

9.3 CITY OF CAPE MAY

This section presents the jurisdictional annex for the City of Cape May.

A.) HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Robert H. Smith, Superintendent of DPW 643 Washington Street, Cape May, N.J. 08204 (609) 884-9570 rsmith@capemaycity.com	Carl Behrens, Chief Water Treatment Plant Operator/Supervisor 643 Washington Street, Cape May, N.J. 08204 (609) 884-9577 desal@capemaycity.com

B.) CITY PROFILE

Population

3,686 (estimated 2008 Residential Population, Cape May County Planning Dept.)

45,958 (estimated 2008 Summer Population, Cape May County Planning Dept.)

Location

Cape May is a city at the southern tip of Cape May Peninsula in Cape May County, New Jersey, where the Delaware Bay meets the Atlantic Ocean. It is bounded on the north by the Township of Lower, on the east by portions of the Township of Lower and the Borough of Wildwood Crest, on the south by the Atlantic Ocean, and on the west by the Borough of West Cape May, the Township of Lower, the Borough of Cape May Point and the Delaware Bay. It is part of the Ocean City Metropolitan Statistical Area.

The Cape May-Lewes Ferry provides transportation across the Delaware Bay to Lewes, Delaware. Cape May Harbor, which borders Lower Township and nearby Wildwood Crest allows fishing vessels to enter from the Atlantic Ocean.

According to the U.S. Census Bureau, the city has a total area of 2.8 square miles (7.3 km²), with 2.5 square miles (6.4 km²) of it land and 0.3 square miles (0.8 km²) of it (11.43-percent) water. Cape May is generally low-lying and its highest point is at 14 feet above sea level, at Washington and Jackson Streets.

Climate

Cape May County, with all its municipalities, lies within the Coastal Climate zone of the State of New Jersey. In autumn and early winter, when the ocean is warmer than the land surface, the Coastal Zone will experience warmer temperatures than interior regions of the state. In the spring months, ocean breezes keep temperatures along the coast cooler. Being adjacent to the Atlantic Ocean, with its high heat capacity (compared to land), seasonal temperature fluctuations tend to be more gradual and less prone to extremes. Sea breezes play a major role in the coastal climate. When the land is warmed by the sun, heated air rises, allowing cooler air at the ocean surface to spread inland. Coastal storms, often characterized as Nor'Easters, hurricanes or tropical storms, are most frequent between October and April. These storms track over the coastal plain or up to several hundred miles offshore, bringing strong winds and heavy rains (ONJSC, Date Unknown).

The average monthly temperatures of the county in winter are 42° to 47°F during December, January and February. March climbs up to about 51°F. April's average is 60°F and in May it can get as warm as 69°F.

Average water temperatures are 37 to 42°F (CapeMay.com, Date Unknown). Cape May County has been known to experience the least amount of snow accumulations in the State, reaching approximately 15 inches in snow annually.

Brief History

What is now Cape May was originally formed as the borough of Cape Island by an Act of the New Jersey Legislature on March 8, 1848, from portions of the Township of Lower. It was reincorporated as Cape Island city on March 10, 1851, and finally became Cape May city as of March 9, 1869 (Snyder, 1969). The County's first resort, Cape May City (Cape Island until 1869) was known as a resort destination since 1800, but experienced considerable growth during this period. Cape May City was a thriving seaside community, attracting many politicians and many wealthy plantation owners. Huge hotels were built, some accommodating as many as 2,000 guests. There were gambling casinos and horse racing on the beach.

A great fire in 1878 destroyed most of the city, but wealthy vacationers did not abandon their vacation site. Nearly all the buildings in Cape May were built during this 'Victorian Age'.

The earlier part of the twentieth century did not see enormous growth for the City of Cape May. Vacation was not a priority during the two great wars and during the great depression for Americans. The First World War resulted in the Navy acquiring a Cape May Hotel as a hospital and an army base. During the Second World War an enemy aircraft lookout tower and an antisubmarine surveillance station were built – and they are still standing today. Also built during the war was the Cape May Canal between 1942 and 1943 (Visit New Jersey Shore, 2009).

Two major hurricanes swept through the City, in 1944 and 1962, causing major destruction throughout the city. However, the city was rebuilt again and the extension of the Garden State Parkway into Cape May City, the advent of the ferry to Delaware and the 1976 designation of the City as a National Historic Landmark City have led to a great resort town (Ditmire, 1999).

Governing Body Format

Effective July 1, 2004, the City of Cape May switched to a Council-Manager form of government under the Faulkner Act. The government consists of a Mayor and a Borough Council comprising four council members, with all positions elected at large in partisan elections. A Mayor is elected directly by the voters to a four-year term of office. The Borough Council is elected to serve four-year terms on a staggered basis, with three seats coming up for election and then the mayor and the fourth seat two years later (Rutgers University, 2005).

Growth/Development Trends

The vast majority of land not developed in Cape May is environmentally constrained by floodplain, wetlands or both. These environmentally sensitive lands, and the wildlife habitats that they support, are very much a part of what makes Cape May an attractive area to live and vacation and are also important for environmental tourism, such as birding. Where much of these lands are unable to be developed due to State development regulations, Cape May should strive to acquire lands that are developable in environmentally sensitive areas to preserve these lands from development and enable those to be used for passive recreation areas.

Much of the City is located within the one hundred year floodplain as delineated by the Federal Emergency Management Agency mapping. Zoning regulations require that the lowest floor of any

building be not less than ten and one-half feet above mean sea level to minimize property damage. The City will continue to enforce flood protection standards for development and implement flood protection / mitigation projects as funding allows.

The City recognizes the importance of protecting natural resources. Current regulations preserve soils and existing vegetation and require the replacement of vegetation that is removed when land is developed. Cape May has a landscaping ordinance that requires up to 60% of a lot be left in vegetation and tree replacement for larger trees that are removed. Participation by the Environmental Commission and Shade Tree Commission in land development reviews has ensured compliance with the regulation and should continue.

According to the 2000 Census, the City of Cape May lost 634 persons in its population between 1990 and 2000, more than a 13% decline. It is estimated that the 2008 population figure is 3,800. The population decrease trend appears consistent through 2008. These declines do not reflect any lessening of Cape May's viability. To the contrary, real estate in Cape May remains desirable and vacancy rates are low. Few new homes are being built (other than the redevelopment of existing residential lots. 51.4% of Cape May's homes were designated for seasonal use in the 2000 Census. This is an increase of 968 seasonal homes since 1990, when seasonal homes accounted for 27.7% of the housing stock.

The projections for the City of Cape May by Cape May County show slightly less than 4% increases every five years to achieve a population of 4,692 by the year 2020. This is a 16.3% increase over the course of twenty years. The apparent discrepancy between this forecast and recent trends is based on the countywide trends towards suburbanization and increased birthrates. It is possible that a number of the new seasonal homeowners are purchasing homes in anticipation of future use as a retirement home. Cape May was cited recently by a national magazine as one of the ten best places in America to retire, a fact that has already been discovered by a number of local residents. 28.4% of Cape May City residents are age 65 or older, as compared with 20.2% of the total County population.

Indicators of potential development in Cape May County include Vacant Developable, Residential Subdividable, Farmland Developable, Commercial Buildable, Greyfield Sites, and Brownfield Sites. These areas, identified by the 2009 *Maser Consulting, Transfer of Development Rights Feasibility Study*, are summarized in the following table.

Summary of Potentially Developable Land in the City of Cape May

Municipality	Residential Sub-dividable		Farmland Developable		Commercial Buildable		Greyfield Sites		Brownfield Sites		Vacant		Total Per Municipality	
	Number of Lots	Number of Acres	Number of Lots	Number of Acres	Number of Lots	Number of Acres	Number of Lots	Number of Acres	Number of Lots	Number of Acres	Number of Lots	Number of Acres	Number of Lots	Number of Acres
City of Cape May	0	0	0	0	0	0	0	0	7	3.3	68	18.9	75	22.2

Source: Maser Consulting, Transfer of Development Rights Feasibility Study, 2009

Specific Hazard Vulnerabilities Identified in the City of Cape May

The City's beaches are vital to both the environmental and physical protection of the City as well as being one of its most valuable economic resources. The City of Cape May's shoreline is continuously changing and it frequently experiences rapid erosion. The principal cause of the lack of sand in our area and the subsequent erosion is due to the jetty at Cape May Inlet. Although beach fill re-nourishment is performed every two years by the U.S. Army Corps of Engineers and dune stabilization maintenance is exercised on a year-round basis by the City of Cape May, this non-structural shoreline protection can be lost in a severe storm rendering the low lying developed areas subject to damage and flooding.

Most of Cape May is located in the 100-year floodplain. The results of coastal storms, Nor'Easters and hurricanes that have caused damage and flooding prior to the 1993 initial emplacement of pumped sand along our beaches most accurately identified our hazardous areas and problems. The low lying areas of East Cape May as well as an approximately 20 block area in the center of town known as Frog Hollow and the continuous two blocks of commercial and residential properties directly along the beach front were frequently inundated with floodwater. Those structures in the first block, along Beach Avenue were at times subjected to direct wave action. Back-bay flooding occurs in several well developed areas, those being Yacht Avenue, Venice and Elmira Streets, and areas on Congress and Grant Streets. The back-bay flooding when severe precludes vehicular traffic at two of our critical entrance/exit emergency roadways, Washington Street and Elmira Street.

Past, Ongoing and Potential Mitigation Activities

The following identifies both ongoing and completed mitigation activities/projects in the City of Cape May, including those excerpted from the city's FMP Action Plan:

The City of Cape May participates in the NFIP Community Rating System (CRS) and continues to work to improve their CRS rating through various CRS activities.

Beach Nourishment (Cape May Inlet to Lower Township)**Initial Construction**

(1) Phase I - Beachfill - USCG Training Center

DACW61-C-0004

Quantity: 465,000 cy

Extended 1 storm sewer outfall

Completed August 1989

(2) Phase II Groin Extension - Cape May City of Cape May

DACW61-89-C-0060

Extended 2 existing groins at Baltimore & Trenton Avenues

Completed July 1990 (3) Phase III - Beachfill Cape May City of Cape May

DACV/61-90-C-0114

Quantity: 900,000 cy

*Although a non-Fed responsibility, 16 outfalls extended by COE at State request as part of Phase III.

Completed July 1991

Periodic Nourishment / Monitoring

(Estimated periodic nourishment - 360,000 cy every 2 years beginning in FY 1992)

(1) 1st Cycle of Periodic Nourishment



DACW61-92-C-0082

Quantity: 415,000 cy

Completed April 1993

(2) Storm Rehabilitation

DACW61-93-C-0033

Quantity: 300,000 cy

Completed September 1993

(3) 2nd Cycle of Periodic Nourishment\

DACW61-94-C-0082

Quantity: 330,000 cy

Completed March 1995

(4) 3rd Cycle of Periodic Nourishment

DACW61-96-C-0048

Quantity: 366,000 cy

Completed January 1997

(5) 4th Cycle of Periodic Nourishment

DACW61-99-C-0023

Quantity: 400,000 cy

Completed October 1999

(6) 5th Cycle of Periodic Nourishment

DACW61-02-C-0050

Quantity: 267,000 cy

Completed March 2003

(7) 6th Cycle of Periodic Nourishment

W912BU-04-C-0019

Quantity: 290,145 cy

Completed November 2004

(8) 7th Cycle of Periodic Nourishment

W912BU-06-C-0017

Quantity: 190,000 cy

Completed February 2007

(9) 8th Cycle of Periodic Nourishment

W912BU-08-C-0048

W912BU-09-C-0009

Quantity: 315,427 Tons (233,650 cy if assume 1.35 tons per cy)

Completed February 2009

Bulkheads - There are two timber crib groins approximately 100' in length installed parallel to the shoreline located at the Jackson Street and Gurney Street beaches.

Groins - There are nine stone groins that range from 150' to 786' in length installed along the shoreline to block the erosion. They are located at the following street ends: Baltimore Avenue, Trenton Avenue,

Philadelphia Avenue, Queen Street, Gurney Street, Jackson Street, Windsor Avenue, Patterson Avenue, Third Avenue.

There are nine timber crib groins that range in length from 50' to 200' in length installed perpendicular to the shoreline to block the erosion. The are located at the following street ends: Howard Street, Jefferson Street, Queen Street, Madison Avenue, Between Madison and Philadelphia Avenues, Philadelphia Avenue, Reading Avenue, Between Reading and Trenton Avenues, and Trenton Avenue.

Geo-tubes - Prior to the beach nourishment program during the 1990s, approximately ten geo-tubes were placed between the street ends of Stockton Place and Gurney Street behind the Convention Hall to reduce the loss of sand from around the pilings of the structure.

Flood Sirens - Five Flood sirens for the purpose of giving the residents early warning of flooding are located at Wilmington and New Jersey Avenues, Texas Avenue, Reading and New York Avenues, the Benton Avenue Stormwater pumping facility, and Grant and North Sheets. The early warning enables the residents to move their vehicles to high ground during beachfront and back bay flooding.

C.) NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE CITY

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Hurricane	Not applicable	1944	Not available
Coastal Storm, Flooding	DR-124	March, 1962	\$3,000,000 (countywide)
Tornado (F2)	Not applicable	August, 1971	\$250,000 (City of Cape May)
Snowstorm	Not applicable	December, 1973	\$24,000 (countywide)
Severe Winter Storm (Delaware Bay Froze)	Not applicable	January, 1977	Not available
Flood	Not applicable	November, 1977	\$2,400,000 (countywide)
Severe Winter Storm (Heavy Snow)	Not applicable	1978	Not available
Severe Winter Storm (Heavy Snow)	Not applicable	1979	Not available
Coastal Storm, Flooding	Not applicable	March, 1984	\$500,000 (countywide)
Hurricane (Gloria)	Not applicable	October, 1985	Not available
Major Nor'Easter	Not applicable	January 1-2, 1987	Not available
Coastal Storm	Not applicable	October, 1991	\$90,000,000 (statewide) \$1,700,000-\$4,000,000 (countywide)
Tidal Flood	Not applicable	November, 1991	\$167,000 (countywide)
Major Nor'Easter	Not applicable	March 1-5, 1992	Not available
Severe Coastal Storm	DR-936	January, 1992	\$16,000 (countywide)
Coastal Storm, High Tides, Heavy Rain, Flooding	DR-973	December, 1992	\$16,800,000 (countywide)
Severe Winter Storm	EM-3106	March, 1993	\$2,600,000 (statewide)
Coastal Flood	Not applicable	March, 1994	\$167,000 (countywide)
Major Nor'Easter	Not applicable	December 19-23, 1995	Not available
Severe Winter Storm,	DR-1088	January, 1996	\$800,000 (countywide)

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Coastal Storm			
Coastal Flood, Coastal Erosion	Not applicable	January, 1996	\$3,600,000 (countywide)
Major Nor'Easter	Not applicable	March 19-21, 1996	Not available
Major Nor'Easter	Not applicable	December 3-17, 1996	Not available
Severe Winter Storm	Not applicable	November 13-16, 1997	Not available
Coastal Flood	Not applicable	January, 1998	\$3,800,000 (countywide)
Coastal Storm	DR-1206	February, 1998	\$3,600,000-\$4,200,000 (countywide)
Hurricane Floyd	EM-3148	September, 1999	\$492,000 (countywide)
Snowstorm	EM-3181	February, 2003	\$1,400,000 (countywide)
Strong Winds	Not applicable	March, 2003	\$5,000 (countywide)
Thunderstorm, Wind	Not applicable	October, 2003	\$32,000 (countywide)
Severe Winter Storm, Coastal Flooding	Not applicable	February, 2006	\$225,000 (countywide)
Thunderstorm, Wind	Not applicable	March, 2008	\$10,000 (multi-jurisdictional)
Severe Storm, Flooding (Tropical Storm Ida and Nor'Easter)	DR-1867	November, 2009	TBD

Number of FEMA Identified Repetitive Flood Loss Properties: 143
Number of FEMA Identified Severe Repetitive Flood Loss Properties: 17

Source: FEMA Region 2 as of December 2009

D.) NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

Rank #	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c, d}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
1	Coastal Erosion	Not available	Frequent	54	High
1	Coastal Storm	Min: \$475,134,766 Max: \$565,659,398	Frequent	54	High
1	Flood	\$273,707,000	Frequent	54	High
2	Severe Storm	\$90,545,398	Frequent	36	Medium
3	Severe Winter Storm	\$7,545,900	Frequent	27	Medium
4	Tsunami	Not available	Rare	18	Low
5	Wildfire	Not available	Occasional	12	Low

- a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- b. High = Total hazard priority risk ranking score of 40 and above
Medium = Total hazard priority risk ranking of 20-39
Low = Total hazard risk ranking below 20
- c. The valuation of general building stock and loss estimates determined in Cape May County were based on the default general building stock database provided in HAZUS-MH MR4 (RSMMeans 2006).
- d. The coastal storm loss estimate is a combination of the wind and storm surge minimum and maximum damages for the 500-year event. Severe storm (structure only) and flood (structure and contents) hazard loss estimates are for the 500-year MRP event. For severe winter storm, the loss estimate is 1% of total general building stock value (structure only).

E.) CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- The probability of occurrence for these events is weighted at “0” due to no exposure

E.1) Legal and Regulatory Capability

Regulatory Tools (Codes, Ordinances., Plans)	Local Authority (Y or N)	Prohibitions (State or Federal) (Y or N)	Higher Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Code Citation (Section, Paragraph, Page Number, date of adoption)
1) Building Code	N	Y	Y	Y	Uniform Construction Code of NJ Adopted by Ordinance 11/14/2005
2) Zoning Ordinance	Y	Y	Y	Y	Adopted by Ordinance #10-2004, Chapter XXXII, 12/2/2004 of the 1997 Revised General Ordinances
3) Subdivision Ordinance	Y	Y	N	N	Adopted by Ordinance #826-89, Chapter XXXI of the 1997 Revised General Ordinances
4) NFIP Flood Damage Prevention Ordinance	Y	Y	Y	N	Adopted by Ordinance #766 Chapter XV of the 1997 Revised General Ordinances.
5) Growth Management	Y	Y	N	Y	Refer to Zoning Ordinance
6) Floodplain Management / Basin Plan	Y	Y	Y	Y	Updated Plan in Progress, To Be Completed 10/01/2009
7) Stormwater Management Plan/Ordinance	Y	Y	Y	Y	Adopted by Ordinance 10/28/2005, Ord. #48-2005
8) Comprehensive Plan / Master Plan/ General Plan	Y	N	N	Y	Adopted by City of Cape May Planning Board Resolution 4/10/2009
9) Capital Improvements Plan	Y	N	N	N	Adopted Annually w/Budget
10) Site Plan Review Requirements	Y	N	Y	N	Adopted by Ordinance #10-2004, Chapter XXXIII of the 1997 Revised General Ordinances 12/02/2004
11) Open Space Plan	N	N	Y	N	Adopted by Ordinance #1259- 2002, Chapter XXXVII of the 1997 Revised General Ordinances
12) Shoreline Management or Protection Plan	Y	Y	N	N	
13) Economic Development Plan	Y	N	Y	Y	See #17 (Other Ordinances)
14) Emergency Response Plan	N	Y	Y	N	City of Cape May Emergency Operations Plan, Updated 3/3/2008
15) Post Disaster Recovery Plan	N	N	N	N	City of Cape May Emergency Operations Plan, Updated 3/3/2008
16) Post Disaster Recovery Ordinance	N	Y	Y	N	
17) Real Estate Disclosure req.	N	Y	Y	Y	

SECTION 9.3: CITY OF CAPE MAY

Regulatory Tools (Codes, Ordinances., Plans)	Local Authority (Y or N)	Prohibitions (State or Federal) (Y or N)	Higher Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Code Citation (Section, Paragraph, Page Number, date of adoption)
18) Other [Special Purpose Ordinances (i.e., critical or sensitive areas)]	Y	N	Y	Y	Historic Preservation Districts -City of Cape May Ord. #525 Article VIII. Washington Street Mall Business Improvement District -City of Cape May Ord. #165-2008. Design Standards – City of Cape May Ord. #525-59.

E.2) Administrative and Technical Capability

Staff/ Personnel Resources	Available (Y or N)	Department/ Agency/Position
1) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Polistina & Associates, LLC, Engineers & Planners, Planning Board Engineers, Zoning Board Engineers.
2) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Mott Associates, LLC, Consulting Engineers & Planners, City Engineer.
3) Planners or engineers with an understanding of natural hazards	Y	Mott Associates, LLC, Consulting Engineers & Planners, City Engineer.
4) NFIP Floodplain Administrator	Y	William R. Callahan, Construction Official
5) Surveyor(s)	Y	Mott Associates, LLC, Consulting Engineers & Planners, City Engineer.
6) Personnel skilled or trained in "GIS" applications	Y	Mott Associates, LLC, Consulting Engineers & Planners, City Engineer. Polistina & Associates, LLC, Engineers & Planners, Planning Board Engineers, Zoning Board Engineers.
7) Scientist familiar with natural hazards in the City of Cape May.	Y	Polistina & Associates, LLC, Engineers & Planners, Planning Board Engineers, Zoning Board Engineers.
8) Emergency Manager	Y	Robert H. Smith, City of Cape May Emergency Management Coordinator
9) Grant Writer(s)	Y	Gillan & Hartman & Marc Blauer
10) Staff with expertise or training in benefit/cost analysis	Y	Bruce A. MacLeod, City Manager

E.3) Fiscal Capability

Financial Resources	Accessible or Eligible to use (Yes/No/Don't know)
1) Community development Block Grants (CDBG)	Y
2) Capital Improvements Project Funding	Y
3) Authority to Levy Taxes for specific purposes	Y
4) User fees for water, sewer, gas or electric service	Y
5) Impact Fees for homebuyers or developers of new development/homes	N
6) Incur debt through general obligation bonds	Y
7) Incur debt through special tax bonds	N
8) Incur debt through private activity bonds	N
9) Withhold public expenditures in hazard-prone areas	N
10) Other	

E.4) Community Classifications

Program	Classification	Date Classified
Community Rating System (CRS)	8 (current)	10/1/1994*
Building Code Effectiveness Grading Schedule (BCEGS)	4	06/01/1998
Public Protection	TBD	TBD
Storm Ready	NP	n/a
Firewise	NP	n/a

N/A = Not applicable. NP = Not participating. - = Unavailable.

* Date Classified for the CRS Program reflects the date of entry into the program, not the date of the most recent class upgrade.

The classifications listed above relate to the community's effectiveness in providing services that may impact its vulnerability to the natural hazards identified. These classifications can be viewed as a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class one (1) being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO's Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

Below is a table indicating the City's participation and points earned in the CRS program to date.

Series	Activity Number	Activity Description	Maximum Points Possible	Points Received for the City of Cape May
300	310	Elevation Certificates	162	56
300	320	Map Information	140	140
300	330	Outreach Projects	380	30
300	340	Hazard Disclosure	81	0
300	350	Flood Protection Information	102	21
300	360	Flood Protection Assistance	71	10
400	410	Additional Flood Data	1,346	0

Series	Activity Number	Activity Description	Maximum Points Possible	Points Received for the City of Cape May
400	420	Open Space Preservation	900	215
400	430	Higher Regulatory Standards	2,740	230
400	440	Flood Data Maintenance	239	0
400	450	Stormwater Management	670	45
500	510	Floodplain Management Planning	359	0
500	520	Acquisition and Relocation	3,200	0
500	530	Flood Protection	2,800	0
500	540	Drainage System Maintenance	330	255
600	610	Flood Warning Program	255	110
600	620	Levee Safety	900	0
600	630	Dam Safety	175	67
		Total Points to Date		1,179

F.) PROPOSED HAZARD MITIGATION INITIATIVES

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
CCM-1a	Where appropriate, support retrofitting of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for retrofitting based on cost-effectiveness versus relocation. Where retrofitting is determined to be a viable option, consider implementation of that action based on available funding.	Existing	Coastal Storm, Flood, Severe Storm	1, 2, 4, 6	1-1, 1-2, 1-9, 1-11, 2-4, 4-1, 6-2, 6-3	Borough (likely through NFIP Floodplain Administrator)	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF
CCM-1b	Where appropriate, support purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for relocation based on cost-effectiveness versus retrofitting. Where relocation is determined to be a viable option, consider implementation of that action based on available funding.	Existing	Coastal Storm, Flood, Severe Storm	1, 2, 4, 6	1-1, 1-2, 1-9, 1-11, 2-4, 4-1, 6-2, 6-3	Borough	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF
CCM-2	Continue active participation in CRS.	New & Existing	Flood	1, 2, 6	1-1, 1-2, 1-5, 1-7, 2-1, 2-2, 2-3,	City	Low - Medium	Local Budget	Short

SECTION 9.3: CITY OF CAPE MAY

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
					6-2, 6-3				
CCM-3	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	New & Existing	All Hazards	1 through 6	All	City (through mitigation planning point of contacts)	Low – High (for 5-year update)	Local Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Ongoing
CCM-4	Strive to maintain compliance with, and good-standing in the National Flood Insurance program.	New & Existing	Flood	1, 2, 4, 5, 6	1-1, 1-2, 1-3, 1-7, 1-9, 2-3, 2-4, 4-1, 4-2, 4-9, 5-1, 5-2, 6-2, 6-3	Municipality (likely through NFIP Floodplain Administrator)	Low - Medium	Local Budget	Ongoing
CCM-5	Continue to develop, enhance, and implement existing emergency plans.	New & Existing	All Hazards	1, 3, 4, 6	1-7, 1-8, 3-1, 3-2, 3-3, 4-1, 4-4, 4-5, 4-7, 4-8, 4-11, 6-1, 6-2	Municipal Emergency Manager with support from County OEM and NJOEM	Low - Medium	Local Budget	Ongoing
CCM-6	Create/enhance/ maintain mutual aid agreements with neighboring communities.	New & Existing	All Hazards	1, 3, 4, 6	1-7, 1-8, 3-1, 3-2, 3-3, 4-1, 4-4, 4-5, 4-7, 4-8, 6-1, 6-2, 6-3	Borough	Low - Medium	Local Budget	Ongoing
CCM-7	Support County-wide initiatives identified in Section 9.1 of the County Annex.	New & Existing	All Hazards	1 through 6	All	Local departments (as applicable for specific initiative)	Low - High	Existing programs and grant funding where applicable	Ongoing – Long-term depending on initiative
CCM-8 (see County Initiative CMC-18)	Install shoreline protection for Delaware Avenue (CR-640; entrance to Coast Guard Base) along the Cape May Harbor in the City of Cape May. County has met with ACOE and NJDEP on this previously.	Existing	Coastal Flooding, Coastal Erosion	1, 3, 4, 5, 6	1-1, 3-3, 4-7, 5-4, 6-2	County Engineering, ACOE and NJDEP; support from City	High	ACOE, State	Long-term DOF

SECTION 9.3: CITY OF CAPE MAY

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
CCM-9 (see County Initiative CMC-8)	Elevate ~1.5 miles of CR-606 (Sunset Boulevard) through the South Cape May Meadows (also involves Lower Township and West Cape May).	N/A	Coastal Storms, Flooding	1, 3, 4, 6	1-1, 3-3, 4-2, 4-7, 4-11, 6-2	County Engineering with support of City of Cape May where it intersects City lands	High	Various, incl. federal grant funding	(lower priority project – area is not as floodprone as many other areas)
CCM-10	Install a cap on the existing seawall from Madison Avenue to Jackson	Existing	Coastal Storms, Coastal Erosion, Severe Storms, Flooding, Tsunami	1, 3, 4, 5	1-1, 1-4, 1-10, 3-3, 4-1, 4-7, 5-1	City DPW and engineering	Medium - High	Local funding (request to City Council upcoming)	Short-term DOF
CCM-11	Seawall repair / replacement - please see the interim initiative following	Existing	Coastal Storms, Coastal Erosion, Severe Storms, Flooding, Tsunami	1, 3, 4, 5	1-1, 1-4, 1-10, 3-3, 4-1, 4-7, 5-1	ACOE and NJDEP; support from City	High	USACE, NJDEP, HMA Grant Funding with local funding	Long-term DOF
CCM-12 (CMC-32)	Install backup power to two stormwater pump stations at Madison Avenue and Grant Street in Cape May City. Work with the City to properly site the generator, which could be co-managed with the City to provide backup power for their station on Queen Street and Benton Avenue. Madison Avenue can be powered with a generator located at Benton Avenue. The location for a generator for Grant Street has yet to be determined.	Existing	Coastal Storms, Severe Storms, Flooding	1, 3, 4, 6	1-1, 3-3, 3-4, 4-1, 4-3, 4-7, 4-8, 6-1, 6-2	County Engineering with City of Cape May	L-M (not high \$ cost)	TBD	Long-term DOF
CCM-13	Upgrade Venice Avenue pump station (increased capacity, backup power)	Existing	Coastal Storms, Severe Storms, Flooding	1, 3, 4	1-1, 3-3, 3-4, 4-1, 4-3, 4-7, 4-8	City DPW and Engineering	High	Local Budgets with HMA grants where	Long-term DOF

SECTION 9.3: CITY OF CAPE MAY

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
								applicable	
CCM-14	Work with County GIS to leverage recent LIDAR elevation data to identify areas that need to be bermed to prevent back bay flooding	N/A	Coastal Storms, Severe Storms, Flooding	1, 3, 4, 6	1-5, 1-6, 1-7, 1-11, 3-4, 4-2, 4-6, 6-2	City DPW and Engineering with County GIS	Low - Medium	Local and County budgets	Short
CCM-15	Based on findings of previous initiative, develop and implement a program to install dikes/barriers to protect from back bay flooding	N/A	Coastal Storms, Coastal Erosion, Severe Storms, Flooding, Tsunami	1, 4	1-1, 1-4, 1-10, 4-1, 4-2, 4-6, 4-7	City DPW and Engineering with USACE and NJDEP	High	Local budgets with USACE, NJDEP and HMA grants as applicable	Long-term DOF
CCM-16	Dune Enhancement – Continue ongoing programs of annual planting and installation of new fence	Existing	Coastal Storms, Coastal Erosion, Severe Storms, Flooding	1, 3, 5	1-1, 3-4, 5-1, 5-2	City DPW and Engineering	Low - Medium	Local Budgets	Ongoing
CCM-17	Participate and support a multi-jurisdictional effort between Lower, City of Cape May and West Cape May to control flooding in the Meadows – gate valve on east end.	N/A	Coastal Storms, Severe Storms, Flooding	1, 3, 4, 6	1-1, 1-5, 1-11, 3-3, 4-2, 6-2	County Engineering, with City of Cape May, Lower Township and City of West Cape May	High	County and local budgets with HMA grants as applicable	Short-term DOF
CCM-18	Encourage and work with County to install duckbill valves on County stormwater outfalls (some 9+ county owned and the City Pumping facilities on Queen Street).	Existing	Coastal Storms, Severe Storms, Flooding	1, 3, 4, 6	1-1, 1-5, 1-11, 3-3, 4-2, 6-2	County Engineering with the City of Cape May	High	County and local budgets with HMA grants as applicable	Short-term DOF
CCM-19	Work with county who owns and manages outfall pipes to continue efforts to consolidate and reduce the number of outfalls that need to be maintained (e.g. as was done when they built	Existing	Coastal Storms, Severe Storms, Flooding	1, 3, 5	1-4, 1-5, 3-3, 3-4, 6-1, 6-2	County Engineering with the City of Cape May	High	County and local budgets with HMA grants as applicable	Short-term DOF

SECTION 9.3: CITY OF CAPE MAY

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
	the county Grant Street Pumping Station and combined the Jackson, Windsor, Grant and Patterson outfall pipes). This is a consideration for the east end of the City.								
CCM-20	Elevation of roadways – determine elevations and causes of flooding on Elmira Street and Yacht Avenue and address	Existing	Coastal Storms, Coastal Erosion, Severe Storms, Flooding	1, 3, 4, 6	1-1, 3-3, 4-2, 4-7, 4-11, 6-2	City DPW and Engineering	High	County and local budgets with HMA funding	Long-term DOF
CCM-21	Implement a reverse-911 system in the City	N/A	All Hazards	1, 3, 4, 5	1-1, 1-4, 1-5, 1-7, 1-11, 3-2, 3-3, 3-4, 4-1, 4-2, 4-3, 4-6, 4-7, 4-8, 4-11, 6-1	City OEM, Police, Fire; Verizon Communications	Medium (in 2009 City Budget)	Local Budgets	Ongoing (est. completion early 2010)
CCM-22	Continue to maintain the City of Cape May Beach Management Plan for the Protection of Federally and State-Listed Species (March 2008). All of the aforementioned beach-related projects have bearing on this Beach Management Plan. Work with Cape May Point who has a similar Plan.	N/A	All Hazards	1, 5, 6	1-7, 1-8, 5-1, 5-2, 6-2	City along with USFW and NJDEP, Cape May Point	High	Local along with NJDEP	Ongoing
CCM-23 (CMC-57)	Upgrade stormwater drains and outfalls along Beach Drive (CR603) in Cape May City	Existing	Coastal Storms, Severe Storms, Flooding	1, 3, 4	1-1, 1-4, 3-3, 4-2, 4-6, 4-10	County Engineering with municipal support	High	HMA Grants, County and Local Funding	Short-term

Note(s): CMC = Cape May County; Short term = 1 to 5 years; Long Term = 5 years or greater; OG = On-going program; DOF = Depending on funding; PDM = Pre-Disaster Mitigation Grant Program

* Does this mitigation initiative reduce the effects of hazards on new and/or existing building and/or infrastructure?



G.) ANALYSIS OF MITIGATION ACTIONS

This table summarizes the participant's mitigation actions by hazard of concern and the six mitigation types to illustrate that the City has selected a comprehensive range of actions/projects.

Hazard of Concern	Mitigation Type					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Coastal Erosion	CCM-3, CCM-5, CCM-6, CCM-7	CCM-7, CCM-8	CCM-3, CCM-7	CCM-7, CCM-8, CCM-16, CCM-22	CCM-5, CCM-7, CCM-21	CCM-7, CCM-8, CCM-10, CCM-11, CCM-15, CCM-20
Coastal Storm	CCM-3, CCM-5, CCM-6, CCM-7, CCM-12, CCM-14, CCM-19	CCM-1, CCM-7, CCM-8, CCM-12, CCM-13, CCM-17, CCM-18, CCM-19, CCM-23	CCM-3, CCM-7	CCM-7, CCM-8, CCM-16, CCM-22	CCM-5, CCM-7, CCM-21	CCM-7, CCM-8, CCM-9, CCM-10, CCM-11, CCM-15, CCM-20, CCM-23
Flood	CCM-2, CCM-3, CCM-5, CCM-6, CCM-7, CCM-12, CCM-14, CCM-19	CCM-1, CCM-2, CCM-4, CCM-7, CCM-8, CCM-12, CCM-13, CCM-17, CCM-18, CCM-19, CCM-23	CCM-2, CCM-3, CCM-4, CCM-7	CCM-2, CCM-8, CCM-4, CCM-7, CCM-16, CCM-22	CCM-5, CCM-7, CCM-21	CCM-7, CCM-8, CCM-9, CCM-10, CCM-11, CCM-15, CCM-20, CCM-23
Severe Storm	CCM-3, CCM-5, CCM-6, CCM-7, CCM-12, CCM-14, CCM-19	CCM-1, CCM-7, CCM-8, CCM-12, CCM-13, CCM-17, CCM-18, CCM-19, CCM-23	CCM-3, CCM-7	CCM-7, CCM-8, CCM-16, CCM-22	CCM-5, CCM-7, CCM-21	CCM-7, CCM-8, CCM-10, CCM-11, CCM-15, CCM-20, CCM-23
Severe Winter Storm	CCM-3, CCM-5, CCM-6, CCM-7	CCM-7	CCM-3, CCM-7	CCM-7, CCM-16, CCM-22	CCM-5, CCM-7, CCM-21	CCM-7
Tsunami	CCM-3, CCM-5, CCM-6, CCM-7	CCM-7	CCM-3, CCM-7	CCM-7, CCM-16, CCM-22	CCM-5, CCM-7, CCM-21	CCM-7, CCM-10, CCM-11, CCM-15
Wildfire	CCM-3, CCM-5, CCM-6, CCM-7	CCM-7	CCM-3, CCM-7	CCM-7, CCM-16, CCM-22	CCM-5, CCM-7, CCM-21	CCM-7

Notes:

- 1. Prevention:** Government, administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- 2. Property Protection:** Actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- 3. Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.
- 4. Natural Resource Protection:** Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- 5. Emergency Services:** Actions that protect people and property, during and immediately following, a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.

6. **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

H.) PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
CCM-1a	8	H	H	Y	Y	N	M-H
CCM-1b	8	H	H	Y	Y	N	M-H
CCM-2	9	M	L	Y	N	Y	H
CCM-3	All	M	M	Y	N (Yes for 5 year update)	N	M
CCM-4	14	H	L	Y	N	Y	H
CCM-5	13	M	L	Y	N	Y	M
CCM-6	13	M	L	Y	N	Y	M
CCM-7	All	M-H	L-M	Y	Dependant on specific initiative	Dependant on specific initiative	M-H (dependant)
CCM-8	5	H	H	Y	Y	N (local match only)	M
CCM-9	6	H	H	Y	Y	N (local match only)	M
CCM-10	7	H	H-M	Y	Y	Y	H
CCM-11	7	H	H	Y	Y	N (local match only)	M
CCM-12	7	H	M	Y	TBD	TBD	H
CCM-13	7	H	H	Y	Y	N (local match only)	M
CCM-14	8	M	M-L	Y	N?	Y	H
CCM-15	7	H	H	Y	Y	N (local match only)	M
CCM-16	4	M	M-L	Y	N	Y	H
CCM-17	6	H	H	Y	Y	N (local match only)	M
CCM-18	6	H	H	Y	Y	N (local match only)	M
CCM-19	6	H	H	Y	Dependant on specific initiative	N	M
CCM-20	6	H	H	Y	Y	N (local match only)	M
CCM-21	16	H	M	Y	Y	Y	H
CCM-22	5	H	H	Y	Y	Y	H
CCM-23	6	H	H	Y	Y	N	H

Notes: H = High. L = Low. M = Medium. N = No. N/A = Not applicable. Y = Yes.

* This initiative has a "Medium" priority based on the prioritization scheme used in this planning process (implementation dependent on grant funding), however it is recognized that addressing repetitive and severe repetitive loss properties is

considered a high priority by FEMA and OEM (as expressed in the State HMP), and thus shall be considered a “High” priority for all participants in this planning process.

Explanation of Priorities

- **High Priority** - A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an on-going project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).
- **Medium Priority** - A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority** - Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions: Yes

Prioritization of initiatives was based on parameters other than stated above: Not applicable.

I.) FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

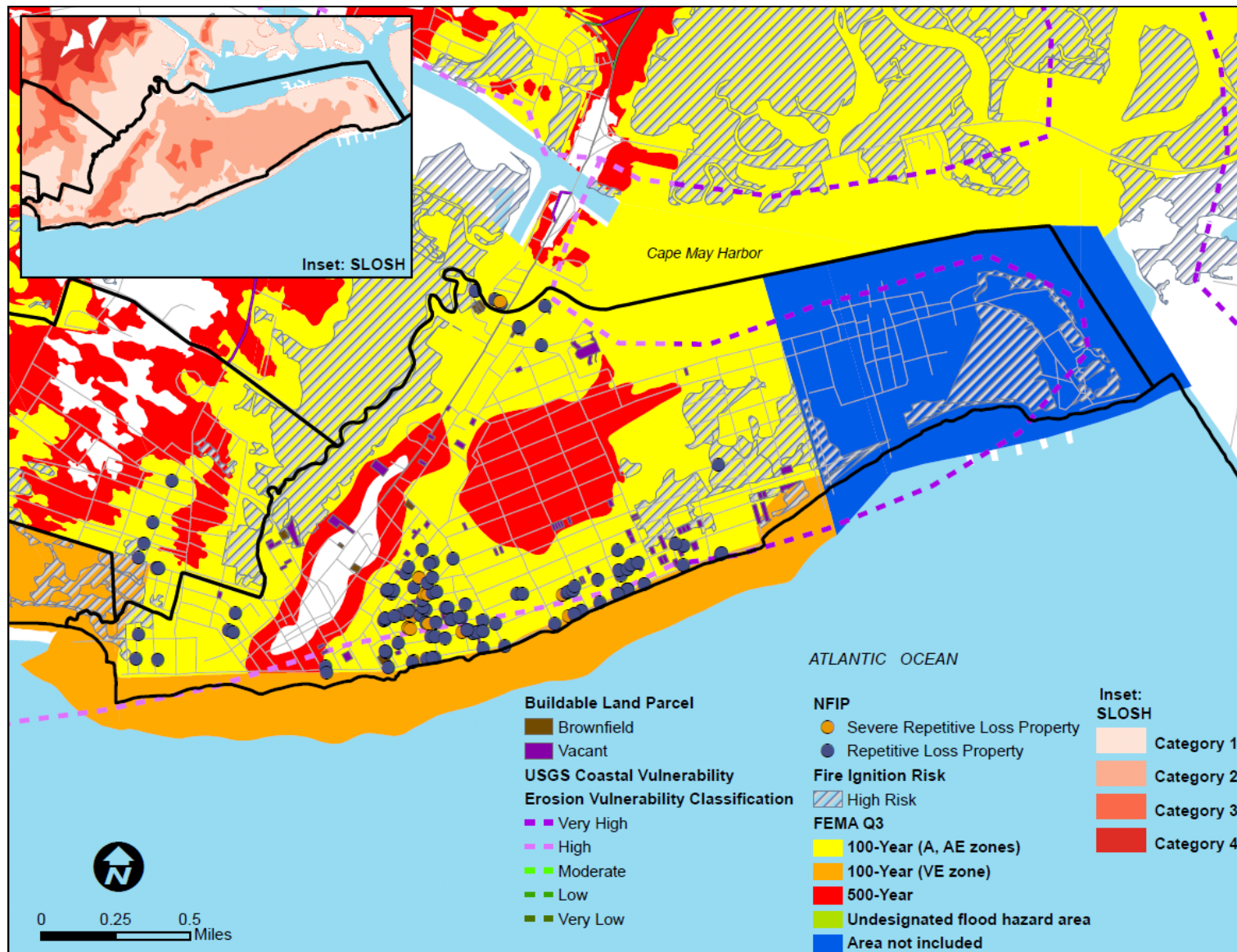
None at this time.

J.) HAZARD AREA EXTENT AND LOCATION

A hazard area extent and location map has been generated and is provided below for the City of Cape May to illustrate the probable areas impacted within the City. This map is based on the best available data at the time of the preparation of this Plan, and is considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Cape May has significant exposure. The county maps are provided in the hazard profiles within Section 5.4, Volume I of this Plan.

K.) ADDITIONAL COMMENTS

No additional comments at this time.



Sources: USGS, 2001; FEMA Q3, Cape May County Planning Department

Notes: The entire municipality is vulnerable to the following hazards: coastal storm, severe storm and severe winter storm. Only the high risk wildfire areas are illustrated on this map; please refer to Section 5.4.6 for all wildfire hazard risk areas. At this time, there is no defined tsunami hazard area for Cape May County.