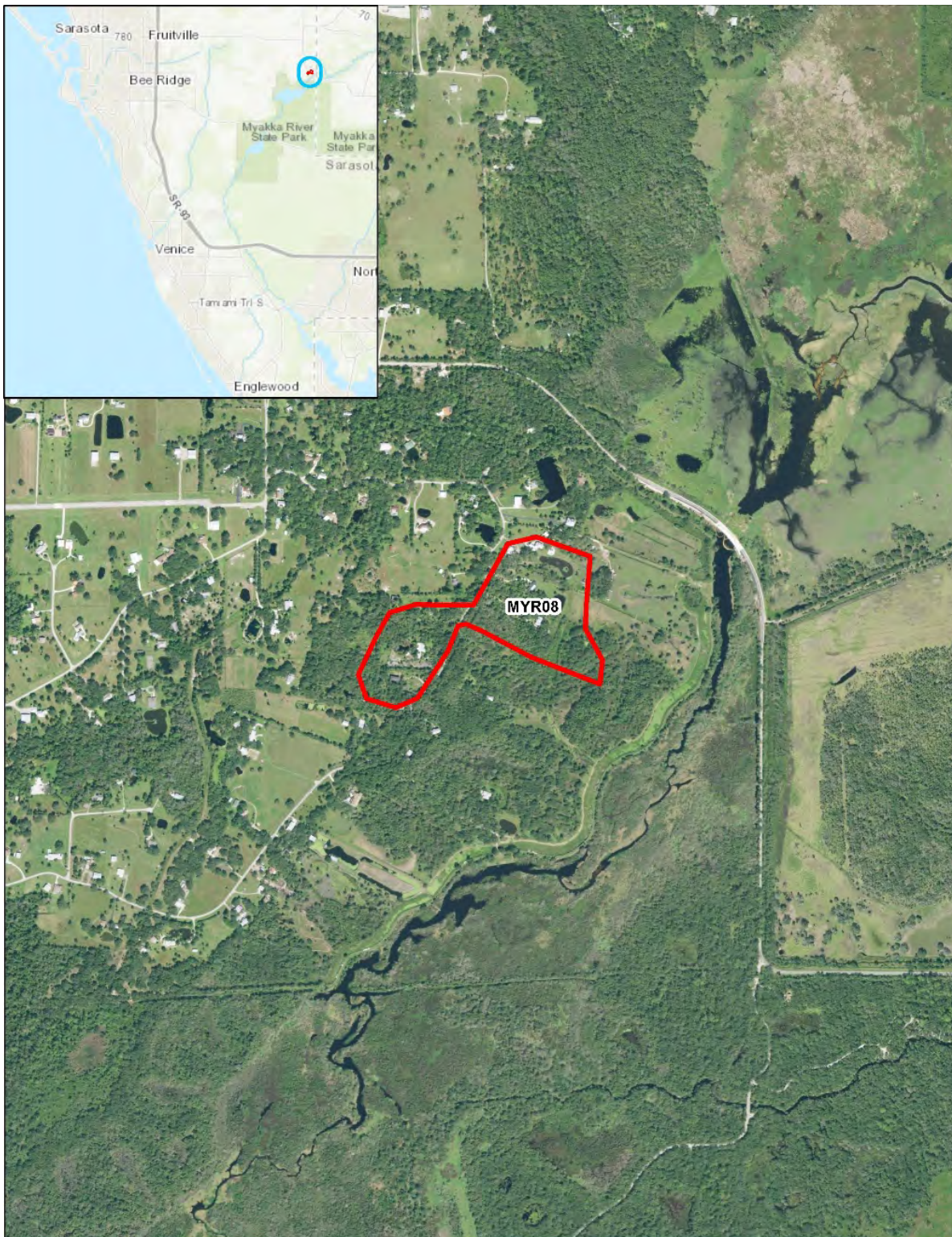


Figure 1: MYR08 Boundaries

AREA DESCRIPTION

WATERSHED: Myakka River
 BASIN: Curry Creek
 LANDFORM: Riverine
 AREA: 47.77 acres

FLOODING PROBLEMS AND CONCERNS

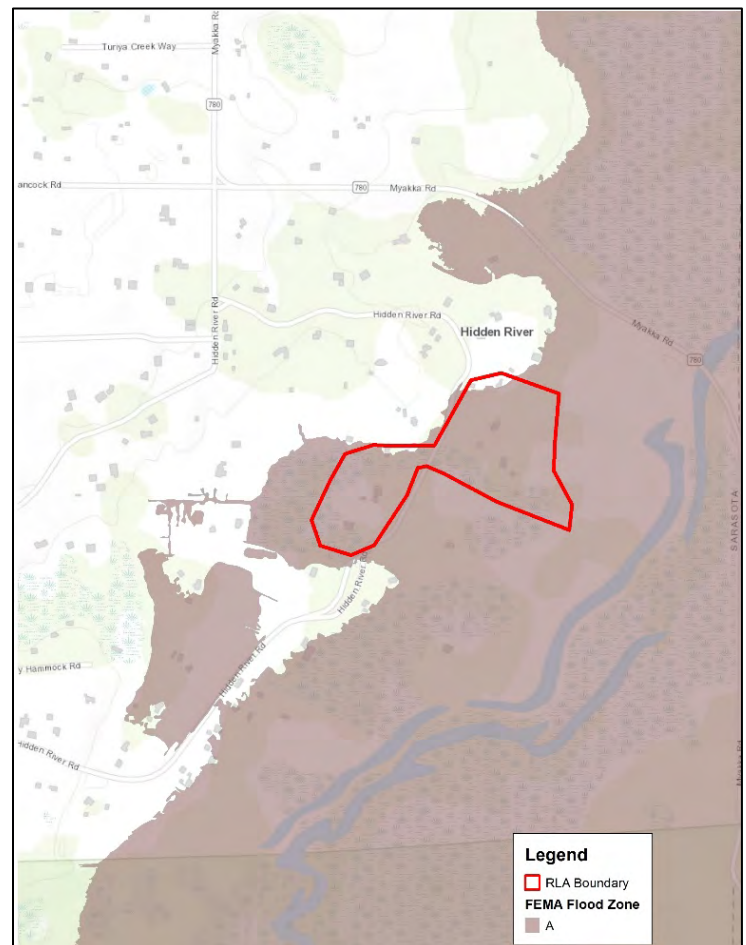
- Overtopping of banks from river
- River crests up to 72 hours after storms
- Privately owned and maintained stormwater structure on the river with a history of breaching

Problem Statement

This Repetitive Loss Area (RLA) is located east of the Myakka River. Due to this location, the area is subject to flooding from overtopping of the banks of the river, particularly during heavy rainfall events corresponding with high water levels in the Myakka River. The structures in this RLA are located within SFHA Zone A, and were constructed in the 1970s, with most assumed to be elevated at least 2 feet above the highest adjacent grade. Only 9% of the structures were confirmed to be elevated on stemwall foundations. Of the remaining structures, half were confirmed to be slab-on-grade, while heavy vegetation prevented an assessment of the foundation conditions for the others. However, it is reasonable to assume that most obscured by vegetation are not elevated on stemwall foundations, as typical landscaping would not block visibility for this type of construction. Therefore, these can be assumed to be slab-on-grade. There are no public utilities, so each residence is required to maintain a well and pump equipment which, along with HVAC, is also susceptible to flood damage. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade, Concrete Block Structure



Total	Repetitive Loss Data
11	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
5	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
10	Insurance Claims (since 1978)
\$555.6	Total Insurance Claims (in thousands)
\$61.74	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Hidden River Road	Resident with less than 10 years residency, slab on grade, reported flooding in yard only, homeowner cleared debris, shrubs, and overgrowth to improve drainage.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for six (6) of the ten (10) individual claims in the RLA, of which nine (9) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been eight (8) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	2
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	6
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
45.5%	Slab on grade
9.1%	Elevated on stemwall
45.4%	Undetermined due to heavy vegetation
Composition	Frame Type
17%	Wood frame
83%	Concrete block/masonry
Composition	Number of Stories
67%	Single story
33%	Two story
Composition	Flood Zones
90%	Within SFHA Zone A
36.4%	Within Zone X

Table 4: Field Data Summary from Site Visits



Figure 4: Average Masonry Structure

Causes of Flooding

Overtopping of the Myakka River banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms. The Myakka River often crests up to 72 hours after a storm. All structures within this area are estimated to be elevated at least 2 feet above the highest adjacent grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

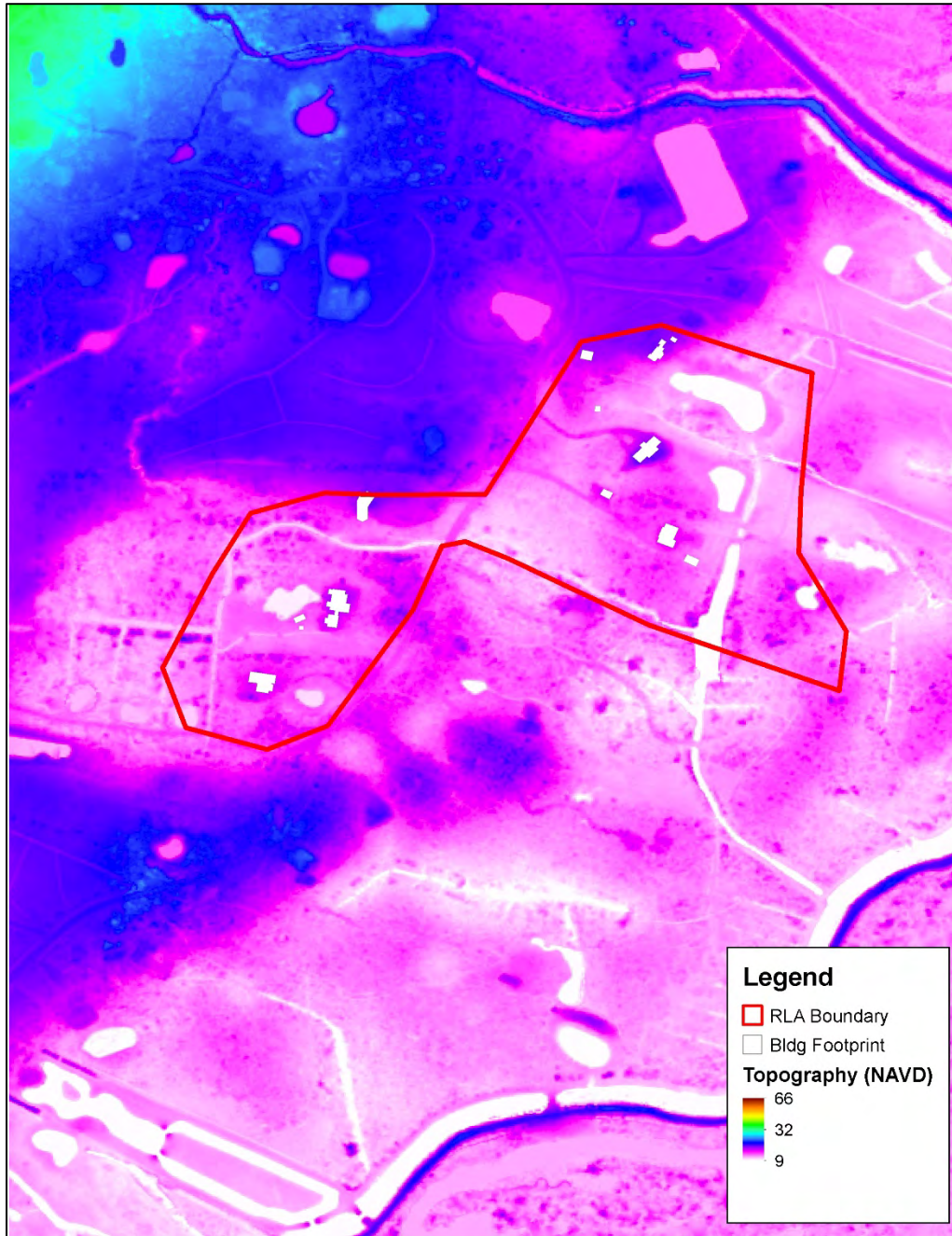


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no County stormwater utility infrastructure identified within this RLA, although it appears it does have a system for private developments which has breached during several events. Maintenance of private stormwater systems is the responsibility of the owners (typically HOAs). However due to the proximity to the Myakka River and risk of flooding due to extreme rainfall events, which is exacerbated during high tides, it is unlikely that construction of additional stormwater infrastructure would provide adequate mitigation for flooding from major storm events.

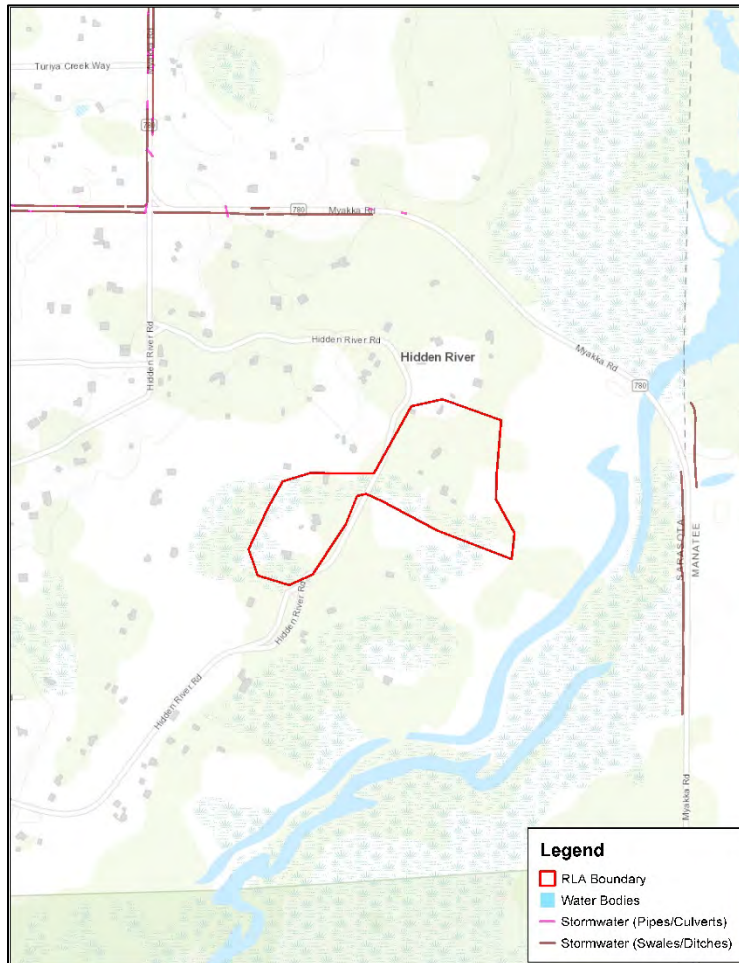


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The exposure to flooding from overtopping of the banks of the Myakka River, indicates the most appropriate mitigation alternatives include repairing stormwater structures or increasing conveyance capacity of hydraulic structures on the river, rebuilding or elevating buildings and/or flood prone components, or acquisition.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 31 are subject to flooding due to heavy rainfall events, exacerbated by high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County or Private as identified	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood Zone	Name of Streets within the area	Mitigation Method Recommendations
31 – MYR 08 Myakka River	1	0	11	A, X	Hidden River Rd	1, 3, 7

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 31: Myakka River	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	11					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	10					
Total insurance claims (in thousands)	\$555.6					
Average insurance claim (in thousands)	\$61.74					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 32-MYR09 Myakka River

Repetitive Loss Area (RLA) Overview



Figure 1: MYR09 Boundary

AREA DESCRIPTION

WATERSHED: Myakka River
 BASIN: Curry Creek
 LANDFORM: Riverine
 AREA: 10.32 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping of banks from river
- River crests up to 72 hours after storms
- Limited road accessibility, single route in/out
- Minimal stormwater infrastructure
- High tides and strong westerly winds

Problem Statement

This Repetitive Loss Area (RLA) is located west of the Myakka River. Due to this location, the area is subject to flooding from overtopping of the banks of the river and possible stormwater system backup and capacity overflows, particularly during high rainfall events corresponding with high water levels in the Myakka River, or high tides combined with strong westerly winds. Construction dates for the structures located within SFHA Zone AE range from 1920 to 1985 with Finished Floor Elevations (FFE) less than the Base Flood Elevation (BFE) of 7 feet NAVD. The RLA also includes 73% wood frame structures which are particularly susceptible to damage during flooding. There are no public utilities, so each residence is required to maintain a well and pump equipment which, along with HVAC, is also susceptible to flood damage. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Average Wood Frame Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
15	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
2	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
11	Insurance Claims (since 1978)
\$97.5	Total Insurance Claims (in thousands)
\$8.86	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Starfish Cir River Rd	No survey responses received, no resident comments during field site visits

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the eleven (11) individual claims in the RLA, of which six (6) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	1
September 1, 1985	Hurricane Elena	3	1
November 23, 1988	Tropical Storm Keith	1-3	1
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	1

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
45%	Slab on grade
9%	Elevated slab on stem wall with fill
9%	Elevated on post/piles or walls
37%	Unable to determine
Composition	Frame Type
73%	Wood frame
27%	Concrete block/masonry
Composition	Number of Stories
64%	Single story
27%	Two story
9%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Elevated on Post/Piles or Walls

Causes of Flooding

Overtopping of the Myakka River banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms. The Myakka River often crests up to 72 hours after a storm. The lots in this area are relatively low in elevation, and the structures are not significantly elevated above existing lot grade. Most of the structures are estimated to be below the BFE (7 feet NAVD). A high-water mark survey conducted June 23-26, 2003 indicated a high-water crest of 10.3 feet NAVD that resulted in flooding for all the one-story structures not well-elevated, along with well, pump and HVAC equipment. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

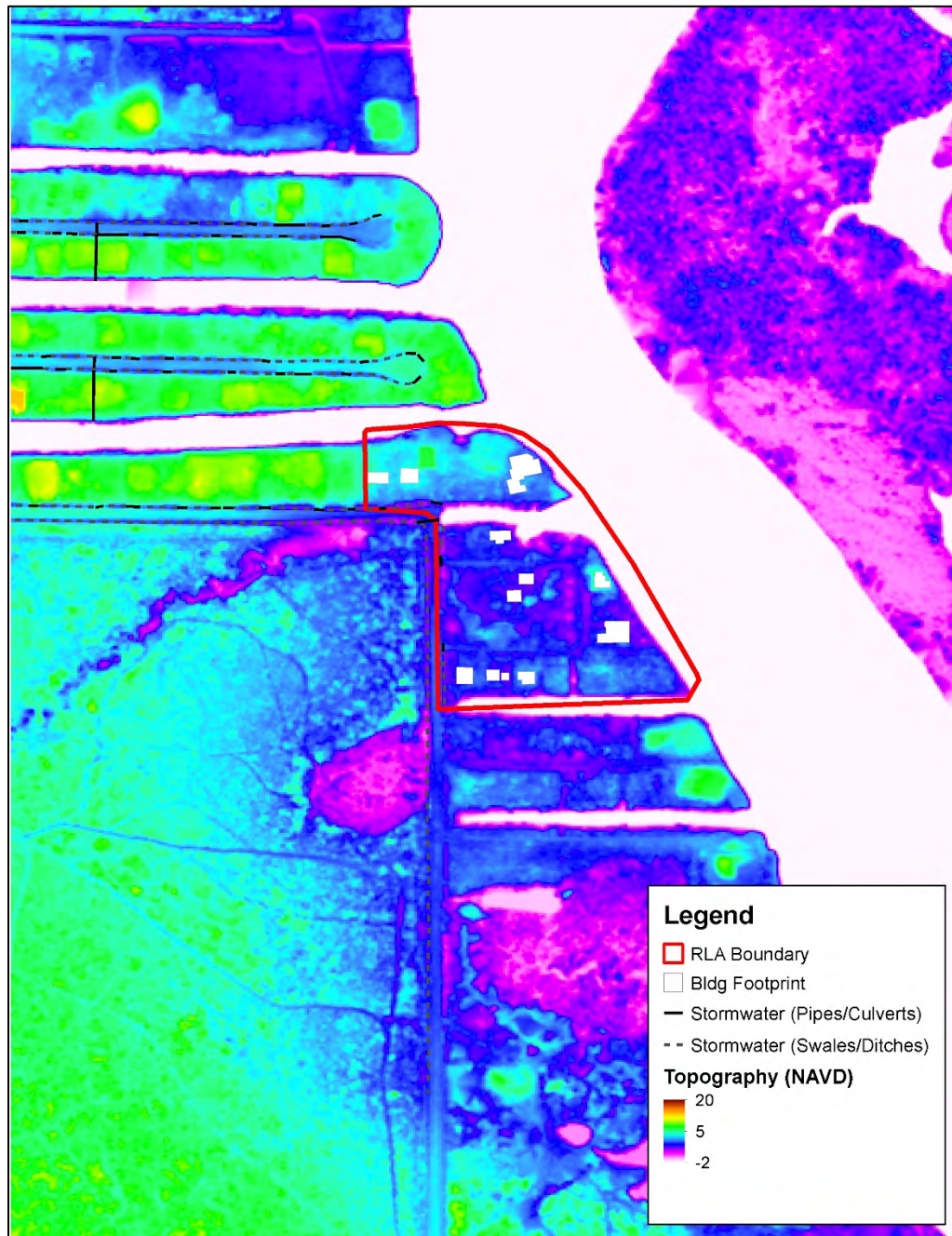


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure is limited stormwater pipes and swales along River Rd with one (1) outfall structure discharging to River Rd. There was no stormwater utility infrastructure identified on Starfish Cir; expansion of the stormwater system in this area would likely provide mitigation for flooding from major storm events.

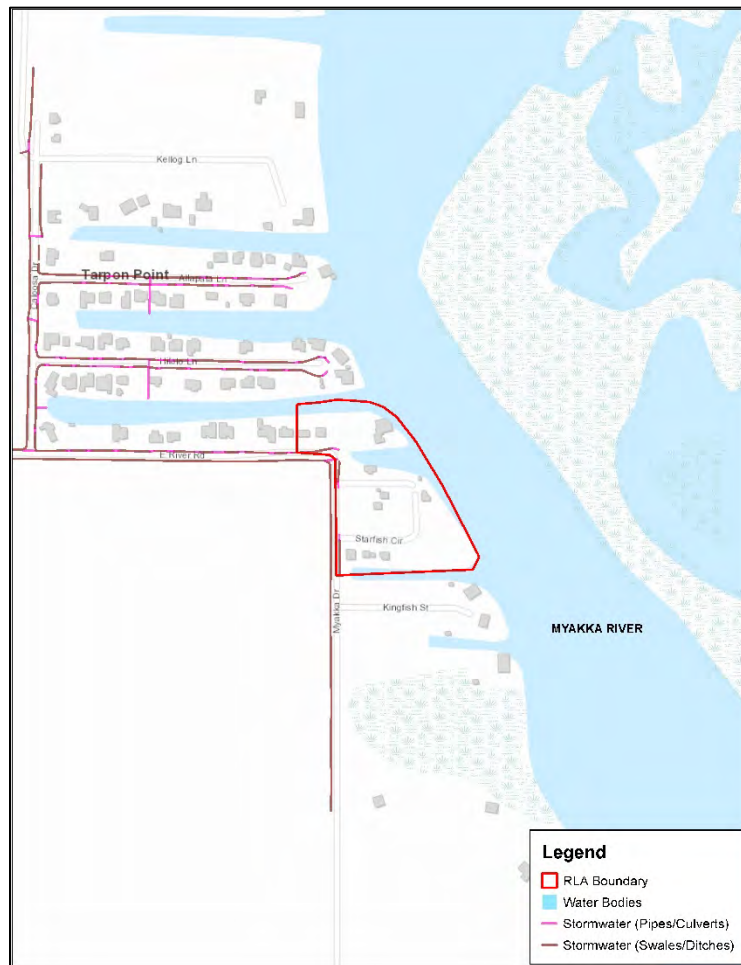


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades and extensive exposure to flooding from overtopping of the banks of the Myakka River, indicates the most appropriate mitigation alternatives include rebuilding or elevating of structure and/or flood prone components, or acquisition.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 32 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
32 – MYR 09 Myakka River	0	1	15	AE (SFHA)	E Venice Ave Starfish Cir	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 32: Myakka River	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	15					
Repetitive Loss (RL) Properties	0					
Severe RL properties	1					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	11					
Total insurance claims (in thousands)	\$97.5					
Average insurance claim (in thousands)	\$8.86					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 33-PHC01 Phillippi Creek

Repetitive Loss Area (RLA) Overview

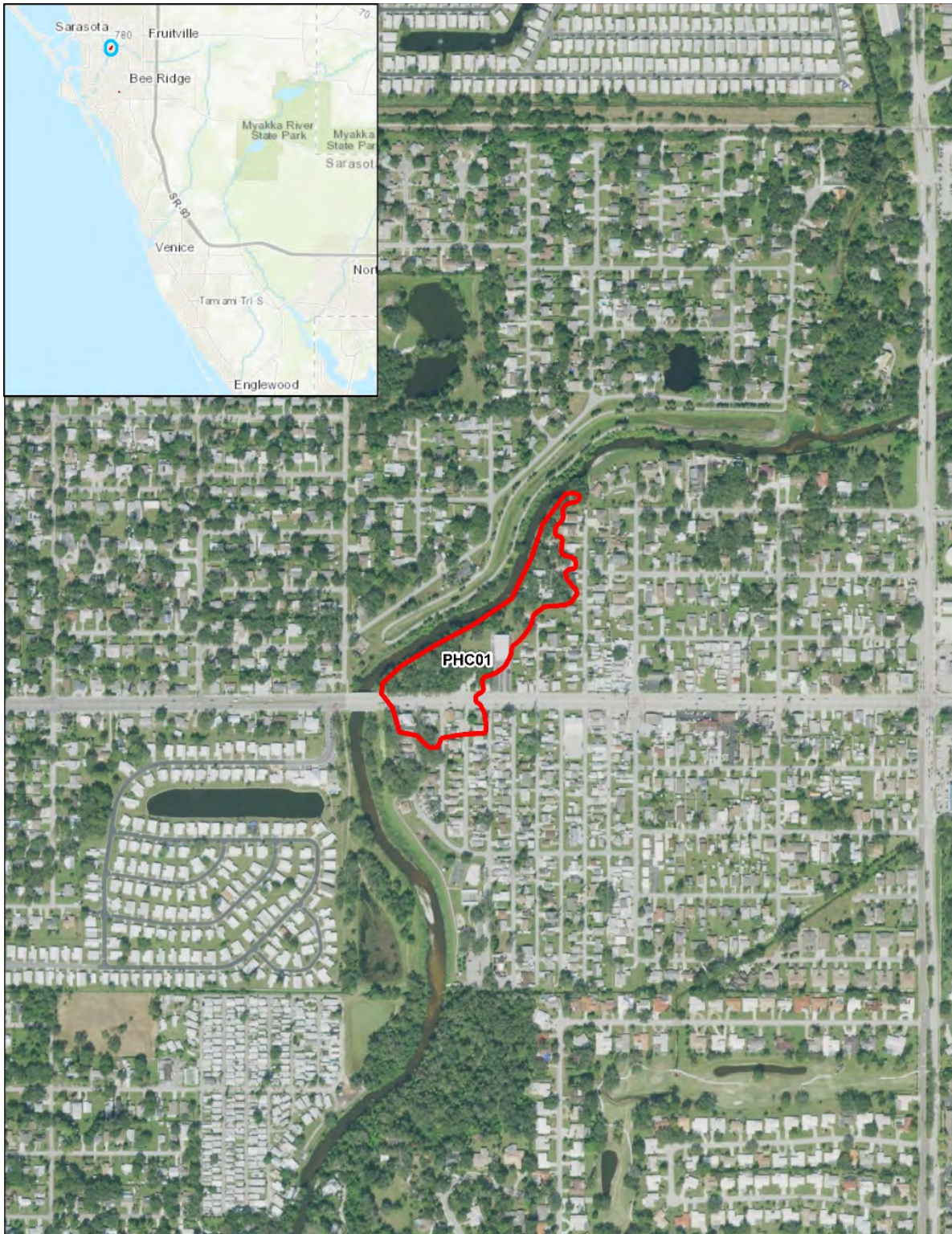


Figure 1: PHC01 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 9.08 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the eastern shoreline of Phillippi Creek in a residential neighborhood. Due to the area's low elevation, structures are subject to flooding from overtopping of the banks of the creek, as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This location on the creek is north of Roberts Bay and has tidal, backwater, and storm surge contributing to flooding conditions. The structures in this RLA are within SFHA Zone AE and CFHA Zone AE and median year built for the structures is 1952, with several dating back to the 1920s. These are primarily slab-on-grade foundations. More recently constructed structures have been elevated on fill, stem walls, or posts to meet the Base Flood Elevation (BFE) of 11 feet NAVD. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Concrete Block Structure

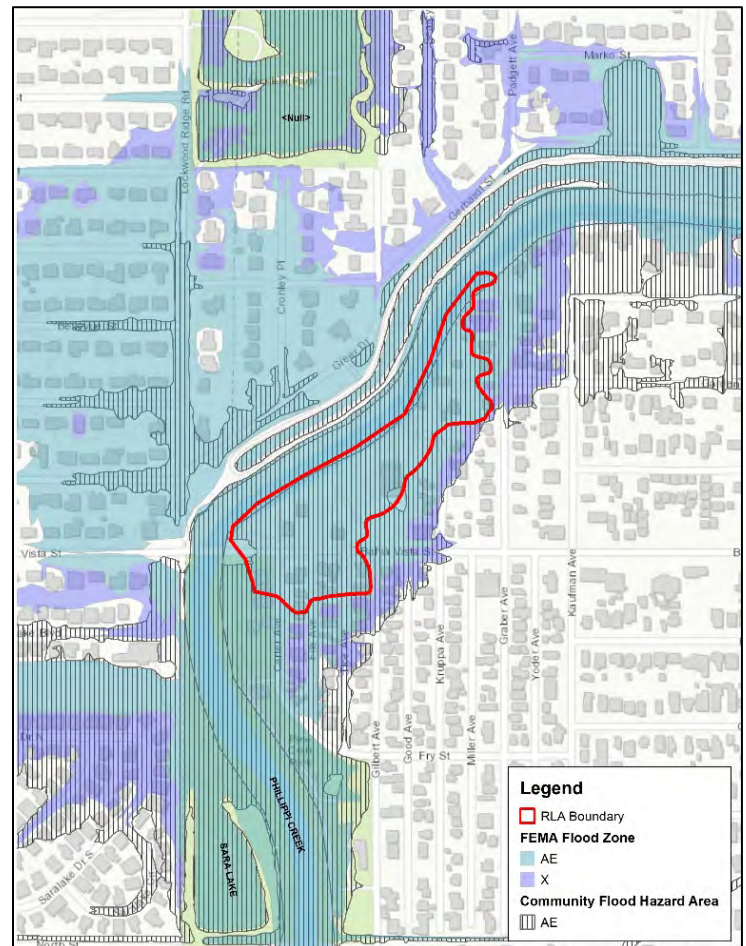


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
16	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
2	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
4	Insurance Claims (since 1978)
\$58.92	Total Insurance Claims (in thousands)
\$14.73	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Graber Ave Tice Ave File Ave Carter Ave Bahia Vista St	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for two (2) of the four (4) individual claims in the RLA, all of which correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been four (4) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	3
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
19%	Slab on grade
38%	Elevated foundation walls w/ enclosure
13%	Elevated slab on stem wall with fill
13%	Elevated on post/piles or walls
17%	Undetermined due to vegetation/access
Composition	Frame Type
38%	Wood frame
50%	Concrete block/masonry
6%	Steel
6%	Mobile Home
Composition	Number of Stories
81%	Single story
19%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Elevated slab on Post/Piles or Walls

Causes of Flooding

Overtopping of the Phillippi Creek banks cause flooding during major storm events particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Major outfalls to Phillippi Creek are likely to contribute to flooding conditions due to stormwater system back up. Properties in close proximity to the creek banks are especially susceptible to flooding, since the lots are relatively low in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

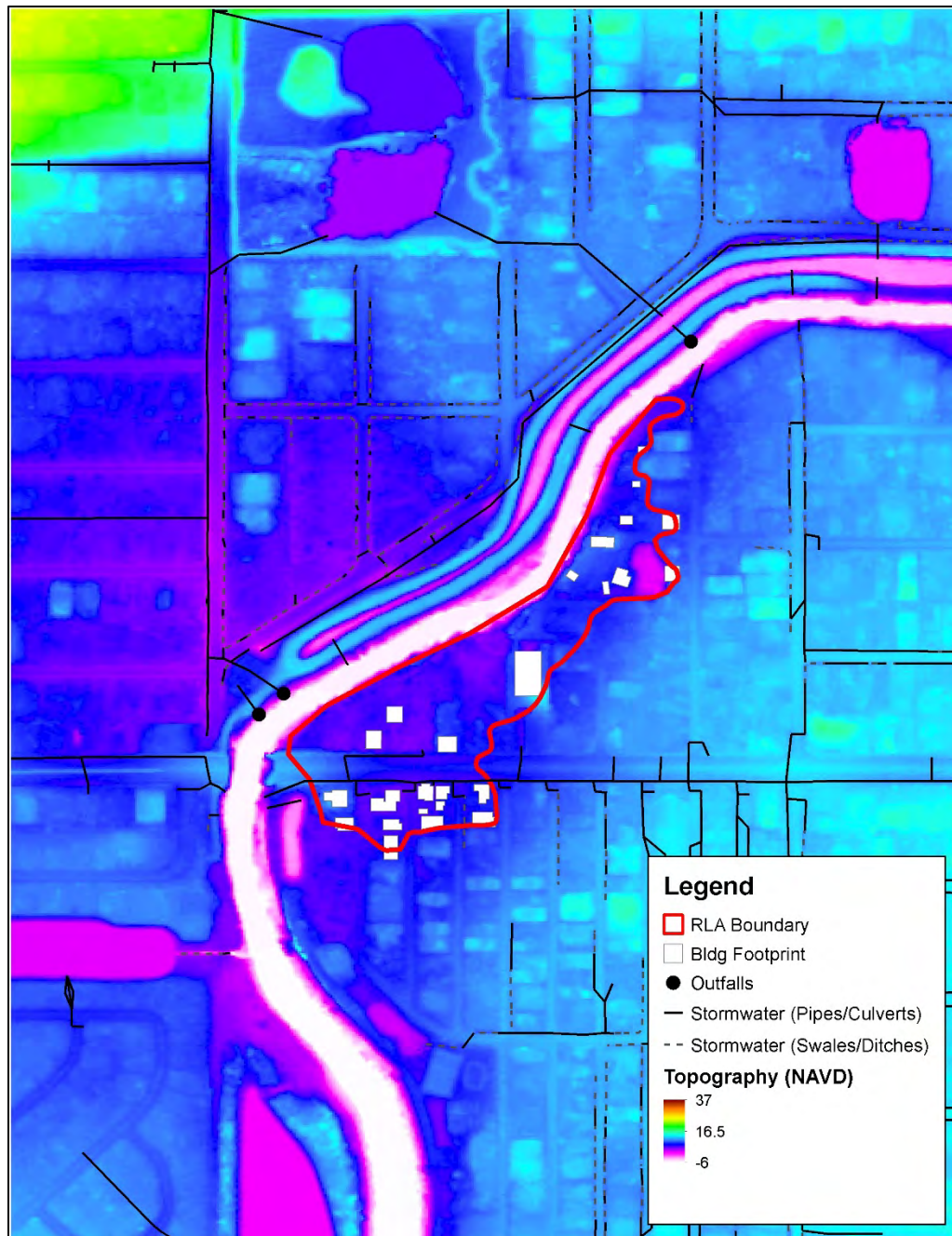


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system serving the area is limited to one (1) outfall to Phillippi Creek. Additionally, the County's Celery Fields Stormwater facility helps reduce flooding by attenuating runoff from land upstream. Stormwater runoff sheet flows along streets and low-lying parcels into Phillippi Creek or into the swales and pipe collection system. Low elevations of lots averaging less than 9.7 feet NAVD means stormwater backup and inundation can occur when the creek is at or near top of bank. Review of maintenance records indicate that the stormwater infrastructure is maintained by the County. Due to the location in proximity to Phillippi Creek and risk of flooding due to high tides, it is unlikely that expansion of stormwater infrastructure would provide adequate mitigation for flooding from major storm events.

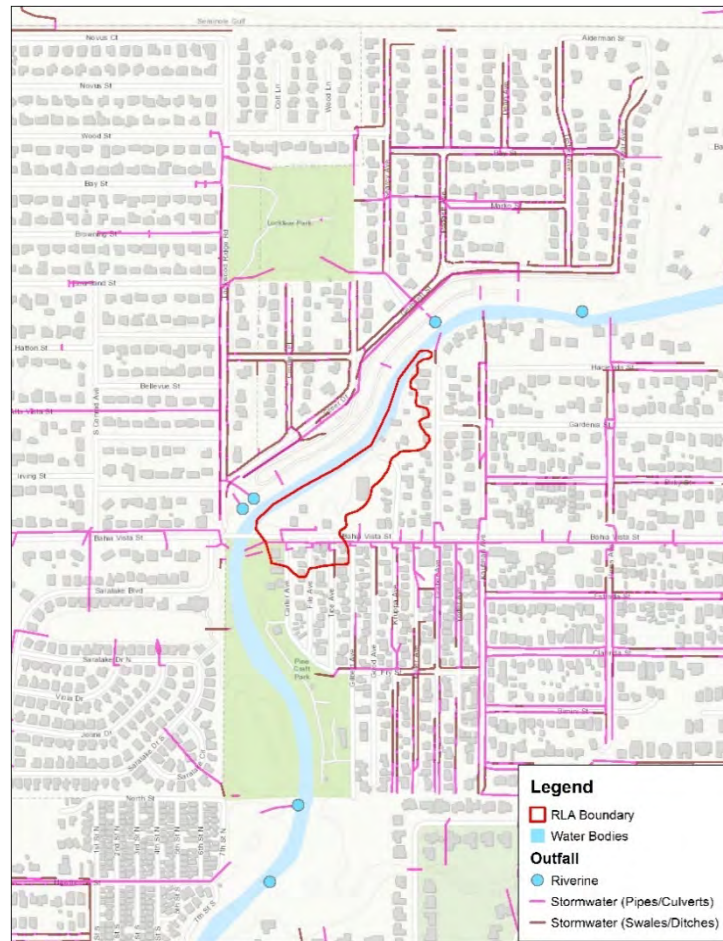


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to flooding from overtopping of the banks of Phillippi Creek, and the Finished Floor Elevation (FFE) for the structures estimated to be at 1.3 feet below the 11 feet NAVD BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 33 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
33 – PHC 01 Phillippi Creek	1	0	16	AE (SFHA) AE (CFHA)	Graber Ave Tice Ave File Ave Carter Ave Bahia Vista St	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 33: Philippi Creek	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	16					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	4					
Total insurance claims (in thousands)	\$58.9					
Average insurance claim (in thousands)	\$14.73					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 34-PHC02 Phillippi Creek

Repetitive Loss Area (RLA) Overview

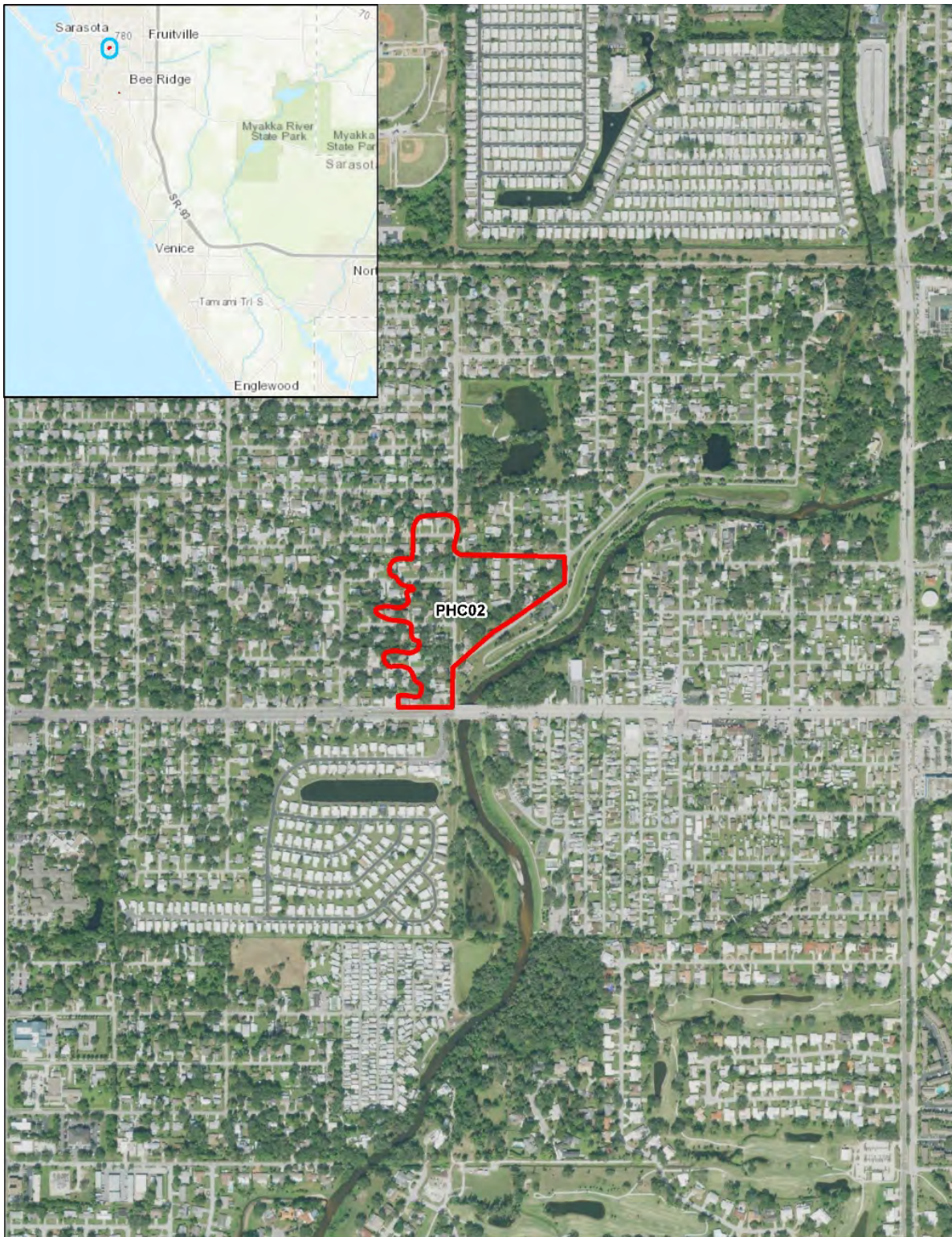


Figure 1: PHC02 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 17.21 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the western shoreline of Phillippi Creek north of Bahia Vista. Due to the area's low elevation, structures are subject to flooding from overtopping of the banks of the river, as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This location on the creek is north of Roberts Bay and has tidal, backwater, and storm surge contributing to flooding conditions. The structures in this RLA are located within SFHA Zone AE and CFHA Zone AE. Most of the structures were constructed during the 1950s as slab-on-grade foundations, with an average of 2.6 feet NAVD, which is below the Base Flood Elevation (BFE) of 11 feet NAVD. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structures

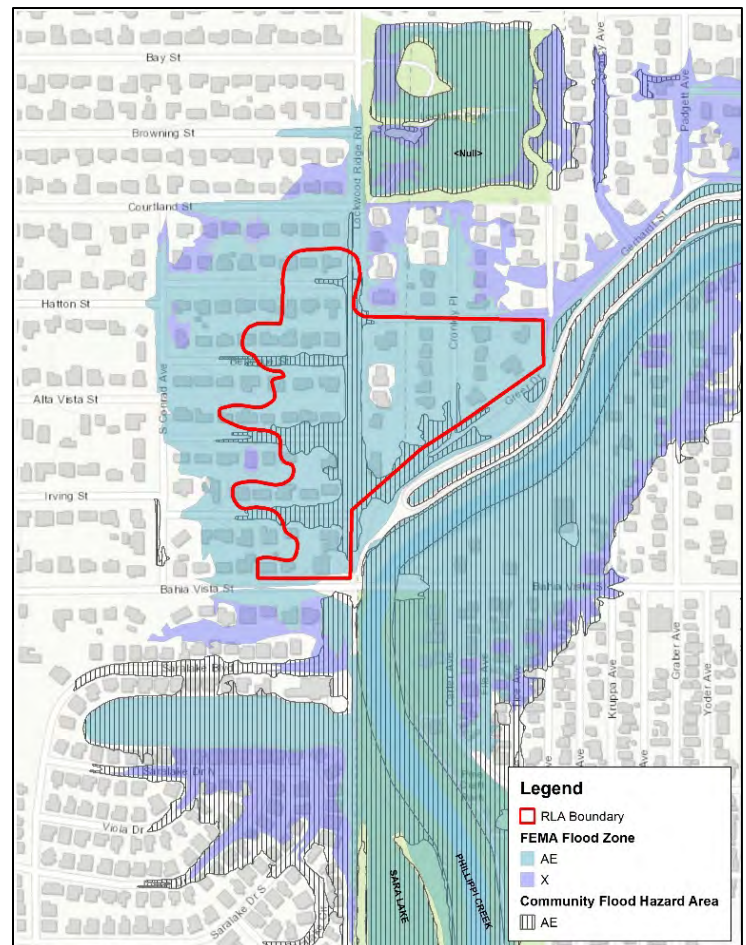


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
48	Total Structures in Repetitive Loss Area
7	Total Repetitive Loss Structures in this Area
3	Properties w/Active Insurance Policies
7	Mitigated RL & SRL Properties
0	Unmitigated RL & SRL Properties
31	Insurance Claims (since 1978)
\$985.9	Total Insurance Claims (in thousands)
\$31.8	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Bellevue Street	Resident with 10-19 years residency, slab on grade, reported less than 1-foot of flooding in structure for less than 4 hours caused by water release from the celery fields, homeowner indicated that the County installed a berm/levee to meet 100 year flood event to avoid future flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for twenty-four (24) of the thirty-one (31) individual claims in the RLA, of which twenty-eight (28) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been twenty-seven (27) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	5
November 14, 1997	Un-Named Storm	10	10
September 14, 2001	Tropical Storm Gabrielle	5-10	12
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
69%	Wood frame
31%	Concrete block/masonry
Composition	Number of Stories
92%	Single story
8%	Two story
Composition	Flood Zones
98%	Within SFHA Zone AE
4.1%	Within SFHA Zone X
12.5%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structures

Causes of Flooding

Overtopping of the Phillippi Creek banks cause flooding during major storm events particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Properties in close proximity to the creek banks are especially susceptible to flooding, since the lots are relatively low in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

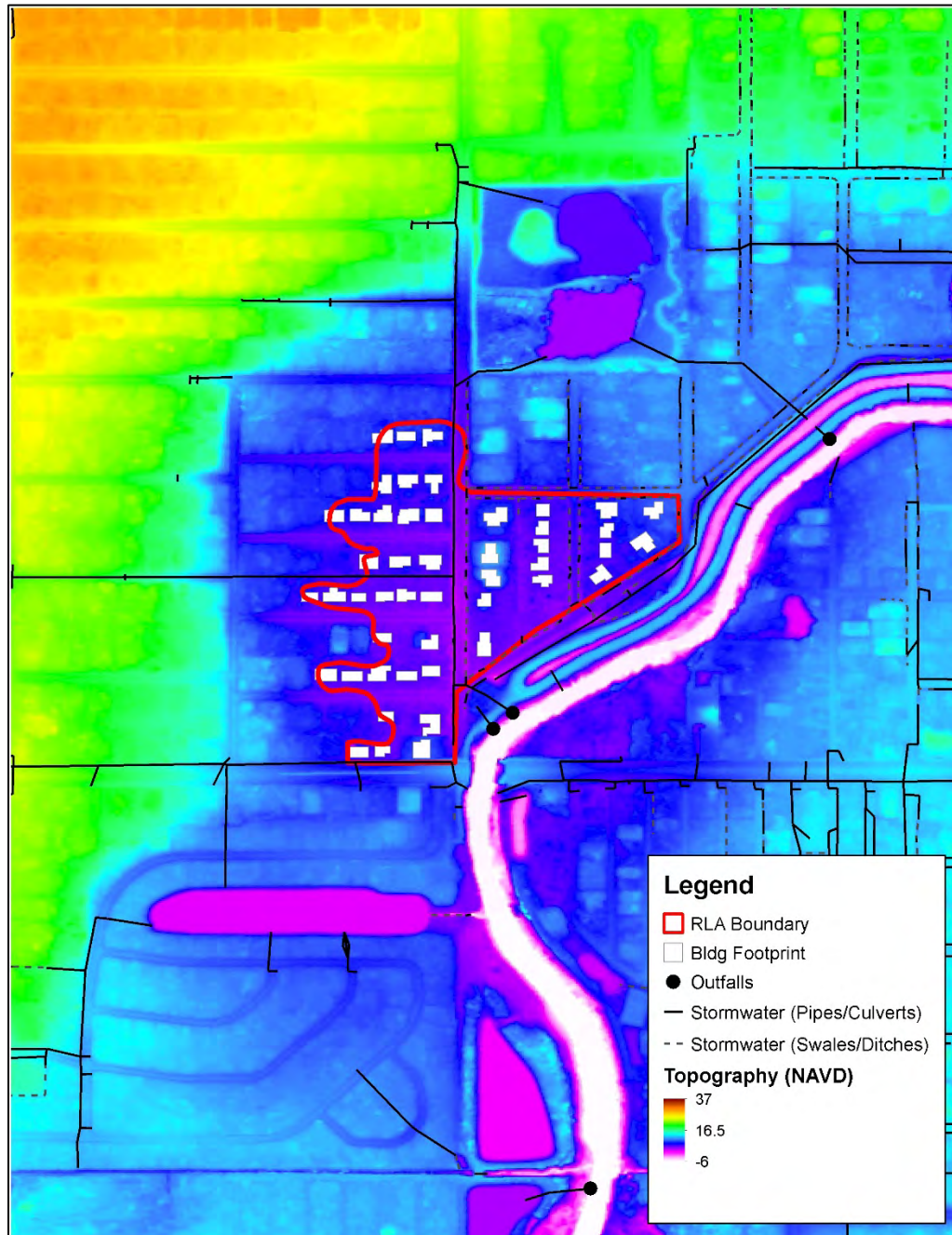


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system in this RLA includes five (5) outfall structures discharging into Phillippi Creek connected to a combination of swales and pipes. Low elevations of lots averaging less than 9.4 feet NAVD means stormwater backup and inundation can occur when the creek is at or near top of bank. Review of maintenance records indicate that the stormwater infrastructure is maintained by the County. Due to the location near Phillippi Creek and risk of flooding due to high tides, it is unlikely that expansion of stormwater infrastructure would provide adequate mitigation for flooding from major storm events. In an effort to mitigate flooding in this area, Sarasota County purchased 33 structures in the late 1990s and early 2000s. These structures were demolished and the Bahia Vista Levee was constructed. This levee provides a level of protection from flooding to the structures within this area from Phillippi Creek.

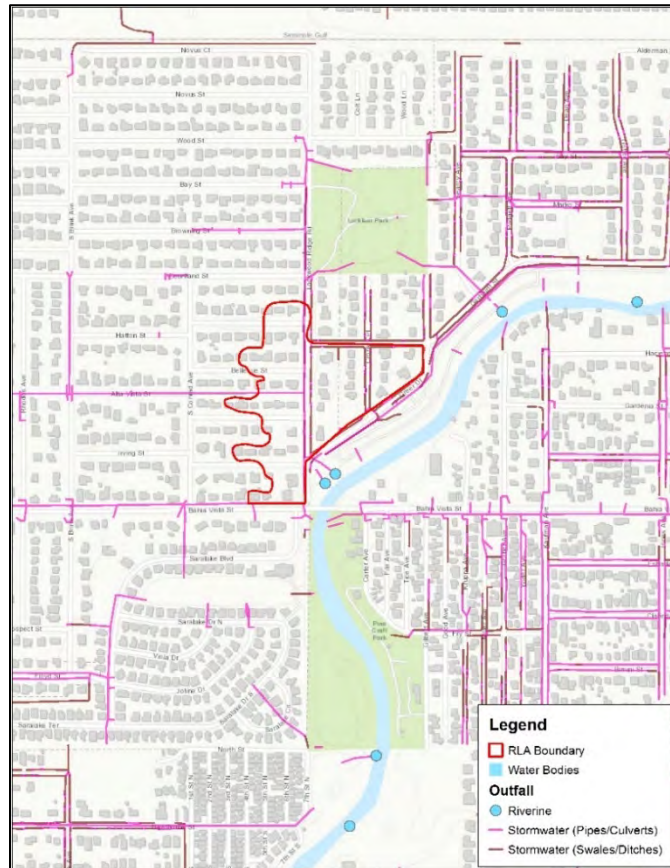


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to flooding from overtopping of the banks of Phillippi Creek, and the Finished Floor Elevation (FFE) for the structures estimated to be at 2.6 feet below the 12 feet NAVD BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain. In addition, maintaining the Bahia Vista Levee will continue to mitigate flooding.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 34 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
34 – PHC 02 Phillippi Creek	0	0	48	AE (SFHA), X, AE (CFHA)	Cronley Pl Greer Dr Lockwood Ridge Rd Alta Vista St Bellevue St Bahia Vista St Hatton St Irving St Gerhardt St	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 34: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	48					
Repetitive Loss (RL) Properties	6					
Severe RL properties	1					
Mitigated RL properties	6					
Mitigated Severe RL properties	1					
Insurance claims since 1978	31					
Total insurance claims (in thousands)	\$985.9					
Average insurance claim (in thousands)	\$31.8					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 35-PHC03 Phillippi Creek

Repetitive Loss Area (RLA) Overview

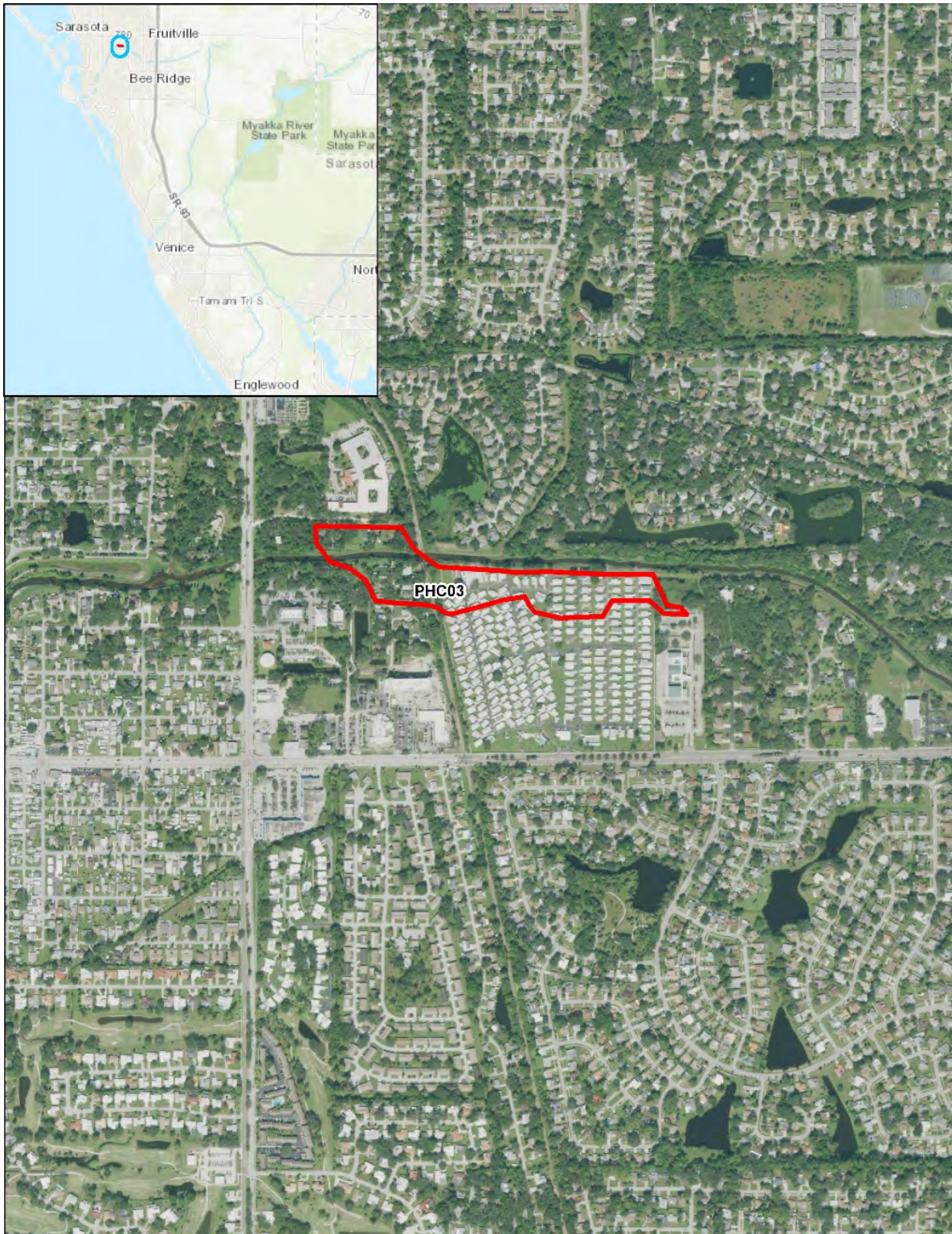


Figure 1: PHC03 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 18.52 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) straddles Phillippi Creek in a residential neighborhood. The structures are subject to flooding from overtopping of the banks of the river, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This location on the creek is north of Roberts Bay and has tidal, backwater, and storm surge contributing to flooding conditions. The structures in this area are within Zone Shaded X, SFHA Zone AE and CFHA Zone AE. Most of the structures were constructed in 1959 and are mobile homes, which are more prone to flood damage. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Mobile Home Structures

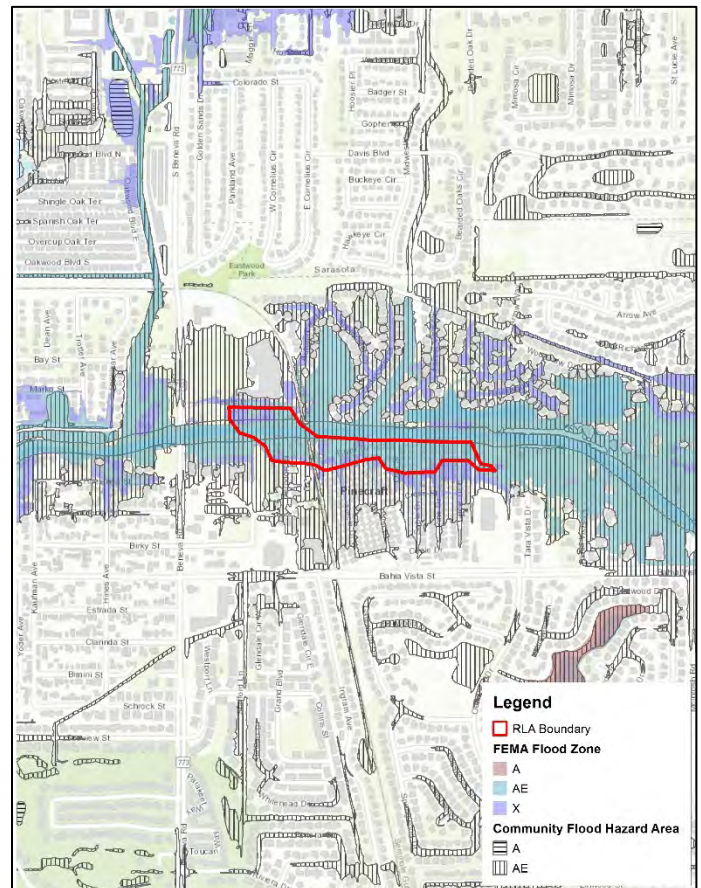


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
63	Total Structures in Repetitive Loss Area
3	Total Repetitive Loss Structures in this Area
4	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
3	Unmitigated RL & SRL Properties
18	Total Insurance Claims (since 1978)
10	Single Insurance Claims
\$151.3	Total Insurance Claims (in thousands)
\$8.4	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Herndon Pl Teate Dr Bahia Vista St	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for eight (8) of the eighteen (18) individual claims in the RLA, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been sixteen (16) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	2
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	5
September 14, 2001	Tropical Storm Gabrielle	5-10	11
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
3%	Slab on grade
2%	Elevated slab on stem wall with fill
82%	Elevated on post/piles or walls
2%	Elevated on foundation walls
11%	Undetermined due to vegetation/access
Composition	Frame Type
18%	Wood frame
4%	Concrete block/masonry
78%	Manufactured/Mobile Home
Composition	Number of Stories
98%	Single story
2%	Two story
Composition	Flood Zones
88.88%	Within SFHA Zone AE
39.7%	Within Zone Shaded X
14.3%	Within Zone X
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Review of stormwater system and drainage patterns indicate that properties in close proximity to the creek banks are especially susceptible to flooding. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

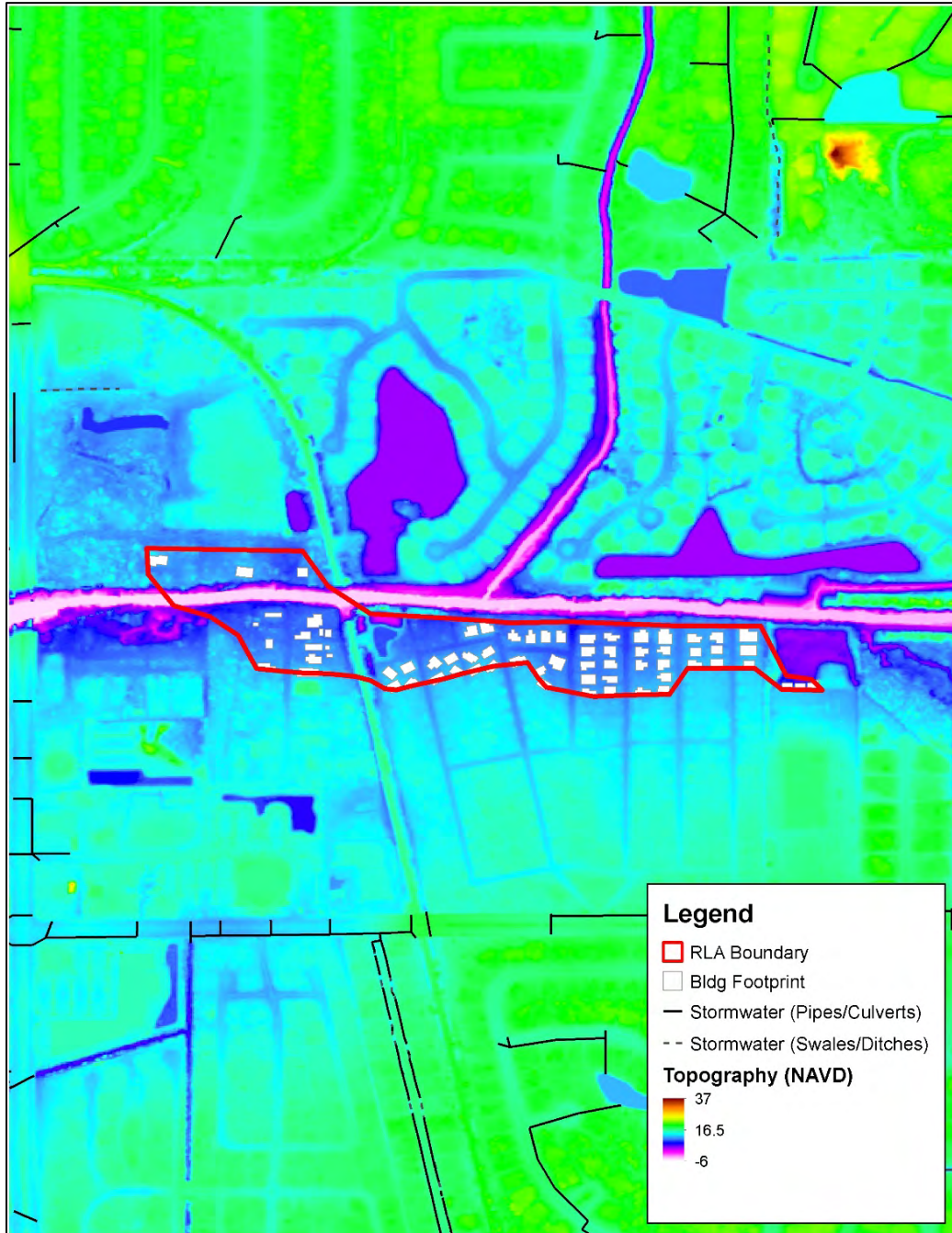


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no County stormwater utility infrastructure identified within this RLA; however due to the location in proximity to Phillippi Creek and risk of flooding due to high tides, it is unlikely that construction of stormwater infrastructure would provide adequate mitigation for flooding from major storm events. The County's Celery Fields Stormwater facility provides some flood reduction by attenuating runoff from land upstream.

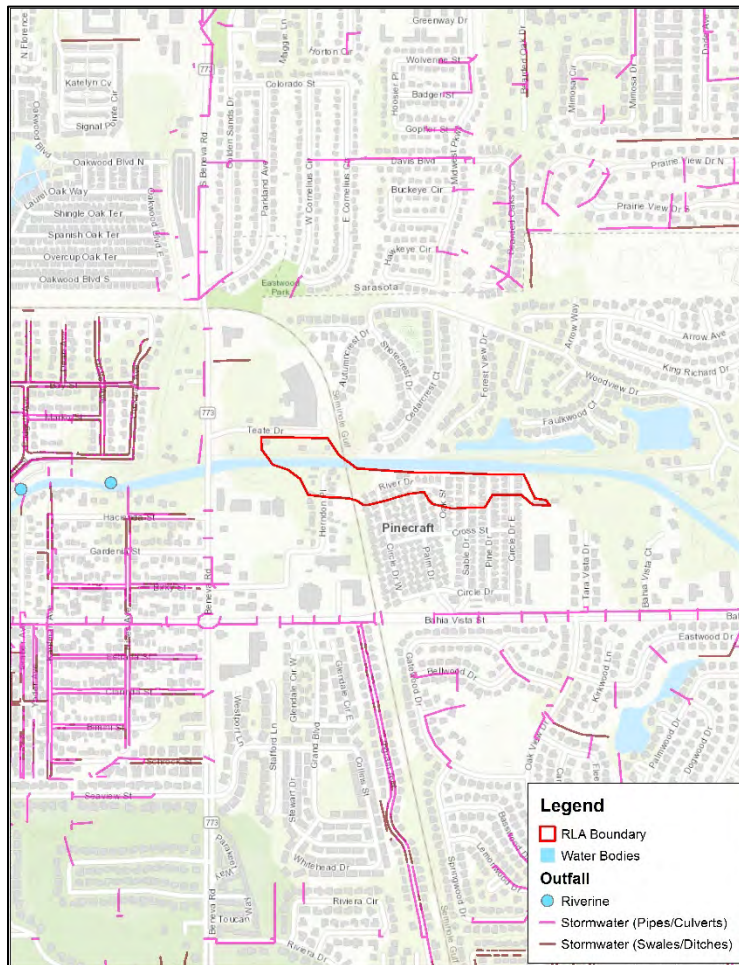


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades and exposure to flooding from overtopping of the banks of Phillippi Creek, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 35 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
35 – PHC 03 Phillippi Creek	3	0	63	X, Shaded X, AE (SFHA) AE (CFHA)	Herndon Pl Teate Dr Bahia Vista St	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 35: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	63					
Repetitive Loss (RL) Properties	3					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	18					
Total insurance claims (in thousands)	\$151.3					
Average insurance claim (in thousands)	\$8.4					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 36-PHC04 Phillippi Creek

Repetitive Loss Area (RLA) Overview

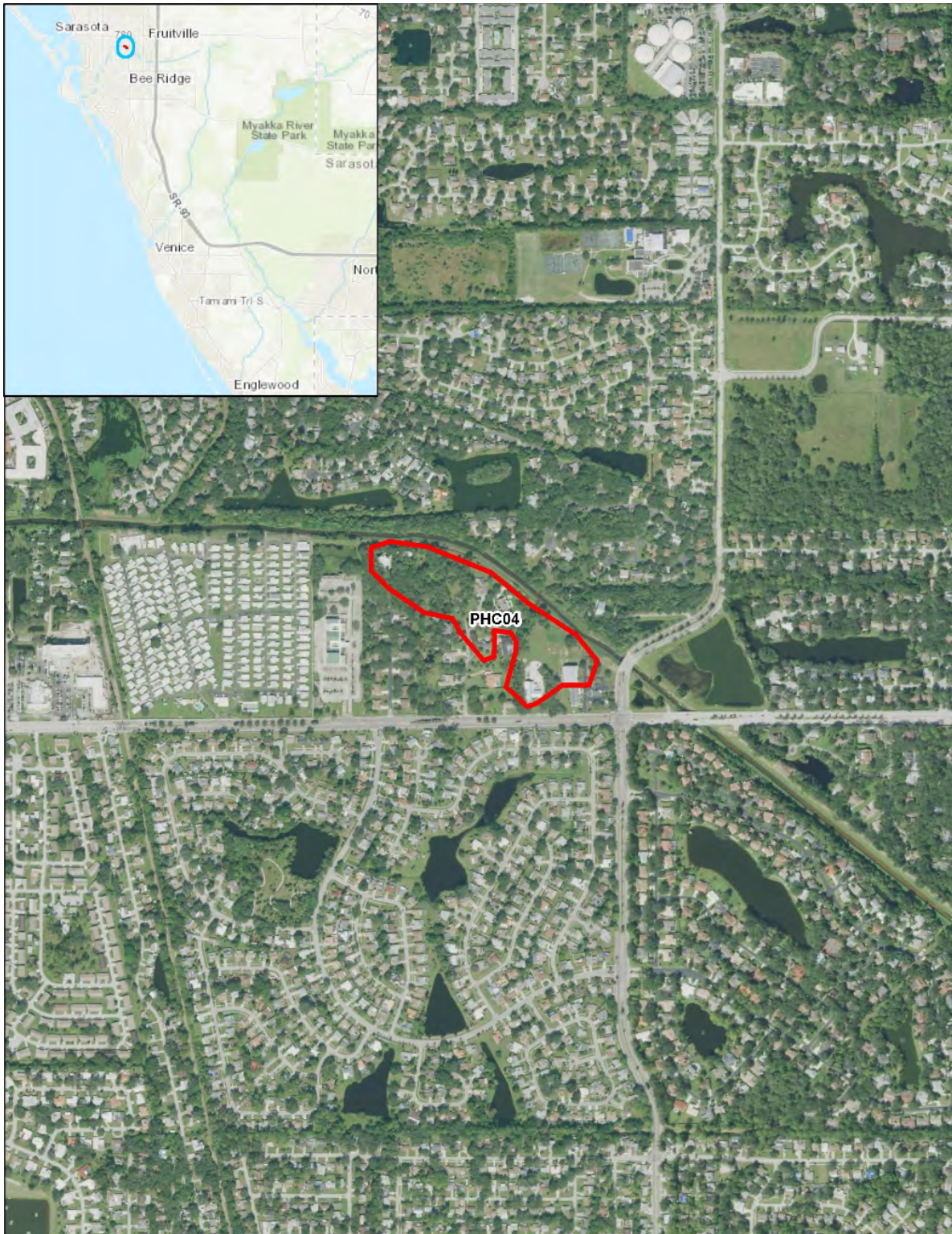


Figure 1: PHC04 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 18.48 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the southern shoreline of Phillippi Creek in a residential neighborhood. Due to the area's low elevation, structures are subject to flooding from overtopping of the banks of the river, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This area of Phillippi Creek is not tidally influenced by Roberts Bay but will still experience flood conditions under high rainfall events. The structures in this RLA are located within Floodway, Zone Shaded X, SFHA Zone AE and CFHA Zone AE. The median year built for the structures is 1989 with the structures primarily being slab-on-grade. More recently constructed structures have been elevated on fill to meet the Base Flood Elevation (BFE) of 15 feet NAVD. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

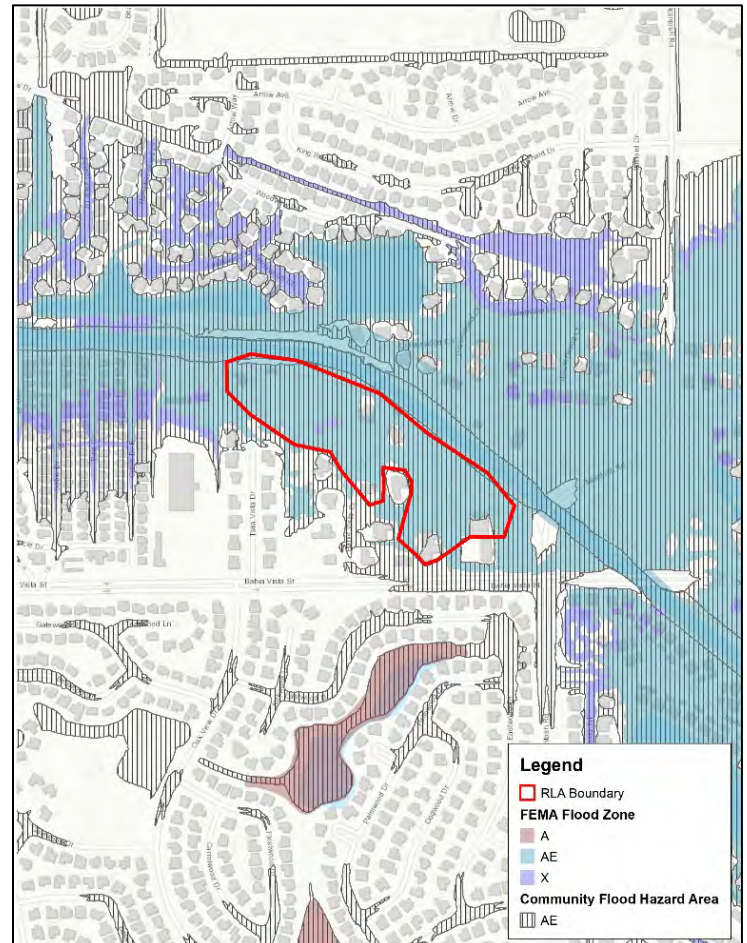


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
8	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
5	Properties w/Active Insurance Policies
1	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
3	Insurance Claims (since 1978)
\$10.8	Total Insurance Claims (in thousands)
\$3.62	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Bahia Vista St Bahia Vista Ct Tara Vista Dr	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the three (3) individual claims, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been three (3) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	2
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
86%	Slab on grade
14%	Undetermined due to vegetation/access
Composition	Frame Type
14%	Wood frame
86%	Concrete block/masonry
Composition	Number of Stories
57%	Single story
29%	Two story
14%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE
62.5%	Within Zone X
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Properties in close proximity to the creek banks are particularly susceptible to flooding, since the lots are relatively low in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

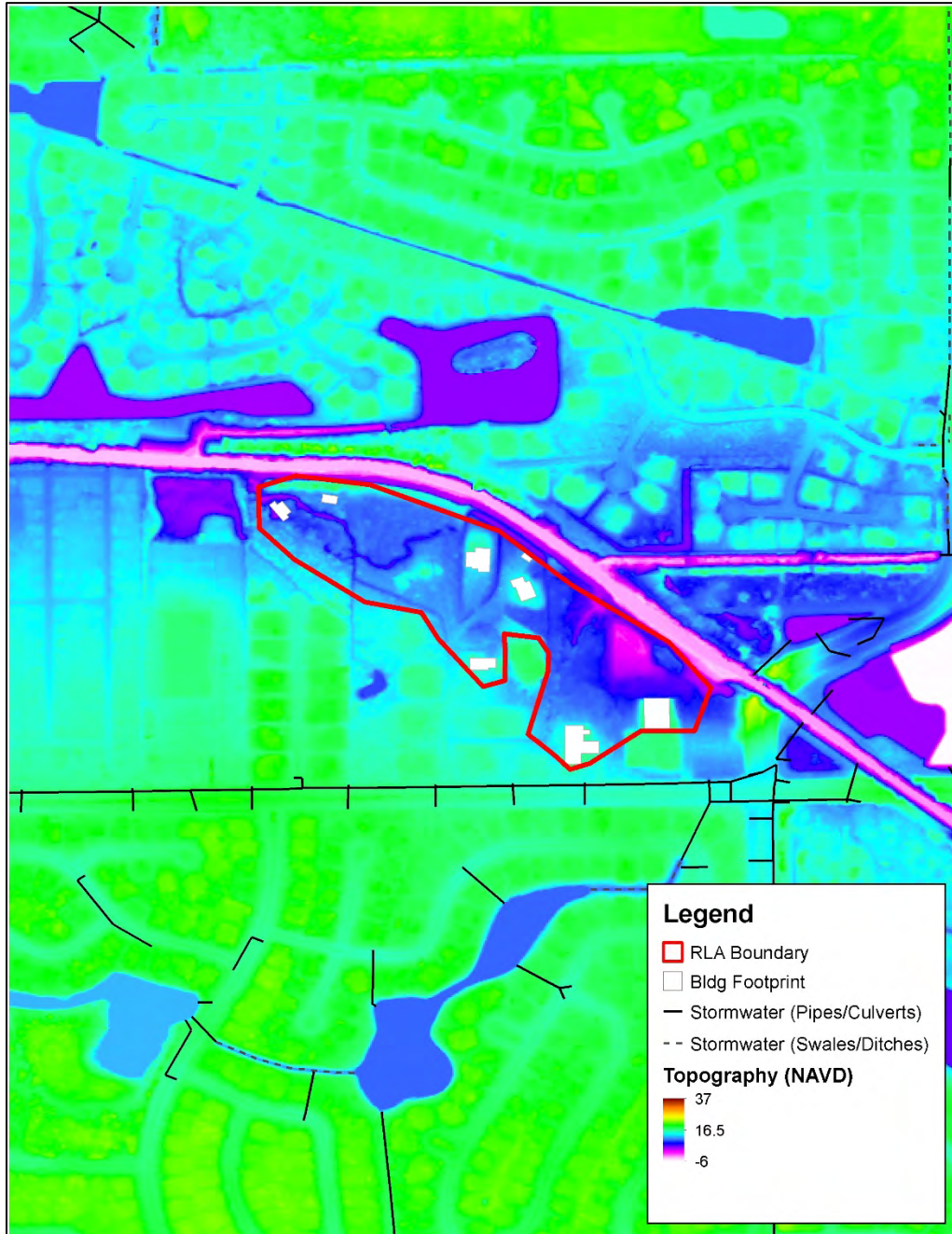


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no stormwater utility infrastructure identified within this RLA, however due to the location in proximity to Phillippi Creek and risk of flooding due to high tides, it is unlikely that construction of stormwater infrastructure would provide adequate mitigation for flooding from major storm events. The County's Celery Fields Stormwater facility provides some flood reduction by attenuating runoff from land upstream.

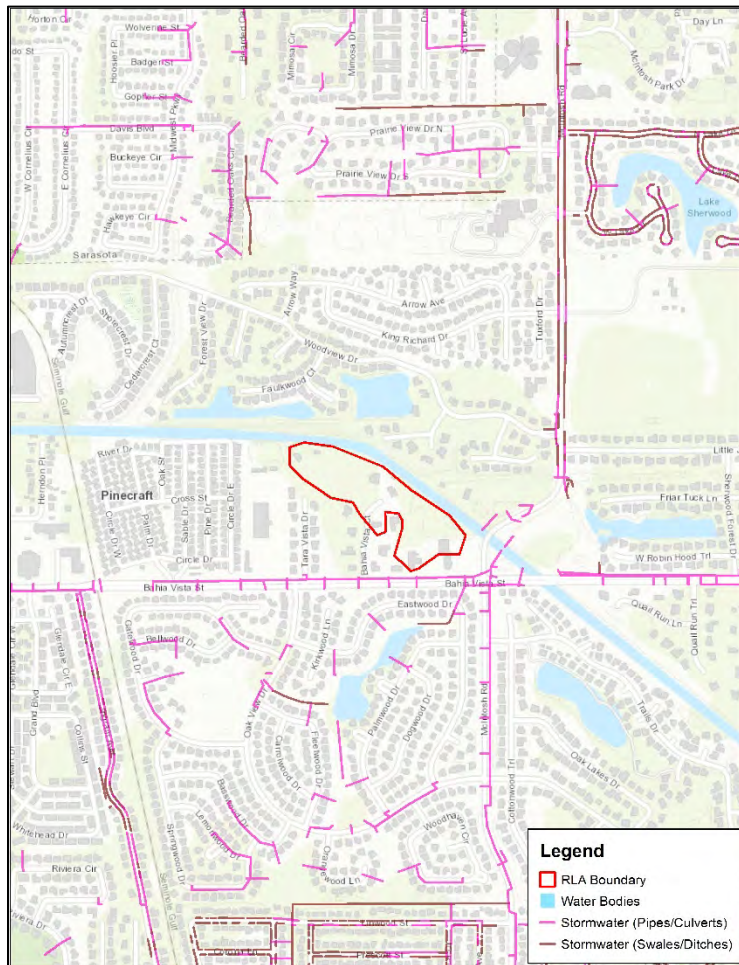


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to flooding from overtopping of the banks of Phillippi Creek, and the Finished Floor Elevation (FFE) for the structures estimated to be at 1.9 feet below the 15 feet NAVD BFE, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA utilize a combination of both County sewer and on-site septic systems to dispose of wastewater. With proper maintenance and the installation of a backflow preventer, if needed, there will not be sewer backup during a flooding event. Septic systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 36 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
36 – PHC 04 Phillippi Creek	1	0	8	X, Shaded-X, AE (SFHA) AE (CFHA) Floodway	Tara Vista Dr Bahia Vista Dr	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 36: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	8					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	1					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$10.8					
Average insurance claim (in thousands)	\$3.62					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 37-PHC05 Phillippi Creek

Repetitive Loss Area (RLA) Overview

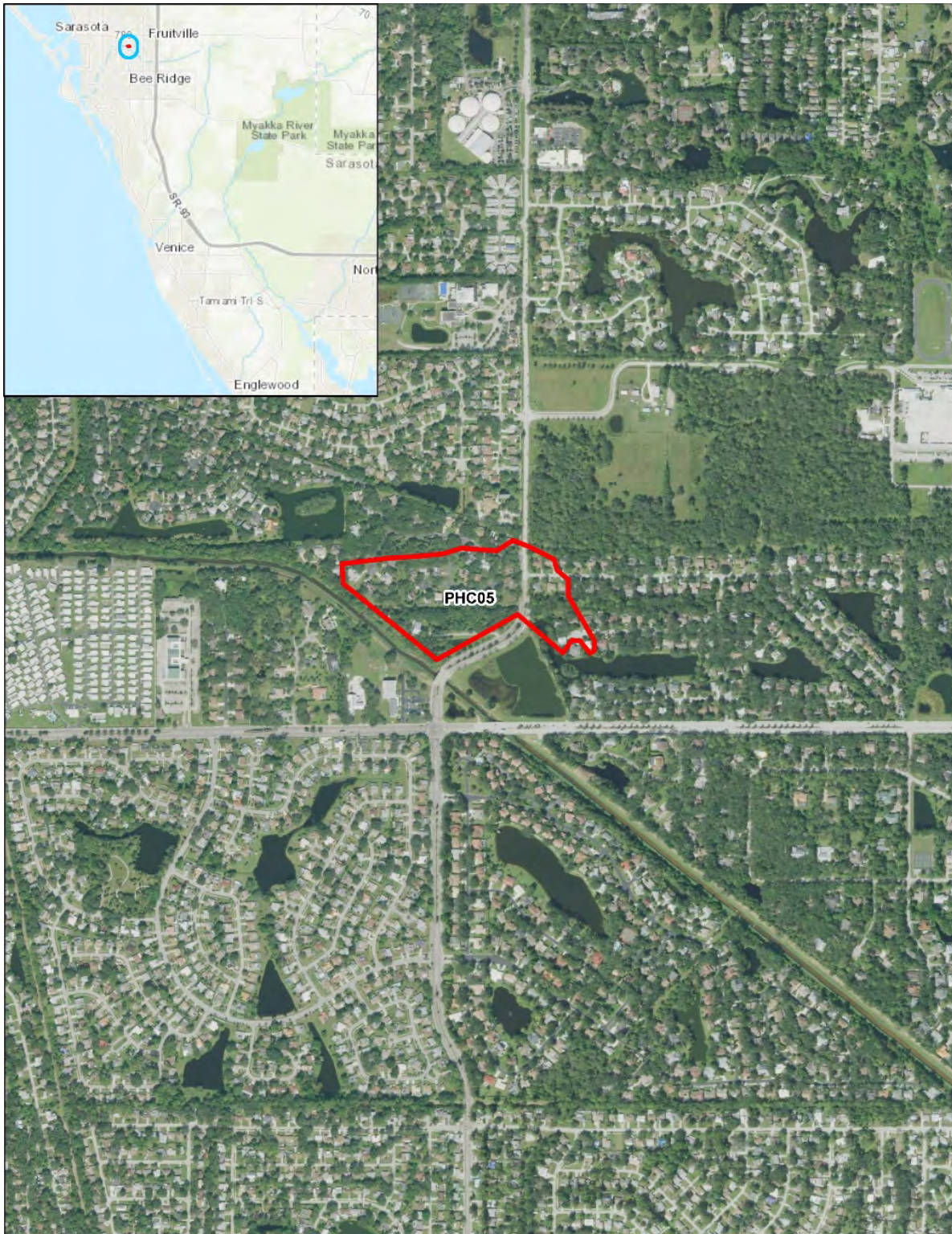


Figure 1: PHC05 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 27.15 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the north-eastern shoreline of Phillippi Creek at the McIntosh Rd. bridge crossing with two residential subdivisions. This area has relatively higher elevations with a flood zone combination of SFHA Zone AE, X and CFHA Zone AE. The waterfront properties located on the creek are subject to flooding from overtopping of the banks of the creek, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This area of Phillippi Creek is not tidally influenced by Roberts Bay but will still experience flood conditions under high rainfall events. The median year built for the structures is 1986, with primarily elevated structures. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

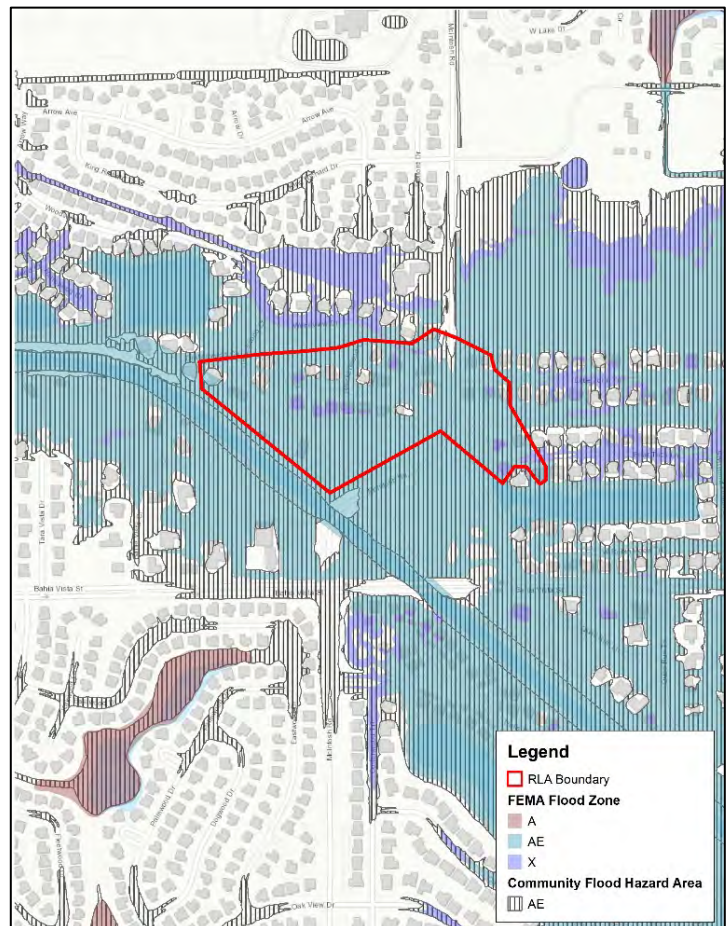


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
31	Total Structures in Repetitive Loss Area
6	Total Repetitive Loss Structures in this Area
26	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
3	Unmitigated RL & SRL Properties
17	Insurance Claims (since 1978)
\$54.47	Total Insurance Claims (in thousands)
\$3.03	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Drakeswood Court	Resident with less than 10 years residency, slab on grade, report flooding in yard only, cited overbank flooding from nearby waterway as cause, reported that County improved drainage from Phillippi Creek to reduce flooding.
Little John Trail	Resident with 10-19 years residency, slab on grade, reported flooding in yard only due to clogged/undersized drainage ditch/culvert.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the seventeen (17) individual claims, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been nine (9) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	8
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	7
September 14, 2001	Tropical Storm Gabrielle	5-10	2
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
10%	Slab on grade
87%	Elevated slab on stem wall with fill
3%	Undetermined due to vegetation/access
Composition	Frame Type
97%	Wood frame
3%	Concrete block/masonry
Composition	Number of Stories
67%	Single story
30%	Two story
3%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE
32.3%	Within Zone Shaded X
38.7%	Within Zone X
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Raised Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Review of the minimal stormwater system and drainage patterns indicate that properties in close proximity to the creek banks are particularly susceptible to flooding. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

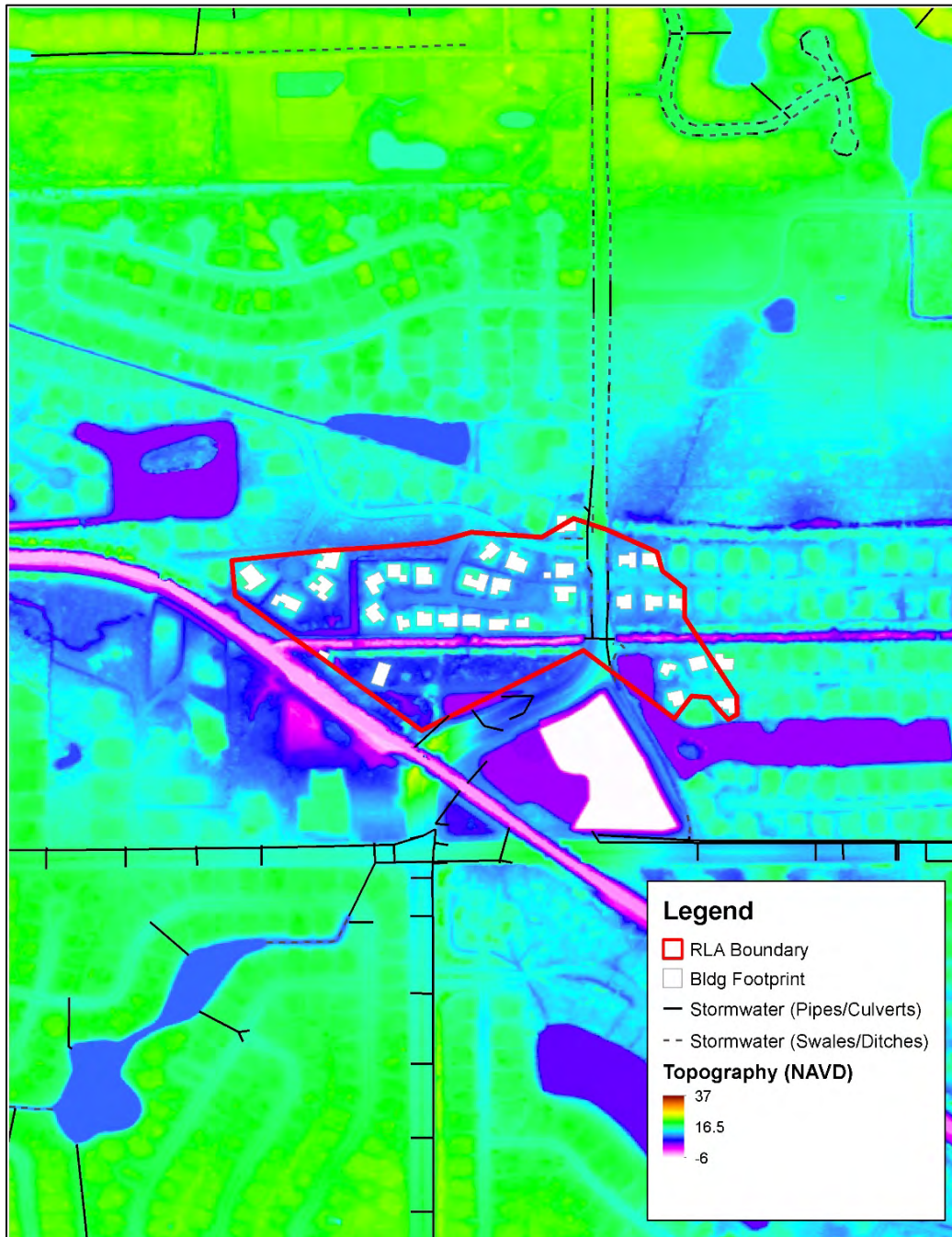


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system serving the area is limited to swales and pipes on McIntosh Rd with one (1) outfall structure discharging to Phillippi Creek. There is no permit record for a stormwater management system in Woodland Park, where most of the properties in this RLA are located. Based on the resident surveys, the lots that do not have positive drainage away from the building should be re-graded to sheet flow towards the street or to the floodways based on site topography; doing so may be beneficial to direct low-level flood waters away from structures. Additionally, the County's Celery Fields Stormwater facility provides some flood reduction by attenuating runoff from land upstream.

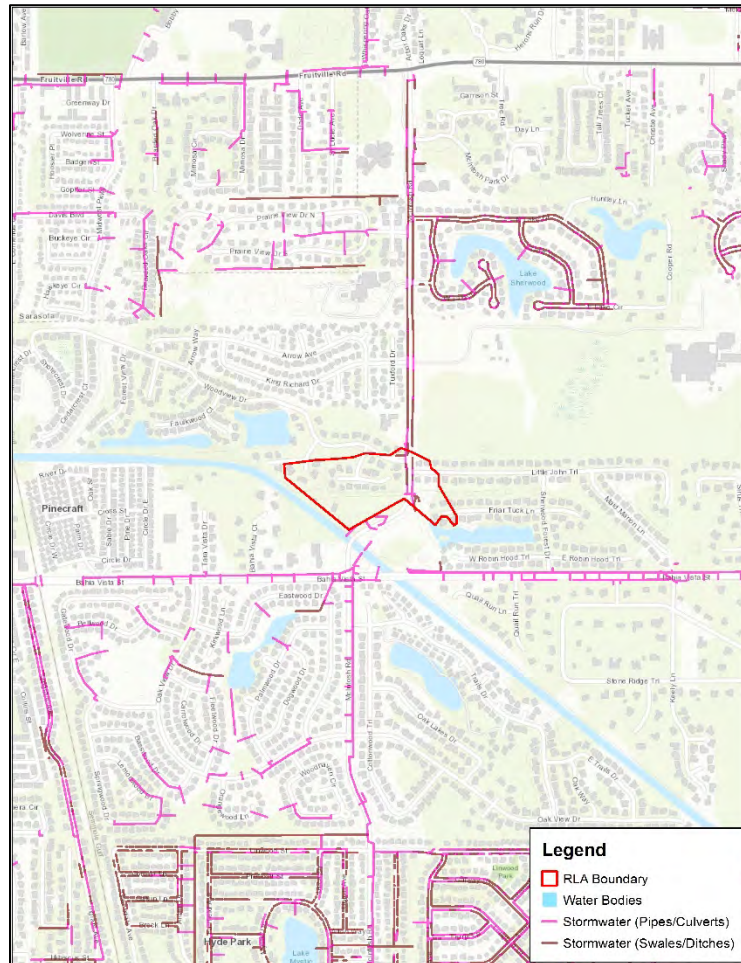


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades and exposure to flooding from overtopping of the banks of Phillippi Creek, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 37 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
37 – PHC 05 Phillippi Creek	3	0	31	X, Shaded X, AE (SFHA) AE (CFHA)	McIntosh Rd Brackenwood Ct Woodview Dr Little John Trl Friar Tuck Ln Drakeswood Ct	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 37: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	31					
Repetitive Loss (RL) Properties	3					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	17					
Total insurance claims (in thousands)	\$54.5					
Average insurance claim (in thousands)	\$3.03					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 38-PHC06 Phillippi Creek

Repetitive Loss Area (RLA) Overview

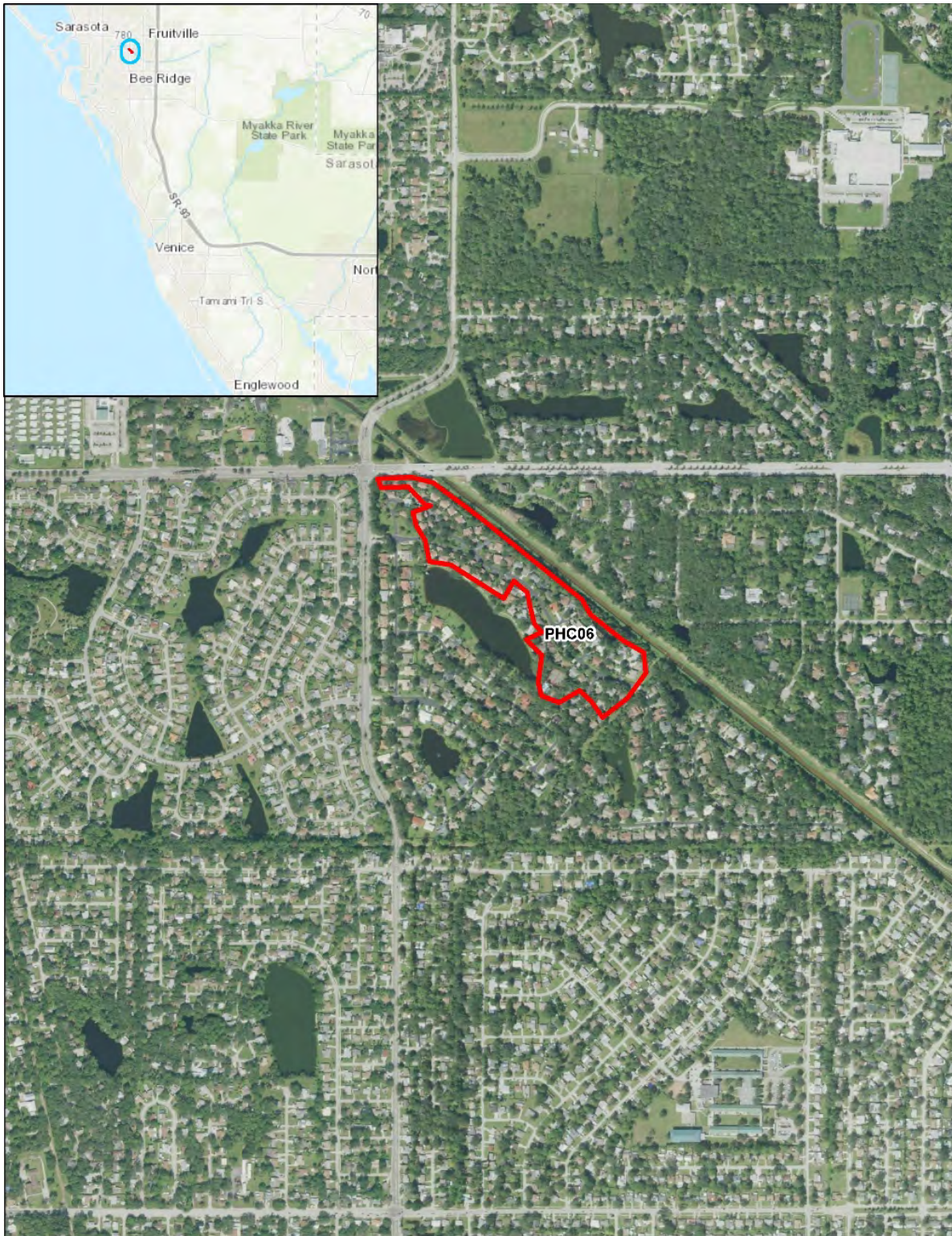


Figure 1: PHC06 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 26.27 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Riverine flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the south western shoreline of Phillippi Creek south of the McIntosh St bridge crossing and primarily consists of both single and multi-family residential subdivisions. The structures are subject to flooding from overtopping of the banks of the river, as well as possible stormwater system backup, particularly during high rainfall events. This area has relatively higher elevations with a flood zone combination of Floodway, SFHA Zone AE, X and CFHA Zone AE. The waterfront properties located on the creek are subject to flooding from overtopping of the banks of the creek, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This area of Phillippi Creek is not tidally influenced by Roberts Bay but will still experience flood conditions under high rainfall events. Most of the structures in this RLA were constructed in the 1980s, with primarily elevated structures. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Concrete Block Masonry Structure

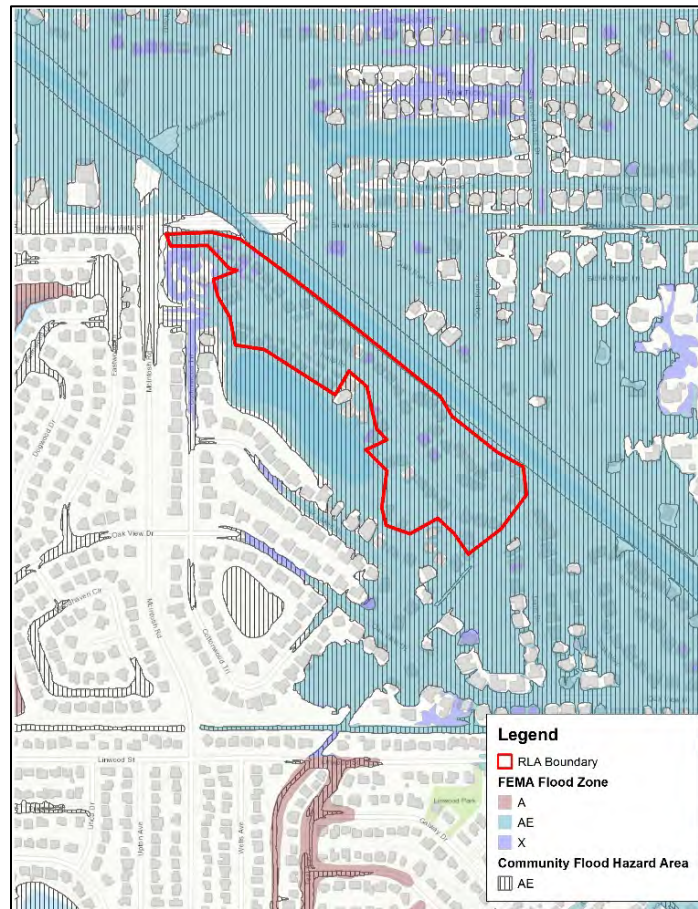


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
78	Total Structures in Repetitive Loss Area
3	Total Repetitive Loss Structures in this Area
42	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
3	Unmitigated RL & SRL Properties
47	Insurance Claims (since 1978)
\$201.2	Total Insurance Claims (in thousands)
\$4.11	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were seven (7) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Trails Drive	Resident with less than 10 years residency, pilings, reports no flooding in home, cited overbank flooding from nearby waterways.
Trails Drive	Resident with 10-19 years residency, elevated home with crawlspace, homeowner reported flooding in yard only, regraded and cleared to maintain exiting drainage.
Trails Drive	Resident with 10-19 years residency, slab on grade, reports no flooding on property.
Trails Drive	Resident with less than 10 years residency, elevated home with crawlspace, homeowner reported no flooding on property.
Trails Drive	Resident with less than 10 years residency, concrete slab on grade, homeowner reported no flooding on property, cleared debris, shrubs, and overgrowth to help combat flooding.
Trails Drive	Resident with less than 10 years residency, elevated home with crawlspace, reported no flooding on property.
Trails Drive	Resident with less than 10 years residency, slab on grade, reported no flooding on property.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the forty-seven (47) individual claims in the RLA, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been twenty-four (24) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	23
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	20
September 14, 2001	Tropical Storm Gabrielle	5-10	3
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
16%	Slab on grade
83%	Elevated slab on stem wall with fill
1%	Elevated on post/piles or walls
Composition	Frame Type
65%	Wood frame
32%	Concrete block/masonry
3%	Manufactured/Mobile home
Composition	Number of Stories
71%	Single story
29%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE
12.8%	Within Zone Shaded X
2.6%	Within Zone X
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

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Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events particularly during periods of prolonged rainfall and repeated storms. Review of the stormwater system and drainage patterns indicate that properties in close proximity to the creek banks are particularly susceptible to flooding, since the lots are relatively low in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

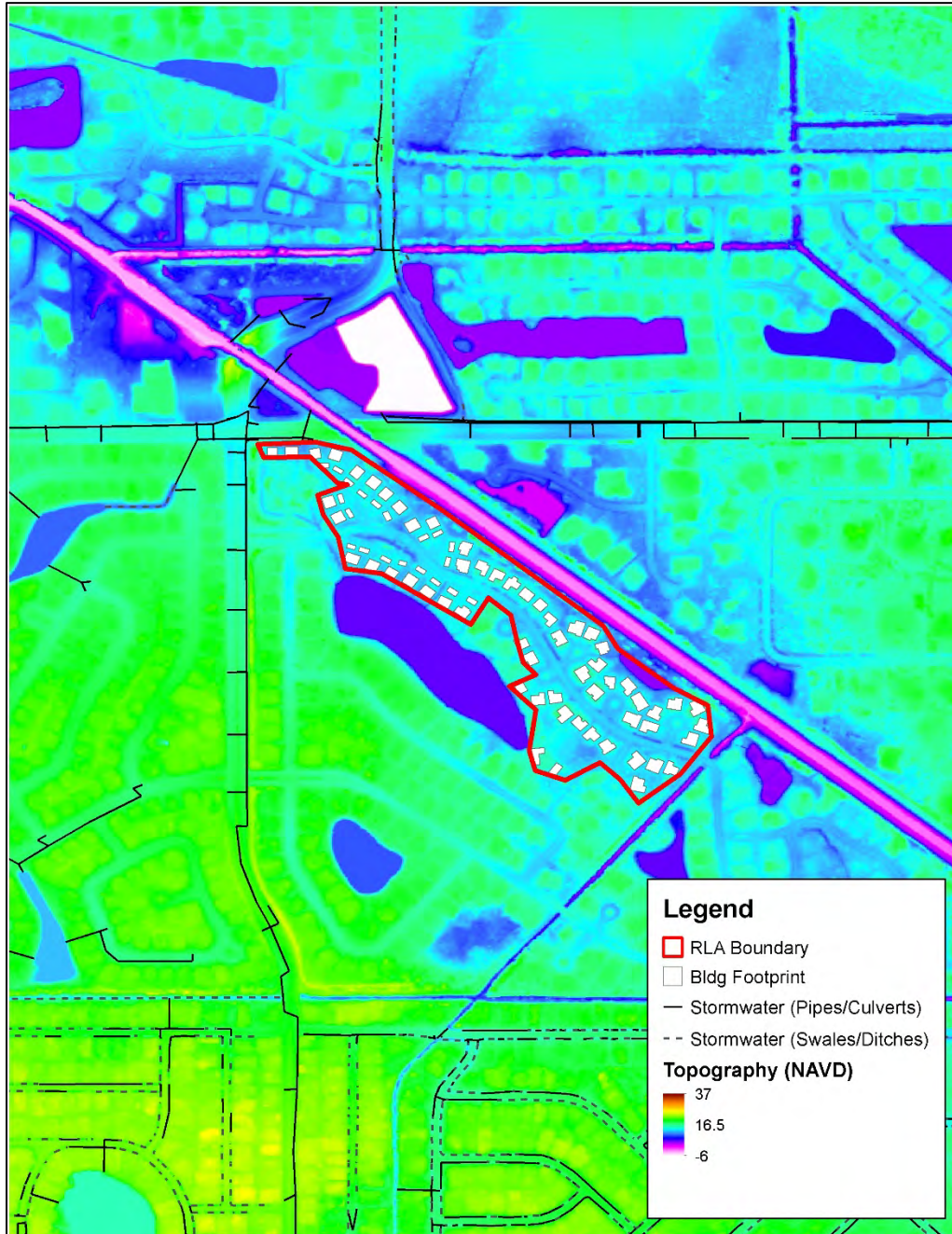


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system in this RLA is limited to swales and pipes along McIntosh St. with one (1) outfall control structure discharging to Phillippi Creek, maintained by the County. During the field visit it was noted that “The Lakes” private subdivision does have a retention pond to contain the stormwater within the subdivision. It is unlikely that expansion of the stormwater system in this area will mitigate the flooding concerns for this RLA.

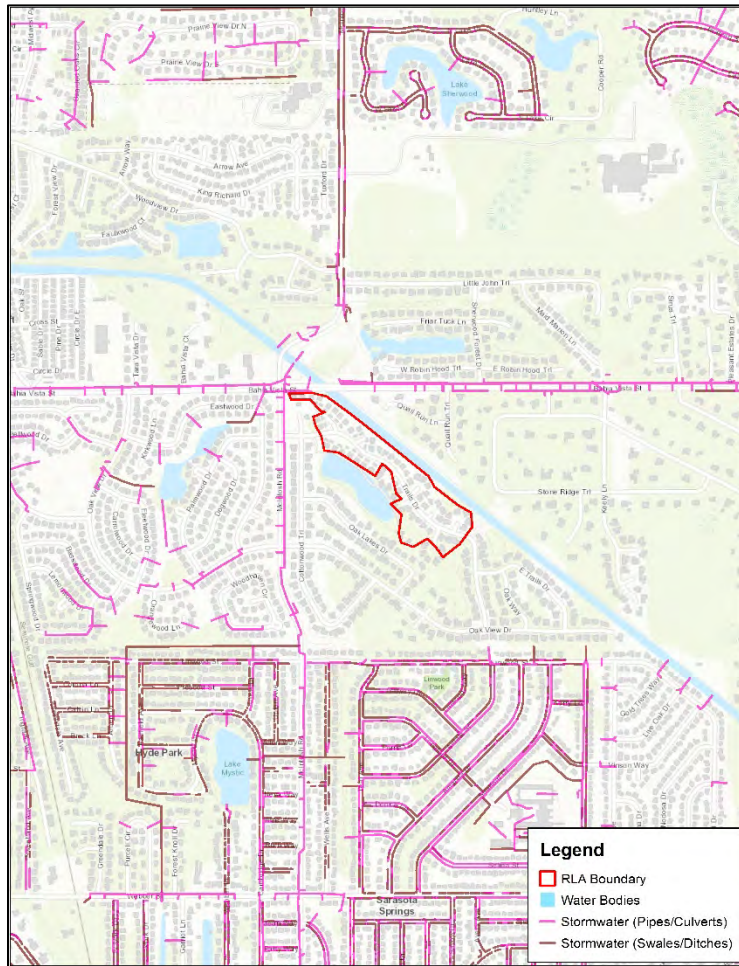


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The exposure to flooding from overtopping of the banks of Phillippi Creek indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 38 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
38 – PHC 06 Phillippi Creek	3	0	78	X, Shaded X, AE (SFHA), AE (CFHA), Floodway	Cottonwood Trl Suwanee Ct Trails Dr	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 38: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	78					
Repetitive Loss (RL) Properties	3					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	47					
Total insurance claims (in thousands)	\$201.2					
Average insurance claim (in thousands)	\$4.11					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 39-PHC07 Phillippi Creek

Repetitive Loss Area (RLA) Overview

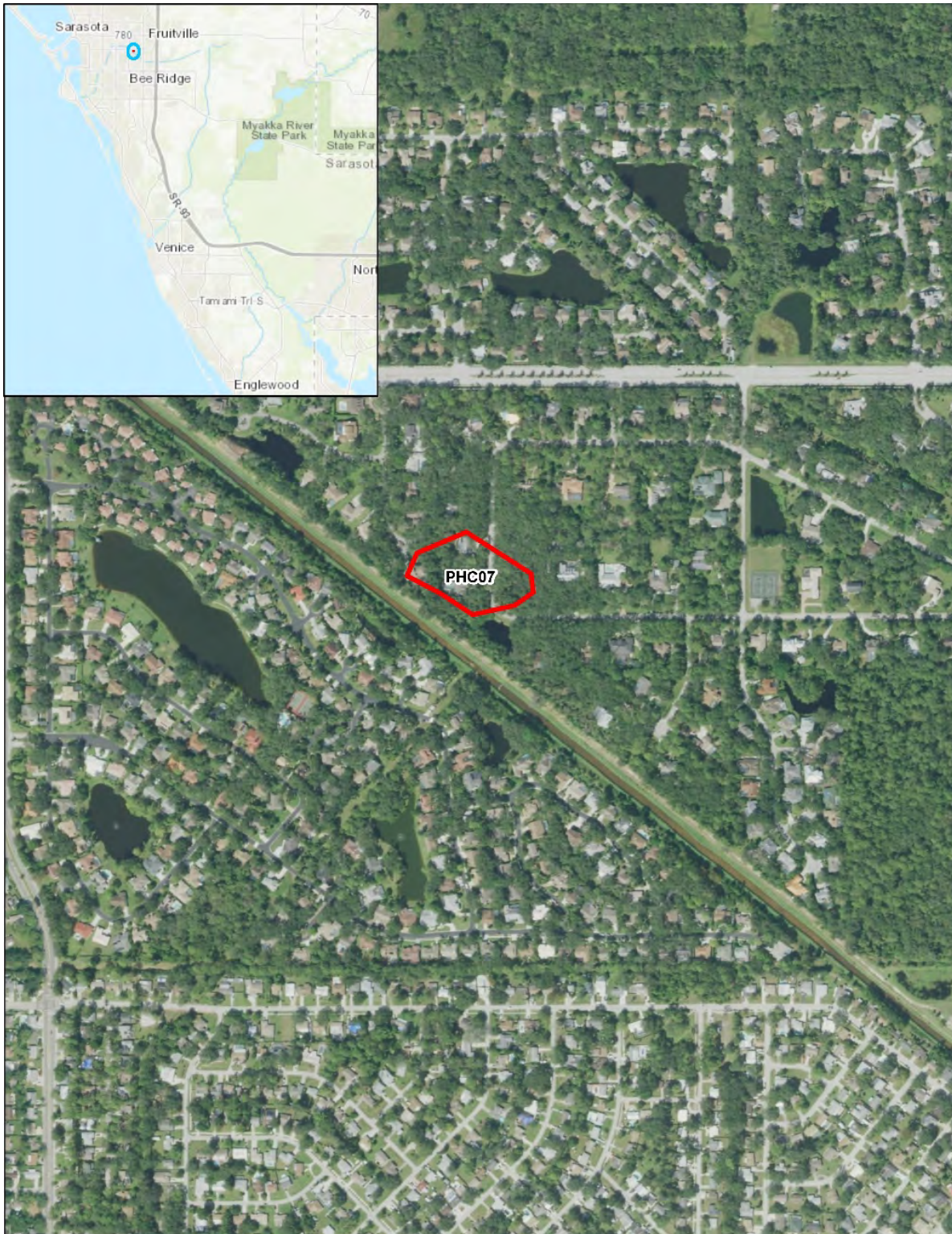


Figure 1: PHC07 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 3.91 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Riverine flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the northern shoreline of Phillippi Creek south of Bahia Vista St. This area has relatively higher elevations with a combination of SFHA Zone AE, X and CFHA Zone AE. The waterfront properties located on the creek are subject to flooding from overtopping of the banks of the creek, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This area of Phillippi Creek is not tidally influenced by Roberts Bay but will still experience flood conditions under high rainfall events. Most of the structures in this RLA were constructed during the 1980s, with primarily elevated structures. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Wood Frame Structure

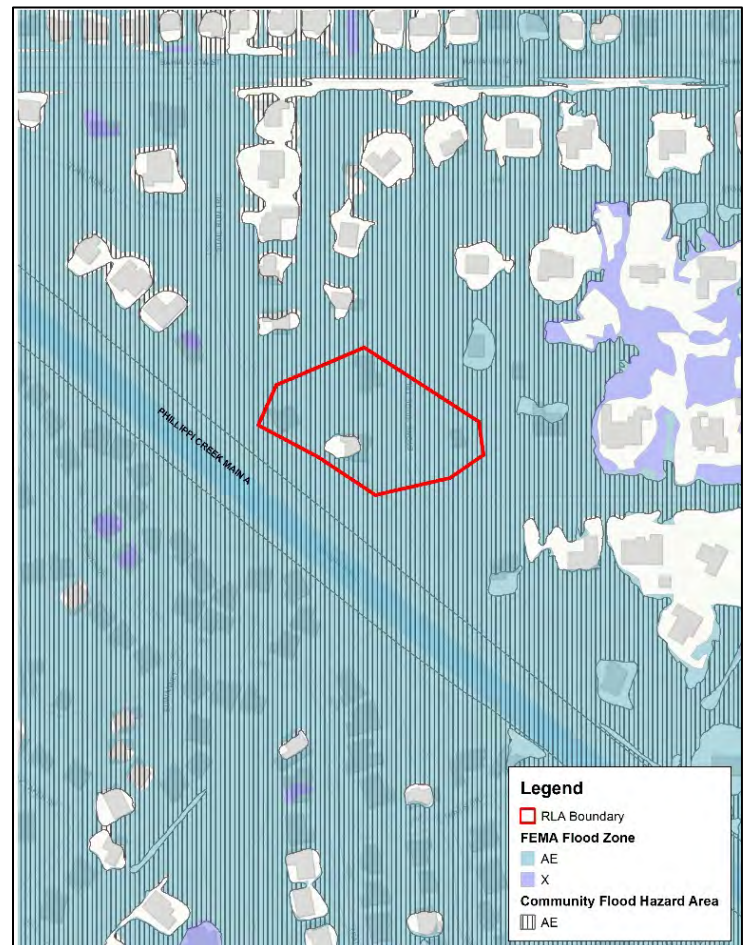


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
4	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
3	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
5	Insurance Claims (since 1978)
\$19.1	Total Insurance Claims (in thousands)
\$3.82	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Quail Run Trl Stone Ridge Trl	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for four (4) of the five (5) individual claims in the RLA, of which four (4) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	3
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
0%	Slab on grade
100%	Elevated slab on stem wall with fill
Composition	Frame Type
100%	Wood frame
Composition	Number of Stories
0%	Single story
75%	Two story
25%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE
25%	Within SFHA Zone X
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Elevated slab on stem wall with fill Raised Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events particularly during periods of prolonged rainfall and repeated storms. Review of the stormwater system and drainage patterns indicate that properties in close proximity to the creek banks are particularly susceptible to flooding, since the lots are relatively low in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

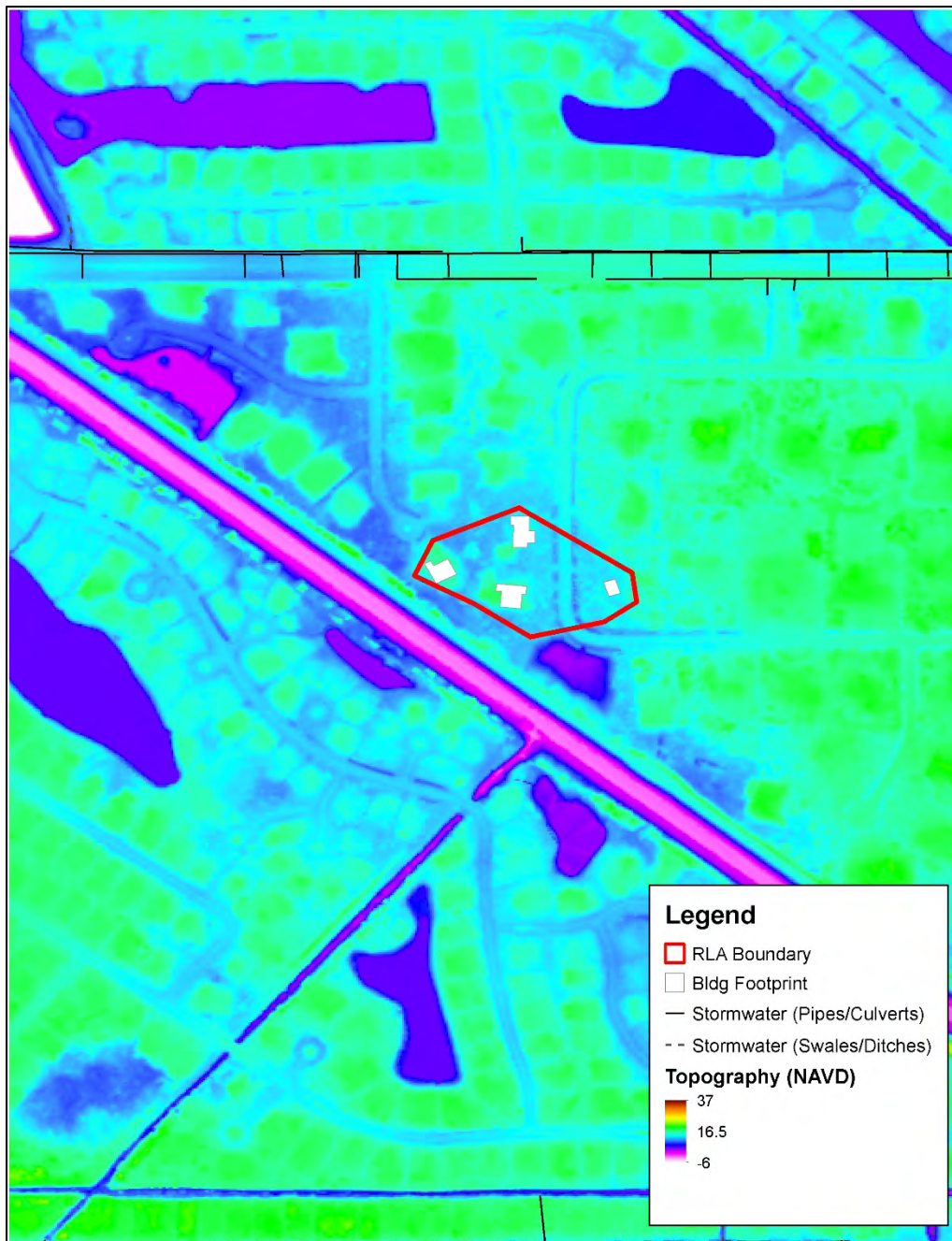


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no County maintained stormwater utility infrastructure identified within this RLA. However, during the field visit it was noted that “Hidden Oaks” private subdivision does have a collection of retention ponds to contain the stormwater within the subdivision. It is unlikely that expansion of the stormwater system in this area will mitigate the flooding concerns for this RLA.

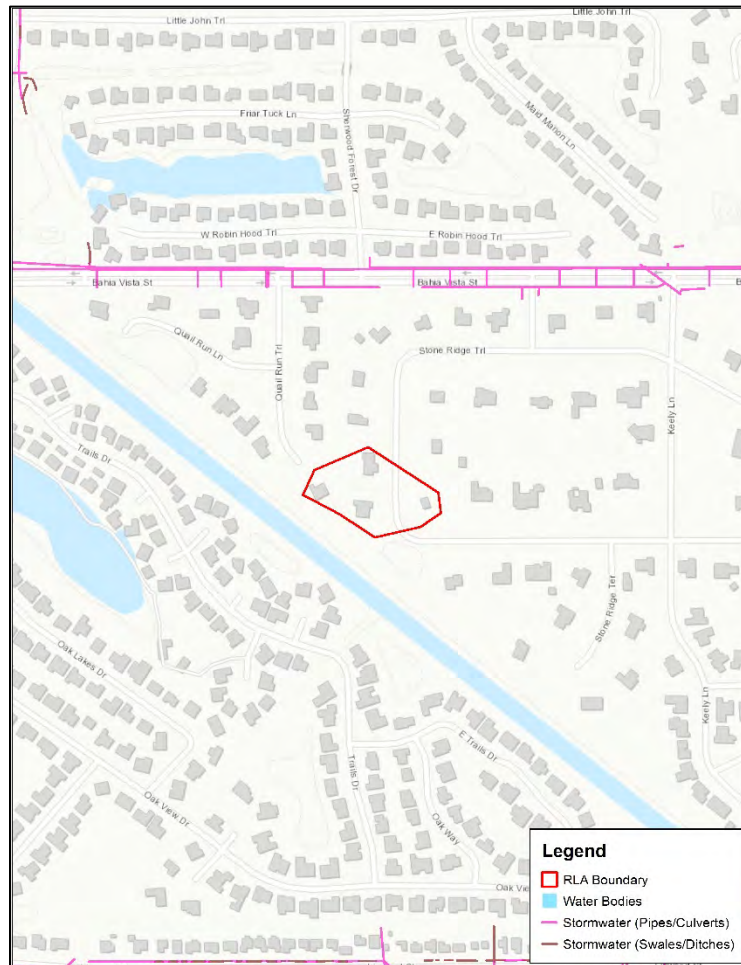


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The exposure to flooding from overtopping of the banks of Phillippi Creek indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 39 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in the RLA are indicated in Table 6, in order or priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
39 – PHC 07 Phillippi Creek	1	0	4	X, AE (SFHA), AE (CFHA), Floodway	Quail Run Trl Stone Ridge Trl	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 39: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	4					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	5					
Total insurance claims (in thousands)	\$19.1					
Average insurance claim (in thousands)	\$3.82					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 40-PHC08 Phillippi Creek

Repetitive Loss Area (RLA) Overview

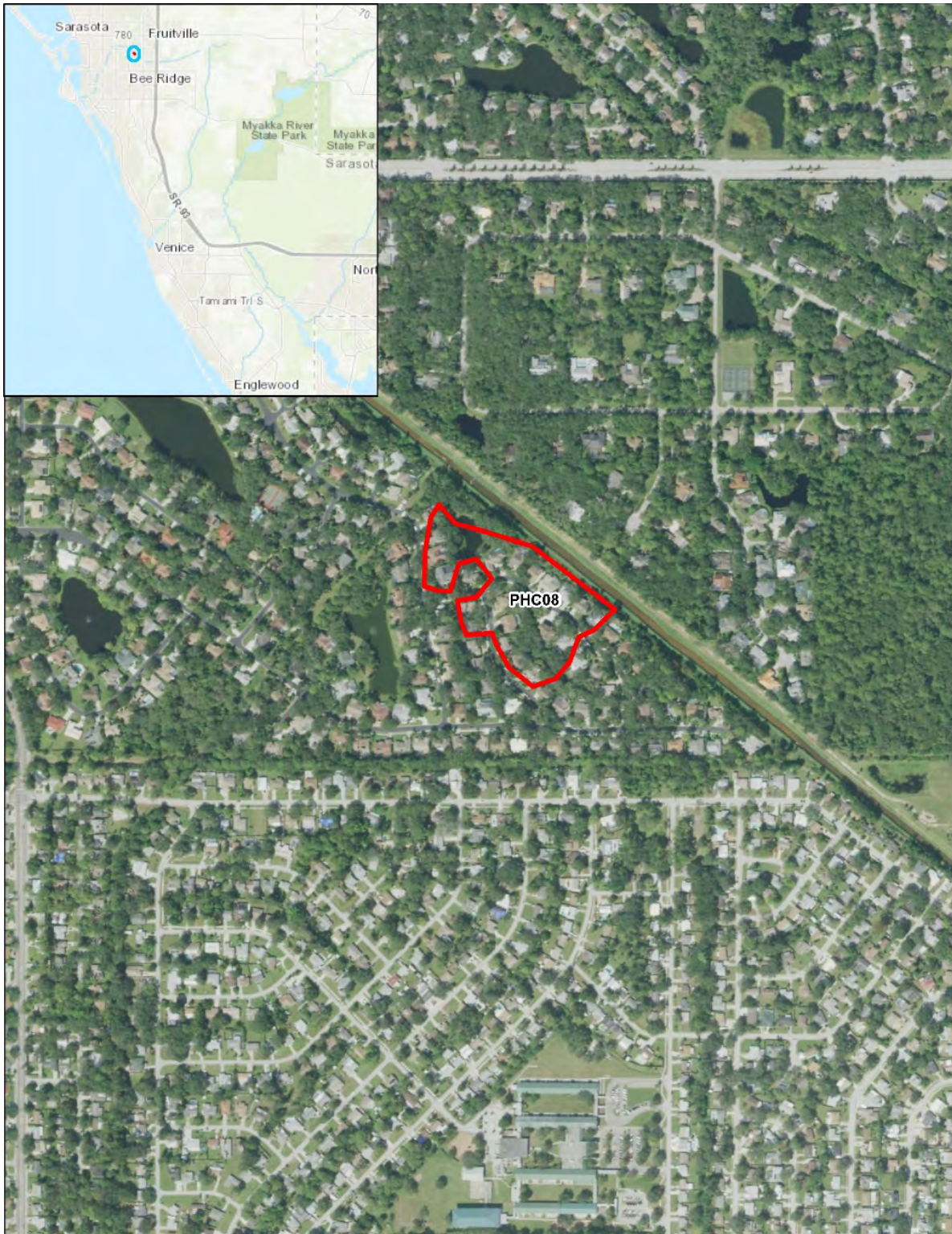


Figure 1: PHC08 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 9.90 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Riverine flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the western shoreline of Phillippi Creek along E. Trail Drive, within a residential subdivision. The properties are located within SFHA Zone AE, and a number of properties are also located within the Floodway. The median year built for the structures is 1988, with elevated stem wall foundations accounting for 89% of the structures, and 11% being elevated on piles/walls to meet the Base Flood Elevation (BFE) of 17 feet NAVD. The structures are subject to flooding from overtopping of the river banks and the isolated lake in the neighborhood, as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This location on the creek is approximately 3.8 miles east of Sarasota Bay and has tidal, backwater, and storm surge contributing to flooding conditions. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Wood Frame Structure

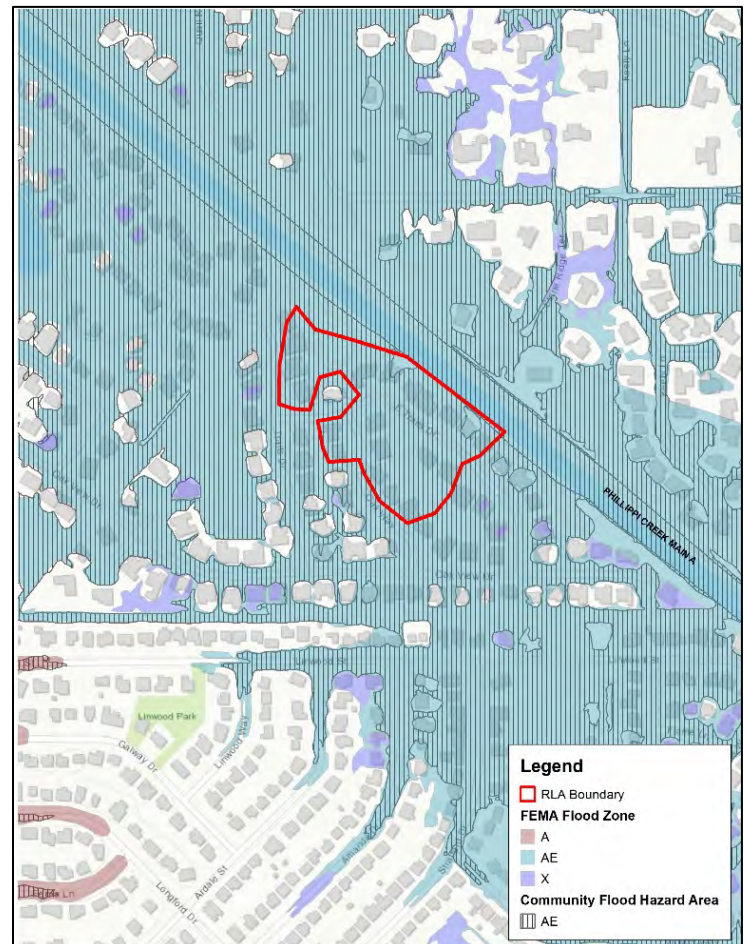


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
19	Total Structures in Repetitive Loss Area
2	Total RL and SRLs Structures in this Area
18	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
2	Unmitigated RL & SRL Properties
31	Insurance Claims (since 1978)
\$61.46	Total Insurance Claims (in thousands)
\$1.98	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Oak Way	Resident with 10-19 years residency, elevated home with crawlspace, reported flooding in yard only with storms, homeowner has relocated utilizes/contents to higher elevation, installed flood vents.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for twenty-five (25) of the thirty-one (31) individual claims in the RLA, all of which correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been twenty (20) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	11
July 18, 1995	Un-Named Storm	9-11	5
November 14, 1997	Un-Named Storm	10	11
September 14, 2001	Tropical Storm Gabrielle	5-10	4
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
0%	Slab on grade
89%	Elevated slab on stem wall with fill
11%	Elevated on post/piles or walls
Composition	Frame Type
29%	Wood frame
71%	Concrete block/masonry
Composition	Number of Stories
37%	Single story
63%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms. This RLA is characterized by low-lying areas. The properties in close proximity to the creek banks are especially susceptible to flooding, since the lots are relatively low in elevation and not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

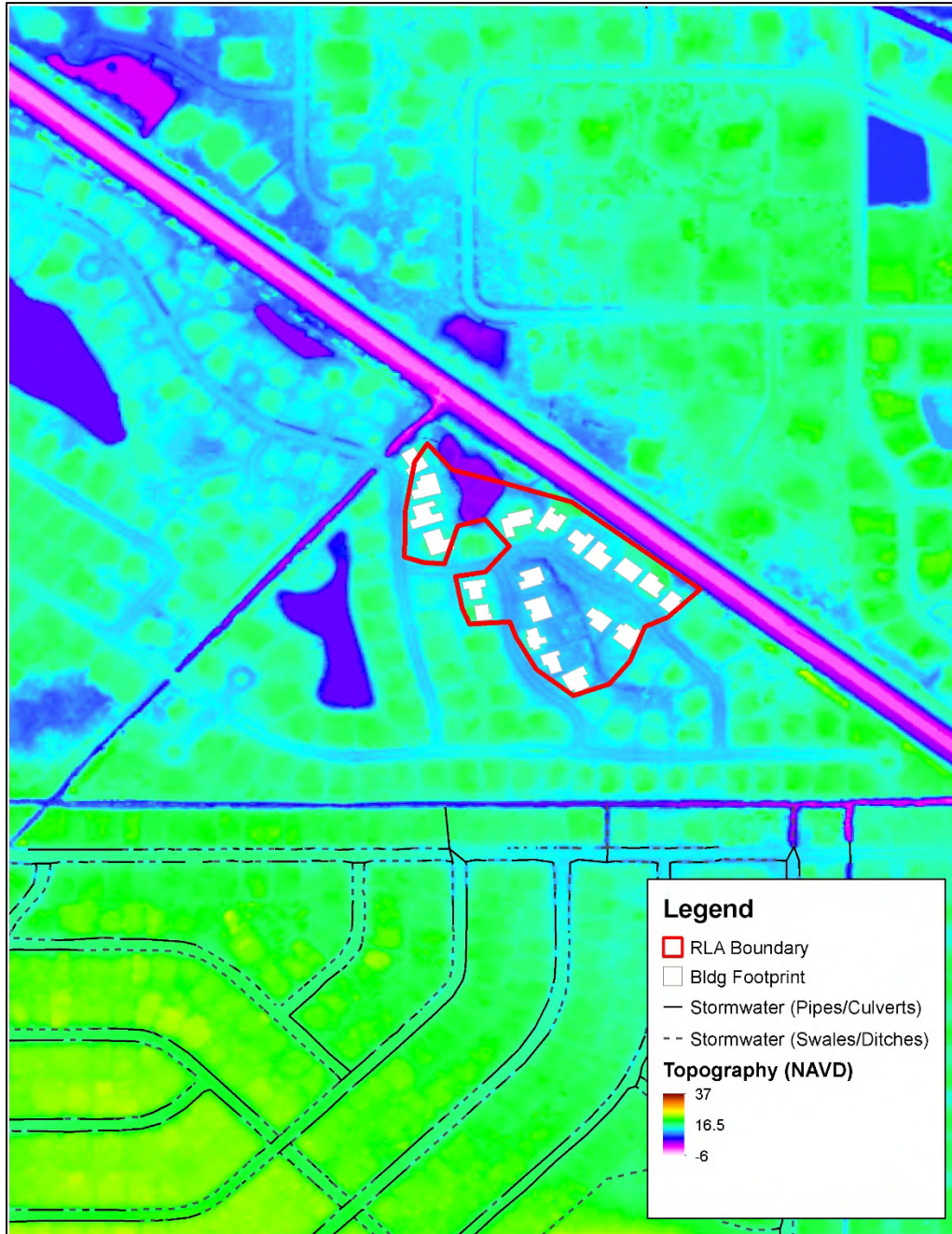


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There was no County maintained stormwater utility infrastructure identified within this RLA. However, during the field visit it was noted that “The Lakes” private subdivision does have a collection of retention ponds to contain the stormwater system within the subdivision. It is unlikely that expansion of the stormwater system in this area will mitigate the flooding concerns for this RLA.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The exposure to flooding from overtopping of the banks of Phillippi Creek, and the Finished Floor Elevation (FFE) for the structures estimated to be at 1 foot below the Base Flood Elevation (BFE) of 17 feet NAVD, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 40 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
40 – PHC 08 Phillippi Creek	2	0	19	X, AE (SFHA) AE (CFHA) Floodway	Oak Way Trails Dr East Trails Dr	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 40: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	19					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	31					
Total insurance claims (in thousands)	\$61.4					
Average insurance claim (in thousands)	\$1.98					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 41-PHC09 Phillippi Creek

Repetitive Loss Area (RLA) Overview

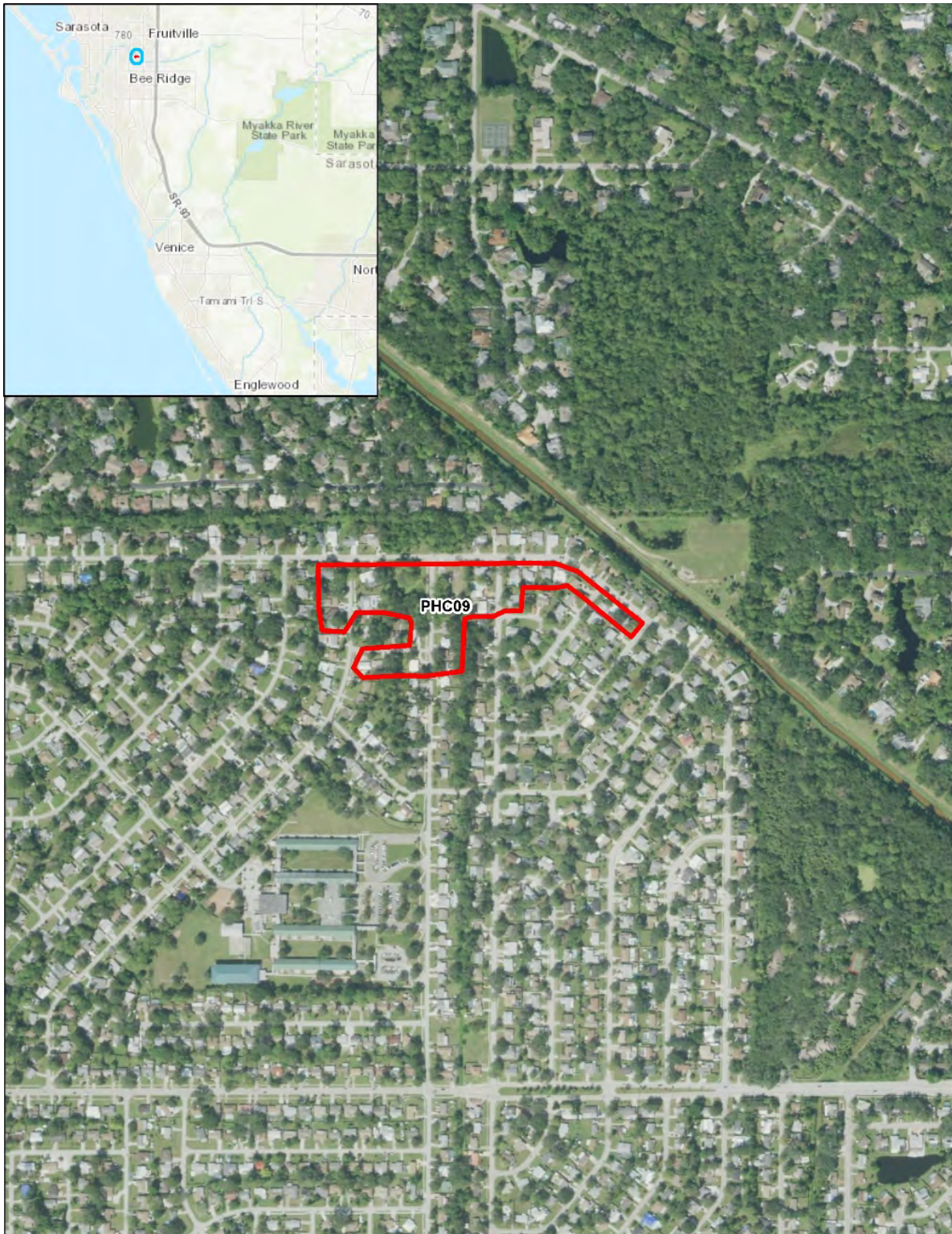


Figure 1: PHC09 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 11.19 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Riverine flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located inland along the western shoreline of Phillippi Creek in a primarily residential neighborhood. The structures are subject to flooding from overtopping of the riverbanks as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. The structures in this RLA are located within SFHA Zone AE and CFHA Zone AE. This area of Phillippi Creek is not tidally influenced by Roberts Bay but will experience flooding conditions under high rainfall events. The structures were primarily constructed between the 1950s and 1970s, with 96% of the structures being pre-FIRM slab-on-grade foundations, while heavy vegetation prevented an assessment of the foundation conditions for the others. This RLA has relatively higher-grade elevations but the structures are not elevated and are lower than the Base Flood Elevation (BFE) of 17 feet NAVD. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Concrete Masonry Structure

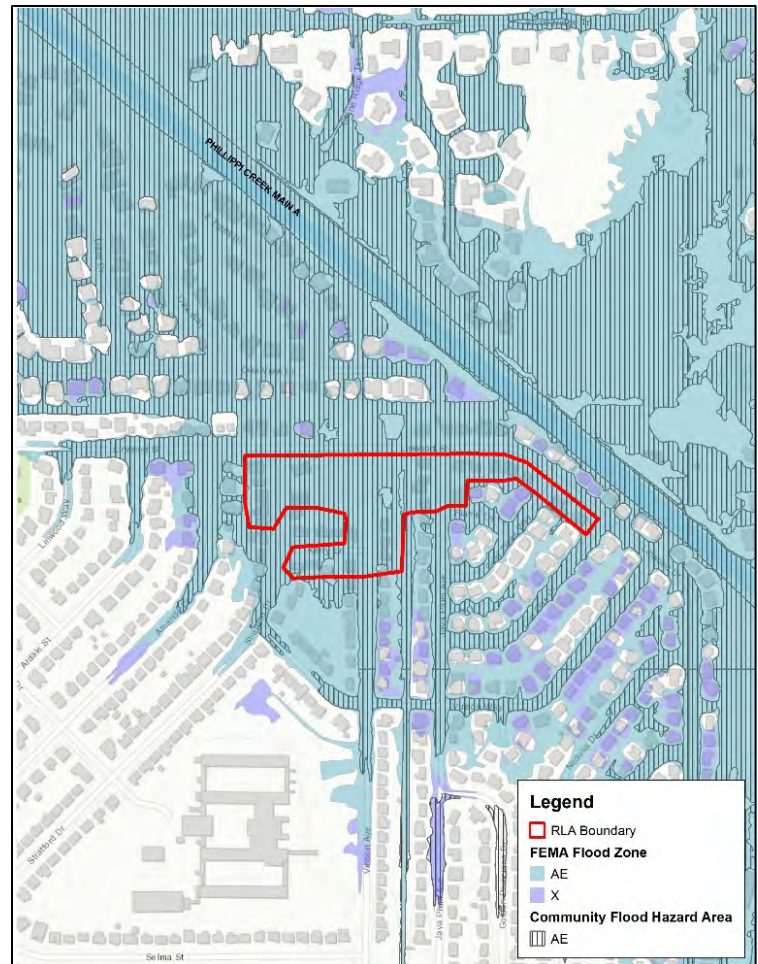


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
26	Total Structures in Repetitive Loss Area
2	Total RL and SRL Structures in this Area
18	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
2	Unmitigated RL & SRL Properties
17	Insurance Claims (since 1978)
\$188.7	Total Insurance Claims (in thousands)
\$11.1	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Linwood Street	Resident with 10-19 years residency, slab on grade, reports 1-2 feet of flooding in home for one day during large storm events, cited overbank flooding from nearby waterways, regraded yard to keep water away from structure, uses sandbags during storm events.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for five (5) of the seventeen (17) individual claims, of which sixteen (16) correspond to the Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), listed in Table 3. Records indicate that there have been three (3) NFIP insurance claims since 1993 for any structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	13
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	2
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
96%	Slab on grade
4%	Undetermined due to vegetation/access
Composition	Frame Type
100%	Concrete block/masonry
Composition	Number of Stories
92%	Single story
8%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events particularly during periods of prolonged rainfall and repeated storms. The properties in close proximity to the creek banks are particularly susceptible to flooding, since the older structures are not significantly elevated above existing grade. The cross-sections of the channel indicate differing elevations along the creek. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

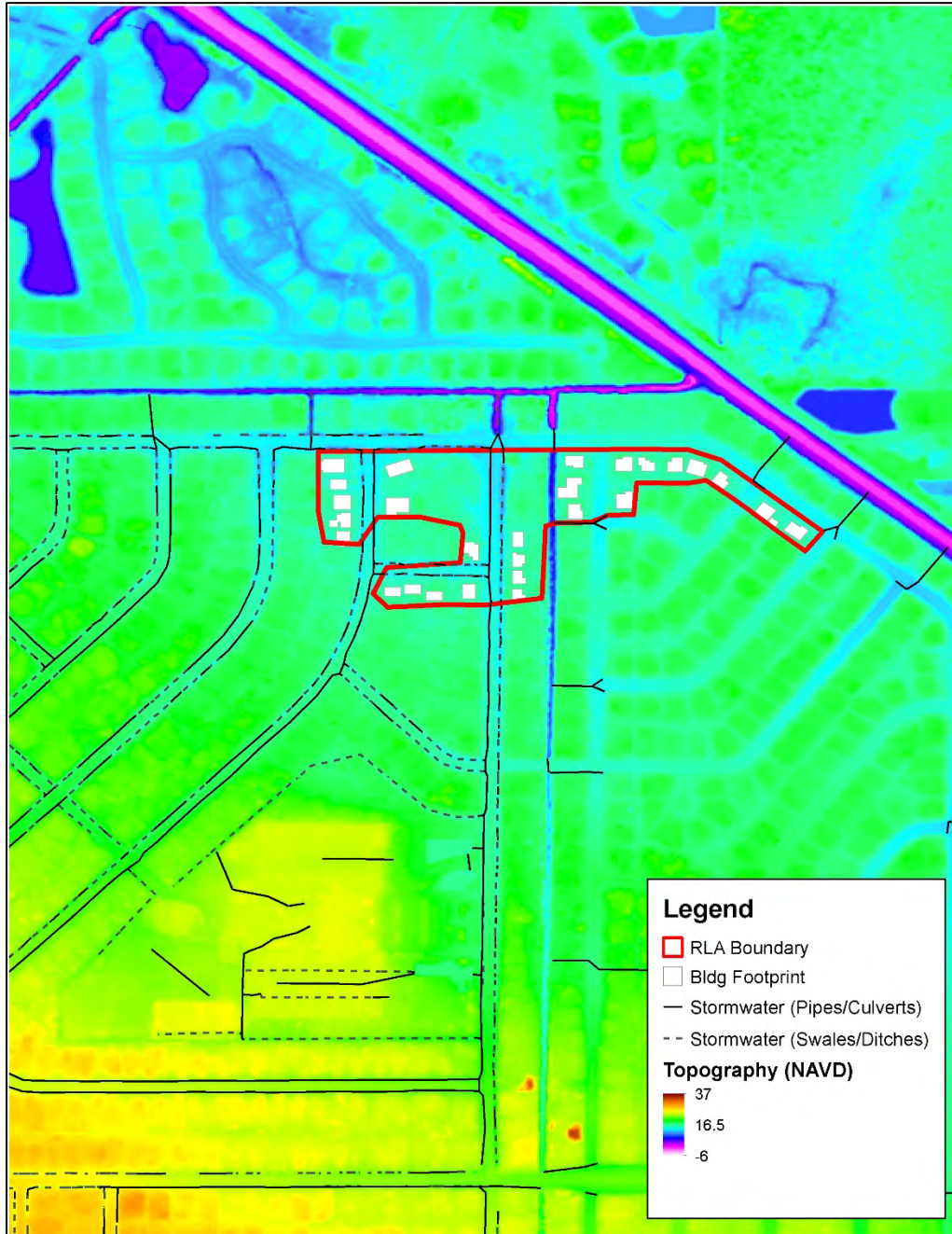


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system in this RLA includes stormwater pipes and swales with six (6) outfall structures discharging to either a collection ditch or Phillippi Creek as part of the County's maintained stormwater infrastructure. Each of the roads are bounded by F-curb to collect and navigate the stormwater to the discharge points. The properties in this RLA are all slab-on-grade, but only an average of 0.2 feet below the BFE of 17 feet NAVD; therefore expansion of the stormwater infrastructure in this area will not provide mitigation for these structures.

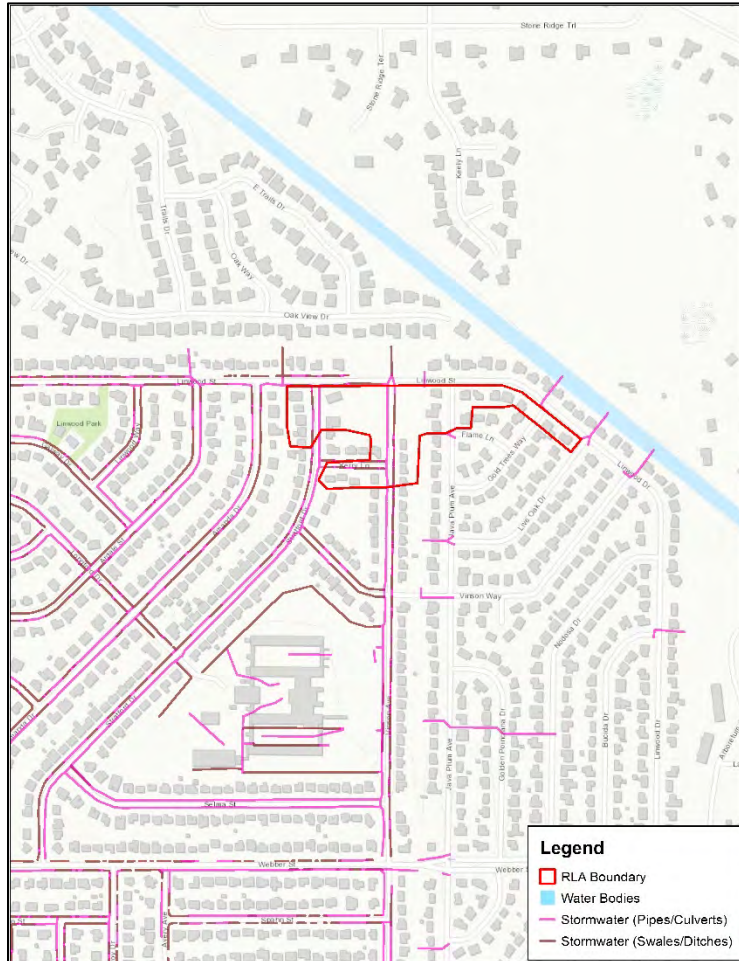


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structure within this area were evaluated. The exposure to flooding from overtopping of the banks of Phillippi Creek, and the Finished Floor Elevation (FFE) for the structures estimated to be at 0.2 feet below the 17 feet NAVD Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 41 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
41 – PHC 09 Phillippi Creek	2	0	26	X, AE (SFHA) AE (CFHA) Floodway	Stratford Dr Vinson Ave Java Plum Ave Linwood Dr Kerry Ln Linwood St	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 41: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	26					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	17					
Total insurance claims (in thousands)	\$188.7					
Average insurance claim (in thousands)	\$11.1					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 42-PHC10 Phillippi Creek

Repetitive Loss Area (RLA) Overview

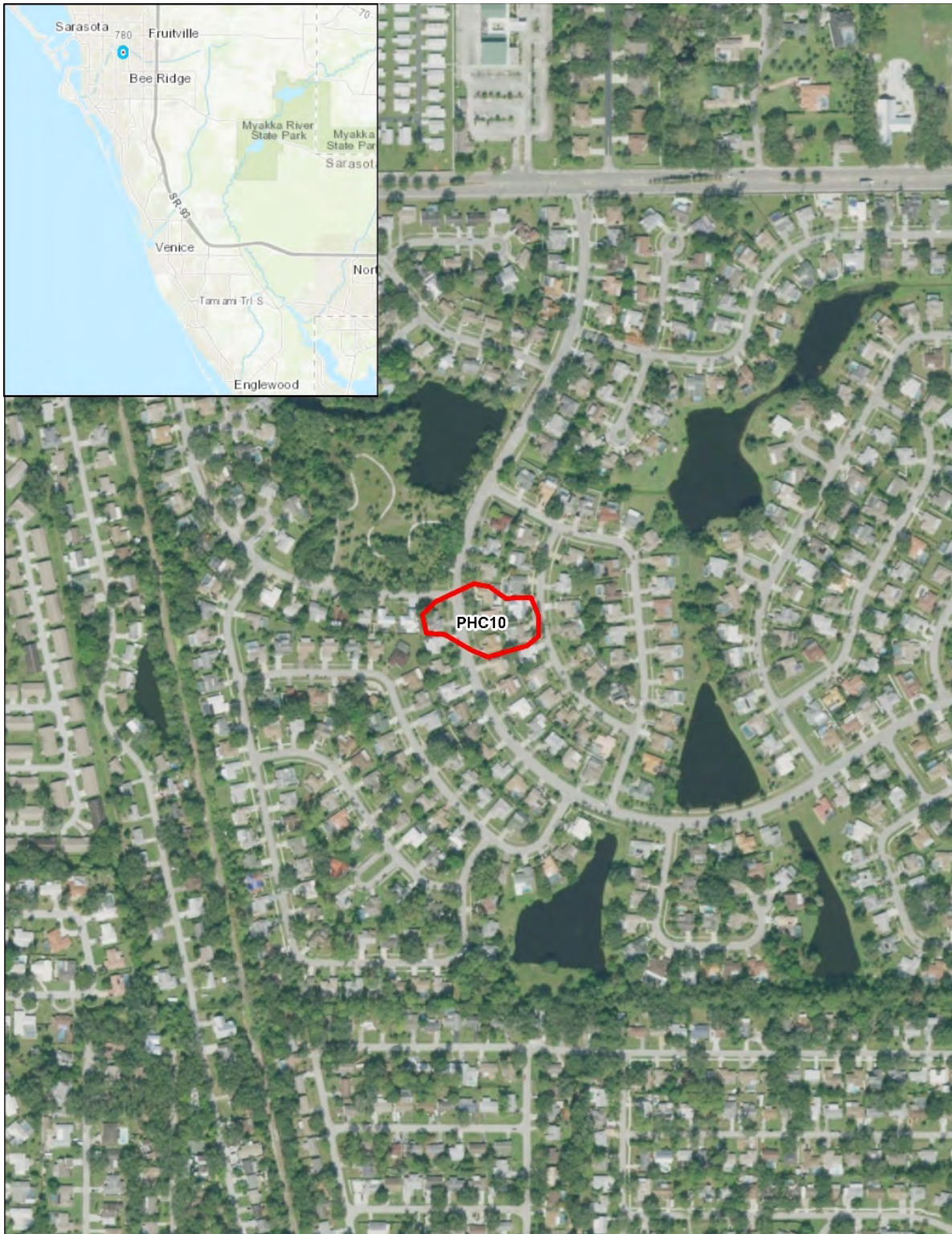


Figure 1: PHC10 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 1.81 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Riverine flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located inland, west of Phillippi Creek, south of Bahia Vista St., and west of McIntosh St., in a primarily residential neighborhood. The structures are subject to flooding from overtopping of the banks of the river, as well as possible stormwater system backup from connecting canals, particularly during high rainfall events. This area has relatively higher elevations averaging around 19 feet NAVD. This area of Phillippi Creek is not tidally influenced by Roberts Bay, but will still experience flood conditions under high rainfall events. The structures in this RLA are located within Zone X and were all constructed during the 1970s with slab-on-grade foundations. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

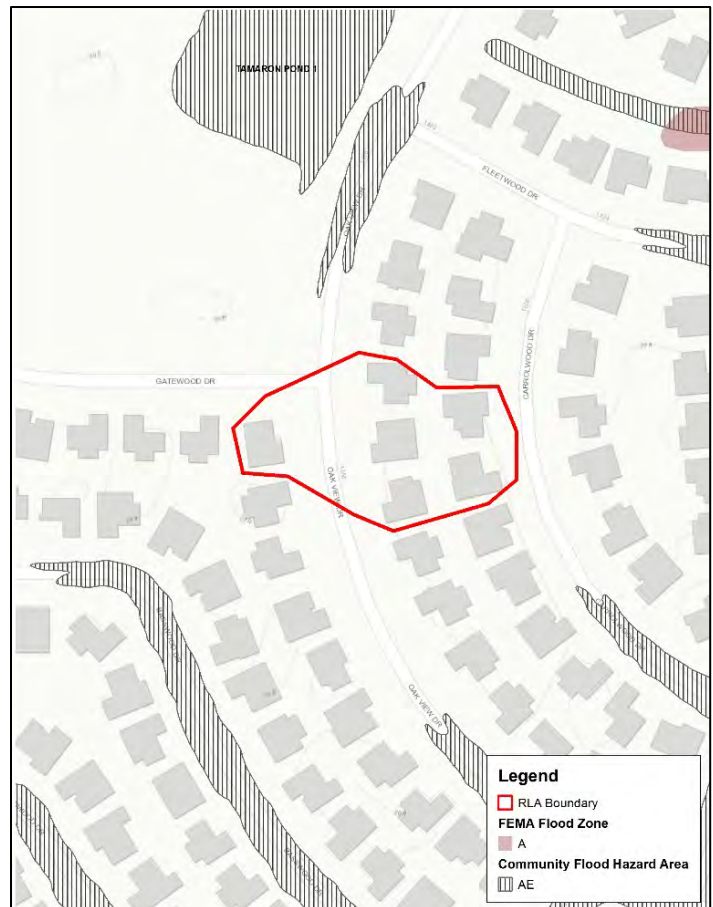


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
6	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
2	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
2	Unmitigated RL & SRL Properties
2	Insurance Claims (since 1978)
\$8.01	Total Insurance Claims (in thousands)
\$4	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Oak View Dr Carrollwood Dr	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the two (2) individual claims in the RLA, of which none correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there been no NFIP insurance claims since 1993 for structure within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
100%	Wood frame
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
100%	Within Zone X

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events particularly during periods of prolonged rainfall and repeated storms. The properties in close proximity to the creek banks are particularly susceptible to flooding, since the older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

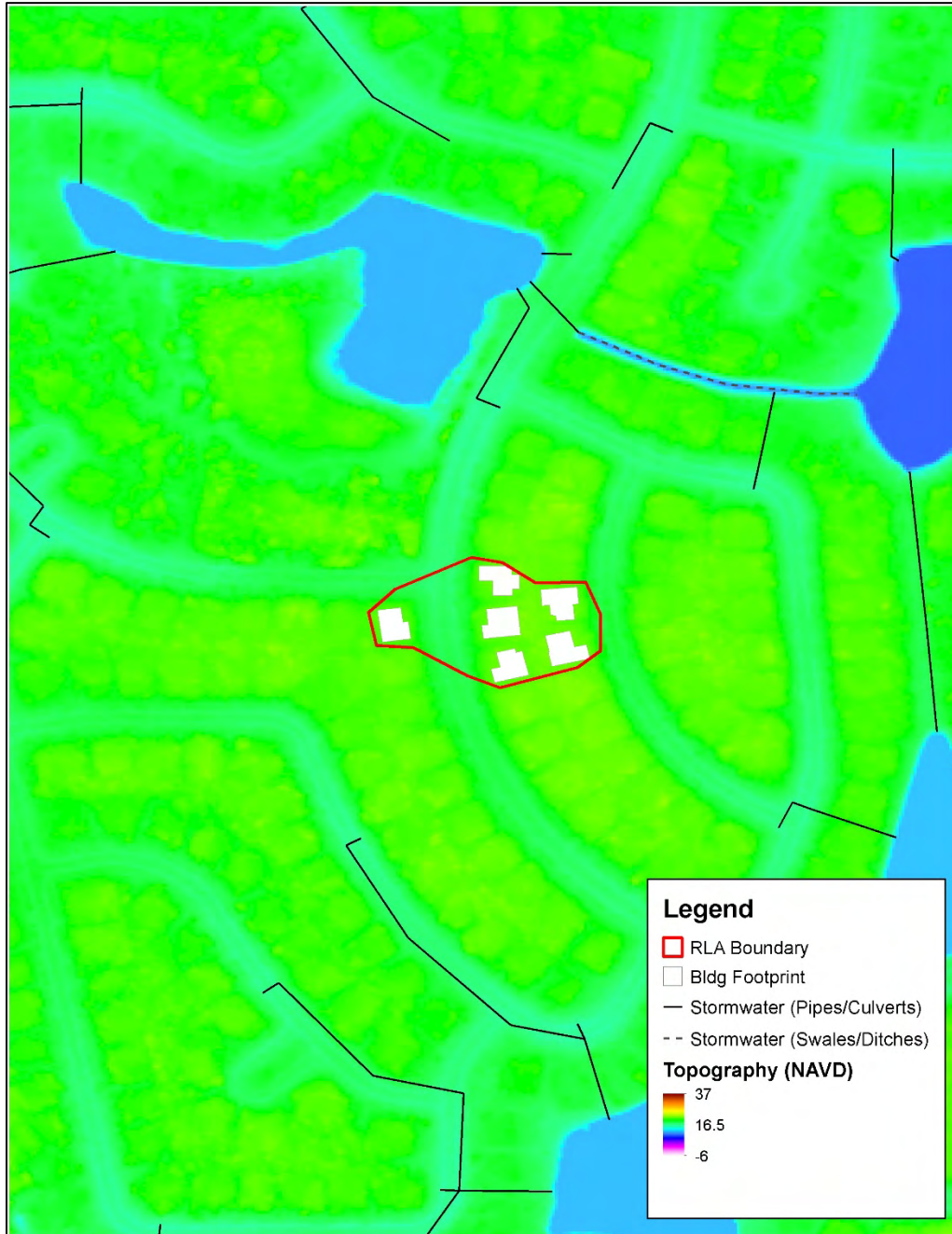


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system in this RLA includes F-curbs on each of the roads to collect and navigate the stormwater to pipes and swales discharging to retention ponds as part of the County's maintained stormwater infrastructure. The properties in this RLA are all slab-on-grade with an average FFE of 19.9 feet NAVD. This RLA is located outside of the high risk SFHA. Expansion of the stormwater infrastructure alone in this area will not provide mitigation for these structures.

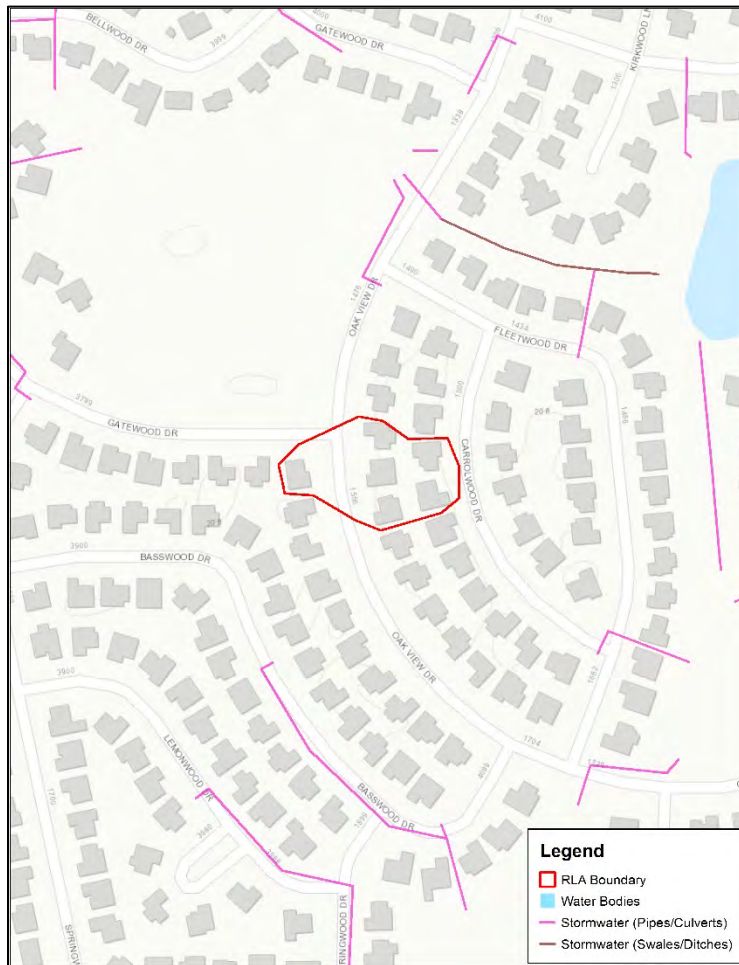


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The exposure to flooding from overtopping of the banks of Phillippi Creek indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 42 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
42 – PHC 10 Phillippi Creek	2	0	6	X	Oak View Dr Carrollwood Dr	1, 3, 2

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 42: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	6					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	2					
Total insurance claims (in thousands)	\$8.01					
Average insurance claim (in thousands)	\$4					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 43-PHC11 Phillippi Creek

Repetitive Loss Area (RLA) Overview

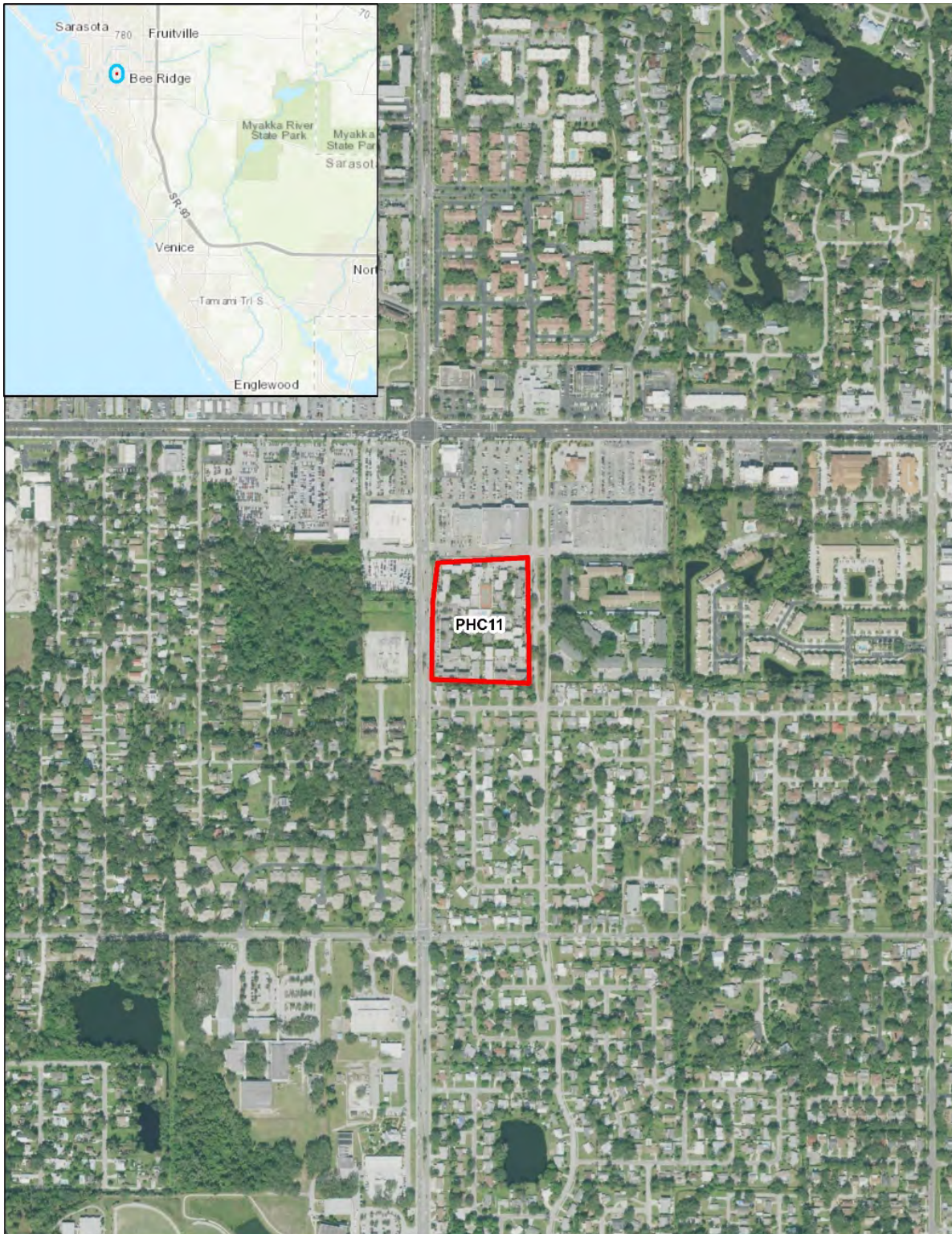


Figure 1: PHC11 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 9.35 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Riverine flooding influences
- Stormwater backups

Problem Statement

This Repetitive Loss Area (RLA) is located on Beneva Rd., south of Bee Ridge Rd. and is within a multi-family condominium subdivision. The two-story buildings were constructed in 1975 with slab-on-grade foundations. The RLA, located within Zone X and CFHA Zone AE, is southwest of Phillippi Creek, which poses a threat to stormwater back up, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Condominium Structures

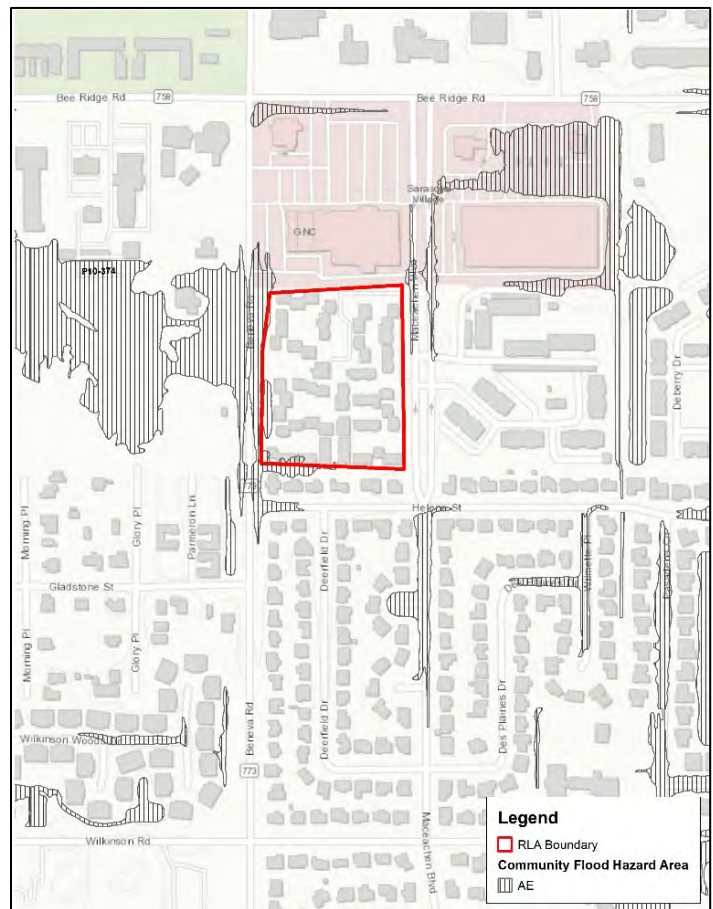


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
25	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
1	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
2	Insurance Claims (since 1978)
\$52.2	Total Insurance Claims (in thousands)
\$26.15	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Beneva Rd	Resident with less than 10 years residency, slab on grade, reported flooding in yard only caused by no drainage in parking lot.
Beneva Rd	Resident with less than 10 years residency, slab on grade, reported flooding in yard only caused by stormwater system backup, homeowner relocated utilities/contents to avoid flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the two (2) individual claims in the RLA, of which none correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been no NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
100%	Concrete block/masonry
Composition	Number of Stories
4%	Single story
96%	Two story
Composition	Flood Zones
100%	Within Zone X
12%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Condominium Structures (from Google maps)

Causes of Flooding

Overtopping of the Phillippi Creek banks causes backup through the connecting stormwater system and flooding during period of major storm event particularly during prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Review of the stormwater system and drainage patterns indicate that properties are elevated above the BFE. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

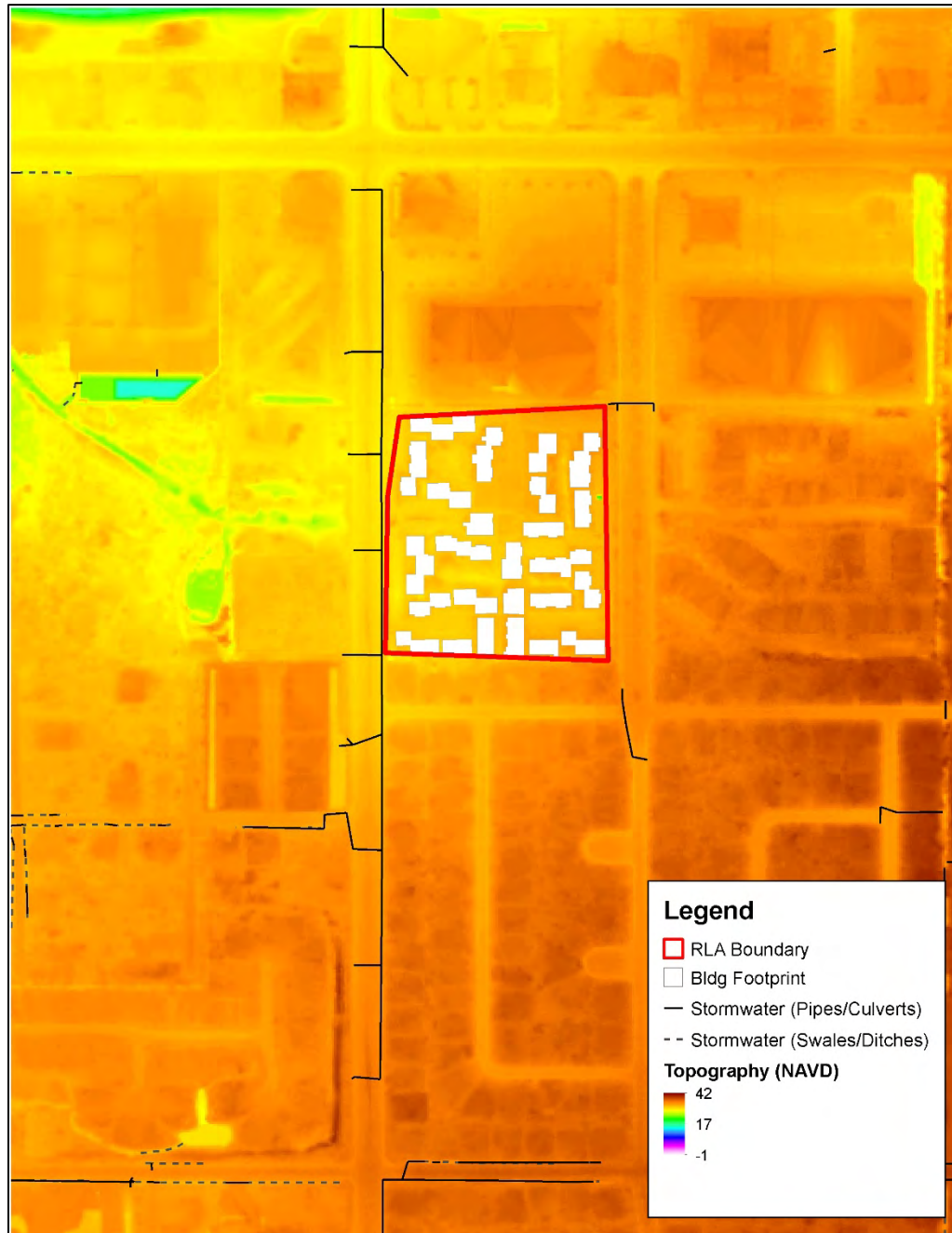


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater infrastructure in this RLA includes swales and pipes within the multi-family condominium subdivision connected to the County maintained stormwater system on Beneva Rd. Expansion of the on-site stormwater system in this area may provide some mitigation from flooding for these structures.

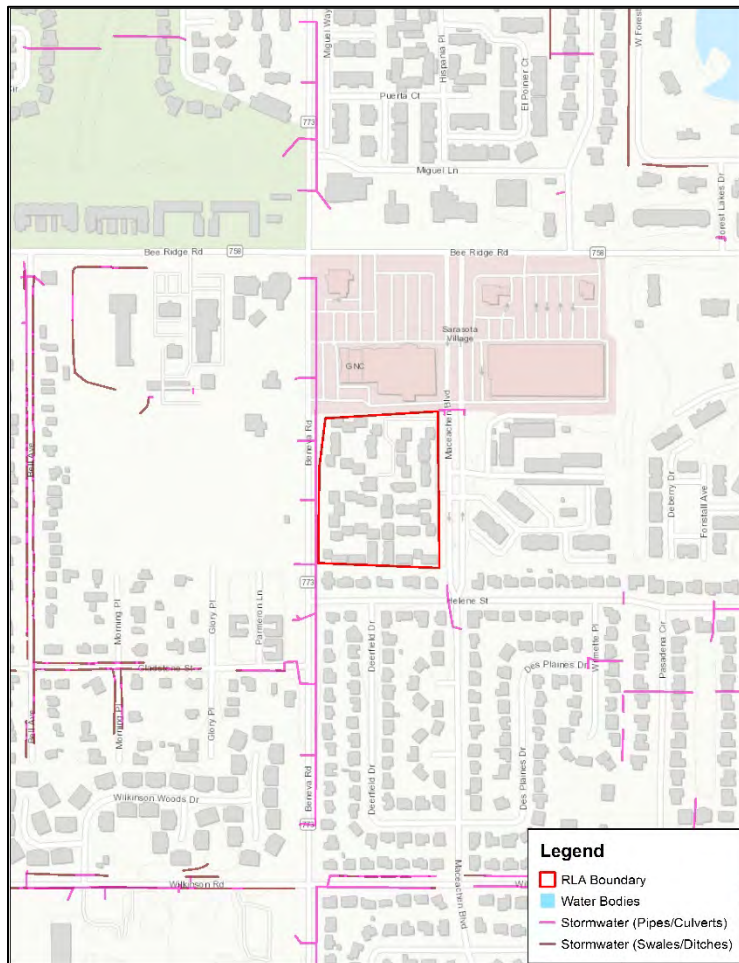


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The exposure to flooding from stormwater backup from elevated high tides of Phillippi Creek indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 43 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
43 – PHC 11 Phillippi Creek	1	0	25	X (SFHA) AE (CFHA)	Beneva Rd	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 43: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	25					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	2					
Total insurance claims (in thousands)	\$52.2					
Average insurance claim (in thousands)	\$26.15					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 44-PHC12 Phillippi Creek

Repetitive Loss Area (RLA) Overview

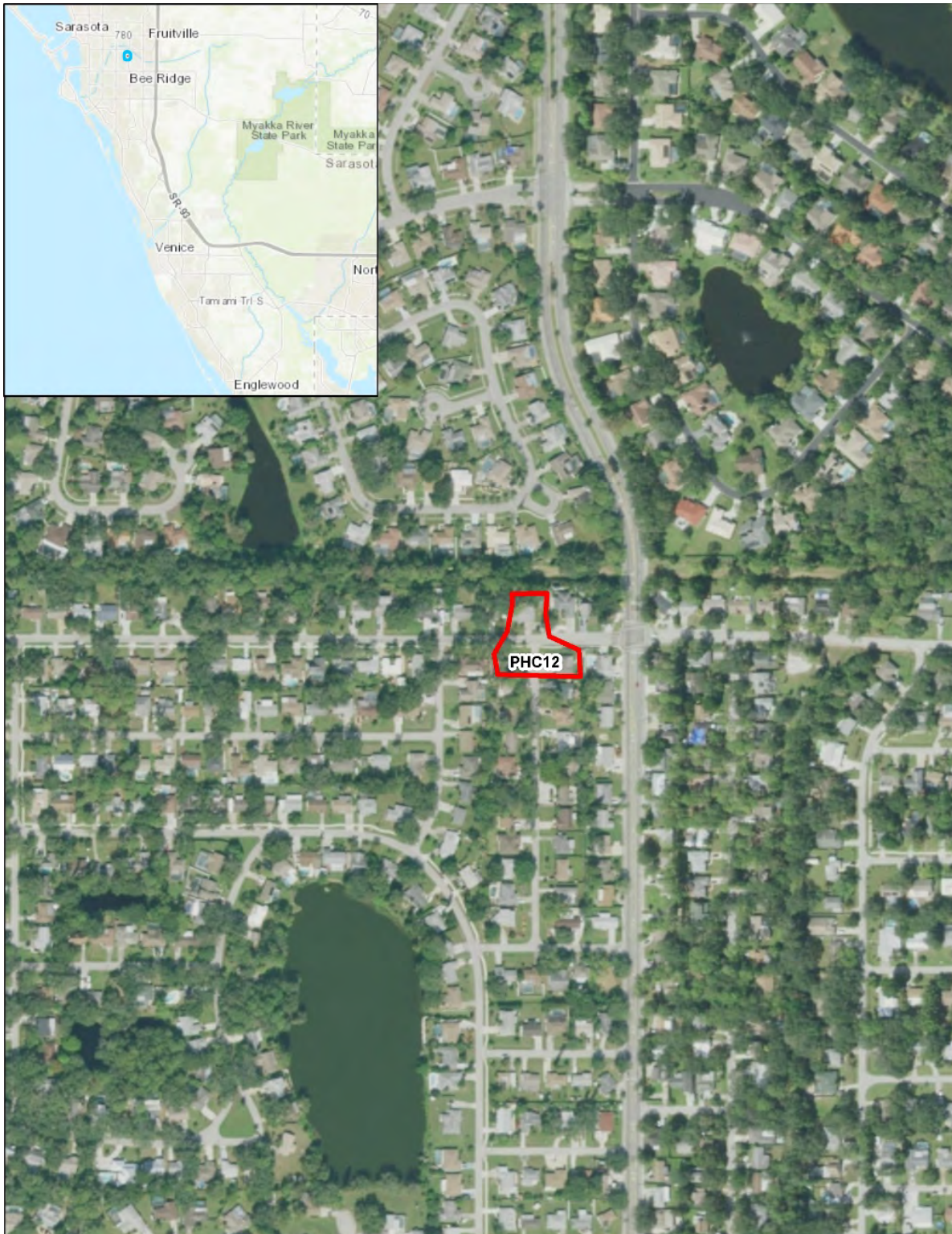


Figure 1: PHC12 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek
 LANDFORM: Riverine Shoreline
 AREA: 1.02 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Riverine flooding influences
- Stormwater backup/overtopping banks of drainage canal

Problem Statement

This Repetitive Loss Area (RLA) is located south of Phillippi Creek and east of McIntosh St. with a major drainage canal adjacent to the northern structure. The structures in this RLA are located within Zone X. They were constructed between 1959 and 1984. The RLA consists of single-family residences, with slab-on-grade foundations. Due to the area's proximity to the drainage canal, structures are subject to flooding from overtopping of the riverbanks as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This portion of Phillippi Creek is not tidally influenced, so flooding conditions are not exacerbated by high tides. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Wood Frame-Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
4	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
0	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
3	Insurance Claims (since 1978)
\$25.8	Total Insurance Claims (in thousands)
\$8.59	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Linwood St Upton Ave	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the three (3) individual claims in the RLA, of which two (2) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	1
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
75%	Wood frame
25%	Concrete block/masonry
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
100%	Within Zone X

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Major outfalls to Phillippi Creek from the north side of the RLA are likely to contribute to flooding conditions. This RLA is characterized by low-lying areas. Review of the stormwater system and drainage patterns indicate that properties in close proximity to the drainage canal banks are particularly susceptible to flooding, since the lots are older structures and are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

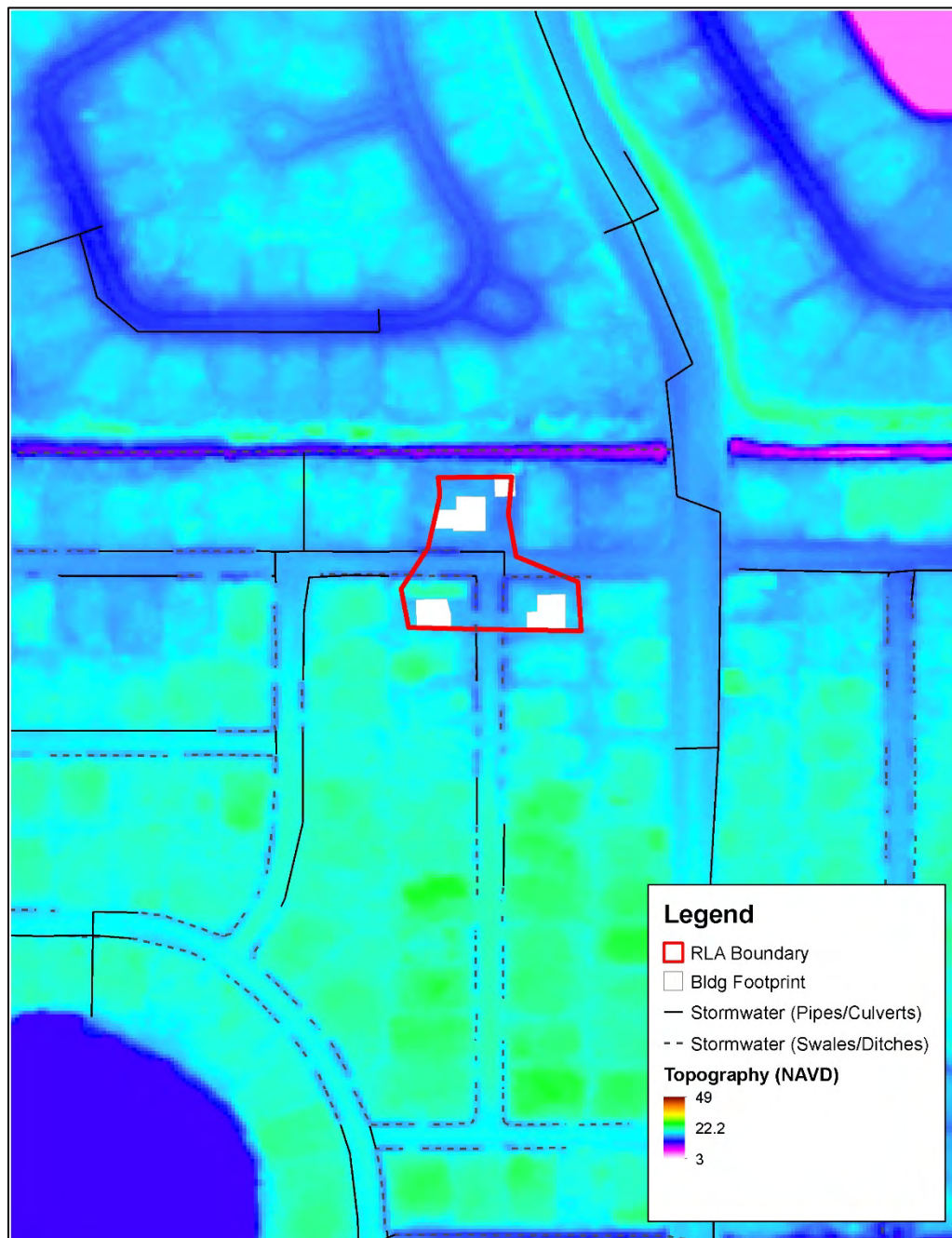


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system in this RLA includes a combination of swales and pipes collecting on both sides of Linwood St and Upton Ave that discharge into a drainage canal as part of the County's maintained stormwater infrastructure. It is unlikely that expansion of the stormwater infrastructure in this area will provide mitigation from stormwater backup and flooding.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The exposure to flooding from overtopping of the banks of Phillippi Creek indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA area are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 44 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for each structure is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
44 – PHC 12 Phillippi Creek	1	0	4	X	Upton Ave Linwood St	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 44: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	4					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$25.8					
Average insurance claim (in thousands)	\$8.59					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 45-PHC14 Phillippi Creek

Repetitive Loss Area (RLA) Overview

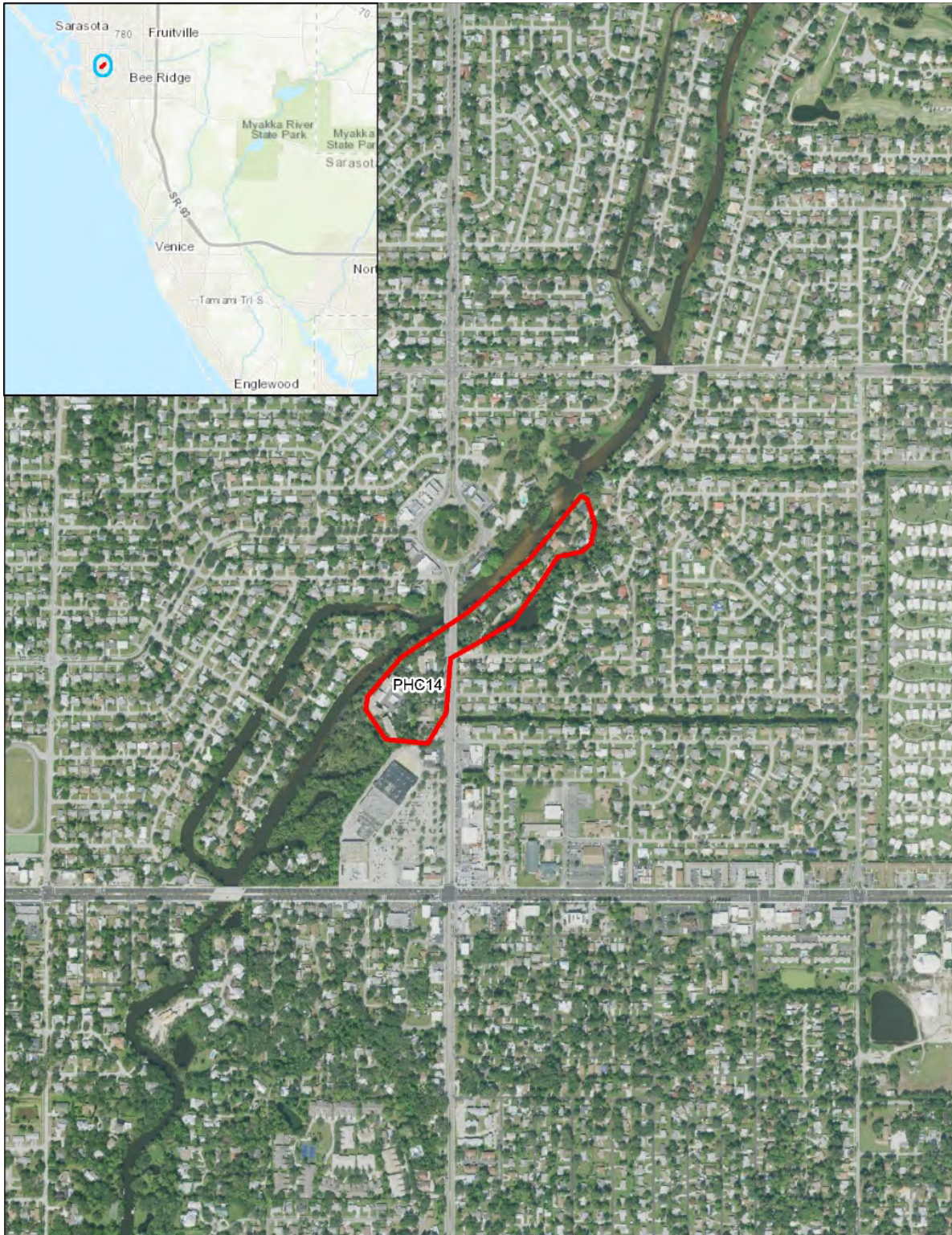


Figure 1: PHC14 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline, Island
 AREA: 15.46 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- "Island" surrounded by Creek, Lake Seclusion
- Between two major outfalls (North and South)
- Low terrain within historical riverbed/oxbows
- Bermuda Brook Canal outfall runs under structure
- Major highway infrastructure on W and S sides
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the eastern shoreline of Phillippi Creek at the S. Tuttle Ave. bridge, between the Bermuda Brook North and Bermuda Brook major outfalls. Lake Seclusion and Phillippi Creek form an island that includes most of the residential structures. The area also includes several residential condominiums and an office building west of S. Tuttle Ave. where Bermuda Brook outfalls to Phillippi Creek. Due to the area's low elevation within SFHA Zone AE and CFHA Zone AE, structures are subject to flooding from overtopping of the riverbanks, as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek, Lake Seclusion, and Bermuda Brook. This tidal location on the creek is only 3.5 miles north of Roberts Bay and has tidal, backwater, and storm surge contributing to flooding conditions. The median year built for the structures in the RLA is 1978, so while structures are typically post-FIRM and elevated, there are several dating back to the 1950's, with non-elevated, slab-on-grade construction, accounting for 35% of the total. Recently constructed structures have been elevated on fill, stem walls, or posts to meet the Base Flood Elevation (BFE) of 10 feet NAVD. Table 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Example of Location of Phillippi Creek to Structures



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
17	Total Structures in Repetitive Loss Area
4	Total Repetitive Loss Structures in this Area
14	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
4	Unmitigated RL & SRL Properties
22	Insurance Claims (since 1978)
\$463	Total Insurance Claims (in thousands)
\$21.04	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were four (4) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
N Seclusion Dr	Resident with 30-39 years residency, slab on grade, reports 1-2' of flooding in home for 4-8 hours during years 1991, 1995, and 2005 (est), cited overbank flooding from nearby waterways, regraded yard to keep water away from structure.
Orchid Oaks Dr	Resident with less than 10 years residency, slab on grade, report flooding in yard only, cited overbank flooding from nearby waterway as cause, regraded yard to keep water away from structure.
Orchid Oaks Dr	Resident with less than 10 years residency, slab on grade, reports no flooding.
Orchid Oaks Dr	Resident with 30-39 years residency, slab on grade, reports flooding in yard only, cited overbank flooding from nearby waterway as cause, regraded yard to keep water away from structure.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for seventeen (17) of the twenty-two (22) individual claims in the RLA, of which fourteen (14) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019) shown in Table 3. Records indicate that there have been ten (10) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	4
July 18, 1995	Un-Named Storm	9-11	2
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	6
June 23, 2003	Un-Named Storm	8-10	1
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
35%	Slab on grade
30%	Elevated slab on stem wall with fill
35%	Elevated on post/piles or walls
Composition	Frame Type
29%	Wood frame
71%	Concrete block/masonry
Composition	Number of Stories
42%	Single story
29%	Two story
29%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks cause flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Major outfalls to Phillippi Creek from Bermuda Brook and Bermuda Brook North Canal on the south and north sides of the RLA are likely to contribute to flooding conditions. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are typically in proximity to the creek banks, where the lots are relatively lower in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

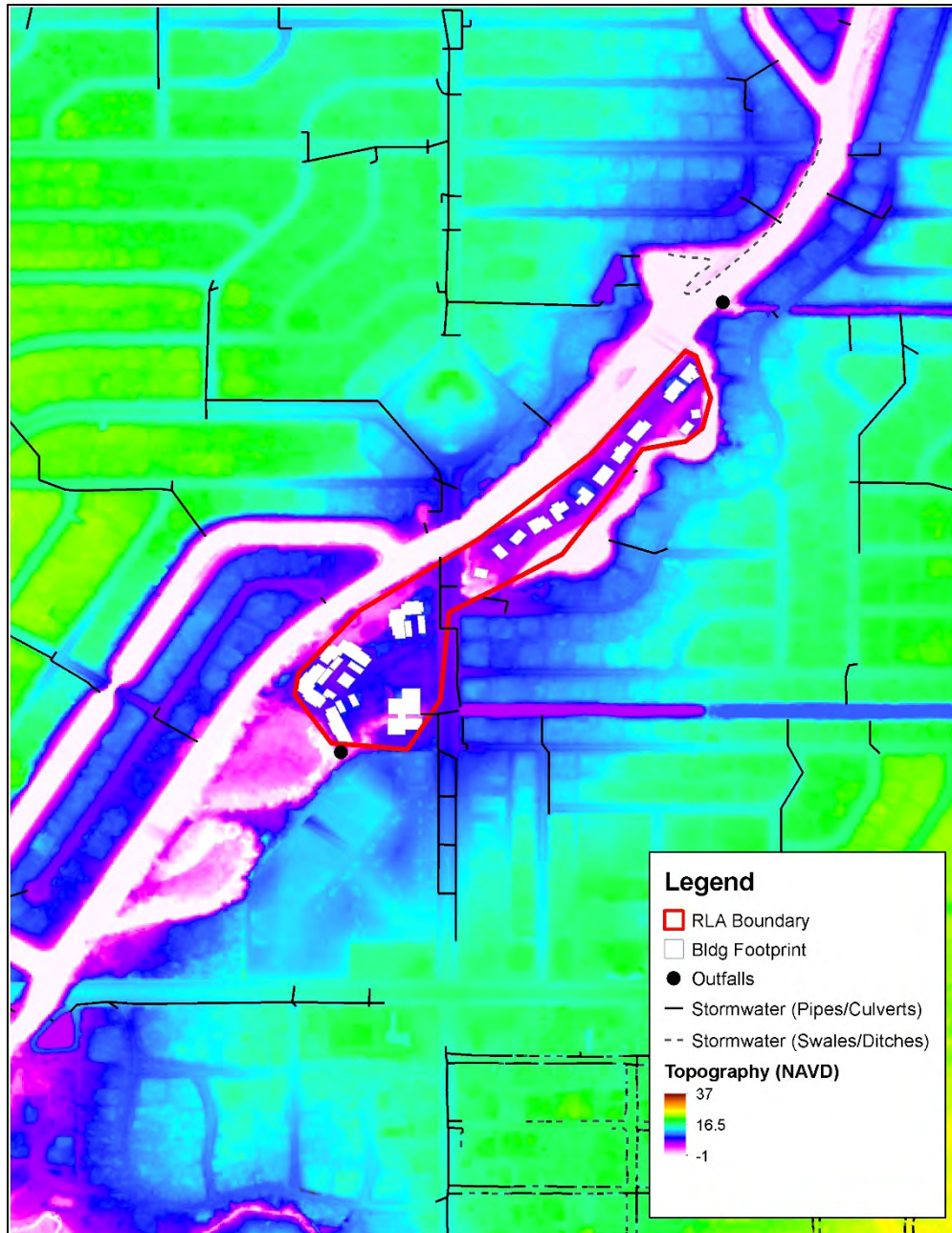


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system serving the area is limited to one (1) outfall to Lake Seclusion from S. Seclusion Dr. Stormwater runoff sheet flows along streets and low-lying parcels into Phillippi Creek or Lake Seclusion. There are two (2) major outfalls to Phillippi Creek in the immediate vicinity that contribute to flooding conditions (east-west running Bermuda Brook and Bermuda Brook North Canal). Based on site visits and resident surveys, the lots that do not have positive drainage away from the building should be regraded to sheet flow towards the street or to the floodways based on site topography; doing so may be beneficial to direct low-level flood waters away from structures. Low elevations of lots averaging less than 5.5 feet NAVD, means stormwater backup and inundation can occur when the creek is at or near top of bank. Review of maintenance records indicate that the stormwater infrastructure on S. Seclusion Dr. is maintained by County, however, that which is west of Tuttle Ave. (Orchid Oaks Dr.) is on private property without easements and is maintained by those owners.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to flooding from overtopping of the banks of Phillippi Creek, and the average Finished Floor Elevation (FFE) for the structures estimated to be at 2 feet below the 10 feet NAVD Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition/rebuild of the structures to restore the natural floodplain. The regrading of lots away from buildings to create positive drainage towards floodways or street drainage may provide some mitigation from flooding.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 45 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
45 – PHC 13 Phillippi Creek	4	0	17	X, AE (SFHA) AE (CFHA)	Orchid Oaks Dr Seclusion Dr Tuttle Ave	1, 3,2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 45: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	17					
Repetitive Loss (RL) Properties	4					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	22					
Total insurance claims (in thousands)	\$463					
Average insurance claim (in thousands)	\$21.04					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 46-PHC15 Phillippi Creek

Repetitive Loss Area (RLA) Overview

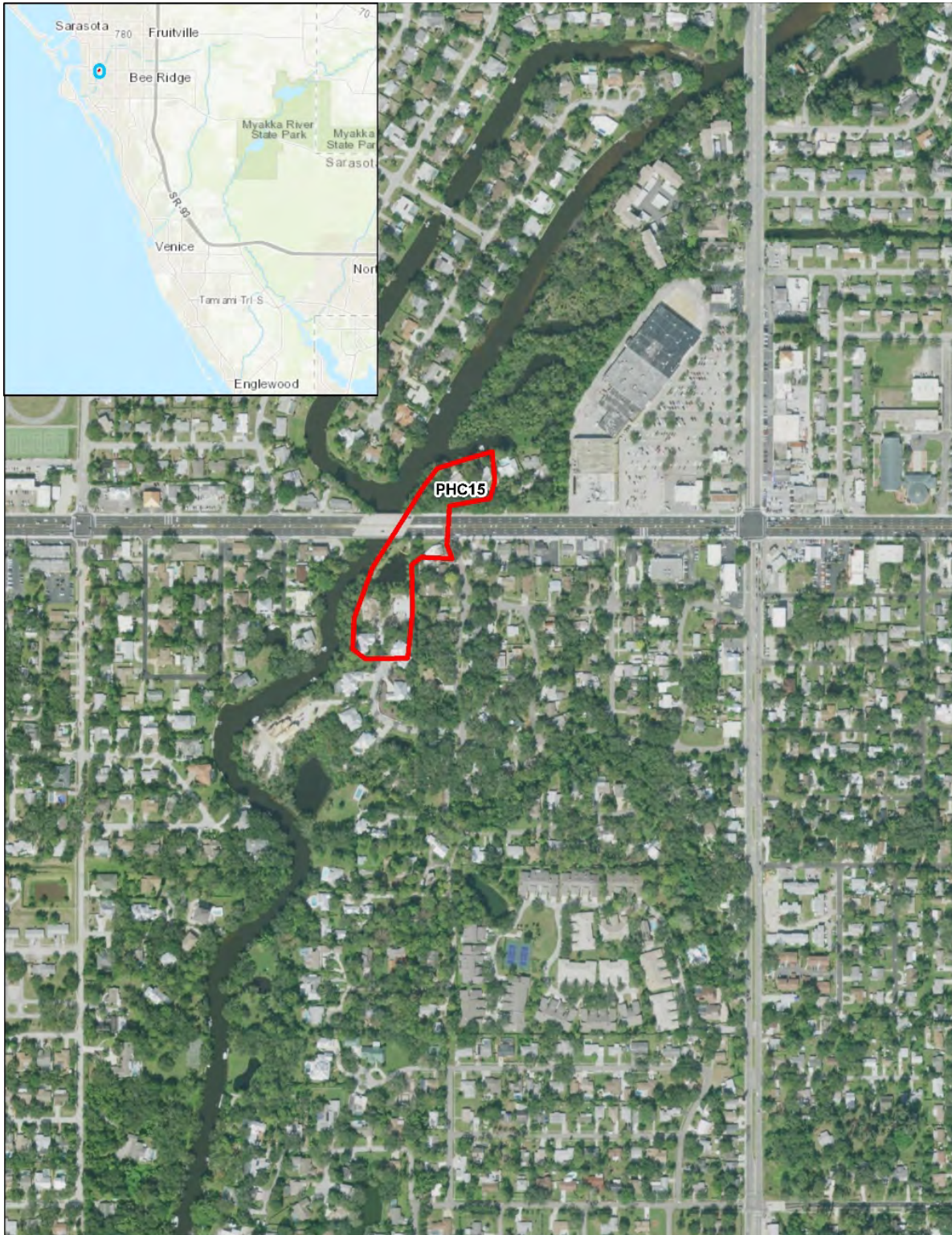


Figure 1: PHC15 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek
 LANDFORM: Riverine Shoreline
 AREA: 4.90 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the eastern shoreline of Phillippi Creek at the Bee Ridge Rd. bridge, where three (3) confluences come together and includes single-family residential structures. Most of the structures in this RLA are within the Floodway, SFHA Zone AE, shaded X, and CFHA Zone AE. Due to the area's low elevation, structures are subject to flooding from overtopping of the riverbanks, as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This tidal location on the creek is north of Roberts Bay and has tidal, backwater, and storm surge contributing to flooding conditions. The median year built for the structures is 1973, so while structures may typically be post-FIRM, there are several dating back to the 1950's, with non-elevated slab on grade structures accounting for 80% of the total. More recently constructed structures have been elevated on fill or foundation walls to meet the Base Flood Elevation (BFE) of 10 feet NAVD. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

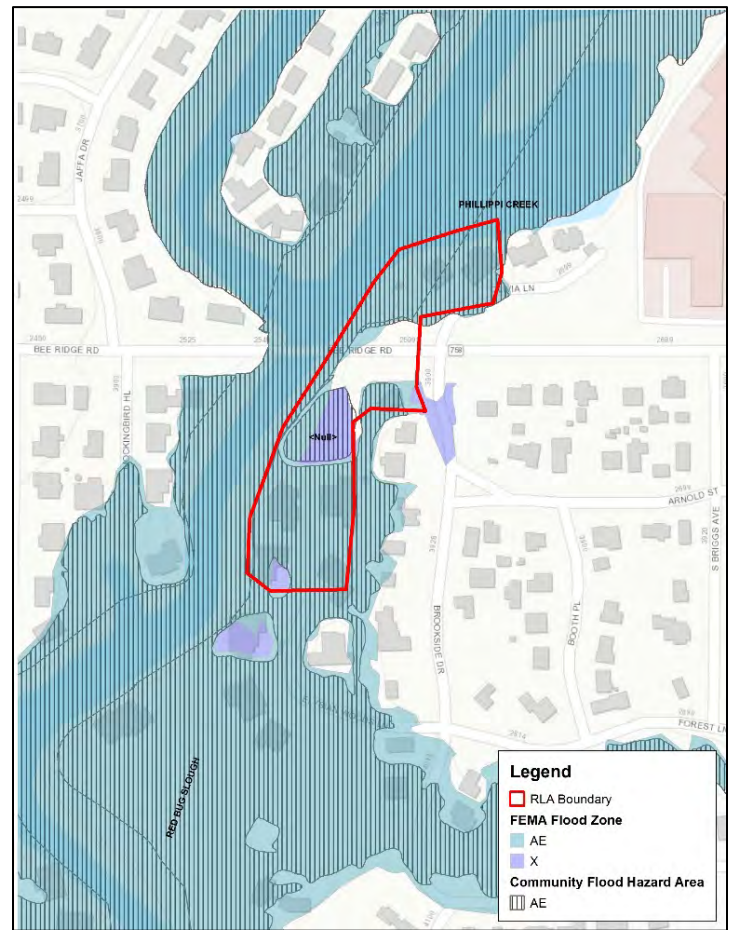


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
5	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
2	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
2	Insurance Claims (since 1978)
\$77	Total Insurance Claims (in thousands)
\$38.5	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Olivia Ln Bee Ridge Rd Elysian Woods Ln	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the two (2) individual claims in the RLA, of which both corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
80%	Slab on grade
20%	Elevated foundation walls w/ enclosure
Composition	Frame Type
20%	Wood frame
80%	Concrete block/masonry
Composition	Number of Stories
80%	Single story
20%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Concrete Block/Masonry

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Review of the spatial relationship between historical flood damage claims, as well as, the stormwater system and drainage patterns, indicate that properties are typically in proximity to the creek banks, where the lots are relatively lower in elevation and older structures are not significantly elevated above existing grade. This RLA is characterized by low-lying areas. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

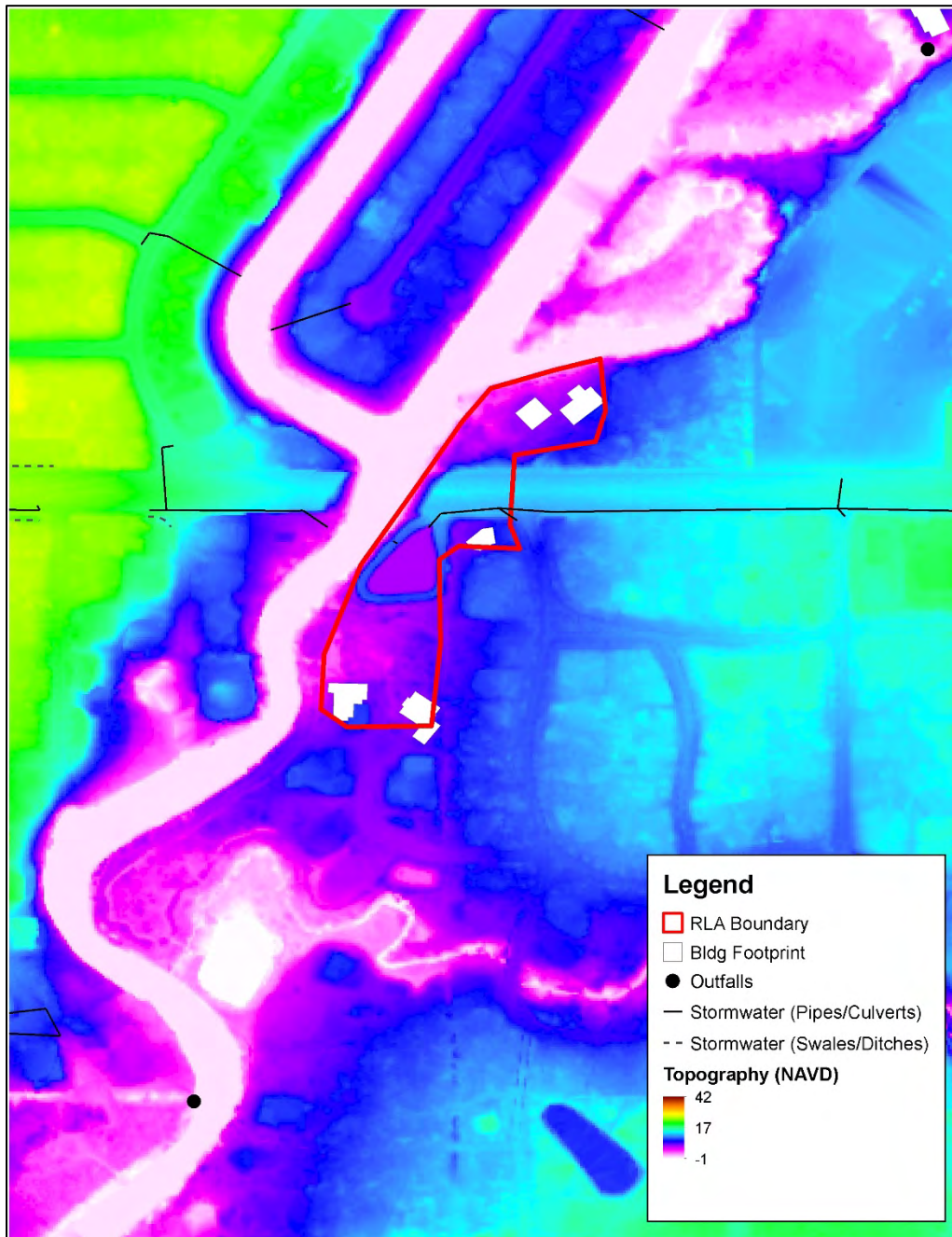


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system serving the area is limited to sheet flow from the structures to Phillippi Creek with no swales or storm pipes. There is a drainage pond that collects stormwater from Bee Ridge Rd. and sheet flows from one low-lying parcel. Low elevations of lots, averaging less than 6.9 feet NAVD, means inundation can occur when the creek is at or near top of bank. Due to the structure's proximity to the creek banks, it is unlikely that stormwater expansion alone would provide mitigation from flooding for these structures. The flooding source will primarily be Phillippi Creek during high tides and heavy rainfall.

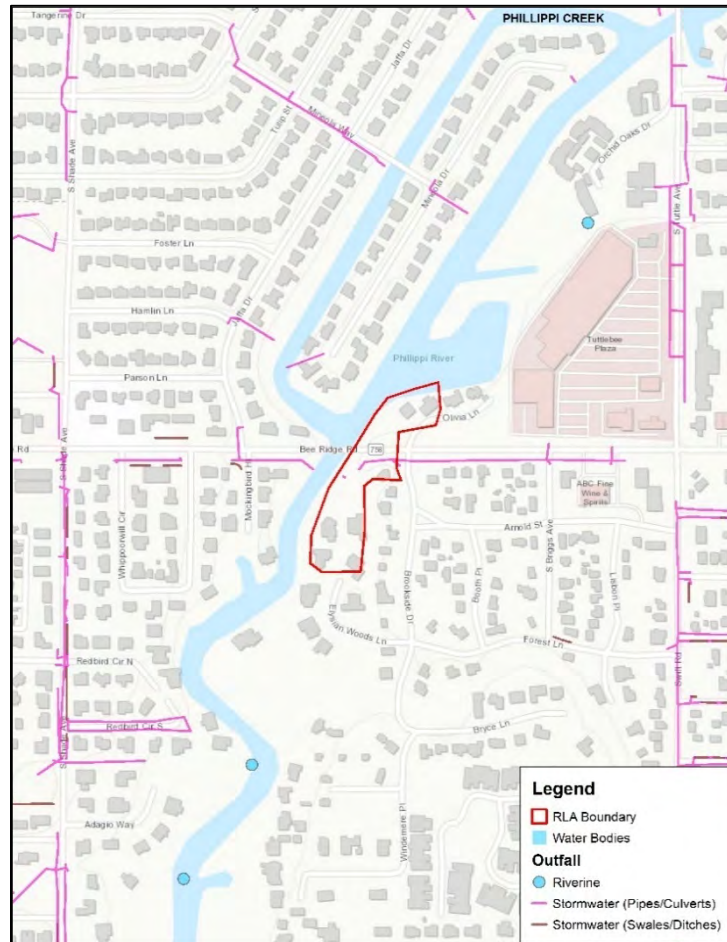


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to flooding from overtopping of the banks of Phillippi Creek, and the Finished Floor Elevation (FFE) for the structures, which is estimated to be at 2.1 feet below the 10 feet NAVD Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 46 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
46 – PHC 14 Phillippi Creek	1	0	5	AE (SFHA), Shaded X AE (CFHA)	Bee Ridge Rd Olivia Ln Elysian Woods Ln	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 46: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	5					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	2					
Total insurance claims (in thousands)	\$77					
Average insurance claim (in thousands)	\$38.5					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 47-PHC16 Phillippi Creek

Repetitive Loss Area (RLA) Overview

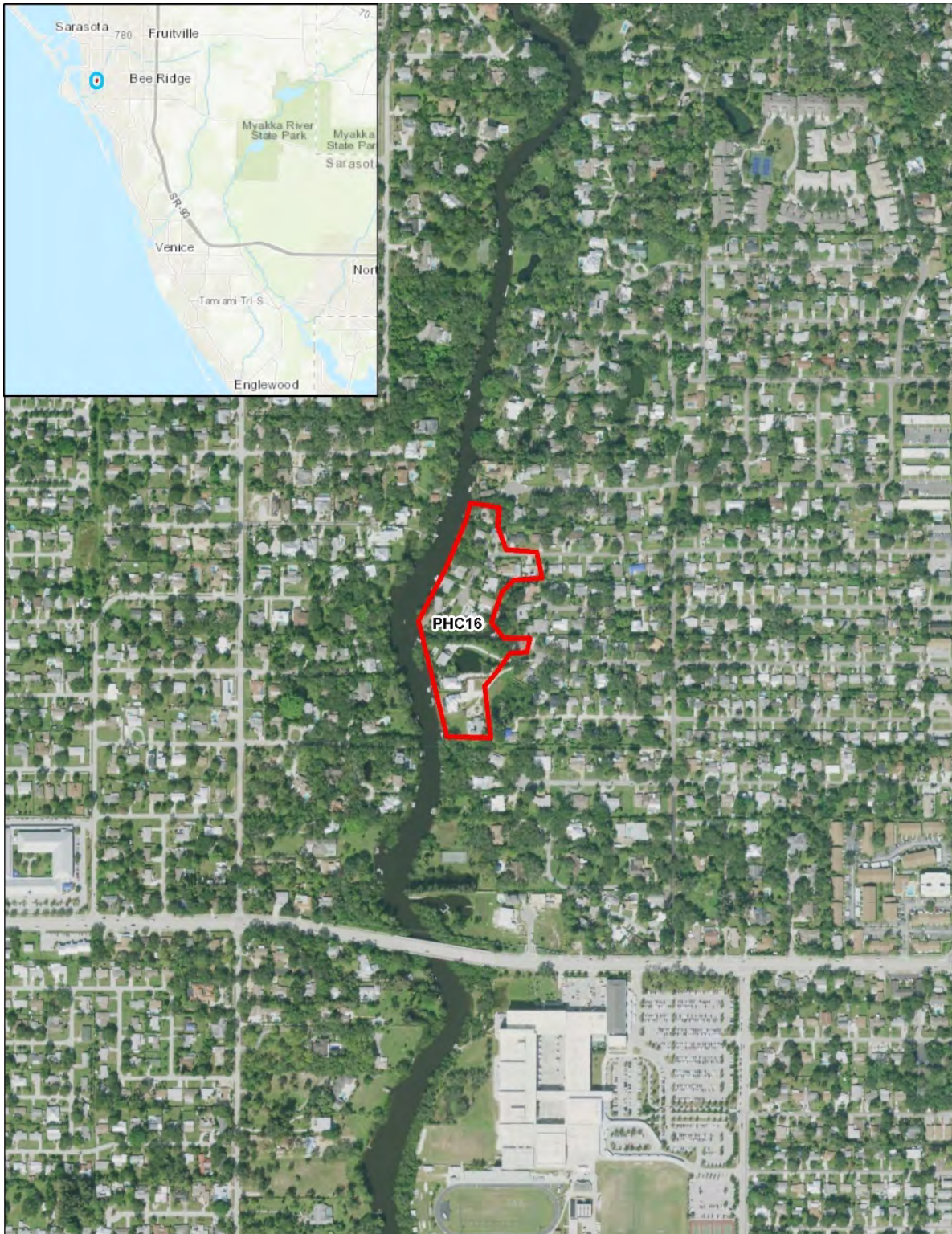


Figure 1: PHC16 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 9.16 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the eastern shoreline of Phillippi Creek, straddling a major outfall at Jamaica Street, and includes single-family residential structures, many located on the creek banks. Due to the area's low elevation, structures are subject to flooding from overtopping of the riverbanks, as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This tidal location on the creek is only 2 miles north of Roberts Bay and has tidal, backwater, and storm surge contributing to flooding conditions. The median year built for the structures is 1962. Typically the structures are pre-FIRM, with non-elevated slab-on-grade structures account for 72% of the total. Recently constructed structures have been elevated on fill, stem walls, or posts to meet the Base Flood Elevation (BFE) of 10 feet NAVD. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Two-Story Structure

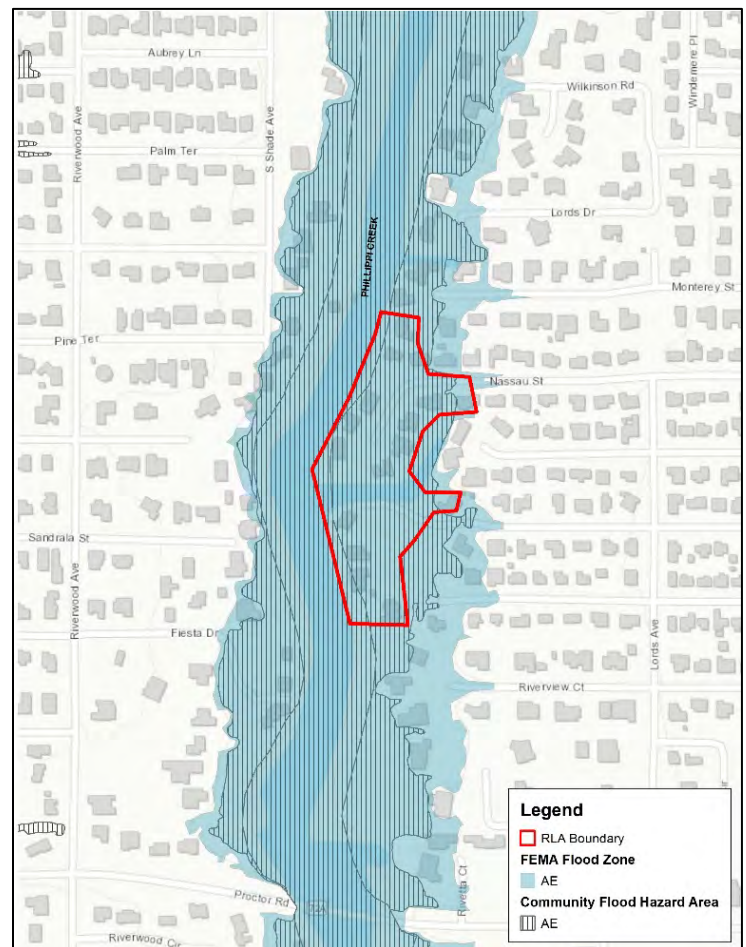


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
15	Total Structures in Repetitive Loss Area
4	Total Repetitive Loss Structures in this Area
12	Properties w/Active Insurance Policies
1	Mitigated RL & SRL Properties
3	Unmitigated RL & SRL Properties
16	Insurance Claims (since 1978)
\$222.19	Total Insurance Claims (in thousands)
\$13.89	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were four (4) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Nassau Street	Resident with 20-29 years residency, slab on grade, cleared debris, shrubs or overgrowth to promote sheet flow.
Nassau Street	Resident with 10-19 years residency, slab on grade, reported flooding inside structure less than 1-foot for less than 4 hours caused by drainage from nearby structures. Homeowner regraded yard, installed drains, and waterproofed outer walls to decrease flooding.
Nassau Street	Resident with 10-19 years residency, slab on grade, reported flooding in yard only caused by overbank flooding of nearby waterways, installed drains/pipes to improve drainage.
Jamaica Street	Resident with 10-19 years residency, slab on grade, reported no flooding on property, homeowner cleared debris, shrubs, and overgrowth to improve drainage.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the sixteen (16) individual claims in the RLA, of which fifteen (15) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been eleven (11) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	4
July 18, 1995	Un-Named Storm	9-11	2
November 14, 1997	Un-Named Storm	10	4
September 14, 2001	Tropical Storm Gabrielle	5-10	5
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
72%	Slab on grade
7%	Elevated slab on stem wall with fill
7%	Elevated on foundation walls
14%	Undetermined
Composition	Frame Type
29%	Wood frame
71%	Concrete block/masonry
Composition	Number of Stories
79%	Single story
14%	Two story
7%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits

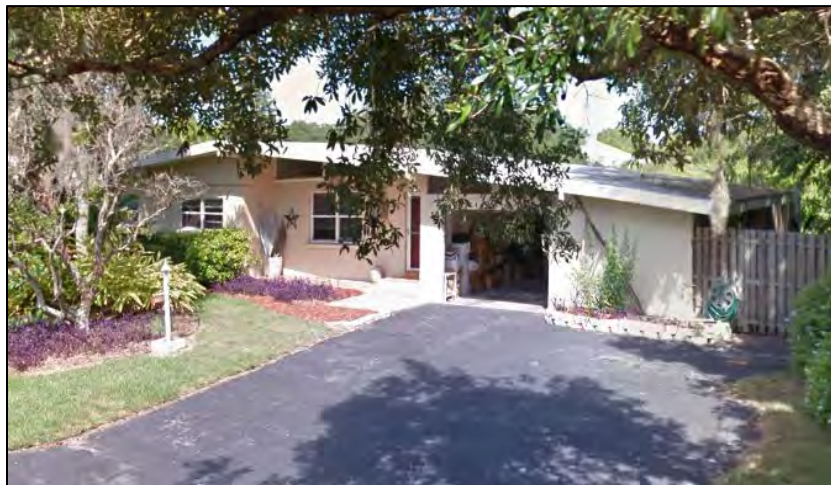


Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events, particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Major outfalls to Phillippi Creek are likely to contribute to flooding conditions. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are typically in proximity to the creek banks, where the lots are relatively lower in elevation and older structures are not significantly elevated above existing grade. This RLA is characterized by low-lying areas. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

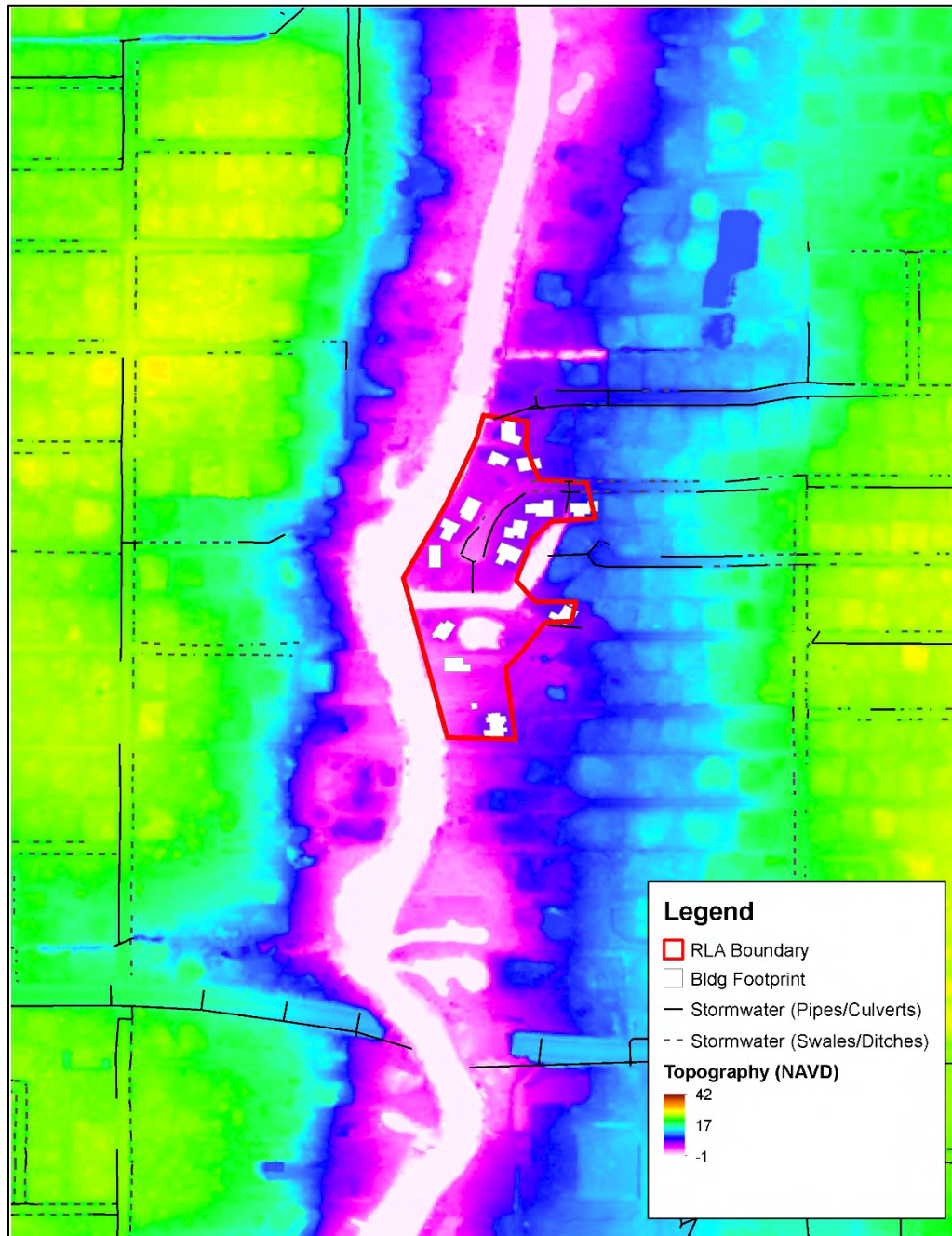


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system serving this RLA includes a collection of swales and storm pipes leading to two (2) major outfall structures, both discharging to Phillippi Creek. The stormwater infrastructure is part of the County's maintained system and collects the stormwater for a large basin adjacent to the RLA. Most of the properties sheet flow directly into the creek, while others collect into the County's system. Based on site visits and resident surveys, the lots that do not have positive drainage away from the building should be regraded to allow sheet flow towards the street or to the floodways dependent on site topography. Doing so may be beneficial by directing low-level flood waters away from structures. The low elevations of lots, averaging less than 5.7 feet NAVD, means stormwater backup and inundation can occur when the creek is at or near top of bank. The low elevation of the pre-FIRM structures makes it unlikely stormwater improvements alone would mitigate flood risk to these structures.

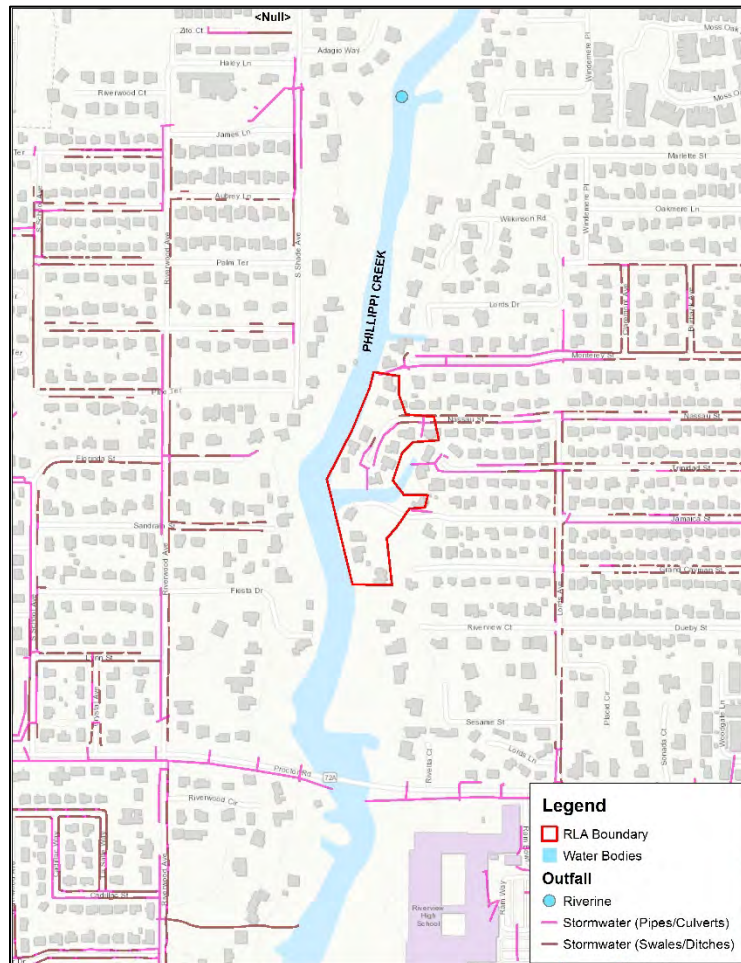


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to flooding from overtopping of the banks of Phillippi Creek, and the Finished Floor Elevation (FFE) for the structures estimated to be at 4.3 feet below the 10 feet NAVD Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 47 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
46 – PHC 14 Phillippi Creek	3	0	15	AE (SFHA) AE (CFHA)	Nassau St Jamaica St Monterey St	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 47: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	15					
Repetitive Loss (RL) Properties	4					
Severe RL properties	0					
Mitigated RL properties	1					
Mitigated Severe RL properties	0					
Insurance claims since 1978	16					
Total insurance claims (in thousands)	\$222.1					
Average insurance claim (in thousands)	\$13.89					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 48-PHC17 Phillippi Creek

Repetitive Loss Area (RLA) Overview

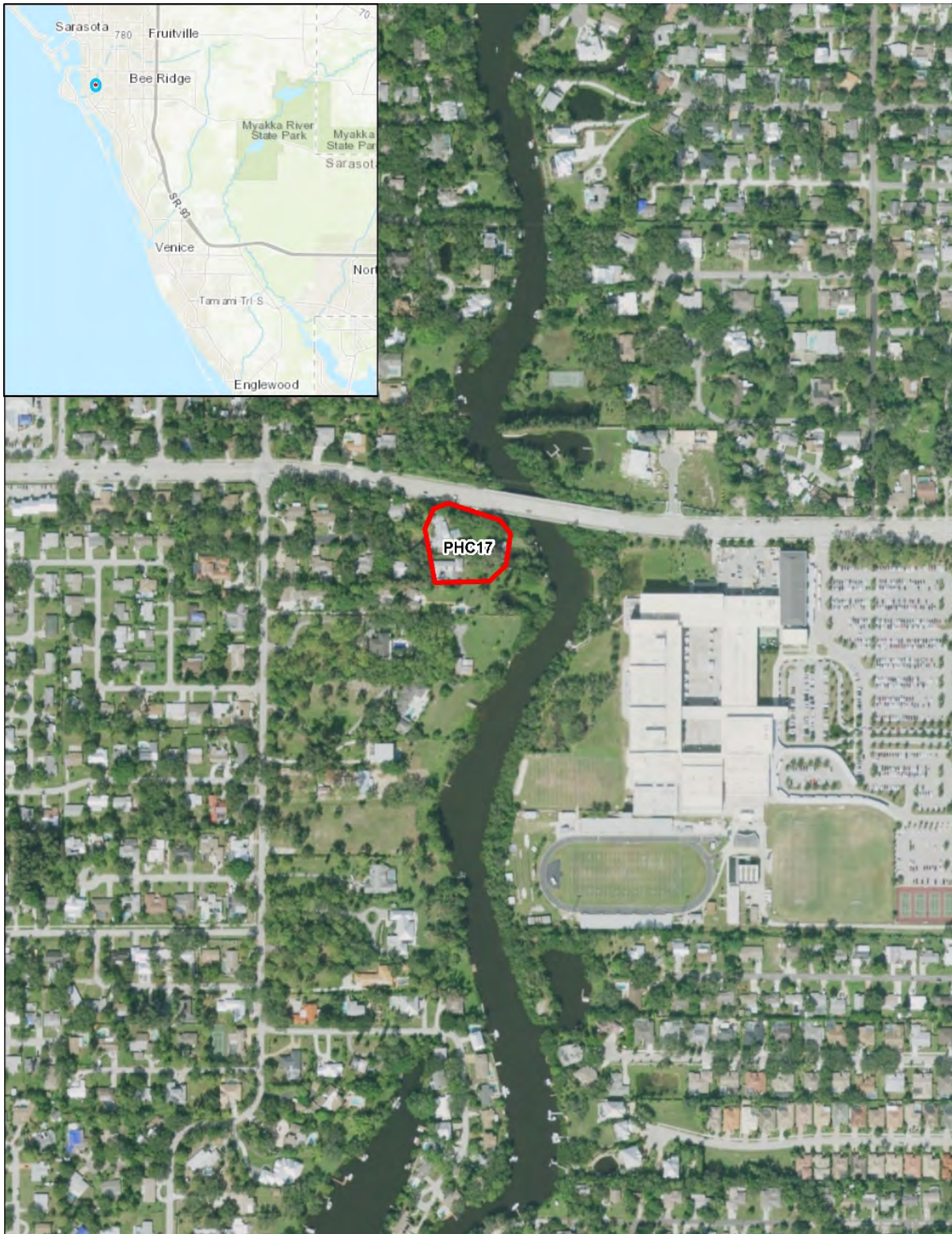


Figure 1: PHC17 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 1.68 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the western shoreline of Phillippi Creek at the Proctor Ave. bridge and south of a major outfall. The area includes single-family residential structures that are primarily slab-on-grade. Due to the area's low elevation, structures are subject to flooding from overtopping of the riverbanks as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This tidal location on the creek is only 1.75 miles north of Roberts Bay and has tidal, backwater, and storm surge contributing to flooding conditions. The structures in this RLA are within Zone X, SFHA Zone AE, and CFHA Zone AE. The structures were built between 1949 and 1964, typically pre-FIRM non-elevated slab-on-grade structures accounting for 34% of the total. The average Finished Floor Elevations (FFE) are 1.5 feet below the Base Flood Elevation (BFE) of 10 feet NAVD. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Structure Elevated on Posts/Piles or Walls

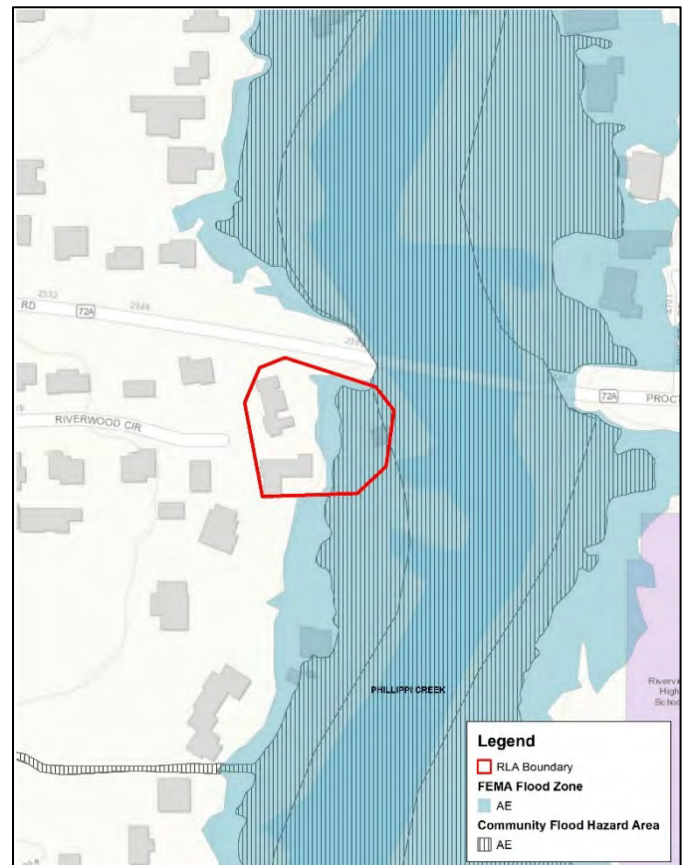


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
3	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
1	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
3	Insurance Claims (since 1978)
\$59.5	Total Insurance Claims (in thousands)
\$19.84	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Riverwood Cir	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the three (3) individual claims in the RLA, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
34%	Slab on grade
33%	Elevated on post/piles or walls
33%	Undetermined due to vegetation
Composition	Frame Type
67%	Wood frame
33%	Concrete block/masonry
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
33%	Within SFHA Zone AE
67%	Within Zone X
33%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Wood Frame Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Major outfalls to Phillippi Creek from Proctor Ave. north of the RLA are likely to contribute to flooding conditions. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are typically in proximity to the creek banks, where the lots are relatively lower in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

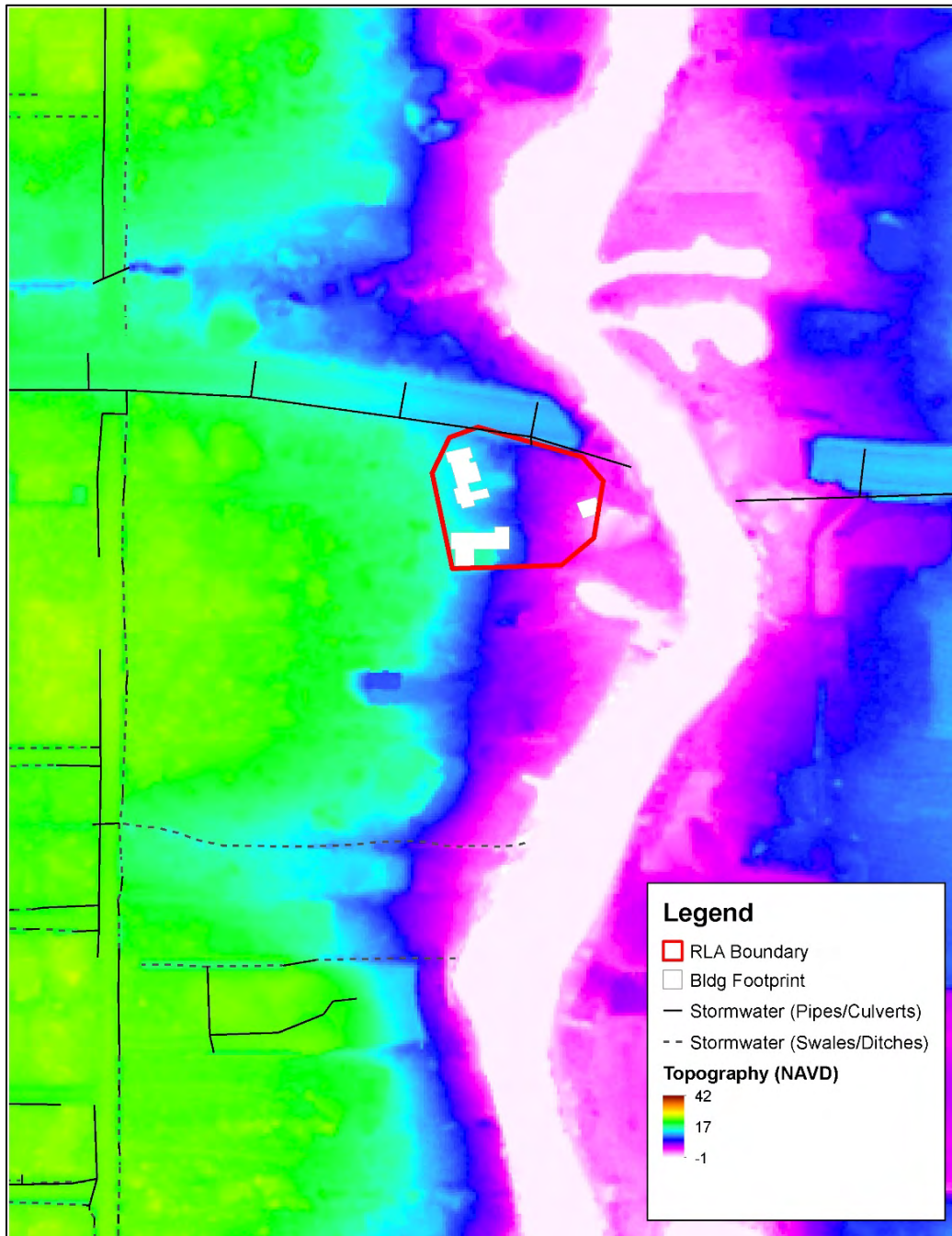


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system in this RLA is limited to one (1) outfall to Phillippi Creek connected to storm pipes primarily draining Proctor Ave. west of Phillippi Creek. The properties within the RLA primarily sheet flow directly into Phillippi Creek. Low elevations of lots averaging less than 7.5 feet NAVD, means stormwater backup and inundation can occur when the creek is at or near top of bank. It is unlikely, due to the proximity to the creek banks, that expansion of the stormwater infrastructure would provide mitigation from flooding of these structures.

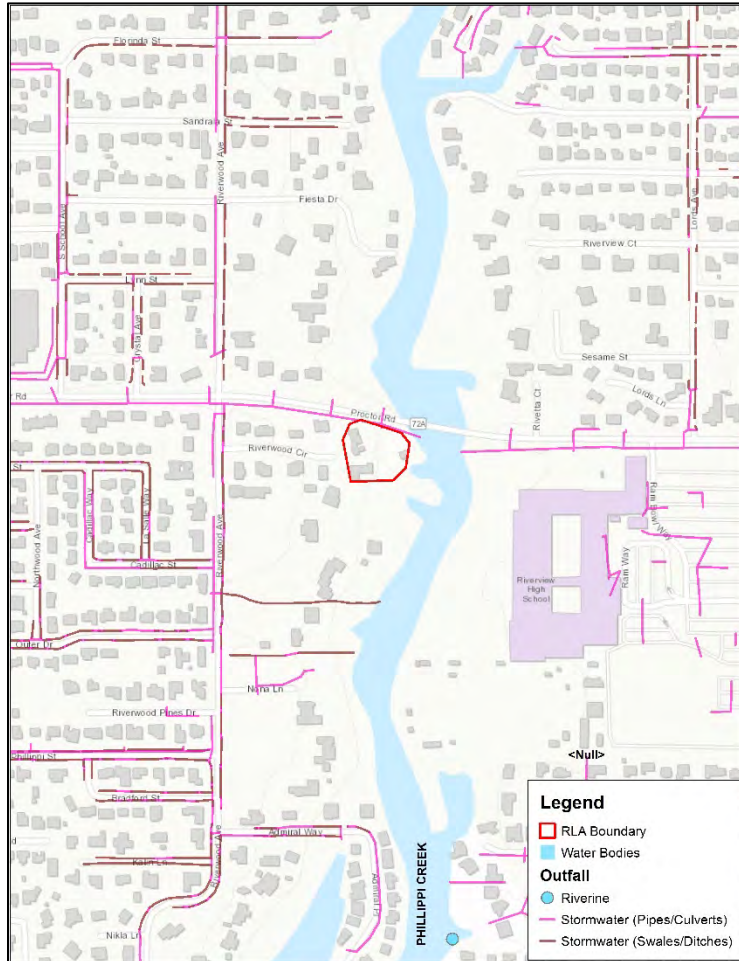


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to flooding from overtopping of the banks of Phillippi Creek, and the average Finished Floor Elevation (FFE) for the structures estimated to be at 1.5 feet below the 10 feet NAVD Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 48 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
48 – PHC 17 Phillippi Creek	1	0	3	X, AE (SFHA) AE (CFHA)	Riverwood Cir	1, 3, 2

1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

1

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 48: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	3					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$59.5					
Average insurance claim (in thousands)	\$19.84					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 49-PHC18 Phillippi Creek

Repetitive Loss Area (RLA) Overview

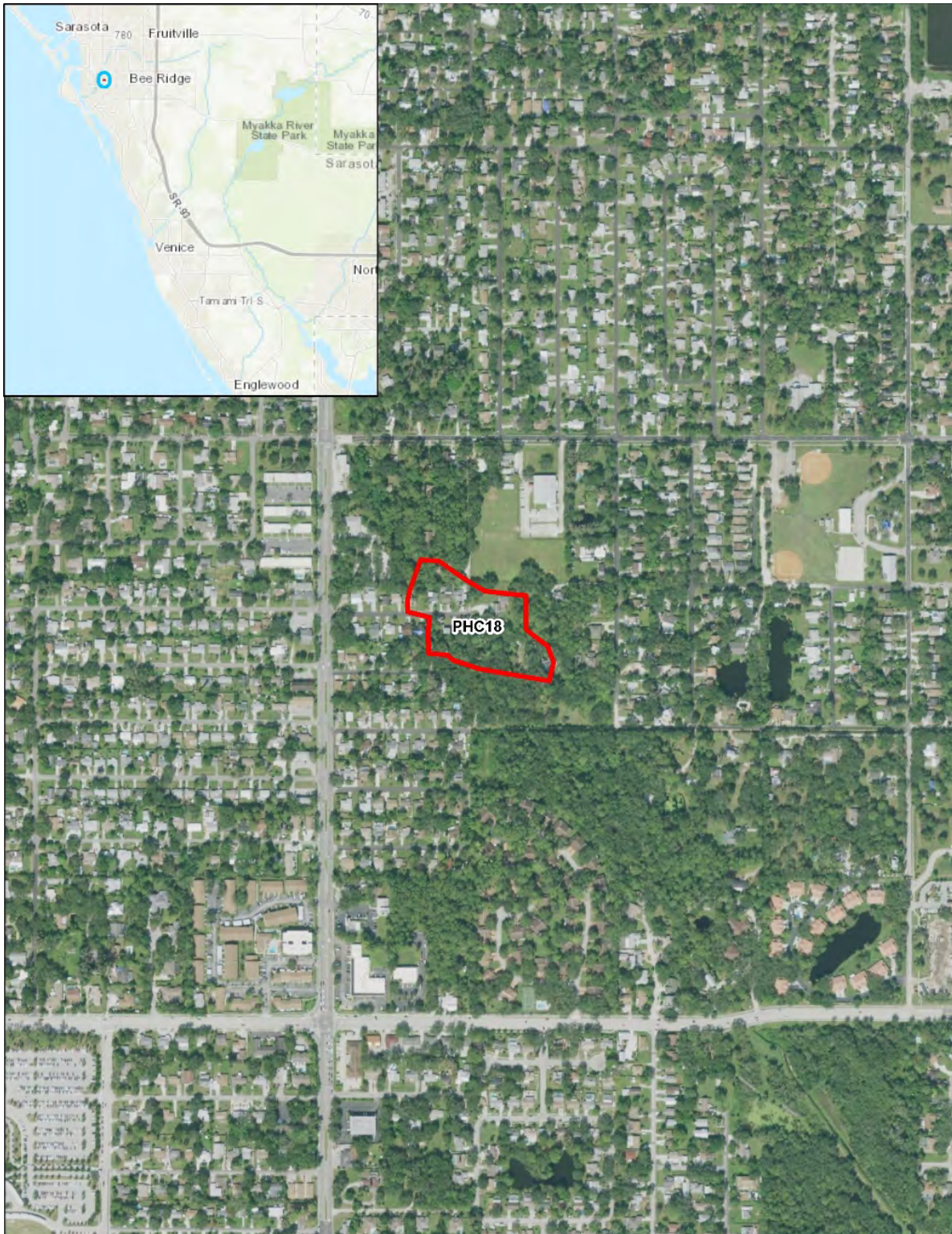


Figure 1: PHC18 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 6.27 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) straddles a drainage canal/ slough and is located east of Phillippi Creek, at Nassau St. Due to the area's low elevation within CFHA Zone AE, structures are subject to flooding from stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek and Red Bug Slough. A portion of the RLA is within the Zone X. This tidal location on the creek is only 1.5 miles east of Roberts Bay and has tidal, backwater, and storm surge contributing to flooding conditions. The median year built for the structures in the RLA is 1980, typically post-FIRM with non-elevated slab-on-grade structures account for 55% of the total, while structures elevated on posts account for 22% of the total. Recently constructed structures have been elevated on fill, stem walls, or posts. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

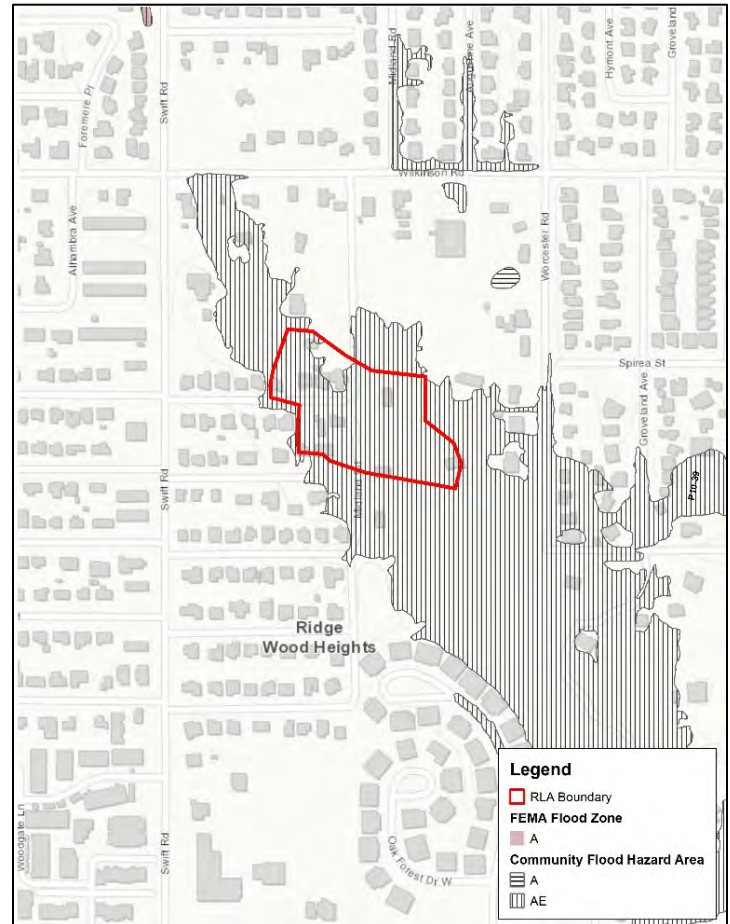


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
11	Total Structures in Repetitive Loss Area
3	Total Repetitive Loss Structures in this Area
3	Properties w/Active Insurance Policies
1	Mitigated RL & SRL Properties
2	Unmitigated RL & SRL Properties
8	Insurance Claims (since 1978)
\$166.8	Total Insurance Claims (in thousands)
\$20.85	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Nassau St Trinidad St Midland Rd	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for seven (7) of the eight (8) individual claims in the RLA, of which all corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been five (5) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	2
July 18, 1995	Un-Named Storm	9-11	3
November 14, 1997	Un-Named Storm	10	2
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
55%	Slab on grade
11%	Elevated slab on stem wall with fill
22%	Elevated on post/piles or walls
12%	Undetermined due to vegetation/access
Composition	Frame Type
45%	Wood frame
55%	Concrete block/masonry
Composition	Number of Stories
45%	Single story
36%	Two story
19%	Three story or greater
Composition	Flood Zones
100%	Within Zone X
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Elevated on Posts/Piles with Walls

Causes of Flooding

Overtopping of the Phillippi Creek banks causes flooding during major storm events particularly during periods of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. The proximity to a major outfall, discharging into Phillippi Creek is likely a contributor to flooding conditions. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are typically in proximity to the creek banks, where the lots are relatively lower in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

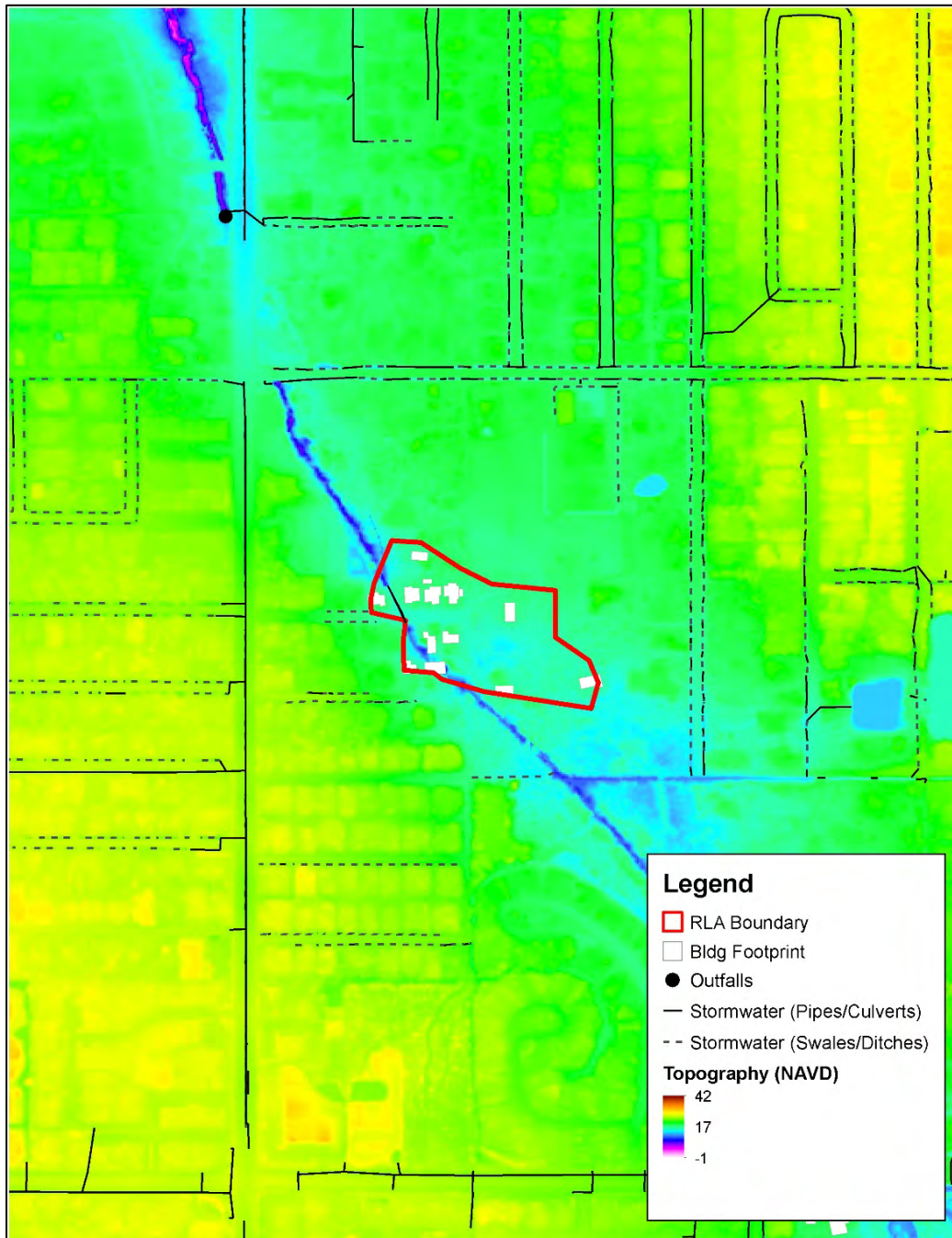


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system in this RLA includes a collection of swales and storm pipes connecting to a drainage canal/ slough running through the RLA with proximity to two (2) outfall structures. The structures in this area are above the BFE, but risk flooding from stormwater system backup and high tides associated with Phillippi Creek during particular events of excessive rainfall. Expanding the stormwater system to the ends of each street and regrading of the lots to create positive sheet flow towards the streets and swales would likely provide some mitigation to these structures and reduce the overall risk of flooding.

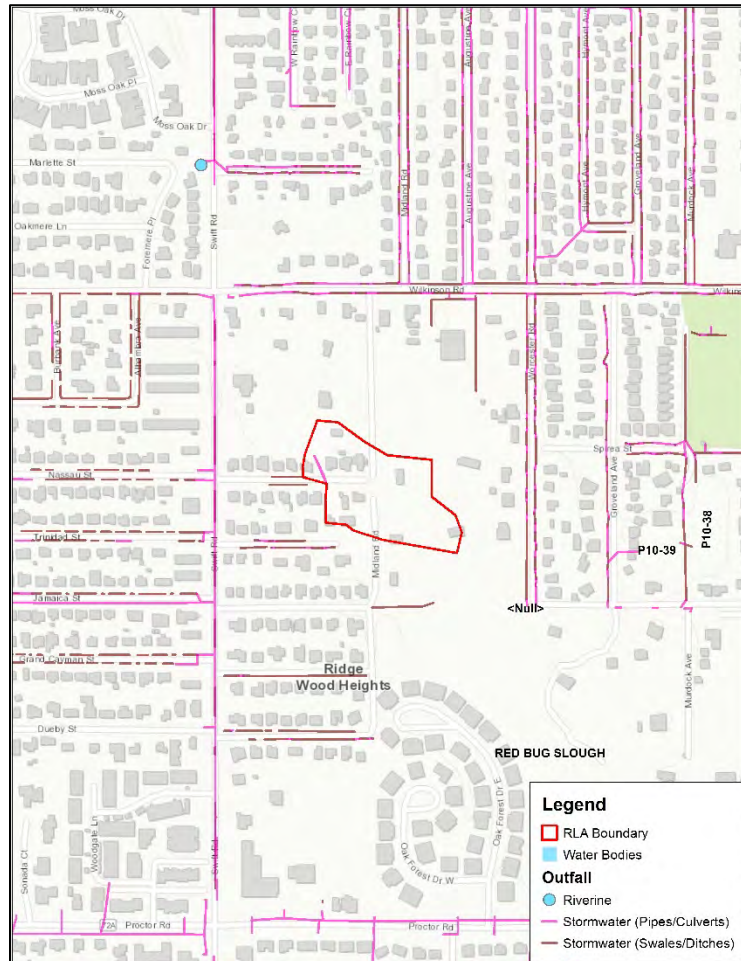


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within the area were evaluated. The low existing grades, exposure to flooding from backup and high tides of Phillippi Creek, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain. In addition, improvements of existing stormwater system in this area may provide some flood mitigation.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 49 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County/public; HOA or property owner/Private	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
49 – PHC 18 Phillippi Creek	2	0	11	X AE (CFHA)	Nassau St Trinidad St Midland Rd	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 49: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	11					
Repetitive Loss (RL) Properties	3					
Severe RL properties	0					
Mitigated RL properties	1					
Mitigated Severe RL properties	0					
Insurance claims since 1978	8					
Total insurance claims (in thousands)	\$166.8					
Average insurance claim (in thousands)	\$20.85					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 50-PHC19 Phillippi Creek

Repetitive Loss Area (RLA) Overview

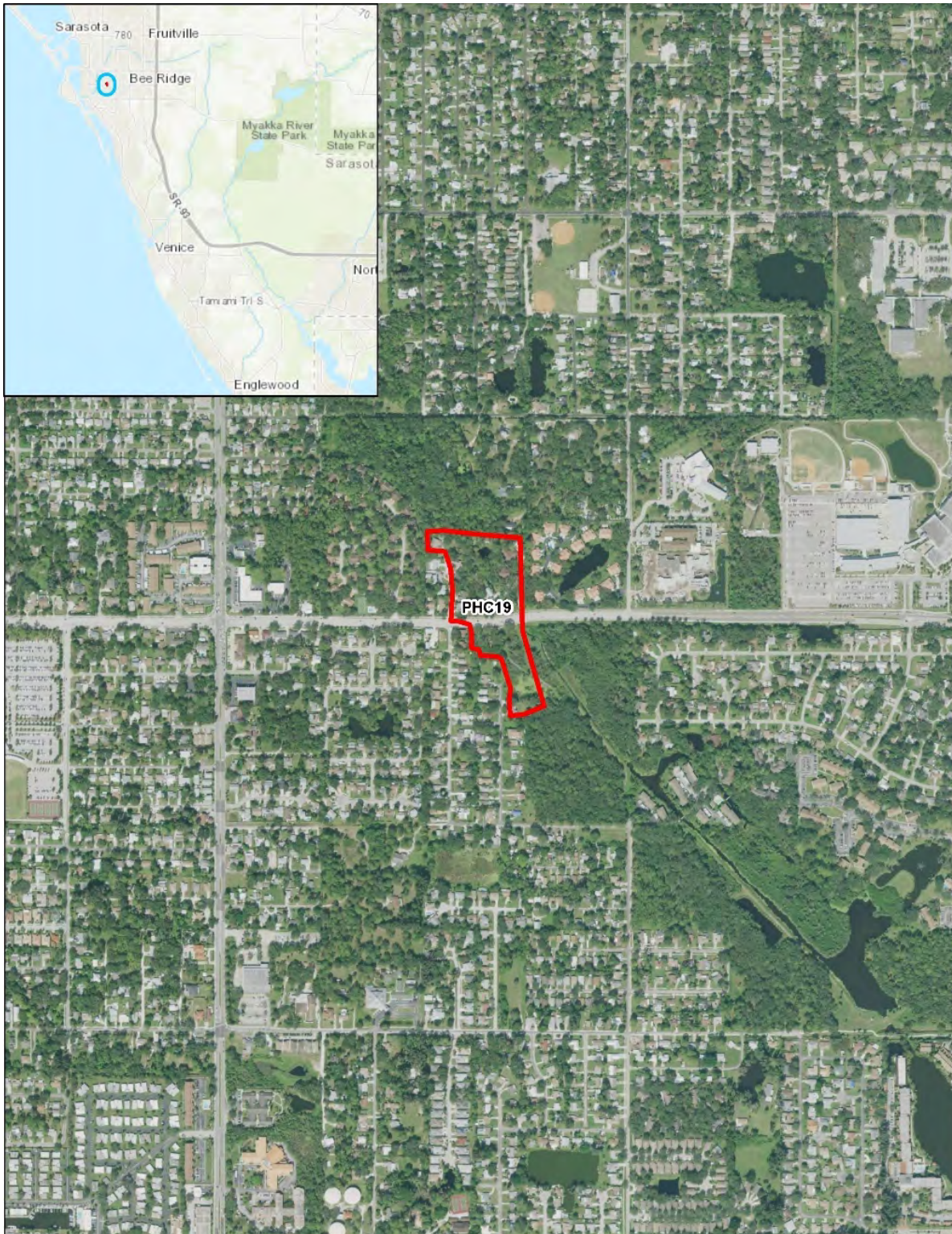


Figure 1: PHC19 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek
 LANDFORM: Riverine
 AREA: 12.77 acres

FLOODING PROBLEMS AND CONCERNS

- Built-out residential within riverine floodplain
- Riverine flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) straddles a drainage canal/slough and is located east of Phillippi Creek. It includes mostly residential structures. Due to the area's low elevation within Zone X and CFHA Zone AE, structures are subject to flooding from stormwater system backup, particularly during high rainfall events corresponding with high water levels. The structures in the RLA were constructed between 1930 and 1990, typically non-elevated, slab-on-grade foundations. Post-Firm constructed structures have been elevated on fill, stem walls, or posts. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade, Wood Frame Structures

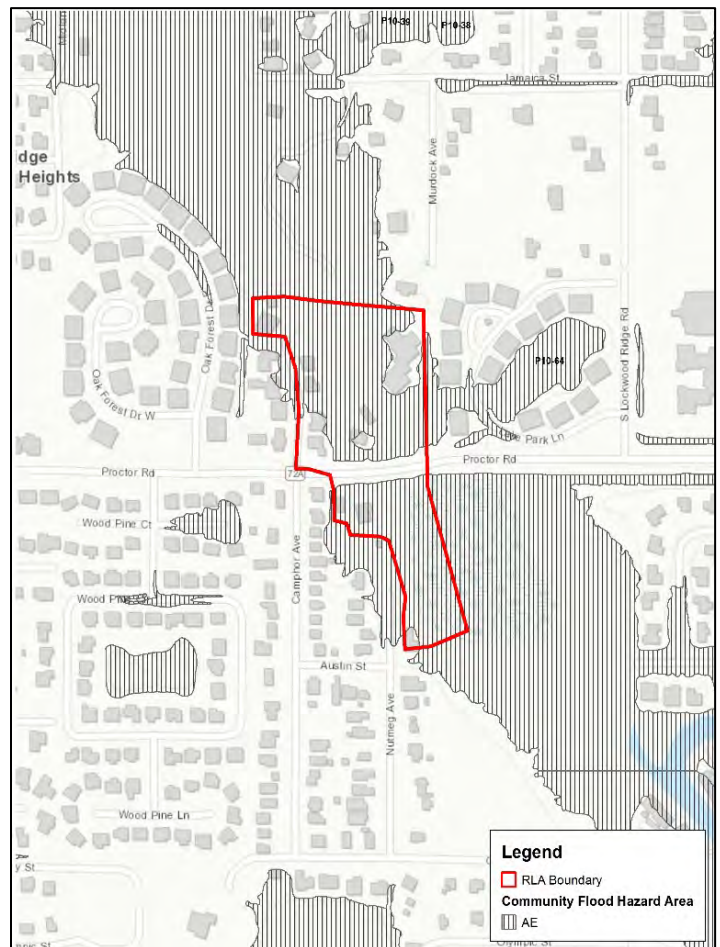


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
12	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
1	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
18	Insurance Claims (since 1978)
\$49.2	Total Insurance Claims (in thousands)
\$2.74	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Nutmeg Ave	Resident with 10-19 years residency, slab on grade, reported no flooding on property, relocated utilities/contents to a higher level to avoid flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for sixteen (16) of the eighteen (18) individual claims in the RLA, of which five (5) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been five (5) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	2
July 18, 1995	Un-Named Storm	9-11	2
November 14, 1997	Un-Named Storm	10	3
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
80%	Slab on grade
20%	Elevated slab on stem wall with fill
Composition	Frame Type
60%	Wood frame
40%	Concrete block/masonry
Composition	Number of Stories
90%	Single story
10%	Two story
Composition	Flood Zones
100%	Within Zone X
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Elevated Slab on Grade

Causes of Flooding

Overtopping of the Phillippi Creek banks cause flooding during major storm events particularly during period of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Major outfalls discharging to Phillippi Creek are likely to contribute to flooding conditions. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are typically in proximity to the creek banks, where the lots are relatively lower in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

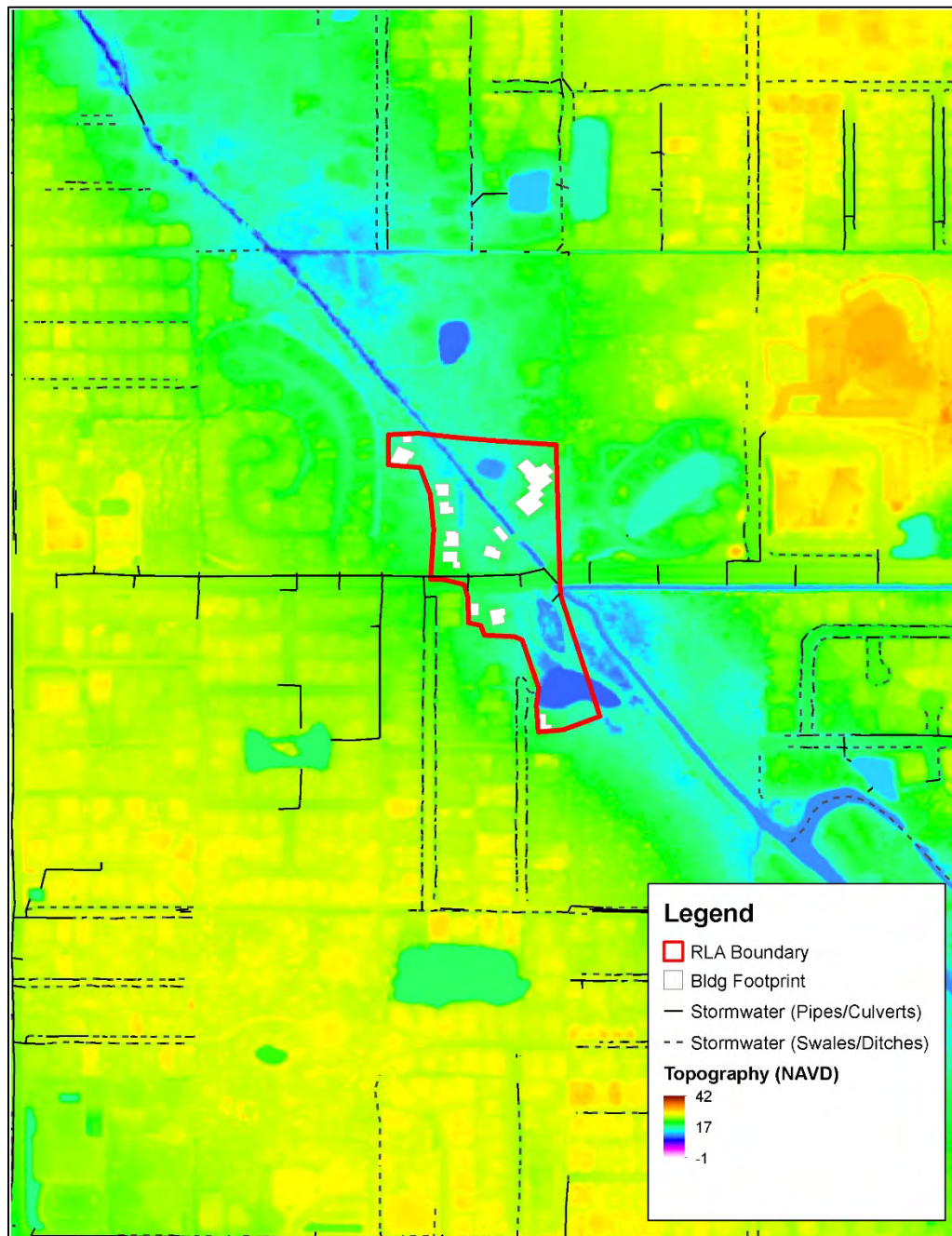


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes a collection of swales and storm pipes connecting to a drainage canal/ slough running through the RLA with close proximity to an outfall structure. The average FFE of structures in this area is above the BFE but risk flooding from stormwater system backup during high rainfall events corresponding with high water levels. Expansion of the stormwater system and re-grading of the lots would not likely provide mitigation to these structures and reduce the overall risk of flooding.

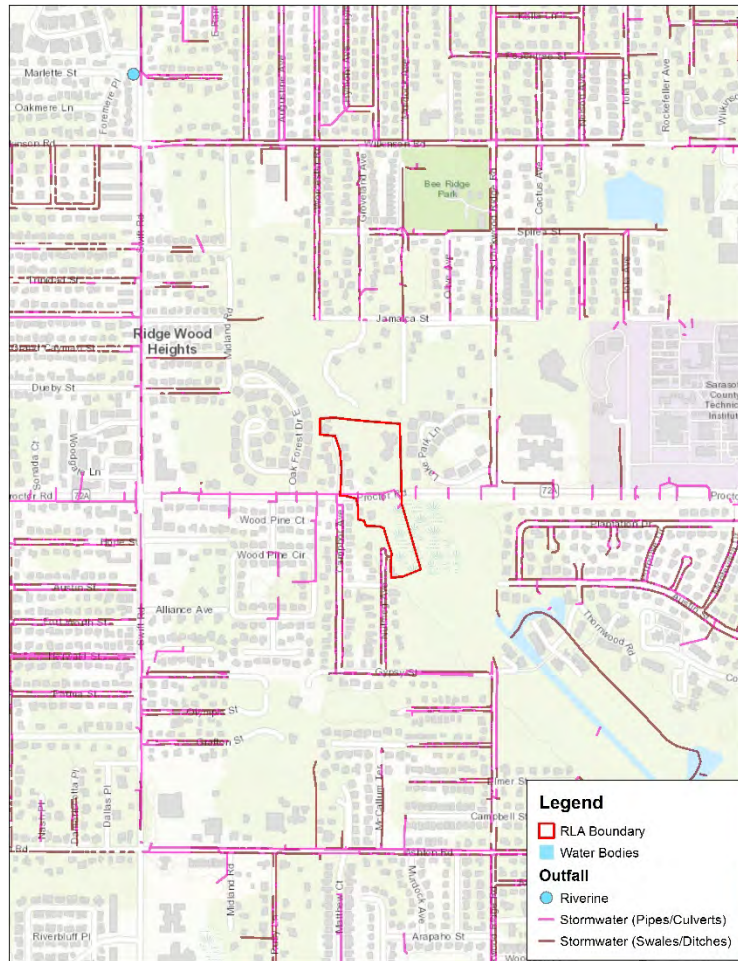


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to flooding from overtopping of the banks of Phillippi Creek, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA is connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Recommendations and Funding Source Opportunities

The properties located within RLA 50 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County/Public; HOA or property owner/Private	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
50 – PHC 19 Phillippi Creek	1	0	12	X AE (CFHA)	Proctor Rd Camphor Ave Nutmeg Ave	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 50: Phillippi Creek	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	12					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	18					
Total insurance claims (in thousands)	\$49.2					
Average insurance claim (in thousands)	\$2.74					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 51-PHC20 Phillippi Creek

Repetitive Loss Area (RLA) Overview

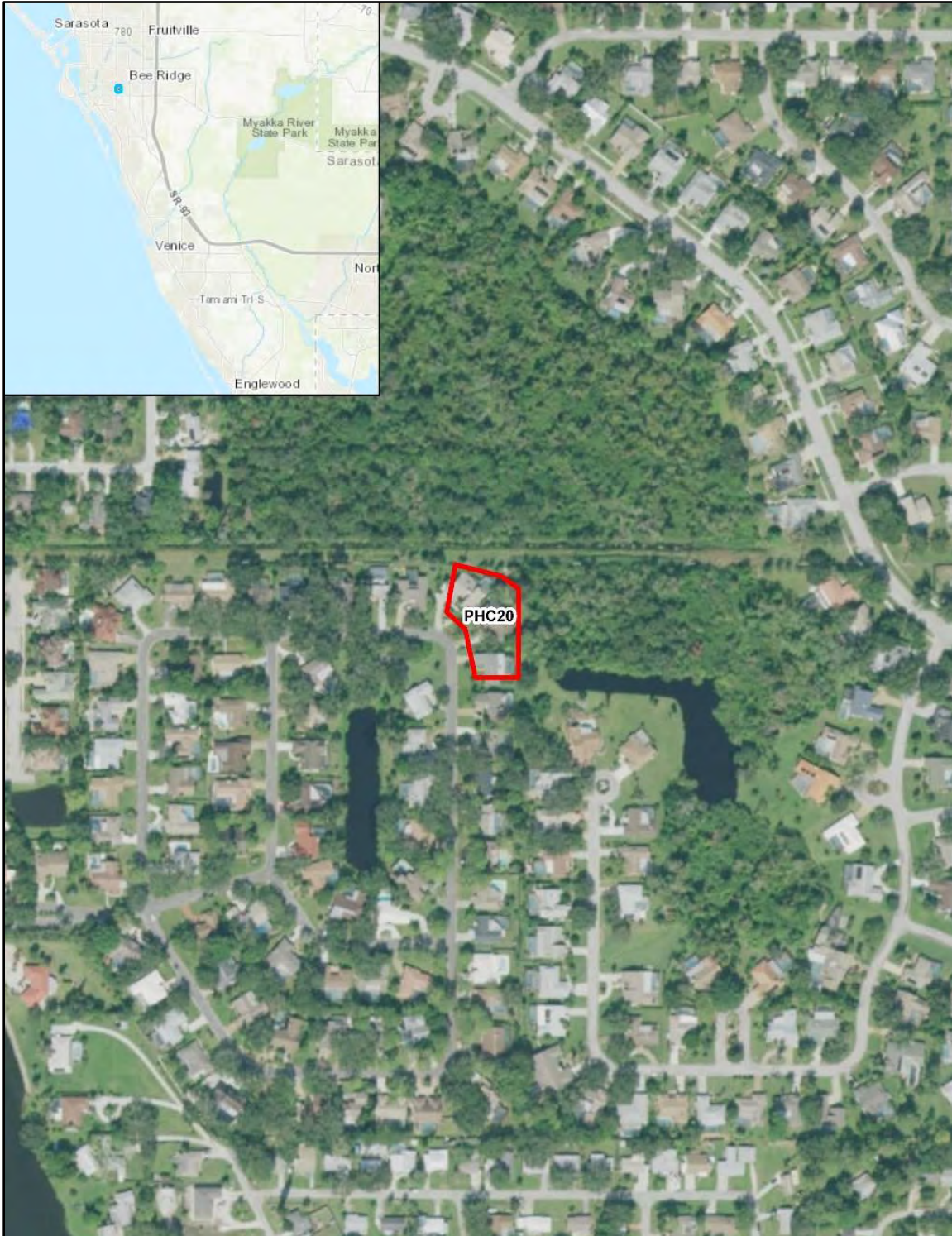


Figure 1: PHC20 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek
 LANDFORM: Riverine Shoreline
 AREA: 0.92 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Riverine flooding influences

Problem Statement

This Repetitive Loss Area (RLA) located south along a drainage canal between two wet retention ponds and a wetland, consists of single-family homes. The RLA is located within Zone X and CFHA Zone AE. Due to the area's close proximity to the drainage canals and retention ponds, the structures are subject to flooding from overtopping of the banks from stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek and Red Bug Slough. The median year built for the structures in the RLA is 1981, typically post-FIRM with non-elevated concrete slab-on-grade foundations accounting for 67% of the total and remaining structures elevated on posts/ stem walls. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

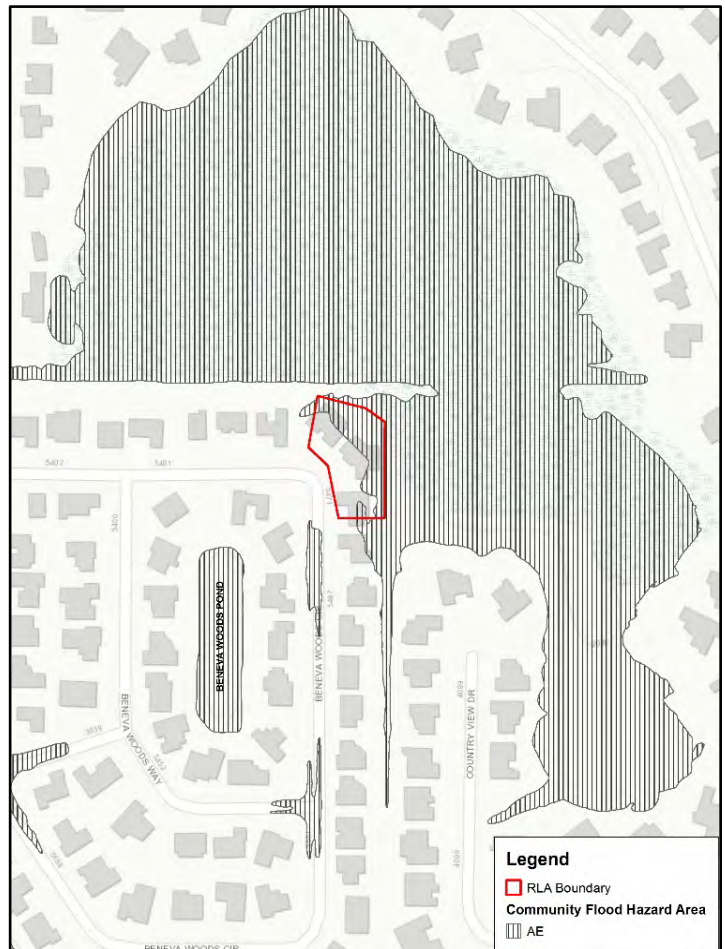


Figure 3: Spatial Distribution of Structures vs Flood Zones

Total	Repetitive Loss Data
3	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
2	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
3	Insurance Claims (since 1978)
\$255.7	Total Insurance Claims (in thousands)
\$85.26	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Beneva Woods Cir	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the three (3) individual claims in the RLA, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
67%	Slab on grade
33%	Elevated slab on stem wall with fill
Composition	Frame Type
100%	Wood frame
Composition	Number of Stories
33%	Single story
67%	Two story
Composition	Flood Zones
100%	Within Zone X
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Major outfalls to the drainage canal discharging to Phillippi Creek are likely to contribute to flooding conditions. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are typically in proximity to the drainage canal and other low-lying wetland areas, where the structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

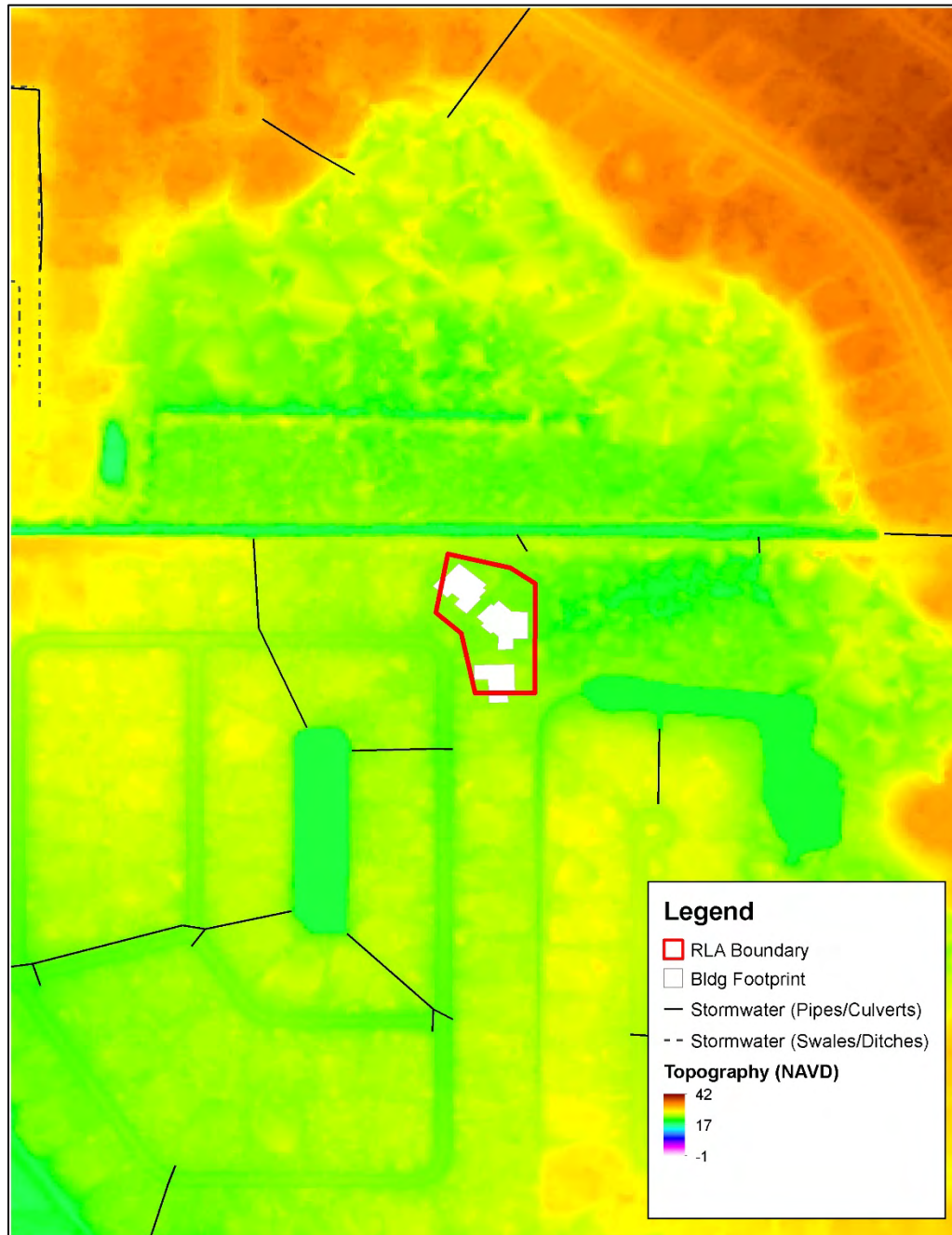


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system serving this RLA includes storm pipes, a retention pond, a wetland area, and a large stormwater discharge canal. Due to the higher elevations in this area it is unlikely that stormwater expansion for this RLA will provide mitigation from flooding.

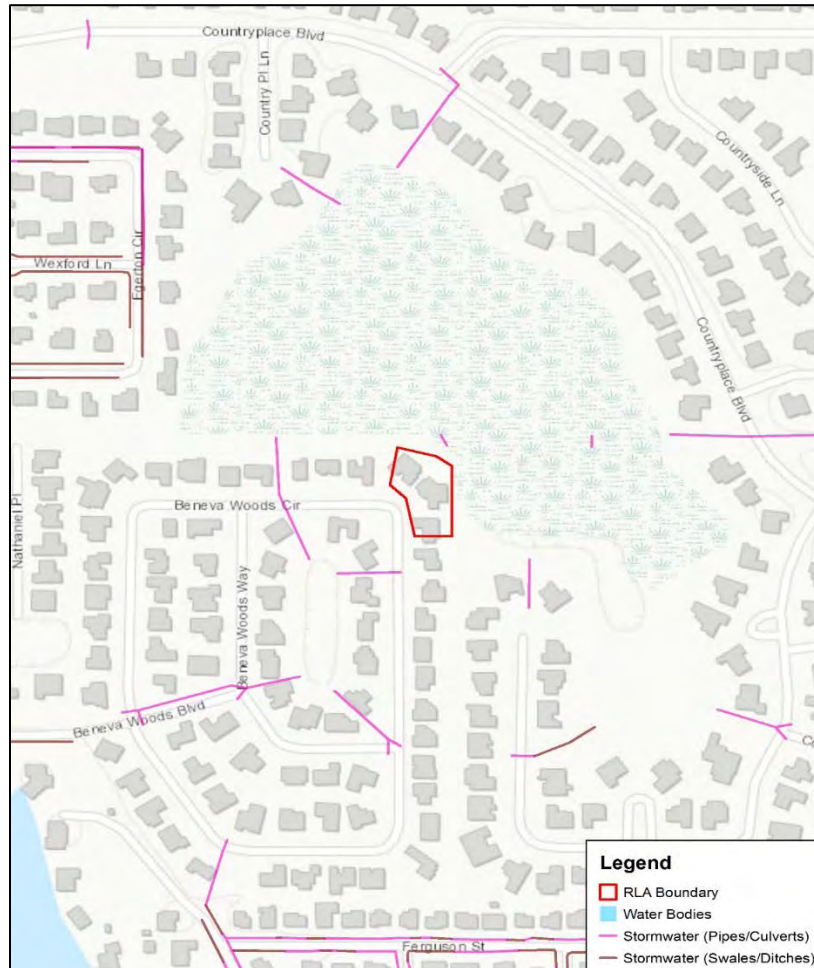


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The exposure to flooding from overtopping of the banks of the drainage canal and wetland areas, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 51 are subject to flooding due to heavy rainfall events. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County/Public; HOA or property owner/Private	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# or SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
51 – PHC 20 Phillippi Creek	1	0	3	X, AE (CFHA)	Beneva Woods Cir	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 51: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	3					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$255.7					
Average insurance claim (in thousands)	\$85.26					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 52-PHC21 Phillippi Creek

Repetitive Loss Area (RLA) Overview

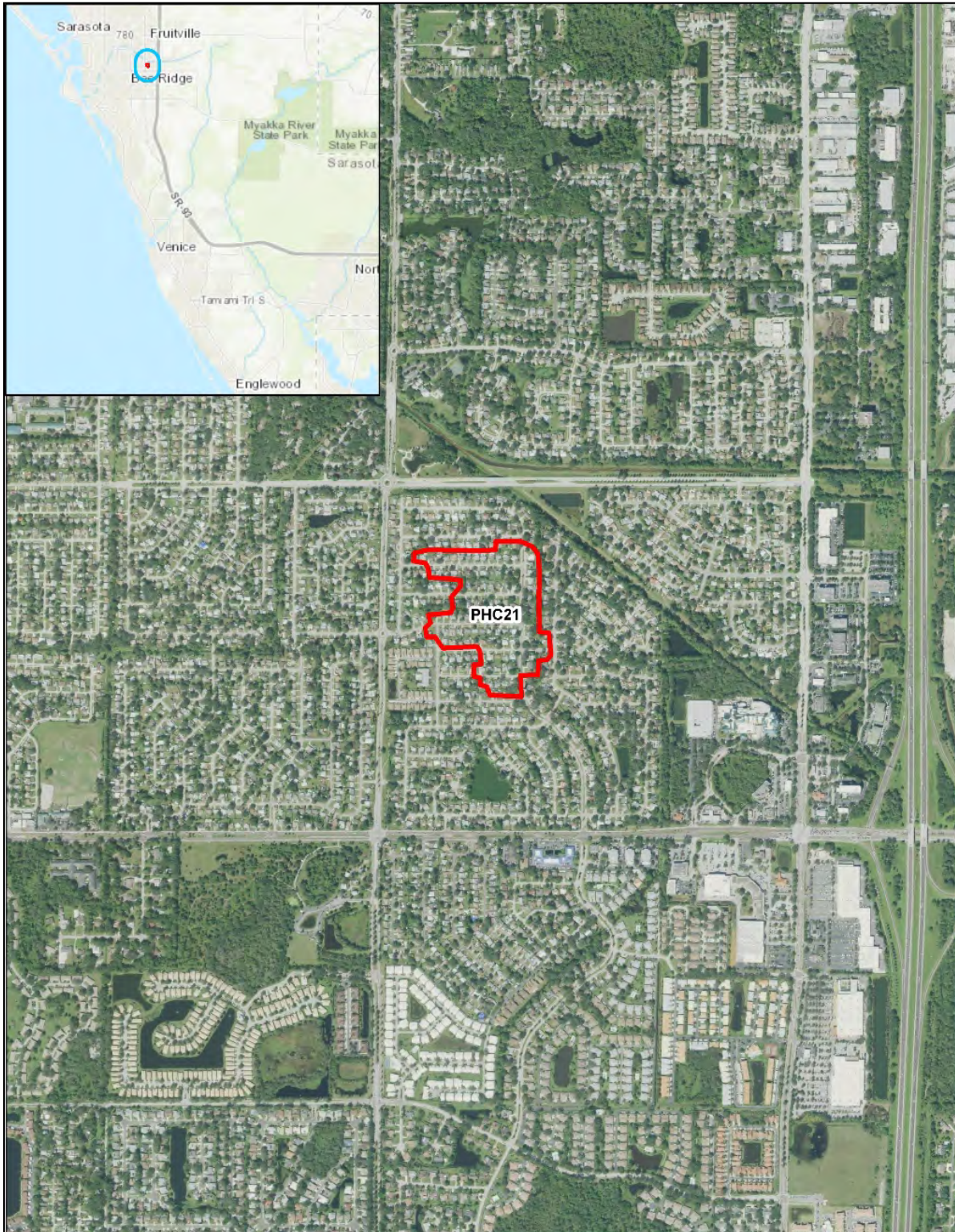


Figure 1: PHC21 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 36.88 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Both Riverine and Coastal flooding influences

Problem Statement

This Repetitive Loss Area (RLA) is located along the western shoreline of Phillippi Creek, south of Webber St., and includes primarily single-family residential structures. Due to the area's proximity to Phillippi Creek, structures are subject to flooding from overtopping of the riverbanks, as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. The structures in this RLA are located within Zone X, Shaded X, SFHA Zone AE, and CFHA Zone AE. The median year built for the structures is 1970, so while many are post-FIRM, there are several dating back to the 1960's, with non-elevated slab-on-grade structures accounting for all the structures. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 3: Slab on Grade Structure

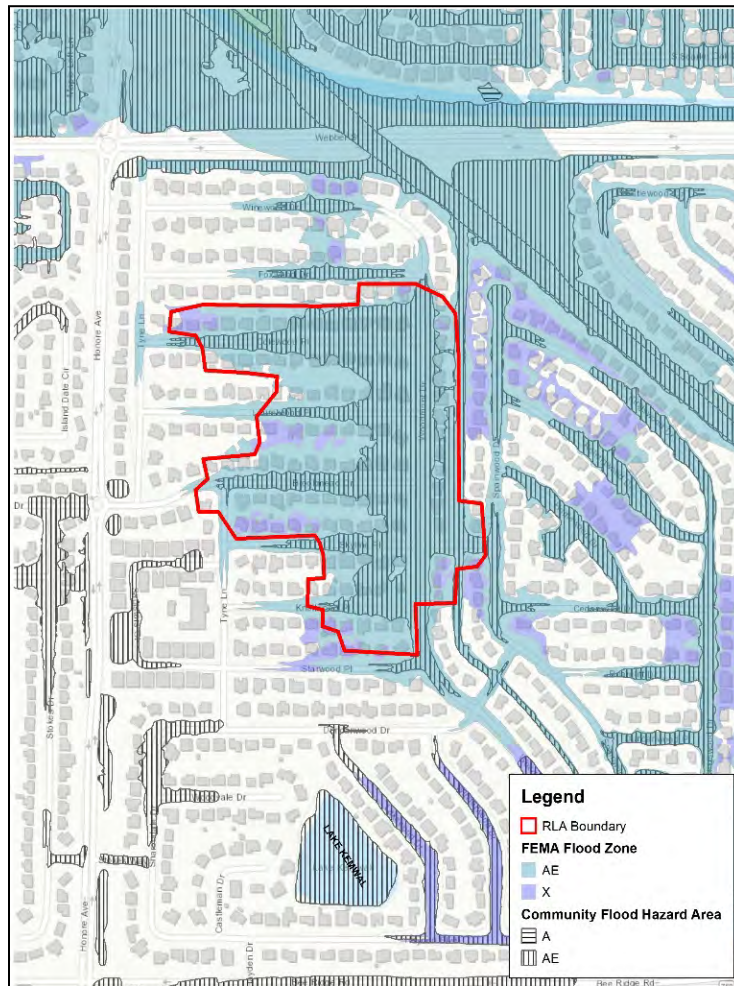


Figure 2: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
123	Total Structures in Repetitive Loss Area
10	Total Repetitive Loss Structures in this Area
71	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
10	Unmitigated RL & SRL Properties
92	Insurance Claims (since 1978)
\$1,658.2	Total Insurance Claims (in thousands)
\$17.83	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were six (6) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Woodmont Dr	Resident with 20-29 years residency, slab on grade, reports no flooding in home, cleared debris, shrubs and overgrowth to help promote sheet flow.
Knollwood Pl	Resident with more than 40 years residency, slab on grade, reports less than one-foot flooding in home lasting 8-12 hours in 1992, noted causes of flooding to be 100-year storm event, no measures have been taken to avoid future flooding.
Brookmeade Dr	Resident with less than 10 years residency, slab on grade, reported flooding in yard only near home, installed sump pump to combat flooding.
Skyline Pl	Resident with 10-19 years residency, slab on grade, reported flooding in yard only during heavy rain event.
Laurelwood Pl	Resident with less than 10 years residency, slab on grade, reported flooding in yard only.
Colewood Pl	Resident with 20-29 years residency, slab on grade, reported flooding inside structure less than 1-foot for a duration of 8-12 hours during two storm events (1994, 1995) caused by stormwater system backup.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for thirty-eight (38) of the ninety-two (92) individual claims in the RLA, of which eighty-six (86) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been nineteen (19) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	67
July 18, 1995	Un-Named Storm	9-11	17
November 14, 1997	Un-Named Storm	10	2
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
5%	Wood frame
95%	Concrete block/masonry
Composition	Number of Stories
99%	Single story
1%	Two story
Composition	Flood Zones
85%	Within SFHA Zone AE
15%	Within Zone X (shaded)
43%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks cause flooding during major storm events particularly during period of prolonged rainfall and repeated storms. Major outfalls to Phillippi Creek are likely to contribute to flooding conditions. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are typically in proximity to the creek banks, where the lots are relatively lower in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

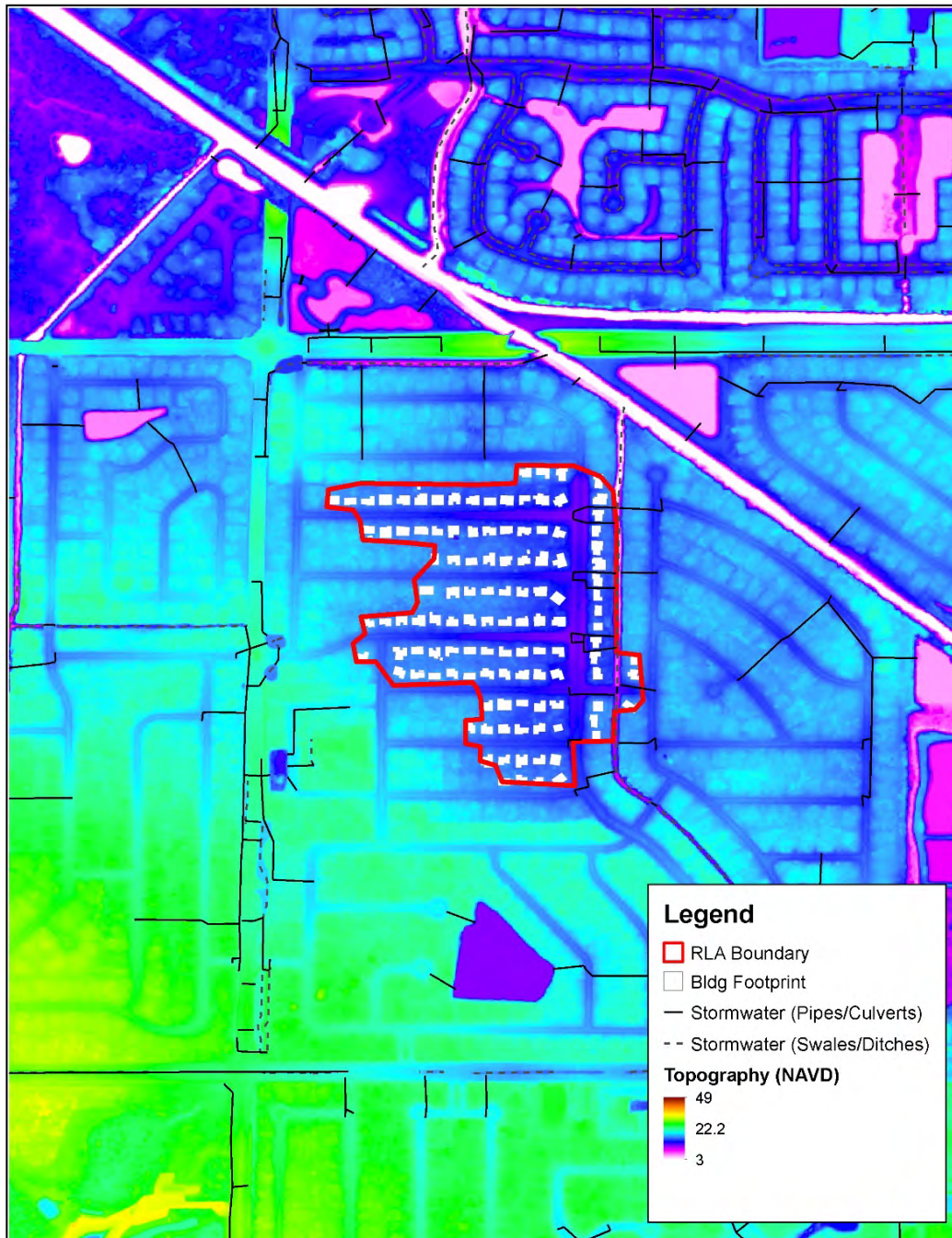


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system serving this RLA includes a collection of storm pipes and six (6) outfall structures discharging to Phillippi Creek and is maintained by the County. Based on site visits and resident surveys, the lots that do not have positive drainage away from the building should be re-graded to sheet flow towards the street or to the floodways based on site topography; doing so may be beneficial to direct low-level flood waters away from structures.

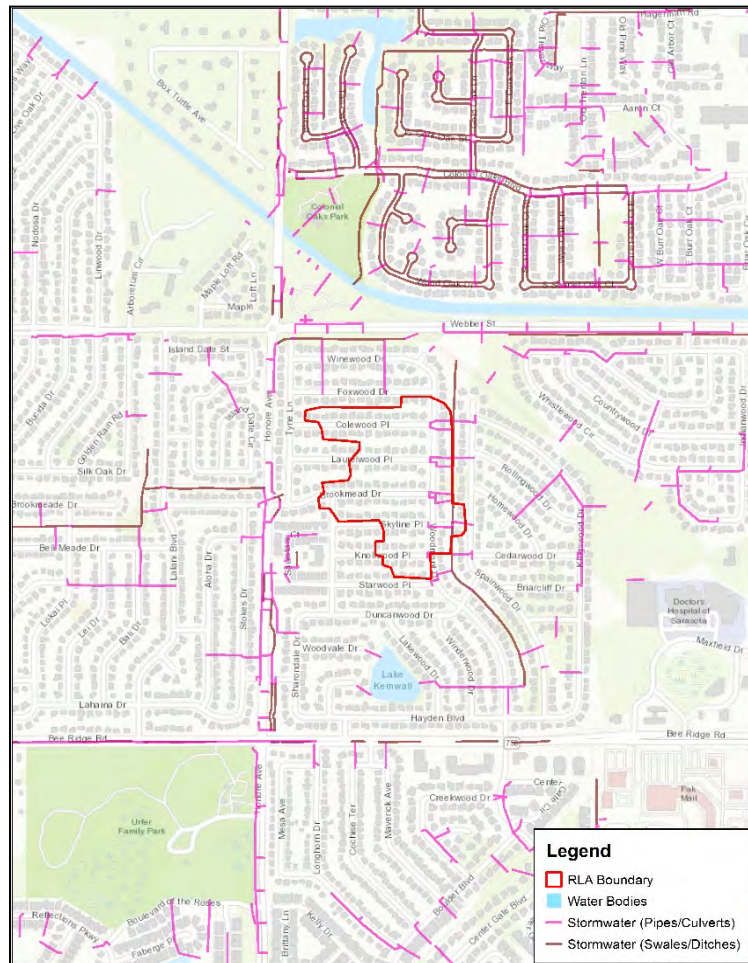


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The exposure to flooding from overtopping of the banks of Phillippi Creek, and stormwater backup, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 52 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# or SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
52 – PHC 21 Phillippi Creek	10	0	123	AE, X, Shaded X; AE (CFHA)	Woodmont Dr Colewood Pl Spainwood Dr Brookmeade Dr Lauralwood Pl Skyline Pl Knollwood Pl Starwood Pl Foxwood Dr	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 52: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	123					
Repetitive Loss (RL) Properties	10					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	92					
Total insurance claims (in thousands)	\$1,658.2					
Average insurance claim (in thousands)	\$17.83					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 53-PHC22 Phillippi Creek

Repetitive Loss Area (RLA) Overview

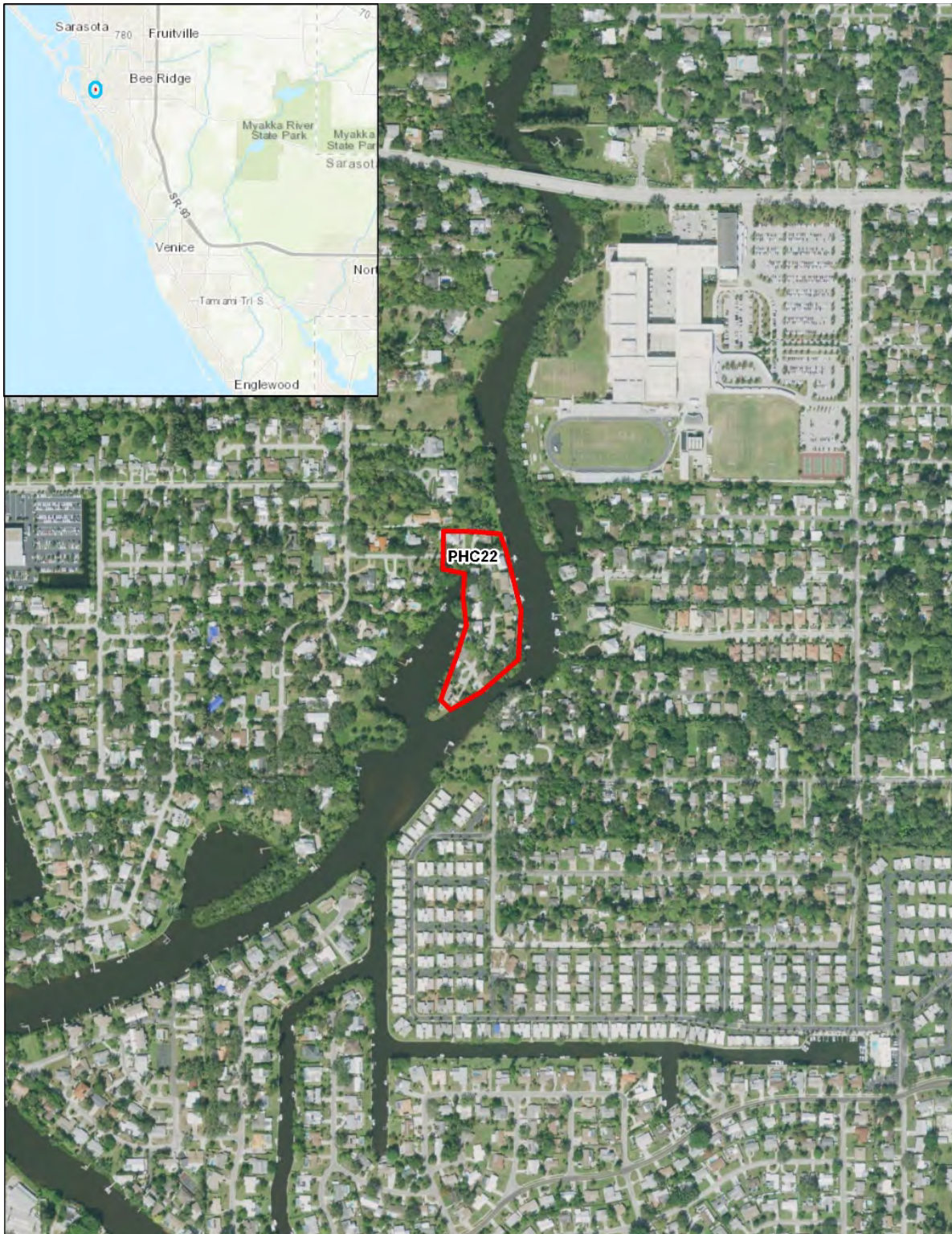


Figure 1: PHC22 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek
 LANDFORM: Riverine Shoreline
 AREA: 5.80 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Peninsula within Phillippi Creek
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located on a peninsula within Phillippi Creek and includes single-family residences. Due to the area's low elevation within SFHA Zone AE and CFHA Zone AE, structures are subject to flooding from overtopping of the riverbanks, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This tidal location on the creek is only 1.25 miles north of Roberts Bay and has tidal, backwater, and storm surge contributing to flooding conditions. The median year built for the structures in the RLA is 1973, typically pre-FIRM with non-elevated slab-on-grade structures accounting for 35% of the total. Post-FIRM constructed structures have been elevated on fill, stem walls, or posts to meet the Base Flood Elevation (BFE) of 10 feet NAVD. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure on Phillippi Creek Bank

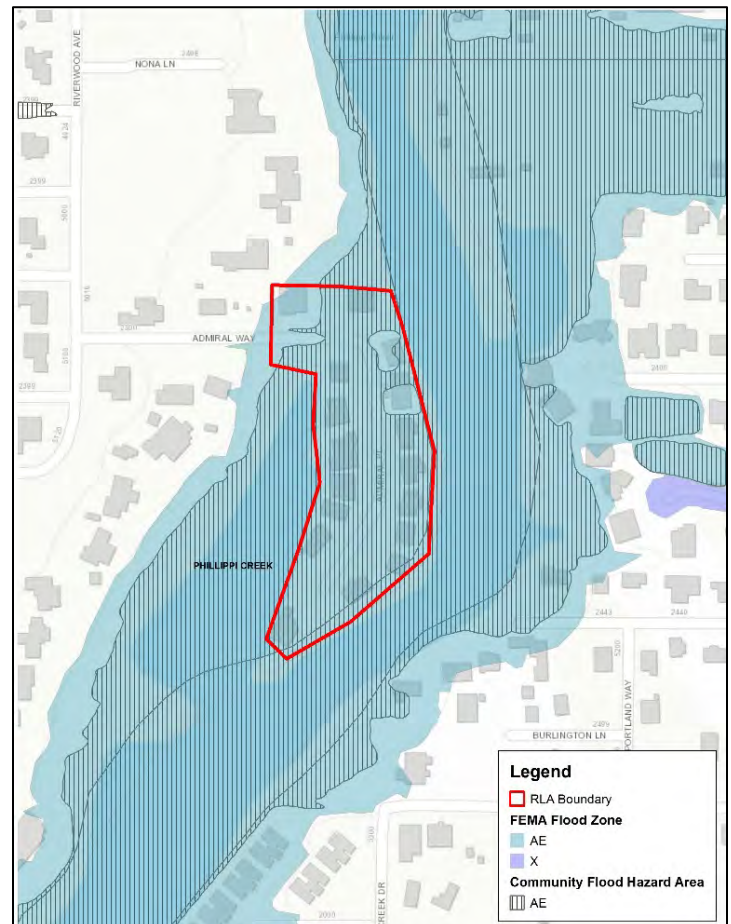


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
17	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
14	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
4	Insurance Claims (since 1978)
\$215.2	Total Insurance Claims (in thousands)
\$53.81	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Admiral Place	Resident with less than 10 years residency, elevated structure on posts/pilings, reported no flooding on property.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the four (4) individual claims in the RLA, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	1
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
35%	Slab on grade
6%	Elevated slab on stem wall with fill
41%	Elevated on foundation walls
18%	Elevated on post/piles
Composition	Frame Type
71%	Wood frame
29%	Concrete block/masonry
Composition	Number of Stories
29%	Single story
71%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE
94.1%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks cause flooding during major storm events particularly during period of prolonged rainfall and repeated storms, along with high tides and backwater from Roberts Bay. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are in proximity to the creek banks, where the lots are relatively lower in elevation and older structures are not significantly elevated above existing grade. This RLA is characterized by low-lying areas. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

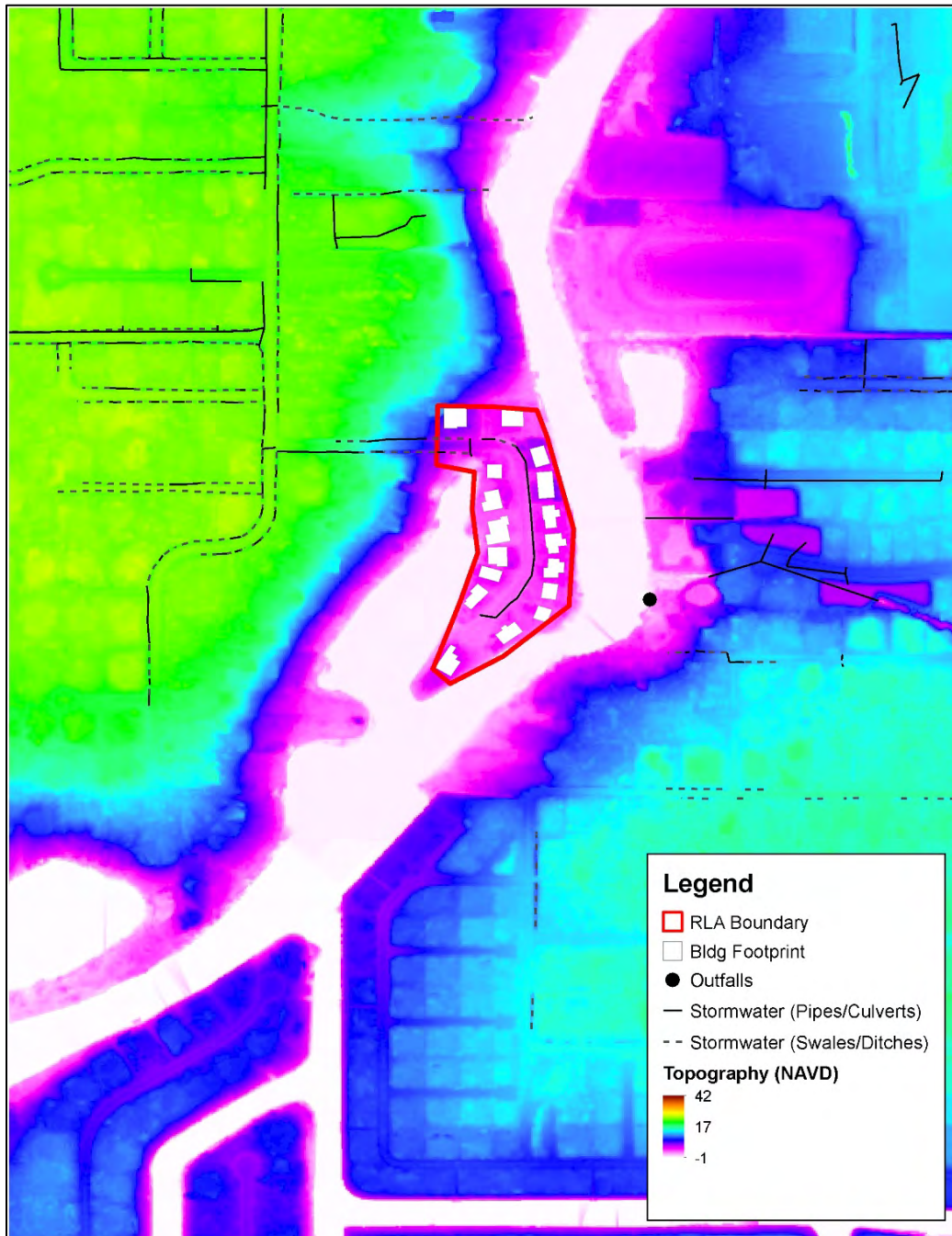


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system serving this RLA includes a collection of swales and storm pipes with one (1) outfall discharging directly into Phillippi Creek that is maintained by the County. Due to many of the structures being located on the creek banks, expansion of the stormwater infrastructure in this area is unlikely to provide mitigation from flooding caused by the overtopping of banks of Phillippi Creek.

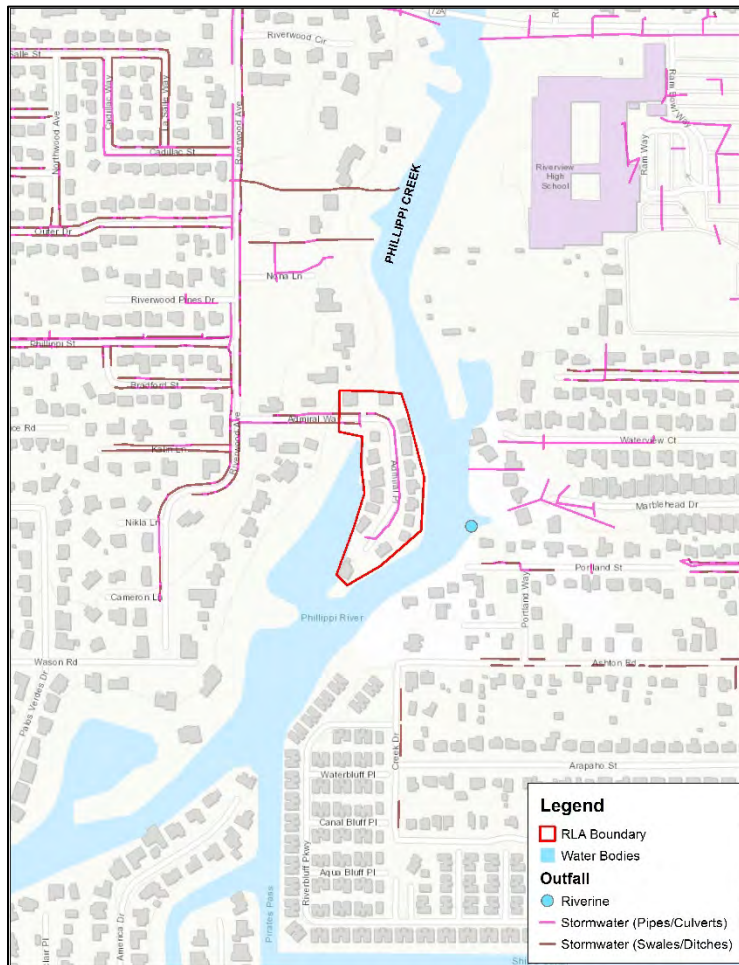


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The exposure to flooding from overtopping of the banks of Phillippi Creek, and the Finished Floor Elevation (FFE) for the structures estimated to be at 1.9 feet below the 10 feet NAVD Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 53 are subject to flooding due to heavy rainfall events, exacerbated by high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top 3 mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
53 – PHC 22 Phillippi Creek	1	0	17	AE (SFHA) AE (CFHA)	Admiral Way Admiral PI	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 53: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	17					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	4					
Total insurance claims (in thousands)	\$215.2					
Average insurance claim (in thousands)	\$53.81					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 54-PHC23 Phillippi Creek

Repetitive Loss Area (RLA) Overview

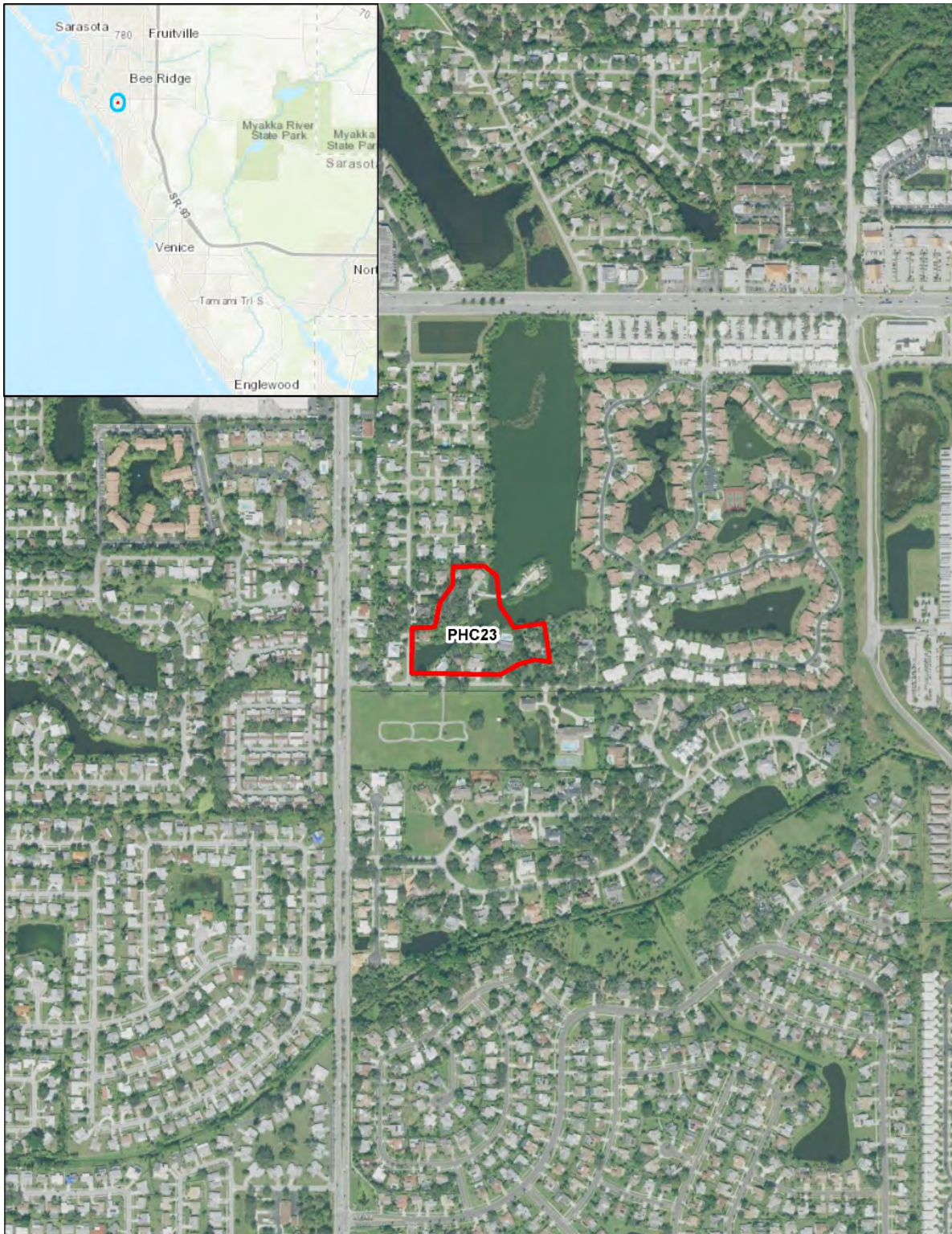


Figure 1: PHC23 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek
 LANDFORM: Riverine Shoreline
 AREA: 7.53 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Mirror Lake
- Built-out residential within riverine floodplain
- Riverine flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located along the southern shoreline of Mirror Lake, in a single-family residential neighborhood. Structures in this area are subject to flooding from overtopping of the banks of the lake as well as stormwater system backup for the system discharging into Mirror Lake. The structures in this RLA are located within Zone X, SFHA Zone A, and CFHA Zone AE. The median year built for the structures is 1972, so while typically post-FIRM with non-elevated slab-on-grade structures accounting for 80% of the total. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structures

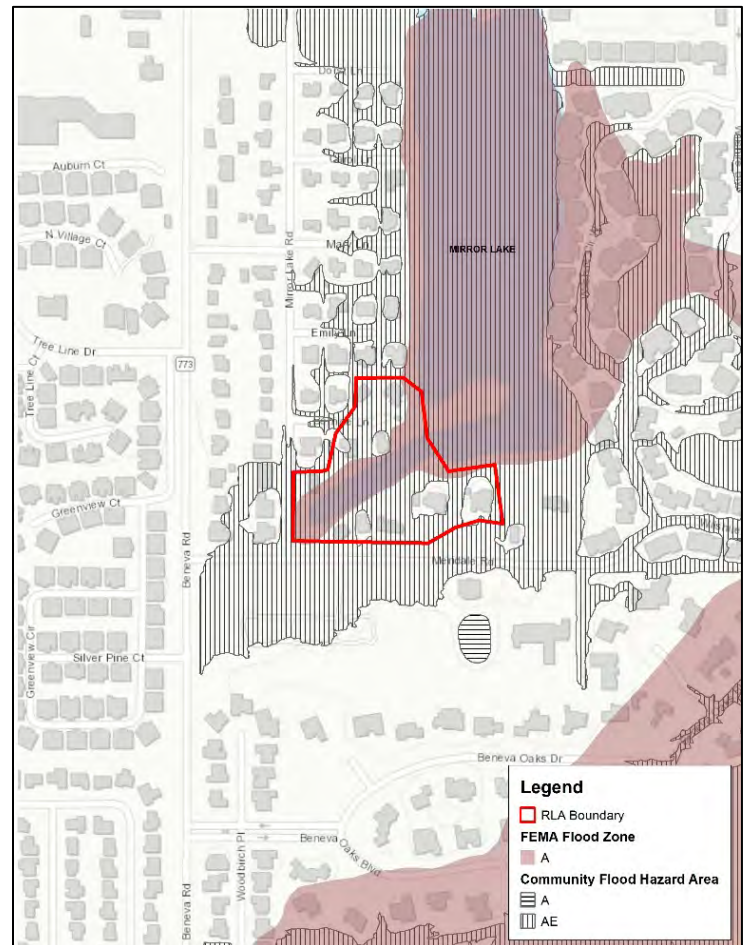


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
10	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
3	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
1	Unmitigated RL & SRL Properties
4	Insurance Claims (since 1978)
\$34.5	Total Insurance Claims (in thousands)
\$8.64	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Bernice Lane	Resident with less than 10 years residency, slab on grade, reported no flooding on property, completed shoreline refurbishment to help combat flooding
Bernice Lane	Resident with 30-39 years residency, elevated structure on posts/stemwall/slab on grade, reported flooding in yard only caused by overbank flooding from nearby waterways.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the four (4) individual claims in the RLA, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been two (2) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	2
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
80%	Slab on grade
10%	Elevated slab on stem wall with fill
10%	Elevated on post/piles or walls
Composition	Frame Type
30%	Wood frame
70%	Concrete block/masonry
Composition	Number of Stories
70%	Single story
30%	Two story
Composition	Flood Zones
20%	Within SFHA Zone A
80%	Within Zone X
70%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Mirror Lake banks causes flooding during major storm events, particularly during period of prolonged rainfall and repeated storms. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are typically in proximity to the lake banks, where the lots are relatively lower in elevation and older structures are not significantly elevated above existing grade. The RLA is within Zone X, SFHA Zone A, and CFHA Zone AE. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

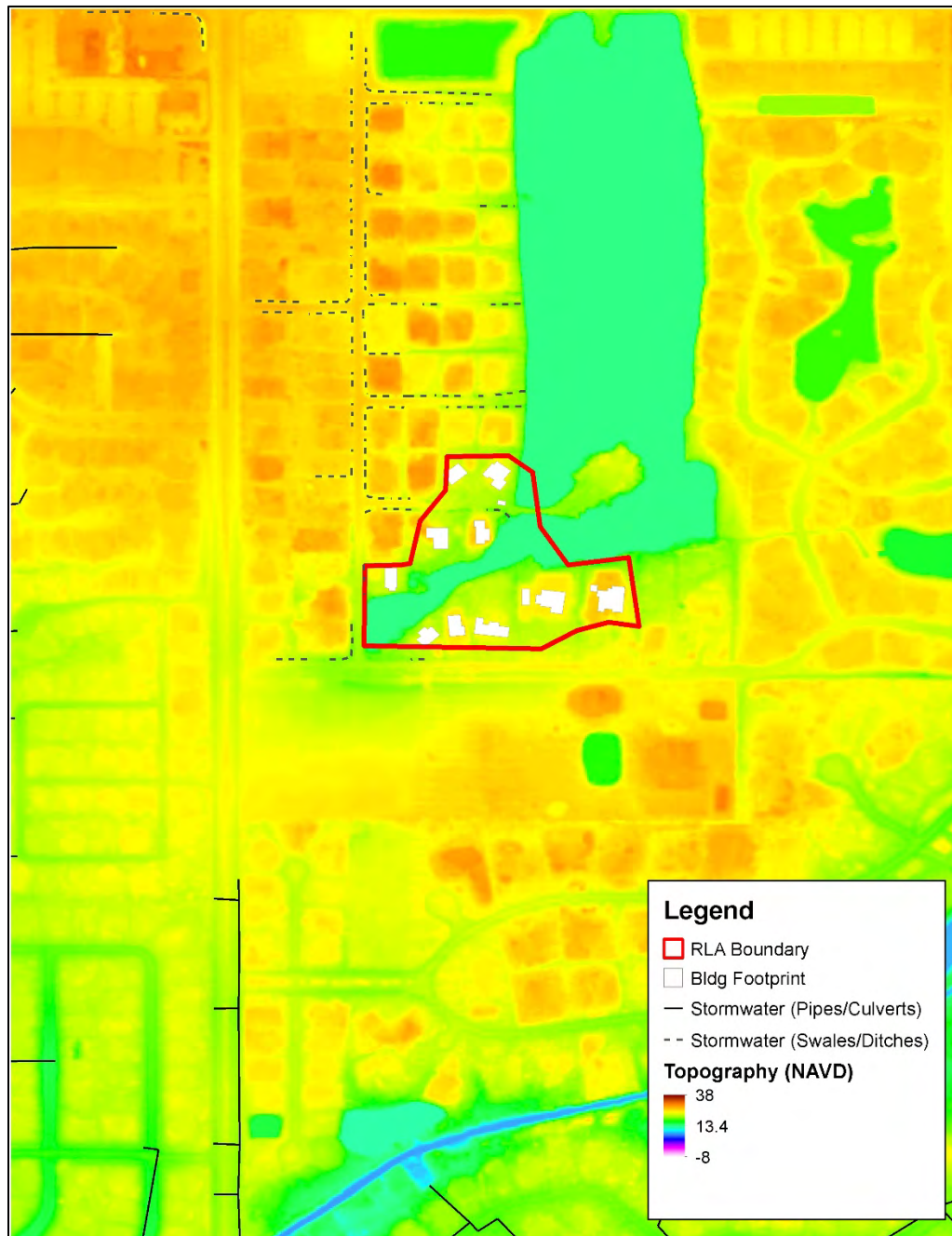


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility system serving this RLA includes a collection of swales and storm pipes that discharge into Mirror Lake. Based on site visits and resident surveys, the lots that do not have positive drainage away from the building should be regraded to sheet flow towards the street or to the floodways based on site topography; doing so may be beneficial to direct low-level flood waters away from the structure. Low elevations of lots means stormwater backup and inundation can occur when the lake is at or near top of bank. Review of maintenance records indicate that the stormwater infrastructure is maintained by County.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The exposure to flooding from overtopping of the banks of Mirror Lake, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA utilize a combination of both County sewer and on-site septic systems to dispose of wastewater. With proper maintenance and the installation of a backflow preventer, there will not be sewer backup during a flooding event. Septic systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 54 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
54 – PHC 22 Phillippi Creek	1	0	10	A (SFHA), X AE (CFHA)	Meridale Rd Bernice Ln Mirror Lake Rd	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 54: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	10					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	4					
Total insurance claims (in thousands)	\$34.5					
Average insurance claim (in thousands)	\$8.64					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 55-PHC24 Phillippi Creek

Repetitive Loss Area (RLA) Overview



Figure 1: PHC24 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek (Middle)
 LANDFORM: Riverine Shoreline
 AREA: 3.19 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out commercial within riverine floodplain
- Island within Phillippi Creek
- Both Riverine and Coastal flooding influences
- Minimal shoreline protection along banks

Problem Statement

This Repetitive Loss Area (RLA) is located on an island within Phillippi Creek, with a major highway on the western boundary line. Phillippi Creek forms an island that includes commercial structures. Due to the area's low elevation within SFHA Zone AE and CFHA Zone AE and major highway system, structures are subject to flooding from overtopping of the riverbanks as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This tidal location on the creek is only 0.75 miles north of Roberts Bay and has tidal, backwater, and storm surge contributing to flooding conditions. The median year built for the structures is 1950, typically pre- FIRM with non-elevated slab-on-grade construction, with average First Floor Elevation (FFE) at 8.2 feet below the Base Flood Elevation (BFE) of 10 feet NAVD. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Commercial Slab on Grade Structures



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
4	Total Structures in Repetitive Loss Area
2	Total RL and SRL Structures in this Area
2	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
2	Unmitigated RL & SRL Properties
18	Insurance Claims (since 1978)
\$150.4	Total Insurance Claims (in thousands)
\$8.36	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Tamiami Trl	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for seventeen (17) of the eighteen (18) individual claims in the RLA, of which eleven (11) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been four (4) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	3
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	4
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	2
September 14, 2001	Tropical Storm Gabrielle	5-10	2
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
100%	Wood frame
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
100%	Within SFHA Zone AE
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Low Elevation, Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks cause flooding during major storm events particularly during period of prolonged rainfall and repeated storms, exacerbated by high tides and backwater from Roberts Bay. This RLA is located on an island and a major roadway that runs through it. Review of the spatial relationship between historical flood damage claims, the stormwater system and drainage patterns indicate that properties are typically in proximity to the creek banks, where the lots are relatively lower in elevation, and older structures are not elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

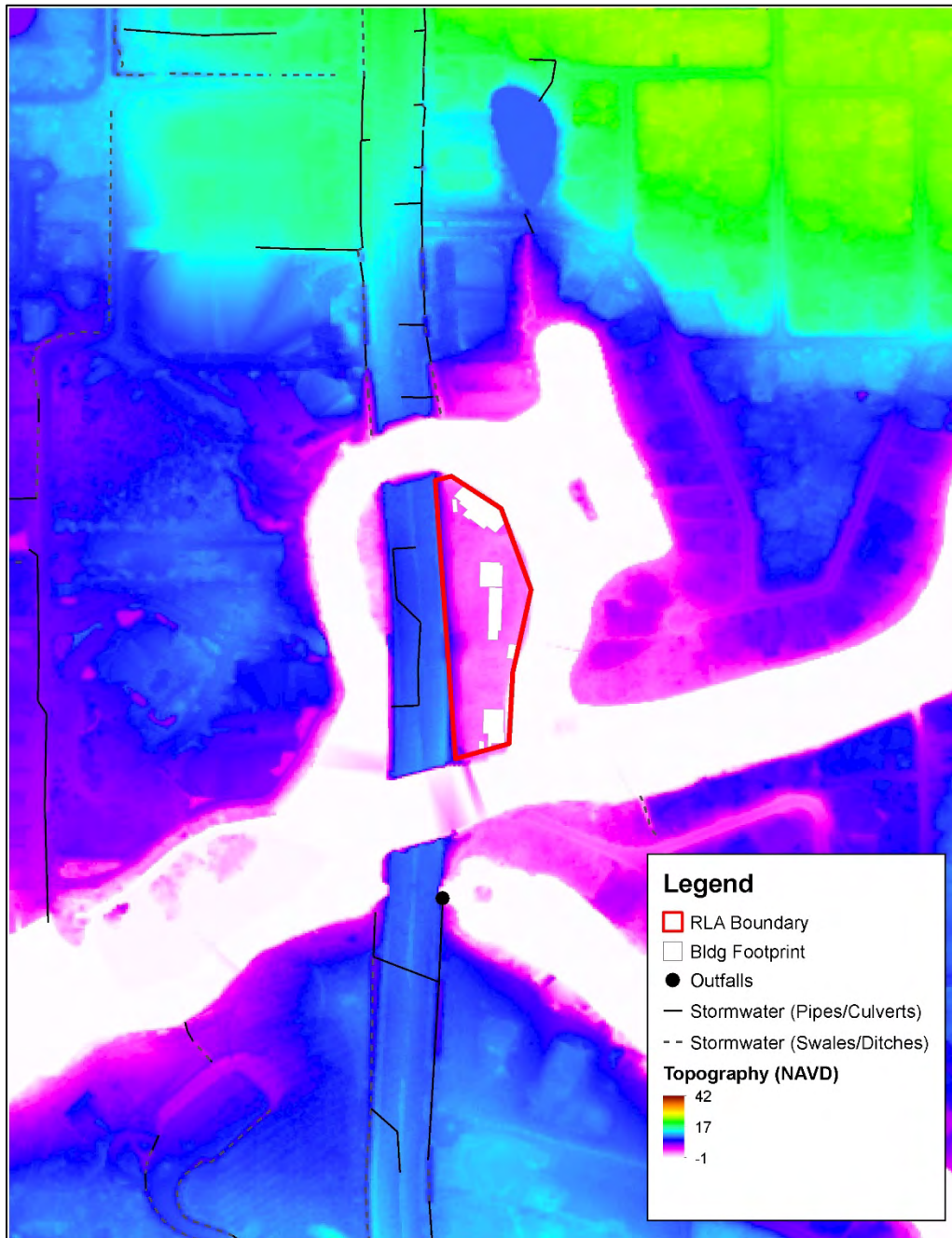


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system in this RLA includes storm pipes and an outfall structure draining US 41 off the island. Low elevations of lots averaging less than 1.8 feet NAVD, means stormwater backup and inundation can occur when the Creek is at or near top of bank. Review of maintenance records indicate that the stormwater infrastructure system on Tamiami Trl is maintained by County. It is unlikely that expansion of the stormwater infrastructure in this area will provide mitigation for this RLA.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to flooding from overtopping of the banks of Phillippi Creek, and the average Finished Floor Elevation (FFE) for the structures estimated to be at 8.2 feet NAVD below the 10 feet NAVD Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 55 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
55 – PHC 24 Phillippi Creek	2	0	4	AE (SFHA) AE (CFHA)	Tamimi Trl	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 55: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	4					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	18					
Total insurance claims (in thousands)	\$150.4					
Average insurance claim (in thousands)	\$8.36					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 56-PHC25 Phillippi Creek

Repetitive Loss Area (RLA) Overview

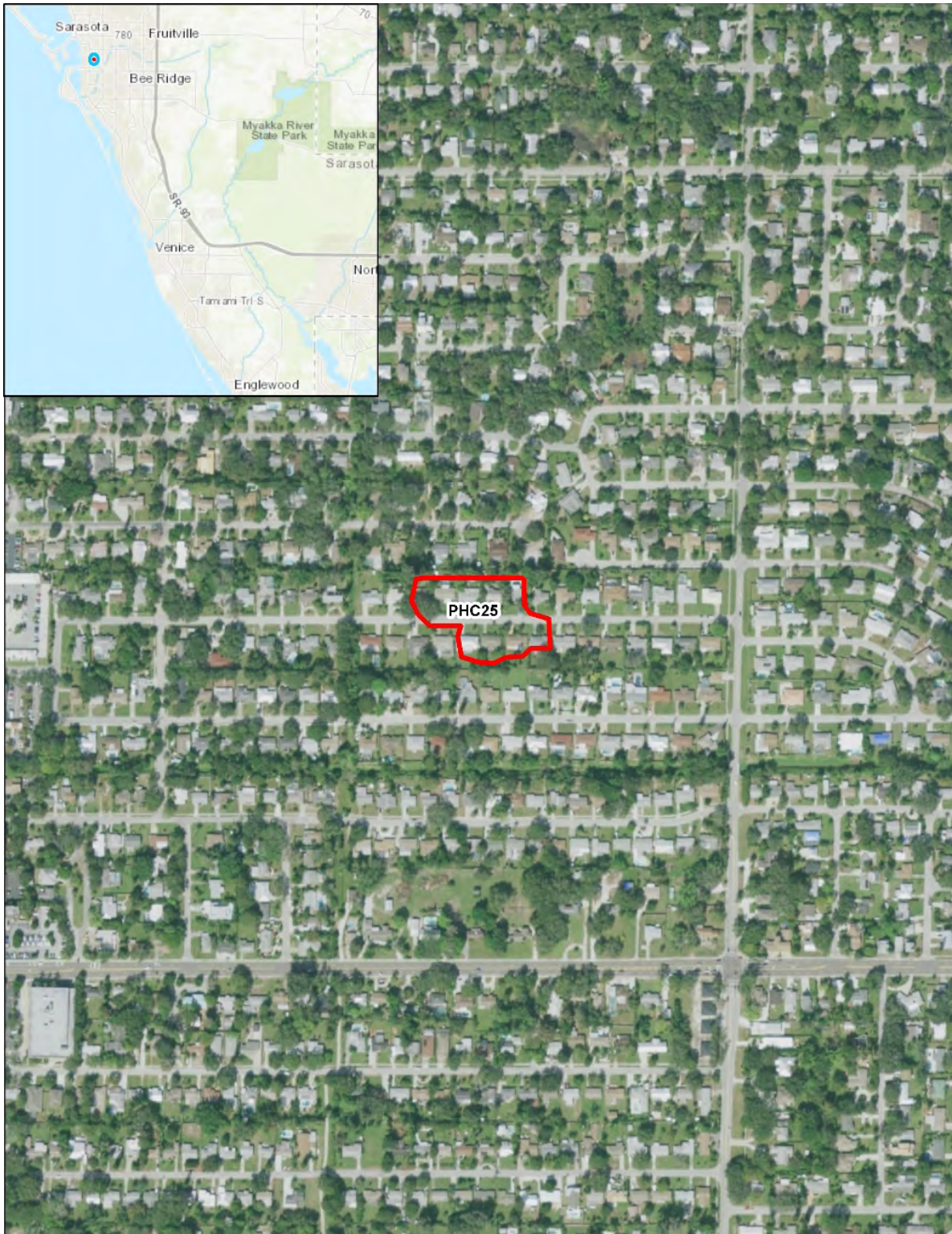


Figure 1: PHC25 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek
 LANDFORM: Riverine Shoreline
 AREA: 2.61 acres

FLOODING PROBLEMS AND CONCERNS

- Built-out residential within riverine floodplain
- Stormwater backup
- Slab on grade structures

Problem Statement

This Repetitive Loss Area (RLA) is located east of Phillippi Creek with two (2) major drainage canals to the west and south that discharge to Phillippi Creek. The structures in this RLA are within Zone X and CFHA Zone AE and consist of single-family, non-elevated slab-on-grade structures constructed in the 1950s and 1960s, so typically pre-FIRM structures. Due to the area's location to the drainage canal, structures are subject to flooding from overtopping of the riverbanks as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. This portion of Phillippi Creek is not tidally influenced, which could contribute to flooding conditions. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

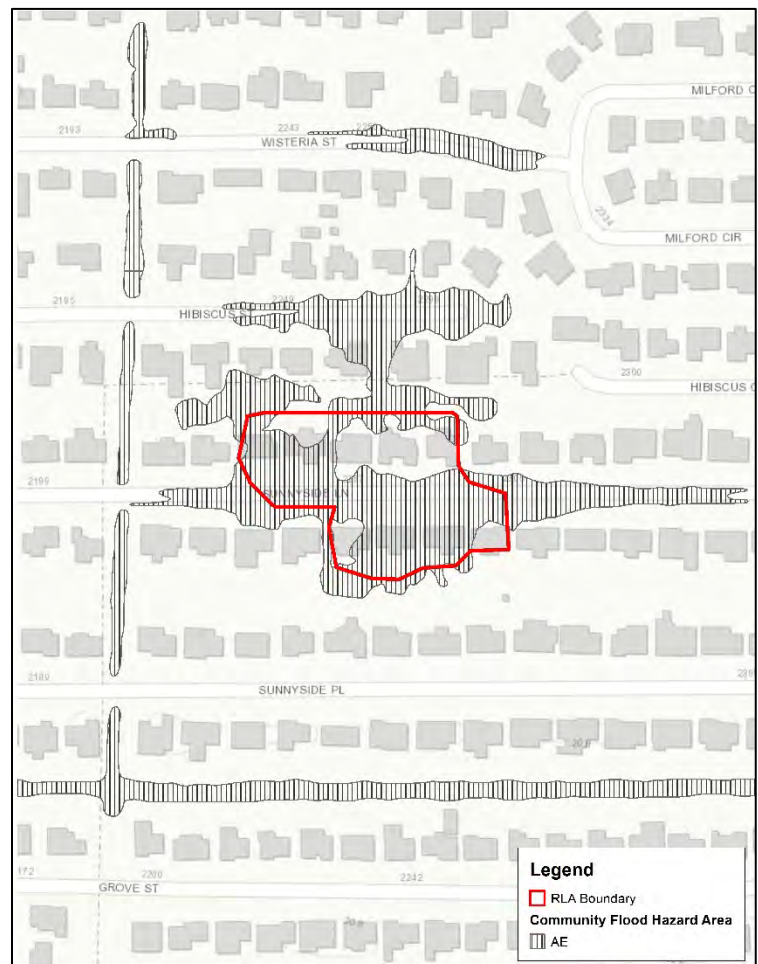


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
9	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
2	Properties w/Active Insurance Policies
0	Mitigated RL & SRL Properties
2	Unmitigated RL & SRL Properties
8	Insurance Claims (since 1978)
\$69.3	Total Insurance Claims (in thousands)
\$8.67	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Sunnyside Ln	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for four (4) of the eight (8) individual claims in the RLA, of which four (4) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been three (3) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	3
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
11%	Wood frame
89%	Concrete block/masonry
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
100%	Within Zone X
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks cause flooding during major storm events particularly during period of prolonged rainfall and repeated storms. Major outfalls to Phillippi Creek are likely to contribute to flooding conditions. Review of the spatial relationship between historical flood damage claims, the stormwater system, and drainage patterns indicate that properties are typically in proximity to the drainage canal banks, where the lots are older structures, and are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

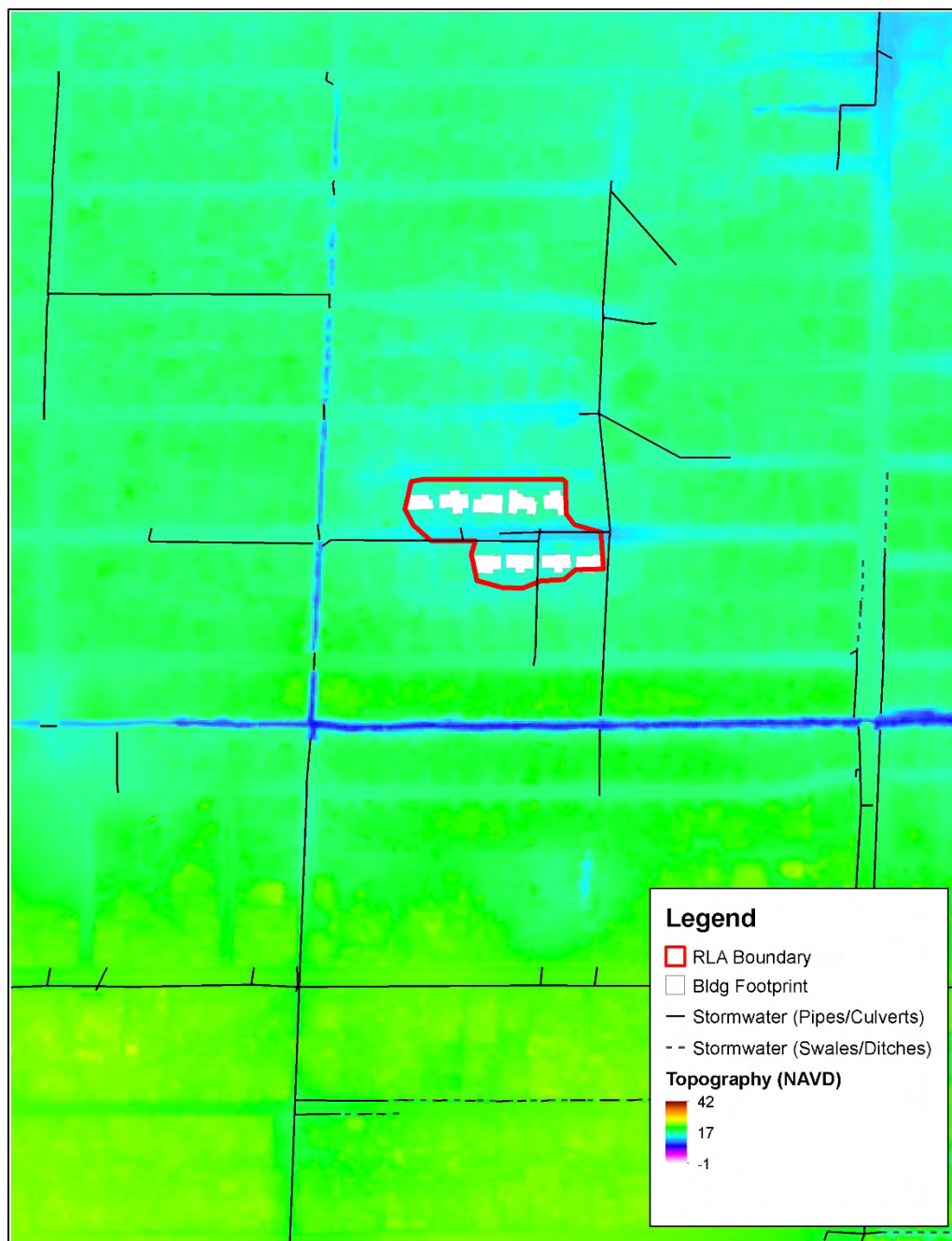


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system in this RLA includes a combination of F-curb on the edges of pavement of Sunnyside Ln. leading to swales and storm pipes that discharge into two (2) drainage canals as part of the County's maintained stormwater infrastructure system. It is unlikely that expansion of the stormwater infrastructure in this area will provide mitigation from stormwater backup and flooding.

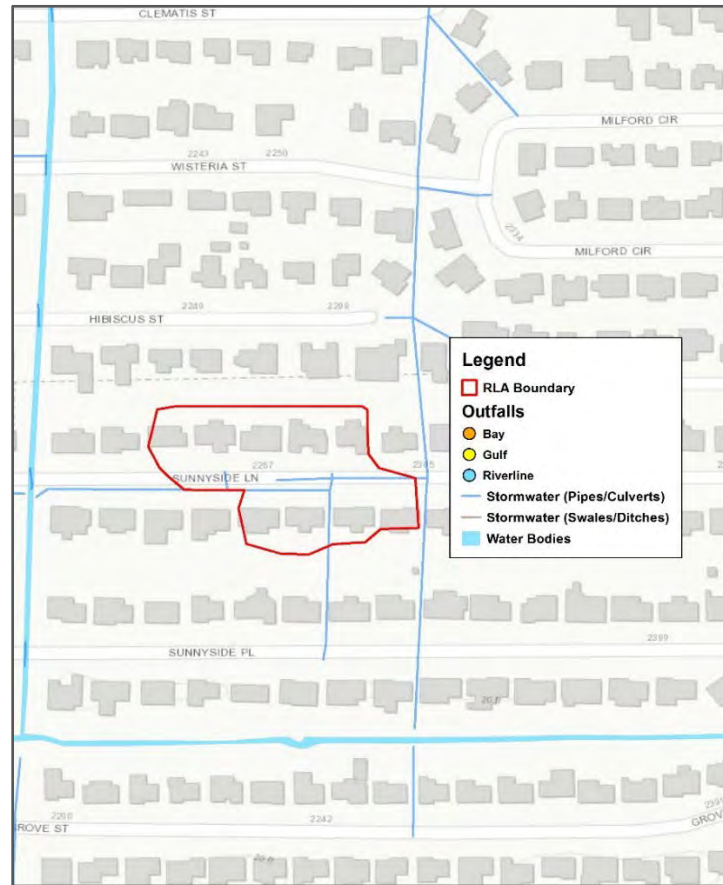


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to flooding from overtopping of the banks of Phillippi Creek, and stormwater system backup, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Recommendations and Funding Source Opportunities

The properties located within RLA 56 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will continue to encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in pursuing grant mitigation, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
56 – PHC 24 Phillippi Creek	2	0	9	X (SFHA) AE (CFHA)	Sunnyside Ln	1, 3, 2

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 56: Phillippi Creek	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	9					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	8					
Total insurance claims (in thousands)	\$69.3					
Average insurance claim (in thousands)	\$8.67					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 57-PHC26 Phillippi Creek

Repetitive Loss Area (RLA) Overview

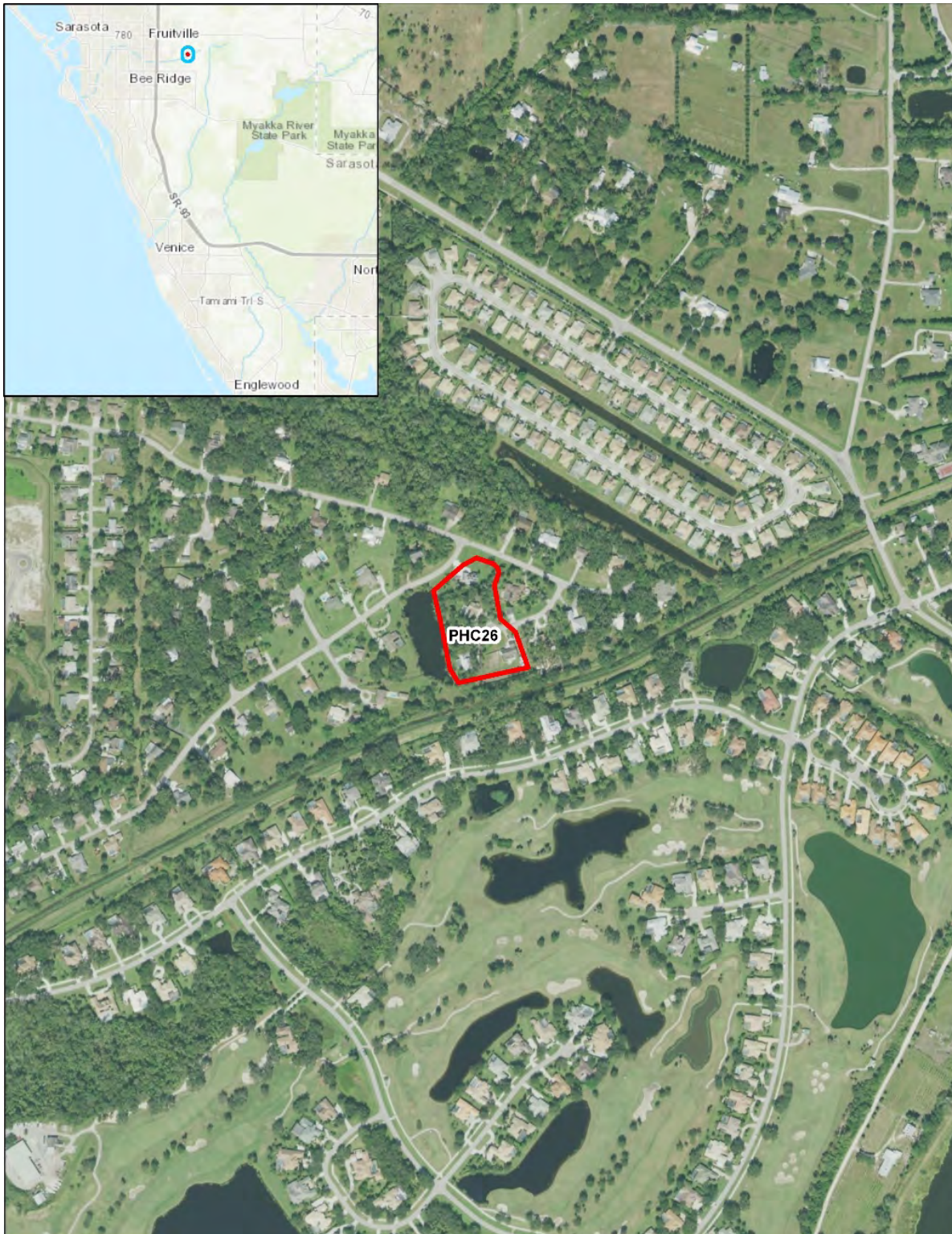


Figure 1: PHC26 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek
 LANDFORM: Riverine Shoreline
 AREA: 4.49 acres

FLOODING PROBLEMS AND CONCERNS

- Overtopping banks from Phillippi Creek
- Built-out residential within riverine floodplain
- Riverine flooding influences
- Minimal shoreline protection along banks
- Stormwater system backup

Problem Statement

This Repetitive Loss Area (RLA) is located along the northern shoreline of Phillippi Creek and includes single-family residential structures. Due to the area's elevation within Zone X and CFHA Zone AE, structures are subject to flooding from overtopping of the banks of the creek as well as possible stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek, as noted in the resident survey. The median year built for the structures is 1980, typically post-FIRM with non-elevated slab-on-grade structures accounting for 33% of the total. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure on Phillippi Creek Bank



Figure 2: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
6	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
0	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
2	Unmitigated RL and SRL Properties
7	Insurance Claims (since 1978)
\$77.3	Total Insurance Claims (in thousands)
\$11.05	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
N Leewynn Way	Resident with less than 10 years residency, stem wall with crawl space, reports 2-3 feet of flooding in home for more than one day during year 2016, cited overbank flooding from nearby waterways, cleared debris, shrubs and overgrowth to help combat flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the seven (7) individual claims in the RLA, of which all corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been seven (7) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	2
September 14, 2001	Tropical Storm Gabrielle	5-10	3
June 23, 2003	Un-Named Storm	8-10	2
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
33%	Slab on grade
33%	Elevated slab on stem wall with fill
17%	Elevated on post/piles or walls
17%	Undetermined due to vegetation/access
Composition	Frame Type
100%	Wood frame
Composition	Number of Stories
50%	Single story
50%	Two story
Composition	Flood Zones
100%	Within Zone X
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Raised Slab on Grade Structure

Causes of Flooding

Overtopping of the Phillippi Creek banks cause flooding during major storm events particularly during period of prolonged rainfall and repeated storms. Review of the spatial relationship between historical flood damage claims, the stormwater system, and drainage patterns indicate that properties are typically in close proximity to the creek banks, where the lots are relatively lower in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

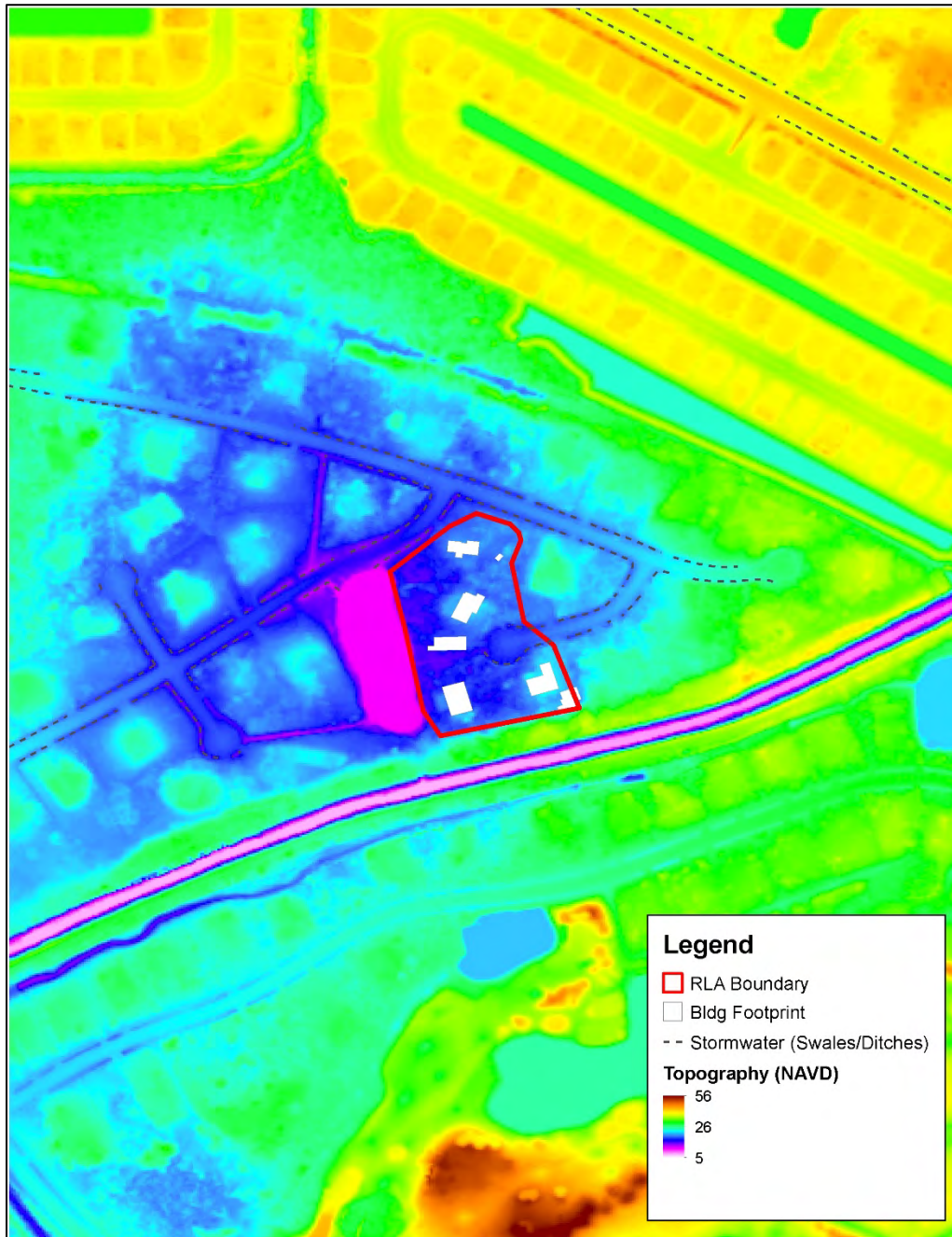


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system serving this RLA includes a combination of swales and storm pipes discharging to a wet retention pond and Phillippi Creek. Based on site visits and resident surveys, the lots that do not have positive drainage away from the building, should be re-graded to sheet flow towards the street or to the floodways based on site topography; doing so may be beneficial to direct low-level flood waters away from structures.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The exposure to flooding from overtopping of the banks of Phillippi Creek and stormwater system backup, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 57 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
57 – PHC 26 Phillippi Creek	2	0	6	X (SFHA), AE (CFHA)	Leewynn Way	2,1,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 57: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	6					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	7					
Total insurance claims (in thousands)	\$77.3					
Average insurance claim (in thousands)	\$11.05					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 58-PHC27 Phillippi Creek

Repetitive Loss Area (RLA) Overview



Figure 1: PHC27 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay Coastal
 BASIN: Phillippi Creek
 LANDFORM: Riverine Shoreline
 AREA: 7.56 acres

FLOODING PROBLEMS AND CONCERNS

- Built-out commercial within riverine floodplain
- Both Riverine and Coastal flooding influences
- Stormwater system backup

Problem Statement

This Repetitive Loss Area (RLA) is located south of Phillippi Creek and consists of primarily commercial buildings. Due to the area's low elevation, structures are subject to flooding from stormwater system backup, particularly during high rainfall events corresponding with high water levels in Phillippi Creek. The structures in this RLA are within Zone X and CFHA Zone AE making them at moderate risk of flooding. The median year built for the structures is 1950, so while some are post-FIRM, the non-elevated slab on grade structures are at risk of flooding accounting for 29% of total. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade, Low Level Structures



Figure 3: Spatial Distribution of Structures vs flood Zone

Total	Repetitive Loss Data
7	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
0	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
2	Insurance Claims (since 1978)
\$19.51	Total Insurance Claims (in thousands)
\$9.75	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Palmer Blvd	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the two (2) individual claims in the RLA, of which one (1) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	1
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
29%	Slab on grade
71%	Undetermined due to vegetation/access
Composition	Frame Type
71%	Wood frame
29%	Steel
Composition	Number of Stories
71%	Single story
29%	Two story
Composition	Flood Zones
100%	Within Zone X
71.5%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Example of Slab on Grade

Causes of Flooding

Stormwater system backup cause flooding during major storm events particularly during period of prolonged rainfall and repeated storms. Review of the spatial relationship between historical flood damage claims, the stormwater system, and drainage patterns indicate that properties are relatively lower in elevation and older structures are not significantly elevated above existing grade. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

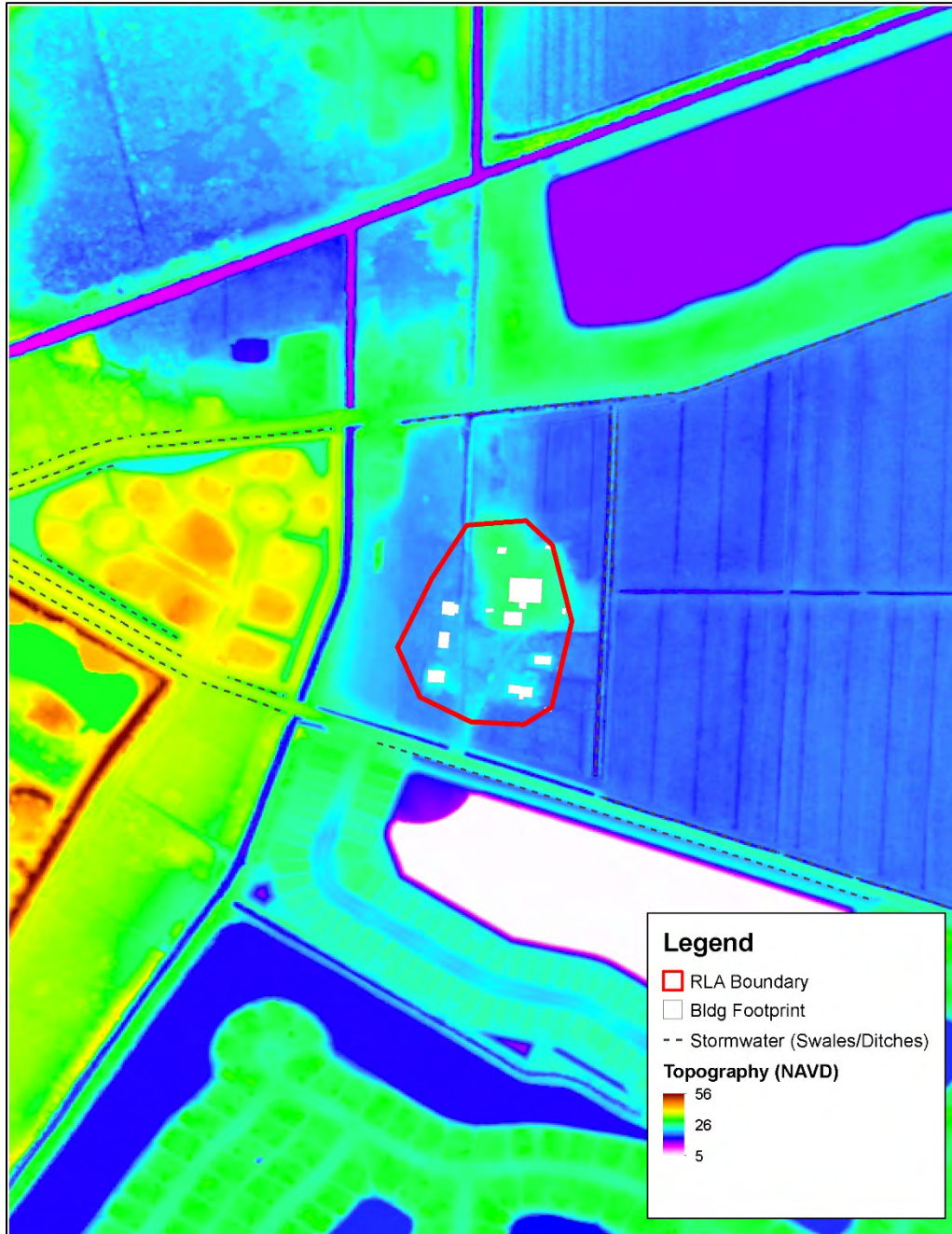


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system serving the area includes a collection of swales and storm pipes collecting to one (1) outfall structure that discharges to a wet retention pond, south of the RLA. During the field visit it was noted that drainage improvements were currently under construction.

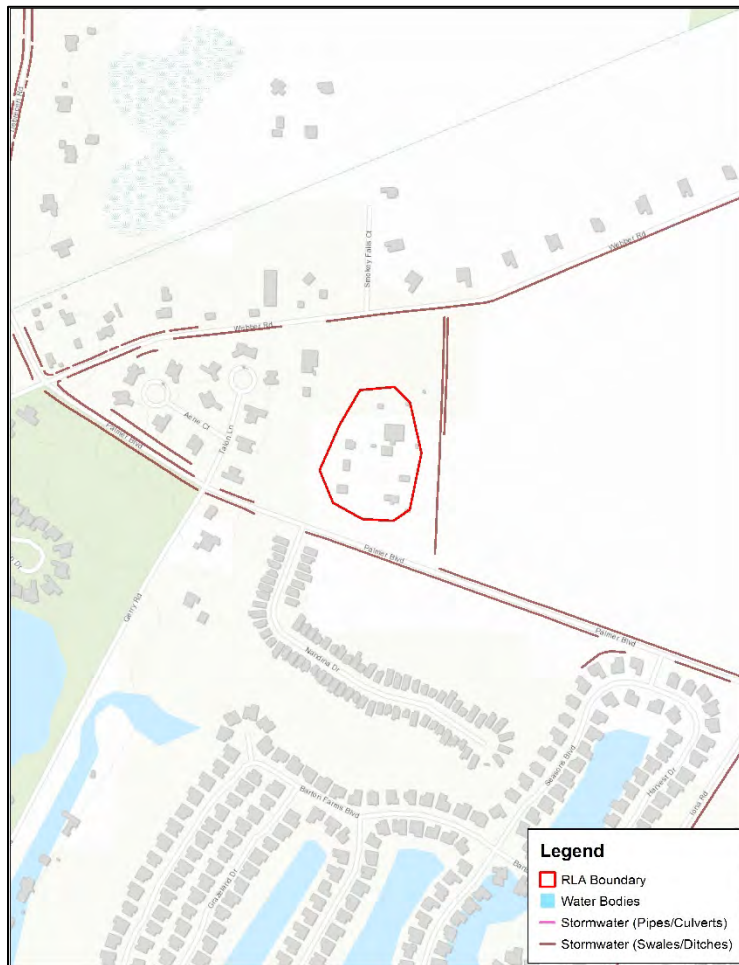


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades and stormwater system backup indicate that the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 58 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
58 – PHC 27 Phillippi Creek	1	0	7	X, AE (CFHA)	Palmer Blvd	2,3,1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 58: Phillippi Creek	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	7					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	2					
Total insurance claims (in thousands)	\$19.51					
Average insurance claim (in thousands)	\$9.75					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 59-SBC01 Siesta Key

Repetitive Loss Area (RLA) Overview

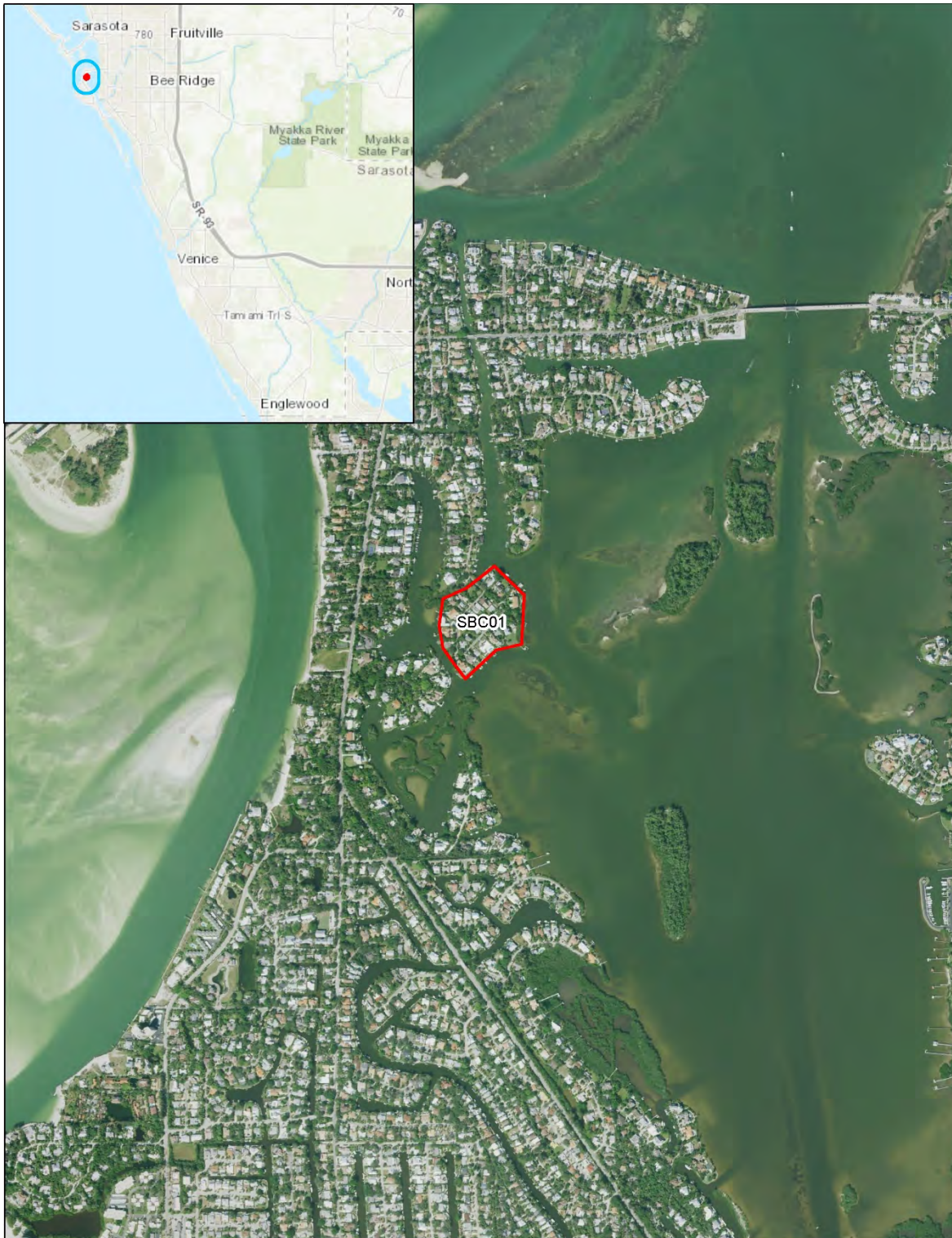


Figure 1: SBC01 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island Peninsula (Bay)
 AREA: 17.35 acres

FLOODING PROBLEMS AND CONCERNS

- Bay and Coastal waves
- Storm surge from Bay and Gulf of Mexico
- Peninsula landform on barrier island
- Near major Gulf-Bay pass/restriction (Big Pass)
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many structures not elevated
- Tidal backup in stormwater system to Bay

Problem Statement

This Repetitive Loss Area (RLA) is a peninsula on the bay side of the Siesta Key barrier island. It is subject to flooding from the storm surge, waves, and tidal action from the Roberts Bay Sarasota, Big Pass, and the Gulf of Mexico as well as stormwater system backup from outfalls to the bay during storm events with high rainfall, exacerbated by high tides and/or storm surge. All structures in this RLA are within SFHA Zone AE and includes a mix of newer, large single-family homes, older cottages, and mid-century homes. Approximately one third of the structures are elevated, with the rest non- or minimally elevated slab on grade construction. The combination of extremely low-elevation terrain, high proportion of older, non-elevated structures, and its peninsular landform on a barrier island near Big Pass and the entrance to Sarasota Bay from the Gulf, with both coastal and bay influences, make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
35	Total Structures in Repetitive Loss Area
7	Total Repetitive Loss Structures in this Area
29	Properties w/Active Insurance Policies
3	Mitigated RL and SRL Properties
4	Unmitigated RL and SRL Properties
33	Insurance Claims (since 1978)
\$144	Total Insurance Claims (in thousands)
\$4.36	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Roberts Point Cir	Resident with 10-19 years residency, slab on grade, reports that they were having less than 1 feet of flooding in home for less than 4 hours during heavy rains every year. Cited drainage from nearby properties, stormwater backup as the cause. Reports that they have regraded, installed drainage system, and built a berm to block street water from flooding the property.
Roberts Point Cir	Resident with 20-29 years residency, elevated foundation on stem-wall, report flooding inside unit in back yard and possibly main house during heavy rain, every year, cited drainage from nearby properties and from the street as cause, added a bilge pump to move the water from near structure to rear of property (canal).

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for twenty- nine (29) of the thirty- three (33) individual claims in the RLA, of which nine (9) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been no NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	5
September 1, 1985	Hurricane Elena	3	6
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
54%	Slab on grade
17%	Elevated slab on stem wall with fill
29%	Elevated on post/piles or walls
Composition	Frame Type
29%	Wood frame
71%	Concrete block/masonry
Composition	Number of Stories
32%	Single story
54%	Two story
14%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Example of Elevated on Post Structure

Causes of Flooding

Coastal waves and storm surge from Bay and Gulf sides cause flooding during major storm events, with stormwater system backup during unusually high tides a contributing factor. Streets in this area are at very low elevations at or below the lot grades which are already at low elevations for those waterfront lots (1.8 to 4.6 feet) and even lower for the interior lots (1.8 to 3.3 feet). Review of the Historical Storms reveal that major tropical storm events with 3 inches or more of rainfall, along with the accompanying high tides, storm surge, wave inundation, and stormwater system backup, coincided with the repetitive loss claims for the RLA. This location is surrounded on three sides by Bay shoreline which is within 300-400 feet of any structure in the RLA, and less than 1,500 feet distant from the Big Pass and the Gulf of Mexico side of the Siesta Key barrier island. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

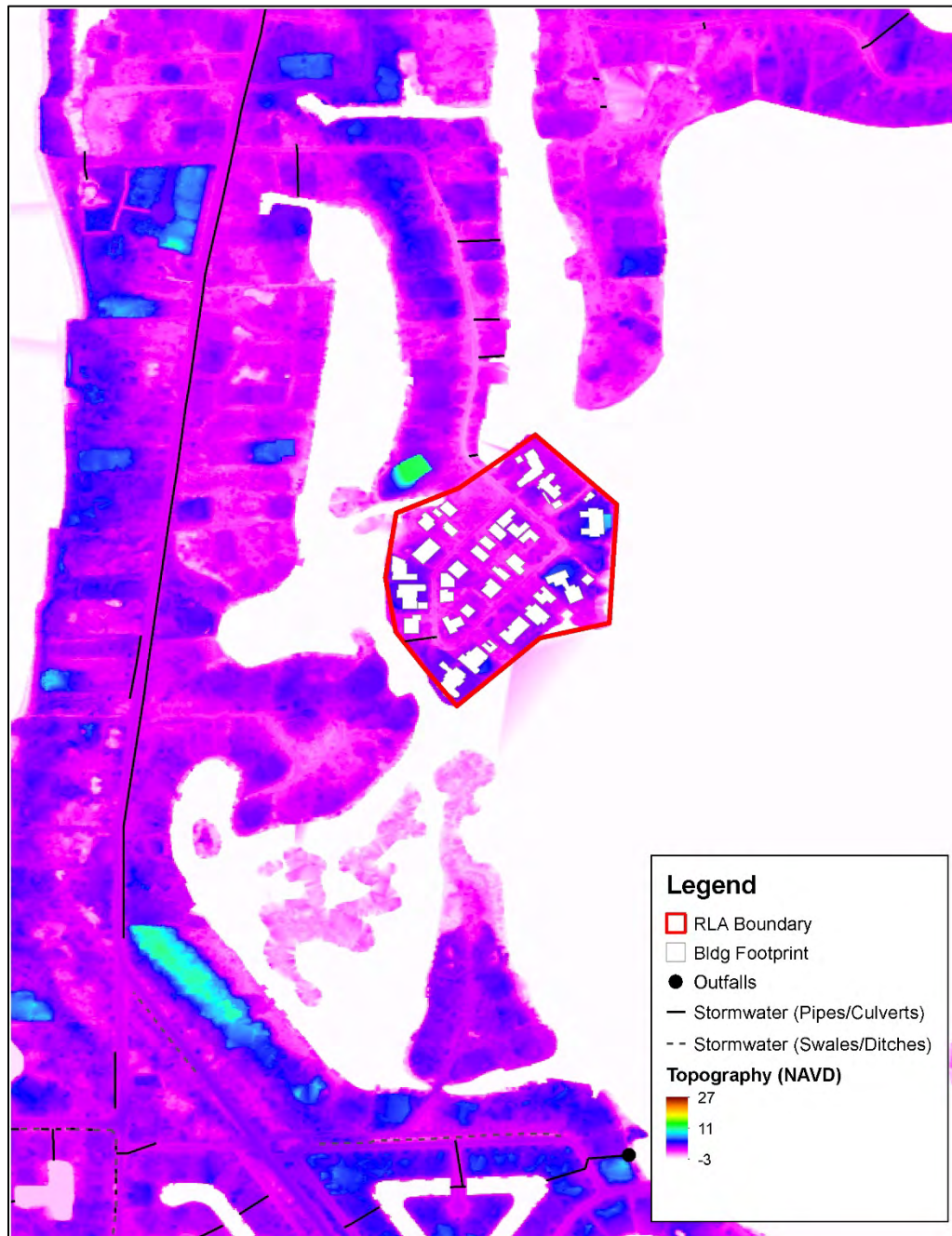


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system includes two (2) Bay outfalls where it collects runoff from adjacent properties then travels via piping to one (1) Bay outfall at the canal system. Streets in this area are extremely low in elevation, and direct runoff from adjacent lots to North and South to the respective drop structures and outfalls. The "center" of the circle is lower in elevation and tends to pool runoff from the street side of the waterfront lots around Roberts Point Cir. Review of stormwater complaints and resident comments indicate that the inlets in this area must be regularly maintained to avoid low level flooding during high rainfall events. While there were some normal system maintenance issues observed during the field work, these areas appear to be routinely maintained by County staff based on review of the maintenance callouts. Low elevations of many of the structures relative to the BFE (6.2 feet NAVD average FFE versus 10 feet NAVD BFE), indicates stormwater system improvements in this area are not expected to provide flood mitigation.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. Low existing grades, existence of older (pre-FIRM) non-elevated structures, extensive exposure to flooding sources from the Bay and Gulf, and the average Finished Floor Elevation (FFE) of the structures at 3.8 feet below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 59 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
59 – SBC01 Sarasota Bay	4	0	35	AE (SFHA)	Roberts Point Rd	2,1,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 59: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	35					
Repetitive Loss (RL) Properties	7					
Severe RL properties	0					
Mitigated RL properties	3					
Mitigated Severe RL properties	0					
Insurance claims since 1978	33					
Total insurance claims (in thousands)	\$144					
Average insurance claim (in thousands)	\$4.36					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 60-SBC02 Siesta Key

Repetitive Loss Area (RLA) Overview

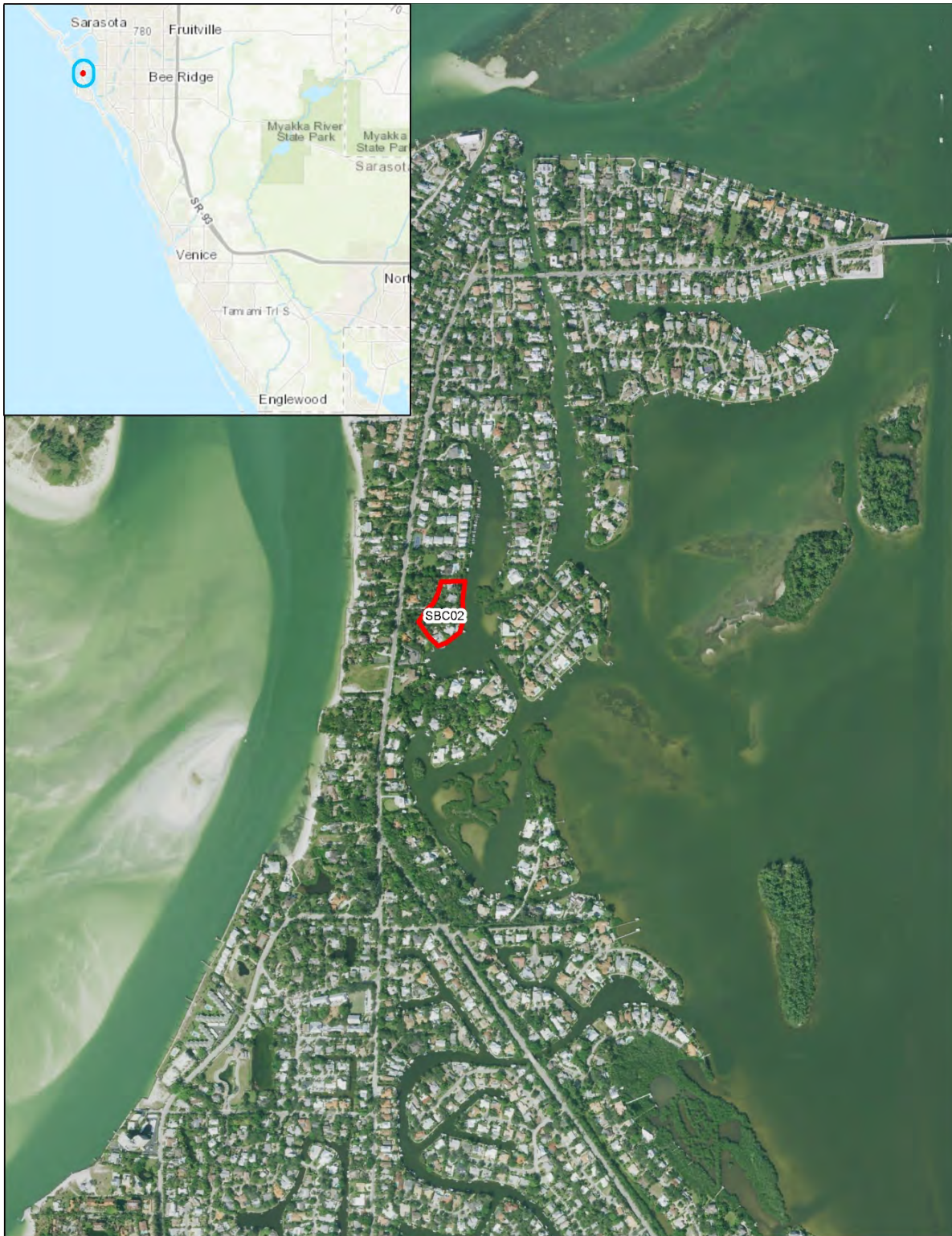


Figure 1: SBC02 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island (Gulf/Bay)
 AREA: 3.55 acres

FLOODING PROBLEMS AND CONCERNS

- Bay and Coastal waves
- Storm surge from Bay and Gulf of Mexico
- Peninsula landform on barrier island
- Near major Gulf-Bay pass/restriction (Big Pass)
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many structures not elevated
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is located on the Siesta Key barrier island along the east side of Higel Avenue, with direct water frontage to Coconut Bayou (Bay). Big Sarasota Pass and the Gulf beach are just to the west across Higel Avenue. This area is subject to flooding from the storm surge, waves, and tidal action from Roberts Bay, Big Sarasota Pass, and the Gulf of Mexico as well as stormwater system backup from outfalls to the bay during storm events with high rainfall, unusually high tides and/or storm surge. All structures in this RLA are within SFHA Zone AE and are mostly single-family residences dating back to late 1940's and early 1950's which are not elevated. The area is particularly low lying relative to surrounding uplands. The combination of extremely low-elevation terrain, and existence of older, non-elevated structures, and its location between the Gulf/Big Sarasota Pass and the Bay, with both coastal and bay influences, make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structures



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
9	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
4	Properties w/Active Insurance Policies
1	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
7	Insurance Claims (since 1978)
\$24	Total Insurance Claims (in thousands)
\$3.36	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Little Pond Ln Higel Ave	No survey responses received, no resident comments during field site visits

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for five (5) of the seven (7) individual claims in the RLA, of which four (4) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been no NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	2
September 1, 1985	Hurricane Elena	3	2
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
89%	Slab on grade
0%	Elevated slab on stem wall with fill
11%	Elevated on post/piles or walls
Composition	Frame Type
33%	Wood frame
67%	Concrete block/masonry
Composition	Number of Stories
56%	Single story
33%	Two story
11%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structures (Google Maps)

Causes of Flooding

Coastal waves and storm surge from Bay and Gulf sides cause flooding during major storm events, with surrounding stormwater system backup during unusually high tides also a contributing factor. Streets in this area are at very low elevations at or below the lot grades which are already at low elevations for those waterfront lots (2.0 to 3.2 feet). Review of the Historical Storms revealed that the major tropical storm events with three (3) inches or more of rainfall, along with the accompanying high tides, storm surge, wave inundation, and stormwater system backup, coincided with the repetitive loss claims for the RLA. This waterfront location is in a low lying "bowl" area immediately adjacent to Coconut Bayou (Bay), and less than 1000 feet distant from Big Sarasota Pass and the Gulf of Mexico side of the Siesta Key barrier island. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

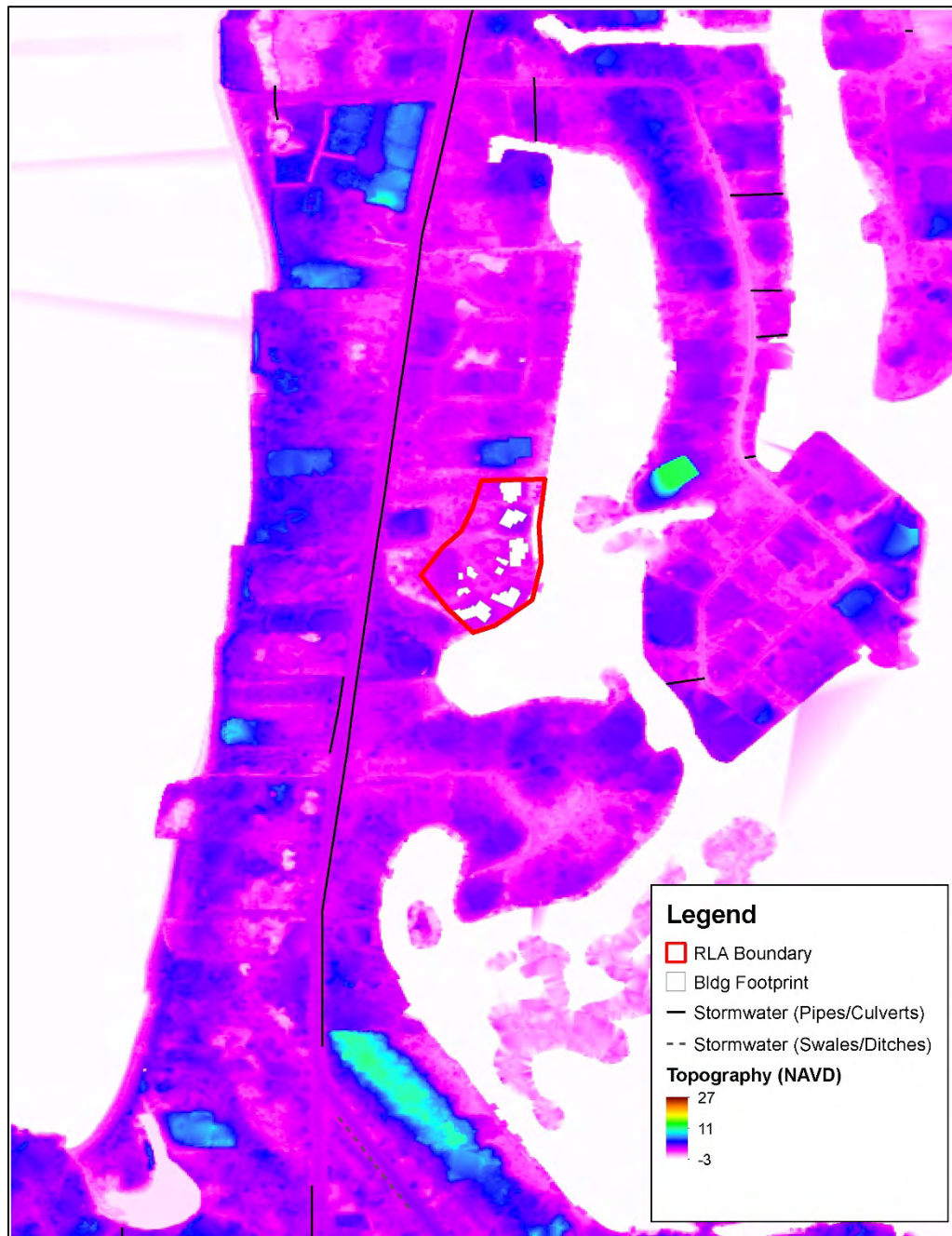


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There is no stormwater infrastructure system within this RLA, which has extremely low elevation terrain adjacent to the Bay shoreline. As such, stormwater sheet flows from slightly higher uplands (west) down the street and across low-lying lots (average elevation 2.4 feet) to the Bay. This low elevation area is particularly susceptible to stormwater backup from surrounding areas during high tides coinciding with high rainfall events. Because of the low elevations of many of the structures in the surrounding area relative to the BFE (3.3 feet NAVD average FFE versus 10 feet BFE), stormwater system improvements in the surrounding area are not expected to provide flood mitigation.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, existence of older (pre-FIRM) non-elevated structures, and extensive exposure to flooding sources from the Bay and Gulf, and the average Finished Floor Elevation (FFE) of the structures at 6.7 feet below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 60 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
60 – SBC 02 Sarasota Bay	1	0	9	AE (SFHA)	Little Pond Ln High Ave	1,2,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 60: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	9					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	1					
Mitigated Severe RL properties	0					
Insurance claims since 1978	7					
Total insurance claims (in thousands)	\$24					
Average insurance claim (in thousands)	\$3.36					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 61-SBC03 Siesta Key

Repetitive Loss Area Overview



Figure 1: SBC03 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island (Gulf/Bay)
 AREA: 8.13 acres

FLOODING PROBLEMS AND CONCERNS

- Bay and Coastal waves
- Storm surge from Bay and Gulf of Mexico
- Peninsula landform on barrier island
- Near major Gulf-Bay pass/restriction (Big Pass)
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Some structures not elevated
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is located on the Siesta Key barrier island along the east side of Higel Avenue, with direct water frontage to Coconut Bayou (Bay). Big Sarasota Pass and the Gulf beach are just to the west across Higel Avenue. This area is subject to flooding from the storm surge, waves, and tidal action from Roberts Bay Sarasota, Big Sarasota Pass, and the Gulf of Mexico as well as stormwater system backup from outfalls to the bay during storm events with high rainfall, unusually high tides and/or storm surge. All structures are within SFHA AE Flood Zone and includes a gated community of newer, two-story condominium buildings with ground-floor garages as well as several older, non-elevated, single-family residential structures. Most structures are elevated, with the exception of several single-family homes and the condo association's amenity structures. The combination of extremely low-elevation terrain, and existence of older non-elevated structures, and its location between the Gulf/Big Sarasota Pass and the Bay, with both coastal and bay influences, make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structures



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
24	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
23	Properties w/Active Insurance Policies
1	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
15	Insurance Claims (since 1978)
\$106	Total Insurance Claims (in thousands)
\$7.05	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. Three (3) residents within the RLA completed and submitted outreach surveys. In addition, several residents provided comments to the field crews on site during the data collection effort.

Street	Survey Summary/Comments
Hamilton Club Cir	Resident with less than 10 years residency, slab on grade, reports that they have had no flooding on property. Also indicated that they have installed flood approved vents.
Hamilton Club Cir	Resident with 10-19 years residency, indicated structure on posts/pilings, reports no flooding on property.
Somerset Dr	Resident with less than 10 years residency, slab on grade, reports that they have had no flooding on property.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for five (5) of the fifteen (15) individual claims in the RLA, of which five (5) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been no NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	2
September 1, 1985	Hurricane Elena	3	2
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
96%	Slab on grade
4%	Elevated on post/piles or walls
Composition	Frame Type
13%	Wood frame
87%	Concrete block/masonry
Composition	Number of Stories
21%	Single story
75%	Two story
4%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Accessory Structures

Causes of Flooding

Coastal waves and storm surge from Bay and Gulf sides cause flooding during major storm events, with stormwater system backup during unusually high tides a contributing factor. Streets in this area are at very low elevations at or below the lot grades which are already at low elevations (2.5 feet on average). Review of the Historical Storms revealed the major tropical storm events with 3 inches or more of rainfall, along with the accompanying high tides, storm surge, wave inundation, and stormwater system backup, coincided with the repetitive loss claims for the RLA. This location is waterfront Bay shoreline, within 300 - 400 feet of any structure in the RLA, and less than 600 feet distant from the Sarasota Big Pass and the Gulf of Mexico side of the Siesta Key barrier island. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

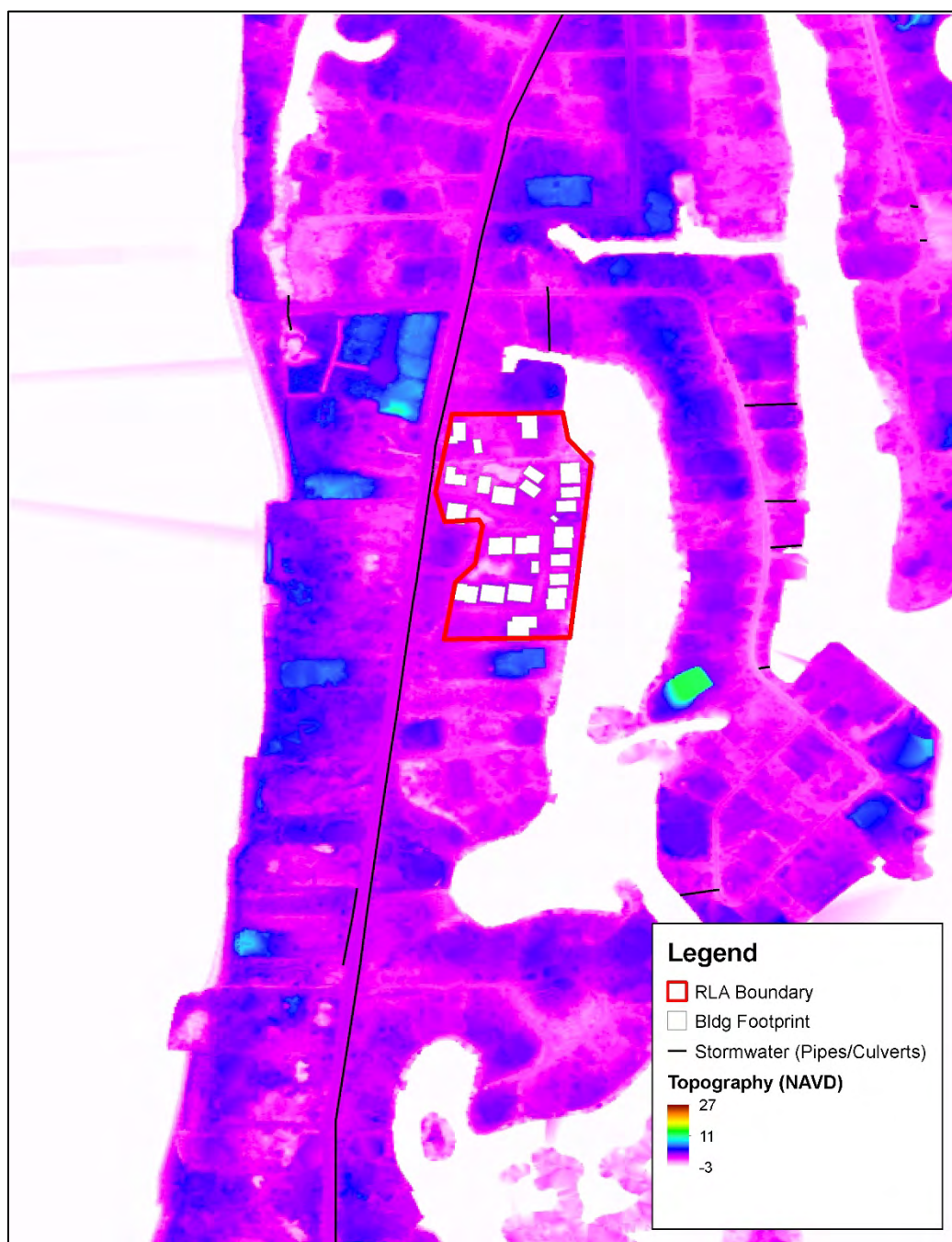


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system includes three (3) small stormwater ponds and a collection system within the gated community that is privately maintained by the HOA. Along Higel Avenue there is also a system of inlets and piping that convey stormwater to the Bay outfall at Siesta Dr and Hansen Bayou bridge. Review of the topography and drainage patterns in this area reveal that there is a prominent west-east running drainage swale between the older single-family structures to the north, and the gated community to the south. This is an extremely low elevation area which appears to have a Bay outfall and would be a source of tidal and storm surge inundation during high rainfall storm events. It continues across Higel Avenue to the west and is likely a conveyance for runoff and flood inundation from the beach side properties as well. Because of the low elevations of slab on grade structures in this area relative to the BFE, stormwater system improvements in this area are not expected to provide flood mitigation for the single-story structures.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, existence of older (pre-FIRM) non-elevated structures, and extensive exposure to Gulf and Bay flooding sources, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 61 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
61 – SBC 03 Sarasota Bay	1	0	24	AE (SFHA)	Somerset Dr Hamilton Club Cir Higel Ave	2,1,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 61: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	24					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	1					
Mitigated Severe RL properties	0					
Insurance claims since 1978	15					
Total insurance claims (in thousands)	\$106					
Average insurance claim (in thousands)	\$7.05					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 62-SBC05 Siesta Key

Repetitive Loss Area Overview

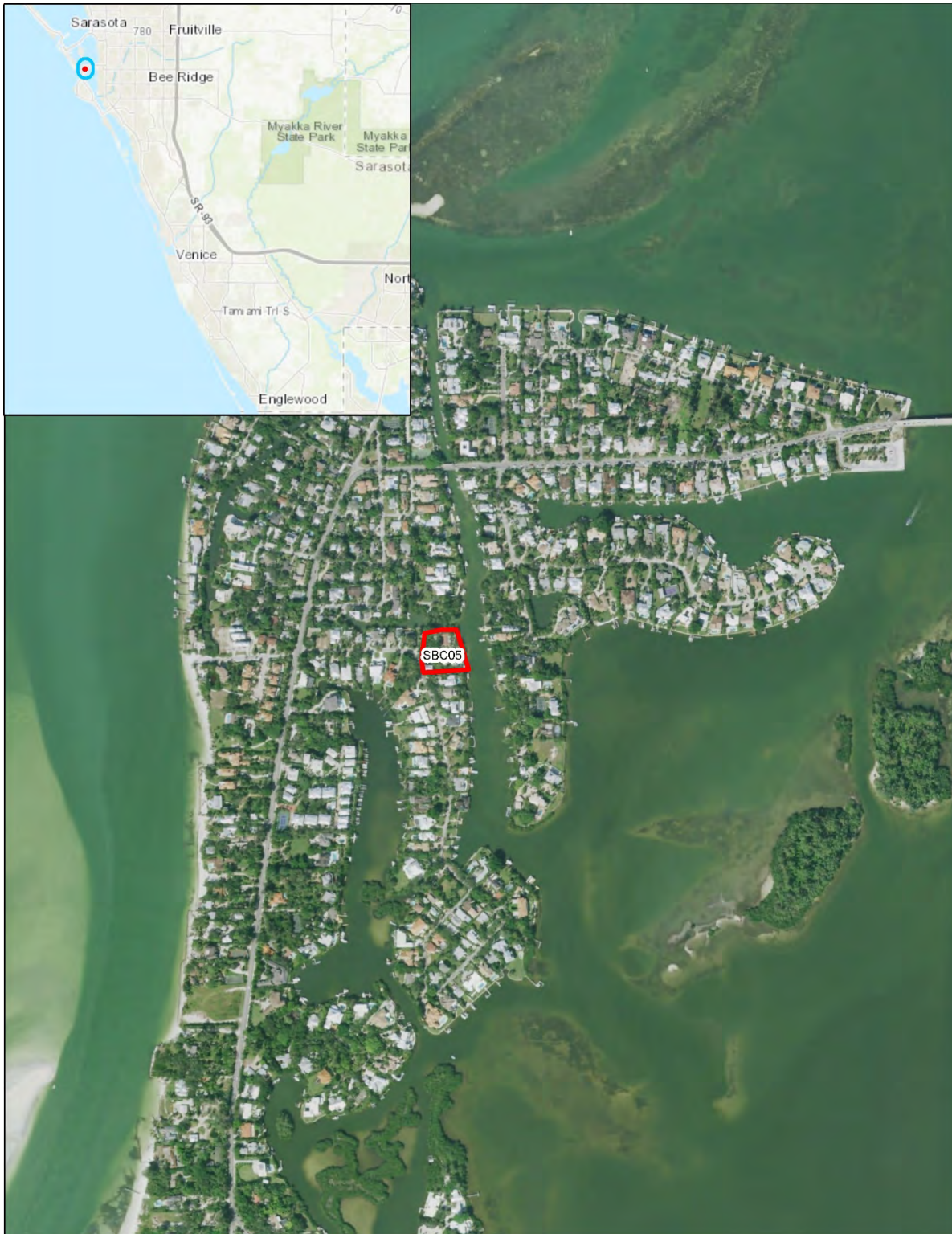


Figure 1: SBC05 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island (Bay Peninsula)
 AREA: 1.64 acres

FLOODING PROBLEMS AND CONCERNS

- Bay and Coastal waves
- Storm surge from Bay and Gulf of Mexico
- Peninsula landform on barrier island
- Near major Gulf-Bay pass/restriction
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Some structures not elevated
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is a peninsula on the bay side of the Siesta Key barrier island. It is subject to flooding from storm surge, waves, and tidal action from Roberts Bay Sarasota and Big Sarasota Pass and Gulf of Mexico as well as stormwater system backup from outfalls to the bay during storm events with high rainfall, unusually high tides and/or storm surge. The area includes older, single-family homes, typically pre-FIRM, that are non- or minimally elevated slab on grade construction. All structures are within SFHA Zone AE and the combination of extremely low-elevation terrain, high proportion of older, non-elevated structures, and its peninsular landform on a barrier island near Big Sarasota Pass, with both coastal and bay influences, make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Masonry, Slab on Grade Structures

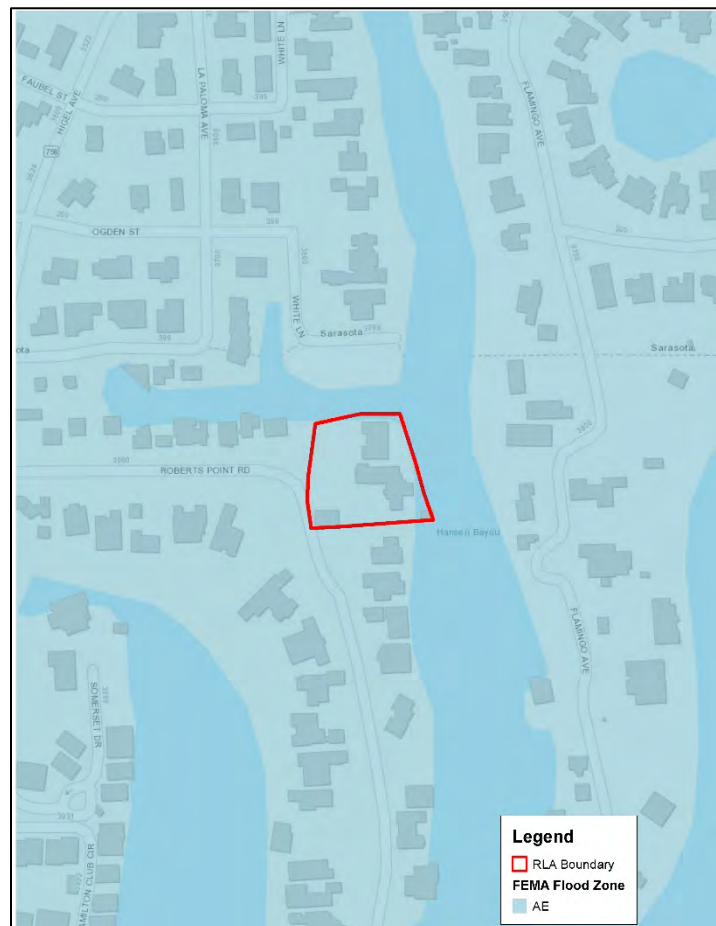


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
3	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss in this Area
3	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
8	Insurance Claims (since 1978)
\$29	Total Insurance Claims (in thousands)
\$3.64	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no participants within the RLA that completed and submitted an outreach survey. However, one resident provided input to field crews, including that the flooding was limited to a guest house/cottage and yard in their 18 years of residency.

Street	Survey Summary/Comments
Roberts Pt Rd.	No survey responses received, resident input during field site visit.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for three (3) of the eight (8) individual claims in the RLA, of which three (3) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	1
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
67%	Wood frame
33%	Concrete block/masonry
Composition	Number of Stories
33%	Single story
67%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structures (Google Map)

Causes of Flooding

Coastal waves and storm surge from Bay and Gulf sides result in overtopping of the banks and flooding during major storm events with stormwater system backup during unusually high tides also a contributing factor. Streets in this area have very low elevations at or below lot grades already at low elevations for the waterfront lots (2.1 to 2.9 feet). Review of the Historical Storms, and insurance claims revealed that the major tropical storm events with 3 inches or more of rainfall, along with the accompanying high tides, storm surge, wave inundation, and stormwater system backup, coincided with the repetitive loss claims for the RLA. This low terrain location is essentially surrounded on both the east and west sides by Coconut and Hansen Bayous (Roberts Bay Sarasota) with all the properties being waterfront, and also less than 1,500 feet distant from the Big Sarasota Pass and the Gulf of Mexico side of the Siesta Key barrier island. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

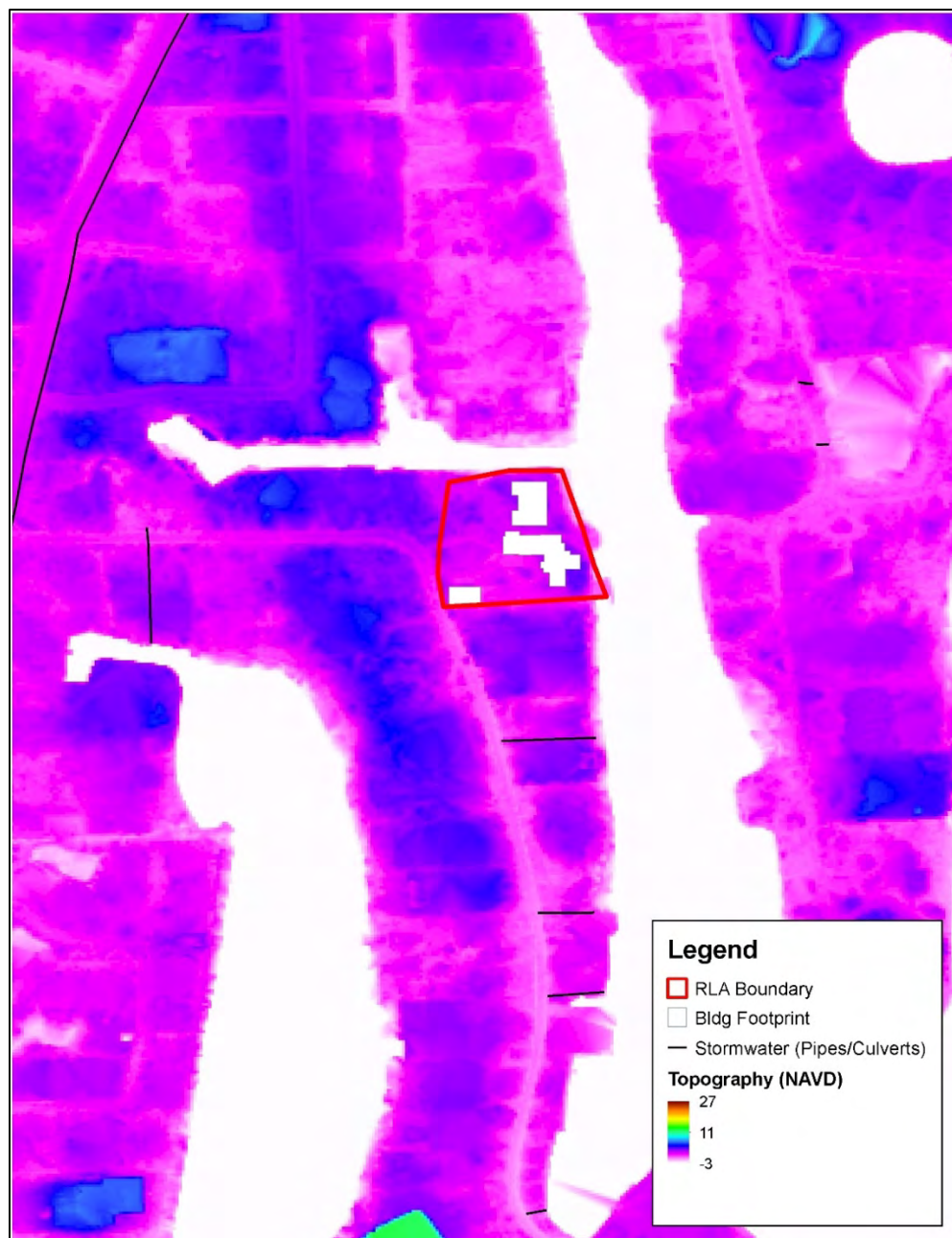


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater infrastructure system in the vicinity includes two (2) Bay outfalls to the South that collect runoff from the street and adjacent properties then route it to the Bay outfalls. Streets in this area are extremely low in elevation and convey runoff from adjacent lots to the lower elevation areas south along Roberts Point Rd to the respective drop structures and outfalls. Review of stormwater complaints and resident comments indicate that the inlets in this area must be regularly maintained to avoid low level flooding during high rainfall storm events with high tides. It appears that the stormwater system can experience back up all the way to the RLA properties, which are relatively low in elevation when compared to adjacent properties. Because of the low elevations of many of the structures relative to the BFE (3.1 feet NAVD average FFE versus 10 feet NAVD BFE), stormwater system improvements in this area are not expected to provide flood mitigation.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, existence of older (pre-FIRM) non-elevated structures, extensive exposure to Gulf and Bay flooding sources, and the average Finished Floor Elevation (FFE) of 6.9 feet below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components or acquisition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 62 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
62– SBC 05 Sarasota Bay	1	0	3	AE (SFHA)	Roberts Point Rd	2,1,3

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 62: Siesta Key Beach	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	3					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	8					
Total insurance claims (in thousands)	\$29					
Average insurance claim (in thousands)	\$3.64					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 63-SBC06 Siesta Key

Repetitive Loss Area Overview

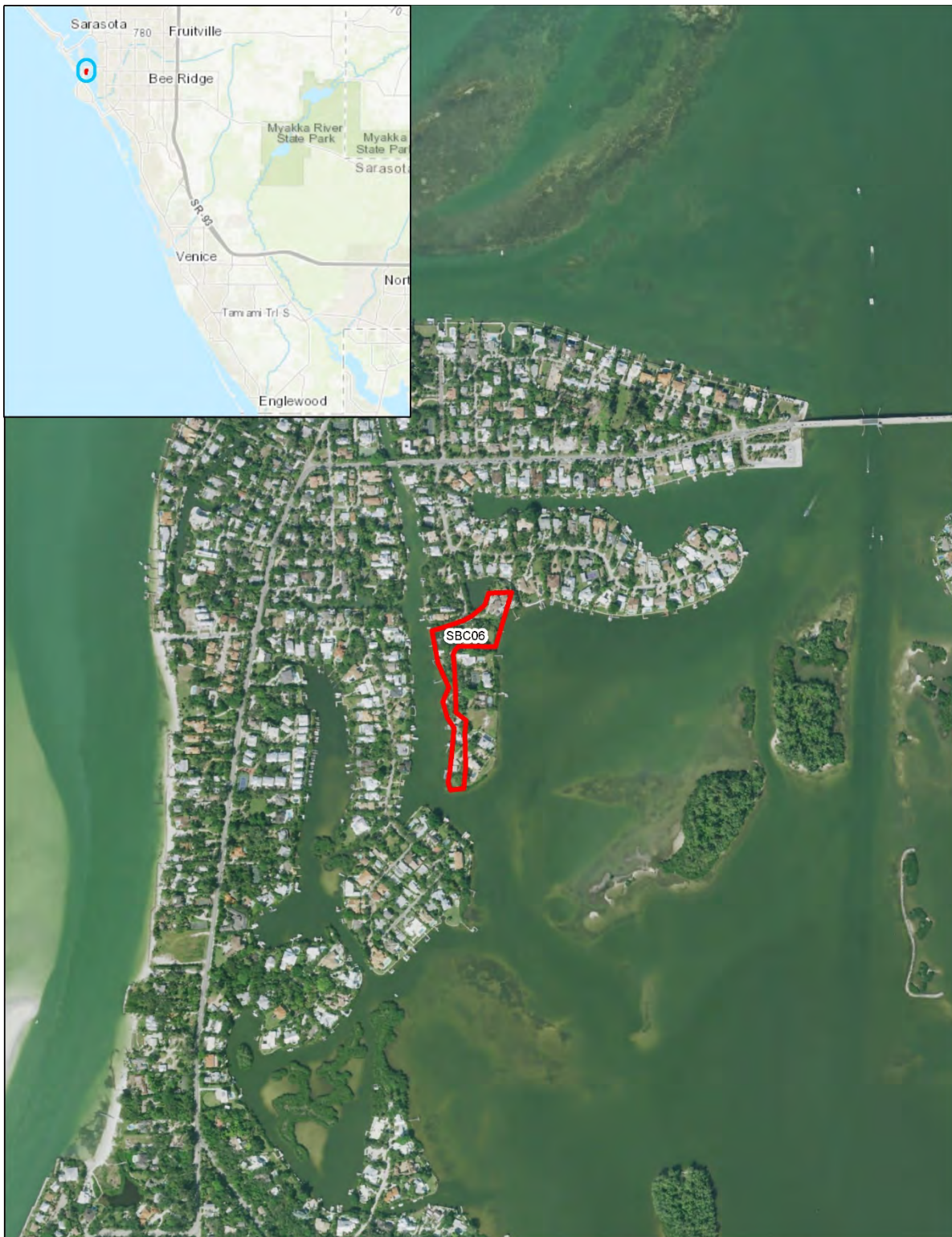


Figure1: SBC06 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island (Bay Peninsula)
 AREA: 5.36 acres

FLOODING PROBLEMS AND CONCERNS

- Bay and Coastal waves
- Storm surge from Bay and Gulf of Mexico
- Peninsula landform on barrier island
- Near major Gulf-Bay pass/restriction (Big Pass)
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many structures not elevated
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is a peninsula on the bay side of the Siesta Key barrier island. It is subject to flooding from storm surge, waves, and tidal action from the Roberts Bay Sarasota, Big Sarasota Pass, and the Gulf of Mexico as well as stormwater system backup from outfalls to the bay during storm events with high rainfall, unusually high tides and/or storm surge. All structures are within SFHA Zone AE and includes a mix of newer, large single-family homes, older cottages, and mid-century homes. Only 13% of the structures are elevated, with the rest being non- or minimally elevated slab-on-grade construction. The combination of extremely low-elevation terrain, high proportion of older, non-elevated structures, and its peninsular landform on a barrier island near Big Sarasota Pass, the entrance to Sarasota Bay from the Gulf, with both coastal and bay influences, make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure Adjacent to Waterway

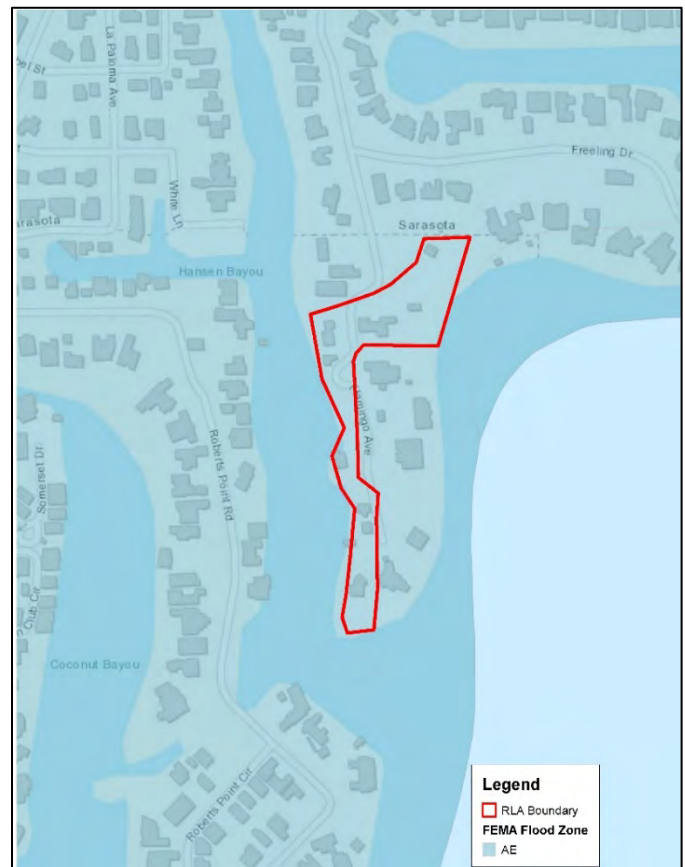


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
8	Total Structures in Repetitive Loss Area
3	Total Repetitive Loss Structures in this Area
5	Properties w/Active Insurance Policies
2	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
10	Insurance Claims (since 1978)
\$54	Total Insurance Claims (in thousands)
\$5.33	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Flamingo Ave	No survey responses received, no resident comments during field site visits

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for six (6) of the ten (10) individual claims in the RLA, of which five (5) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), show in Table 3. Records indicate that there has been no NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	3
September 1, 1985	Hurricane Elena	3	2
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
63%	Slab on grade
25%	Elevated slab on stem wall with fill
12%	Elevated on post/piles or walls
Composition	Frame Type
63%	Wood frame
37%	Concrete block/masonry
Composition	Number of Stories
13%	Single story
74%	Two story
13%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Structure Adjacent to Waterway

Causes of Flooding

Coastal waves and storm surge from the bay and gulf sides result in overtopping of the bay banks and flooding during major storm events with stormwater system backup during unusually high tides also a contributing factor. Streets in this area are at very low elevations, at or below the lot grades already at low elevations for those waterfront lots (-0.8 to 2.9 feet). Review of the Historical Storms and insurance claims revealed the major tropical storm events with 3 inches or more of rainfall, along with the accompanying high tides, storm surge, wave inundation, and stormwater system backup, coincided with the repetitive loss claims for the RLA. This low-terrain location is surrounded on both the east and west sides by Hansen Bayou and Roberts Bay Sarasota, with all the properties being waterfront, and just +/- 2,000 feet distance from Big Sarasota Pass and the Gulf of Mexico side of the Siesta Key barrier island. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

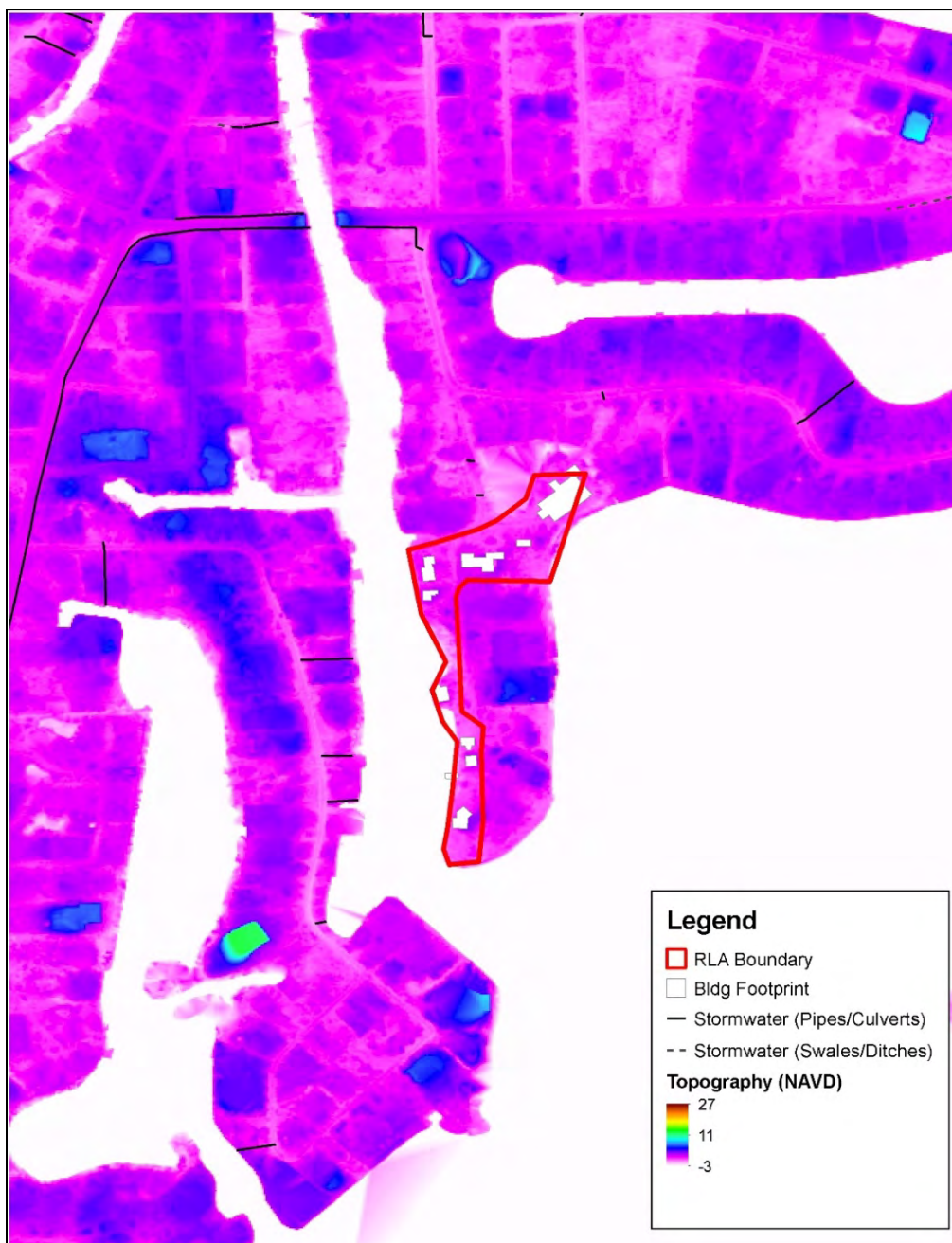


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system includes two (2) Bay outfalls with catch basin structures and a short pipe run to each of the outfalls. These collect accumulated runoff from Flamingo Ave and adjacent properties. Streets in this area are extremely low in elevation, with generally higher elevation built-up lots on the east shore side of the narrow peninsula contributing to runoff accumulating on Flamingo Ave and the lower elevation lots on the west shoreline. Review of stormwater complaints and resident comments indicate the inlets in this area must be regularly maintained to avoid low level flooding during high rainfall events. Low elevations of many of the structures relative to the BFE (6.5 feet NAVD average FFE versus 10 feet NAVD BFE) indicate stormwater system improvements in this area are not expected to provide flood mitigation.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, existence of older (pre-FIRM), non-elevated structures, extensive exposure to coastal and bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 3.5 feet below the Base Flood Elevation (BFE), indicate the most appropriate mitigation alternatives include elevating structures and/or flood prone components or acquisition of the structures to restore the natural floodplain.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer, if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 63 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
63– SBC 06 Sarasota Bay	1	0	8	AE (SFHA)	Flamingo Ave	1,2,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 63: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	8					
Repetitive Loss (RL) Properties	2					
Severe RL properties	1					
Mitigated RL properties	1					
Mitigated Severe RL properties	1					
Insurance claims since 1978	10					
Total insurance claims (in thousands)	\$54					
Average insurance claim (in thousands)	\$5.33					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 64-SBC07 Siesta Key

Repetitive Loss Area Overview

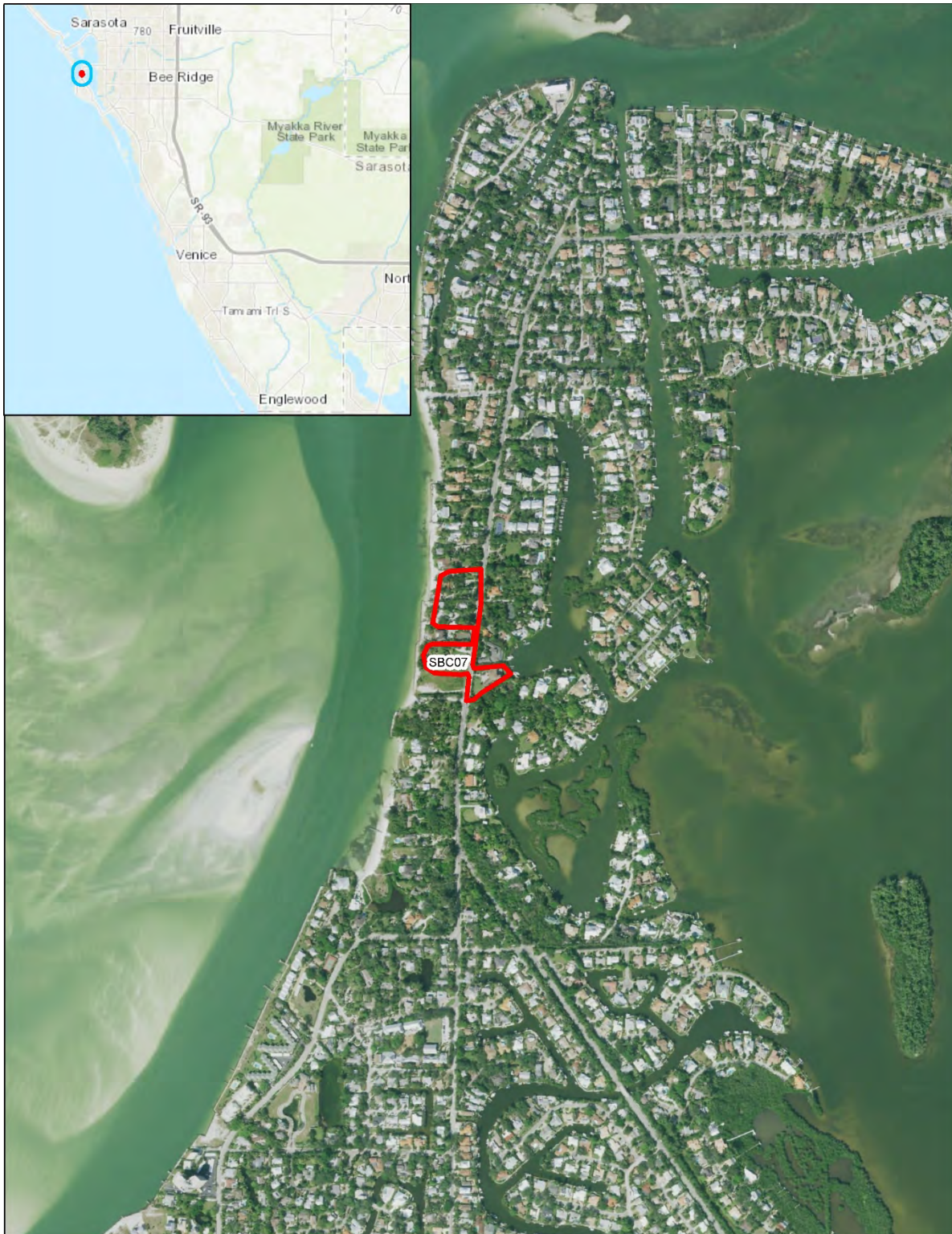


Figure 1: SBC07 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island (Gulf/Beach)
 AREA: 7.30 acres

FLOODING PROBLEMS AND CONCERNS

- Bay and Coastal waves
- Storm surge from Bay and Gulf of Mexico
- Beach front of narrow barrier island
- On Gulf-Bay pass/restriction
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Most structures not elevated
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is a peninsula primarily on the Gulf side but also the bay side of the Siesta Key barrier island. It is subject to flooding from storm surge, waves, and tidal action from the Roberts Bay Sarasota, Big Sarasota Pass, and the Gulf of Mexico as well as stormwater system backup from outfalls to the bay during storm events with high rainfall, unusually high tides and/or storm surge. The RLA includes a mix of newer, large single-family homes, older cottages, and mid-century homes. About one third of the structures are elevated, with the rest non- or minimally elevated slab on grade construction. One third of the structures are within SFHA Zone VE (with the remainder in SFHA Zone AE). The combination of extremely low-elevation terrain, high proportion of older, non-elevated structures, and its beachfront location on a barrier island near Big Sarasota Pass and the Gulf, with both coastal and bay influences, make this RLA particularly susceptible to flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Elevated Structures

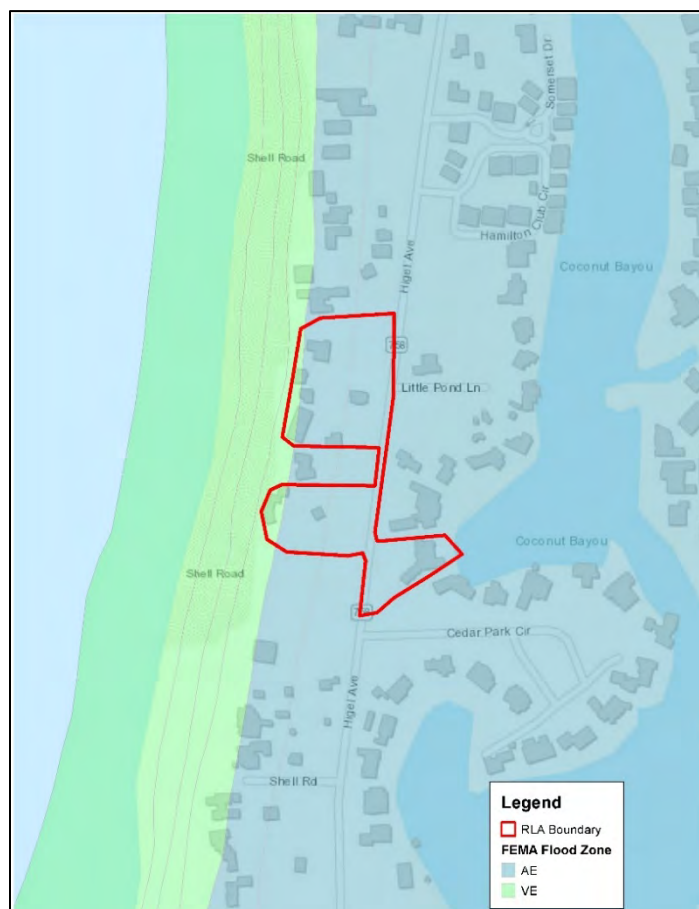


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
9	Total Structures in Repetitive Loss Area
4	Total Repetitive Loss Structures in this Area
6	Properties w/Active Insurance Policies
1	Mitigated RL and SRL Properties
3	Unmitigated RL and SRL Properties
13	Insurance Claims (since 1978)
\$61	Total Insurance Claims (in thousands)
\$4.68	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no resident responses within the RLA from the outreach survey and no comments/input from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Shell Rd. Higel Ave.	No survey responses received, no resident comments during field site visits.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for twelve (12) of the thirteen (13) individual claims in the RLA, of which three (3) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), show in Table 3. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	1
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
67%	Slab on grade
11%	Elevated slab on stem wall with fill
22%	Elevated on post/piles or walls
Composition	Frame Type
100%	Wood frame
Composition	Number of Stories
22%	Single story
78%	Two story
Composition	Flood Zones
67%	Within SFHA Zone AE
33%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Elevated Structures (Realtor.com)

Causes of Flooding

Coastal waves and storm surge from the Bay and Gulf sides cause flooding during major storm events, with stormwater system backup during unusually high tides as a contributing factor. Lot elevations are extremely low for most of this RLA, averaging just 3.3 feet NAVD. Review of the Historical Storms reveals the major tropical storm events with 6 inches or more of rainfall, with the accompanying high tides, storm surge, wave inundation, and stormwater system backup, coincided with the repetitive loss claims for the RLA. As a beachfront location on the barrier island, immediately adjacent to Big Sarasota Pass and the Gulf of Mexico side of the Siesta Key barrier island, the area is exposed to both Gulf and Bay flooding influences. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

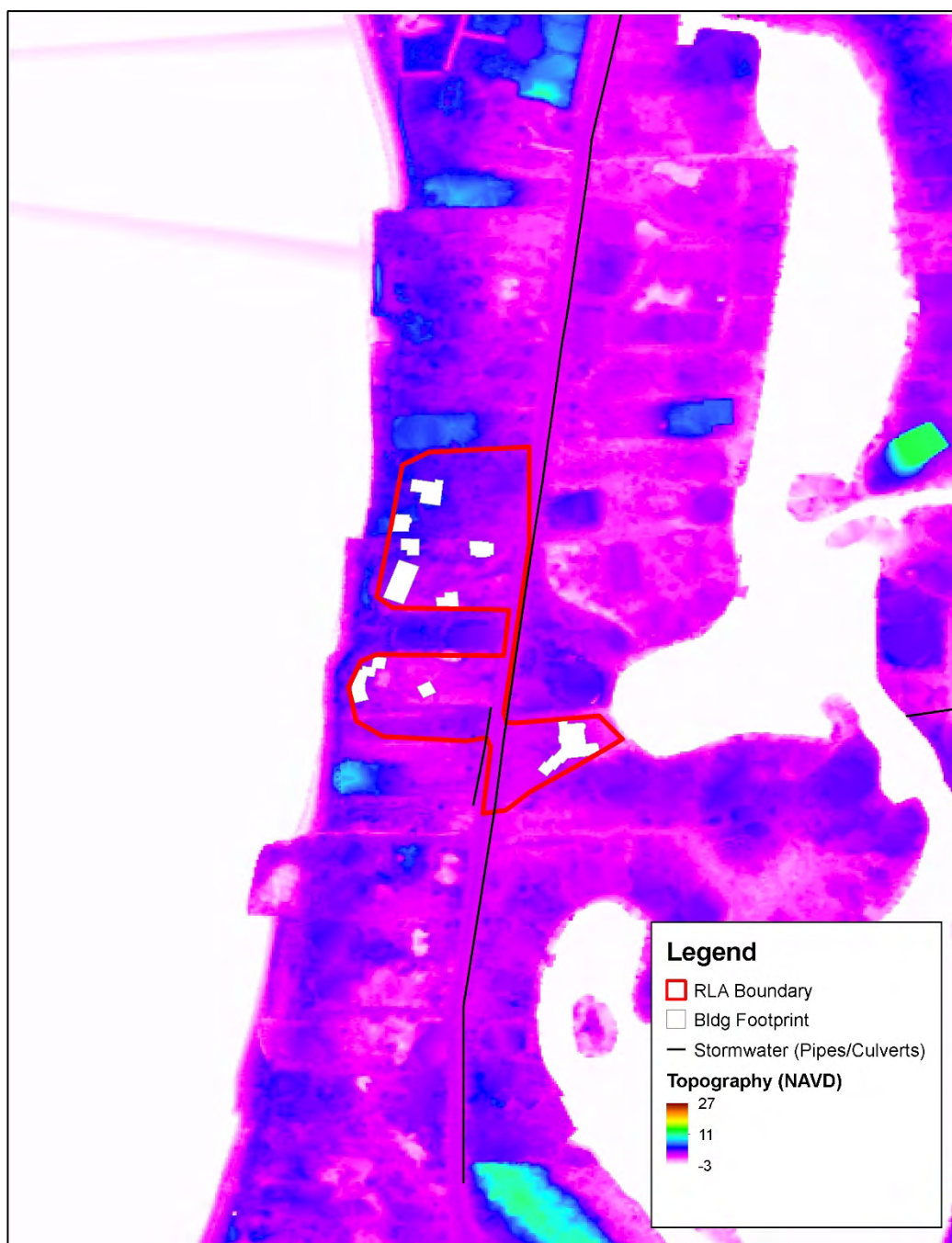


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

Along Higel Avenue is a system of inlets and piping that conveys stormwater to the Bay outfall at Siesta Dr and Hansen Bayou bridge. Runoff from the properties east of Higel appears to drain to the low-lying areas and discharge into Coconut Bayou (Bay). Review of work order history along Higel Ave indicates complaints in this area are typically referred to FDOT for resolution. Review of the topography indicates a possible gap in the frontal dune in this area, which is likely to contribute to inundation of the beachfront properties from wave action, storm surge, and unusually high tides during major storm events. FEMA guidelines suggest that beach re-nourishment activities focusing on natural dune replenishment may reduce the risk of flooding and could be a mitigation alternative. However, the low elevations of many structures relative to the BFE (6.5 feet NAVD average FFE versus 11 feet NAVD BFE), combined with the location on the beach within SFHA Zone VE, indicates stormwater system improvements and dune restoration in this area are not expected to provide flood mitigation.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, existence of older (pre-FIRM), non-elevated structures, extensive exposure to gulf and bay flooding sources, and the average Finished Floor Elevation (FFE) of structures 4.5 feet below the Base Flood Elevation (BFE) indicate that the most appropriate mitigation alternatives include elevating structures and/or flood prone components or acquisition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 64 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
64– SBC 07 Sarasota Bay	2	1	9	AE, VE (SFHA)	Higel Ave Shell Rd	1,2,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 64: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	9					
Repetitive Loss (RL) Properties	3					
Severe RL properties	1					
Mitigated RL properties	1					
Mitigated Severe RL properties	0					
Insurance claims since 1978	13					
Total insurance claims (in thousands)	\$61					
Average insurance claim (in thousands)	\$4.68					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 65-SBC09 Siesta Key

Repetitive Loss Area Overview



Figure 1: SBC09 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island (Bay Peninsula)
 AREA: 3.27 acres

FLOODING PROBLEMS AND CONCERNS

- Bay and Coastal waves
- Storm surge from Bay and Gulf of Mexico
- Peninsula landform on barrier island
- Near major Gulf-Bay pass/restriction
- Low relative lot grades/elevations
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many structures not elevated
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is a peninsula on the bay side of the Siesta Key barrier island. It is subject to flooding from storm surge, waves, and tidal action from the Roberts Bay Sarasota, Big Sarasota Pass, and the Gulf of Mexico, as well as stormwater system backup from outfalls to the bay during storm events with high rainfall, exacerbated by high tides and/or storm surge that cause overtopping of the banks of the adjacent Coconut and Hansen Bayous. All structures are within SFHA Zone AE and includes mostly older, single-family homes. The median year built is 1957 and about 43% of the structures are elevated, with the rest being non- or minimally elevated slab-on-grade construction. The combination of extremely low-elevation terrain, older, non-elevated structures, and its peninsular landform between two (2) bay bayous on a barrier island, with both coastal and bay influences, make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure Adjacent to Waterway



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
7	Total Structures in Repetitive Loss Area
4	Total Repetitive Loss Structures in this Area
4	Properties w/Active Insurance Policies
1	Mitigated RL and SRL Properties
3	Unmitigated RL and SRL Properties
17	Insurance Claims (since 1978)
\$235	Total Insurance Claims (in thousands)
\$13.82	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. Two (2) residents within the RLA completed and submitted outreach surveys.

Street	Survey Summary/Comments
Roberts Point Rd	Resident with 10-19 years residency, slab on grade, reports flooding in yard only, cited stormwater system backup as cause, places sandbags when water threatens home.
Roberts Point Rd	Resident with less than 10 years residency, slab on grade, indicates flooding in yard only, cited cause as overbank flooding from nearby waterways, places sandbags when water threatens home.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for thirteen (13) of the seventeen (17) individual claims in the RLA, of which six (6) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been no NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	3
September 1, 1985	Hurricane Elena	3	3
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
43%	Slab on grade
14%	Elevated slab on stem wall with fill
43%	Elevated on post/piles or walls
Composition	Frame Type
57%	Wood frame
43%	Concrete block/masonry
Composition	Number of Stories
29%	Single story
57%	Two story
14%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Elevated Structure (Google Maps)

Causes of Flooding

Coastal waves and storm surge from the Bay and Gulf sides result in overtopping of the banks and flooding during major storm events, with stormwater system backup during unusually high tides a contributing factor. Streets in this RLA have very low elevations at or below the lot grades, which are already at low elevations for the waterfront lots (-0.8 to 3.6 feet). Review of the Historical Storms and insurance claims revealed that the major tropical storm events with 3 inches or more of rainfall, along with the accompanying high tides, storm surge, wave inundation, and stormwater system backup, coincided with the repetitive loss claims for the RLA. This low-terrain location is surrounded on both the east and west sides by Coconut and Hansen Bayous (Roberts Bay Sarasota) with all the properties being waterfront, and less than 1,500 feet distant from the Big Sarasota Pass and the Gulf of Mexico side of the Siesta Key barrier island. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

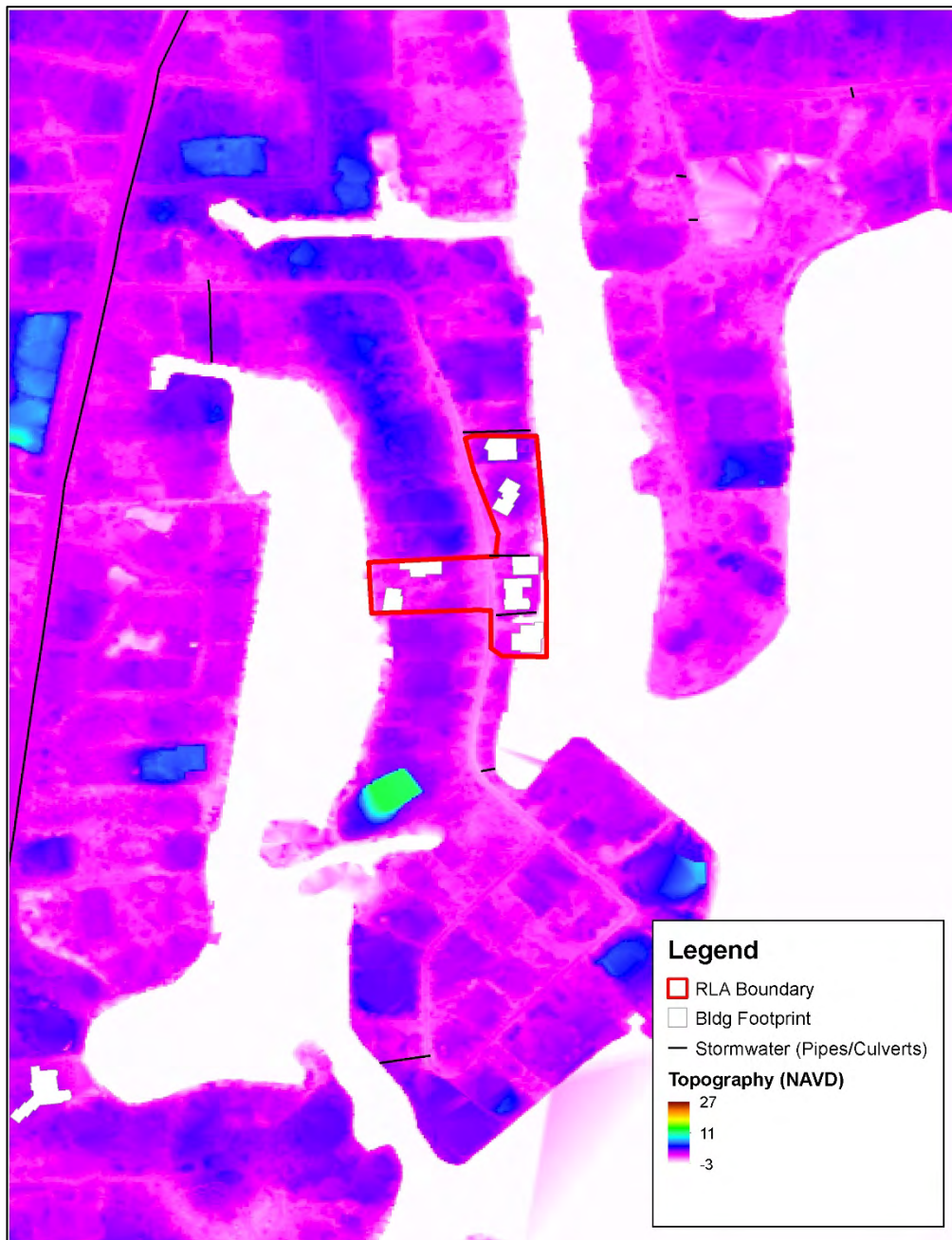


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system includes three (3) Bay outfalls with inlets on Roberts Point Road that collects runoff conveyed via piping between lots to the immediately adjacent Hansen Bayou (bayside bayou). This RLA is a particularly low-lying area along the narrow peninsula leading to Roberts Point and all streets are extremely low in elevation. Review of stormwater complaints and resident comments indicate the inlets in this area must be regularly maintained to avoid low-level flooding during high rainfall events. Lots along Roberts Point Rd have been built up over the years, with runoff accumulating in this low area, and during high tides, along with intense rainfall events, stormwater system backup can occur. While there were some normal system maintenance issues observed during the field work, these areas appear to be routinely maintained by County staff based on review of the maintenance callouts. Low elevations of some slab on grade structures relative to the BFE (2.5 feet NAVD average lot elevation versus 10 feet NAVD BFE) indicate stormwater system improvements in this area are not expected to provide flood mitigation.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, extensive exposure to Gulf and Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 7.6 feet NAVD which means 2.4 feet below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 65 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
65– SBC 09 Sarasota Bay	2	1	7	AE (SFHA)	Roberts Point Rd	1,2,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 65: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	7					
Repetitive Loss (RL) Properties	3					
Severe RL properties	1					
Mitigated RL properties	1					
Mitigated Severe RL properties	0					
Insurance claims since 1978	17					
Total insurance claims (in thousands)	\$235					
Average insurance claim (in thousands)	\$13.82					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 66-SBC10 Siesta Key

Repetitive Loss Area Overview

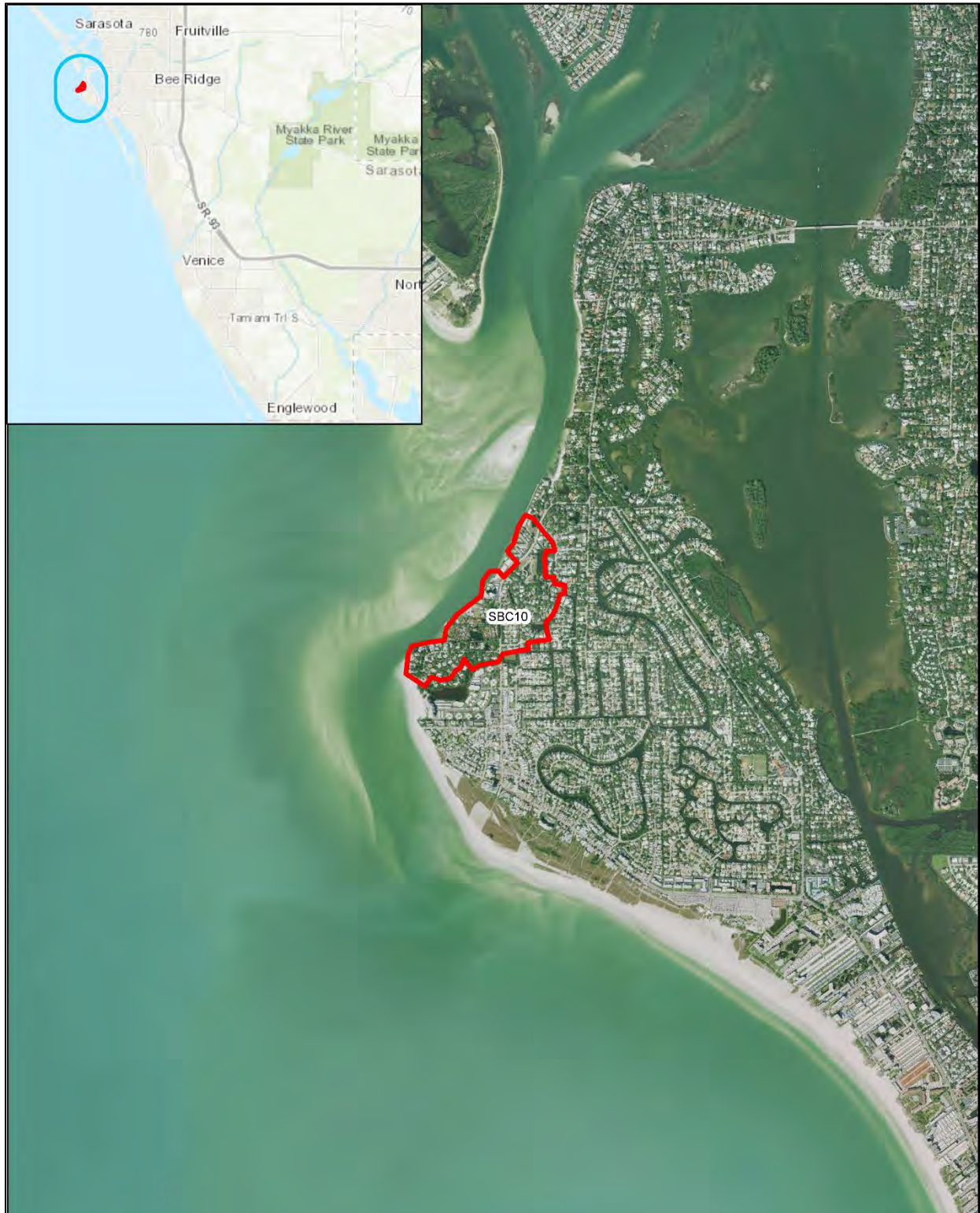


Figure 1: SBC10 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island
 AREA: 118.50 acres

FLOODING PROBLEMS AND CONCERNS

- Coastal waves
- Storm surge from Gulf of Mexico
- Storm surge from Bay through canal
- Landlocked lake
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many lots below street grade
- Tidal backup in stormwater system
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) on Siesta Key is subject to flooding from the Gulf of Mexico, Sarasota Bay, and a canal system. In addition, stormwater system backup and capacity overflow cause flooding, particularly during large rainfall events corresponding with high tides. The structures in this RLA are located within SFHA Zones AE and VE, and the majority of the structures are pre-FIRM that were built before 1972, non-elevated structures that are well below FEMA's effective Base Flood Elevation (BFE). More recent structures are elevated on fill, stem walls, or piles. This RLA includes a high number of Repetitive Loss Properties (RLPs) due to extremely low-terrain, built-out neighborhoods, the high proportion of older, non-elevated structures, and the location of Siesta Key between the Gulf and Bay, resulting in both coastal and estuary influences. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Multi-Family Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
161	Total Structures in Repetitive Loss Area
11	Total Repetitive Loss Structures in this Area
122	Properties w/Active Insurance Policies
4	Mitigated RL and SRL Properties
7	Unmitigated RL and SRL Properties
87	Insurance Claims (since 1978)
\$846	Total Insurance Claims (in thousands)
\$9.73	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. Nine (9) residents within the RLA completed and submitted outreach surveys. In addition, several residents provided comments to the field crews on site during the data collection effort.

Street	Survey Summary/Comments
Treasure Boat Way	Resident with 10-19 years residency, slab on grade, no flooding or damage reported.
Givens St	Resident with < 10 years residency, slab on grade, no flooding or damage reported.
Pass Key Rd	Resident with 10-19 years residency, slab on grade, no flooding or damage reported.
Ocean Blvd	Resident with 30-39 years residency, slab on grade, no flooding or damage reported.
Ocean Blvd	Resident with 10-19 years residency, slab on grade, flooding reported in yard only, cited clogged/undersized drainage ditch/culvert as cause, re-graded yard to keep water away from building.
Big Pass Ln	Resident with 10-19 years residency, elevated on posts/pilings, flooding reported only in yard, cited drainage from nearby properties as cause.
Sandy Hook Rd	Resident with < 10 years residency, slab on grade, no flooding or damage reported.
Sandy Hook Rd N	Resident with 30-39 years residency, slab on grade, w/ concrete block, no flooding or damage reported.
Sandy Hook Rd S	Resident with 10-19 years residency, with slab on grade, no flooding reported.
Givens Ct	Resident commented about poor street drainage and run up onto her property because of fill from other developed lots, said neighbors have plans in works for paving this road.
Sandy Hook Rd	Worker commented that garage floods, home built on fill 2-3 feet, and elevated on foundation walls with 1st floor (ground level) garage.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for forty- three (43) of eighty- seven (87) individual claims in the RLA, of which twenty-five (25) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been nine (9) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	3
September 1, 1985	Hurricane Elena	3	7
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	6
July 18, 1995	Un-Named Storm	9-11	2
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	4
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	2

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
46%	Slab on grade
27%	Elevated slab on stem wall with fill
26%	Elevated on post/piles or walls
1%	Unable to determine
Composition	Frame Type
48%	Wood frame
52%	Concrete block/masonry
Composition	Number of Stories
48%	Single story
40%	Two story
12%	Three story or greater
Composition	Flood Zones
75%	Within SFHA Zone AE
25%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits

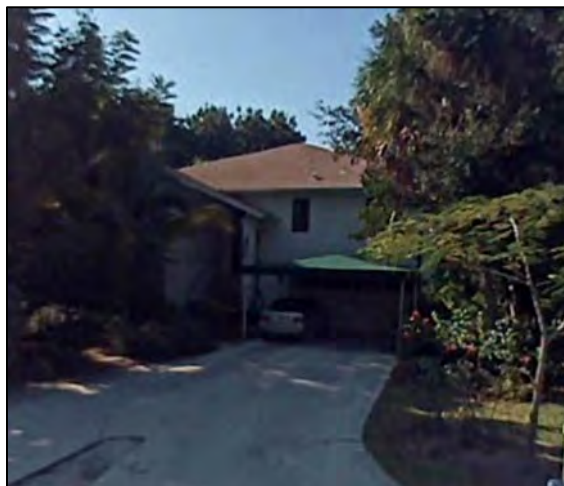


Figure 4: Slab on Grade Structure Adjacent to Waterway and Elevated Structure

Causes of Flooding

Coastal waves and storm surge from both the Gulf and Bay sides (through a canal system) cause flooding during major storm events. Review of the spatial relationship between the properties and the stormwater infrastructure also indicate that a number of properties are in close proximity to stormwater system inlets/catch basins. Here, the lots are relatively low in elevation, and the structures are not significantly elevated above existing lot grade. This relationship is indicative of flooding caused by pooling and backup in the system that can be due to either under-sizing of the stormwater system, backflow inundation from high tidal and/or storm-event surface water, or maintenance issues (e.g., cleaning/clearing structures or ditches). Often the issue is a combination of one or more of these causes, particularly in the case where outfalls are below high tide levels. There were some normal system maintenance issues observed during the field work. However, these areas appear to be routinely maintained by County staff based on review of the maintenance callouts and discussion with County stormwater staff. A number of the side streets have little or no conveyance system (e.g., swales, ditches, culverts, or drop structures with piping), resulting in short-term street flooding during high rainfall events corresponding to high tides. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

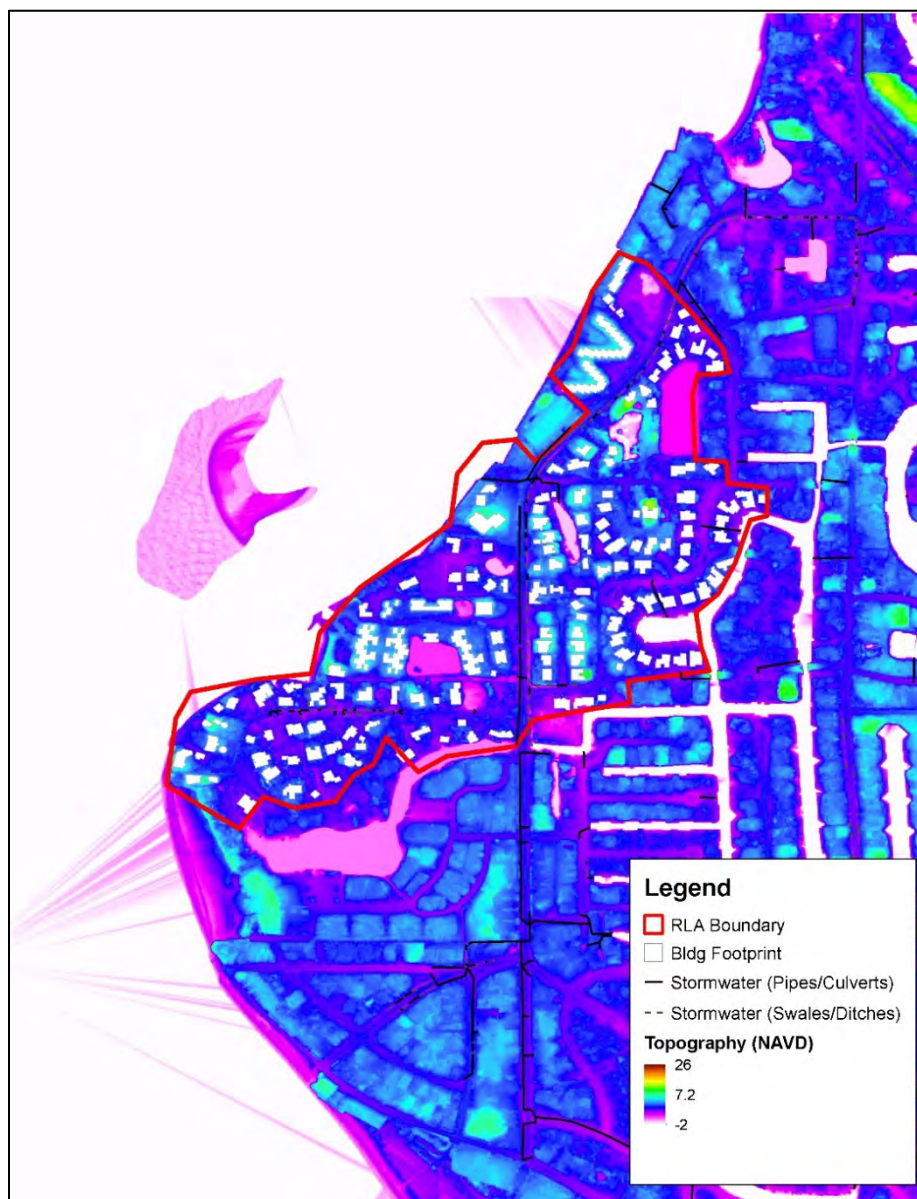


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure is concentrated primarily along Ocean Boulevard running north/south, with outfalls to both the Gulf and the canal system on the Bay side. Recent sidewalk improvements on portions of Ocean Blvd. also appear to have included street drains and other stormwater improvements. Stormwater conveyances on the side streets are limited, with numerous lots being below street grade. There are six (6) outfalls to the bay-side canal system and four (4) outfalls to the Gulf of Mexico, which includes the two (2) Gulf outfalls just outside the RLA that provide drainage to the north portion of the area. There are also eight (8) stormwater ponds, many of which are County-maintained ponds, while others appear to be part of the stormwater management system for private developments. Only two (2) of these private ponds show connections to the County's stormwater system. Maintenance of the private stormwater systems is the responsibility of the owners (typically HOAs).



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, extensive exposure to Gulf and Bay flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 4.8 feet below the Base Flood Elevation (BFE) indicate that the most appropriate mitigation alternatives include elevating structures and/or flood prone components or acquisition and demolition of the structures to restore the natural floodplain. For multi-story structures with enclosed ground-level living spaces, the bottom level may be converted to storage, access, and parking areas (wet floodproofing) while moving the living areas to upper floors. This will depend on structure-specific engineering analysis, construction methods and materials, and condition of the existing structures.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 66 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
66- SBC 10 Sarasota Bay	7	0	161	AE, VE (SFHA)	Sandy Hook Rd Ocean Blvd Rockwell Ln Gleason Ave Featherbed Ln Pass Key Rd Big Pass Ln Treasure Boat Way Primrose Boat Way Estrada De Costa Peaceable Way Givens St Sandy Cove Rd Bochi Cir	1,2,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 66: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	161					
Repetitive Loss (RL) Properties	9					
Severe RL properties	2					
Mitigated RL properties	2					
Mitigated Severe RL properties	2					
Insurance claims since 1978	87					
Total insurance claims (in thousands)	\$846					
Average insurance claim (in thousands)	\$9.73					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 67-SBC11 Siesta Key

Repetitive Loss Area Overview



Figure 1: SBC11 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island
 AREA: 7.16 acres

FLOODING PROBLEMS AND CONCERNS

- Coastal waves
- Storm surge from Gulf of Mexico
- Beach with minimal frontal dune
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many lots below street grade
- Most structures not elevated
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) includes portions of Siesta Key Beach. It is subject to flooding from the storm surge, waves, and tidal action from the Gulf of Mexico, as well as stormwater system backup from outfalls to the bay side canal system (Roberts Bay) and capacity overflows particularly during high rainfall events corresponding with high tides. The area includes a mix of single family residential and commercial rental properties mostly dating back to the 1940's, which are located on or within one block of the beach. The majority of structures (74%) are non- or minimally elevated slab-on-grade construction dating back to 1950's or earlier. Nearly all (87%) of the structures are within SFHA Zone VE. The combination of extremely low-elevation terrain, high proportion of older, non-elevated structures, its proximity to the beach (within one block), and its position on Siesta Key between the Gulf and Bay with both coastal and estuary influence make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Adjacent to Open Beach & Coastal Dunes



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
24	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
22	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
2	Unmitigated RL and SRL Properties
26	Insurance Claims (since 1978)
\$32	Total Insurance Claims (in thousands)
\$1.21	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

Street	Survey Summary/Comments
Beach Rd Avenida Vennecia Avenida Messina Columbus Blvd	No survey responses received, no resident comments during field site visits

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

During the course of compiling this report we received public input/comments for this area from a resident concerned about the dredging project in the nearby Big Pass and the possible impacts to his property from increased wave height and storm surge. The future impacts of dredging in this area are unknown. These concerns are included in this report and in the future, we will review northern Siesta Key for any additional flood claims or additional repetitive loss areas. It is understood that this area is part of the FDEP Critically Eroded Beaches of Florida (*see Front Report, Section 1.1 Problem Statement*) and any additional claims and/or repetitive loss areas along coastlines can occur from either natural effects or man-made activities. These reports will address any increases in flood claims and the mitigation methods available for flood protection.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for seven (7) of the twenty-six (26) individual claims in the RLA, of which five (5) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	2
September 1, 1985	Hurricane Elena	3	1
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
79%	Slab on grade
21%	Elevated on post/piles or walls
Composition	Frame Type
33%	Wood frame
67%	Concrete block/masonry
Composition	Number of Stories
46%	Single story
42%	Two story
12%	Three story or greater
Composition	Flood Zones
4.2%	Within SFHA Zone AE
95.8%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Structure Located Adjacent to Coastal and Slab on Grade Structures Beaches

Causes of Flooding

Coastal waves and storm surge from both the Gulf and Bay sides (through stormwater backup to nearby canal outfalls) cause flooding during major storm events. Streets in this area are at or below the lot grades, which are already at low elevations averaging just 4.2 feet NAVD. While there were some normal system maintenance issues observed during the field work, these areas appear to be routinely maintained by County staff based on review of the maintenance callouts. Review of Historical Storms revealed the major storms with generally 5 inches or more of rainfall, with the accompanying high tides, storm surge, wave inundation, and stormwater system backup, coincided with the repetitive loss claims for the RLA. The beach outfall at the intersection of Beach Road and Columbus Blvd. appears to be a source of inundation and stormwater backup and may contribute to flooding. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

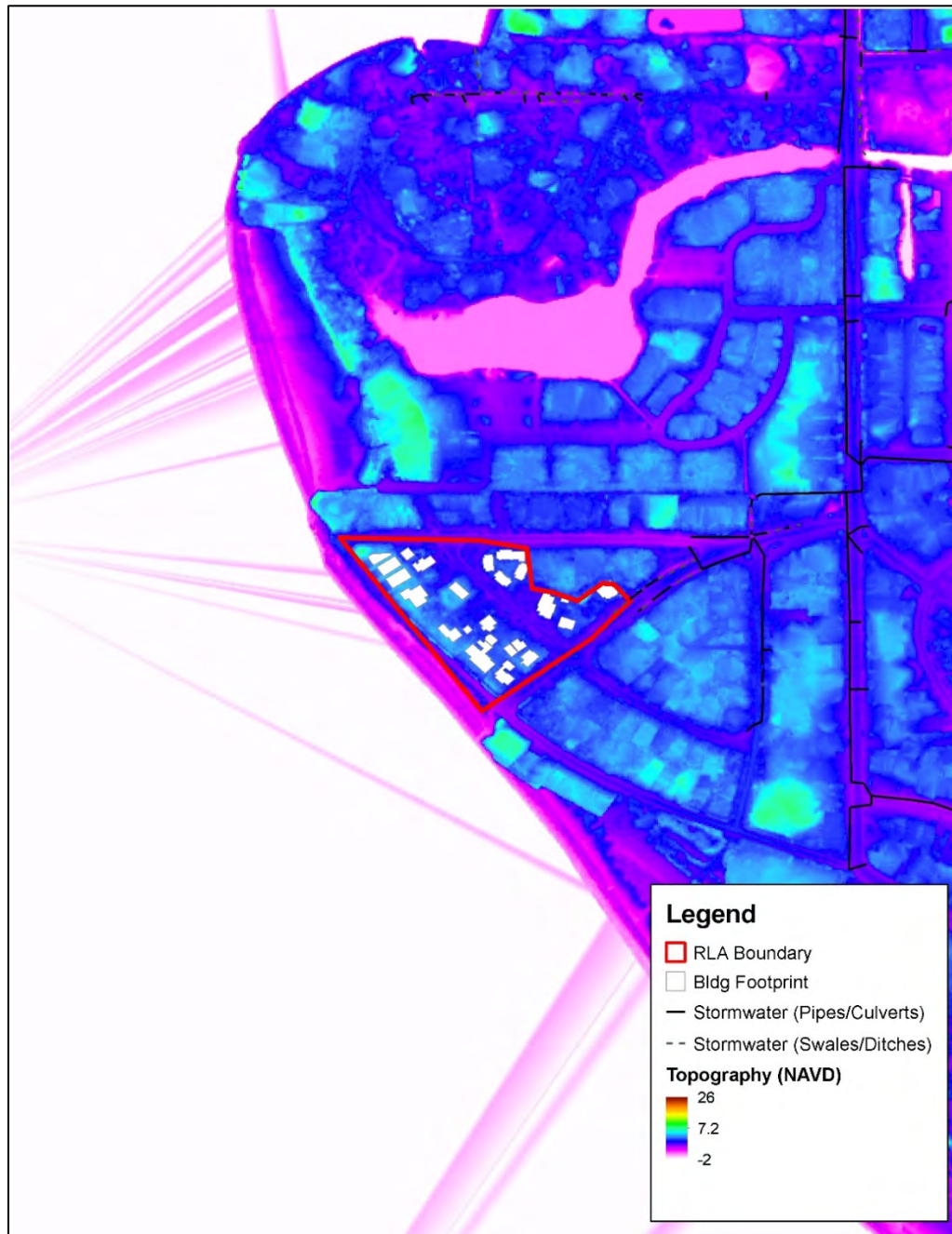


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system includes conveyance swales and piping but is limited to the east end of the area along Columbus Blvd., where it collects runoff from adjacent properties and then conducts it via piping to one (1) Bay outfall at the canal system. Streets in this area are extremely low in elevation, for the most part sloping to the east along Avenida Messina and Columbus Blvd. The intersection of Beach Rd and Columbus Blvd is a low spot acting like an outfall, likely discharging directly to the Gulf. Review of stormwater complaints indicate that this is a frequent location where sand accumulates and must be regularly maintained. This location is essentially a gap in what little frontal dune remains and is a source of inundation and stormwater backup during periods of unusually high tides, storm surge, and wave action. Because of the low elevations of structures relative to the BFE (5.9 feet NAVD average FFE versus 13 feet NAVD BFE), stormwater system improvements in this area are not expected to provide mitigation.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, extensive exposure to Gulf and Bay (canals) flooding sources, and the predominance of older (pre-FIRM), non-elevated structures with an average Finished Floor Elevation (FFE) of 7.1 feet below the Base Flood Elevation (BFE) indicate that the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Source Funding Opportunities

The properties located within RLA 67 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA is outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

Recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
67–SBC 11 Sarasota Bay	2	0	24	AE, VE (SFHA)	Columbus Blvd Beach Rd Avenida Venecia Avenida Messina	1,2,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 67: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	24					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	26					
Total insurance claims (in thousands)	\$32					
Average insurance claim (in thousands)	\$1.21					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 68-SBC12 Siesta Key

Repetitive Loss Area Overview

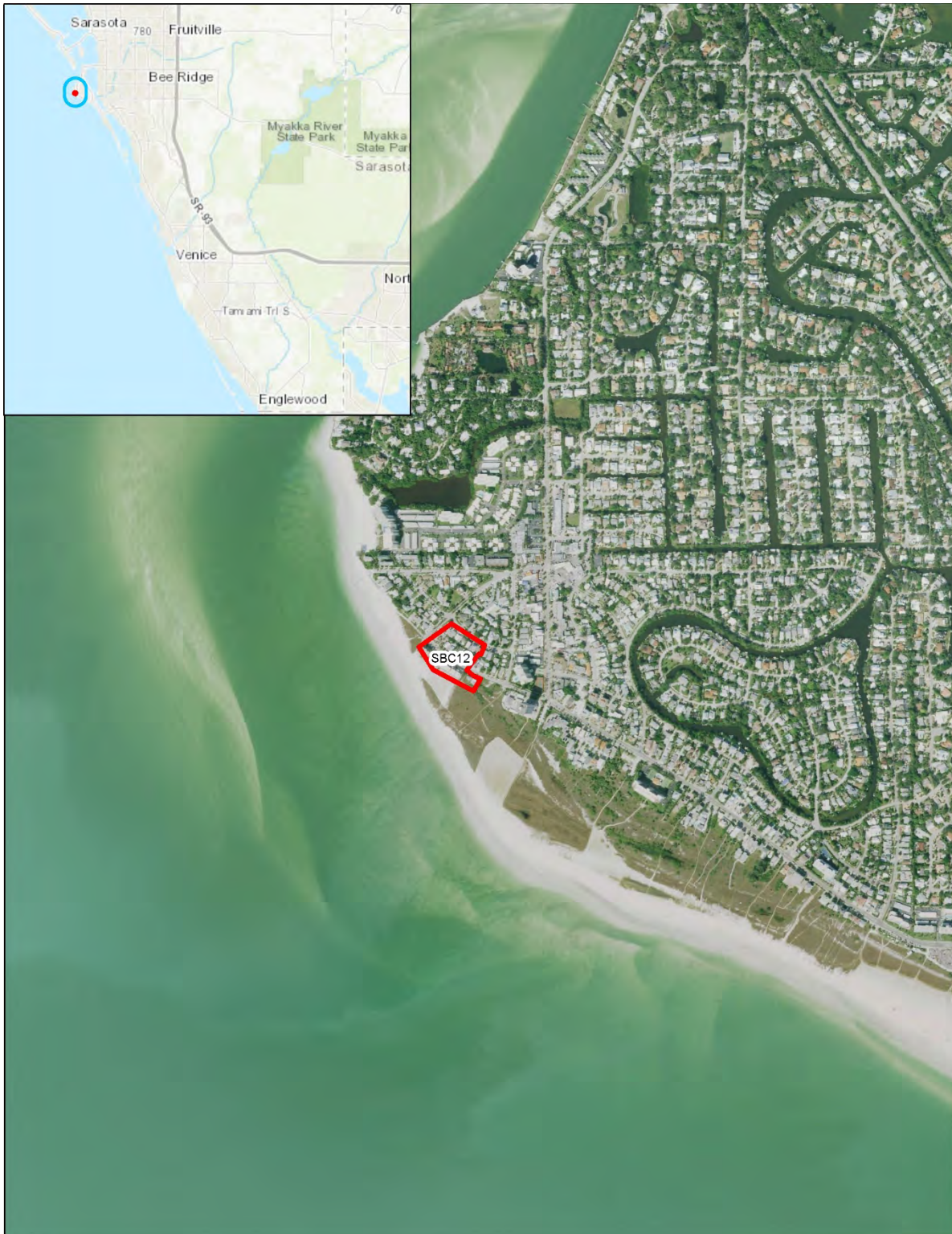


Figure 1: SBC12 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island / Beach
 AREA: 5.12 acres

FLOODING PROBLEMS AND CONCERNS

- Coastal waves
- Storm surge from Gulf of Mexico
- Beach with minimal frontal dune
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many lots below street grade
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) includes portions of Siesta Key Beach. It is subject to flooding from storm surge, waves, and tidal action from the Gulf of Mexico, stormwater system backup from outfalls to the bay side canal system (Roberts Bay), and capacity overflows particularly during high rainfall events corresponding with high tides. All the structures in this RLA are located within SFHA Zone VE and include a mix of single family residential and commercial rental properties mostly dating back to the 1940's, which are located on or within one block of the beach. The majority of structures (81%) are non- or minimally elevated slab-on-grade construction dating from the 1950's or earlier. The combination of extremely low-elevation terrain, high proportion of older, non-elevated structures, its proximity to the beach (within one block), and its position on Siesta Key between the Gulf and Bay with both coastal and estuary influence make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the RLA structures.



Figure 2: Minimally Elevated Structure Adjacent to Coastal Beaches



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
26	Total Structures in Repetitive Loss Area
2	Total Repetitive Loss Structures in this Area
25	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
2	Unmitigated RL and SRL Properties
29	Insurance Claims (since 1978)
\$145	Total Insurance Claims (in thousands)
\$5.00	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Beach Rd Avenida Vennecia Columbus Blvd Avenida Navarra	No survey responses received, no resident comments during field site visits

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for eight (8) of the twenty- nine (29) individual claims in the RLA, of which four (4) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been no NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	1
September 1, 1985	Hurricane Elena	3	2
November 23, 1988	Tropical Storm Keith	1-3	1
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
81%	Slab on grade
19%	Elevated slab on stem wall with fill
Composition	Frame Type
54%	Wood frame
46%	Concrete block/masonry
Composition	Number of Stories
50%	Single story
38%	Two story
12%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Minimally Elevated Structure Adjacent to Coastal Beaches

Causes of Flooding

Coastal waves and storm surge from both the Gulf and Bay sides (through stormwater backup to nearby canal outfalls) cause flooding during major storm events. Streets in this area are at or below the lot grades, which are already at low elevations averaging just 4.7 feet NAVD. While there were some normal system maintenance issues observed during the field work, these areas appear to be routinely maintained by County staff based on review of the maintenance callouts. Review of Historical Storms revealed the major storms with as little as 1-3 inches or more of rainfall, with accompanying high tides, storm surge, wave inundation, and stormwater system backup, coincided with the repetitive loss claims for the RLA. The beach outfall at the intersection of Beach Rd. and Columbus Blvd. appears to be a source of inundation and stormwater backup and may contribute to flooding. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

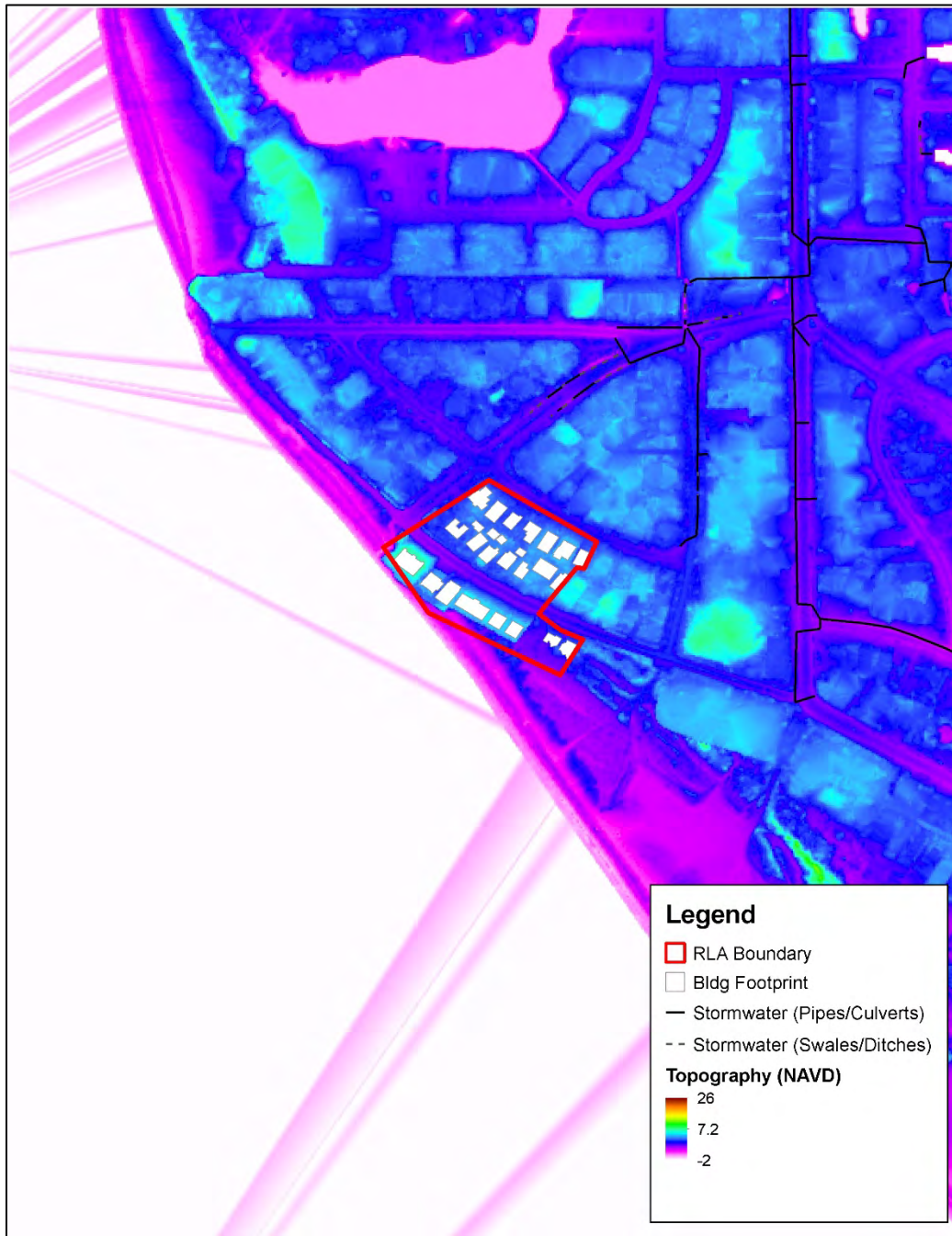


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater system appears to be essentially sheet flow from lots to Beach Rd; then the street conveys the stormwater to the Beach Rd./Columbus Blvd. intersection, where it outfalls directly to the Gulf. It appears that the lots on the south side of Avenida Venecia also may drain to this street, in which case the runoff will get into the Avenida Messina and Columbus Blvd. stormwater conveyance swales, where it collects runoff from adjacent properties then travels via piping to one (1) Bay outfall at the canal system. Streets in this area are extremely low in elevation, for the most part sloping to the east along Avenida Messina and Columbus Blvd. The intersection of Beach Rd. and Columbus Blvd. is a low spot on Beach Rd., which appears to discharge directly to the Gulf. Review of stormwater complaints and maintenance requests indicate this is a frequent location where sand accumulates and must be regularly maintained. This location is essentially a gap in what little frontal dune remains and is a source of inundation and stormwater backup during periods of unusually high tides, storm surge, and wave action. FEMA guidelines suggests that beach re-nourishment activities focusing on natural dune replenishment may reduce the risk of flooding and could be a mitigation alternative. However, because of the low elevations of structures relative to the BFE (6.0 feet NAVD average FFE versus 14 feet NAVD BFE), stormwater system improvements and dune restoration in this area are not expected to provide mitigation.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, extensive exposure to Gulf and Bay flooding sources in SFHA Zone VE, and the average Finished Floor Elevation (FFE) of the structures at 8.0 feet below the Base Flood Elevation (BFE) indicate that the most appropriate mitigation alternatives include elevating structures and/or flood prone components or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 68 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline, and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
68– SBC 12 Sarasota Bay	2	0	26	VE (SFHA)	Columbus Blvd Beach Rd Avenida Venecia	1,2,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 68: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	26					
Repetitive Loss (RL) Properties	2					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	29					
Total insurance claims (in thousands)	\$145					
Average insurance claim (in thousands)	\$5.00					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 69-SBC13 Siesta Key

Repetitive Loss Area Overview

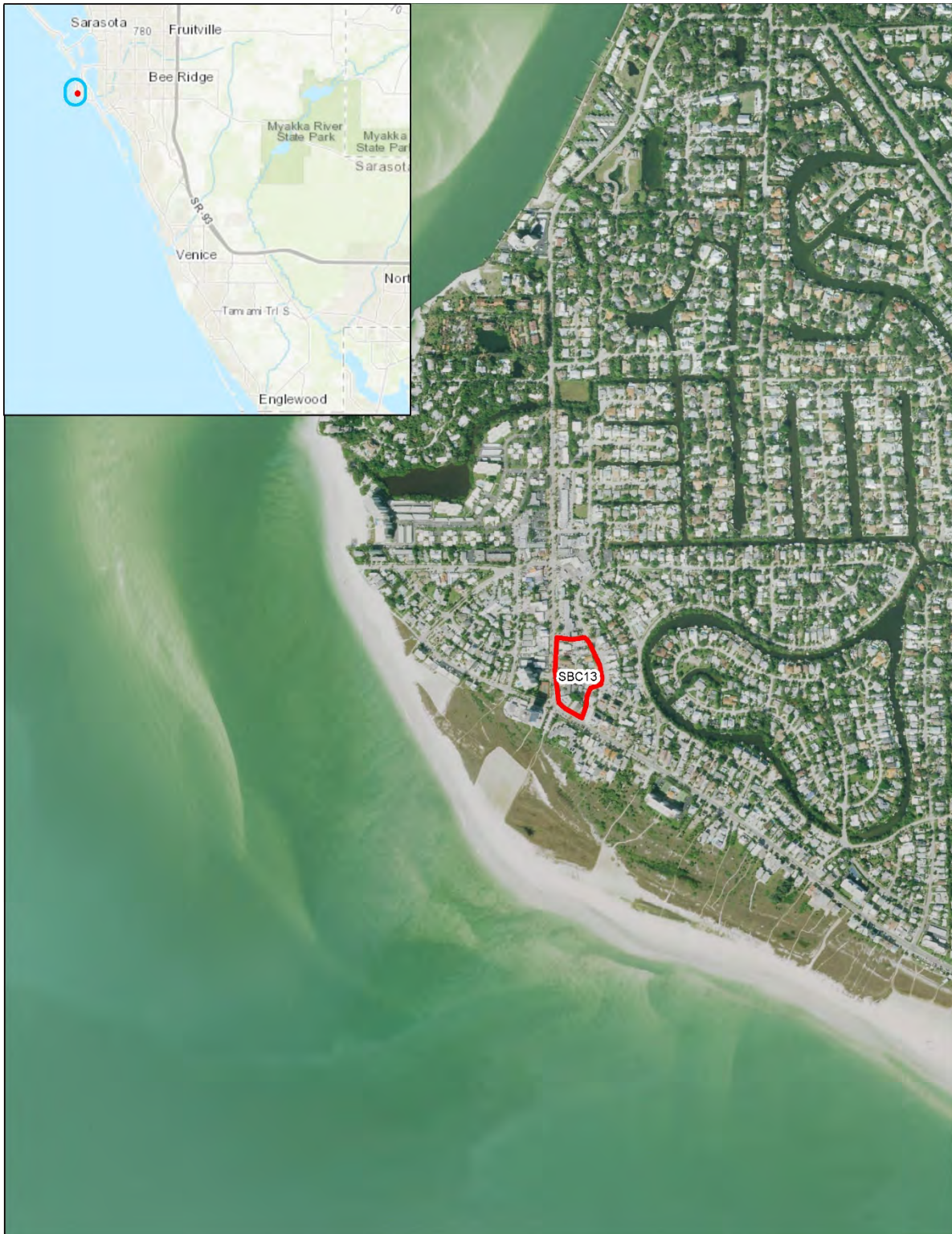


Figure 1: SBC13 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island / Beach
 AREA: 4.86 acres

FLOODING PROBLEMS AND CONCERNS

- Coastal waves
- Storm surge from Gulf of Mexico
- Beach with minimal frontal dune
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many lots below street grade
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) includes portions of Siesta Key Beach. It is subject to flooding from coastal sources including the Gulf of Mexico as well as stormwater system backup from outfalls to the bay side canal system (Roberts Bay) and capacity overflows, particularly during high rainfall events corresponding with high tides. The structures in this RLA are located within SFHA Zones AE and VE and include a commercial business area of Siesta Key Beach with nearly all the structures (94%) with slab-on-grade construction. Most of the structures are dating back to 1950's or earlier, typically pre-FIRM with non- or minimally elevated structures that are well below FEMA's effective Base Flood Elevation (BFE). The combination of extremely low-elevation terrain, built-out, a high proportion of older, non-elevated structures, its proximity to the beach (one block), and its position on Siesta Key between the Gulf and Bay with both coastal and estuary influence make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Commercial Structure

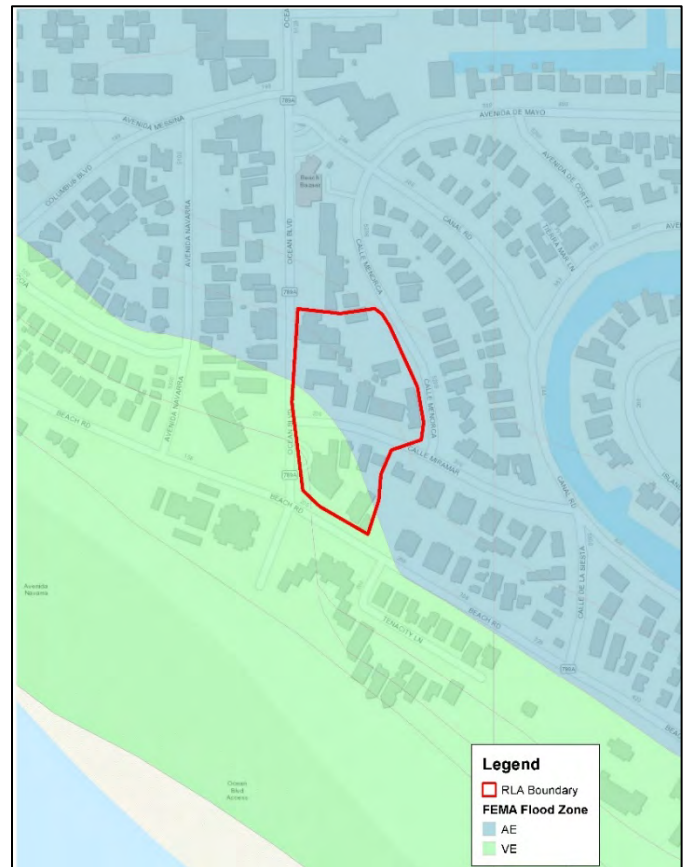


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
16	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
13	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
14	Insurance Claims (since 1978)
\$93	Total Insurance Claims (in thousands)
\$6.64	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Ocean Blvd Calle Miramar Beach Rd Calle Menorca	No survey responses received, no resident comments during field site visits

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for two (2) of the fourteen (14) individual claims in the RLA, of which both corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
94%	Slab on grade
6%	Elevated slab on stem wall with fill
Composition	Frame Type
30%	Wood frame
70%	Concrete block/masonry
Composition	Number of Stories
81%	Single story
19%	Two story
Composition	Flood Zones
75%	Within SFHA Zone AE
25%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Commercial Structure

Causes of Flooding

Coastal waves and storm surge from both the Gulf and Bay sides (through stormwater backup to nearby canal outfalls) cause flooding during major storm events. Streets in this area are at or below the lot grades, which are already at low elevations, averaging just 4.7 feet NAVD. While there were some normal system maintenance issues observed during the field work, these areas appear to be routinely maintained by County staff based on review of the maintenance callouts. Review of Historical Storms revealed the storms with 9 inches or more of rainfall, along with the accompanying unusually high tides, wave inundation, and stormwater system backup, coincided with the repetitive losses claims for the RLA. Many of the side streets have little or no conveyance system (e.g., swales, ditches, culverts, or drop structures with piping), which tends to result in short-term street flooding during high rainfall events corresponding to high tides. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

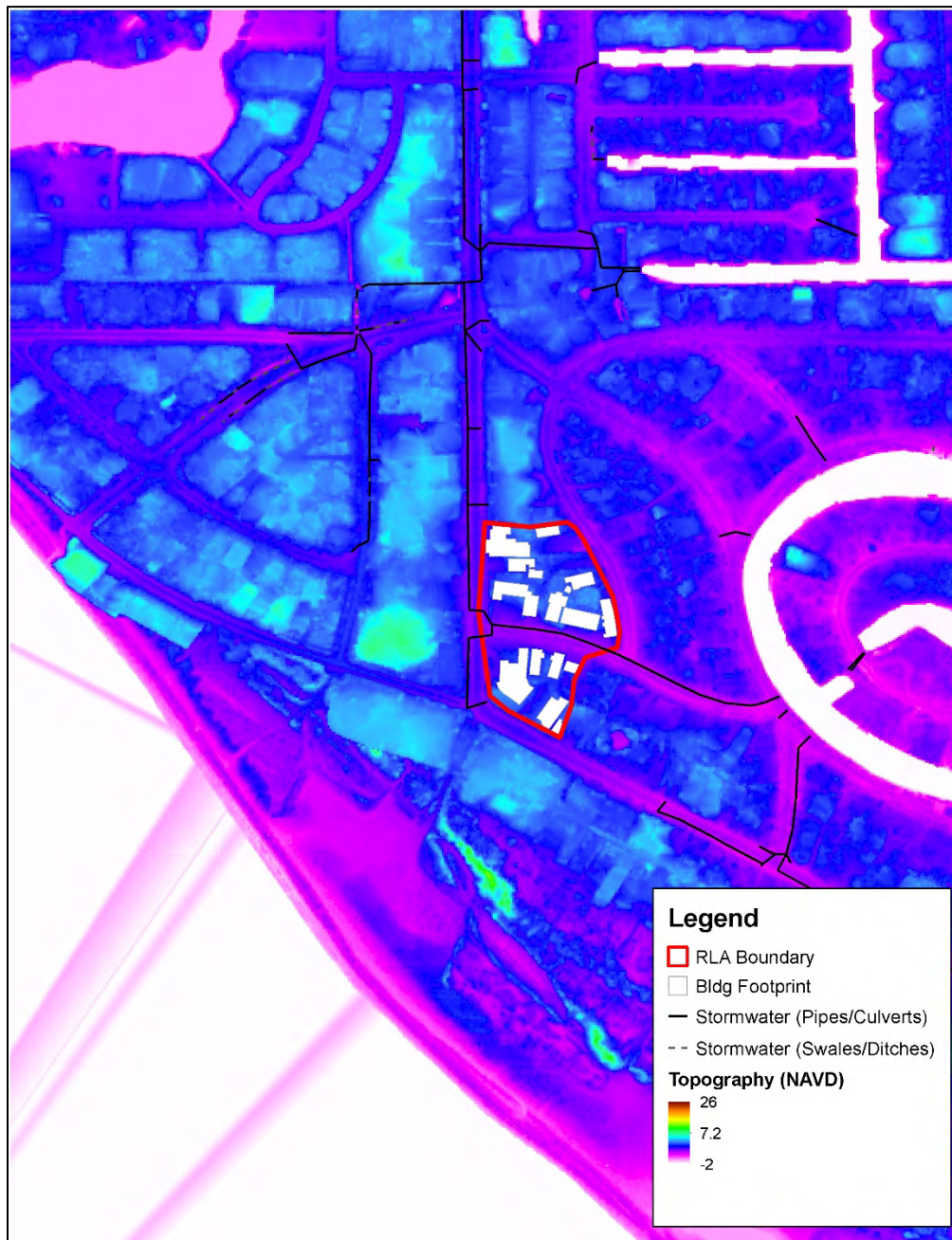


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater infrastructure system along Calle Miramar conveys runoff to the east, to the nearby Bay outfalls into the Palm Island canal system. Inlets and piping system on Ocean Blvd. convey stormwater north to more distant canal outfalls. The streets are lower elevation than the surrounding property grades, particularly at the Calle Miramar/Calle Menorca intersection, which become the conveyance for flood waters. There are five (5) outfalls to the bay-side canal system, and the nearest one to Palm Island canal system is in a significantly lower elevation at the intersection of Canal Rd. and Calle Miramar. Regrading of the lots away from the structures may provide some mitigation but likely not much because of the low elevations of structures relative to the BFE (6 feet NAVD average FFE versus 14 feet NAVD BFE).



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, extensive exposure to Gulf and Bay flooding sources within two blocks, and the average Finished Floor Elevation (FFE) of the structures at 8.0 feet below the Base Flood Elevation (BFE) indicate the most appropriate mitigation alternatives include elevating structures and/or flood prone components or acquisition and demolition of the structures to restore the natural floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 69 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
69– SBC 12 Sarasota Bay	1	0	16	AE, VE (SFHA)	Beach Rd Calle Miramar Ocean Blvd	2,1,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 69: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	16					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	14					
Total insurance claims (in thousands)	\$93					
Average insurance claim (in thousands)	\$6.64					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 70-SBC14 Siesta Key

Repetitive Loss Area (RLA) Overview

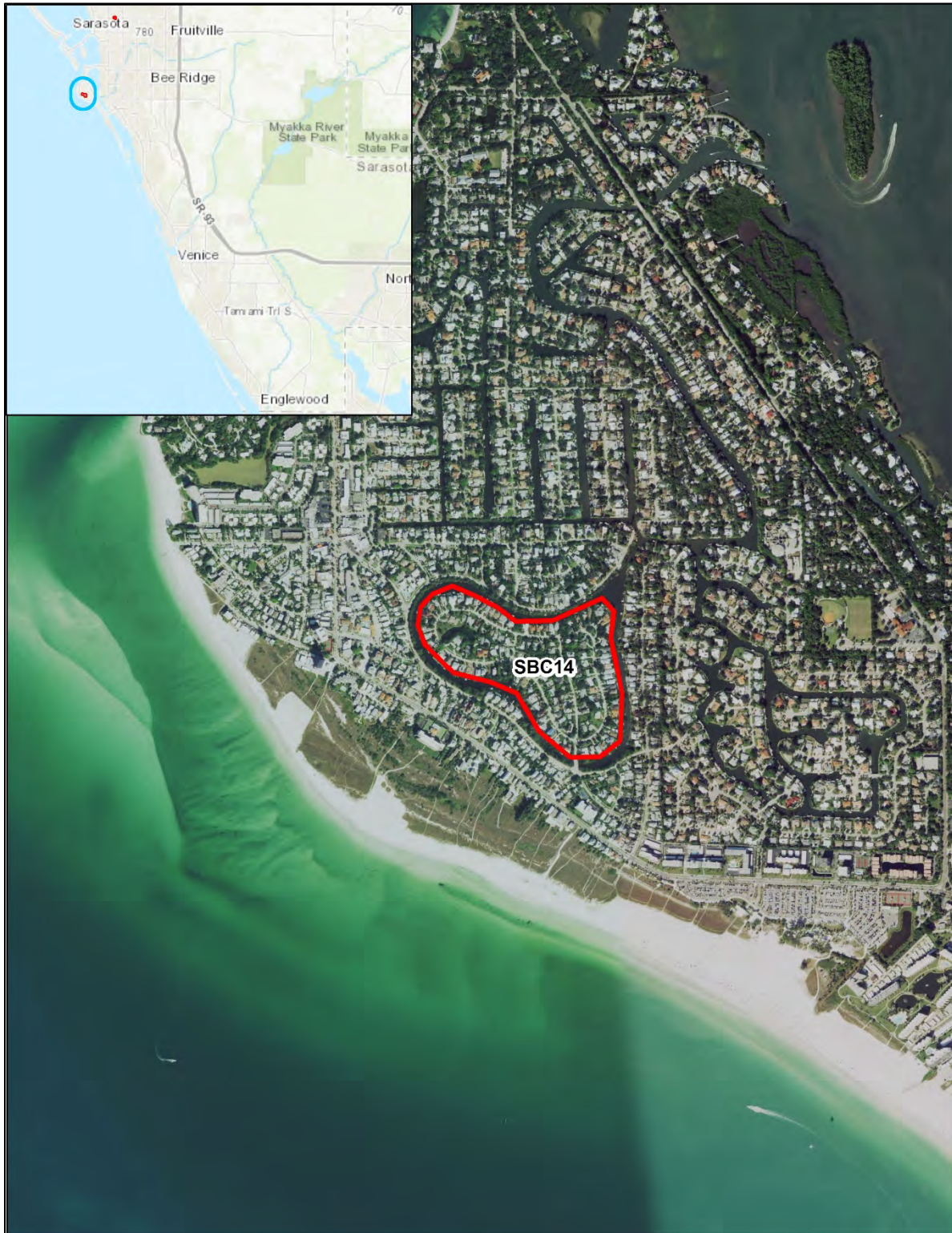


Figure 1: SBC14 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island / Beach
 AREA: 53.71 acres

FLOODING PROBLEMS AND CONCERNS

- Coastal waves
- Storm surge from Gulf of Mexico
- Beach with minimal frontal dune
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many lots below street grade
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) includes an island in a portion of Siesta Key Beach that is subject to flooding from the storm surge waves and tidal action from the Gulf of Mexico as well as stormwater system backup from outfalls to the bay side canal system (Roberts Bay) and capacity overflows, particularly during high rainfall events corresponding with high tides. This area is developed primarily as single-family residential neighborhood, mostly dating back to the 1940's, which are located on or within one block of the beach. The majority of the structures in the RLA are pre-FIRM (built before 1972), non-elevated structures that are well below FEMA's effective Base Flood Elevation (BFE). More recent structures are elevated on fill, stem walls, or piles. All of the structures are within SFHA Zone AE. The combination of extremely low-elevation terrain, high proportion of older, non-elevated structures, its proximity to the beach, and its position on Siesta Key between the Gulf and Bay with both coastal and estuary influence make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the RLA structures.

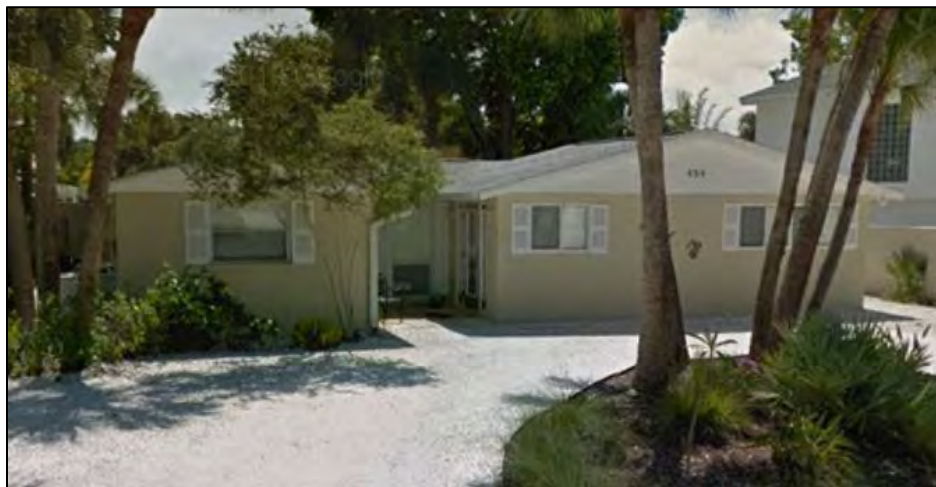


Figure 2: Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
142	Total Structures in Repetitive Loss Area
10	Total Repetitive Loss Structures in this Area
106	Properties w/Active Insurance Policies
3	Mitigated RL and SRL Properties
7	Unmitigated RL and SRL Properties
75	Insurance Claims (since 1978)
\$595.6	Total Insurance Claims (in thousands)
\$7.94	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were eight (8) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Island Cir	Resident with 10-19 years residency, stem wall.
Calle St	Resident with 30-39 years residency, slab on grade, homeowner noted no flooding on property.
Island Cir	Resident with 20-29 years residency, slab on grade, homeowner reported flooding in yard only, regraded yard to prevent
Island Cir	Resident with less than 10 years of residency, slab on grade, reported no flooding on property.
Island Cir	Resident with 10-19 years residency, stem wall, reported flooding in yard only caused by flooding of nearby waterways.
Island Cir	Resident with 20-29 years residency, slab on grade, homeowner reported flooding in yard only caused by flooding from nearby waterways, sandbag to avoid flooding
Island Cir	Resident with less than 10 years of residency, elevated structure on posts/pilings, reported no flooding on property.
Island Cir	Resident with less than 10 years of residency, slab on grade, reported no flooding on property.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the seventy-five (75) individual claims in the RLA, of which forty-one (41) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019). Records indicate that there have been six (6) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	20
September 1, 1985	Hurricane Elena	3	14
November 23, 1988	Tropical Storm Keith	1-3	1
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	4
June 23, 2003	Un-Named Storm	8-10	1
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
63%	Slab on grade
6%	Elevated on foundation walls
5%	Elevated slab on stem wall with fill
16%	Elevated on post/piles or walls
10%	Undetermined due to vegetation/access
Composition	Frame Type
38%	Wood frame
61%	Concrete block/masonry
1%	Manufactured/Mobile Home
Composition	Number of Stories
57%	Single story
34%	Two story
9%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Stem Wall, Concrete Block Structures

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 or more inches of rainfall, exacerbated by unusually high tides and high winds. These effects have likely caused flood inundation from the Bay and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the Bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.



Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes a combination of swales, storm pipes, and a wet retention pond that discharges through six (6) outfall structures into the Bay Canal. Resident surveys reported no flooding in structures and limited flooding in yards. Regrading away from the structures towards the stormwater system may provide mitigation for flooding. However, with the average elevation of existing grades (2.9 feet NAVD) versus the BFE (9 feet NAVD), such improvements would not provide mitigation for flooding from major storm events.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to Siesta Key flooding sources, and the average Finished Floor Elevation (FFE) of the structures at 4.8 feet NAVD, which is 4.2 feet below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 70 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this area are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
70 – SBC 14 Little Sarasota Bay	4	3	142	AE (SFHA)	Island Cir Calle Florida Las Rosa	2,3,1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 07: Sarasota Bay Coastal	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	142					
Repetitive Loss (RL) Properties	6					
Severe RL properties	4					
Mitigated RL properties	2					
Mitigated Severe RL properties	1					
Insurance claims since 1978	75					
Total insurance claims (in thousands)	\$595.6					
Average insurance claim (in thousands)	\$7.9					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 71-SBC15 Siesta Key Beach

Repetitive Loss Area (RLA) Overview

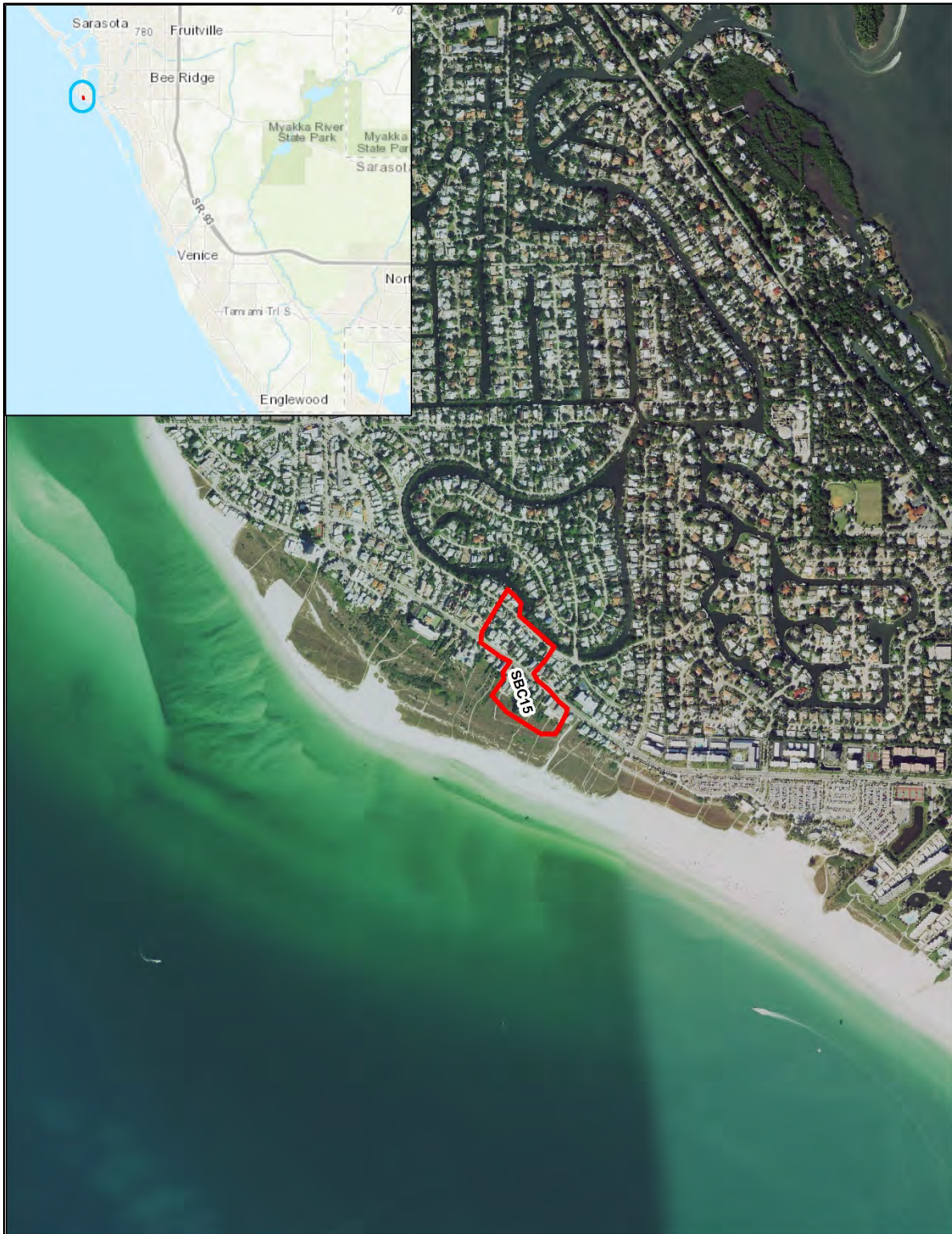


Figure 1: SBC15 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island / Beach
 AREA: 15.06 acres

FLOODING PROBLEMS AND CONCERNS

- Coastal waves
- Storm surge from Gulf of Mexico
- Beach with minimal frontal dune
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many lots below street grade
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) includes portions of Siesta Key Beach and is subject to flooding from storm surge, waves, and tidal action from the Gulf of Mexico, stormwater system backup from outfalls to the bay side canal system (Roberts Bay), and capacity overflows particularly during high rainfall events corresponding with high tides. The properties in this area include single-family, multi-family, and commercial use with an average year constructed of 1963, located on or within one block of the beach. The structures in this RLA are located within SFHA Zone AE and VE. Majority of the structures are pre-FIRM (built before 1972), non-elevated structures that are well below FEMA's effective Base Flood Elevation (BFE). More recent structures are elevated on fill, stem walls, or piles. The combination of extremely low-elevation, high proportion of older, non-elevated structures, its proximity to the beach, and its position on Siesta Key between the Gulf and Bay with both coastal and estuary influences, make this area particularly susceptible to flooding. Tables 1 and 4 provide a summary of the RLA structures.



Figure 2: Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
44	Total Structures in Repetitive Loss Area
4	Total Repetitive Loss Structures in this Area
35	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
4	Unmitigated RL and SRL Properties
14	Insurance Claims (since 1978)
\$151	Total Insurance Claims (in thousands)
\$10.78	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Beach Road	Resident with 20-29 years residency, slab on grade, reports no flooding on property, homeowner regraded parking and installed drains to combat flooding.
Canal Rd	Resident with less than 10 years residency, elevated home with crawlspace, reported no flooding on property.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the fourteen (14) individual claims in the RLA, of which five (5) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been no NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	1
September 1, 1985	Hurricane Elena	3	1
November 23, 1988	Tropical Storm Keith	1-3	1
June 23, 1992	Un-Named Storm	15-20	2
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
46%	Slab on grade
8%	Elevated slab on stem wall with fill
6%	Elevated on foundation walls
34%	Elevated on post/piles or walls
6%	Undetermined due to vegetation/access
Composition	Frame Type
46%	Wood frame
54%	Concrete block/masonry
Composition	Number of Stories
29%	Single story
32%	Two story
39%	Three story or greater
Composition	Flood Zones
68%	Within SFHA Zone AE
32%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Elevated Structures

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 or more inches of rainfall, exacerbated by high tides and high winds. These effects have likely caused flood inundation from the Gulf and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

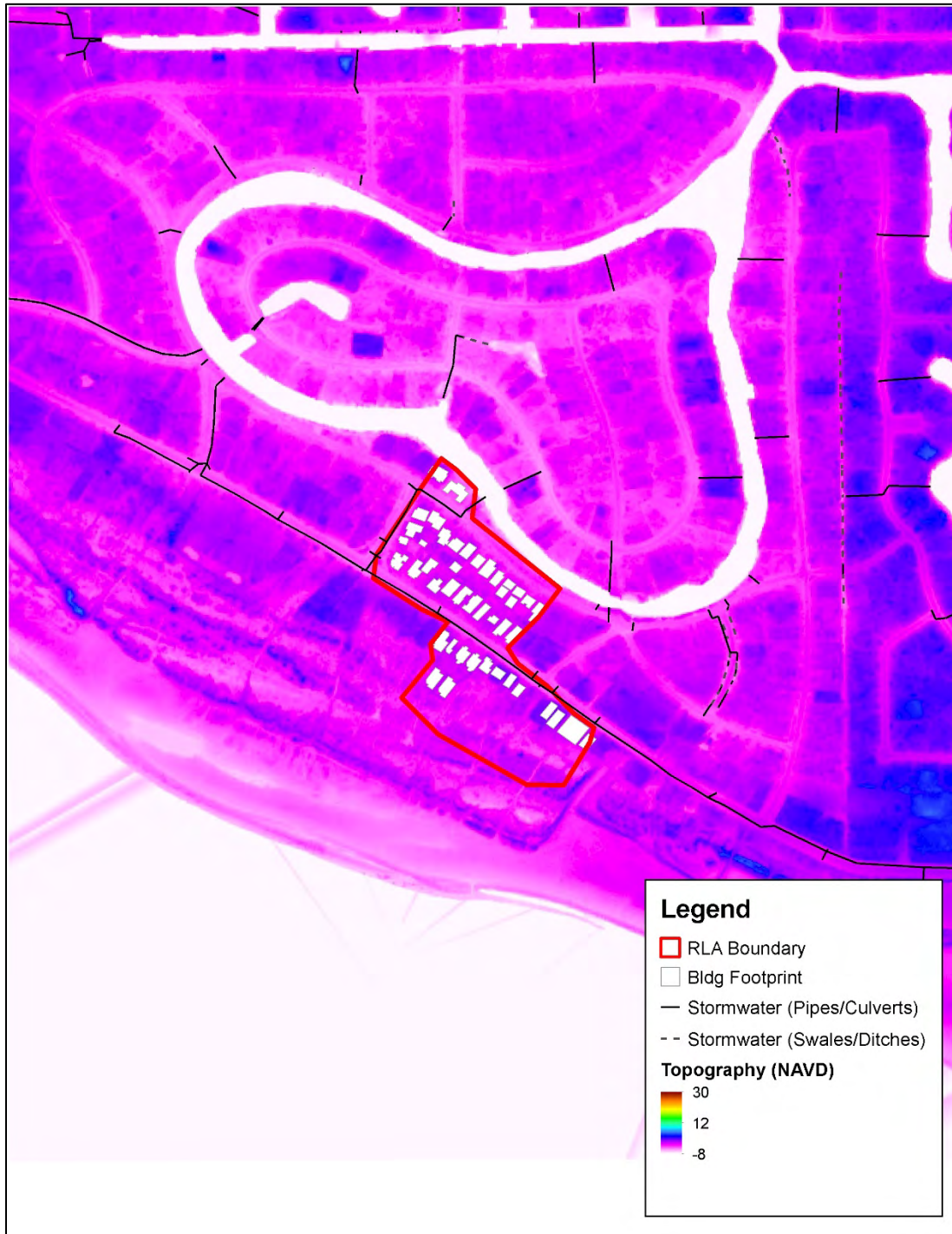


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes storm pipes along Beach Rd and Canal Rd with an outfall structure to Grand Canal. FEMA guidelines suggests that beach re-nourishment activities focusing on natural dune replenishment may reduce the risk of flooding and could be a mitigation alternative. However, with the average elevation of existing grade relative to the BFE (3.4 feet NAVD versus 11 feet NAVD BFE), combined with the location on the beach within SFHA Zone VE, indicates stormwater system improvements and dune restoration in this area are not expected to provide flood mitigation.

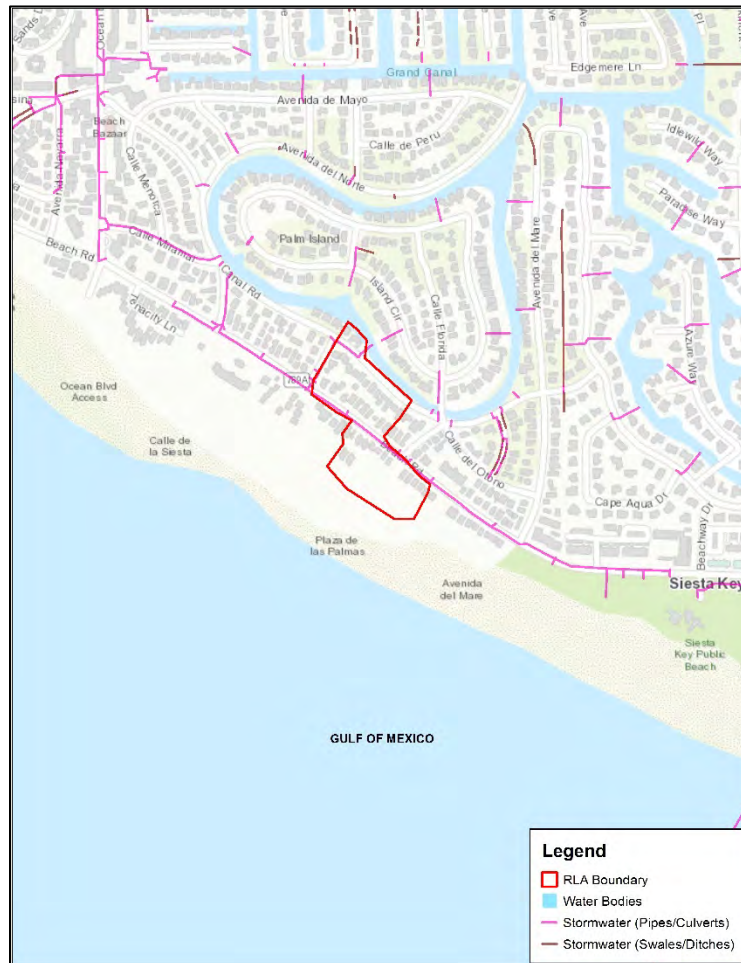


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to Gulf of Mexico flooding sources, and the average Finished Floor Elevation (FFE) of 6.2 feet NAVD, which is 4.8 feet below the Base Flood Elevation (BFE), indicate that the most appropriate mitigation alternatives include elevating structures and/or flood prone components or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 71 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
71 – SBC 15 Little Sarasota Bay	4	0	44	AE, VE (SFHA)	Canal Rd Beach Rd Plaza Des Las Palmas	3,2,1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 71: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	44					
Repetitive Loss (RL) Properties	4					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	14					
Total insurance claims (in thousands)	\$151					
Average insurance claim (in thousands)	\$10.78					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 72-SBC17 Siesta Key Beach

Repetitive Loss Area (RLA) Overview

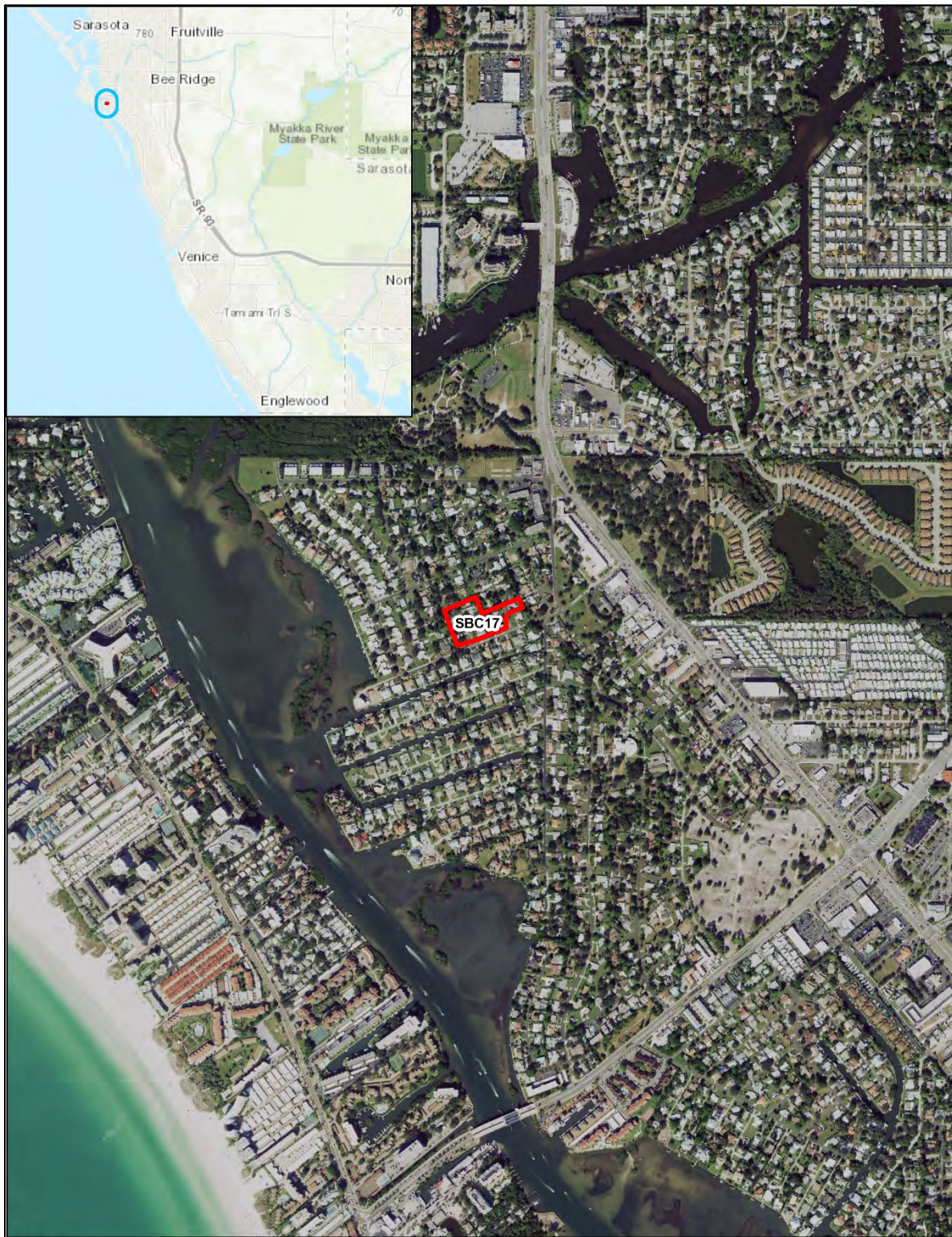


Figure 1: SBC17 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island / Beach
 AREA: 3.95 acres

FLOODING PROBLEMS AND CONCERNS

- Storm surge from Sarasota Bay
- Beach with minimal frontal dune
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is situated on a portion of the peninsula separating Phillippi Creek and Roberts Bay, just west of US-41, in a residential neighborhood. This section of the peninsula, at the confluence of the waterways, is subject to tidal action, waves, and storm surge as well as coastal influences from the Gulf of Mexico. The structures in this RLA are located within Zone X (shaded) and SFHA Zone AE with minimal stormwater infrastructure. Most of the structures were constructed in the 1950's, typically pre-FIRM with slab-on-grade construction. These older, slab-on-grade structures are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.

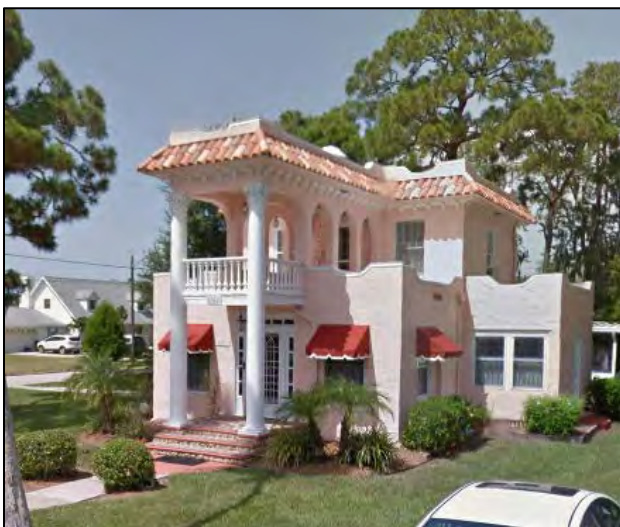


Figure 2: Raised Slab on Grade Structure

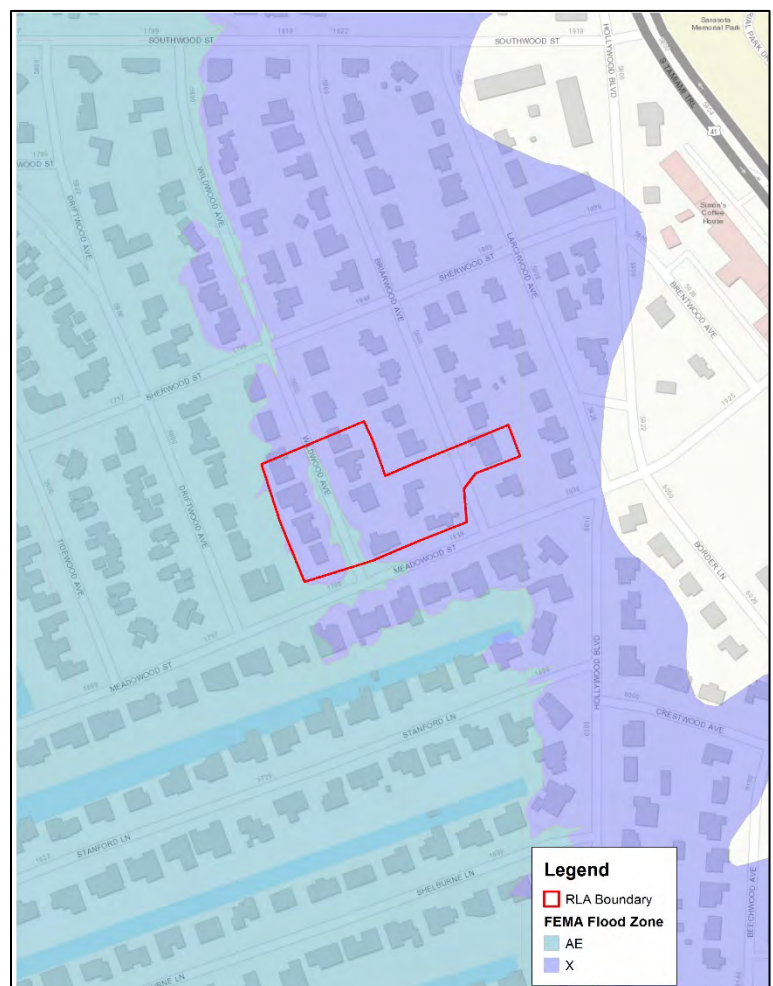


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
11	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
6	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
4	Insurance Claims (since 1978)
\$5	Total Insurance Claims (in thousands)
\$0.91	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Meadowood St Wildwood Ave Briarwood Ave	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the four (4) individual claims in the RLA, of which three (3) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	2
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
82%	Slab on grade
9%	Elevated slab on stem wall with fill
9%	Elevated on foundation walls
Composition	Frame Type
27%	Wood frame
73%	Concrete block/masonry
Composition	Number of Stories
82%	Single story
18%	Two story
Composition	Flood Zones
91.9%	Within Zone X (shaded)
9.1%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 or more inches of rainfall, exacerbated by high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

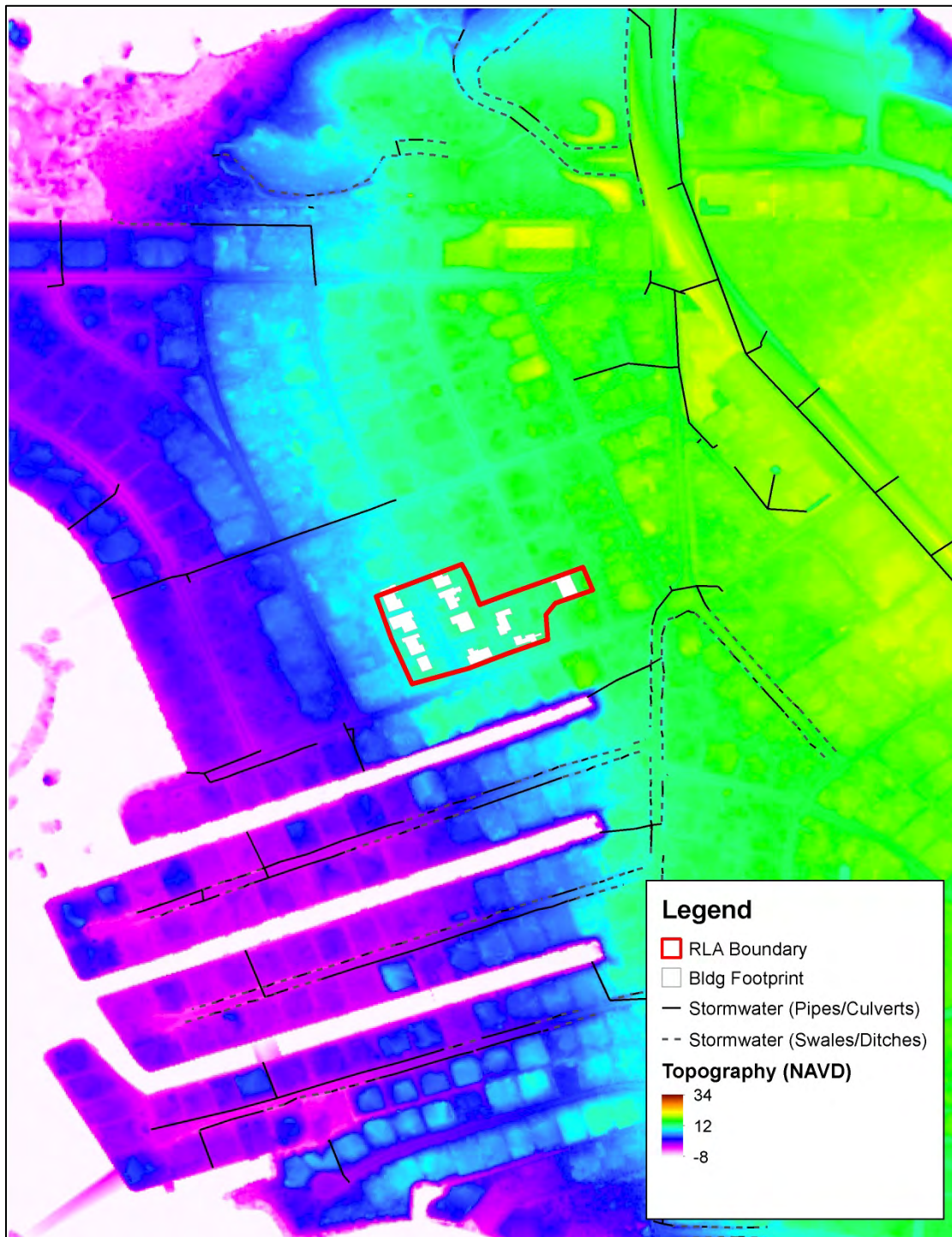


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

There is was no stormwater utility infrastructure identified within this RLA. However, due to the location in close proximity to the Sarasota Bay, and risk of flooding due to high tides and storm surge, it is very unlikely that construction of stormwater infrastructure would provide adequate mitigation for flooding from major storm events.

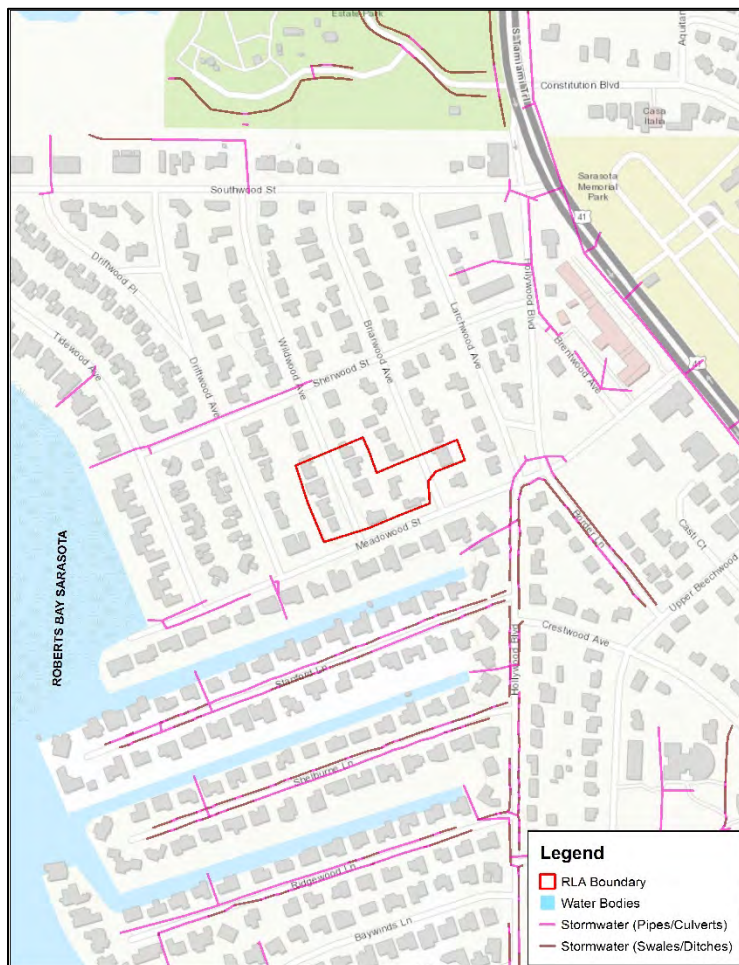


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades and exposure to Sarasota Bay indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 72 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
72 – SBC 17 Little Sarasota Bay	1	0	11	Shaded X, AE (SFHA)	Meadowood St Wildwood Ave Briarwood Ave	2,3,1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 72: Siesta Key Beach	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	11					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	4					
Total insurance claims (in thousands)	\$5					
Average insurance claim (in thousands)	\$0.91					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 73-SBC18 Siesta Key Beach

Repetitive Loss Area (RLA) Overview

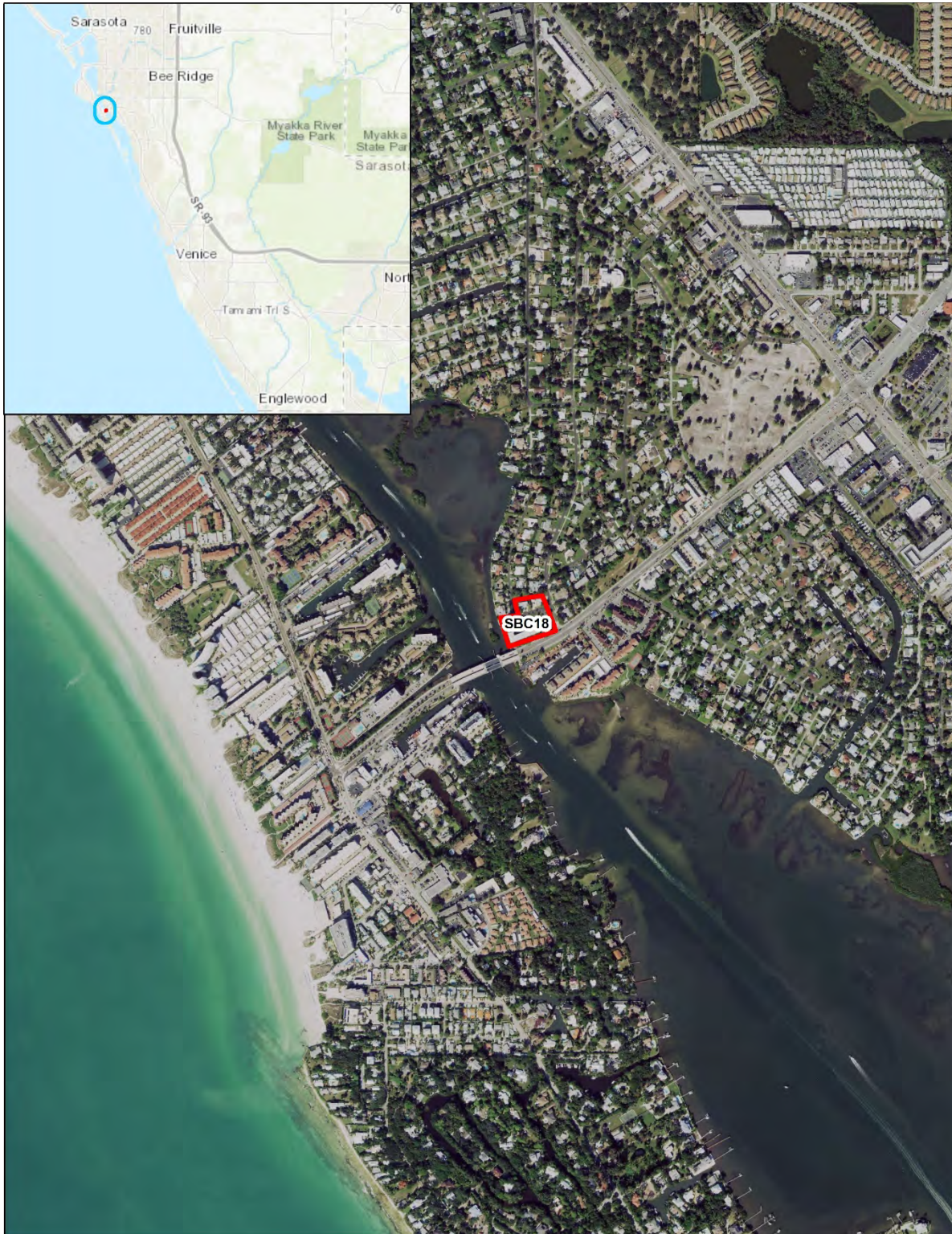


Figure 1: SBC18 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island / Beach
 AREA: 3.09 acres

FLOODING PROBLEMS AND CONCERNS

- Coastal waves
- Storm surge from Gulf of Mexico
- Beach with minimal frontal dune
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is situated on a portion of the peninsula separating Sarasota and Roberts Bay, just west of US-41. This section of the peninsula is at the confluence of the two bays and is subject to tidal action, waves, and storm surge as well as coastal influences from the Gulf of Mexico to the west. Most of the structures within this area were constructed in the 1960's, typically pre-FIRM with minimally-elevated slab-on-grade construction. The average elevation of existing grade is 3.9 feet NAVD and all the structures are within SFHA Zone AE-10. These slab on grade structures are at risk of flooding from the coastal influences. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
7	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
1	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
5	Insurance Claims (since 1978)
\$12	Total Insurance Claims (in thousands)
\$1.20	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Beechwood Ave Hollywood Blvd Stickney Point Rd	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the five (5) individual claims in the RLA, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been three (3) NFIP insurance claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	2
July 18, 1995	Un-Named Storm	9-11	3
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
100%	Concrete block/masonry
Composition	Number of Stories
40%	Single story
40%	Two story
20%	Three story or greater
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Slab on Grade Structure (Google Maps)

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 or more inches of rainfall, exacerbated by unusually high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

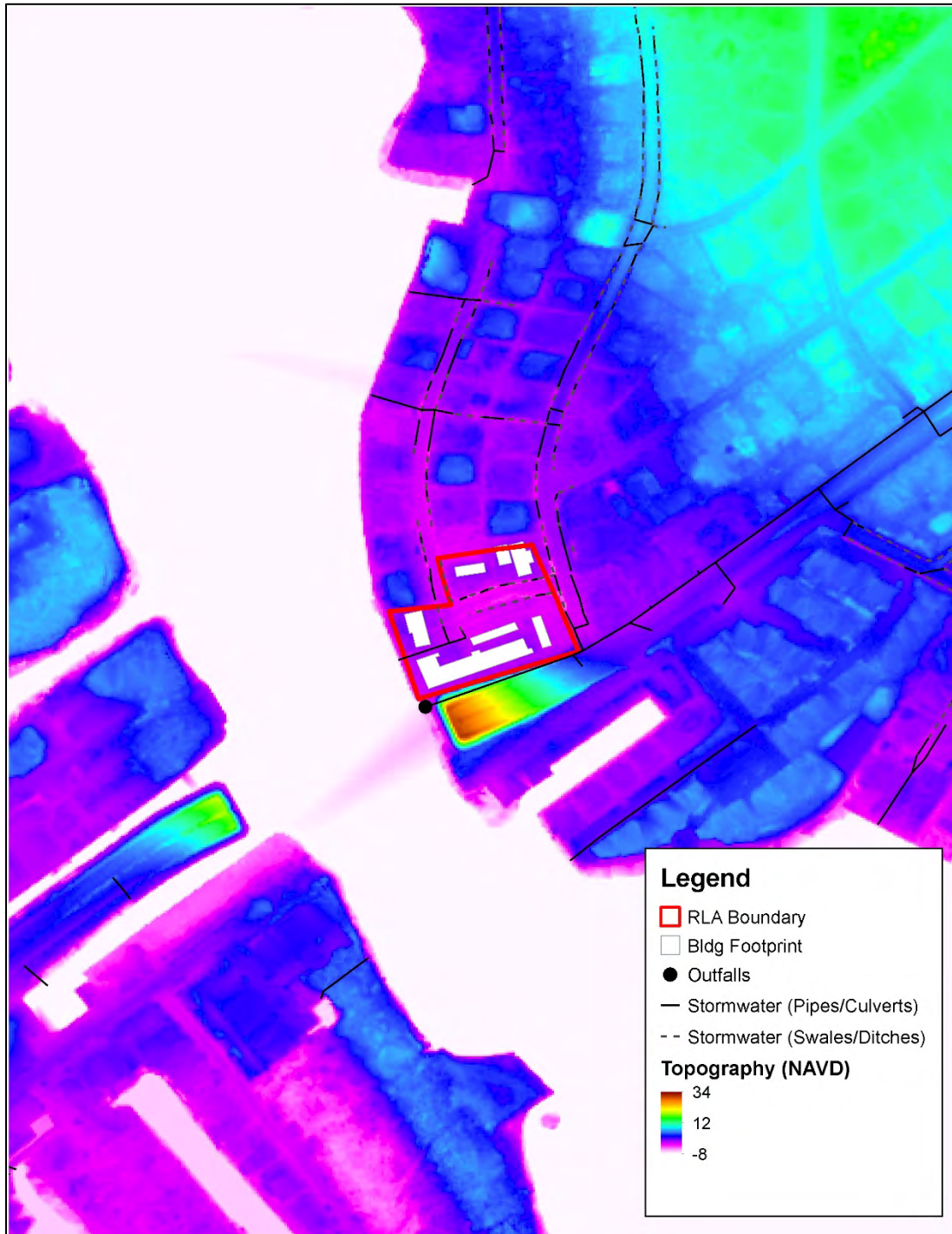


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes a collection of swales, and storm pipes along Beechwood Ave and Hollywood Blvd that direct stormwater to two (2) outfall structures discharging into Roberts Bay. The stormwater infrastructure in this area appears to be in working condition and is part of the County's maintained systems. There is no stormwater expansion proposed as mitigation for this RLA.

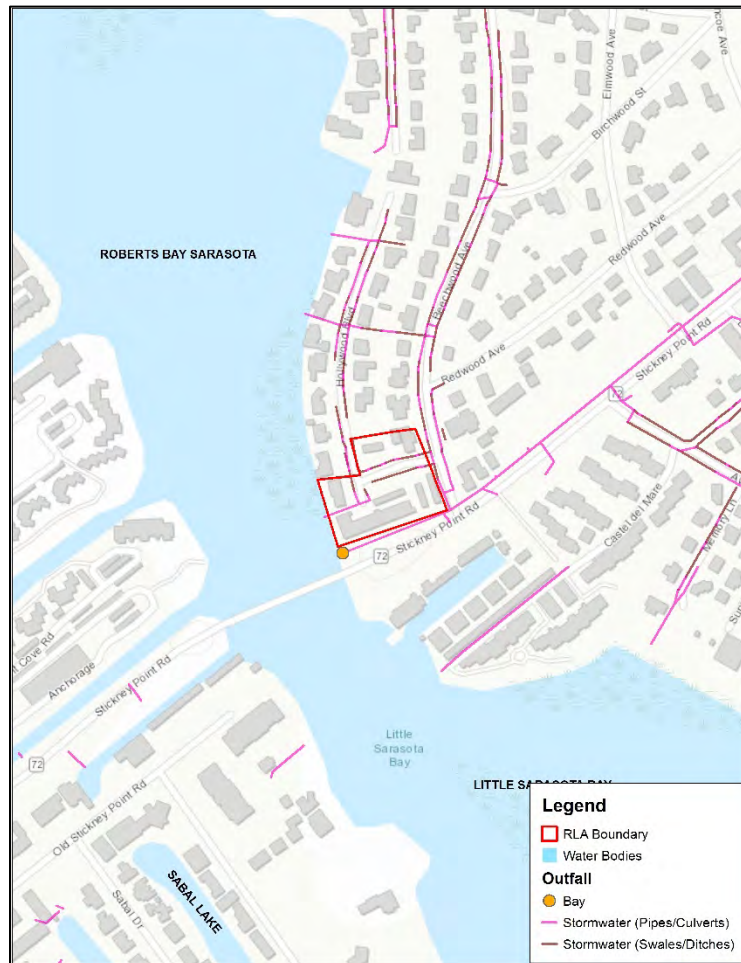


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, and exposure to Sarasota and Roberts Bay flooding sources, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 73 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
73 – SBC 18 Little Sarasota Bay	1	0	7	AE (SFHA)	Hollywood Blvd Beechwood Ave	2,1,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 73: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	7					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	5					
Total insurance claims (in thousands)	\$12					
Average insurance claim (in thousands)	\$1.20					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 74-SBC19 Siesta Key Beach

Repetitive Loss Area (RLA) Overview

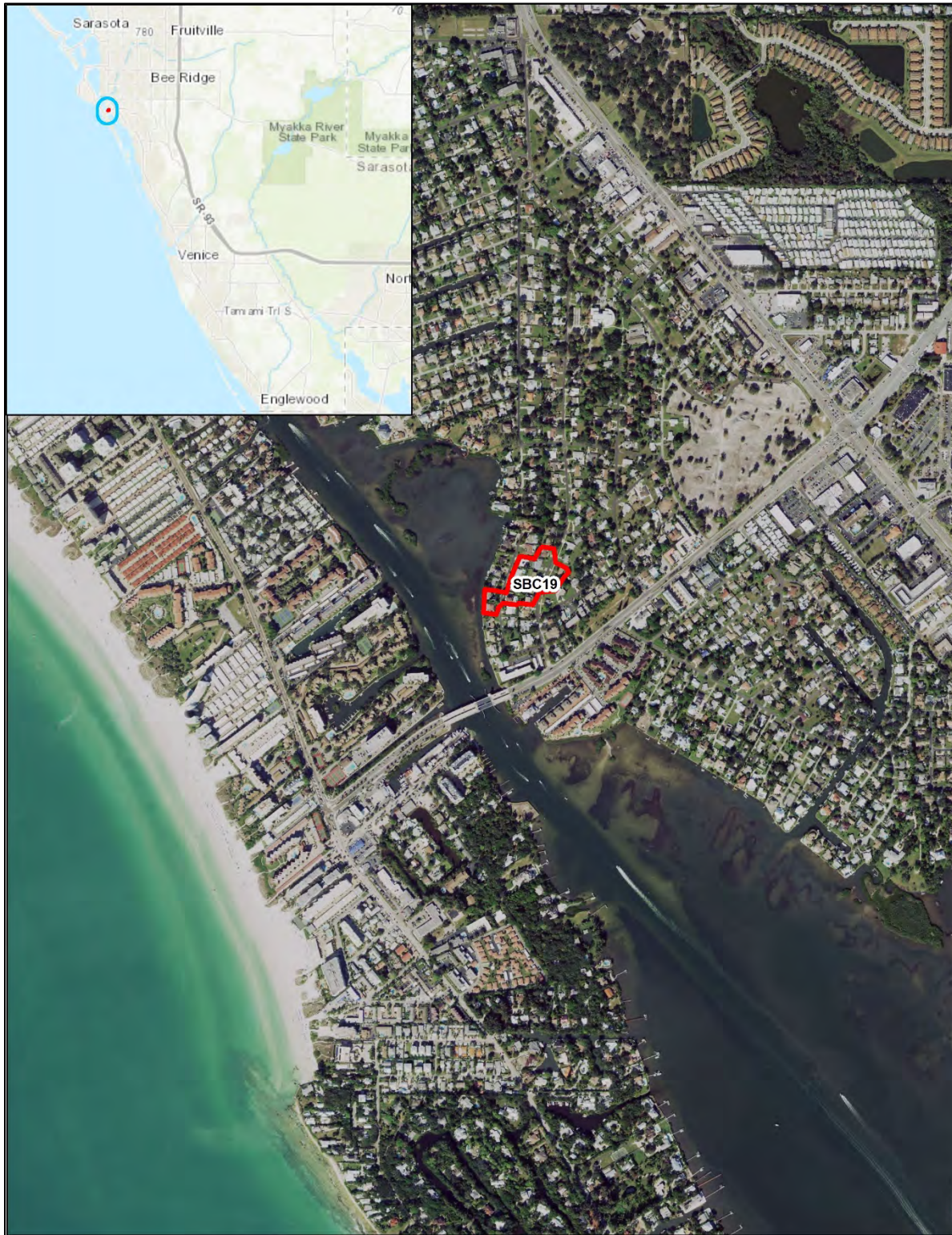


Figure 1: DRB04 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island / Beach
 AREA: 4.81 acres

FLOODING PROBLEMS AND CONCERNS

- Coastal waves
- Storm surge from Gulf of Mexico
- Beach with minimal frontal dune
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is situated on a portion of the peninsula separating Sarasota, and Roberts Bay and just west of US-41. This section of the peninsula is at the confluence of the two bays and is subject to tidal action, waves, and storm surge as well as coastal influences from the Gulf of Mexico to the west. Most of the structures within this area were constructed in the 1970's, typically pre-FIRM with non-elevated slab on grade construction. The average elevation of existing grade is 4.6 feet NAVD and all the structures are within SFHA Zone AE-10. These slab on grade structures are at risk of flooding from the coastal influences. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
14	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
11	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
3	Insurance Claims (since 1978)
\$19.3	Total Insurance Claims (in thousands)
\$6.4	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Beechwood Ave Hollywood Blvd	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the three (3) individual claims in the RLA, of which one (1) corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been no NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
85%	Slab on grade
15%	Elevated on foundation walls
Composition	Frame Type
8%	Wood frame
92%	Concrete block/masonry
Composition	Number of Stories
54%	Single story
46%	Two story
Composition	Flood Zones
100%	Within SFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 or more inches of rainfall, exacerbated by high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

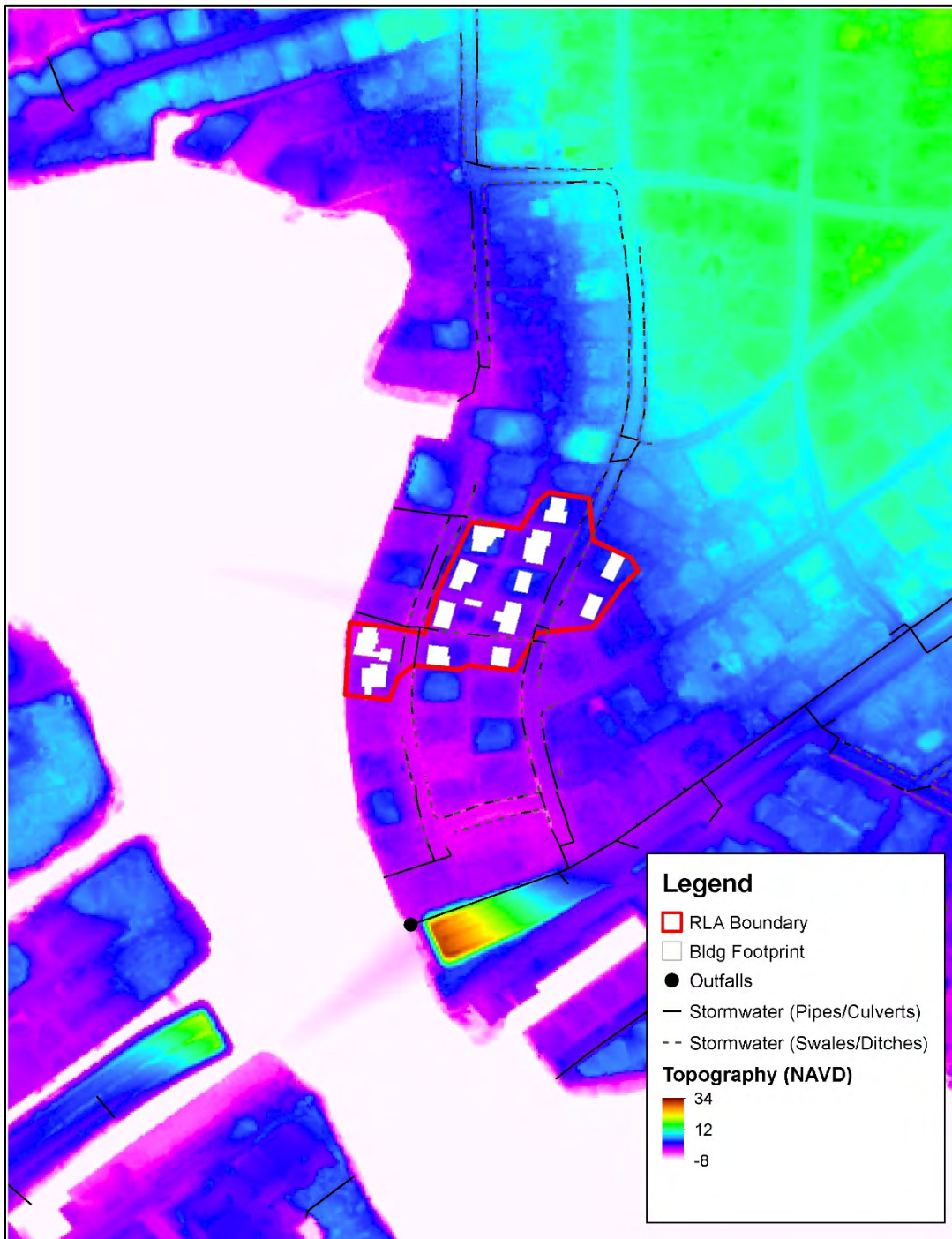


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes a collection of swales, and storm pipes along Beechwood Ave and Hollywood Blvd that direct stormwater to one (1) outfall structure discharging into Roberts Bay. The stormwater infrastructure in this area appears to be in working condition and is part of the County's maintained systems. There is no stormwater expansion proposed as mitigation for this RLA.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades and exposure to Sarasota and Roberts Bay flooding sources, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 74 are subject to flooding due to heavy rainfall events, exacerbated by high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
74 – SBC 19 Little Sarasota Bay	1	0	14	AE (SFHA)	Beechwood Ave Hollywood Blvd	2,3,1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 74: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	14					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$19.3					
Average insurance claim (in thousands)	\$6.4					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 75-SBC20 Siesta Key Beach

Repetitive Loss Area (RLA) Overview

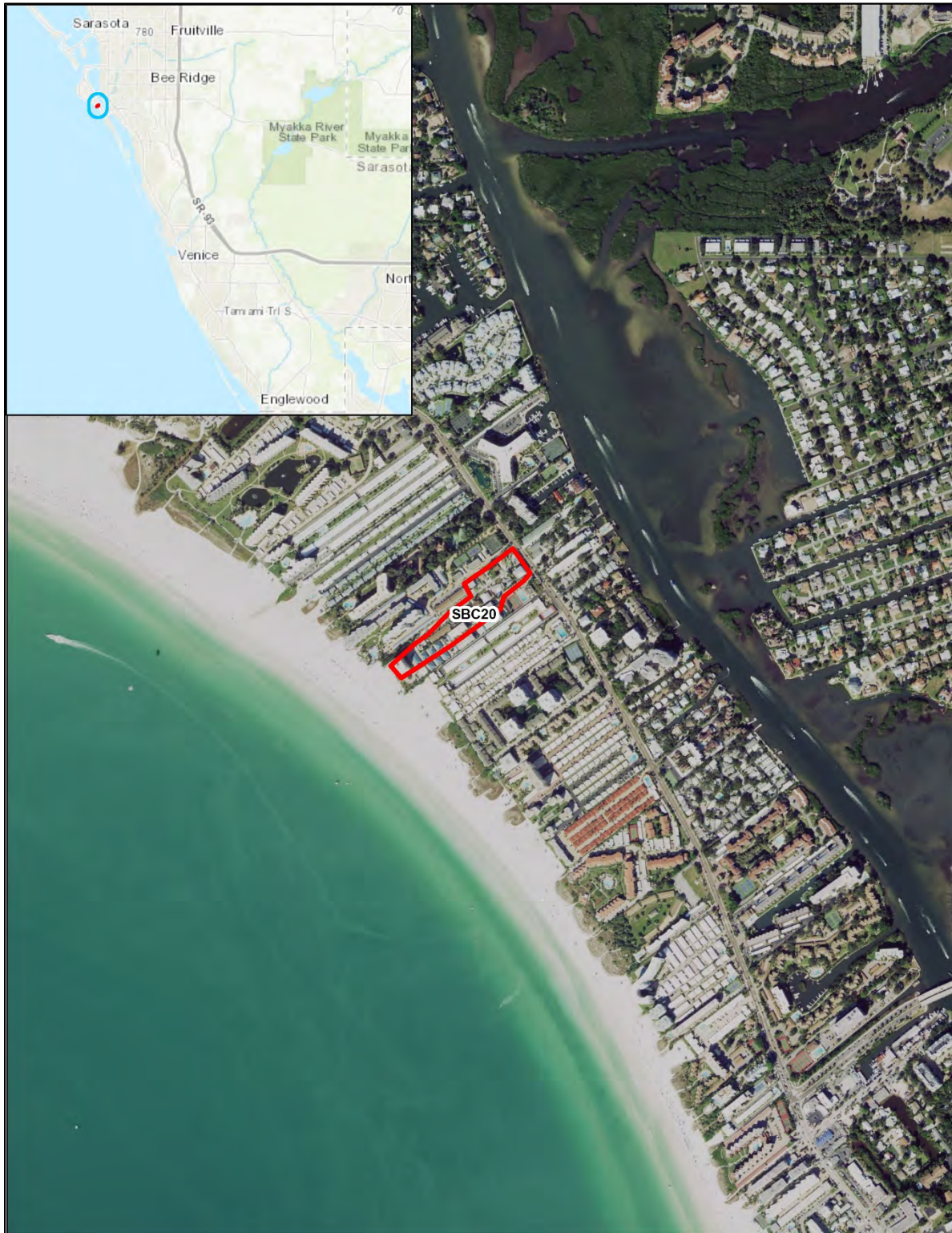


Figure 1: SBC20 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island / Beach
 AREA: 7.14 acres

FLOODING PROBLEMS AND CONCERNS

- Coastal waves
- Storm surge from Gulf of Mexico
- Beach with minimal frontal dune
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many lots below street grade
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is located on Siesta Key Beach southwest of Midnight Pass Rd. This RLA is subject to tidal action, waves, and storm surge from Gulf of Mexico. Most of the structures within this area were constructed in the 1950's-1960's, with minimally elevated slab on grade construction. The average elevation at existing grade is 4.7 feet NAVD and all the structures are within SFHA Zone AE-10. These older, slab on grade structures are at risk of flooding from the coastal influences. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure



Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
25	Total Structures in Repetitive Loss Area
4	Total Repetitive Loss Structures in this Area
10	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
4	Unmitigated RL and SRL Properties
18	Insurance Claims (since 1978)
\$98	Total Insurance Claims (in thousands)
\$4.28	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Windsong Lane	Resident with less than 10 years residency, slab on grade, reported no flooding on property, home constructed at similar elevation as street.
Windsong Lane	Resident with 10-19 years residency, slab on grade, reported flooding inside structure less than 1-foot for a duration of 4-8 hours caused by stormwater system backup, homeowner installed drains and pipes to improve drainage

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLPs accounted for the eighteen (18) individual claims in the RLA, of which all corresponds to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been three (3) NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	6
September 1, 1985	Hurricane Elena	3	5
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	4
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	1
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
81%	Slab on grade
13%	Elevated slab on stem wall with fill
6%	Elevated on post/piles or walls
Composition	Frame Type
31%	Wood frame
69%	Concrete block/masonry
Composition	Number of Stories
31%	Single story
44%	Two story
25%	Three story or greater
Composition	Flood Zones
92%	Within SFHA Zone AE
8%	Within SFHA Zone VE

Table 4: Field Data Summary from Site Visits



Figure 4: Elevated Structure (Zillow.com)

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 or more inches of rainfall, exacerbated by high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within this RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

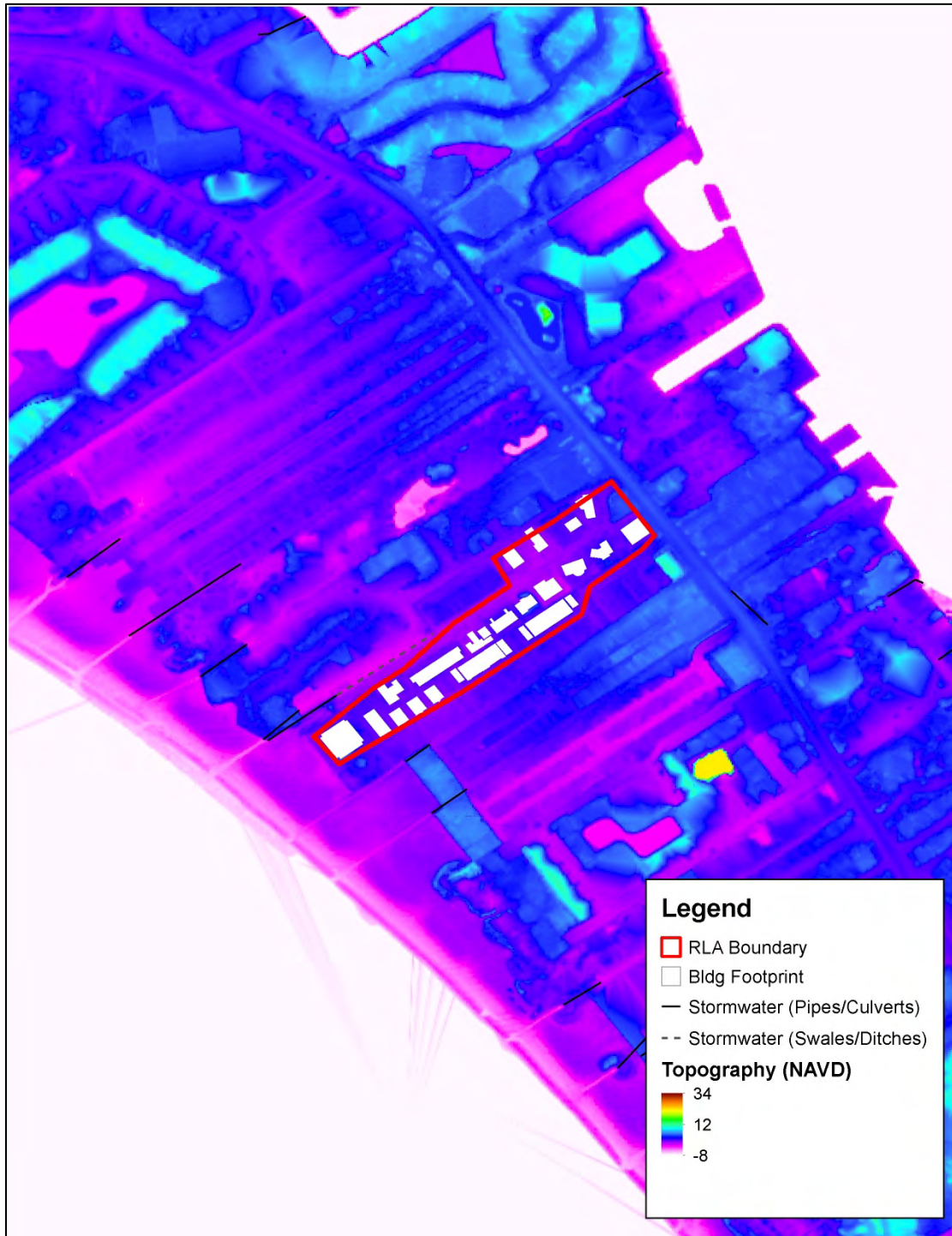


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA is primarily limited to storm pipes and an outfall structure discharging stormwater directly to Gulf of Mexico. This RLA primarily consists of commercial development with private stormwater infrastructure. FEMA guidelines suggests that beach re-nourishment activities focusing on natural dune replenishment may reduce the risk of flooding and could be a mitigation alternative. However, the average elevation of existing grade relative to the BFE (4.7 feet NAVD versus 10 feet NAVD BFE), combined with the location on the beach within SFHA Zone VE, indicates stormwater system improvements and dune restoration in this area are not expected to provide flood mitigation.



Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades, exposure to Gulf of Mexico, and the average Finished Floor Elevation (FFE) of the structures at 5.3 feet NAVD, which is 4.7 feet below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 75 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline for and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
75 – SBC 20 Little Sarasota Bay	4	0	25	AE, VE (SFHA)	Windsong Ln Midnight Pass Rd	2,3,1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 75: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	25					
Repetitive Loss (RL) Properties	4					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	18					
Total insurance claims (in thousands)	\$98					
Average insurance claim (in thousands)	\$4.28					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 76-SBC21 Siesta Key Beach

Repetitive Loss Area (RLA) Overview

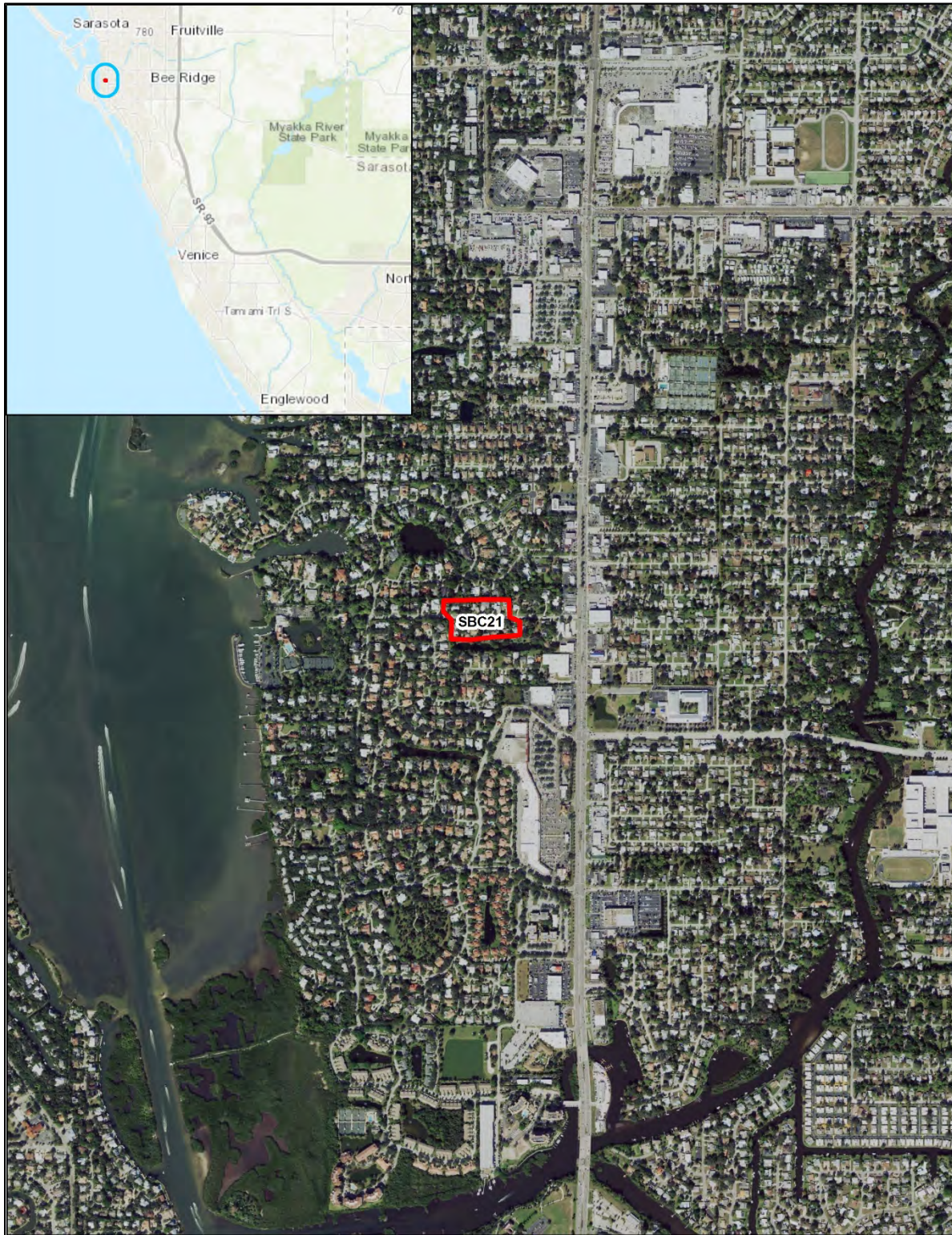


Figure 1: SBC21 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island / Beach
 AREA: 7.20 acres

FLOODING PROBLEMS AND CONCERNS

- Storm surge from Gulf of Mexico
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Many lots below street grade

Problem Statement

This Repetitive Loss Area (RLA) is located east of Roberts Bay and west of US-41 in a single-family residential neighborhood. This area is subject to tidal action, waves, and storm surge from Roberts Bay. All the structures in this RLA are within Zone X with a well-maintained stormwater system. The median year for the structures constructed in this area is 1963, typically pre-FIRM slab on grade construction. The flooding sources for this RLA will primarily be from the coastal influences. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

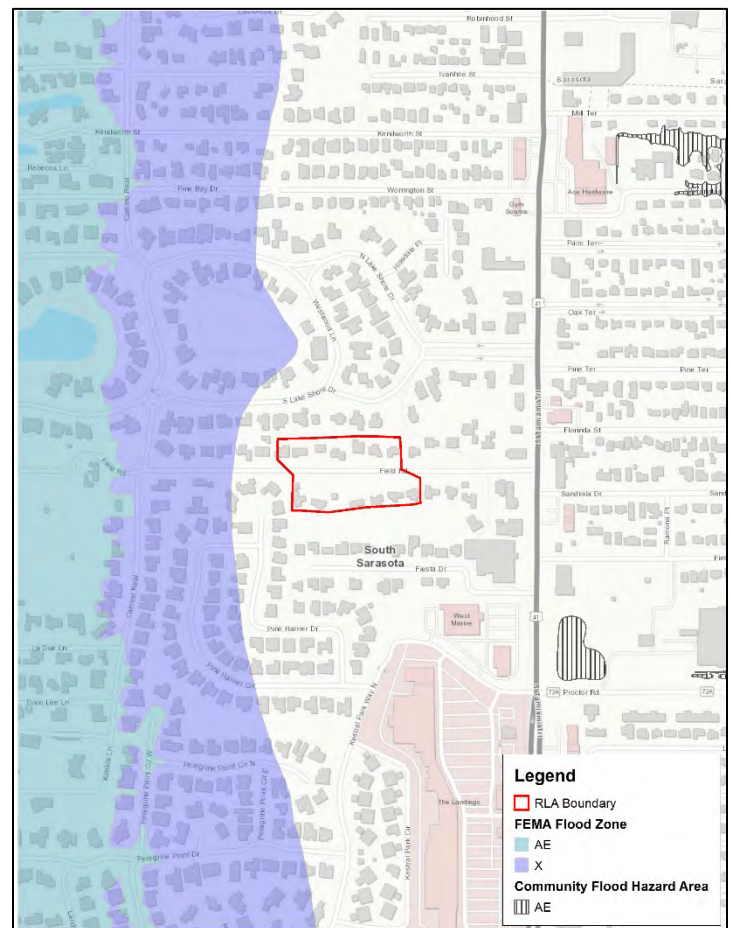


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
15	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
4	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
3	Insurance Claims (since 1978)
\$11	Total Insurance Claims (in thousands)
\$3.68	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There was one (1) response within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Field Rd	Resident with less than 10 years residency, slab on grade, reported flooding in yard only caused by heavy rains events and poor drainage, homeowner excavated a trench to capture water and reduce flooding.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the three (3) individual claims in the RLA, of which all correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there have been two (2) NFIP claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	1
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
29%	Wood frame
71%	Concrete block/masonry
Composition	Number of Stories
93%	Single story
7%	Two story
Composition	Flood Zones
100%	Within Zone X

Table 4: Field Data Summary from Site Visits

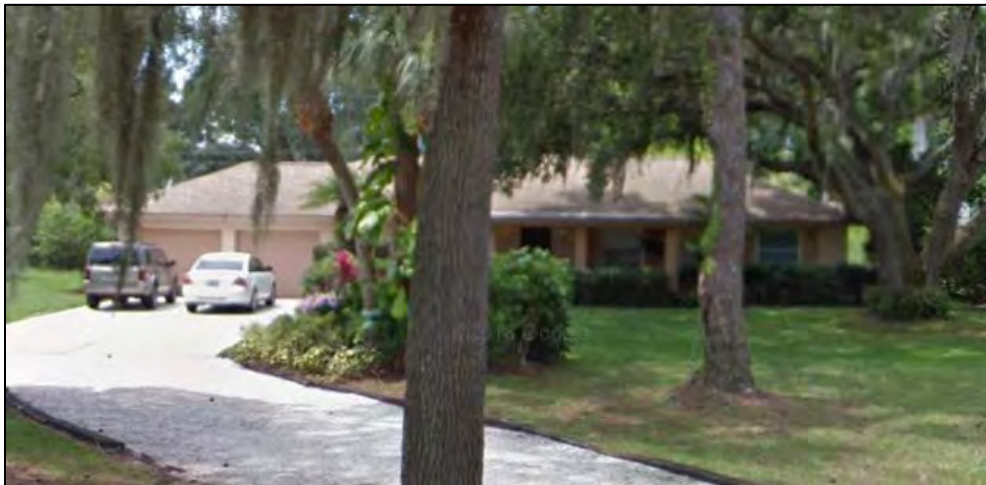


Figure 4: Average Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 or more inches of rainfall, exacerbated by high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

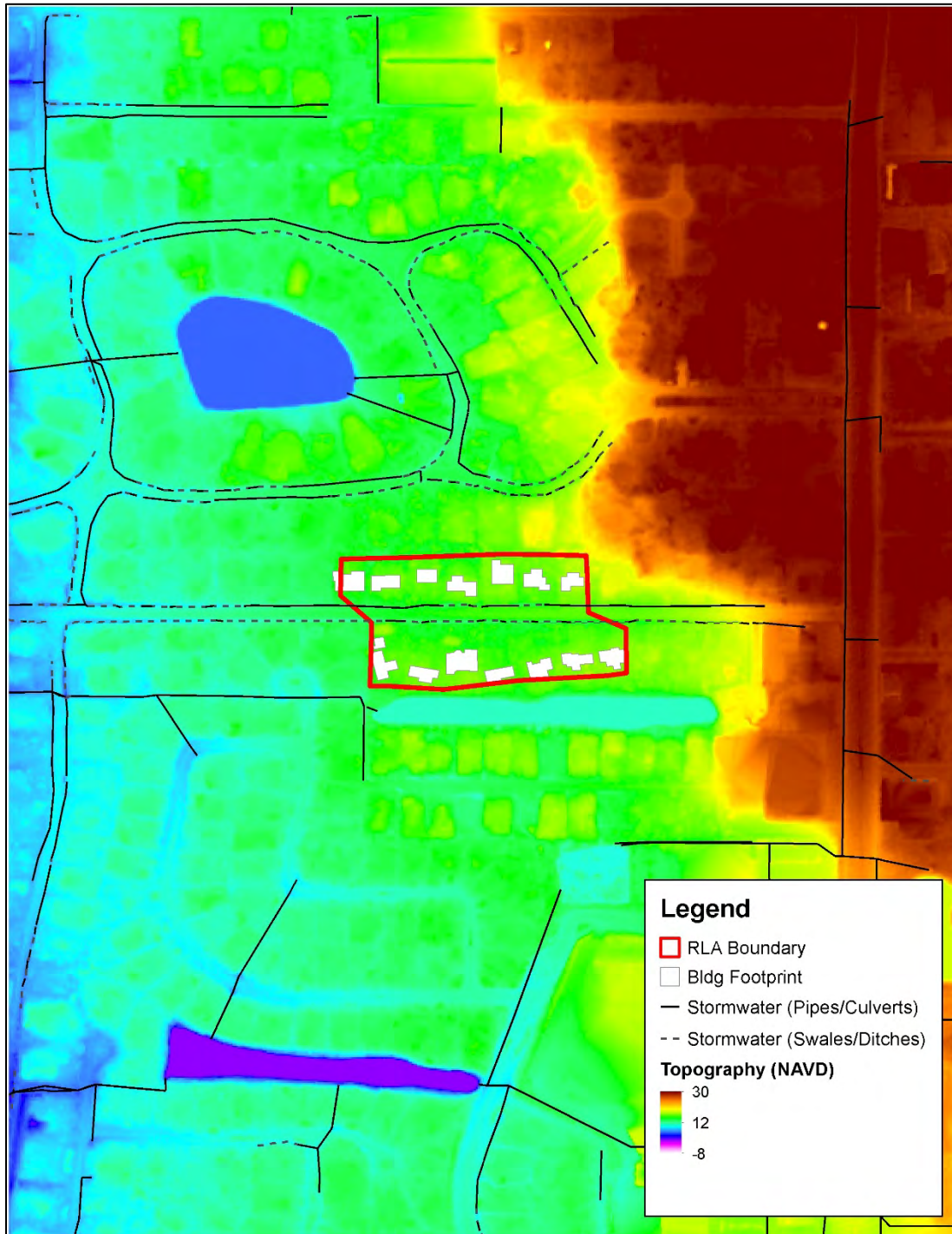


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes a collection of swales, storm pipes, and a wet detention pond. Stormwater runoff sheet flows from the properties to the collection system as part of the County maintained infrastructure. Based on site visits, this area appears to be well maintained and there are no recommendations for improvement. Therefore, expansion of the stormwater system area is unnecessary and is not a mitigation recommendation for this RLA.

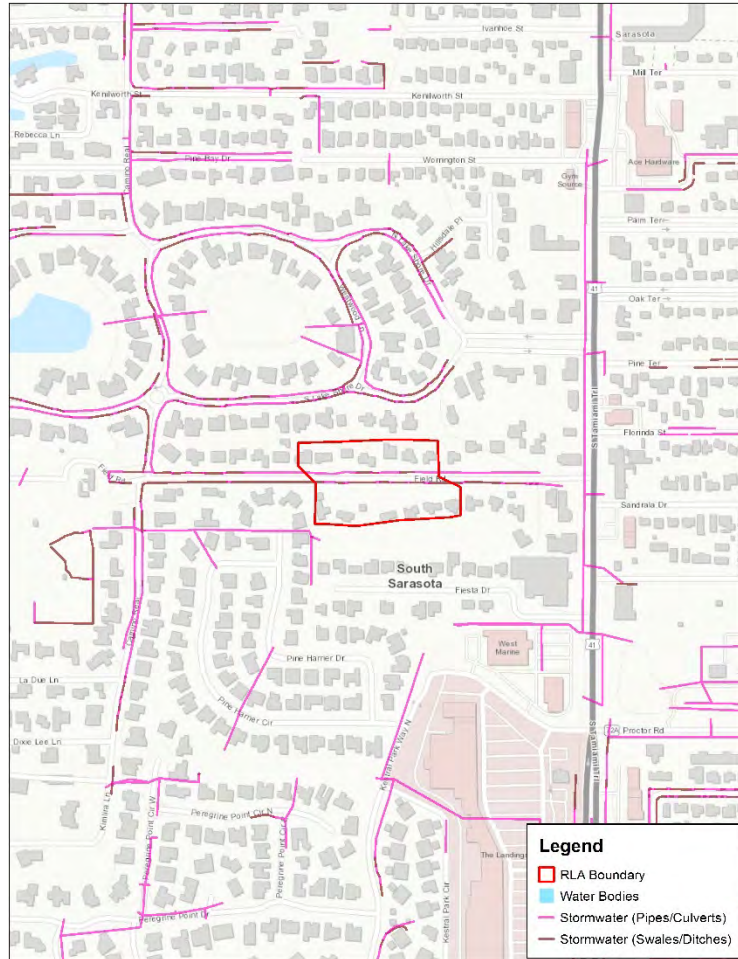


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The exposure to Roberts Bay flooding sources, and stormwater system backup associated with high tides, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 76 are subject to flooding due to heavy rainfall events, exacerbated by high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
76 – SBC 21 Sarasota Bay	1	0	15	X	Field Rd	2,3,1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 76: Siesta Key Beach	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	15					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$11					
Average insurance claim (in thousands)	\$3.68					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 77-SBC22 Siesta Key Beach

Repetitive Loss Area (RLA) Overview

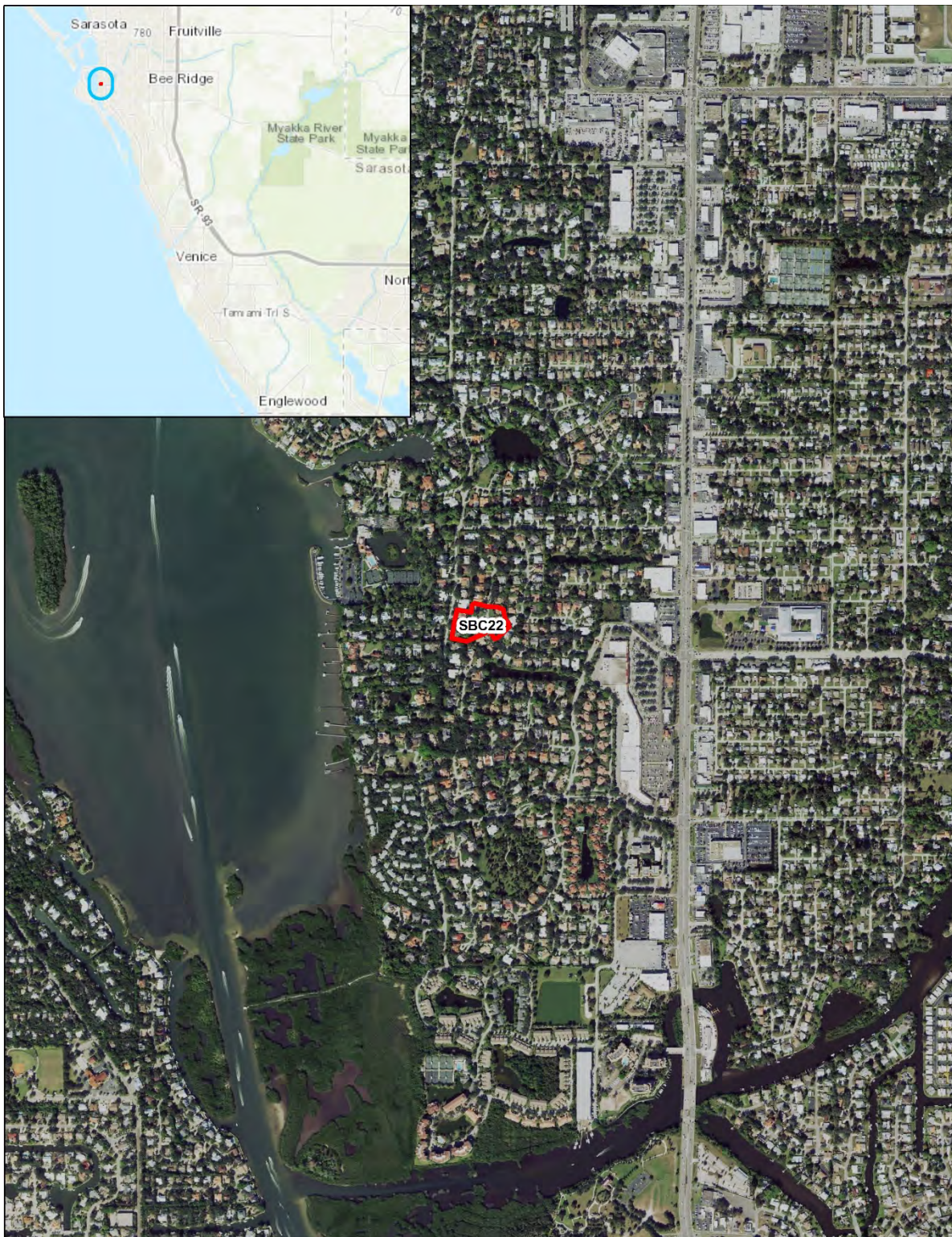


Figure 1: SBC22 Boundaries

AREA DESCRIPTION

WATERSHED: Sarasota Bay
 BASIN: Sarasota Bay Coastal
 LANDFORM: Barrier Island / Beach
 AREA: 3.75 acres

FLOODING PROBLEMS AND CONCERNS

- Storm surge from Gulf of Mexico
- Storm Surge from Bay through canal
- High tide with high rainfall events
- Low terrain with slab on grade structures
- Tidal backup in stormwater system to Bay
- Increase of MHW to areas w/ tidal influence

Problem Statement

This Repetitive Loss Area (RLA) is located east of Roberts Bay and west of US-41 in a single-family residential neighborhood. This area is subject to tidal action, waves, and storm surge from Roberts Bay. The median year built for the homes constructed in this area is 1963, typically pre-FIRM with slab on grade construction. The structures in this RLA are located within Zone X (shaded) with a well-maintained stormwater system. The flooding sources for this RLA are primarily from coastal influences. Tables 1 and 4 provide a summary of the structures within this RLA.

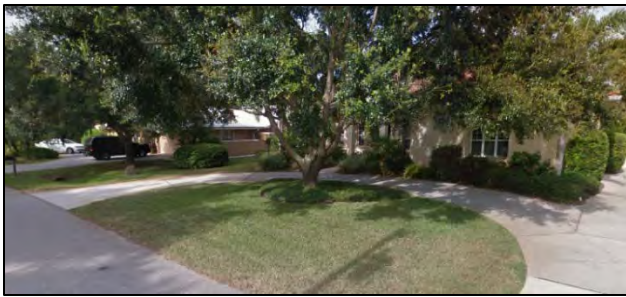


Figure 2: Raised Slab on Grade Structure

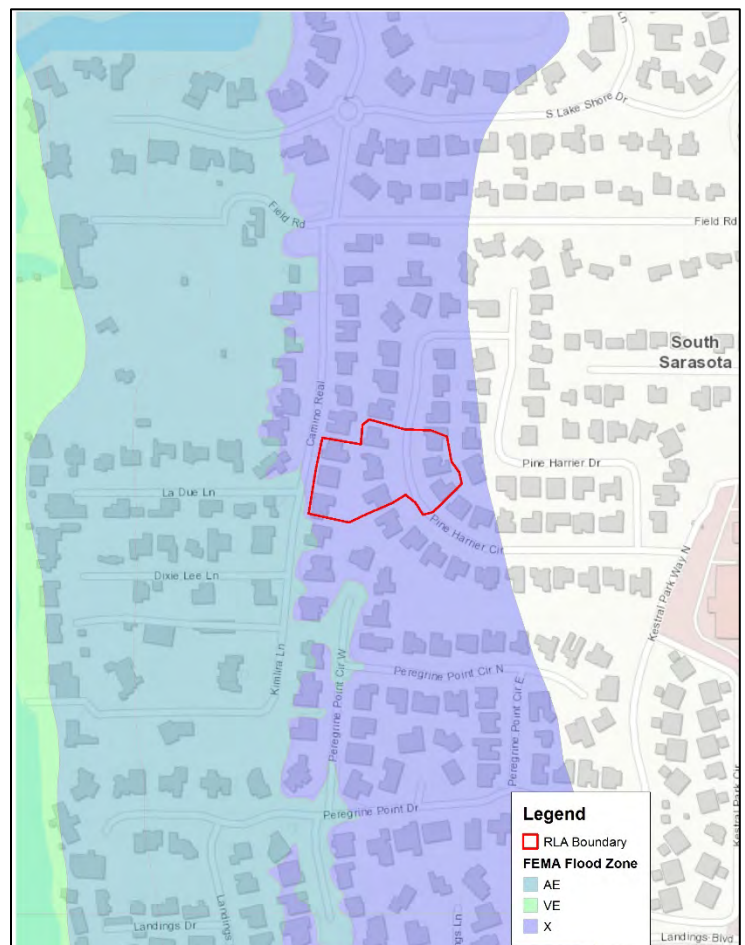


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
9	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
8	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
2	Insurance Claims (since 1978)
\$14	Total Insurance Claims (in thousands)
\$4.64	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Camino Rd Pine Harrier Cir	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the two (2) individual claims in the RLA, of which both correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been one (1) NFIP claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	1
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
89%	Slab on grade
11%	Elevated on foundation walls
Composition	Frame Type
44%	Wood frame
56%	Concrete block/masonry
Composition	Number of Stories
67%	Single story
33%	Two story
Composition	Flood Zones
100%	Within Zone X (shaded)

Table 4: Field Data Summary from Site Visits



Figure 4: Average Wood Frame, Slab on Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 or more inches of rainfall, exacerbated by high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

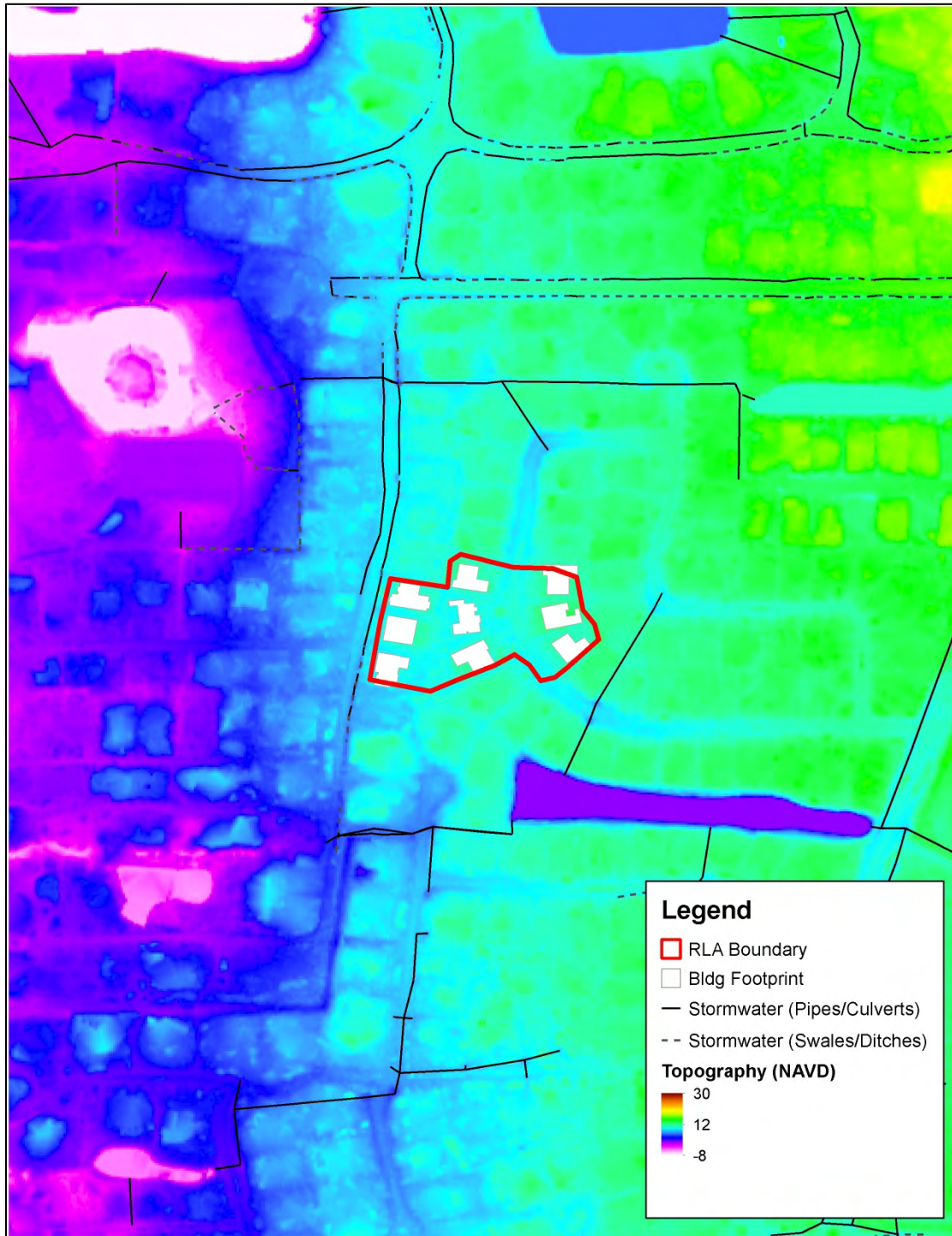


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes a collection of swales, storm pipes, and a wet detention pond. Stormwater runoff sheet flows from the properties to the collection system as part of the County maintained infrastructure. Based on site visits, this area appears to be well maintained and there are no recommendations for improvement. Therefore, expansion of the stormwater system in this RLA is unnecessary and is not a mitigation recommendation.

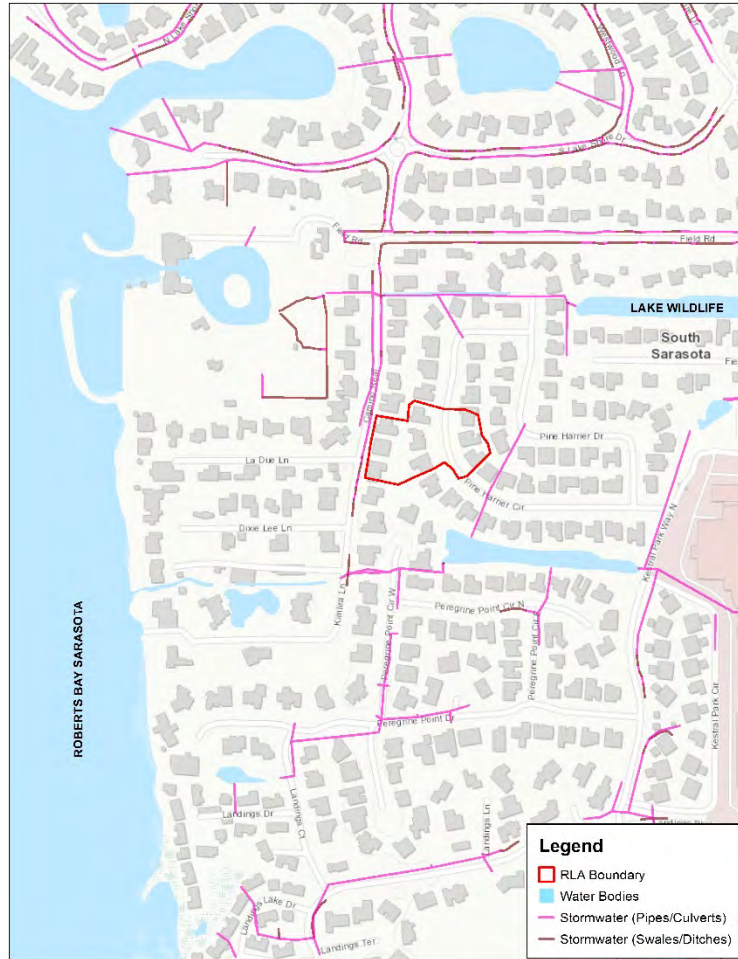


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The exposure to Roberts Bay flooding sources and stormwater system backup associated with high tides, indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 77 are subject to flooding due to heavy rainfall events, exacerbated by high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
77 – SBC 22 Sarasota Bay	1	0	9	Shaded X (SFHA)	Pine Harrier Cir	2,1,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 07: Dona Roberts Bay	Report Statistics					
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	9					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	2					
Total insurance claims (in thousands)	\$14					
Average insurance claim (in thousands)	\$4.64					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 78-WDC01 Woodmere Creek

Repetitive Loss Area (RLA) Overview

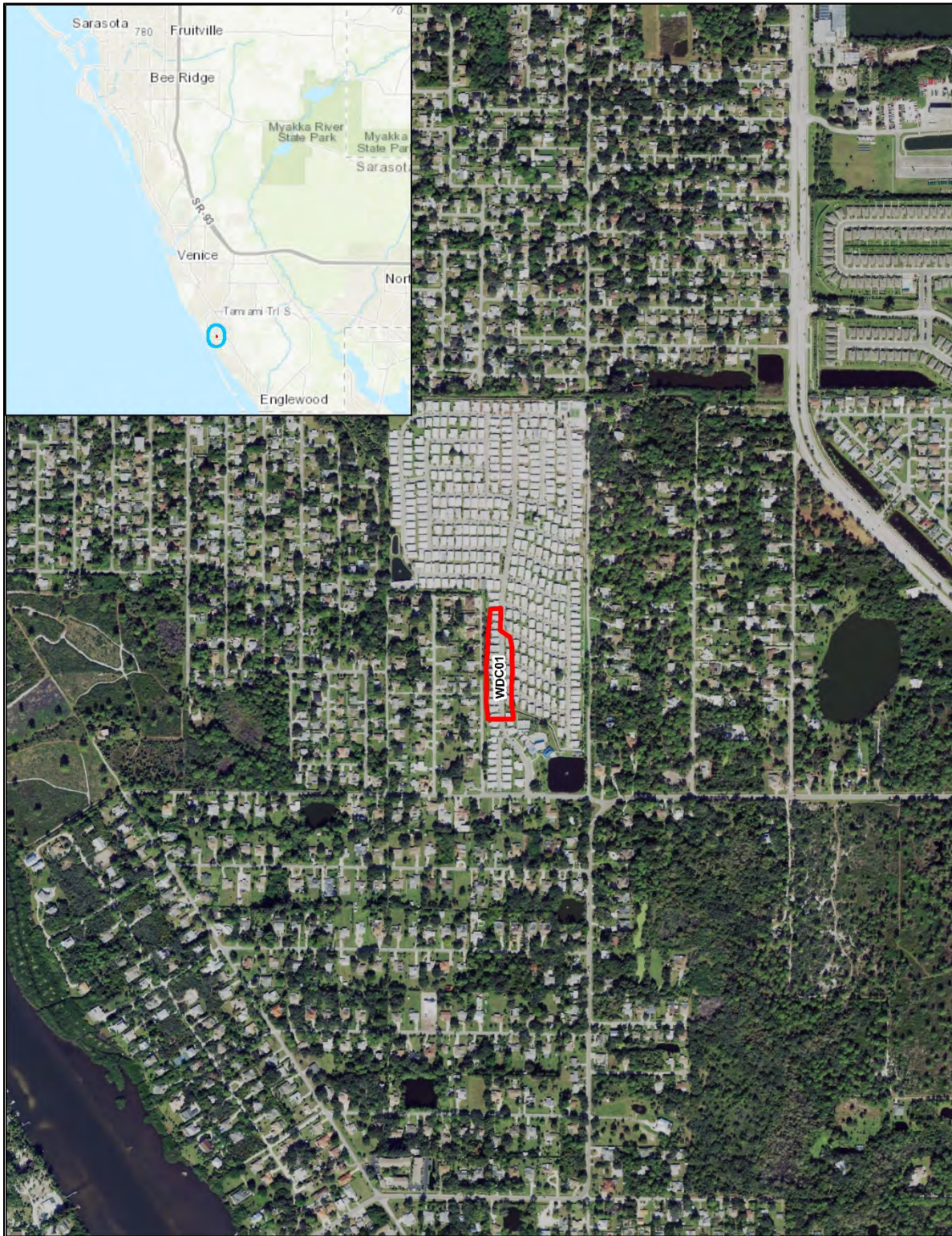


Figure 1: WDC01 Boundaries

AREA DESCRIPTION

WATERSHED: Woodmere Creek
 BASIN: Woodmere Creek Canal
 LANDFORM: Shoreline
 AREA: 3.07 acres

FLOODING PROBLEMS AND CONCERNS

- High Tide with High Rainfall Events
- Manufactured/Mobile Home
- Stormwater backup

Problem Statement

This Repetitive Loss Area (RLA) is located west of Lemon Bay in a manufactured/mobile home park. This area is subject to tidal action, waves, and storm surge from Lemon Bay as well as coastal influences from the Gulf of Mexico. The structures in this RLA are within SFHA Zone AE and CFHA Zone AE. Most of the structures were constructed in the 1970's, with foundations that are elevated on block stem walls with an average grade of elevation 7.5 feet NAVD. Since all the structures are within the SFHA AE-11 Flood Zone, these older structures are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Manufactured Elevated Structure

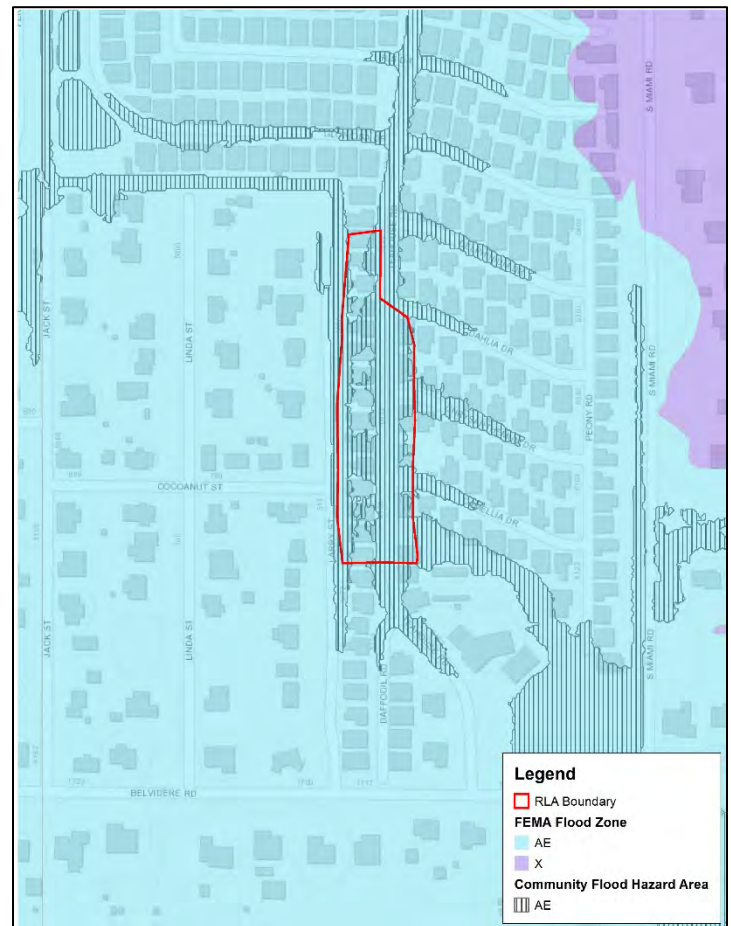


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
21	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
1	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
3	Insurance Claims (since 1978)
\$5.3	Total Insurance Claims (in thousands)
\$1.7	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were two (2) responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Teahouse Rd	Resident with less than 10 years residency, elevated mobile home, reported no flooding on property, homeowner maintains gutters for drainage.
Teahouse Rd	Resident with less than 10 years residency, elevated mobile home, reported no flooding on property.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the two (2) individual claims in the RLA, of which none correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been no NFIP insurance claim since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	0
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
0%	Slab on grade
95%	Elevated on foundation walls
5%	Elevated on post/piles or walls
Composition	Frame Type
100%	Manufactured/Mobile Home
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
100%	Within SFHA Zone AE
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Manufactured, Elevated Structure

Causes of Flooding

Review of insurance claim data reveals that flood damage coincides with storm events with 6 or more inches of rainfall, exacerbated by high tides and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

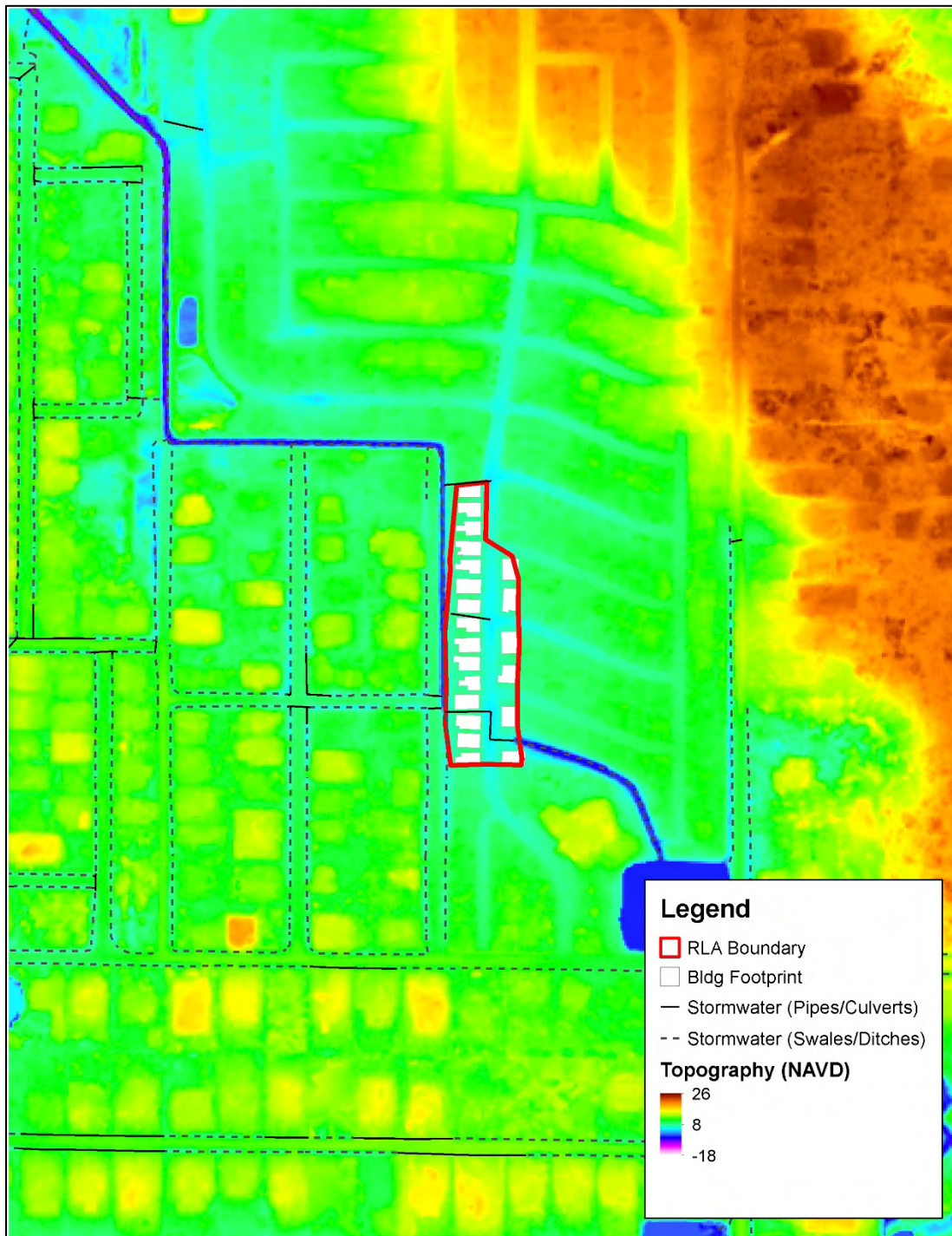


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes storm pipes that direct stormwater to the wet retention area within the mobile home park. The resident surveys indicated no flooding on their property; Expansion of the stormwater infrastructure is unnecessary in this area as the existing system appears to be functioning properly.

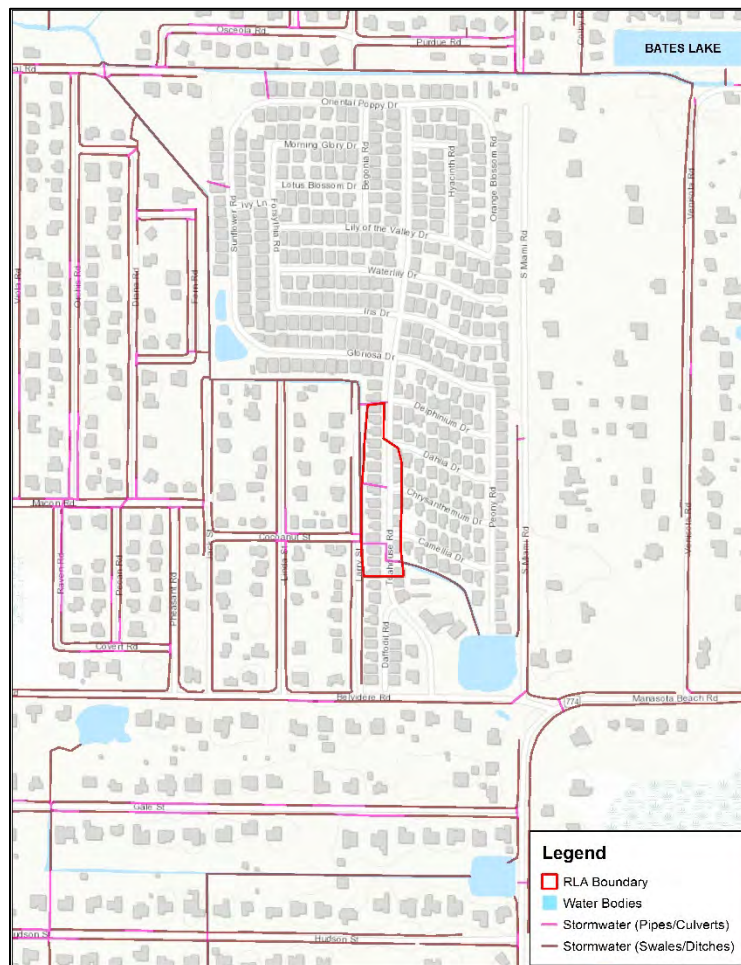


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA utilize on-site septic systems to dispose of wastewater and with proper maintenance and the installation of a backflow preventer if needed, will not have sewer backup during a flooding event. Systems that backup during heavy rainfall events are typically due to the drain-field becoming over saturated and unable to infiltrate at a rate greater than the inflow rate from the tank and the storm event.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 78 are subject to flooding due to heavy rainfall events, exacerbated by high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grants applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
78 – WDC 01 Woodmere Creek	1	0	21	AE (SFHA)	Teahouse Rd Chrysanthemum Dr Dahlia Dr Camellia Dr	2,1,3

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

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The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/2017).

Repetitive Loss Area 78: Woodmere Creek	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	21					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$5.3					
Average insurance claim (in thousands)	\$1.7					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

RLA 79-WTB01 Whitaker Bayou

Repetitive Loss Area (RLA) Overview

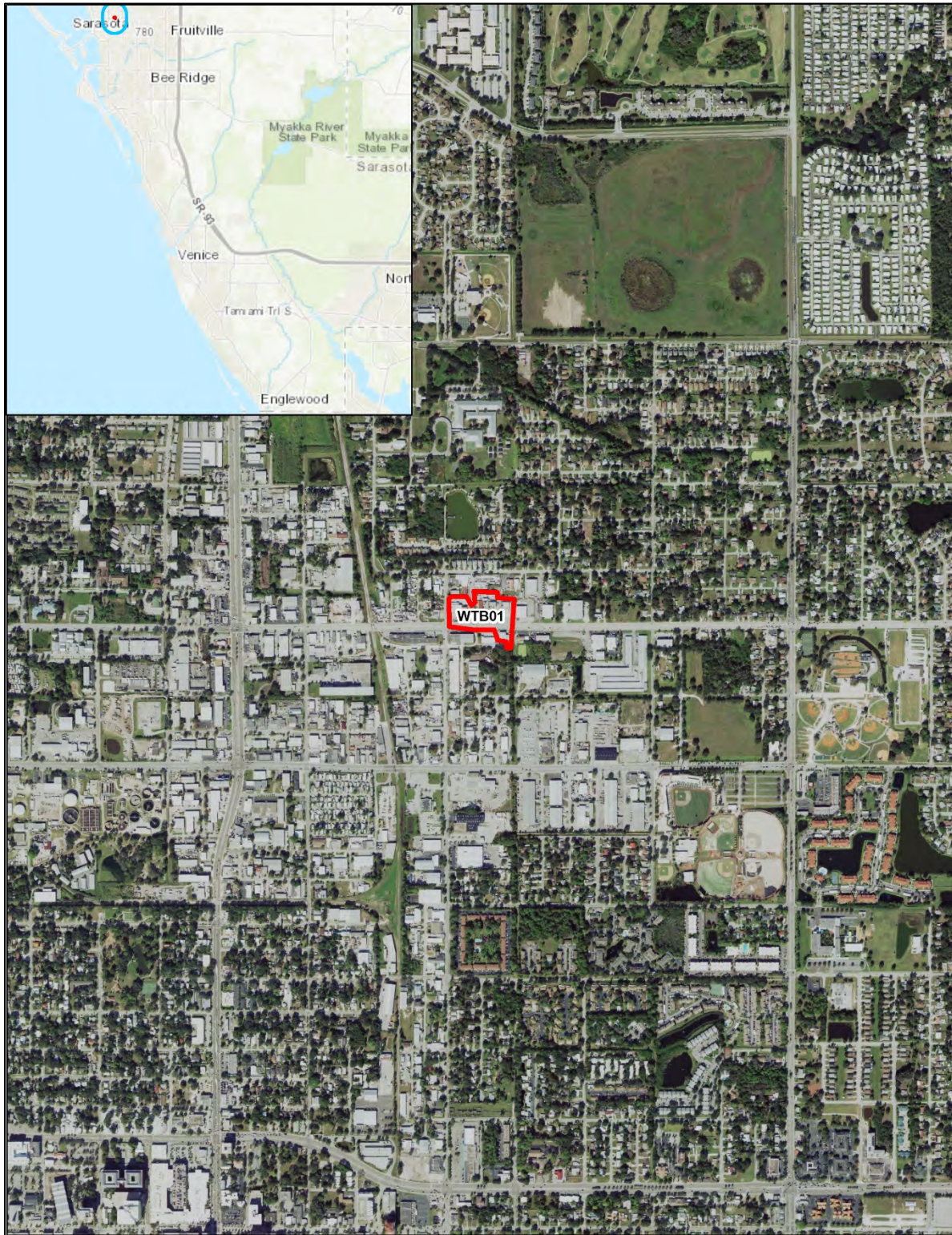


Figure 1: WTB01 Boundaries

AREA DESCRIPTION

WATERSHED: Whitaker Bayou
 BASIN: Whitaker Canal
 LANDFORM: Mainland
 AREA: 6.21 acres

FLOODING PROBLEMS AND CONCERNS

- Storm surge from Bays
- High Tide with High Rainfall Events
- Low terrain with slab on grade structures

Problem Statement

This Repetitive Loss Area (RLA) is located in the City of Sarasota in a heavily commercial/industrial district. The area is east of Sarasota Bay and is subject to tidal action, waves, and storm surge. Most of the structures within this area were constructed in the 1960's as slab on grade construction with minimal elevation above an average grade of 27.5 feet NAVD. Since all the structures are within SFHA Zone AE 28.8, these older, slab on grade structures are at risk of flooding. Tables 1 and 4 provide a summary of the structures within this RLA.



Figure 2: Slab on Grade Structure

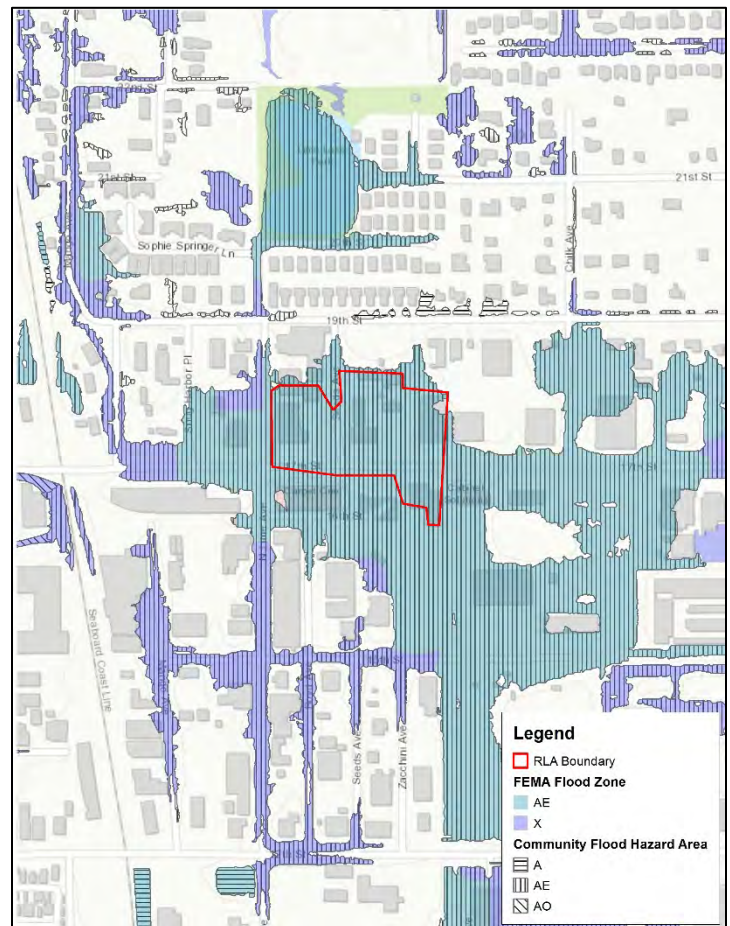


Figure 3: Spatial Distribution of Structures vs Flood Zone

Total	Repetitive Loss Data
9	Total Structures in Repetitive Loss Area
1	Total Repetitive Loss Structures in this Area
0	Properties w/Active Insurance Policies
0	Mitigated RL and SRL Properties
1	Unmitigated RL and SRL Properties
3	Insurance Claims (since 1978)
\$100	Total Insurance Claims (in thousands)
\$33.37	Average Insurance Claim (in thousands)

Table 1: Summary of Repetitive Loss Properties and Claims

Public Outreach

An online survey was sent to all residents within the RLA requesting data from the property owners for observed conditions and suggestions for mitigation. There were no responses within the RLA from the outreach survey, and no comments/input provided from residents during the field data collection work in the area.

Street	Survey Summary/Comments
Lime Ave Seeds Ave 17 th St	No responses/comments received by residents for the outreach survey.

Table 2: Summary of Public Outreach Surveys/Comments from Residents.

Analysis of Repetitive Loss Properties (RLPs) and Historical Storms

The RLP accounted for the three (3) individual claims in this RLA, of which one (1) correspond to Historical Storms as identified in the Sarasota County Floodplain Management Plan (2019), shown in Table 3. Records indicate that there has been no NFIP claims since 1993 for structures within the RLA.

Historical Storm Date	Storm Name	Rainfall (in)	RLP Claims
June 18, 1982	Un-Named Storm	6	0
September 1, 1985	Hurricane Elena	3	0
November 23, 1988	Tropical Storm Keith	1-3	0
June 23, 1992	Un-Named Storm	15-20	1
July 18, 1995	Un-Named Storm	9-11	0
November 14, 1997	Un-Named Storm	10	0
September 14, 2001	Tropical Storm Gabrielle	5-10	0
June 23, 2003	Un-Named Storm	8-10	0
September 6, 2004	Hurricane Frances	3-7	0

Table 3: Claims Caused by Historical Storms

Field Data Summary from Site Visits

Composition	Foundation Type
100%	Slab on grade
Composition	Frame Type
13%	Concrete block/masonry
87%	Steel
Composition	Number of Stories
100%	Single story
Composition	Flood Zones
100%	Within SFHA Zone AE
100%	Within CFHA Zone AE

Table 4: Field Data Summary from Site Visits



Figure 4: Average Steel Frame, Slab-on-Grade Structure

Causes of Flooding

Review of insurance claims data reveals that flood damage coincides with storm events with 6 or more inches of rainfall, exacerbated by high tides, and high winds. These effects have likely caused flood inundation from the bays and prevented normal rainfall runoff and stormwater drainage from these low elevation areas into the bays. The extremely low elevations of the pre-FIRM structures make it unlikely stormwater improvements alone would mitigate flood risk to these structures. Figure 5 provides spatial context for the structures within the RLA in terms of topography, drainage infrastructure, and existing grades at the base of each structure.

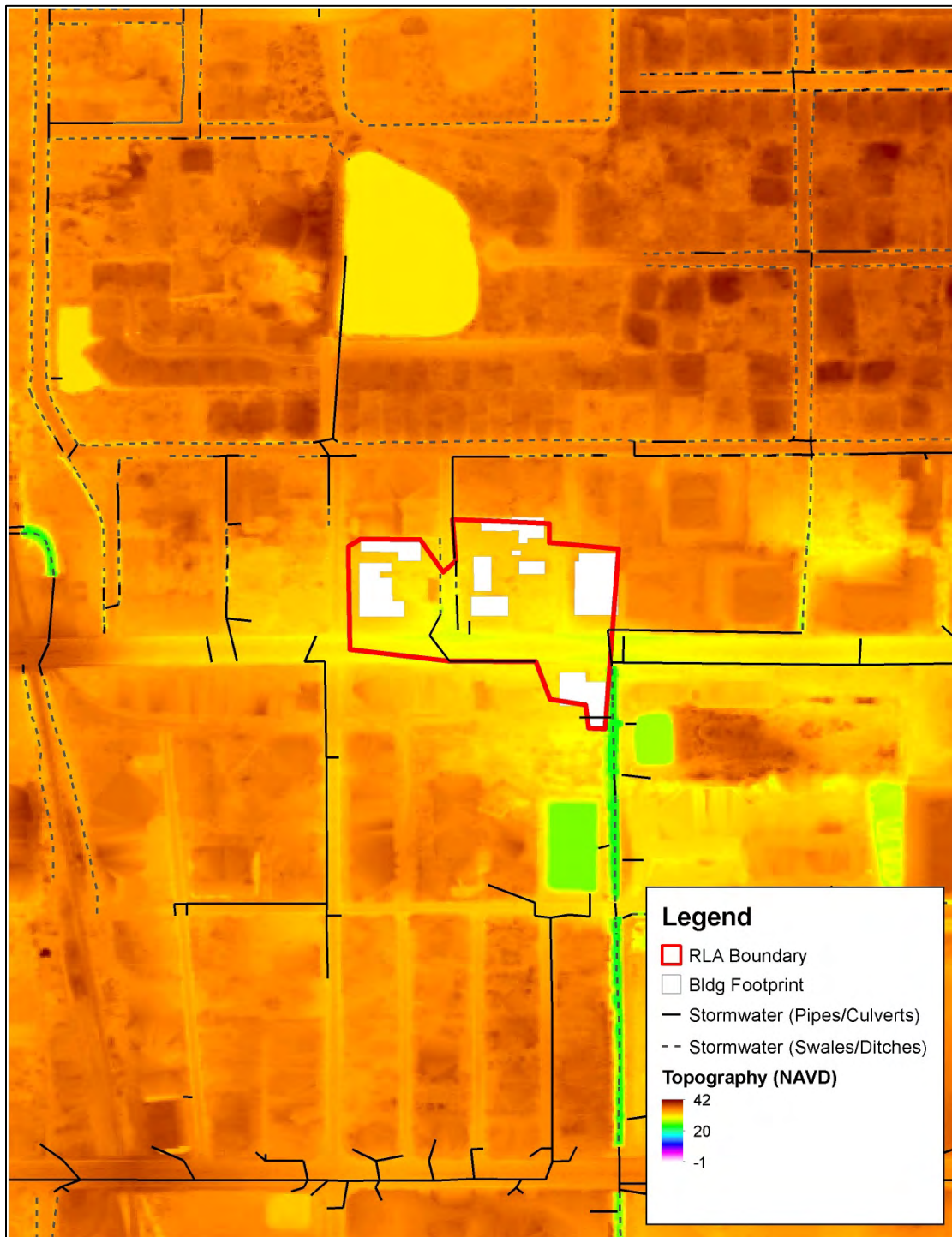


Figure 5: Topography, Drainage, and Existing Grades at Base of Structures

Stormwater Management System

The stormwater utility infrastructure within the RLA includes a collection of storm pipes, and swales discharging to wet retention areas as part of the County's maintained system. Due to the high intensity commercial development and limited undeveloped areas in this RLA, it is unlikely stormwater expansion can occur, therefore, not a mitigation option in this area.

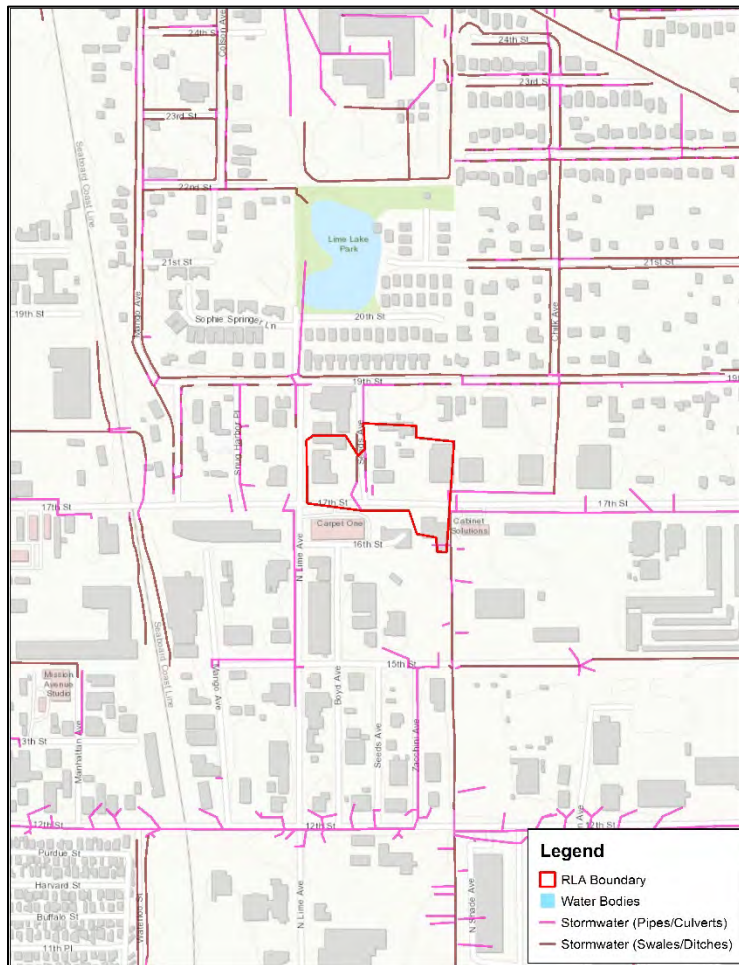


Figure 6: Distribution of Stormwater System Infrastructure

Mitigation Alternatives

Appropriate mitigation alternatives for the structures within this area were evaluated. The low existing grades and the average Finished Floor Elevation (FFE) of the structures at 1.4 feet NAVD, which is below the Base Flood Elevation (BFE), indicates the most appropriate mitigation alternatives include elevating structures and/or flood prone components, or acquisition and demolition of the structures to return to open space and reclaim the floodplain.

The properties located within this RLA are connected to the County sewer system. Properties connected to the sewer system are protected from flooding by backflow preventers required by the Florida Department of Environmental Protection.

Mitigation Recommendations and Funding Source Opportunities

The properties located within RLA 79 are subject to flooding due to heavy rainfall events and high tides. For these reports, the CRS manual outlines various types of mitigation methods. The report must include who is responsible for the method, the expected timeline and the funding source. The methods are outlined below and the top three mitigation methods for this RLA are outlined in Table 5.

The implementation of all of these actions is contingent on funding availability. These measures could be funded by state or federal FEMA grant programs, such as FMA, PDM, or HMGP, through ICC coverage under an NFIP insurance policy, by the homeowner, or a combination of these. Each of the grant programs outlined have their own eligibility and funding criteria, but each can be used to fund property protection measures shown below, provided that a Benefit Cost Ratio exceeds 1.0.

The County will encourage homeowners within the area to purchase flood insurance and to pursue the proposed mitigation measures. If property owners are interested in performing such suggested mitigation efforts, the County would initiate the necessary mitigation grant applications. Property owners are encouraged to purchase flood insurance to mitigate the effects of flooding. Property owners with flood insurance recover faster from a flooding event than those without.

Sarasota County continues to perform flood protection outreach to its citizens through various methods.

The top three recommended mitigation methods for the properties in this RLA are indicated in Table 6, in order of priority.

#	Mitigation Method	Responsibility	Timeline	Potential Funding - Comments
1.	Elevation	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on type of construction.
2.	Acquisition/Relocation	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly based on property, requires owner to sell. Sarasota County does not have a funding program in place for acquisition at this time.
3.	Elevate Utilities	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to protect utilities. It does not prevent flood waters on low floor elevations.
4.	Demolition/Rebuild	Property Owner	As soon as possible	Dependent on private or grant funding. Can be costly based on property but will solve the problem of structure flooding.
5.	Back-flow Preventer	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective way to prevent sewer back-up issues from flooding.
6.	Floodproofing	Property Owner	As soon as possible	Dependent on private or grant funding. Cost-effective but may require human intervention and adequate warning to install protective measures. May also require a maintenance plan.
7.	Barriers & Stormwater	Sarasota County	As soon as possible	Dependent on private or grant funding. Can be costly and stormwater system improvements may not be effective in critically low areas such as along the coastline.

Table 5: NFIP Identified Mitigation Methods

Repetitive Loss Area	# of RL Properties	# of SRL Properties	Total # of Properties	Flood zone	Name of Streets within the area	Mitigation Method Recommendations
79 – WTB 01 Whitaker Bayou	1	0	9	AE (SFHA) AE (CFHA)	N Lime Ave 17 th St Seeds Ave	2,3,1

Table 6: Repetitive Loss Area Data & Mitigation Recommendations

ANNUAL REVIEW & UPDATE OF REPETITIVE LOSS AREAS

The CRS program requires an annual update to the Repetitive Loss Area Analysis report. The annual update must review each recommended action, discuss the actions that were implemented and those that were not, and recommend any changes to the recommended actions.

The report must be made available to the public, including the media and property owners and residents of the RLA. This process must continue every year for Sarasota County to maintain its standing in the CRS program. This update must preface each CRS cycle verification visit.

Refer to Section 510 of the 2017 CRS Coordinator's Manual for more information (FEMA FIA-15/ 2017).

Repetitive Loss Area 79: Whitaker Bayou	Report Statistics					
	2020	2021	2022	2023	2024	2025
Total Structures in the RLA	9					
Repetitive Loss (RL) Properties	1					
Severe RL properties	0					
Mitigated RL properties	0					
Mitigated Severe RL properties	0					
Insurance claims since 1978	3					
Total insurance claims (in thousands)	\$100					
Average insurance claim (in thousands)	\$33.37					
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						

Appendix B: Annual Review and Update

REPETITIVE LOSS AREA TOTALS						
Review Year	2020	2021	2022	2023	2024	2025
Total Structures in all RLAs						
Total RL Properties						
Total SRL properties						
Total Mitigated RL properties to-date						
Total Mitigated SRL properties to-date						
Total Insurance claims since 1978						
Total insurance claims (in thousands)						
Average insurance claim (in thousands)						
Recommended Mitigation: Demolition or relocate the building						
Recommended Mitigation: Elevate the building						
Recommended Mitigation: Elevate the components						
Recommended Mitigation: Dry flood proof the building						
Recommended Mitigation: Wet flood proof the building						
Recommended Mitigation: Sewer backup protection						
Recommended Mitigation: Redirect on-site drainage away						
Recommended Mitigation: Repair or maintenance of systems						
Recommended Mitigation: System improvements or modification						
Recommended Mitigation: Flow diversions						
Recommended Mitigation: Berms, levees, or floodwalls						