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City of Venice

Floodplain Management Plan

Presented for Adoption by Venice City Council 9/27/2016

Prepared by City of Venice Engineering/Stormwater Department

TABLE OF CONTENTS

Floodplain Management Plan 1
Introduction 1
Community Resources 1
Economy and Tax Base 2
Land Use Patterns 2
CRS Committee Establishment 3
City CRS Committee Members 4
Public Sector Committee Members 4
City Staff Liaisons 5
Hazards 5
Cost to Communities 6
Costs to Local Government 6
Risk Assessments 6
Hazard Analysis 9
Hazard History 11
Hazard Prevention Activities 13
Repetitive Loss Areas 16
Vulnerable Properties 16
Past Studies 17
Natural Floodplain Function Planning 17
Pre-Disaster Planning 18
Post-Disaster Planning 19
Outside Funding Sources 19
Mitigation Policies and Procedures 20
Mitigation Strategy 20
LMS Work Group Goals 20
LMS Work Group Mitigation Planning 21
City of Venice Current Mitigation practices 21
Preventive Activities 22
Property Protection Activities 23
Emergency Services 24
Natural Resource Protection Activities 25
Structural Projects 26
Post Disaster Mitigation 26
LMS Work Group Action Plan 28
Floodplain Management Action Plan 29
Program for Public Information 30
Plan Development: 30
Plan Goals 30
Outreach Activities 34
Recommended Improvements 37
Public Outreach Activities: 37
Evaluation Methods 39
Flood Insurance Coverage Improvement Plan 39
Flood Insurance in the City 39

Plan Development 42
Target Areas 42
DFIRM Impact Analysis 44
Plan Goals 44
Evaluation Methods 44
Conclusion 46
Annual Report 46

Tables:

1. Land Use..... 3
2. FMP Action Plan.....29
3. PPI Plan Goals.....31
4. PPI Target Audiences.....33
5. Insurable Buildings in the City of Venice.....40
6. Insurable Policies by Occupancy.....41
7. Insurance Policies by Flood Zone.....41
8. DFIRM Impact Analysis..... 44

Appendices:

A: CRS Planning Document
B: CRS Committee Documentation
C: Figure 1 - City of Venice Rgeulatory Flood Zone Map
Figure 2 - Effective FIRM
Figure 3 - DFIRM, Effective 11/4/2016
Figure 4 - Repetitive Loss Areas
Figure 5 - Insurance Information Target Areas
D: LMS Update
E: PPI Schedule and Outreach Templates
F: Outreach Project Worksheets

FLOODPLAIN MANAGEMENT PLAN

INTRODUCTION

Community Resources

The City of Venice occupies approximately 16.7 square miles (land) of southern Sarasota, in Southwest Florida, between Tampa and Fort Myers. Its westward border is the Gulf of Mexico. The City of Venice was incorporated in 1927, after expansion of the railroads, and has experienced a steady growth rate since 1930; the largest occurring between 1950 and 1960 when the population grew from 727 to 3,444 people. The latest statistics from the U.S. Census Bureau estimate the 2015 population of the City at 22,211. However, as with most coastal communities in Florida, the City experiences an increase in population during the winter months, with the most recent estimates being approximately 8,538 part time residents.

The City is situated in a subtropical climate and, as such, experiences distinct wet and dry seasons. The wet season extends from June through September. During this period the City receives approximately two-thirds of its annual 50-inch rainfall. Topography in the area is generally flat and low, with elevations ranging from sea level to 20 feet. The average elevation of the island is 13 feet Navigation Geodetic Vertical Datum (NGVD), while the mainland averages 15 feet NGVD.

The initial stormwater system for the City of Venice was installed in 1926, when the Brotherhood of Locomotive Engineers began its intensive development of the City following designs by architect and city planner, John Nolen. As part of the development, main drainage canals were constructed in the existing sloughs, and the outlet to Curry Creek was improved.

Rapid growth of the city and the resultant reduction in vacant land available for development, coupled with a less than average rainfall for several years, have encouraged people to settle in flood hazard areas. As development has spread within and around the city, large amounts of land have been covered with an impermeable surface such as parking lots, roofs, driveways, streets. A greater number of teardowns and rebuilds have elevated structures within the floodplain, however, they have also tended towards bigger homes with maximum allowed lot coverage. Not only have these manmade structures covered previously absorbent surfaces, they have also removed much of the existing vegetation. This vegetation normally acts to slow the rate of runoff and to allow a greater portion of rainfall to be absorbed into the ground. There has also been a call to allow for more lot coverage on residential Single Family homes, types RSF-1 and RSF-2, to 35%. The additional lot coverage impacts have the potential to increase runoff from the lots for properties that are not required to obtain either a Southwest Florida Water Management District Permit (SWFWMD) or provide pre-development versus post-development runoff calculations.

The City of Venice is divided into five major drainage basins which are defined as the Hatchett Creek, Curry Creek, Shakett Creek, Myakka River and Island of Venice

stormwater basins. The Hatchett Creek drains into the southern portion of the mainland area discharging into the Intracoastal Waterway (ICW), just south of Roberts Bay. The mainland's northern section is drained via the Curry Creek basin using the Blackburn Canal and Curry Creek to discharge into Dona Bay. The eastern portion of the City drains into Shakett Creek and the Myakka River. The Island of Venice basin drains into the ICW and the Gulf of Mexico.

The City of Venice has a unique geography in that a substantial portion of the city's boundary is surrounded by water. The City has almost 4 linear miles of coastline along the Gulf of Mexico, unobstructed by barrier islands. The City also has 2 linear miles of bay shores that are part of a major estuary, and approximately 4 miles of ICW. These waterways include the Gulf of Mexico, Venice Inlet, Curry Creek, Myakka River, Hatchet Creek, Roberts Bay, and the West Coast ICW. These water bodies improve the community by providing an enhanced environment consisting of shorelines, estuaries and woodlands, which allow habitation for wildlife. The water bodies also provide the community with a multitude of water and beach related activities including fishing, swimming, boating, shell and shark tooth hunting, and sunset watching.

There are a number of federal and state lands within the City which are considered environmentally sensitive by the Florida Department of Environmental Protection (FDEP), as are areas continuous with river systems, bays and harbors.

Economy and Tax Base

The population of the City is currently 22,211. It is expected that the population will soon witness a large increase due to annexations of areas east of I-75 at Laurel Road. Most residents In the City of Venice are employed in the service sector, the medical industry, or government. Compared to other cities, the City has a high percentage of older, primarily retired residents, with a median age of 67 years.

According to the U.S. Census Bureau, the cost of living index in Venice, as of July 2015, is 96.0 (U.S. average is 100). Per Capita income is $39,818 (2015 City of Venice CAFR, Statistical Schedule 13). The Unemployment Rate is 5.0 percent (2015 City of Venice CAFR, Statistical Schedule 13). According to the Sarasota County Property Appraiser's office, the 2015 Average Market Value is $240,248 for single family Residential parcels and $253,717 for Residential Condominium Parcels in the County. The Taxable Value by Municipality is $3,228,144,657 for the City of Venice.

The City collects ad valorem taxes through a millage rate. In fiscal year 2010 the total budget was estimated at $59,267,325. The City sets aside enough reserve funds to support operating costs for up to 3 months.

Land use patterns

Based on current figures obtained from the Sarasota County Property Assessor, the city's land use patterns are shown in table 1 below.

Table 1: Land Use

Existing Land Use Category	Acres	% of total
Agriculture	1701.22	18.02
Airport	454.39	4.81
Office	55.85	0.59
Commercial	259.31	2.75
Golf Courses	775.28	8.21
Government	636.53	6.74
Industrial	587.78	6.23
Institutional	220.98	2.34
Mobile Home	331.13	3.51
Multi Family Residences	154.24	1.63
Single Family Residences	1546.68	16.39
Submerged / Partially Submerged	119.13	1.26
Utilities / Infrastructure	157.79	1.67
Vacant / Open Space	2426.43	25.71
ROW / Roadway Drainage	11.57	0.12
Total Land	**9438.33**	**100**

CRS COMMITTEE ESTABLISHMENT

In order to improve the effectiveness of floodplain management, outreach efforts, and the number of flood insured properties, City Council approved and adopted Resolution No. 2014-27 on August 12, 2014 to create a Joint Floodplain Management Plan (FMP), Program for Public Information Plan (PPI) and Coverage Improvement Plan (CIP). The Committee is referred to as the CRS Committee in the remainder of this document. A planning document was prepared to organize the activities and goals for the CRS Committee and is attached in Appendix A. The planning document was distributed to City Council, discussed during the adoption process, and referred to for guidance during committee meetings. A public meeting was held on November 20, 2014 for draft review prior to adoption.

The duties and responsibilities of the CRS Committee are: to provide opportunities for the public to comment on the plans; coordinate with other agencies; assess local flood hazards; assess local flooding problems; set goals; and, draft an action plan. During August and September 2014, the CRS Committee met 7 times prior to adoption of the plans, and conducted additional review of the plan documents through e-mail distribution. All meetings were publicly posted and open to the public. In addition, the creation and meeting information was provided to the local media and was published for the general public. The plans were presented to City Council at a public meeting with an opportunity for public comment during the meeting proceedings. The plans were published prior to the City Council meeting in the Agenda Packet to give an opportunity for additional public input prior to the formal adoption or update of the plans. Documentation of the CRS

Committee activities during this time, including the adopting ordinance is included in Attachment B.

The CRS Committee was created to address specific target audiences in order to more effectively evaluate the current outreach activities for effectiveness and to recommend areas of improvement to be incorporated into the plan documents. The Building Official serves as the Floodplain Administrator for the city, however, floodplain management duties have been delegated to the City Engineer as they relate to flood zone determinations, review and approval of elevation certificates, flood insurance coverage evaluation and public outreach activities. CRS Committee members are appointed by the City Engineer with the intent to provide a broad spectrum of experience and perspective.

The following members are currently serving on the CRS Committee:

City CRS Committee Members:

- **Floodplain Management Office** – Kathleen Weeden, PE, CFM, City Engineer and Stormwater Utility Director, CRS Coordinator and floodplain communication
- **Planning & Zoning** – Scott Pickett, AICP, Senior Planner
  Mr. Pickett is a certified planner for the City of Venice with experience preparing hazard mitigation plans, hazard response plans and comprehensive planning.
- **Building Department** – Greg Schneider, MCP, CFM, Deputy Building Official
  Mr. Schneider supervises the plan review and inspection staff and is responsible for reviewing flood related criteria for building permits to verify that the proposed construction is consistent with FEMA and city code requirements.

Public Sector Committee Members:

- **Flood Insurance**
  Renee Halback, Shaefer Insurance Agency
  Ms. Halback is an insurance agent who has held a 215 License (Life Inc. Var. Annuity & Health) since 1999, and 220 General Lines License (Property & Casualty) since 2000. Ms. Halback writes flood insurance policies and advises her clients on flood insurance related issues.
- **Real Estate and Flood Insurance**
  John Meyers, Berkshire Hathaway, Real Estate
  Mr. Meyers is a Realtor with Berkshire Hathaway in the City of Venice and has 14 years prior experience as an Allstate Insurance agent and 10 years prior experience as a Realtor with Remax in Indiana. He has been a resident of Venice since 2013 and is becoming more acquainted with flood hazards, flood zones, and the need to carry at least minimum flood insurance.
- **Financial Lending Institute**
  Mark Hampshire, Capital Bank, Asst. Vice President
  Mr. Hampshire has several years in the lending industry, beginning with Sun Trust Bank and now as the Assistant Vice President of Capital Bank in Venice.

- **Building Industry**
  Robert Yoho, The Damex Corporation
  Mr. Yoho is a state certified building contractor and Mold remediator. He also holds certificates in water damage restoration, lead renovation, repair and painting. He is a member of the American Indoor Air Quality (AIAQ) Council and has been an OSHA "Train the Trainer" since 2010. Robert has been a resident of SWFL since 1975.
- **Building Industry**
  Mark Hawkins, Hawks Nest Construction, Inc.
  Mr. Hawkins is a state certified building contractor who complete remodels and new construction within the city. Mr. Hawkins is active in local building associations.
- **Commercial/Business Industry**
  Brian West, Publix Supermarkets.
  Publix management bring to the committee their experience with meeting the publics' need for services before, during and after a storm event.

City Staff Liaisons:

- Lorraine Anderson, Communication and Marketing Officer
  Ms. Anderson has delegated the day to day communication planning and outreach to Ms. Weeden for floodplain management activities. Ms. Anderson will also issue any formal press releases that are issued for the CRS program.
- Gillian Carney, Stormwater Engineering Research Analyst
  Ms. Carney is a Certified Floodplain Manager. She completes committee related activities such as drafting the plans and revisions, incorporating committee and public recommendations in the plan documents, preparing agendas, meeting minutes and outreach material preparation and distribution.

Members of the public and press are invited to attend and provide input at all meetings. The public is further informed through articles published in the local newspapers, through interviews, and attendance at the meetings. The City Clerk's office posts the Notice of Meeting, Agendas and Minutes of each meeting on the city website and on the City Hall bulletin board.

HAZARDS

Hazards cannot be eliminated, but it is possible to determine what the hazards are, where the hazards are most severe, and identify local actions that can be taken to reduce the severity of the hazard. For example: we know that hurricanes are frequent in Florida, that flooding and wind damage are most severe along the coast, that low intensity storms occur more frequently than high intensity storms, and the level of coastal flooding is fairly predictable for a given magnitude of storm. Given this knowledge, local as well as state and federal laws exist to limit the type and amount of development along the coast in areas that have been identified as high risk to coastal zones (Coastal High Hazard Areas and Velocity Zones are examples). Furthermore, there are incentives to live in lower risk

areas; Insurance rates and taxes are usually higher in coastal and ravine areas, and lower in inland areas.

Hazards also have associated costs:

Cost to Communities

Hazards can have real costs to businesses and residents. Businesses in high hazard areas can suffer when damaged or isolated by storms. Residents who build in flood-prone areas are subject to evacuation, damage to their homes, lower home values, and higher insurance premiums. Businesses risk potential loss of income and impact to employees. Vital community functions such as police or utilities may be impacted, and there remains the potential for secondary hazards created by power outages, road closures, downed trees and power transmission lines, responder communications issues, school closure, evacuation shelters required, phone service outages, water distribution issues and public transportation closures. Critical facilities such as hospitals, schools, airports, utilities and major government buildings should not be placed in high hazard areas because the functions these facilities provide are too valuable to be placed in jeopardy – especially during a disaster. Community health and safety are paramount.

Costs to Local Government

Community infrastructure such as roads, drainage structures, water and sewer lines, electric lines, gas lines and telephone lines that are built in high hazard areas are subject to frequent damage and costly repair. The federal government can withdraw the community's access to federal insurance for both public and private structures if a local government belonging to the National Flood Insurance Program (NFIP) allows development in the floodplain without proper evaluation and construction techniques. The local government is responsible to carry the necessary insurance on City owned infrastructure, however, other assistance is given to states and localities during a declared major disaster or emergency. In the event of undeclared disasters or emergencies, the local government is required to cover 100 percent of the costs incurred from the event. These costs can put a significant strain on the local government budget.

Risk Assessments

The City experiences seasonal flooding, as do many areas of Florida. For planning purposes, all of Sarasota County is considered flood prone by the Sarasota County Department of Emergency Management.

Areas located near the coast, adjacent to bays, inlets, creeks, rivers, or portions of the Intracoastal Waterway (ICW) are more prone to flooding. The city's island portion is much more susceptible to flooding than the mainland due to the close proximity of the Gulf of Mexico and Roberts Bay, which are susceptible to impacts from storm surge.

Flooding in the community, either major or minor, from The Gulf of Mexico, Hatchett Creek, Curry Creek or the Myakka River, could have a significant impact on the

population, property and economy; cleaning up, making repairs, personal losses and health concerns can cause great stress to both individuals and the community.

During a flood there may be a significant threat of drowning, but floodwaters could also cause wastewater treatment facilities to shut down, contaminate local water supplies and disrupt utilities. Significant floodwaters may submerge portions of I-75, US41 and east-west highways, hindering evacuation routes and relief efforts and making it difficult to provide emergency response services.

Flooding can also have hazardous post-disaster conditions. The major features of flooding that impact the extent of damage are the flood depth, duration, and contaminant type and concentration in the flood water. Standing water and prolonged dampness provide breeding grounds for bacteria, viruses, mold, dust mites, mosquitoes, cockroaches and rodents. These can cause disease, trigger allergic reaction, and continue to damage materials long after the flood. The effects on common building materials come during and after the flood. During the flood, water-borne contaminants like sewage, simple household chemicals, or petroleum and oil products from motor vehicles, can spread with the flood water and adhere to building materials, causing extensive damage and expensive repair. Buildings that were not flooded but have leaking roofs or pipes which allow water to penetrate are also susceptible to mold growth and may have mold contamination in interior wall cavities or ceilings.

Flooding from Hatchett Creek generally occurs from the East Gate subdivision to the West and adjacent to the Myakka River in the northeaster section of the City. Historical aerials from the 1940's and 1950's show that Hatchett Creek was rerouted to allow for residential development. As a result, homes were built on EauGaille and Myakka sands which are very deep, very poorly drained, slowly permeable soils. Soils in East Gate are poorly drained and have a seasonal high water table at 6 to 18 inches, for 1 to 3 months of the year, and within 40 inches for 2 to 6 months of the year. Properties that have been developed adjacent to the Myakka River have been designed based on a flood study performed by Kimley Horn Engineering Consultants, and the region has been designed to account for modeled flood stages. Residential structures and the community center in this area have been elevated above the required flood elevation and an extensive drainage system has been constructed to meet the 100 year flood stage conditions.

Road and low-lying areas along Curry Creek are known to have past flood problems. The areas include Bay Indies Mobile Home Park, Roberts Bay Estates, and Mobile City estates. As redevelopment occurs, the new construction and substantial improvements are required to comply with the city floodplain ordinance and construct above the 100 year floodplain elevations. The Southwest Florida Water Management District (SWFWMD) also requires that floodplain compensation calculations be completed to reduce any off-site floodplain impacts.

Rapid growth of the City and the resultant reduction in vacant land available for development, coupled with less than average rainfall for several years, have encouraged people to settle in flood hazard areas. As development has spread around the City, large

amounts of land have been covered with impermeable surface such as parking lots, roofs, driveways and streets. A greater number of teardowns and rebuilds have elevated structures within the floodplain, however, they also have tended towards bigger homes with maximum allowed lot coverage. Not only have these manmade structures covered previously absorbent surfaces, they have also removed much of the existing vegetation. This vegetation normally acts to slow the rate of runoff and to allow a greater portion of rainfall to be absorbed into the ground. There has been a call recently to allow for more lot coverage on residential single family homes, types RSF-1 and RSF-2, to 35%. The additional lot coverage impacts have the potential to increase runoff from the lots for properties that are not required to obtain either SWFWMD permits or provide pre-development versus post-development runoff calculations. These properties that are not required to meet SWFWMD are required to submit signed and sealed drainage plans to the city building department as part of the review process.

The population of the City is currently 22,211. It is expected that the population will increase to 23,982 due to annexations of areas east of I-75 at Laurel Road. The annexation area is sparsely developed and mostly industrial and agricultural at this time. However, major residential and commercial development is expected to occur within the next 5 to 10 years. As the development plans are submitted they will be carefully reviewed for negative impacts on the watershed, natural resources and natural floodplain.

As the City continues to grow, the stormwater system is expanded to meet the demands. The system functions successfully in most areas, however some localized flooding still occurs. Flooding issues are being addressed through implementation of the stormwater master plan, administered by the Stormwater Management Utility.

There are a few critical facilities located in a flood zone that could be subject to flooding. The Sarasota County Department of Emergency Management maintains a Critical Facilities Inventory (CFI) for the County. Critical facilities in Venice include, but are not limited to: City Hall, fire stations, a police station, water production plant and water storage tanks, distribution / collection center and wastewater plans, sewer lift stations, an airport, a hospital, urgent care facilities and a well-field data center. For security purposes, inventory and specifics about each critical facility are available on a secure county database. During a flood event, risks to critical facilities, such as assisted living facilities and hospitals, would include communication and evacuation issues caused by phone or power outages and road closures. Vital community functions such as police or utilities may be impacted, and there remain the potential for secondary hazards created by power outages, road closures, downed trees and power transmission lines, responder communications issues, school closure, evacuation shelters required, phone service outages, water distribution issues and public transportation closures.

The warm watery environment which provides so many benefits to both the human and animal communities, can also impact those same communities with weather conditions that can cause property destruction and loss of human life due to tidal surges and hurricane winds.

The fact that the City has such a large senior population means that there are special requirements during evacuations and recovery from flood events.

Although the City sets aside enough reserve funds to support operating costs for up to 3 months, major disasters have the potential to quickly deplete this source and negatively affect the City's economy for many months.

Hazard Analysis

The City has exposure to several different types of hazards:

1. Tropical Cyclone / Hurricane Events
   A Gulf Coast landfall is one of the three most likely Florida hurricane tracks, as based on planning models. Hurricane season is from June through November. Among the hazards analyzed in this section, hurricane activities pose the greatest threat to the broadest population in Venice. The probability of a hurricane event varies from low to high depending on the time of year and seasonal climate. During a hurricane event, the entire population of Venice would be at risk. A category 3 hurricane would cause flooding of the most heavily populated portions of the City. A category 4 or 5 hurricane would cause flooding almost to the I-75 corridor. Depth of flooding, and velocity vary with each hurricane event and accompanying storm surge. Hurricane and tropical storm watches are issued several days in advance, allowing residents, visitors, and commercial property owners plenty of time to prepare.

2. Floods
   a. The City experiences seasonal flooding during the rainy season, as do many areas of Florida. A flood event can occur any time there is significant rainfall, and especially as a result of a hurricane. The majority of riverine flooding, within the Hatchett Creek, Curry Creek and Myakka River basins, appears to be along the major drainage ditches and the surrounding low-lying areas. Areas located near the coast, adjacent to bays, inlets, creeks, rivers, or the ICW are more prone to flooding than inland areas. The probability of a flood event varies from low to moderate depending on the time of year and seasonal climate, and the impact of a flood event varies from low to moderate depending on location within the City. The circumstances for flooding occurring on the island area of the City are substantially different than those to mainland areas, due to lower finished floor elevations, older infrastructure (storm pipes) and greater impervious ratio. Increased impervious areas have also greatly increased the possibility of flooding throughout the city. Depth of flooding, and velocity vary with each flood event. Hurricane and tropical storm watches are issued several days in advance, allowing residents, visitors, and commercial property owners plenty of time to prepare.
   b. Flooding from Hatchett Creek generally occurs from the East Gate subdivision to the West. Flooding in this area has resulted from Hatchett Creek overflowing its banks. Road flooding has occurred on East Venice Avenue between the intersections of Grove Street and Warfield Avenue, and on Grove Street in the Housing Authority. The impact to the Housing Authority property has been

reduced due to tearing down of the existing structures and replacement with elevated structures and floodplain modeling to verify floodplain compensation impacts are addressed. Warning time is sometimes limited by the quick development of afternoon rain events.

c. Road and low-lying areas along Curry Creek are known to have past flood problems. The areas include Bay Indies Mobile Home Park, Roberts Bay Estates, and Mobile City estates. Residents generally have sufficient warning time to evacuate.

3. Severe Weather

Heavy rains, winds and other storm action are frequent in Florida, especially during the summer months. Tropical storms and hurricanes can spawn tornadoes and wind bursts; Florida has the second highest record of tornadoes in the United States, although Venice does not have a high incidence of tornado activity. In 1982 a tornado killed1 person and injured several others just east of the city limits. A wind event occurred on April 8, 2008, when a wind burst caused damage to a restaurant on East Venice Avenue and damage to 15 nearby mobile homes. An EF2 tornado touched down in Siesta Key on Jan 18th, 2016 with winds estimated to have reached 70mph. There was localized flooding but no damage was caused to business in Venice. A flood event can occur any time there is significant rainfall. The majority of riverine flooding, within the Hatchett Creek, Curry Creek and Myakka River basins, appears to be along the major drainage ditches and the surrounding low-lying areas. Areas located near the coast, adjacent to bays, inlets, creeks, rivers, or the ICW are more prone to flooding than inland areas. The probability of a flood event varies from low to moderate depending on the time of year and seasonal climate, and the impact of a flood event varies from low to moderate depending on location within the City. The circumstances for flooding occurring on the island section of the City are substantially different than those to mainland areas, due to lower finished floor elevations, older infrastructure (storm pipes) and greater impervious ratio. Increased impervious areas have also greatly increased the possibility of flooding throughout the city. Warning time, depth of flooding, and velocity vary with each flood event.

4. Wave Action and Beach Erosion

Beach erosion usually occurs during summer tropical storms and hurricanes, however, erosion is known to occur during winter cold front storms. Lesser storms can also bring wave action that causes flooding, and waves can seriously erode natural barriers over time. VE zones, which are subject to wave heights of 3 feet or more, are located along the City's westward boundary - the Gulf of Mexico. Warning time, depth of flooding, and velocity depend on the strength of the waves. Beach erosion facilitates flooding, and the extent and location are determined by the area and amount of erosion.

5. Storm Surge

Storm surge occurs when a storm's winds push sea water toward the shore. The advancing surge combines with normal tides to create a hurricane storm tide, raising the average water level 15 feet or more. Storm surge can be hugely destructive. Sand

dunes can be washed out, buildings near the coast can be toppled, and the surge can push flooding miles inland through rivers and back bays. Storm surge occurs along the coastline, the City's westward boundary, the Gulf of Mexico. Depth of flooding depends on the strength of the tropical storm or hurricane. Hurricane and tropical storm watches are issued several days in advance, allowing residents, visitors, and commercial property owners plenty of time to prepare.

6. Dams and Levees
   The City lies just outside a Myakka reservoir dam inundation zone. If the dam were to breach, sections of the mainland part of the City could potentially see flooding. It is expected that the extent of the flooding would be minimal, although the flooding could be greater if combined to a severe weather event. The depth of flooding, velocities and warning time would vary with each event. Venice has never yet been subjected to a dam breach.

7. Climate Change and Sea Level Rise
   International discussions and studies about changes in sea level rise and climate change theorize that these should be considered as potential risks, especially in coastal communities.

<u>Hazard History</u>

The City's most common hazards are hurricanes, tropical storms, beach erosion, tornadoes, storm surge and flooding. The City has experienced numerous events over the years that have caused flooding, from minimal street flooding to significant flooding of roadways, making them impassable and impacting structures. The primary events have been summarized as follows:

1. October 24, 1921: A storm that originated in the western Caribbean Sea produced high tides (approximately 7 feet), and wave action resulted in heavy damage throughout Sarasota County.
2. September 19, 1926: An un-named hurricane resulted in flood damage of more than $1 million. This was a 10-year storm in which 8 inches of rain fell in a 24-hour period.
3. June 26, 1943: 7.48 inches of rain fell in a 24-hour period.
4. June 23, 1945: 10.80 inches of rain fell in a 24-hour period.
5. September 10, 1960: Hurricane Donna resulted in flooding throughout the county. Tides ran more than 3 feet above normal, rains totaled between 5 to 7 inches and pre-storm rainfall of almost 10 inches contributed to flooding.
6. September 21, 1962: 7.37 inches of rain fell in a 24-hour period. Total storm rainfall over the 3-day period was 13.83 inches. The storm caused flood damage to houses in Sarasota County.
7. October 1968: An un-named storm caused considerable flood damage.
8. June 18, 1972: Hurricane Agnes caused flood damage due to high tides and 5 inches of rain.
9. June18, 1982: The "No Name Storm" brought 6 inches of rain and 60 mph winds to Sarasota County with little warning. The storm created high tides and caused structural flood damages.

10. Aug 28 – Sept 4, 1985: Hurricane Elena hovered over the west coast of Florida for 6 days and brought rainfall of more than 11 inches, requiring the evacuation of 37,000 people.
11. October 28 1985: Hurricane Juan caused 25 to 35 foot swells in the Gulf of Mexico, and subsequent coastal flooding.
12. October 16, 1987: Hurricane Floyd brought heavy rains and string winds, resulting in flooding.
13. November 20, 1988: Tropical Storm Keith brought rain and strong winds, creating tidal surges 4 feet above normal
14. June 23, 1992: 11 to 23 inches of rain fell within a 15-hour period, and caused minor flood damage.
15. June 23-26, 1993: Rain exceeded the 100-year, 24-hour storm event with 11.82 inches of rain falling in a 24-hour period.
16. July 18, 1995: Approximately 9 inches of rain fell within a 15-hour period and caused minor flood damage.
17. September 7, 1995: Rainfall of approximately 2 to 3 inches in 1-hour caused localized flooding and approximately $5,000 worth of property damage (NOAA National Climatic Data Center).
18. Nov / Dec 1997: El Niño event caused 10 to 12 inches of rain to fall within a 24-hour period, causing flooding throughout Sarasota County.
19. August 12, 2000: Rainfall of 4 to 6 inches over a 6-hour period caused localized flooding of low roads.
20. September 15, 2001: Tropical Storm Gabrielle caused storm surge and localized street flooding.
21. May 2003: Rain events caused a lift station to fail and water /sewer damage to a local church that sits along Hatchett Creek.
22. September 5, 2003: Tropical Storm Henri caused flooding that created flooding problems in the East Gate area and intermittently closed sections of Venice Avenue.
23. August 13, 2004: Hurricane Charley, a Category 4 storm, struck Punta Gorda. Due to the compact nature of the storm and the quick course change, the rain and wind impacts to the City of Venice were minimal.
24. September 5, 2004: Hurricane Frances, a very large, slow moving Category 2 storm. Although the eye did not impact the City directly, several inches of rainfall caused some flooding and wind impacts within the County
25. September 16, 2004: Hurricane Ivan a strong Category 4 storm, made landfall near Gulf Shores, Alabama. Although the storm remained west of Venice, beach erosion was experienced.
26. September 26, 2004: Hurricane Jeanne caused flooding impacts although the landfall was on the East coast of Florida, near Stuart.
27. October 24, 2005: Hurricane Wilma made landfall in Florida near Cape Romano, and moved across the peninsular in less than 5-hours. The location of the landfall was far enough south of Venice that winds and rain were minimal.
28. November 7, 2006: Afternoon rains caused roadway and structure flooding along East Venice Avenue.

29. June 2, 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 Venice.
30. March 27, 2008: A rain event caused flooding along East Venice Avenue.
31. August 19, 2008: Tropical Strom Fay made landfall in Florida, south of Naples, and moved northeast with rainfall amounts in excess of 20 inches on the east coast. Because of the path of the storm, there was minimal impact on Venice.
32. May 2009: Rain events during the month caused localized flooding of structures and roadway along East Venice Avenue, between U.S. 41 By-pass and Warfield Avenue.
33. June 2012: Tropical Storm Debbie caused downed trees and flooding.
34. September 2013: A heavy rainfall event caused flooding, overtopping of 2 beach outfall ponds, and beach erosion.
35. September 2014: The Myakka River at Myakka State Park continued to rise above its flood stage of 7 feet. The Venice Myakka River Park was closed, but no other road closures or impacts on the City.
36. August 2015: The Myakka River continued to rise above its flood stage of 7ft. No road closures or impacts on the City.
37. January 2016: Venice was impacted by an EF2 tornado which struck Siesta Key with winds estimated at 70 mph; 300 businesses were damaged throughout the county.
38. June 2016: Tropical Storm Colin made landfall near Deckle Beach in Taylor County, moving at 20mph. Venice was impacted by rain, strong winds, and an unusually high tide, creating tidal surges 3 feet above normal and localized flooding.
39. August 2016: Tropical Storm Hermine (later Hurricane Hermine) caused flooding within the City in the vicinity of Flamingo Ditch, Tarpon Center and S. Jetty Park.

Hazard Prevention Activities

The City coordinates Floodplain Management efforts with the Southwest Florida Regional Planning District and the committees responsible for creating the city of Venice Comprehensive Emergency Management Plan (CEMP), the City of Venice Evaluation and Appraisal Report, the Stormwater Management Plan, and the Sarasota County Unified Local Mitigation Strategy (LMS). These were all used as resources for this Floodplain Management Plan.

In 1984, the City of Venice adopted the Flood Damage Prevention Ordinance. This ordinance establishes the minimum standards and requirements for land management, building standards, and control measures in order to minimize flood damage to public and private property. The ordinance was updated significantly in 2006, with all revisions reviewed by the Florida Department of Emergency Management (FDEM). Minor updates were completed in 2010.

In 2006 and 2012, Ordinances 2006-34 and 2012-18 were adopted to include stormwater management and flood related requirements as part of Section 86-230, Subdivision Design Standards. Section 86-232 requires disposal of surface water, maintain any natural watercourses and provide that historic drainage patterns from adjacent properties shall be maintained. In addition, 86-233 applies the standard that no net encroachment into the floodplain, up to that encompassed by the 100-year vent, which will adversely

affect conveyance, storage, water quality or adjacent lands will be allowed. Any required compensating storage shall be equivalently provided between the seasonal high water level and the 100-year flood level to allow storage function during lesser flood events. Section 86-233(n) further defines that the post-development run-off shall not exceed the pre-development runoff for a 25-year, 24-hour storm event including the requirement for drainage calculations to support compliance. Section 86-233(n) further requires that the proposed development runoff may not additional impact areas of existing flooding or ponding nor negatively impact adjacent property.

In 2013, Ordinance 2013-27 amended Chapter 98-Floods, in its entirety. Chapter 98 encompasses all things flood related and is cross referenced with associated chapters dealing with the environment (chapter 34), stormwater management (chapter 74-241), and building s and building regulations (chapter 90). The Florida Building Codes adoption have been adopted in Section 90-20 of the city Code of Ordinances. In addition, Chapter 98-48 was updated to incorporate all of the flood related elements specifically into the city Code of Ordinances by Ordinance 2013-27. All revisions were reviewed by Florida Department of Emergency Management (FDEM) to verify that the local flood ordinance complies with state and federal requirements.

The City of Venice participates with Sarasota County in preparing and implementing a Local Mitigation Strategy (LMS) as part of the Sarasota County Unified Local Hazard Mitigation Plan. In addition to the planning process and public meetings described in the Sarasota County Unified Local Mitigation Strategy 2016, the city incorporates the Floodplain Management Plan into the LMS document and has adopted the LMS to serve as the formal guide for the city's hazard mitigation activities. The LMS project list and Venice Floodplain Management Plan portions of the LMS were updated by adoption of Resolution 2014-35 approved by the City Council 9/9/14. Resolution 2014-39, adopted on December 9, 2014, approved and adopted a combined Floodplain Management Plan that incorporates the Program for Public Information and flood insurance Coverage Improvement Plan into the document and the LMS. This process of adopting the LMS project list and Venice Floodplain Management Plan portions of the LMS will continue annually; the next resolution is scheduled for the September 27, 2016 City Council meeting.

In addition to the planning process needed for the Sarasota County Unified Local Mitigation Strategy, the city's comprehensive plan provides policy direction on emergency management and natural resource protection.

The comprehensive plan has an Emergency Management Element which includes the following policies that are directly relevant to floodplain management and mitigation planning.

Policy 1.3 <u>Emergency Preparedness Plans</u>. The City shall annually evaluate and update, as necessary, the Comprehensive Emergency Management Plan, Sarasota County Local Mitigation Strategy, Floodplain Management Plan, and National Flood Insurance Program (NFIP) Community Rating System.

Policy 1.4 Development Planning Practices. The City shall continue to evaluate the potential impact of tropical events on its buildings and land areas and update its planning practices and report its findings. Areas to focus on include: [several areas listed including Special Flood Hazard Areas].

Policy 1.9 Public Awareness and Education. Maintain public education efforts regarding awareness and preparation for disaster and emergency events including community awareness presentations, the annual hurricane workshop, City website and newsletters. Educational efforts should include information about [several topics listed including Flood Insurance].

Policy 1.10 Community Hurricane Planning. Continue to pursue funding for the implementation of the hurricane mitigation projects listed in *Creating a Hurricane Tolerant Community*. Annually update the plan based on most current best management practices, community needs and City goals.

Policy 1.3 has been implemented on an on-going basis. The city recently updated its Comprehensive Emergency Management Plan, and the preparation of this plan represents another implementation of the policy. In addition, the city is currently coordinating with Sarasota County on the preparation of a Sarasota County Post Disaster Redevelopment Plan. As part of the planning process the City held meetings with representatives from outside agencies, including the Red Cross, SWFWMD, FDEP, Florida Fish and Wildlife (FWC) and the Charlotte Harbor National Estuary Program. The representatives provided input and support to the City's long-term comprehensive plan goals and objectives.

The City adheres to a higher regulatory standard by using the more conservative required finished floor elevation from the currently adopted FIRMs and the riverine model results. This standard prevents new and substantially improved homes from being constructed with a finished floor elevation lower than the proposed 100-year Special Flood Hazard Area (SFHA).

Section 90-104 of City Code requires that the floor of all structures must be built a minimum of 15 inches above the crown of the adjacent road, and section 98 of City Code requires that stormwater management systems requiring a SWFWMD permit be designed such that the post-development run-off does not exceed pre-development runoff for rate and/or volume for a 25-year, 24-hour storm event.

The City also has a 10-year cumulative 50% rule that evaluates the value of the structure for properties that are not currently in compliance with the regulatory minimum floor elevation, to regulate substantial improvements and additions. New construction and substantial improvement require submittal of an Elevation Certificate while under construction and at finished constructed. The ECs are reviewed by a Certified Floodplain Manager (CFM) prior to approval of certificate of occupancy (CO). If construction is located in a velocity zone, the applicants' certification of construction, signed and sealed by a Florida licensed engineer, must be submitted. If the structure is elevated, a statement of non-conversion must be provided by the property owner prior to final CO.

In addition to regularly meeting with the countywide CRS committee, the City periodically discusses mitigation strategies with Sarasota County, the SWFWMD and FEMA.

Available studies regarding climate change and sea level rise are periodically evaluated with assistance from the Florida Floodplain Managers Association provided through publications and information provided at the annual conference.

REPETITIVE LOSS AREAS

The City of Venice has 16 repetitive loss properties; all are on the island, with 15 located along the coastline and 1 further inland. All 16 properties are in the SFHA. A repetitive loss property is defined in section 501 of the 2013 CRS manual as any property "for which two or more claims of more than $1000 have been paid by the National Flood Insurance Program (NFIP) within any 10-year period since 1978." Of the 19 repetitive loss area properties previously reported, 3 properties were mitigated in 2007 and are no longer on the repetitive loss list.

Severe Repetitive Loss Properties are defined by Congress as "those 1-4 family properties that have had four or more claims of more than $5,000 or two to three claims that cumulatively exceed the building's value." The City of Venice has 11 properties in this category. These properties are located mainly in the coastal areas, with 1 property located inland.

The City of Venice has 169 insurable buildings in the Repetitive Loss Areas. There are 7 Repetitive Loss Areas that have been identified as illustrated in Figure 4, Appendix C. Of these areas, 6 are located directly along the Gulf of Mexico and one is located inland.

The repetitive losses, as identified by FEMA and the NFIP, have been analyzed to evaluate potential causes and opportunities for mitigation. After reviewing the repetitive losses directly along the Gulf of Mexico from apparent storm surge, it was decided that the area would not be expanded beyond the affected condos. Most of the repetitive losses were only on certain first floor condo units. The one property located inland appears to be due to low elevation and inadequate drainage.

VULNERABLE PROPERTIES

All properties within the city are considered vulnerable to flooding, however, certain sections of the city represent a higher risk due to location, type of use or topography of the area. Areas adjacent to the coastline or other water bodies such as Roberts Bay, the Intracoastal Waterway, Hatchett Creek, Curry Creek, Myakka River or Blackburn Canal are considered to be more vulnerable to the risks of storm surge and riverine flooding. Areas of low topography may experience ponding or localized flooding during rain events.

Type of use vulnerabilities would be related to critical use facilities or facilities that would be of significant need before, during or after a flood event, such as grocery and hardware stores. There are a few critical facilities located in a flood zone that could be subject to loss. The Sarasota County Department of Emergency Management maintains a Critical Facilities Inventory (CFI) for the County. Critical facilities in Venice include, but are not

limited to: City Hall, fire stations, a police station, water production plant and water storage tanks, distribution / collection center and wastewater plans, sewer lift stations, an airport, a hospital, urgent care facilities and a well-field data center. For security purposes, inventory and specifics about each critical facility are available on a secure county database.

The City has 169 insurable structures in the RL area. In addition to these structures, 2 commercial buildings were identified as vulnerable structures in the Hatchett Creek Master Basin Plan. The Curry Creek Master Basin Plan identified 1 residential property and 1multi-family property as vulnerable structures. Approximately 50 to 60 residential properties were identified as vulnerable structures in the Island of Venice master Basin Plan, of which 33 are included in the RL area. Chapter 98 in the Venice City Code of Ordinance regulates development activities.

The potential dollar loss of vulnerable structures is estimated at $200,000 for the Hatchett Creek basin, $300,000 for the Curry Creek basin, and between $15 and $20 million for the Island of Venice basin. Reviews of the flood insurance claims show that the properties most affected by flooding are Coastal areas near Roberts Bay and the Gulf of Mexico.

PAST STUDIES

A series of basin plan studies were conducted in 2002. These studies were used to evaluate flooding in areas other than the RL areas, and listed structures below the finished flood elevation. Past council meetings, public workshops and newspaper articles were also analyzed in preparation of this plan. Riverine basin studies were conducted by SWFWMD, funded by FEMA, and adopted by Sarasota County in 2009, and the City of Venice in 2010.

A study of portions of the Myakka River basin was completed by SWFWMD and, in December 2014, FEMA posted digital copies of the proposed preliminary Flood Insurance Rate Map and Flood Insurance Study report for Sarasota County. These maps and studies have been adopted by the City of Venice, and will become effective on November 4th, 2016.

NATURAL FLOODPLAIN FUNCTION PLANNING

Preservation of the natural function of floodplains and waterway systems is essential to reduce impacts from flooding. Open space also provides additional percolation of stormwater and reduces the quantity of runoff that could otherwise contribute to flooding. The Conservation and Open Space Element of the comprehensive plan has numerous policies which address the reduction of impervious surface areas, protection of native habitats, low-impact development site design practices, wetland and aquifer recharge areas protection, natural drainage and channels protection. These identified elements have been specifically identified with the intention of protecting and preserving these important resources.

Wetlands, as defined in Chapter 9J-5.003(149) of the Florida Administrative Code, can be found in the coastal areas, near the Myakka River, and near water tributaries such as

Curry Creek and Hatchett Creek. They provide an important role in reducing flooding through storage and natural functions. The City works in coordination with the Charlotte Harbor Estuary Program and other state entities to protect the wetlands within City limits. Approximately 13% of the City is categorized as a wetland, water body or drainage right of way.

In the ICW, slow speed areas protect the Florida manatee. The ICW connects to bays that are important for marine food source, fish habitat, and waterfowl nesting. Mangroves can be found along water areas throughout the City of Venice. The Mangroves provide erosion protection, water buffering, as well as filtering out upland pollutants. Mangroves are specifically protected through the FDEP.

The City's beach and sand dune system is very important for the protection of upland infrastructure and buildings, and also to support our tourist economy. These areas are habitat for scrub jays, sea turtles, and gopher tortoises which are common along our coastal areas. The City works diligently with the FWC, Mote Marine, and other agencies and non-profit organizations to protect the endangered species, while maintaining a level of service to our residents and visitors through education and code enforcement.

Federal, state, county and local regulations provide combined protection of the natural floodplain function. Army Corp of Engineers, Fish and Wildlife Commissions, FDEP, and SWFWMD all regulate development within wetland and natural watery ways including the protection of wildlife, coastal environment, native vegetation and natural function of the water way and adjacent system. Sarasota County also has regulations that are adopted within the city to protect natural vegetation systems, such as trees and mangroves, and protected species, such as the manatee protection program. Section 98-34 of city code requires that all permits from these agencies be provided prior to construction to verify that these requirements are enforced. In addition, Chapter 98 of city code limits development within the floodway and Section 86-233 requires that lots and street be designed to maximize the preservation of natural features, trees, tree masses, unusual rock formations, watercourses and site which have historical significance.

PRE-DISASTER PLANNING

In 1994 the City developed a study entitled "Creating a Hurricane Tolerant Community" (HTC). The HTC: reviewed the geography of the community as it relates to hurricane impacts; offered solutions to address potential disaster problems before a hurricane occurs; and found a need for strengthened communication and education efforts. In 1994 the HTC was approved by the State as the City's Pre-disaster Redevelopment Plan, in order to reduce damage and prevent catastrophic hurricane damage to the community.

In addition to the HTC, Venice also maintains a Comprehensive Emergency Management Plan (CEMP), which is updated annually. The city coordinates its disaster management practices with Sarasota County Emergency Management under the LMS. The purpose of the LMS is to coordinate with participating jurisdictions to identify and prioritize projects and initiatives that are mitigating in nature. A mitigation project is defined as having elements that reduce the natural hazard impact to the community. Sarasota County and

each municipality within the County - the cities of North Port, Venice, Sarasota, and the Town of Longboat Key, have approved the plan. The project list for 2016-2017 has been updated for incorporation into the LMS and is attached as Appendix D.

POST DISASTER PLANNING

Flooding can have hazardous post-disaster conditions. The major features of flooding that impact the extent of damage are the flood depth, duration, and contaminant type and concentration in the flood water. Standing water and prolonged dampness provide breeding grounds for bacteria, viruses, mold, dust mites, mosquitoes, cockroaches and rodents. These can cause disease, trigger allergic reaction, and continue to damage materials long after the flood. The effects on common building materials come during and after the flood.

In 2015 the City coordinated with Sarasota County on the preparation of a Sarasota County Post Disaster Redevelopment Plan. As part of the planning process the City held meetings with representatives from outside agencies, including the Red Cross, SWFWMD, FDEP, Florida Fish and Wildlife (FWC) and the Charlotte Harbor National Estuary Program. The representatives provided input and support to the City's long-term comprehensive plan goals and objectives.

OUTSIDE FUNDING SOURCES

The city acted as a participating technical partner with SWFWMD to complete a FEMA funded riverine and LIDAR topographic studies for watersheds within Sarasota County. These studies were completed and forwarded by SWFWMD to FEMA for completion of the updated digital Flood Insurance Rate Maps (D-FIRMs). The updated D-FIRMs were evaluated by FEMA and issued as preliminary D-FIRMs in the spring of 2015. A 90-day protest and appeal period was made available to the public. The maps and Flood Insurance Studies have been adopted and will become effective on November 4th, 2016. The updated maps provide aerial overlays of the flood zones over properties county-wide, to provide more accurate and easily read flood maps.

FEMA has initiated a study of the Coastal A zones to evaluate the impacts of storm surge on coastal properties. The identification of Coastal A zones allows for better identification of flooding risks for coastal properties. Upon completion, the digital FIRMs will be updated to incorporate Coastal A zones as appropriate.

Beach erosion and coastal surge impacts are two hazards faced by the City of Venice. Beach re-nourishment is completed on a regular basis and reef placement was conducted in 2005 to provide protection for life and property adjacent to the beach. In 1995 the City entered into a 50-year funding agreement with the U.S. Army Corps of Engineers (USACE) to re-nourish the beaches every 10 years until 2035. Funding participation for this important project is also provided by the FDEP. The most recent beach re-nourishment was completed in 2015. The next beach re-nourishment project is scheduled for the winter of 2024-25. Completion of the re-nourished beach provides the first line of defense to storm surge and coastal erosion impacts to coastal properties.

The Federal Disaster Mitigation Act of 2000 (DMA2000) requires all local agencies in the country to adopt a federally approved Multi-Hazard Mitigation Plan in order to receive post-disaster funds. The City of Venice complies with this requirement through our multi-Hazard, Multi-Jurisdictional, LMS Plan with Sarasota County, and the cities of Sarasota, Northport, and the Town of Longboat Key.

The FEMA Hazard Mitigation Grant Program (HMGP) provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Using HMGP funds, the Venice Community Center was hardened to meet hurricane standards and upgraded for use as a special needs shelter. The Venice Community Center generator project was completed in 2013 as an HMGP project. Hurricane shutters were installed on City Hall as a past HMGP project, and the Venice Avenue Drainage project, which provided upsizing of the stormwater system and additional storage during rain events, was completed to protect an important evacuation route and to protect adjacent properties from flooding impacts. Funding was provided through FEMA HMGP grants and the FDEP. The Westgate Drainage project is under construction using an HMGP grant.

In addition to regularly meeting with the Countywide CRS Committee, the City periodically discusses mitigation strategies with Sarasota County, the SWFWMD and FEMA. Additionally the City occasionally receives mitigation funding through grants or Capital Improvement Programs (CIPs) from these same agencies.

MITIGATION POLICIES AND PROCEDURES

Mitigation Strategy

The City of Venice participates with Sarasota County in preparing and implementing a Local Mitigation Strategy (LMS). The purpose of the Countywide LMS is to establish a mitigation plan to reduce disaster losses that may cross government entities. The list combines pre-disaster and post-disaster mitigation projects. All types of mitigation projects are covered, and are not limited to flooding. For the purpose of this Floodplain Management Plan, only the flood related goals and objectives are addressed here:

LMS Work Group Goals

1. Reduce Structural Flooding
   The City will continue to assess RL areas and find ways to decrease the impact of riverine and coastal flooding through Capital Improvement Projects (CIPs).
2. Reduce Flooding on Major Roadways
   The City will construct projects that reduce flooding to major roadways and evacuation routes
3. Preserve Natural Habitats
   a. The City will undertake projects that reduce impacts to natural habitats while controlling flooding.

   b. The city will minimize developments in floodplains and wetlands.
4. Protect People from Flooding
   a. Ensure residents, visitors, and businesses are given adequate warning of flood potentials.
   b. Plan projects that protect lives and property.
5. LMS Plan
   The City will work with the LMS Working Group to adopt, routinely update and implement the LMS Plan.

<u>LMS Work Group Mitigation Planning</u>

1. The LMS work group will evaluate and review ongoing mitigation practices as stated above.
2. The LMS work group will ensure that public funds are used in the most efficient manner by:
   a. Evaluating and prioritizing mitigation projects, starting with those sites facing the greatest threat to life, health and property.
   b. Utilizing public funding to protect public services and critical facilities
   c. Utilizing public funding for projects on private property, where the benefits to the community exceed the cost.
   d. Determining ways to maximize the use of outside funding sources.
   e. Maximizing owner participation in mitigation efforts to protect their own properties
   f. Encouraging property owner self-protection measures in preparing for storms and other hazards.
3. The Repetitive Loss area will be evaluated:
   a. All property owners in the RL area shall be advised that an analysis will be conducted, and their input requested, on the hazard and recommended actions.
   b. The City will coordinate with agencies or organizations that may have plans or studies that could affect the cause of impacts of flooding such as the SWFWMD mapping, FEMA D-FIRM update and FEMA Coastal A Risk mapping.
   c. Each building in the RL will be visited and basic data collected. Protection measures, or drainage improvements, will be reviewed to determine whether alternate approaches are feasible.
   d. The findings of the review will be documented, with a separate analysis for each area.
   e. An annual evaluation of the RL activities is to be conducted, with an update of the RL areas every 5 years.

<u>City of Venice Current Mitigation practices</u>

The City of Venice continues activities in the following mitigation practices: Preventive Activities; Property Protection; Emergency Services; Structural Projects; Natural Resource Protection, and public outreach through the Program for Public Information (PPI).

1. Preventive Activities

Preventive Activities keep flood problems from getting worse. The use and development of flood-prone areas is limited through planning, land acquisition or regulation. Preventive activities are administered by Building, Planning & Zoning and Engineering Review.

The City has adopted codes that require new and substantial improvement to meet a higher regulatory standard than that required by the CRS, and thereby reduce the potential for flood risks. The higher standard is comprised of riverine model adoption, a requirement to elevate the structure 15 inches above the crown of the adjacent road, 10-year cumulative evaluation for substantial improvement, velocity zone certifications by a FL licensed engineer, non-conversion certifications for elevated construction, and post-development volume and rate requirements to reduce downstream and upstream impacts. Section 98 of the City Code was also updated to meet required Florida Building Code requirements, and to verify compliance with FDEM models.

Flood zone determinations are completed by a Certified Floodplain Manager (CFM), and a comprehensive evaluation of the available resources is completed to verify both the FIRM and the regulatory finished floor elevations. As part of the flood zone determination process, residents are provided information about flood zone, FIRM, minimum required finished floor, higher regulatory standard, adjacent flooding, repetitive loss areas, flood insurance, natural systems and coastal protection zones. The flood zone is designated for regulatory purposes to be the more conservative of the FIRM or the adopted floodplain riverine studies that have been transmitted to FEMA for incorporation as part of the digital map update program (D-FIRM). In addition to requiring compliance with the proposed flood zone elevations based on the model results, the city also conveys information about the additional 15” above crown of adjacent road that must also be met to comply with city code for new construction and substantial improvement.

Coastal areas are enforced by regulation from the NFIP and the Coastal Barrier Resources Act (CBRA). The Coastal Zone Protection Act of 1985 dictates the distance that structures can be located, based on the Coastal Construction Control Line (CCCL) as approved by the state on July 18, 1978. City Code also regulates development in the coastal high-hazard areas, or V-zones, as defined by the FIRM. Permitting is based on the Flood Zone Map of the Adopted Regulatory Floodplain as shown in Appendix C, Figure 1.

Construction permitting requires an approved permit from the SWFWMD. All redeveloped lots with elevated structures must have a Stormwater Site Drainage Plan certified by a Professional Engineer. All sites are required by the City to provide a yearly site inspection report verifying that privately owned stormwater management systems are operating as originally designed, and receiving appropriate maintenance. Any sites that are neglected or not in compliance are reported to SWFWMD and brought to the City’s code enforcement board for enforcement.

The State of Florida addresses coastal development in the Florida Statutes through implementation by the FDEP rule 62B-33 Florida Administrative Code. The statute

establishes a Coastal Construction Control Line (CCCL) wherein development seaward of the line is subject to FDEP review to ensure that Coastal construction minimizes the adverse impacts to beach-dune systems and adjacent properties and is designed to meet hurricane resistant building standards. An Erosion Control Line (ECL) has also been established along the Venice shoreline that further limits potential structure construction. Extensive review of all building permits proposed seaward of the CCCL or ECL line is conducted by FDEP Beaches & Coastal Systems to verify compliance with the stringent state administrative code. (City permit require and approved CCCL permit or exemption prior to approving building permits for properties located seaward of the CCCL.)

All construction must conform to the latest adopted Floodplain Ordinance, Engineering Design Standards, Subdivision Regulations, Zoning, and all other applicable city codes. These regulations, include setback requirements, special infrastructure design, and prohibited uses. Further evaluation from SWFWMD related to floodplain compensation natural system impacts and post-development stormwater regulating increase the effectiveness of the City codes. The USACE further reviews impact to protected wetlands, and the FWC and FDEP review impacts to protected species.

Open space preservation is addressed in the City's 2010 Comprehensive Plan. The Comprehensive Plan has identified that the City will maintain a minimum of 7 acres of dedicated or designated park per each 1,000 functional population. Subdivision regulations require a certain amount of open space within developments that have reduced lot size (30% for cluster housing, and 50% for townhouses). Preservation Open Space enhances the natural function, reduces stormwater run-off, provides recreation and protects wildlife.

2. Property Protection Activities

Property protection flood insurance flood activities are achieved through public information notices and personal discussions with potential and existing property owners. Twice annually, a flyer is mailed to all residents that receive a utility bill informing them of the flood hazard in the area and encouraging flood insurance purchase. As part of hurricane and flooding awareness, information is provided to residents through the Venice City E-News and posted on the City website in May of each year. Property owners in the repetitive loss area are notified annually by mail of their options for flood insurance, retrofitting, mitigations and flood preparation.

Education opportunities for realtors and insurance agents are accomplished through public speaking engagements and mailings. In addition, mandatory floodplain handouts detailing the flood insurance requirements for properties within the SFHA along with numerous FEMA brochures are provided at numerous locations including the Engineering Department, City Hall lobby, Venice Public Library, and distributed in bulk to area Board of Realtors and Insurance Agents. Disclosure brochures are provided to real estate agents to alert potential buyers of floodplain impacts and insurance needs.

Structures in the SFHA, at 601 LaGuna Drive and 833 Madrid Avenue, were voluntarily demolished between October 2015 and September 2016. The structures had a finished

floor elevation (FFE) below FEMA regulations. These structures were replaced by the property owners with compliant structures sufficiently elevated to meet the minimum FFE and reduce potential flood losses.

3. Emergency Services

Hurricanes, with their associated flooding potential, are the most common large-scale emergency situations that the city must prepare for. The Sarasota County Department of Emergency Management is the responsible authority for developing and administering hurricane preparedness planning through the Comprehensive Emergency Management Plan. The plan establishes uniform policy and procedures for coordination throughout the county and with all local governments in county limits. Select officials from the City of Venice are stationed at Sarasota County Emergency Operations Center (EOC) during emergencies. The Sarasota EOC operates through a technologically advanced system. The EOC has access to on-line meteorological services, is equipped with an emergency satellite communication system, and can deliver television feed to area communities.

The City is partner in a statewide mutual aid agreement for catastrophic disaster response and recovery. If mutual aid is deemed necessary, the city attorney will review and present to City Council specific requests. Mutual aid can also include cooperation from federal entities.

Depending on the seriousness of the emergency, the City of Venice incident commander may choose an alternate local site for the emergency operations center (EOC) from a number of mobile or fixed locations. This choice would be more likely for a localized rain event than a county-wide hurricane event.

Every year, prior to hurricane season, the City of Venice, conducts a free hurricane seminar for the public. The seminar is advertised through press releases to the local media, by local stakeholders, on the City website, and in the Venice City E-news.

Prior to the arrival of a storm, the City of Venice Police Department and the Sarasota County Department of Emergency Management are charged with notification and orderly evacuation of citizens and visitors in the affected zones, and establishing and monitoring evacuation routes. The CodeRED© system is put into place at this time as well, notifying residents and visitors of evacuation. Alerts are also sent to, and issued by, the National Weather Service and through NOAA weather radio alerts. Residents and visitors that are told to evacuate are encouraged to find the shortest route to the closest open public shelter. Links to evacuation maps are on the City website, they are advertised throughout the year – especially prior to hurricane season – and at the annual hurricane seminar. Annual readiness training and drill are completed in conjunction with Sarasota County to assure the city is ready to respond prior to and following any hurricane, flood or other emergency event.

In the event that there is proper warning time before a storm, residents are advised to protect their property from potential wind or flood damage. This advice is reiterated in annual mailings to utility customers and at the annual hurricane seminar.

In August 1998, Sarasota County Emergency Management Department completed installation of an Automatic Rainfall Management System (ARMS), a virtual weather system that is linked to a satellite system and ultimately provides a picture of how much rain will fall in a specific area. There are 53 gauges in the network. The gauges function as an early warning system for storm related coastal surges and riverine flooding. There is a link to these real-time gauges on the city website.

The city has the capability to interact with our own and other agencies though an 800 MHz Truck Radio System. With this system in place, communication between city police, public works, utilities, and emergency vehicles are possible. All city department directors and supervisors also carry cell phones and are able to communicate as long as towers are still standing.

The Southwest Florida Regional Planning Council completed a Hurricane Evacuation Study in 2010. It includes information such as shelter listings, evacuation routes, and clearance times. The Study also included updated Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model. The SLOSH model includes mapping that shows hurricane surge limits for all county residents. The study can be found at http://www.swfrpc.org/evac_study.html.

4. Natural Resource Protection Activities

In 2009 the City acquired a 10-acre abandoned cement plant property along Hatchett Creek near the ICW. This property was reclaimed as open space and is now Legacy Park. Concrete debris and invasive species were removed to allow restoration of the natural state including wetland restoration. The site had several structures with finished floors below the required minimum elevation within the SFHA that were vulnerable to flooding. These structures were demolished and the area converted to open space, or replaced with compliant public restrooms, picnic pavilions, a multi-use trail, playground, and parking amenities, to allow this area to function as a public recreation area.

The Venice Avenue Drainage project was completed in 2010. As part of this project, the City acquired a 1.43-acre site with an existing commercial structure with a finished floor below the required minimum elevation. The structure was demolished and a pond was created to increase stormwater storage and improve water quality prior to discharge to Hatchett Creek This site is now a pocket park with a sidewalk for residents to walk and bike around a stormwater pond that is home to numerous water birds and other wildlife. The community park has a shaded picnic area, benches and limited parking spaces, and is now better known as Ruscelletto Park. The larger combined Venice Avenue Drainage Project increased the capacity of the stormwater system to remove routine flooding within the critical evacuation route, and address the issue of street flooding that routinely threatened the commercial businesses along the corridor. This project was funded by SWFWMD and FEMA through a HMGP. Additional CIPs to protect vulnerable structures and evacuation routes have been included in the LMS project list, and the City will continue to look for funding opportunities to complete these high priority mitigation projects.

Venice Beach is re-nourished on a regular basis in order to establish a fixed dune and stabilized beach system to provide flood protection to the coastal community during storm surge events. The most recent beach renourishment was completed in 2015. Additionally the existing stormwater beach outfalls are regularly evaluated to look for opportunity to improve the function of the drainage system and to verify proper operation of the existing facilities. This project is being performed in partnership with the Army Corp of Engineers and the FDEP as funding partners. The next re-nourishment event is scheduled to be completed in 2024-2025.

Hatchett Creek Restoration: This natural waterway had become seriously clogged with silt and invasive vegetation. In order to restore the effective function of this waterway and to restore the creek's natural function, the silt, exotic and overgrown vegetation and debris were removed. Native vegetation was planted to reestablish the natural ecosystem and secure the shoreline.

Impacts to wetlands are reviewed as part of the construction plan process implemented by the Engineering department. The process ensures proper mitigation and evaluates natural floodplain function impacts. In addition, tree permits through Sarasota County Natural Resources are required prior to removing existing trees, and wetland impacts are evaluated by SWFWMD with mitigation required, if applicable The City also participates in the Charlotte Harbor National Estuary Program to restore and protect natural estuary systems in the region.

5. Structural Projects

The One-Cent Voted Sales Tax, approved by city voters, funds many major structure projects. Additionally, stormwater projects are funded through the Stormwater Enterprise Fund and often supplemented with different grant programs such as FEMA HMGP, SWFWMD and State grants. The available funds are dispersed to prioritized and ranked projects in the city annual budget approved by the City Council. Projects placed on the LMS project list are reviewed and ranked by the LMS Work Group.

a. Structural Projects: There are no structural projects currently in progress.
b. Other Improvements: A comprehensive evaluation of the stormwater management system is underway. Through this assessment, in conjunction with the adoption of the D-FIRMS, the city intends to expand the capital improvement program with a priority of more effective stormwater system operation and flood reduction. Currently, funding is allocated from the Stormwater Enterprise Fund to respond to on-going system maintenance needs.

6. Post Disaster Mitigation

Mitigation from flooding and other hazards such as wind, fire or surge is handled on a county wide basis. Sarasota County Emergency Management is the primary agency charged with post-disaster mitigation assessment.

a. The Emergency Management Chief or designee has the primary responsibility for assessing mitigation needs in the post-disaster environments. The Sarasota

County Property Appraiser, Sarasota County Public Works Business Center, Sarasota County Planning and Development Business Center and Municipalities are the supporting agencies that work closest with Sarasota County Emergency Management in post-disaster mitigation assessment. There are, however, a number of other local agencies that may indirectly support mitigation in Sarasota County. These agencies are listed in the Sarasota County CEMP, Annex II, Exhibit 1.

b. Sarasota County Emergency Management serves as the coordinating organization for all post-disaster mitigation activities. Local agencies involved in these operations will vary according to the specifics of each event. Emergency Management staff will contact all agencies for post-disaster mitigation activities and notify them as to their role in these operations. Notifications can be made via telephone using the Sarasota County Emergency Management Notification Directory located in the EOC. In addition, many of the agencies will be active in the response phase of a disaster and maintain representation in the EOC as post-disaster operations are escalating. The Sarasota County Emergency Management Chief or designee will be responsible for coordinating mitigation activities with the municipalities and the State EOC. The City Managers or designee will be updated throughout the response, recovery and mitigation phases of the event. During non-event periods, meetings will be held quarterly or as required. During events, briefing meetings will be held daily or as determined based on the situation.

c. Emergency Management will notify all supporting agencies required for mitigation assessment operations; coordinate all activities required to identify potential mitigation projects and initiatives, assist in the application process for mitigation related grants; and may serve as the grant administrator for all mitigation grants when required. The Emergency Management Chief or designee also serves as the point of contact for providing information to residents of the county describing how they can minimize damage from future disasters. Priority will be also given to identifying mitigation opportunities for any public infrastructure damaged by the disaster. These mitigation measures are eligible for funding under the Public Assistance grant program. The Emergency Management Chief or designee will coordinate on an as needed basis with the Bureau of Recovery and Mitigation at the Florida Division of Emergency Management. Although Sarasota County Emergency Management does not have any formal agreements with agencies to assist in post-disaster mitigation activities. There is an annual agreement in place with the Southwest Florida Regional Planning Council to coordinate mitigation planning activities. Local agencies within the county have historically worked together as needed in the aftermath of disasters.

d. The Sarasota County Property Appraiser will support the Sarasota County Emergency Management by providing technical expertise regarding property values, damages and losses to properties as a result of a disaster.

e. The Sarasota County Planning and Development Business Center along with the similar municipal departments will provide support to Emergency Management in identifying mitigation activities that could reduce the vulnerability of public infrastructure, businesses and housing stock to damage and loss from natural and manmade disasters.

f. The Sarasota County Public Works Business Center and the Municipal Public Works Departments will assist the Emergency Management in identifying potential road, bridge, culvert and water and sewer mitigation projects.
g. Emergency Management will serve as the organization responsible for coordinating mitigation activities for lead and support agencies. The Sarasota County Emergency Management Chief or designee is the person responsible for this task. In Sarasota County, much of the work involved in identifying opportunities for possible mitigation activities is carried out during the pre-disaster mitigation phase (e.g. during the mitigation project identification process carried out by the Sarasota County LMS Work Group). Opportunities for mitigation are also discovered during the initial and preliminary damage assessments and throughout the public assistance processes. The supporting agencies noted above document damage to public infrastructure, businesses and residences working in conjunction with Emergency Management. The Sarasota County LMS Work Group, along with input from supporting agencies, then considers the information gathered during the recovery phase and determinations are made regarding potential mitigation projects.
h. The Sarasota County Emergency Management Chief will be responsible for coordinating all equipment and resources necessary for mitigation assessment are available when needed.
i. Vehicles used for mitigation assessment include city and county government vehicles, fire department vehicles and personal vehicles.
j. The following equipment is provided by Emergency Management and used for mitigation assessment: office supplies, maps and disposable cameras. Other resources may be requested on an as needed basis through Emergency Management.
k. Equipment, vehicles and supplies necessary for mitigation activity are located throughout the county either in stations, assigned to individual personnel or readily accessible to department personnel.
l. Personnel involved in mitigation activities will receive on-going training according to their individual needs. Sarasota County Emergency Management will work with all mitigation assessment team members to ensure that all training needs are met. The primary source for mitigation training is the Florida Division of Emergency Management.

LMS Work Group Action Plan

Sarasota County Emergency Management is the lead agency for all mitigation activities in the county. The emergency management chief, or designee, has responsibility for monitoring all pre-disaster and post-disaster mitigation activities, and for coordinating mitigation activities with the Sarasota County LMS Work Group.

The Sarasota County Emergency Management Chief, or designee, will be responsible for coordinating mitigation activities with the municipalities and the State Emergency Operations Center (EOC). The City managers of the City of North Port, City of Sarasota, City of Venice, and the Town of Longboat Key, or their designees, will be updated through the response, recovery, and mitigation phases of the event.

The Venice portion of the LMS Action Plan is attached as Appendix D. It is extracted from the LMS Strategy for 2016-2017, and publicly available at: https://www.scgov.net/AllHazards/Pages/LocalMitigation.aspx

FLOODPLAIN MANAGEMENT ACTION PLAN

This Floodplain Management Plan seeks to incorporate the best available information from all City resources and preventive activities. The action plan is listed below in Table 2.

Table 2: FMP Action Plan

Action Item	**Goal 1.** Protect Critical Facilities and Utilities	**Goal 2.** Protect Lives and Health	**Goal 3.** Protect homes, Businesses and Schools	**Goal 4.** Minimize the costs to the	**Goal 5.** Ensure that New Construction Supports these Goals	**Deadline**
Administrative Action Items						
Plan Adoption						9/30/2016
Plan Update						8/01/2016
Monitoring and Reporting	X	X	X	X	X	9/30 annually
Community Rating System	X	X	X	X	X	Each CRS visit
Program Action Items						
Drainage Improvements	X	X	X	X		Ongoing
Drainage System Maintenance	X	X	X			Ongoing
Property Protection Funding	X	X	X	X		Ongoing
Regulatory Review	X		X		X	Ongoing – at each committee meeting
NFIP Administration	X	X	X	X	X	Ongoing
CFMs	X	X	X	X	X	Ongoing
BCEGs	X	X	X	X	X	Ongoing

Flood Response Plan	X	X	X	X	X	Ongoing
Annual Mailings		X	X		X	Various, throughout the year
Technical References		X	X		X	CRS Visit
Public Information Items						
Public Information Projects		X	X		X	Ongoing
Public Information Messages		X	X		X	Ongoing

PROGRAM FOR PUBLIC INFORMATION

PLAN DEVELOPMENT:

The CRS Committee met 7 times in August and September, 2014, to develop the Program for Public Information Plan in conjunction with the Floodplain Management Plan. Steps taking during the development process are outlined in the meeting agendas, minutes and resolution adopting the CRS Committee in Appendix B. During the development process, review comments were received from Janice Mitchell, Insurance Program Specialist, FEMA Region IV, and through the Community Rating System review process. Based on comments received then and since, this plan has been updated to include additional documentation and clarification of the processes followed in completing the Floodplain Management Plan. In addition, the Program for Public Information and Coverage Improvement Plan were incorporated into the Floodplain Management Plan for clarity and more efficient monitoring of program goals and accomplishments.

PLAN GOALS

The goal of the Floodplain Management Plan is to raise awareness in the community about local hazards, flood insurance, mitigation, and other flood related issues. In addition to addressing floodplain management issues, the Floodplain Management Plan incorporates the Program for Public Information and flood insurance Coverage Improvement Plan into one document to provide a coordinated effort. The intent of the program is to provide effective messages and complete projects that assist the public in protecting themselves from the hazards of floods through increased education, flood insurance protection, and mitigation of potential flood risk. With guidance of the Community Ratings System Coordinator's Manual, 6 priority and 4 additional messages with local relevance have been identified to be delivered. These are shown in Table 3 below:

Table 3: PPI Plan Goals

Number	Topic	Message	Desired Outcome
1	Know Your Hazard	Check to see if you live in the SFHA	Increased awareness about local flood hazards, especially as it pertains to the individual and their property.
		Flood Zone Assistance available at City	
		Difference between riverine and surge flooding	
		Localized flooding information	
		Insure your property for your flood hazard	
2	Buy Flood Insurance	Homeowners insurance does not protect against flood damage	Increased number of flood insurance policies throughout the City, in both the SFHA and Non-SFHA.
		CRS discounts available	
		30 day waiting period	
3	Protect People from the Hazard	Do not walk through flowing flood-water	Increased awareness about flood related hazards, resulting in reduction of flood related injuries.
		Do not drive through flooded areas	
		Stay away from power lines and electrical wires	
		Have electricity turned off if property has been flooded	
		Watch your step – look out for animals and harmful insects in flood waters.	
		Be alert for gas leaks	
		Do not enter a building that has been flooded, until it has been cleared for re-entry by an inspector	
4	Protect Property from the Hazard	Keep driveway culverts clean and free of obstructions	Reduction in flood insurance claims and Substantial Improvement/Substantial Damage permit requests.
		Report ditch blockages to City Public Works Dept.	
		Retrofit your property: Re-grade or elevate structure	
		Elevate air handlers, electrical boxes and water heaters	
		Make sure your downspouts are clear and directed away from the house	
		Mitigation grants are available	

Number	Topic	Message	Desired Outcome
5	Build Responsibly	Check with Building Dept. before initiating construction or altering grades, to see if permit is needed	Increased understanding of local laws and ordinances governing construction, leading to a reduction in Code Enforcement citations
		Report un-permitted construction	
6	Protect Natural Floodplain Functions	Keep drainage area free of debris	Increased understanding of floodplain functions, and of local stormwater regulations, resulting in fewer Code Enforcement citations.
		Do not dump or throw anything into ditches, inlets or streams	
		Limit use of fertilizers	
7	Hurricane Preparedness	Know your evacuation zone	Increased awareness of the need for hurricane preparation, resulting in better prepared citizenry during an evacuation, and expedited insurance claims in the case of a flood event.
		Inventory and photograph your home and contents, and store with insurance and important documents in a safe place	
		Create a safety plan, with a checklist of steps to take before, during and after a hazard	
		Attend the annual City sponsored Hurricane Preparation seminar in May	
8	General preparedness	Register for CodeRED© early warning notification system	Increased awareness of the need for hurricane preparation, resulting in better prepared citizenry during an evacuation and expedited insurance claims in the case of a flood event.
		Tune into local TV and radio channels for flood notifications, or purchase a weather alert radio	
9	Elevated and Flood-vented Properties	Keep flood vents open and unobstructed	Reduction in flood insurance claims and Substantial Improvement/Substantial Damage permit requests.
		Non conversion statement for areas below the required minimum finished floor	
10	Flood Education.	Teach children about flood safety and your safety plan	Increased awareness of flood safety resulting in better prepared citizenry during an evacuation, and reduction of flood related injuries.

It is important for these messages to be tailored to meet the local conditions and the appropriate target audience. Public outreach information must be reviewed and evaluated to verify that it is effectively reaching the targeted audience and provides clear messages which are more likely to change behavior. Understanding these important priority and additional messages is critical to improving the accuracy of the perceptions of the risks as they relate to flooding and other hazards. Through accurate education, residents have an opportunity to make informed decisions and effective measure to protect life and property. This plan will seek to build on those messages and add additional, locally pertinent ones as necessary. For example, additional priority outreach messages were sent as the digital flood maps were prepared, released and adopted within the city. Outreach messages will be sent as FEMA prepares and releases, and the City adopts, the Coastal A Zone maps. These outreach messages need to be sent out in various formats and repeated through-out the year to reach the largest audience.

Target audiences were identified through discussion in the committee meeting by determining which areas would most benefit from different messages. Repetitive loss areas (Target Area #1) were identified as a high priority due to the close proximity of the Gulf of Mexico and the potential impacts of storm surge. During evaluation, groups that had interaction with property owners such as insurance agents, homeowner association and realtors were identified for targeted outreach because they had a larger opportunity to interact with the public and it was important that they provide accurate and well informed information. Messages will be tailored to each group and are summarized in table 4 below.

Table 4: PPI Target Audiences

Target Group	Message
Repetitive Loss areas	• Flood protection Information, annual City mailing. • Mapping information and flood zone information available from City Engineering Dept. • Prepare for flooding (CodeRED©, utility shut-off recommendations, evacuation planning, household inventory, education to children) • Permanent flood protection measures (mark fuse box for floodable areas, elevating structure, protect entry points, check downspouts) • Financial assistance available for retrofitting (contact Engineering Dept. for information). • Importance of flood insurance – (30 day waiting period, homeowners insurance does not cover flood, buy contents insurance) • Protect natural floodplain function (don't dump, silt fences at construction sites)

Target Group	Message
Homeowners Associations	• Causes of flooding • Buy flood insurance – homeowners insurance does not cover flood losses • Flood protection • Flood Safety • Financial assistance for mitigation • protect natural floodplain function • Flood zone assistance from city Engineering Dept.
Realtors	• City flood hazard flyer "Before you Buy" provided to realtors (flood zone information, flood safety, flood prevention, floodplain regulations, and flood insurance)
Insurance Agents	• FEMA brochure F-638 to provide accurate information regarding flood insurance

OUTREACH ACTIVITIES

The PPI schedule is attached as Appendix E. The PPI Outreach worksheet is attached as Appendix F.

Public outreach efforts currently include:

1. The CRS Committee was formed in August 2014 and met 7 times in August and September to provide input related to development of Updated Floodplain Management Plan including Program for Public Information and flood insurance Coverage Improvement Plan sections. The CRS Committee combines the staff expertise from the city building code, floodplain management, planning & zoning and public information with input from the insurance, real estate, construction, business and financial lending fields. Input from the general public was also included and opportunities to attend the meetings were published. Quarterly meetings of the CRS Committee will be conducted and are tentatively scheduled for November, February, May and August to review the effectiveness of the current public outreach and coverage improvement efforts and recommend improvements or additions to the program. The CRS Committee will also conduct an annual evaluation/update of the existing plans with a formal update of the plans completed every 5 years. Documentation of the CRS Committee activities are included in Appendix B.
2. A pamphlet called "Understanding Stormwater and the Environment" which encourages residents to limit fertilizer use, water lawns on appropriate days, and be aware of illicit discharges into the stormwater system to protect natural function. The city published this in concert with a requirement of the National Pollution Discharge Elimination System (NPDES) permit program. This publication is available at the city Engineering Department and is distributed with the utility bills to all residents once a year.

3. The city periodically recruits volunteers to label inlets to reduce dumping into the waterways to protect natural function through education.
4. The city's newsletter contains an article once a year that informs residents of the importance of the stormwater system and how they can do their part to maintain it to reduce flooding due to blocked inlets or drainage canals/swales and protect natural function.
5. Twice a year, a flyer is mailed with utility bills to educate residents on flooding, the federal flood insurance program, and flood safety. A copy of the Flood Protection Information provided to all residents is included in Appendix E.
6. A "Flood Hazard – Check Before You Buy" flyer is provided in digital format to the Venice Area Board of Realtors (VABR) for distribution to their members, mailed yearly to local realtors and copies are hand carried to VABR for distribution to their membership. This brochure is for the realtors to hand out to their clients to promote flood insurance purchase and due diligence as it relates to flooding for building purchasers.
7. A targeted public information flyer is also provided annually to property owners within the repetitive loss areas as illustrated in Figure 2. Repetitive loss areas were identified as a target audience to attempt to reduce impacts due to flooding for the residents and NFIP program. Message includes importance of obtaining flood insurance, protecting your property from flooding and mitigation grant opportunities. A copy of the letter to repetitive loss area residents is including in Appendix E.
8. Targeted outreach is provided periodically to homeowners' associations and other groups such as the Venice Area Board of Realtors or insurance agents. Homeowners' associations were chosen as a target area due to the opportunity to provide public outreach to communities through their homeowners' association. Information provided to the homeowners' association is then distributed to its members. The Venice Area Board of Realtors was chosen as an effective outreach to the real estate agents to improve knowledge about the importance of flood insurance and due diligence evaluation of potential flood risks to buyers and seller of properties. The insurance agents were chosen to improve knowledge regarding the importance of flood insurance and improve understanding of flood risks. Copies of letters sent to the Homeowners Association, Insurance Agents and Realtors are included in Appendix E.
9. News releases are submitted by email to the Public Information Officer for distribution to the news media, social media, Venice City E-News and posting on the city website once the most appropriate method of distribution is determined.
10. The city website is updated as needed with the assistance of the Building and Information Technology Departments. The website includes links to relevant publications, other governmental emergency agencies and information to assist the public with flood related issues. The website links are tested monthly and updated as needed.
11. Elevation Certificates (EC's) have been made available electronically on the city website. These certificates are posted upon submittal of the finished construction certificate and are listed by street address. Historical files were also reviewed and all available pre- and post-FIRM elevation certificates in the Building Department

records were uploaded to the website. New Elevation Certificates are also being attached, electronically, to building permits to provide more effective evaluation of substantial improvement requests.

12. A free hurricane seminar is conducted each May by the City of Venice. The hurricane seminar covers flood prevention, protection and insurance through a presentation by the City Engineer, a Certified Floodplain Manager. It is advertised through press releases, area stakeholders, Venice City E-News and the city website.
13. The Venice City E-News is e-mailed to residents and posted on the city website. It includes a hurricane edition that explains the evacuation process, preventive measures, flood safety, flood insurance, emergency numbers and a list of supplies that should be stocked in an emergency event. This same information is included on the city web site.
14. Once a year the following FEMA publication F-696(312) is mailed to area realtors to hand out to their clients.
15. Once a year the following FEMA publication F-217 is mailed to area insurance agents to hand out to their clients.
16. The following FEMA publications are available for distribution to all residents at the Venice library (main branch), the Engineering department, and City Hall Lobby.

Publication #	**Name**
F-025 (3/11	How the NFIP Works
F-061	Your Homeowners Insurance Does Not Cover Floods
F-084 (3/11)	Answers to Questions About the NFIP
F-217 (Rev 11/12)	The Benefits of Flood Insurance Versus Disaster Assistance
F-301	Top Ten Facts for Consumers
F-671 (10-12)	Know Your Risk
F-683	Why You Need Flood Insurance
F-684 (06/12)	Flood Preparation And Safety
F-687	Flood Insurance Claims Handbook
F-696 (3/12)	Help Protect Your Customer's New Home
F-697 (8/13)	Protect Your New Home
F-777/12340-1	Build Back Safer and Stronger

17. FEMA publication F-683 (see above) is available for all residents visiting the Building department.
18. The following Spanish literature FEMA publications are available for distribution to all customers at the Latino Grocery Store at Bird Bay Plaza:

Publication #	Name (Spanish Version)
L-186S	Nada podría arruinar el disfrute de su hogar ¿Si…?
F-684S	Preparacíon y seguridad en inundaciones
F-061S	Su Seguro de Vivienda de Residencia no Cubre Inundaciones
F-437S	Póliza de Riesgos Preferente
F-617S	Conozca su Riesgo
F-683S	Por qué usted necesita seguro de inundación
F-679S	Resumen de Cobertura

19. Periodic notices regarding the availability of FEMA publications are emailed to area Insurance Agents and Realtors.
20. FEMA Flood Insurance Rate Maps (FIRM) are available in the Engineering Department and at the Main branch of the Venice library. The flood zone boundaries can enable property owners, residents, developers, and insurance agents to determine what flood zone a specific property is located in. They can view these maps in person, or call and ask staff for information. Trained CFMs provide individual flood zone determinations and assist the public with determining the FIRM and the regulatory floodplains. Updated FIRM's are due to be released in spring 2015.
21. An interactive model showing the riverine model results and the related updated regulatory flood zones is available on the South West Florida Water Management District (SWFWMD) website. A link to this is on the City website by searching flood or on the Engineering Department website.
22. Special efforts are made to reach the non-English speaking outlets.
23. Additional outreach provided by Venice Area Board of Realtors (e-mailing out reminders regarding disclosure requirements and insurance information, Publix Supermarket (emergency preparation guide published), Florida Power & Light (web storm and flood information for homeowners and business), hurricane guides provided by local television and newspaper, Florida SERT, Floodsmart and Sarasota County Emergency Management which provide numerous outreach materials. Links to these excellent information sources are provided on the city's website and available printed copies of the materials are made available at City Hall and in the Engineering Department. Several of the publications are also available in the Venice Public Library.

RECOMMENDED IMPROVEMENTS

The following Public Information Activities are currently underway or to be implemented based on the CRS Committee recommendations:

<u>Public Outreach activities:</u>

1. Continue with the current public outreach activities as summarized in the 330 Outreach Project (OP) Worksheet included as Appendix F.

2. Coordinate with surveyors and insurance agents to provide Elevations Certificates to the city for recording and posting on the city website.
3. Determining whether it would be appropriate to approach realtors and lenders requesting that EC's be recorded with deeds.
4. Do more outreach to the HOA's through their professional organizations and affiliations.
5. Evaluate and discuss the possibility of HOA's becoming CERT trained.
   - Contact HOAs to see if they are interested in becoming CERT trained by annual letter to HOAs.
6. Evaluate and discuss the possibility of stakeholders becoming StormReady supporters
7. Coordinating with local media and professional organization to provide press releases or columns for their newsletters for specific stories and events
8. Researching having a counter on the flood section of the website to determine usage.
9. Doing more public events:
   a. Seek sponsors and geographically diverse venues throughout the city for maximum coverage.
10. Create the following maps, for both information and public outreach purposes, showing:
    a. Repetitive loss areas (Privacy Act protected – internal use only). – to assist in identifying target areas for outreach.
    b. Map highlighting properties coming into the floodplain when the new FEMA maps are released for outreach purposes Properties coming into the floodplain.
    c. An overview of areas within the floodplain with uninsured properties.
11. Determine better, more locally pertinent messages to raise the community awareness of flood hazards, insurance and mitigation.
12. Encourage increased flood insurance coverage as outlined in the Coverage Improvement Plan adopted by City Council and updated annually.
13. Provide outreach to reach the hearing/sigh impaired; non-English speaking and residents that are not in touch with traditional communication outlets such as computer based outreach.
14. Publicize the annual test of CodeRed© test. Prior to test, issue press release and publish on city website alerting residents to sign up prior to test. Provide telephone registration to reach residents without computer based access.

The above activities will be monitored by the CRS Committee and performed primarily by the Engineering department, in conjunction with whichever City department, outside organization and/or community stakeholder(s) that best fit the project. Funding for all city complete projects will be from the Engineering/Stormwater budget. All projects will be performed during the 2016-2017 CRS period and evaluated and revised prior to the updated Floodplain Management Plan being submitted on October 1st each year. In addition, the PPI will be updated annually with adoption by the City Council. The Outreach project worksheet is shown in Appendix F. The worksheet lists all of the planned annual projects, along with the department responsible for implementing the project, the messages to be relayed and the desired outcome, based on the goals of this Public Information Program.

EVALUATION METHODS

The CRS Committee will meet on a quarterly basis to discuss progress towards the goals of the Public Information Plan and will complete an annual update of the plan based on those evaluations including the following:

1. Committee will conduct an annual review of the outreach methods, evaluate the effectiveness of the material and number of residents reached. This will be accomplished by reviewing the documents, mailing lists and any public feedback received by individual members or at the public meetings.
2. Committee will review the outreach messages to see if any improvement are required to increase clarity of the message.
3. Committee will discuss additional or improved outreach messages that should be considered based on feedback received by the committee members from the public and their personal review of the documents.
4. Committee review of the outreach documents to determine if any should be discontinued and replaced with a more effect method.
5. Target public outreach will be evaluated to discuss any proposed improvements to the documents.
6. Committee will evaluate the Target Area Map and target group list to determine if additional areas should be added or revised.
7. Committee will discuss opportunities to improve the performance of the outreach based on committee members and the public input.
8. Was there a flood event this past year? Was the public effectively informed on how to protect themselves before, during and after a flood? Committee will evaluate if there has been any new flood events through-out the year that require specific outreach.

FLOOD INSURANCE COVERAGE IMPROVEMENT PLAN

FLOOD INSURANCE IN THE CITY

There are 11467 insurable structures within the City of Venice. Data provided by Federal Emergency Management Agency (FEMA) indicates that the City of Venice has 5,013 insurance policies in force as of September 14, 2014. Of this number, 3,689 are eligible for CRS premium discounts, they are the 3,118 policies located in the [i]Special Flood Hazard Area (SFHA) and the 571 policies in the X-STD/AR/A99 zones. The remaining 1,324 policies are considered preferred risk and are not eligible for CRS premium discounts.

The FEMA data lists an average premium of $605 in the SFHA, $435 in the X-STD/AR/A99 zones, and $415 for those policies written as preferred risk. The average flood insurance premium in the City of Venice is $536.

As a CRS class 6 community, insurance policy holders in the city of Venice are eligible for a discount of up to 20% on flood insurance premiums for policies purchased through the National Flood Insurance Program (NFIP). The number of policies for the surrounding communities, as of 9-14-14, is provided below:

Location	Number of Policies (2014)
Town of Longboat Key	10,836
City of North Port	2,138
City of Sarasota	8,407
City of Venice	5,013
Unincorporated Sarasota County	44,364

Table 5 below shows the number of insurable buildings by zone, as indicated on figures 1, 2 and 3, Appendix C. These figures are used for comparison with the FEMA supplied numbers of insurance policies by zone to determine which areas to target with flood insurance information.

Table 5: Insurance Buildings in the City of Venice

<table>
<tr><th colspan="4">Insurable Buildings
within the city of Venice</th></tr>
<tr><th rowspan="2">Flood Zone</th><th colspan="3"># of Insurable Buildings</th></tr>
<tr><th>Regulatory Map</th><th>Effective FIRM</th><th>DFIRM (Effective 11/4/2016)</th></tr>
<tr><td>A</td><td>1</td><td>216</td><td>3</td></tr>
<tr><td>A12 El.11</td><td>1302</td><td rowspan="6">1896</td><td rowspan="6">2182</td></tr>
<tr><td>A12 El.12</td><td>248</td></tr>
<tr><td>AE</td><td>1335</td></tr>
<tr><td>AE El.11</td><td>137</td></tr>
<tr><td>AE El.12</td><td>18</td></tr>
<tr><td>AH</td><td>45</td></tr>
<tr><td>B</td><td>4273</td><td colspan="2" rowspan="2">Included in X-shaded</td></tr>
<tr><td>C</td><td>4113</td></tr>
<tr><td>V16 El.13</td><td>1</td><td rowspan="3">17</td><td rowspan="3">21</td></tr>
<tr><td>V16 El.15</td><td>16</td></tr>
<tr><td>V16 El.17</td><td>0</td></tr>
<tr><td>X-Shaded</td><td>229</td><td>4761</td><td>302</td></tr>
<tr><td>X</td><td>1241</td><td>5064</td><td>9504</td></tr>
</table>

As of 08-10-2015, the most recent figures from FEMA - dated 5-31-2015, indicate 4834 policies within the City, with a total of $966,011,400.00 of insurance in force, and 5 substantial loss claims since 1978.

The number of insurance policies on post-FIRM buildings is 1476, almost 50% fewer than the 3358 policies on pre-FIRM buildings. This may be a result of FEMA requirements raising the required finished floor elevation (FFE) as pre-FIRM buildings were built at grade and are at greater risk of flooding. However, there remain a few non-conforming

buildings within the City and the City plans on tracking these in the future. Another contributing factor is the fact that, according to local realtors and lenders, 70% of home purchases in the City currently are cash purchases, lacking the mortgage requirement of flood insurance. As mitigation grants are only available for insured properties, the City realizes that this is another consideration when determining targeted outreach.

The policies, by occupancy, are shown in the following table:

Table 6: Insurance Policies by Occupancy

Insurance by Occupancy					
Occupancy	**Policies in force**	**$ Premium**	**$ Insurance in Force**	**Number of Closed Paid Losses**	**$ of Closed Paid Losses**
Single Family	1439	858,990.00	392,021,200.00	72	498,098.26
2-4 Family	311	227,728.00	44,653,.600.00	24	60,470.17
All other Residential	2925	1,245,567.00	460,215,400.00	79	398,392.29
Non Residential	159	34,041.00	69,121,200.00	24	136,635.13
Total	**4834**	**$2,673,326.00**	**$966,011,400.00**	**199**	**$1,093,595.00**
Condo	3299	1,492,839.00	511,440,330.00	69	406,256.49
Non Condo	1535	1,180,487.00	454,571,100.00	130	687,339.36
Total	**4834**	**$2,673,326.00**	**$966,011,400.00**	**199**	**$1,093,595.00**

Based on information from FEMA, a table of flood insurance policies by zone follows, and a map showing Insurable Buildings in the City, is included as figure 4 in Appendix D. The City is in the process of plotting the flood insurance policies, in GIS, in order to better evaluate which areas should be targeted for future outreach programs as well as determining the areas of the City most at risk for uninsured losses.

Table 7: Insurance Policies by Flood Zone

Insurance by Zone					
Zone	**Policies in force**	**$ Premium**	**$ Insurance in Force**	**Number of Closed Paid Losses**	**$ of Closed Paid Losses**
A01-30 & AE Zones	2961	1,895,152.00	511,976,400.00	98	539,511.72
A Zones	2	2,245.00	464,300.00	1	2,181.59
AO Zones	0	0	0	0	0
AH Zones	0	0	0	0	0
AR Zones	0	0	0	0	0
A99 Zones	0	0	0	0	0
V01-30 & VE Zones	21	22,588.00	2,226,600.00	55	318,056.72
V Zones	0	0	0	0	0

Insurance by Zone (Continued)					
Zone	**Policies in force**	**$ Premium**	**$ Insurance in Force**	**Number of Closed Paid Losses**	**$ of Closed Paid Losses**
D Zones	0	0	0	0	0
B, C & X Zone Standard	594	228,475.00	103,582,100.00	39	192,727.92
B, C & X Zone Preferred	1256	524,866.00	347,762,000.00	6	41,117.90
Total	**4834**	**$2,673,326.00**	**$966,011,400.00**	**199**	**$1,093,592.00**

PLAN DEVELOPMENT:

The CRS Committee was formed in August 2014 to provide input related to development of Updated Floodplain Management Plan including Program for Public Information and flood insurance Coverage Improvement Plan sections. The CRS Committee combines the staff expertise from the city building code, floodplain management, planning & zoning and public information with input from the insurance, real estate, construction, business and financial lending fields. Input from the general public was also included and opportunities to attend the meetings were published. Quarterly meetings of the CRS Committee will be conducted and are tentatively scheduled for November, February, May and August to review the effectiveness of the current public outreach and coverage improvement efforts and recommend improvements or additions to the program. The CRS Committee will also conduct an annual evaluation/update of the existing plans with a formal update of the plans completed every 5 years.

As outlined in Appendices A and B, the CRS Committee met 7 times in August and September to develop the Coverage Improvement Plan in conjunction with the Floodplain Management Plan. Steps taking during the development process are outlined in the meeting agendas, minutes and resolution adopting the CRS Committee in Appendix B. During the development process, review comments were received from Janice Mitchell, Insurance Program Specialist, FEMA Region IV, and through the Community Rating System review process. Based on those comments, this plan has been updated to include additional documentation and clarification of the processes followed in completing the Floodplain Management Plan. In addition, the Program for Public Information and Coverage Improvement Plan were incorporated into the Floodplain Management Plan for clarify and more efficient monitoring of program goals and accomplishments.

TARGET AREAS:

An evaluation was completed of the existing flood insurance policies within the city limits. These policies were reviewed for accuracy with any discrepancies regarding addresses forwarded to the NFIP for correction. The existing flood insurance policies were evaluated numerically to estimate the number of buildings that currently have flood insurance policies within the City. The mapping of the individual policy locations is in process by

the Engineering Dept. Since this document is protected by the Privacy Act, the general information regarding the policy locations was included in this report and to the CRS Committee. A second evaluation of number of building greater than 500 SF within the city limits were estimated by GIS to determine the total number of insurable buildings within the city limits. Based on these estimates, approximately 59% of building within the city limits are insurable, but for a variety of reasons, such as the high percentage of cash purchases, remain uninsured. This is especially concerning in high risk areas such as the coastal properties, low lying areas adjacent to Hatchett and Curry Creek and the identified repetitive loss areas.

Initial discussion by the CRS Committee set up a priority list for flood insurance coverage improvement target areas. Level of risk CRS Committee discussions combined with the existing policies written evaluation summary from city staff were used to set up an overall priority ranking for the existing insurable structures within the city. As illustrated in Figure 3, Insurance Information Target Map, the following priority ranking was established for the overall coverage improvement communication plan:

1. Repetitive Loss Areas (Shown tan with blue boundary) – Targeted mailings will be sent out annually to these areas to clarify the importance of flood insurance for the structure and contents.
2. Areas coming into the floodplain based on proposed draft map information (3 areas shown with red boundaries) – These areas received notification from FEMA prior to the raft D-FIRMS being issued. A targeted mailing was sent, by the City, to owners of properties coming into the floodplain when the DFIRMs were finalized. These residents currently receive information from our flyer mailed twice a year all residents that includes information regarding the importance of flood insurance for structure and contents.
3. Areas within the Special Flood Hazard Area (SFHA) or 100 year floodplain – After completion of the first year evaluation based on the insurance policy numbers and locations of policies is evaluated, additional targeted mailings will be provided in areas that are not showing improvement.
4. Areas outside the SFHA. – These residents currently receive information from our flyer mailed twice a year to all residents. The flyer includes information regarding the importance of flood insurance for structure and contents.

The SFHA consists of Zones A, AE, A1-A30, V, V1-V30, AO and AH.

The CIP project list is included in Appendix F.

DFIRM IMPACT ANALYSIS

The City received finalized DFIRMs in May 2016, with an effective date of 11/4/2016. Following is the Impact analysis:

Table 8: DFIRM Impact Analysis

Item	Newly Mapped into the SFHA	Removed from the SFHA	Remaining in SFHA
# Structures	556	1146	1723
# Parcels	791	2073	1976
# Accounts (such as individual units within a condo)	1806	2769	6676

PLAN GOALS

The goal of this flood Insurance Coverage Improvement plan shall be to:

1. Improve knowledge regarding the importance of flood insurance:
    a. Insurance training – The City Engineer and the Stormwater Engineering Research Analyst have both completed Parts I and II of FEMA Insurance Agent Training to increase knowledge regarding NFIP and effectiveness of technical assistance provided to residents, real estate agents, insurance agents and others who request technical assistance from the city.
    b. Twice year informational flyer sent to all residents and targeted mailings to homeowners' association, realtors and insurance agents as outlined above.
    c. Annual presentation was completed at the Venice Area Board of Realtors highlighting the importance of flood insurance, trying to clarify the myth "you don't need insurance," providing information that homeowners insurance does not cover flood and 30 day waiting period.
    d. Informational brochures are provided at City Hall, the city Engineering Dept., the Venice Public Library and via the City's website.
2. Increase flood insurance coverage throughout the city for homeowners, renters and commercial properties:
    a. Continue insurance related outreach activities included in PIP above.
    b. Stress the importance of needing flood insurance to reduce the "you don't need flood insurance because you are not in a flood zone" by providing flyer regarding required flood insurance and the impacts to the property owners in the event their property is flooded and they do not have flood insurance.
3. Look for opportunities to reduce flood losses to improve the sustainability of the flood insurance program.

EVALUATION METHODS

The CRS Committee will meet quarterly to evaluate the Coverage Improvement Plan portions of the Floodplain Management Plan. These reviews will be conducted to evaluate the effectives of the existing activities and to identify potential improvements for the program. Evaluation of the program will include a review of the outreach materials completed that quarter and proposed outreach projects for input from the CRS Committee and the public on the clarity and effectiveness of the materials. Annually, new insurance data provided by NFIP will be evaluated based on the previous year's policy information. The policy locations will be mapped into an exhibit to be used internally and protected by

the Privacy Act. This information will then be compared to the previous year's information to determine the effectiveness of the Coverage Improvement Plan activities and to re-assess the target areas. Target areas may be redefined as coverage improves in the higher risk areas or additional outreach in target areas that did not show significant increases in the number of policies by the CRS Committee.

CONCLUSION

Annual report

The CRS Committee shall continue to meet quarterly to monitor and evaluate the Floodplain Management Plan. During these quarterly evaluations, the CRS Committee will review outreach activities completed during the year and planned outreach activities. Recommendations to improve future outreach activities can be incorporated into the outreach materials. Evaluation of the Program for Public Information Plan and flood insurance Coverage Improvement Plan sections of the Floodplain Management Plan will be evaluated for effectiveness and modified to improve the effectiveness of the program. Upon completion the review and assessment activities, the CRS Committee will prepare and annual report on the progress of the plan, addressing the new needs and goals of the community and any plan updates based on new studies, reports and technical information that has become available. This report shall be submitted to City Council released to the media and generally made available to the public.

The annual report shall include: progress made towards desired outcomes of the plan; mitigation projects that were implemented; reasons why mitigation projects or PPI activities were not implemented; an evaluation of the effectiveness of PPI activities carried out during the year; which PPI activities should be revised, changed, dropped or initiated; proposed PPI activities corresponding to CRS required messages, or additional messages, stipulated in the PPI; the proposed target audiences, messages and desired outcomes of proposed PPI activities.

The Committee shall assess the flood hazards and risks and update the plan taking into consideration: new floodplain or hazard mapping; annexation of flood-prone areas; additional RL areas; completed mitigation projects; increased development in the floodplain or watershed; new flood control projects; lack of maintenance of flood control projects; major floods or other disasters that have occurred since the plan was adopted; any other changes in flooding conditions or developments exposed to flooding, or other hazards covered in this plan.

Based on the Annual Report, this plan shall be evaluated and updated as needed every year, by October 1st. A formal Floodplain Management Plan Update including the Program for Public Information and Coverage Improvement Plan elements shall be completed every 5 years prior to October 1st of the 5th year. The next 5 year update is due prior to October 1, 2019. Prior to adoption of the updated plan, the plan shall be forwarded to the flood insurance liaison in the FEMA Regional Office. A public meeting shall be held for review and comment on any draft updates to the plan before the plan is submitted to City Council for adoption. Publishing of the Floodplain Management Plan in the City Council Agenda Packet prior to the City Council Meeting in addition to public meetings held by the CRS Committee shall meet this requirement.