

Review of the “Draft” Floodplain Management Plan

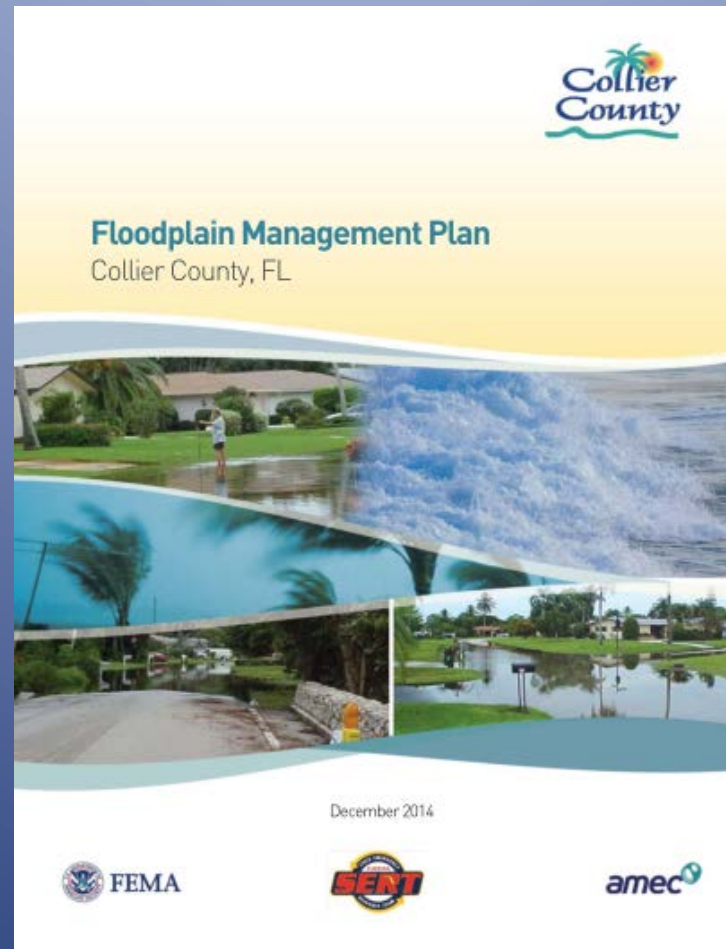
Collier County, FL
December 16, 2014

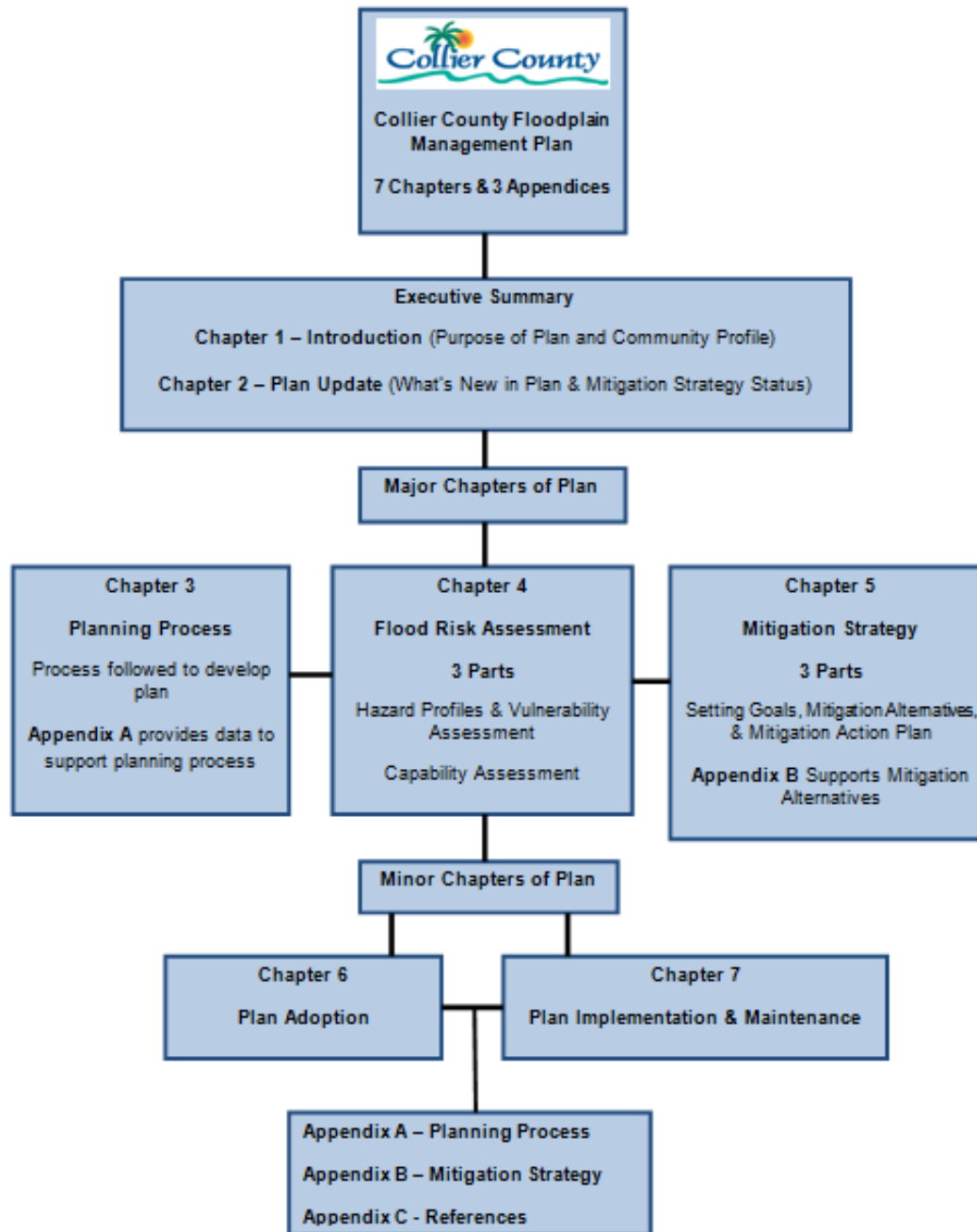


Objectives

- Structure of the Plan
- Describe the Planning Process
- Review Flood Hazards (Problems)
- Review Flood Hazard Impacts
- Review Mitigation Action Plan
- Next Steps
- Questions

Structure of the Plan





Structure of the Plan





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Planning Process

- Disaster Mitigation Act of 2000
- Community Rating System (CRS)

Requirement §201.6(c)(2): [The plan shall include] A risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.



Combined Planning Process

Step 1. Organize to prepare the plan

The credit for this step is based on how the community organizes to prepare its floodplain management plan.

Credit Points

Credit for Step 1 is the total of the following points. (Maximum credit: 15 points)

- (a) 4 points, if the office responsible for the community's land use and comprehensive planning is actively involved in the floodplain management planning process. The "office" may be the community's planning or community development department, a consulting firm, or a regional planning agency, provided that it performs regular land use or comprehensive planning duties for the community. This office is usually not the floodplain management or mitigation planner or consultant, because the intention of this credit is to incorporate the floodplain management or mitigation plan into the rest of the community's planning activities. "Actively involved" means that staff regularly attend meetings, assist in the coordination (Step 3), and either write or review draft sections of the plan.

Planning Process

Table 510-1. Planning steps for mitigation and for the CRS.

Multi-hazard Mitigation Planning	CRS	Maximum
Phase I – Planning process		
§201.6(c)(1)	1. Organize	15
§201.6(b)(1)	2. Involve the public	120
§201.6(b)(2) & (3)	3. Coordinate	35
Phase II – Risk assessment		
§201.6(c)(2)(i)	4. Assess the hazard	35
§201.6(c)(2)(ii) & (iii)	5. Assess the problem	52
Phase III – Mitigation strategy		
§201.6(c)(3)(i)	6. Set goals	2
§201.6(c)(3)(ii)	7. Review possible activities	35
§201.6(c)(3)(iii)	8. Draft an action plan	60
Phase IV – Plan maintenance		
§201.6(c)(5)	9. Adopt the plan	2
§201.6(c)(4)	10. Implement, evaluate,	26
Total		382

DMA – 4 Phases and CRS – 10 Steps

CRS Planning Activity Checklist



This plan fulfills the requirements of Section 104 of the Disaster Mitigation Act of 2000 and qualifies for CRS credit. The following table provides the 10-step CRS planning credit activity checklist and the section/page number within this plan that describes the completion of each planning step in more detail.

CRS Planning Credit Activity Checklist

CRS Step	Section/Page
1. Organize to prepare the plan.	
a. Involvement of office responsible for community planning	Section 3.1
b. Planning committee of department staff	Section 3.1
c. Process formally created by the community's governing board	Section 3.2.1
2. Involve the public.	
a. Planning process conducted through a planning committee	Section 3.1 / Table 3-1
b. Public meetings held at the beginning of the planning process	Section 3.2.1 / Table 3-5
c. Public meeting held on draft plan	Section 3.2.1 / Table 3-5
d. Other public information activities to encourage input	Section 3.2.1 / Table 3-6
3. Coordinate with other agencies.	
a. Review of existing studies and plans	Section 3.2.1
b. Coordinating with communities and other agencies	Section 3.2.1/Appendix A
4. Assess the hazard.	
a. Plan includes an assessment of the flood hazard with:	Sections 4.1 – 4.2
(1) A map of known flood hazards	Sections 4.1 – 4.2
(2) A description of known flood hazard	Sections 4.1 – 4.2
(3) A discussion of past floods	Sections 4.1 – 4.2
b. Plan includes assessment of less frequent floods	Sections 4.1 – 4.2
c. Plan includes assessment of areas likely to flood	Section 4.2.7
d. The plan describes other natural hazards	---
5. Assess the problem.	
a. Summary of each hazard identified in the hazard assessment and their community impact	Section 4.3
b. Description of the impact of the hazards on:	Section 4.3
(1) Life, safety, health, procedures for warning and evacuation	Section 4.3
(2) Public health including health hazards to floodwaters/mold	Section 4.2.4
(3) Critical facilities and infrastructure	Section 4.3
(4) The community's economy and tax base	Section 1.3.5
(5) Number and type of affected buildings	Section 4.3
c. Review of all damaged buildings/flood insurance claims	Section 4.3
d. Areas that provide natural floodplain functions	Section 4.3 / Appendix B
e. Development/redevelopment/Population Trends	Section 1.3.6
f. Impact of future flooding conditions outline in Step 4, item c	Section 4.3
6. Set goals.	
	Section 5.2
7. Review possible activities.	
a. Preventive activities	Section 5.3 / Appendix B
b. Floodplain Management Regulatory/current & future conditions	Section 5.3 / Appendix B

Planning Process

- Full Participants
 - Collier County
 - City of Marco Island
 - City of Naples
- Minor Participant
 - City of Everglades City
- Timeframe
 - July, 2014 through February 2015

Planning Process

Table 3-4 - Summary of FMPC Meeting Dates

Meeting Type	Meeting Topic	Meeting Date	Meeting Location
FMPC #1 (Kick-off)	1) Introduction to DMA, CRS and the planning process	July 16, 2014	Collier County Growth Management Division Office
	2) Organize resources: the role of the FMPC, planning for public involvement, and coordinating with other agencies and stakeholders		
	3) Introduction to hazard identification		
FMPC #2	1) Review/discussion of Flood Risk Assessment (Assess the Hazard)	September 30, 2014	Collier County Growth Management Division Office
	2) Review/discussion of Vulnerability Assessment (Assess the Problem)		
FMPC #3	1) Review of existing Goals from 2008 FMP	November 19, 2014	Collier County Government Center Risk Management Training Room
	2) Development of new Goals for 2014 FMP		
FMPC #4	1) Review/status of existing Mitigation Strategies from 2008 FMP	November 20, 2014	Collier County Government Center Risk Management Training Room
	2) Development of new/updated Mitigation Strategies for 2014 FMP		
FMPC #5	1) Review "Draft" Floodplain Mitigation Plan	December 16, 2014	Collier County Government Center Risk Management Training Room
	2) Solicit comments and feedback from the FMPC		

FMPC Committee Meetings

Planning Process

Table 3-5 - Summary of Public Meeting Dates

Meeting Type	Meeting Topic	Meeting Date	Meeting Locations
Public Meeting #1	1) Introduction to DMA, CRS and the planning process	July 16, 2014	Collier County Growth Management Division Office
	2) Introduction to hazard identification		
Public Meeting #2	1) Review complete "Draft" Floodplain Mitigation Plan	December 16, 2014	Collier County Government Center Risk Management Training Room
	2) Solicit comments and feedback from the public		

Public Meetings

Planning Process

Table 3-6 - Public Outreach Efforts

Event	Message	Date
Naples Daily News	Article on lowering flood insurance rates for Collier County	July 16, 2014
Collier County CCTV	1 st Public Meeting recorded and aired live	July 16, 2014
Collier County CCTV	1 st Public Meeting re-aired	July 22, 2014
Collier County Website	FMPC Meeting Dates, Meeting Agendas and Meeting Minutes posted for public information	On-going since June 2014
Collier County Website	Draft Risk/Vulnerability Assessment posted for public comment	September 30, 2014
Collier County Website	Public Survey posted requesting public input into floodplain management plan planning process	November 6, 2014
Naples Daily News	TBD	TBD
Collier County Website	Complete Draft Floodplain Management Plan posted for public comment	TBD
Collier County CCTV	2 nd Public Meeting recorded and aired live	TBD

Involving the Public

Planning Process



Collier County needs your help!

Collier County is working to become less vulnerable to flooding and your participation is important to us!

The County received a Flood Mitigation Assistance federal grant to prepare a *Flood Mitigation Plan*. This Plan will identify and assess our community's flood hazard risks and determine how to best minimize or manage those risks and what outreach materials may be necessary to better communicate those risks.

This survey is an opportunity for you to share your opinions and participate in the mitigation planning process. The information you provide will help us better understand your hazard concerns and can lead to mitigation activities that should help lessen the impacts of future hazard events.

Please help us by completing this survey by **January 15, 2015** and returning it to:

Gary McAlpin, P.E.
 Collier County - Growth Management Division
 2800 N. Horseshoe Drive
 Naples, FL 34104

Surveys can also be faxed to: (239) 252-2950 or emailed to GaryMcAlpin@colliergov.net

1. Where do you live?

- Collier County Other: _____

2. Have you ever experienced or been impacted by high water or flooding in Collier County?

- Yes
 No

a. If "Yes," please explain:

3. How concerned are you about the possibility of your community being impacted by flooding?

- Extremely concerned
 Somewhat concerned
 Not concerned

4. Is your home located in a Federal Emergency Management Agency (FEMA) floodplain?

- Yes
 No
 I don't know

5. Do you have flood insurance for your home/personal property?

- Yes
 No
 I don't know

a. If "No," why not? (Please select only one)

- My home is not located in a floodplain
 I rent
 It's too expensive
 I don't need it because it never floods
 I don't need it because my home is elevated or otherwise protected
 I don't need it because it is included in the homeowner association or condo association fees
 I never really considered it
 Other (please explain): _____

6. Have you taken any actions to protect your home from flood damage?

- Yes
 No

a. If "Yes," please explain:

Planning Process

- **Coordination – Invitation to Participate**

- Florida Division of Emergency Management - NFIP Program Manager
- Florida Hazard Mitigation Officer & NFIP Coordinator
- Florida Community Rating System Coordinator
- Florida Department of Environmental Protection
- Southwest Florida Water Management District
- Southwest Florida Regional Planning Council
- ISO CRS Specialist
- FEMA Region IV
- US Army Corps of Engineers
- American Red Cross, Southern Gulf Region
- National Weather Service
- Collier County Public Schools
- Florida Panther National Wildlife Refuge
- Florida Fish and Wildlife Conservation Commission
- Rookery Bay National Estuarine Research Reserve
- Florida Southwestern State College

- **Coordination – Other Plans and Studies**

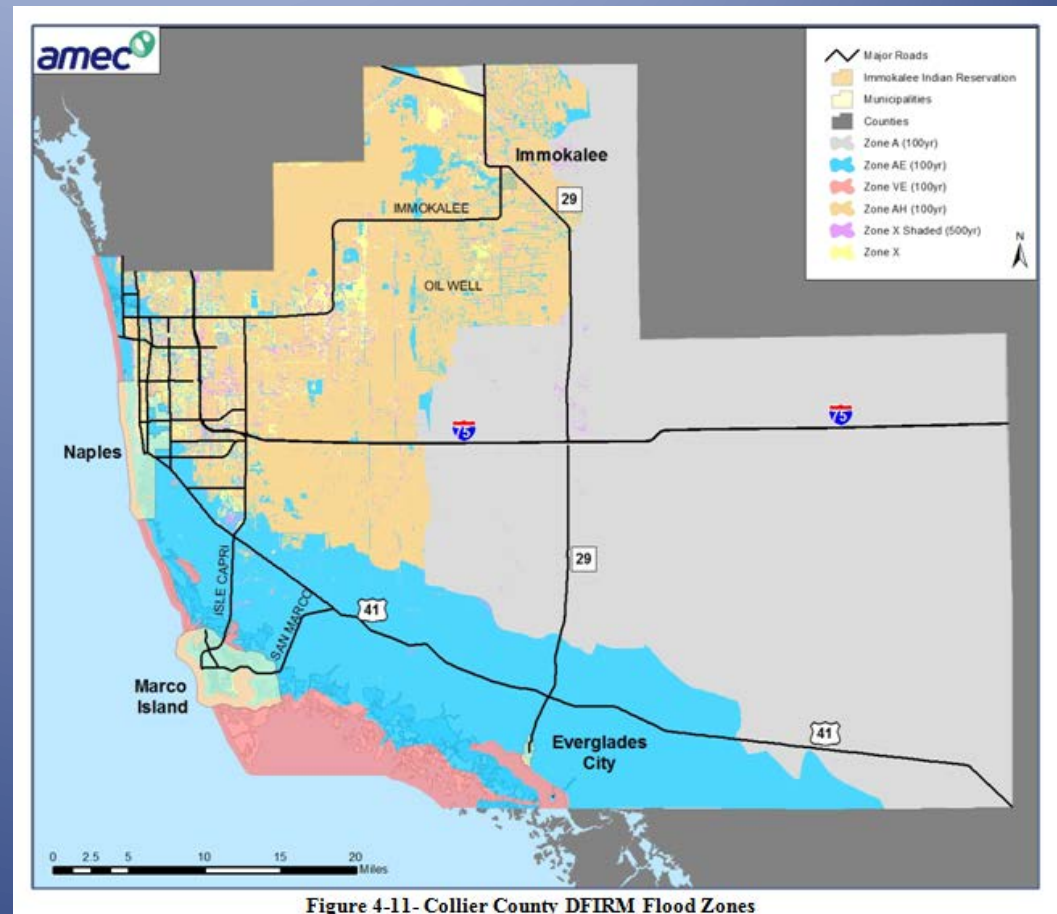
- Collier County Floodplain Management Plan, 2008
- Collier County Local Mitigation Strategy, 2010
- Collier County Repetitive Loss Areas Analysis, 2013
- Collier County Watershed Management Plan, 2011
- Collier County Growth Management Plan, 2014
- Collier County Comprehensive Emergency Management Plan, 2012
- Collier County Flood Insurance Study, 2012
- Collier County 2014 Tax Assessor Data
- Collier County Flood Damage Prevention Ordinance
- Collier County Land Development Code
- Collier County Building Code Ordinance
- Collier County Community Rating System Annual Reports
- City of Marco Island Building Code Ordinance
- City of Marco Island Comprehensive Plan, 2009
- City of Marco Island Post-Disaster Recovery Plan, 2001
- City of Naples Building Code Ordinance
- City of Naples Comprehensive Plan (no date provided)
- City of Naples Stormwater Master Plan, 2007

HIRA – Hazard Identification and Risk Assessment

- Purpose of the HIRA
 - Identification of the natural hazards that could affect the Town (Flood)
 - Profile the hazard events and determine what areas and community assets are the most vulnerable to damage from the hazards
 - Estimate losses and the potential risk to the community

Profiling of Natural Hazards

- 100-Year
- 500-Year
- Stormwater/Localized
- Hurricane Tropical Storms
- Climate Change/Sea Level Rise
- Coastal/Canal Bank Erosion
- Dams and Levees



Ranking of the Flood Hazards

Table 4-1 Flood Hazard Summary

Hazard	Frequency of Occurrence	Spatial Extent	Potential Magnitude	Significance
Climate Change and Sea Level Rise	Highly Likely	Limited	Negligible	Low
Coastal/Canal Bank Erosion	Highly Likely	Limited	Negligible	Medium
Dam/Levee Failure	Unlikely	Limited	Negligible	Low
Flood: 100-/500-year	Occasional	Extensive	Catastrophic	High
Flood: Stormwater/Localized Flooding	Highly Likely	Limited	Negligible	Medium
Hurricane and Tropical Storms (including Storm Surge)	Likely	Extensive	Catastrophic	High

Guidelines:

Frequency of Occurrence:

Highly Likely: Nearly 100% probability within the next year.
 Likely: Between 10 and 100% probability within the next year.
 Occasional: Between 1 and 9% probability within the next year.
 Unlikely: Less than 1% probability within the next year.

Spatial Extent:

Limited: Less than 10% of planning area.
 Significant: 10-50% of planning area.
 Extensive: 51-100% of planning area.

Significance:

Low
 Medium
 High

Potential Magnitude:

Catastrophic: More than 50% of the area affected.
 Critical: 26 to 50% of the area affected.
 Limited: 10 to 25% of the area affected.

Sources and Types of Flooding

- Two Major Types
 - Coastal areas subject to ocean surges
 - Inland areas become flooded when rainfall accumulates in low flat areas
 - Topography is generally very flat
 - Land slopes generally from .5 to 1 foot per mile
 - Lack of steep slopes reduces runoff and creates poor drainage areas (sheet flows)

September 2013 Flooding

Flooding closes Collier roads

By **Collier Daily News staff report**
POSTED: 11:22 AM, Sep 4, 2013
UPDATED: 11:22 AM, Sep 4, 2013
[TAGS:](#) [agencies](#) | [weather](#) | [roads](#) | [local news](#)



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Severe flooding has deposited materials and made several Collier County roads impassable.

As a result, Collier County Sheriff's deputies and firefighters from across the county have closed several roads, according to Michelle Dutton, Collier County Sheriff's Office spokeswoman.

The roads closed are Forest Lakes Boulevard, Palm View Drive, Pebble Shore Drive and Kirkland Drive in North Naples, Trade Center Way in East Naples, the intersection of Randall Boulevard and Eighth Street Northeast in Golden Gate Estates, and the intersection of Immokalee Road and Logan Boulevard in North Naples.

It is unknown how long the roads will be closed, Dutton said. Deputies are placing materials to divert traffic around them and to stay off the roads if possible.

Check on plans.com for updates. Updates will also be posted by the Collier County Sheriff's Office on Twitter (@CollierSheriff) and Facebook.

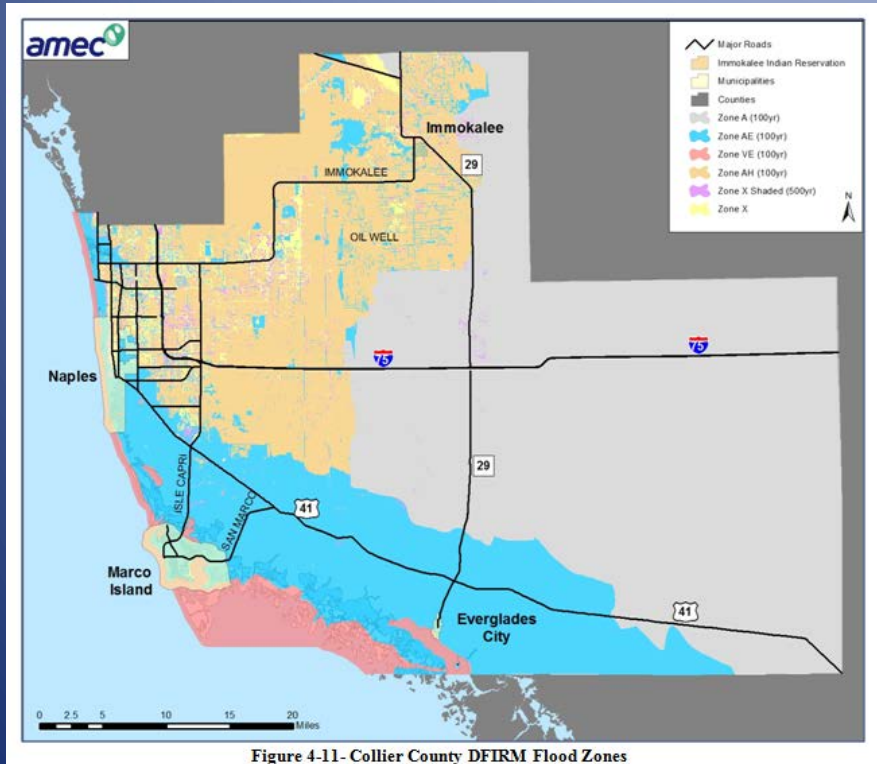
- Share your flooding photos at [participants.plans.com](#) or email your photos to digital@plans.com.
- Flood advisory issued for Collier until 4 a.m.
- Frog festival: Weather affecting tonight's games, across road!

- Roads Closed
 - Forest Lakes Blvd.
 - Palm View Drive
 - Pebble Shore Drive
 - Kirkland Drive
 - Randall Blvd. & Eighth Street Northeast
 - Immokalee Road & Logan Blvd.

Typical Flooding

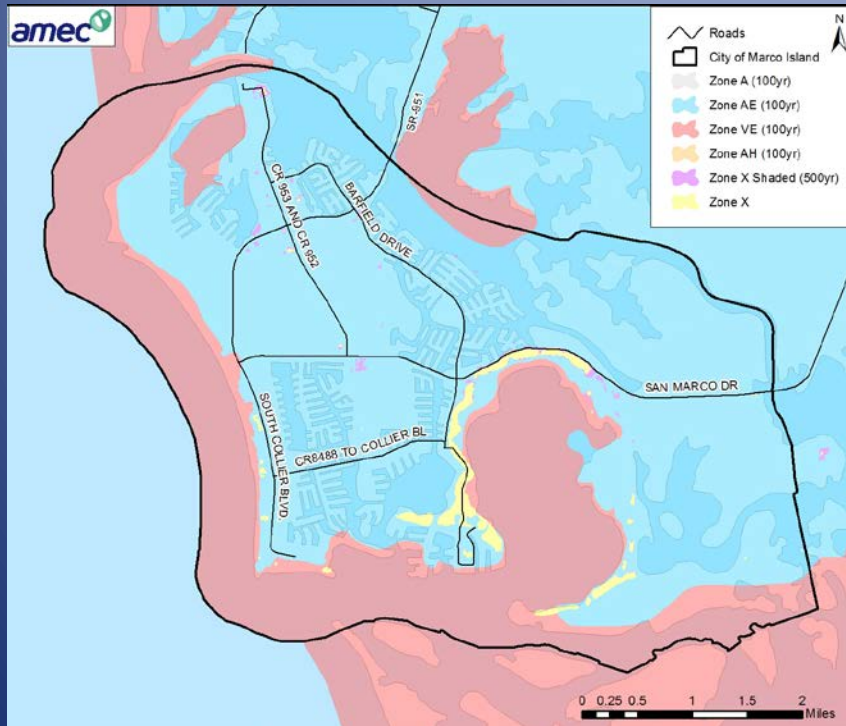


1% Annual Chance Flood

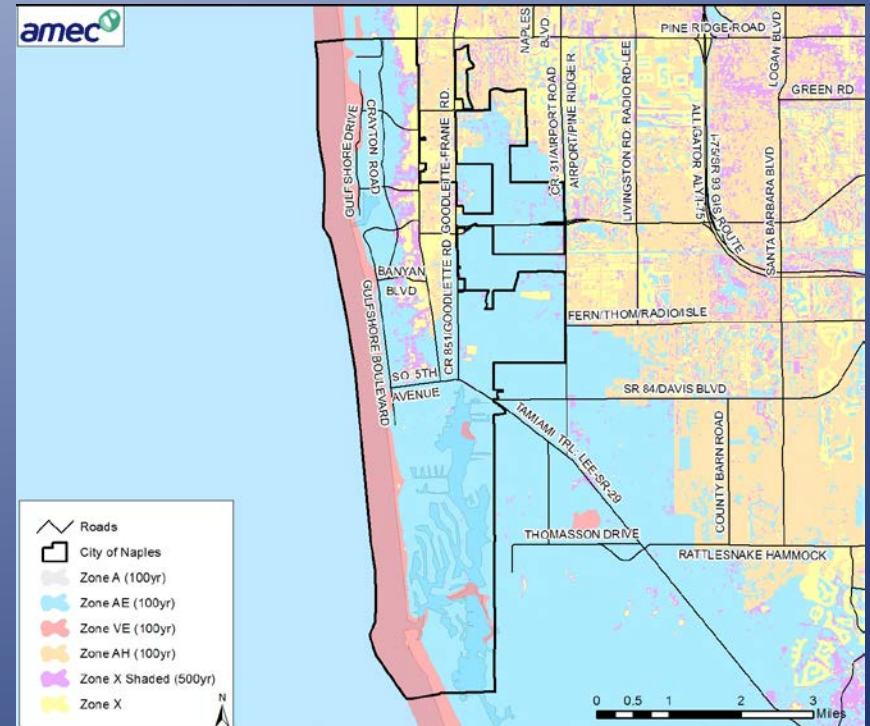


- Zone VE (57,626 Acres)
- Zone AE (296,071 Acres)
- Zone AH (280,608 Acres);
- Zone A (660,494 Acres)

1% Annual Chance Flood



Marco Island



Naples

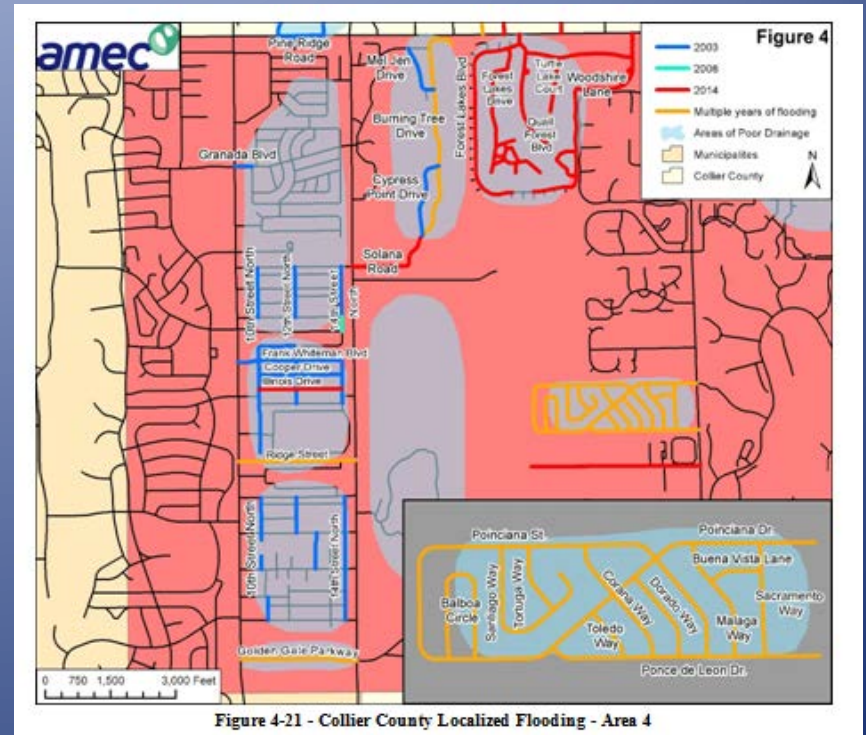
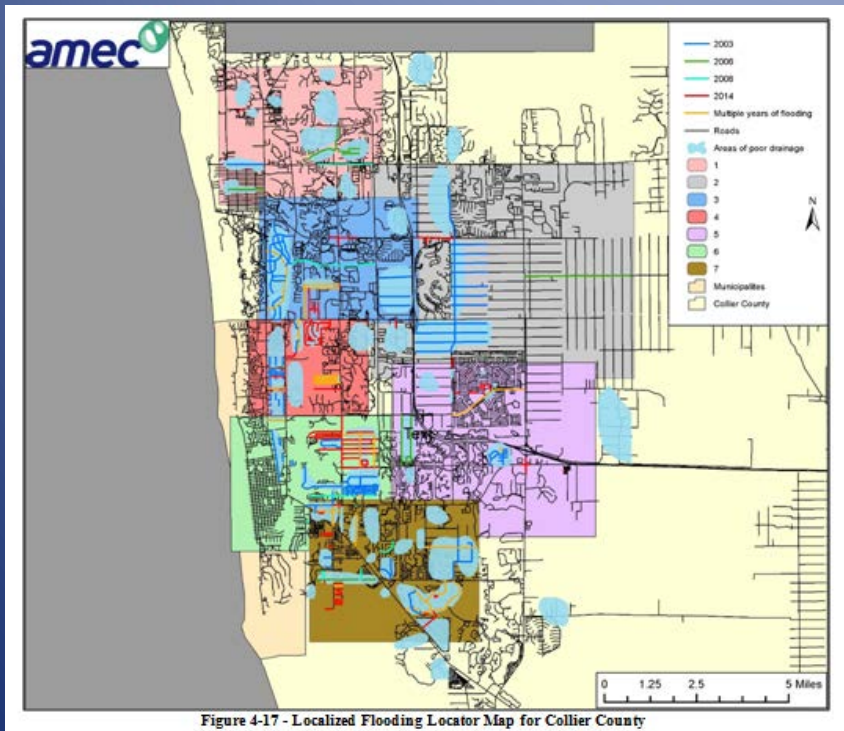
Past Flooding

Table 4-10 - NCDC Flooding in Collier County - January 1950 to May 2014

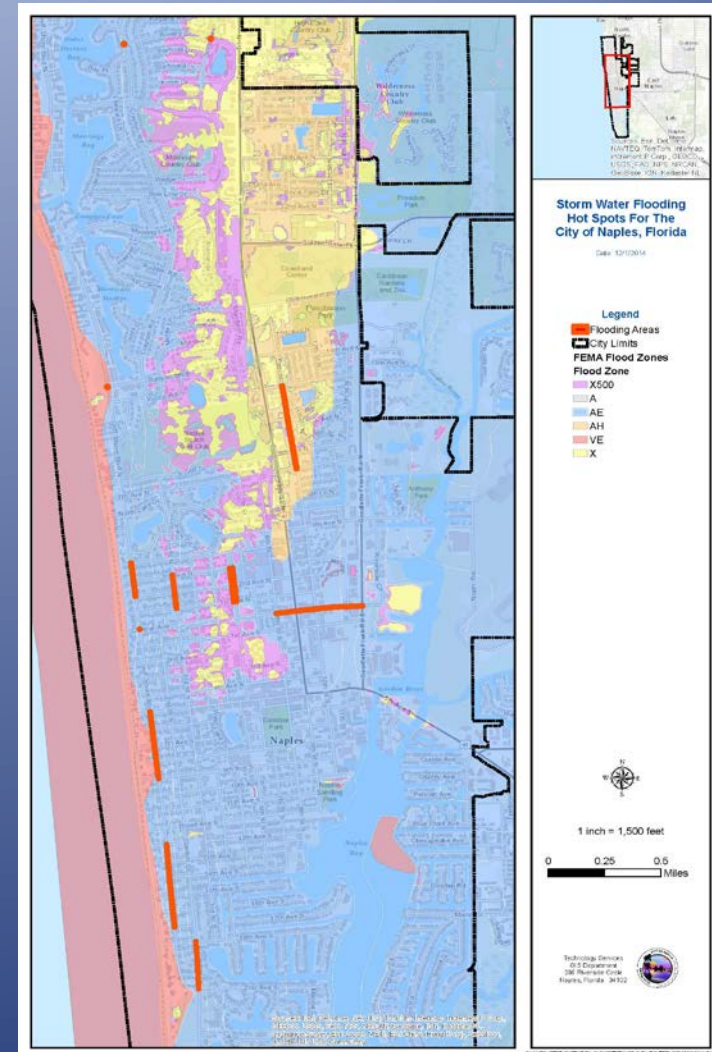
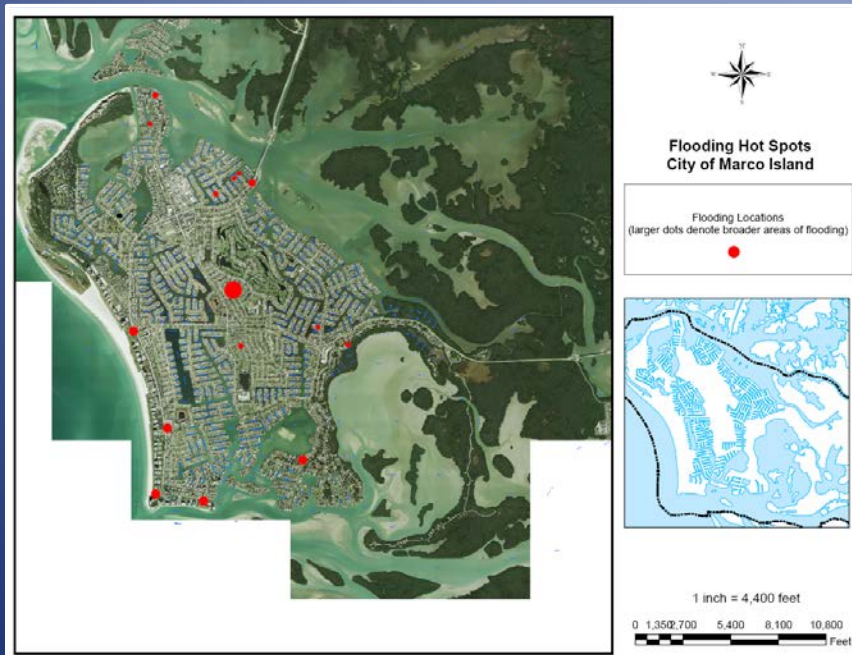
Location	Date	Event Type	Injuries/Deaths	Damages
Naples	09/20/1999	Flash Flood	0/0	\$200,000
Immokalee	07/04/2000	Flash Flood	0/0	\$0
Marco	07/23/2001	Flash Flood	0/0	\$150,000
West Portion	09/29/2003	Flash Flood	0/0	\$100,000
Immokalee	08/30/2006	Flash Flood	0/0	\$0
Marco	07/16/2008	Flash Flood	0/0	\$10,000
Coastal Collier	12/30/1997	Flood	0/0	\$0
Collier County	05/28/1998	Flood	0/0	\$0
Naples	09/07/2000	Flood	0/0	\$0
Naples	09/11/2000	Flood	0/0	\$0
Coastal Collier	06/26/2012	Coastal Flood	0/0	\$70,000
Marco	07/12/1998	Heavy Rain	0/0	\$0
Marco Is Airt	07/20/1998	Heavy Rain	0/0	\$0
Naples	09/28/2001	Heavy Rain	0/0	\$0
Golden Gate	06/12/2005	Heavy Rain	0/0	\$0
Golden Gate	02/03/2006	Heavy Rain	0/0	\$60,000
Evans Pines	04/06/2008	Heavy Rain	0/0	\$0

Source: NCDC

Areas of Poor Drainage



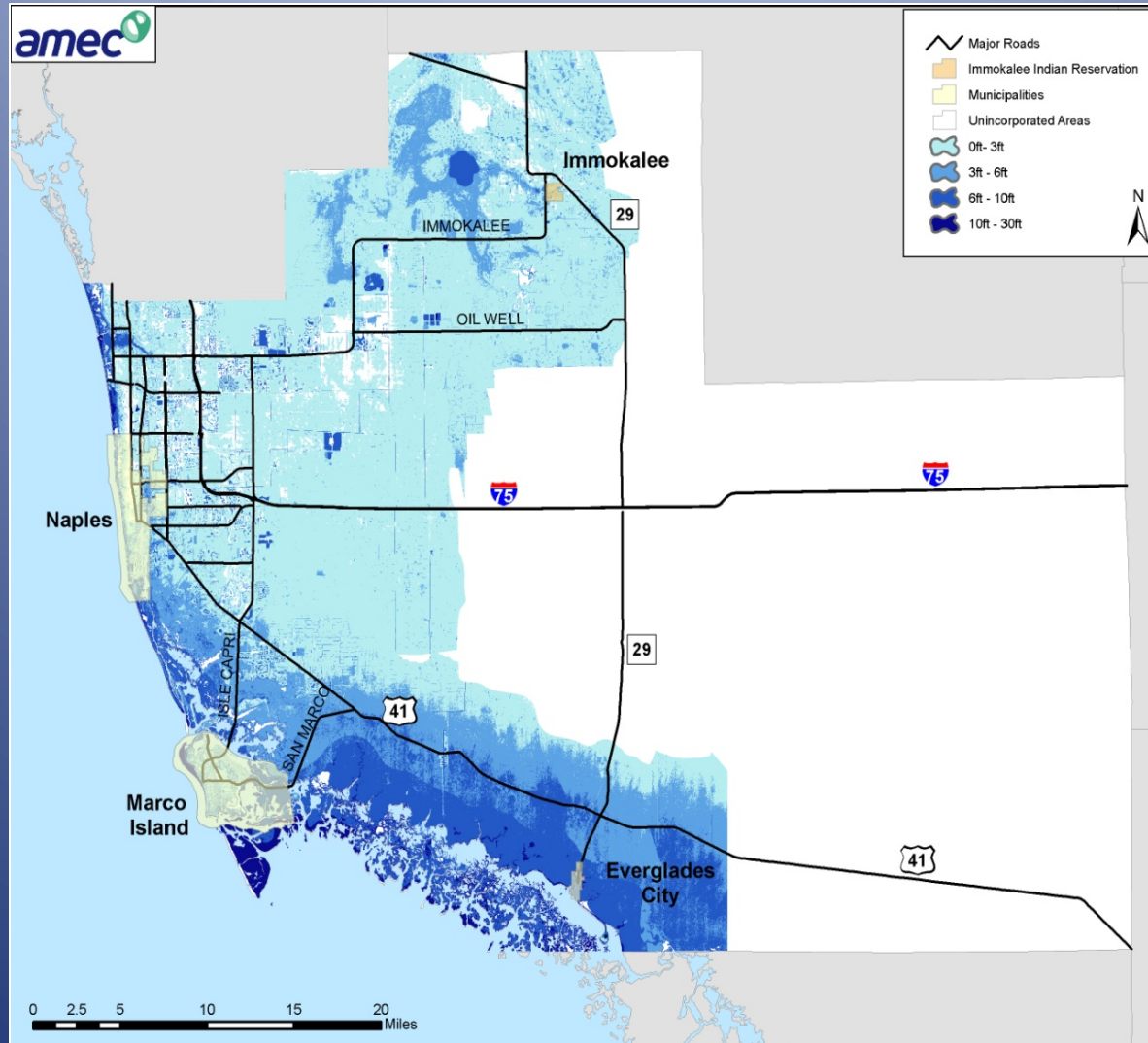
Areas of Poor Drainage



Properties at Risk By Occupancy & Flood Zone

Occupancy Type	Total Number of Buildings in Floodplain	Total Building Value	Estimated Content Value	Total Value
Agricultural	1	\$0	\$0	\$0
Commercial	15	\$2,078,539	\$2,078,539	\$4,157,078
Education	0	\$0	\$0	\$0
Government	20	\$311,178	\$311,178	\$622,355
Industrial	0	\$0	\$0	\$0
Religious	0	\$0	\$0	\$0
Residential	367	\$183,611,639	\$91,805,819	\$275,417,458
Total	403	\$186,001,355	\$94,195,536	\$280,196,892
Zone AE				
Agricultural	299	\$9,731,986	\$9,731,986	\$19,463,971
Commercial	785	\$246,352,548	\$241,979,528	\$488,332,076
Education	62	\$80,182,223	\$80,182,223	\$160,364,446
Government	187	\$170,432,941	\$170,432,941	\$340,865,882
Industrial	116	\$43,080,875	\$64,621,313	\$107,702,188
Religious	37	\$17,391,368	\$17,391,368	\$34,782,736
Residential	20,146	\$2,061,361,649	\$1,030,680,824	\$3,092,042,473
Total	21,632	\$2,628,533,590	\$1,615,020,183	\$4,243,553,772
Zone AH				
Agricultural	594	\$27,017,404	\$27,017,404	\$54,034,808
Commercial	525	\$206,282,854	\$206,282,854	\$412,565,708
Education	79	\$96,430,998	\$96,430,998	\$192,861,995
Government	352	\$83,495,333	\$83,495,333	\$166,990,665
Industrial	412	\$85,782,542	\$128,673,814	\$214,456,356
Religious	70	\$52,077,561	\$52,077,561	\$104,155,121
Residential	23,983	\$2,683,798,591	\$1,341,899,295	\$4,025,697,886
Total	26,015	\$3,234,885,282	\$1,935,877,258	\$5,170,762,540
Zone A				
Agricultural	6	\$237,256	\$237,256	\$474,512
Commercial	6	\$1,265,286	\$1,265,286	\$2,530,572
Education	0	\$0	\$0	\$0
Government	0	\$0	\$0	\$0
Industrial	0	\$0	\$0	\$0
Religious	0	\$0	\$0	\$0
Residential	0	\$0	\$0	\$0
Total	12	\$1,502,542	\$1,502,542	\$3,005,084
Zone X (500-yr)				
Agricultural	102	\$8,391,494	\$8,391,494	\$16,782,988
Commercial	454	\$235,304,743	\$235,304,743	\$470,609,485
Education	79	\$105,795,721	\$105,795,721	\$211,591,442
Government	195	\$51,547,828	\$51,547,828	\$103,095,656
Industrial	177	\$56,642,885	\$84,964,328	\$141,607,214
Religious	48	\$28,661,569	\$28,661,569	\$57,323,138
Residential	22,513	\$4,161,476,716	\$2,080,738,358	\$6,242,215,073
Total	23,568	\$4,647,820,956	\$2,595,404,041	\$7,243,224,997
Zone X (unshaded)				
Agricultural	182	\$20,564,230	\$20,564,230	\$41,128,460
Commercial	1,156	\$653,795,358	\$653,795,358	\$1,307,590,717
Education	214	\$361,457,023	\$361,457,023	\$722,914,045
Government	353	\$73,755,541	\$73,755,541	\$147,511,082
Industrial	487	\$128,454,507	\$192,681,760	\$321,136,267
Religious	86	\$86,132,089	\$86,132,089	\$172,264,178
Residential	33,695	\$6,478,802,090	\$3,239,401,045	\$9,718,203,135
Total	36,173	\$7,802,960,838	\$4,627,787,046	\$12,430,747,884

Depth of Flooding

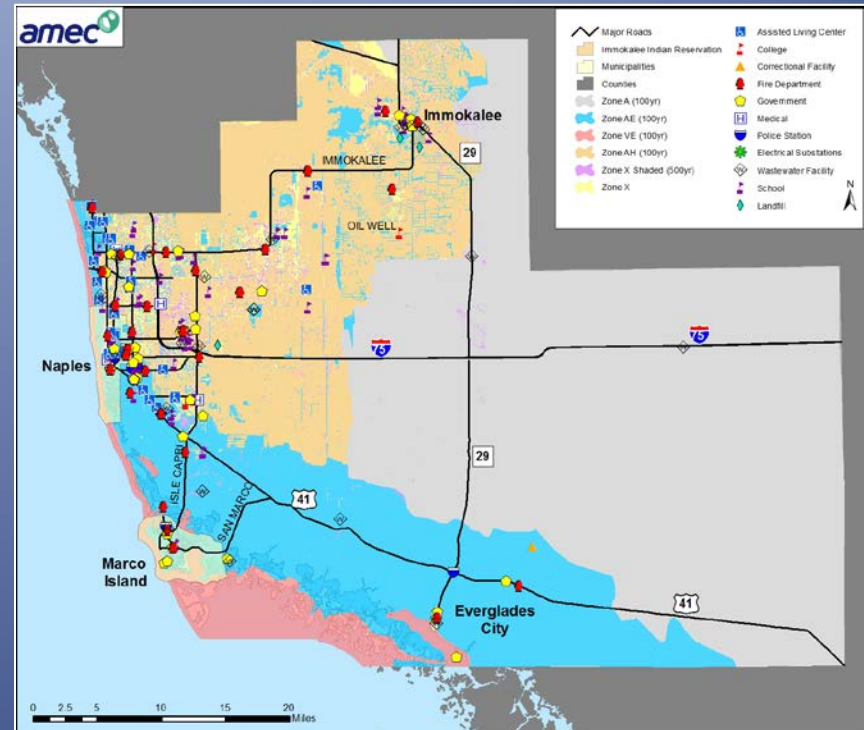


Estimated Building Damage & Content Loss

Occupancy Type	Total Number of Buildings with Loss	Total Value (Building & Contents)	Estimated Building Damage	Estimated Content Loss	Estimated Total Damage	Loss Ratio
Zone A						
Agricultural	1	\$0	\$0	\$0	\$0	0.0%
Commercial	15	\$4,157,078	\$393,671	\$1,661,702	\$2,055,373	49.4%
Education	0	\$0	\$0	\$0	\$0	0.0%
Government	20	\$622,355	\$51,728	\$299,211	\$350,939	56.4%
Industrial	0	\$0	\$0	\$0	\$0	0.0%
Religious	0	\$0	\$0	\$0	\$0	0.0%
Residential	366	\$275,417,458	\$69,320,492	\$43,246,783	\$112,567,275	40.9%
Total	402	\$280,196,892	\$69,765,891	\$45,207,696	\$114,973,587	41.0%
Zone AE						
Agricultural	299	\$19,463,971	\$125,950	\$632,459	\$758,409	3.9%
Commercial	782	\$488,332,076	\$7,713,193	\$18,892,030	\$26,605,223	5.4%
Education	62	\$160,364,446	\$736,797	\$4,086,032	\$4,822,830	3.0%
Government	233	\$340,865,882	\$4,041,341	\$25,358,228	\$29,399,569	8.6%
Industrial	116	\$107,702,188	\$1,902,674	\$4,865,097	\$6,767,771	6.3%
Religious	37	\$34,782,736	\$338,534	\$2,584,330	\$2,922,864	8.4%
Residential	20,086	\$3,092,042,473	\$234,125,287	\$131,322,082	\$365,447,368	11.8%
Total	21,615	\$4,243,553,772	\$248,983,776	\$187,740,258	\$436,724,034	10.3%
Zone AH						
Agricultural	591	\$54,034,808	\$74,529	\$649,882	\$724,412	1.3%
Commercial	523	\$412,565,708	\$670,732	\$2,454,467	\$3,125,199	0.8%
Education	78	\$192,861,995	\$206,567	\$1,115,879	\$1,322,445	0.7%
Government	352	\$166,990,665	\$28,150	\$173,117	\$201,267	0.1%
Industrial	410	\$214,456,356	\$626,990	\$4,214,175	\$4,841,165	2.3%
Religious	69	\$104,155,121	\$544,608	\$5,068,761	\$5,613,369	5.4%
Residential	23,852	\$4,025,697,886	\$81,636,805	\$29,503,415	\$111,140,220	2.8%
Total	25,875	\$5,170,762,540	\$83,788,380	\$43,179,697	\$126,968,077	2.5%
Zone X (500-yr)						
Agricultural	22	\$16,782,988	\$0	\$14,991	\$14,991	0.1%
Commercial	53	\$470,609,485	\$77,799	\$176,564	\$254,363	0.1%
Education	5	\$211,591,442	\$1,361	\$7,349	\$8,710	0.0%
Government	6	\$103,095,656	\$0	\$0	\$0	0.0%
Industrial	12	\$141,607,214	\$3,378	\$61,337	\$64,715	0.0%
Religious	1	\$57,323,138	\$0	\$2,076	\$2,076	0.0%
Residential	6,090	\$6,242,215,073	\$40,069,959	\$16,270,923	\$56,340,882	0.9%
Total	6,189	\$7,243,224,997	\$40,152,497	\$16,533,240	\$56,685,737	0.8%
Total	54,081	\$16,937,738,201	\$442,690,544	\$292,660,891	\$735,351,435	4.3%

Critical Facilities

Facility Name	Facility Type	Address	Estimated 100yr Flood Depth (Ft)
Leac-Camestown	Electrical Transfer Stations	32096 Tamiami Trl E	3.1
East Naples Fire Control And Rescue District Station 23	Fire	6055 Collier Boulevard	2.4
Qchoopaa Fire Rescue Station 66	Fire	40808 East Tamiami Trail	3.5
Isles Of Capri Fire And Rescue Station 50	Fire	175 Capri Boulevard	3.1
East Naples Fire Control And Rescue District Station 22	Fire	4375 Bayshore Drive	0.0
East Naples Fire Control And Rescue District Station 21	Fire	11121 East Tamiami Trail	2.0
U S Post Office - Naples	Government	1200 Goodlette Rd N	0.0
Collier County Property Appraiser	Government	3950 Radio Rd	0.0
Collier County Health Department	Government	3339 Tamiami Trl E	0.0
Collier County - County Court	Government	3315 Tamiami Trl E	0.0
Collier County Tax Collector	Government	3291 E Tamiami Trl	0.0
Collier County Supervisor Of Elections	Government	3295 E Tamiami Tr	0.0
U S Post Office - Chokoloskee	Government	195 Smallwood Dr	3.9
U S Post Office - Qchoopaa	Government	38000 Tamiami Trl E	3.8
U S Post Office - Goodland	Government	427 Papaya St	0.6
Collier County Tax Collector	Government	12668 E Tamiami Trl	0.9
Collier County Tax Collector	Government	725 Airport Rd S	1.0
North Collier Hospital	Medical Center	11190 Health Park Boulevard	0.0



Coastal Storm Surge

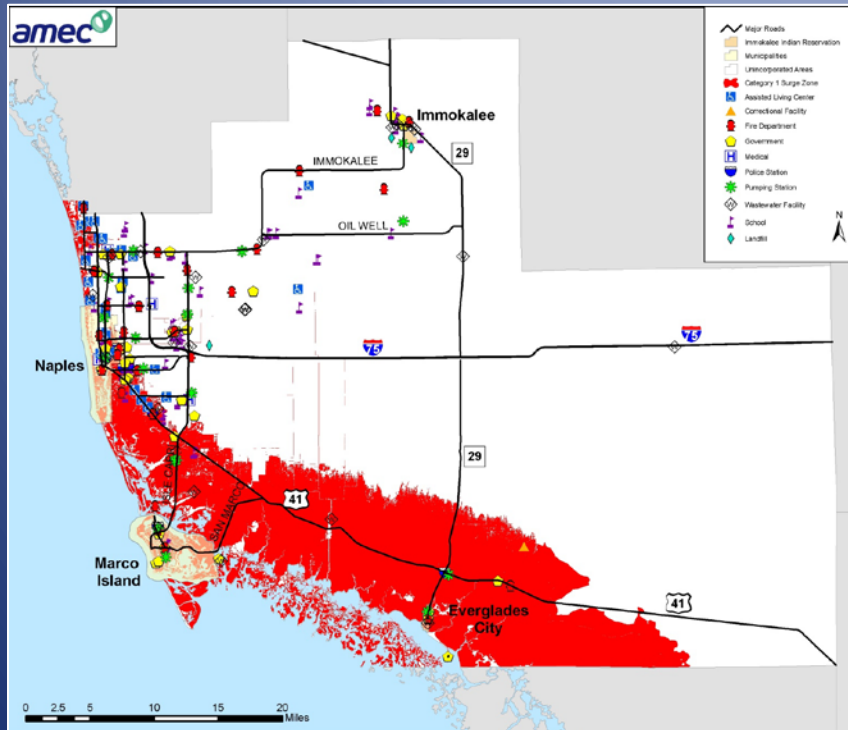


Table 4-51 - Assets at Risk to Category 1 Storm Surge

Land Use	Total Building Count	Total Building Value	Estimated Content Value	Total Value ¹
Collier County Unincorporated Areas				
Agricultural	166	\$5,869,582	\$5,869,582	\$11,739,165
Commercial	531	\$137,493,809	\$133,377,277	\$270,871,086
Education	41	\$43,839,372	\$43,839,372	\$87,678,744
Government	146	\$102,096,677	\$102,096,677	\$204,193,353
Industrial	81	\$13,213,808	\$19,820,712	\$33,034,520
Religious	24	\$6,929,756	\$6,929,756	\$13,859,512
Residential	15,100	\$1,291,345,889	\$645,672,944	\$1,937,018,833
Total	16,089	\$1,600,788,892	\$957,606,321	\$2,558,395,213
City of Everglades City				
Agricultural	0	\$0	\$0	\$0
Commercial	35	\$4,052,305	\$3,904,870	\$7,957,175
Education	6	\$3,857,436	\$3,857,436	\$7,714,872
Government	17	\$3,210,148	\$3,210,148	\$6,420,296
Industrial	5	\$292,023	\$438,035	\$730,058
Religious	3	\$286,646	\$286,646	\$573,292
Residential	374	\$21,612,906	\$10,806,453	\$32,419,359
Total	440	\$33,311,464	\$22,503,588	\$55,815,052
City of Marco Island				
Agricultural	0	\$0	\$0	\$0
Commercial	106	\$22,976,552	\$20,793,780	\$43,770,332
Education	4	\$4,867,260	\$4,867,260	\$9,734,521
Government	39	\$5,530,305	\$5,530,305	\$11,060,609
Industrial	15	\$2,082,833	\$3,124,249	\$5,207,082
Religious	4	\$3,035,435	\$3,035,435	\$6,070,870
Residential	4,195	\$1,033,881,736	\$516,940,868	\$1,550,822,605
Total	4,363	\$1,072,374,121	\$554,291,897	\$1,626,666,018
City of Naples				
Agricultural	4	\$0	\$0	\$0
Commercial	154	\$120,949,903	\$118,354,538	\$239,304,441
Education	1	\$703,759	\$703,759	\$1,407,518
Government	124	\$40,473,903	\$40,473,903	\$80,947,805
Industrial	11	\$3,088,145	\$4,632,218	\$7,720,363
Religious	5	\$1,943,580	\$1,943,580	\$3,887,160
Residential	2,181	\$820,130,922	\$410,065,461	\$1,230,196,383
Total	2,480	\$987,290,212	\$576,173,459	\$1,563,463,671

Source: Collier County 2014 Tax Assessor's Data, NOAA, FDEM
¹Total value does not include land value.

Other Flood Hazards

- Climate Change Sea Level Rise
- Coastal/Canal Bank Erosion
- Dam/Levee Failure
- Hurricane and Tropical Storms

Regulatory Capability

Table 4-61 - Regulatory Mitigation Capabilities

Regulatory Tool (ordinances, codes, plans)	Y/N	Date*			Comments
		C	N	M	
Comprehensive Plan	Y	2014	2013	2009	
Zoning Ordinance	Y	2014	2014	2013	
Subdivision Ordinance	Y	2014	2014	2014	
Floodplain Ordinance	Y	2013	2012	2012	
Stormwater Ordinance		2013	2007	n/a	
Building Code	Y	2010			2010 FBC effective on 3/15/12
BCEGS Rating	Y	2013		2013	Co. & Marco Island: 4/4 Naples: 3/3
Erosion or Sediment Control Program	Y	2009	2014	n/a	Addressed in the Co. with the NPDES Construction General Permit (CGP) requirements; Naples requires a Construction Site Management Plan
Stormwater Management Program	Y	2013	2007	n/a	NPDES Permit #FLR04E037 (Co.) NPDES Permit #FLR04E080 (Naples)
Site Plan Review Requirements	Y				
Capital Improvements Plan	Y	2013	2013	2011	
Economic Development Plan		2013	n/a	n/a	Economic Element of Comprehensive Plan
Local Emergency Operations Plan	Y	2012	2012	2013	
Flood Insurance Study or Other Engineering Study for Streams	Y	2012			
Repetitive Loss Plan	N				
Elevation Certificates	Y				

Key: C - Collier County; N - Naples; M - Marco Island
* Most recent version (includes latest amendments)

Goals

- **Goal 1 - Reduce vulnerability and exposure to flood hazards in order to protect the health, safety and welfare of residents and guests.**
- **Goal 2 – Encourage property owners, through education and outreach measures, to protect their homes and businesses from flood damage.**
- **Goal 3 – Reduce the vulnerability of critical facilities and infrastructure from the effects of flood hazards.**
- **Goal 4 – Protect natural resources by employing watershed-based approaches that balance environmental, economic and engineering considerations.**
- **Goal 5 – Minimize the adverse impacts to surrounding areas and watershed functions.**

Prioritization

- Short Range: Projects completed within 1 year
- Medium Range: Projects completed within 2 to 3 years
- Long Range: Projects completed in more than four years

Mitigation Projects (2008 Plan)

Table 5-1 - Summary of Collier County Mitigation Actions

Action	Related to Goal	Address Current Development	Address Future Development	Continued Compliance with NFIP	Mitigation Category	Prioritized in Collier County LMS?
Existing Mitigation Actions Carried Forward from 2008 Plan						
Review amendments to the Growth Management Plan and the Land Development Code (LDC) to incorporate smart growth criteria.	1, 4, 5	N	Y	Y	Prevention, Property Protection, Natural Resource Protection	
Prepare an amendment to the Code of Laws and Ordinances to establish a maximum allowable discharge rate in accordance with the Belle Meade Stormwater Master Plan.	1, 5	N	Y	Y	Prevention	
Annually prepare and schedule FMP progress report by April of each year and recommended FMPC activity to the BCC each year.	1	N	N	Y	Prevention	
The Flood Damage Prevention Ordinance will be evaluated for amending as needed, but no less than biennially.	1, 3	Y	Y	Y	Prevention, Property Protection	
Coordinate roadway stormwater maintenance programs to address stormwater flooding problems.	1, 3, 5	Y	Y	Y	Prevention, Property Protection, Structural Projects	
Continue support of the Coastal Zone Management program.	4	Y	Y	N	Natural Resource Protection	
Annually recommended Conservation Collier land acquisition areas, and recommend land use amendment petitions to the BCC throughout the year. Prepare an acquisition report in July of each year.	4	N	Y	Y	Natural Resource Protection	
Continue to implement policies requiring BMPs for erosion and sediment controls to comply with NPDES permit requirements.	4, 5	Y	Y	N	Prevention, Natural Resource Protection	
Create a grant program for enhancing the efficiencies of existing stormwater management systems and seek alternative funding sources to bring existing systems to higher standards.	5	Y	Y	Y	Prevention, Structural Projects	
Continue to annually fulfill all training and reporting requirements to be certified as a "Storm Ready" community.	1, 2	N	N	N	Emergency Services, Public Information and Outreach	

New Mitigation Projects

Action	Related to Goal	Address Current Development	Address Future Development	Continued Compliance with NFIP	Mitigation Category	Prioritized in Collier County LMS?
from the general public.						
New 2015 Flood Hazard Mitigation Actions						
Develop a Program for Public Information (PPI) involving Collier County, Marco Island, Naples and Everglades City	2	Y	N	Y	Public Information and Outreach	
Provide flood insurance information to residents and local business owners	2	Y	N	Y	Public Information and Outreach	
Construction of the Belle Meade Diversion project (reduction of flow from the Golden Gate Canal)	1, 5	Y	Y	Y	Prevention, Structural Projects	
Develop a professional landscaper certification program	2, 4	Y	Y	Y	Public Information and Outreach	
Utilize pollutant screening baskets in catch basins	4	Y	Y	N	Prevention, Natural Resource Protection	
Develop a Low Impact Development (LID) Manual	1, 4, 5	N	Y	Y	Prevention, Natural Resource Protection	
Construction of the Southwestern Protection Levee as part of the Picayune Strand Restoration Project	4	Y	Y	Y	Prevention, Natural Resource Protection	
Identify and prioritize critical facilities at risk to flooding	3	Y	Y	Y	Property Protection, Emergency Services	
Provide education/outreach for the Flood Watch Program (BCB Tool)	2	Y	N	Y	Public Information and Outreach	
Maintain the localized flooding "bubble map"	1	Y	Y	Y	Property Protection	
Review the LDC and investigate impacts to the floodplain/recommend improvements to the LDC manual as appropriate	1, 4	Y	Y	Y	Prevention, Property Protection	
Collect LiDAR data	1, 3	Y	Y	Y	Prevention, Property Protection	
Provide education/outreach for non-point source pollution prevention	2, 4	Y	N	Y	Public Information and Outreach	

13 Projects

Project Detail

5.5 New 2015 Flood Hazard Mitigation Actions

1. Develop a Program for Public Information (PPI) involving Collier County, Marco Island, Naples and Everglades City

Project Description:

Hazards Addressed:

Issue/Background:

Other Alternatives:

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Office:

Priority (H, M, L):

Cost Estimate:

Benefits (Losses Avoided):

Potential Funding:

Timeframe:

2. Provide flood insurance information to residents and local business owners

Project Description:

Hazards Addressed:

Issue/Background:

Other Alternatives:

Existing Planning Mechanism(s) through which Action Will Be Implemented:

Responsible Office:

Priority (H, M, L):

Cost Estimate:

Benefits (Losses Avoided):

Potential Funding:

Implementation, Evaluation, Revision

- FMPC will meet at least quarterly to evaluate implementation of the plan
- Plan will be updated at least every 5 years

Next Steps

- Minimum 2 Week Review Period
- Plan Commission Review
- Final Adoption by Board of County Commissioners
- Incorporate comments and final resolution into final plan



The screenshot shows the Collier County website's 'FLOODPLAIN MANAGEMENT PLANNING' page. The page includes a navigation menu with options like 'HOME', 'YOUR GOVERNMENT', 'RESIDENTS', 'VISITORS', 'DOING BUSINESS', and 'I WANT TO ...'. A sidebar on the left lists various services such as 'Planning & Zoning Department', 'Board of Building Adjustment and Appeals', and 'Floodplain Management Planning'. The main content area features a map of a residential area, followed by text explaining the Floodplain Management Plan (FMP) and its role in the Community Rating System (CRS). It also mentions the 'Fiscal Year 2014/15 Floodplain Management Plan Updating' process and provides a list of links for more information, including 'Floodplain Management Committee Members', 'Documents for Public Review and Comment', and 'Meeting Minutes'.

Questions

