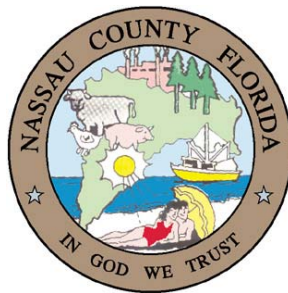


NASSAU COUNTY

POST DISASTER REDEVELOPMENT PLAN



Developed by the Nassau County Post Disaster Redevelopment Plan
Executive Technical Committee

June 30, 2009

EXECUTIVE SUMMARY

The onslaught of the 2004 and 2005 hurricane seasons emphasized the need for Florida communities to undertake a strategic, holistic approach to prepare for, recover from and redevelop after a catastrophic disaster in a proactive and effective manner. Nassau County, a coastal community in northeast Florida is vulnerable to hurricane wind and storm surge, flood, and wildfire impacts that could necessitate a large scale redevelopment effort.

All Florida coastal communities are required to develop a Post Disaster Redevelopment Plan (PDRP) as part of the Local Comprehensive Plan or as a separate document. The PDRP is likened to an umbrella plan that unites growth management and emergency management planning efforts to develop a comprehensive and collaborative PDRP with community stakeholders. The PDRP addresses issues such as: government operations and citizen response, housing and structural repairs, infrastructure and public facility recovery, economic resumption, land use planning and quality of life resiliency.

The Nassau County PDRP was developed as part of a statewide pilot project initiative that was sponsored by the Florida Department of Community Affairs, Division of Community Planning and Division of Emergency Management. The PDRP was developed to provide Nassau County and its jurisdictions with an overarching strategic, interdisciplinary plan for guiding action and decision making during the disaster recovery and redevelopment period, as well as identifying actions that can be implemented prior to a disaster to expedite the recovery process.

The Nassau County PDRP was developed during May 2008 through June 2009 by the Nassau County PDRP Executive Technical Committee, which was comprised of various county departments, municipalities, businesses, non-governmental organization, regional organizations and citizens. The PDRP positions Nassau County and its jurisdictions to be in a better position to recover more expeditiously from a disaster, while taking into account opportunities for hazards vulnerability reduction.

Despite commonalities in Nassau County communities, it is recognized that each jurisdiction has its unique features and recovery strategies may slightly vary. The PDRP is intended for use on a county-wide basis. However, local jurisdictions are encouraged to modify the contents as deemed appropriate prior to adoption.

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ACRONYM LIST

ACF	Annual Chance Flood
BCEGS	Building Code Effectiveness Grading Schedule
BEBR	Bureau of Economic and Business Research
BOCC	Board of County Commissioners
BRP	Business Recovery Plan
BSRP	Business Sector Recovery Plan
CCCL	Coastal Construction Control Line
CDD	Community Development District
CEDS	Comprehensive Economic Development Strategy
CEMP	Comprehensive Emergency Management Plan
CHHA	Coastal High Hazard Area
CIE	Capital Improvements Element
CLT	Community Land Trust
CME	Coastal Management Element of the Comprehensive Plan
COG	Continuity of Government Plan
COOP	Continuity of Operations Plan
CRA	Community Redevelopment Agency
CRS	Community Rating System
DMP	Debris Management Plan
DRC	Disaster Recovery Centers
EDB	Economic Development Board
DBBP	Economic Development Board Business Plan
EDE	Economic Development Element of the Comprehensive Plan
EM	Emergency Management
EOC	Emergency Operations Center
ESF	Emergency Support Function
ETC	Executive Technical Committee
F.A.C.	Florida Administrative Code

FBO	Faith Based Organization
FEMA	Federal Emergency Management Agency
FBHDC	Fernandina Beach Historic District Council
FDCA	Florida Department of Community Affairs
FDEM	Florida Division of Emergency Management
FDEP	Florida Department of Protection
FDOH	Florida Department of Health
FDOT	Florida Department of Transportation
FIRM	Flood Insurance Rate Map
FLUM	Future Land Use Map
GIS	Geographic Information System
HAZUS-MH	Hazards United States – Multi-Hazard
HMGP	Hazard Mitigation Grant Program
HPRN	Historic Preservation Response Network
HRAT	Historic Resource Assessment Team
HVZ	Hurricane Vulnerability Zone
IA	Individual Assistance
ISO	Insurance Services Office, Inc.
JIS	Joint Information System
LMS	Local Mitigation Strategy
MOU	Memorandum of Understanding
NC	Nassau County
NDOH	Nassau County Department of Health
NEFBA	Northeast Florida Builders Association
NERFC	Northeast Florida Regional Council
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
PA	Public Assistance

PIO	Public information officer
PDRP	Post Disaster Redevelopment Plan
RV	Recreational Vehicle
SHPO	State Historic Preservation Office
SLOSH	Sea Lake and Overland Surge Height
SOP	Standard Operating Procedures
SRP	Strategic Regional Policy
TDHP	Temporary Disaster Housing Plan
USACE	United States Army Corp of Engineers
WUI	Wildland Urban Interface

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GLOSSARY

Assessment shall mean the evaluation and interpretation of measurements and other information to provide a basis for decision-making.

Base Flood shall mean the flood having a one (1) percent chance of being equaled or exceeded in any given year. Also known as the 100-year flood.

Base Flood Elevation (BFE) shall mean the height above mean seal level that flood waters are estimated to reach during a base flood event. Elevation of the base flood in relation to a specific datum, such as the National Geodetic Vertical Datum of 1929. The Base Flood Elevation is used as the standard for the National Flood Insurance Program.

Catastrophic Disaster shall mean an incident that overwhelms the capability of local and state resources and requires federal assistance and/or resources. Examples include a Category four or five hurricane.

Coastal High Hazard Area (CHHA) shall mean those portions of the County which lie seaward of the five (5) foot Mean Sea Level topographic contour (the predicted average storm surge height for a Class 1 storm) and which have either historically experienced destruction or severe damage by tidal or wave action, or which have been scientifically predicted to experience destruction or severe damage from storm surge, waves, erosion, or other manifestation of rapidly moving or storm driven water. Notwithstanding the foregoing, this area shall also include all areas within Nassau County's jurisdiction where public facilities have been damaged or undermined by coastal storms, FEMA designated velocity zones (V-zones), areas seaward of the coastal construction control line as established by the Florida Department of Environmental Protection pursuant to Chapter 161, Florida Statutes, and inlets which are not structurally controlled. The CHHA shall consist of two (2) sub-areas. The first sub-area, the Federal Emergency Management Agency's V-zone, is that area subject to direct wave action during storm events and is shown on the most current Flood Insurance Rate Maps (FIRM) for the County. The second sub-area is the area predicted to be subject to other manifestations of storm driven water, and may be referred to as the flood zone. This area is predicted to be subject to coastal flooding during Category 1 hurricane and is defined as that area seaward of the five (5) foot contour and not within the V-zone. The subareas of the CHHA may be treated differently for the purpose of establishing policy for the CHHA.

Comprehensive Emergency Management Plan (CEMP) shall mean the document that establishes uniform policy and procedures for the effective coordination of response to a wide variety of natural and technological disasters.

Continuity of Government Plan (COG) shall mean the document that establishes policy and guidance to support the continuation and line of succession for governmental functions.

Continuity of Operations Planning (COOP) shall mean the document that establishes the policy and guidance to support the execution of an organization's mission essential functions in any event that requires the relocation of selected personnel and functions to an alternate facility.

Community Rating System (CRS) shall mean the National Flood Insurance Program (NFIP) that provides incentives for NFIP communities to complete activities that reduce flood hazard risk. When the community completes specified activities, the insurance premiums of policyholders in these communities are reduced.

Critical Facilities (CF) shall mean facilities that are critical to the health and welfare of the population and that are especially important following hazard events. Critical facilities include, but are not limited to, shelters, police and fire stations, and hospitals.

Damage Assessment shall mean an estimation of damages made after a disaster has occurred which serves as the bases of the Governor's request to the President for a declaration of Emergency or Major Disaster.

Debris shall mean the scattered remains of assets broken or destroyed in a hazard event. Debris caused by a wind or water hazard event can cause additional damage to other assets.

Disaster Field Office (DFO) shall mean the office established in or near the designated area to support State and Federal response and recovery operations. The DFO houses the Federal Coordinating Officer (FCO) and the Emergency Response Team (ERT), and where possible, the State Coordinating Officer (SCO) and support staff.

Disaster Recovery Center (DRC) shall mean the center locations set-up for victims to apply for state and federal assistance programs for which they may be eligible. DRCs do not usually provide direct services.

DMA Disaster Mitigation Act of 2000 is the latest legislation to improve the planning process. It was signed into law on October 10, 2000. This new legislation reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur.

Duration shall mean the length of time a hazard event lasts.

Emergency shall mean absent a Presidential declared emergency, any incident(s), human-caused or natural, that requires responsive action to protect life or property. Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, and emergency means any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States.

Emergency Operations Center (EOC) shall mean the physical location at which the coordination of information and resources to support domestic incident management activities normally takes place. An EOC may be a temporary facility or may be located in a more central or permanently established facility, perhaps at a higher level of organization within a jurisdiction. EOCs may be organized by major functional disciplines (e.g., fire, law enforcement, and medical services), by jurisdiction (e.g., Federal, State, regional, county, city, tribal), or some combination thereof.

Essential Facility shall mean the elements that are important to ensure a full recovery of a community or state following a hazard event. These would include: government functions, major employers, banks, schools, and certain commercial establishments, such as grocery stores, hardware stores, and gas stations.

Federal shall mean of or pertaining to the Federal Government of the United States of America.

Federal Emergency Management Agency (FEMA) shall mean the independent agency created in 1978 to provide a single point of accountability for all federal activities related to disaster mitigation and emergency preparedness, response, and recovery.

Flood shall mean a general or temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland or tidal waters, (2) the unusual and rapid accumulation or runoff of surface waters from any source, or (3) mudflows or the sudden collapse of shoreline land.

Flood Depth shall mean the height of the flood water surface above the ground surface.

Flood Elevation shall mean the elevation of the water surface above an established datum, e.g. National Geodetic Vertical Datum of 1929, North American Vertical Datum of 1988, or Mean Seal Level.

Flood Hazard Area shall mean the area shown to be inundated by a flood of a given magnitude on a map.

Flood Insurance Rate Map (FIRM) shall mean a map of a community, prepared by FEMA, shows both the special flood hazard areas and the risk premium zones applicable to the community under the National Flood Insurance Program.

Flood Insurance Study (FIS) shall mean a study that provides an examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations in a community or communities.

Flood Mitigation Assistance shall mean the program authorized by section 1366 of the National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4104c, and implemented at parts 78 and 79.

Flood Zone shall mean a geographical area shown on a FIRM that reflects the severity or type of flooding in the area.

Floodplain shall mean any land area, including watercourse, susceptible to partial or complete inundation by water from any source.

Flood Mitigation Assistance Grant (FMA) shall mean a grant for which at least 2 separate claims payments (building payments only) have been made under such coverage, with cumulative amount of such claims exceeding the market value of the property.

Frequency shall mean a measure of how often events of a particular magnitude are expected to occur. Frequency describes how often a hazard of a specific magnitude, duration, and/or extent typically occurs, on average. Statistically, a hazard with a 100-year recurrence interval is expected to occur once every 100 years on average, and would have a one (1) percent chance – its probability – of happening in any given year. The reliability of this information varies depending on the kind of hazard being considered.

Geographic Information Systems (GIS) shall mean the computer software application that relates physical features on the earth to a data base to be used for mapping and analysis.

Hazard shall mean the source of potential danger or adverse condition. Hazards include naturally occurring events such as floods, earthquakes, tornadoes, tsunamis, coastal storms, landslides, and wildfires that strike populated areas. A natural event is a hazard when it has the potential to harm people or property.

Hazard Event shall mean a specific occurrence of a particular type of hazard.

Hazard Identification shall mean the process of identifying hazards that threaten an area.

Hazard Mitigation shall mean any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

Hazardous Material Sites shall mean the sites pre-identified in the County Hazardous Material Vulnerability Analysis as containing extremely hazardous substances.

HAZUS (Hazards U.S.) shall mean the GIS-based nationally standardized, loss estimation tool developed by FEMA.

Hurricane shall mean an intense tropical cyclone, formed in the atmosphere over warm ocean areas, in which wind speeds reach 74 miles per hour or more and blow in a large spiral around a relatively calm center or “eye.” Hurricanes develop over the North Atlantic Ocean, northeast Pacific Ocean, or the South Pacific Ocean east of 160°E longitude. Hurricane circulation is counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

Infrastructure shall mean the reference to the public services of a community that have a direct impact on the quality of life. Infrastructure includes communication technology such as phone lines or Internet access, vital services such as public water supplies and sewer treatment facilities, and includes an area’s transportation system such as airports, heliports, highways, bridges, tunnels, roadbeds, overpasses, railways, bridges, rail yards, depots; and waterways, canals, locks, seaports, ferries, harbors, drydocks, piers, and regional dams.

Intensity shall mean a measure of effects of a hazard event at a particular place.

Joint Information Center (JIC) shall mean a facility established to coordinate all incident-related public information activities. It is the central point of contact for all news media at the scene of the incident. Public information officials from all participating agencies should collocate at the JIC.

Joint Information System (JIS) shall mean a system that integrates incident information and public affairs into cohesive organization designed to provide consistent, coordinated, timely information during crisis or incident operations. The mission of the JIS is to provide a structure and system for developing and delivering coordinated interagency messages; developing, recommending, and executing public information plans and strategies on behalf of the IC; advising the IC concerning public affairs issues that could affect a response effort; and controlling rumors and inaccurate information that could undermine public confidence in the emergency response or recovery effort.

Jurisdiction shall mean a range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority. Jurisdictional authority at an incident can be political or geographical (e.g., city, county, tribal, State, or Federal boundary lines) or functional (e.g., law enforcement, public health).

Liaison shall mean a member of Nassau County Staff that is responsible for coordinating with representative from cooperating and assisting agencies.

Local Emergency Planning Committee (LEPC) shall mean the community representatives and that are appointed by the State Emergency Response Commissions (SERCs), as required by Superfund Amendments and Reauthorization Act (SARA), Title III. They develop an emergency plan to prepare for and respond to chemical emergencies. They are also responsible for coordinating with local facilities to find out what they are doing to reduce hazards, prepare for accidents, and reduce hazardous inventories and releases. The LEPC serves as a focal point in the community for information and discussions about hazardous substances, emergency planning, and health and environmental risks.

Local Government shall mean any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska native village or organization; and any rural community, unincorporated town or village, or other public entity.

Local State of Emergency shall be declared whenever an evacuation is ordered by the Board of County Commissioners or the County Administrator or Director of Public Safety or Emergency Management Chief, normal community functions are severely disrupted, County Government requires outside assistance or as deemed necessary by the Policy Group.

Local Mitigation Strategy (LMS) shall mean a plan that contains project initiatives that mitigate the adverse effects of future disasters. After the President declares a disaster area a portion of the funds are made available for hazard mitigation grants in response to disaster. The LMS guides the allocation of those funds to various projects

Magnitude shall mean the measure of the strength of a hazard event. The magnitude (also referred to as severity) of a given hazard event is usually determined using technical measures specific to the hazard.

Major Disaster shall be defined under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122), a major disaster is any natural catastrophe (including any hurricane, tornado, storm, high water, wind-driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or regardless of cause, any fire, flood or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of States, tribes, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.

Mitigate shall mean to cause something to become less harsh or hostile, to make less severe or painful.

Mitigation shall mean the activities designed to reduce or eliminate risks to persons or property or to lessen the actual or potential effects or consequences of an incident. Mitigation measures may be implemented prior to, during, or after an incident. Mitigation measures are often informed by lessons learned from prior incidents. Mitigation involves ongoing actions to reduce exposure to, probability of or potential loss from hazards. Measures may include zoning and building codes, floodplain buyouts and analysis of hazard-related data to determine where it is safe to build or locate temporary facilities.

Mitigation can include efforts to educate governments, businesses, and the public on measures they can take to reduce loss and injury.

Mutual Aid Agreement shall be a written agreement between agencies and/or jurisdictions to assist one another upon request, by furnishing personnel, equipment, and/or expertise in a specified manner.

National shall mean of a nationwide character, including the Federal, State, local, and tribal aspects of governance and policy.

National Flood Insurance Program (NFIP) shall mean the Federal program created by Congress in 1968 that makes flood insurance available in communities that enact minimum floodplain management regulations as indicated in 44 CFR §60.3.

National Geodetic Vertical Datum of 1929 (NGVD) shall mean the datum established in 1929 and used in the NFIP as a basis for measuring flood, ground, and structural elevations, previously referred to as Sea Level Datum or Mean Sea Level. The Base Flood Elevations shown on most of the Flood Insurance Rate Maps issued by the Federal Emergency Management Agency are referenced to NGVD.

National Weather Service (NWS) shall mean the service that prepares and issues flood, severe weather, and coastal storm warnings and can provide technical assistance to federal and state entities in preparing weather and flood warning plans.

Nongovernmental Organizations (NGO) shall mean an entity with an association that is based on interests of its members, individuals or institutions and that is not created by a government, but may work cooperatively with government. Such organizations serve a public purpose, not a private benefit. Examples of NGOs include faith-based charity organizations and the American Red Cross.

Planning shall mean the act or process of making or carrying out plans; the establishment of goals, policies, and procedures for a social or economic unit.

Preparedness shall mean the actions that strengthen the capability of government, citizens, and communities to respond to disasters.

Probability shall mean a statistical measure of the likelihood that a hazard event will occur.

Public Assistance shall mean the reimbursement and emergency assistance provided to State and local governments and private non-profit entities from the Federal Government.

Public Information Officer (PIO) shall mean a member of the Nassau County Staff responsible for interfacing with the public and media or with other agencies with incident-related information requirements.

Recovery shall mean the development, coordination and execution of service-and site-restoration plans; the reconstitution of government operations and services; individual, private sector, nongovernmental and public-assistance programs to provide housing and to promote restoration; long-term care and treatment of affected persons; additional measures for social, political, environmental and economic restoration; evaluation of the incident to identify lessons learned; post incident reporting; and development of initiatives to mitigate the effects of future incidents.

Recovery Plan see Post Disaster Redevelopment Plan

Repetitive Loss Property shall mean a property that is currently insured for which two or more National Flood Insurance Program losses (occurring more than ten days apart) of at least \$1000 each have been paid within any 10-year period since 1978.

Replacement Value shall mean the cost of rebuilding a structure. This is usually expressed in terms of cost per square foot, and reflects the present-day cost of labor and materials to construct a building of a particular size, type and quality.

Response shall mean the actions taken during an event to address immediate life and safety needs and to minimize further damage to properties.

Resource shall mean personnel and major items of equipment, supplies and facilities available or potentially available for assignment to incident operations and for which status is maintained. Resources are described by kind and type and may be used in operational support or supervisory capacities at an incident or at an EOC.

Response shall mean activities that address the short-term, direct effects of an incident. Response includes immediate actions to save lives, protect property, and meet basic human needs. Response also includes the execution of emergency operations plans and of mitigation activities designed to limit the loss of life, personal injury, property damage and other unfavorable outcomes. As indicated by the situation, response activities include applying intelligence and other information to lessen the effects or consequences of an incident; increased security operation; continuing investigations into nature and source of the threat; ongoing public health and agricultural surveillance and testing processes; immunizations, isolation or quarantine; and specific law enforcement operations aimed at preempting, interdicting or disrupting illegal activity, and apprehending actual perpetrators and bringing them to justice.

Risk shall mean the estimated impact that a hazard would have on people, services, facilities, and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage above a particular threshold due to a specific type of hazard event. It also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.

Riverine shall mean of or produced by a river.

Saffir/Simpson Hurricane Scale shall mean the scale used by the National Hurricane Center to provide a continuing assessment of the potential for wind and storm surge damage.

Scale shall mean a proportion used in determining a dimensional relationship; the ratio of the distance between two points on a map and the actual distance between the two points on the earth's surface.

Sea, Lake and Overland Surges from Hurricanes (SLOSH) shall mean a computerized model run by the National Hurricane Center (NHC) to estimate storm surge heights and winds resulting from historical, hypothetical, or predicted hurricanes by taking into account

- Pressure
- Size
- Forward speed
- Track
- Winds

Severe Repetitive Loss (SRL) shall mean the program authorized under section 1361(a) of the National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4102a, and implemented as part 79 of this chapter.

Severe Repetitive Loss Properties shall mean the single or multifamily residential properties that are covered under an NFIP flood insurance policy and:

- That have incurred flood-related damage for which 4 or more separate claims payments have been made, with the amount of each claim (including building and contents payments) exceeding \$5,000, and with the cumulative amount of such claims payments exceeding \$230,000; or
- In both instances, at least 2 of the claims must be within 10 years of each other, and claims made within 10 days of each other will be counted as 1 claim

Shelter shall mean the temporary emergency shelters activated prior to a disaster impact, operated during the disaster and closed as soon as residents can be returned to their homes or relocated to long-term shelters or temporary housing areas.

Short-Term Recovery Phase shall mean the phase that may begin immediately after the disaster impact and continues for approximately six months. The Short-Term Recovery Phase includes the implementation of individual assistance programs through Disaster Recovery Centers (DRC's) and Red Cross Service Centers and public assistance programs through damage survey teams and forms completion. Other short-term activities include long-term sheltering (hotels/motels, mobile homes, tent cities, etc.), on-going human service delivery, debris removal, contractor licensing, permitting and inspections.

Situation Report (SITREP) shall mean the summary of events, actions taken and anticipated in response to an emergency. SITREP's will be issued as needed. As a guide, SITREP's should be issued daily during a monitoring activation and at least twice per day during a full activation.

Special Needs Program shall mean the program through which impaired persons who need special assistance in times of emergency, are registered, evacuated and sheltered.

Special Flood Hazard Area (SFHA) shall mean an area within a floodplain having a one (1) percent or greater chance of flood occurrence in any given year (100-year floodplain); represented on Flood Insurance Rate Maps by darkly shaded areas with zone designations that include the letter A or V.

Stafford Act shall mean The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 100-107 was signed into law November 23, 1988 and amended the Disaster Relief Act of 1974, PL 93-288, The Stafford Act is the statutory authority for most federal disaster response activities, especially as they pertain to FEMA and its programs.

Stakeholder shall mean the individual or group that will be affected in any way by an action or policy. They include businesses, private organizations, and citizens.

State shall mean when capitalized, refers to any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, The Commonwealth of Northern Mariana Islands, and any possession of the United States. See Section 2 (14), Homeland Security Act of 2002, Pub. L. 107-296, 116 Stat. 2135 (2002).

State Hazard Mitigation Officer (SHMO) shall mean the official representative of State government who is the primary point of contact with FEMA, other Federal agencies, and local governments in mitigation planning and implementation of mitigation programs and activities required under the Stafford Act.

State Emergency Response Team (SERT) shall mean the team that coordinates State of Florida response and recovery functions through 17 Emergency Support Functions.

State of Emergency shall mean the Order issued by the Governor.

Statewide Mutual Aid Agreement for Disaster Response and Recovery (SMAA) shall mean the chief agreement between counties and the State for providing mutual aid assistance, which details request and reimbursement procedures.

Storm Surge shall mean the rise in the water surface above normal water level on the open coast due to the action of wind stress and atmospheric pressure on the water surface.

Strategic shall mean the strategic elements of incident management are characterized by continuous long-term, high-level planning by organizations headed by elected or other senior officials. These elements involve the adoption of long-range goals and objectives, the setting of priorities; the establishment of budgets and other fiscal decisions, policy development, and the application of measures of performance or effectiveness.

Strategy shall mean the general direction selected to accomplish incident objectives.

Substantial Damage shall mean the damage of any origin sustained by a structure in a Special Flood Hazard Area whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage.

Tabletop Exercise shall mean an activity in which exercise participants are presented with simulated post disaster situations without time constraints. It is intended to evaluate plans and procedures to resolve questions of coordination and assignments of responsibility. Tabletop exercises are not concerned with time pressures, stress or actual simulation of specific events.

Temporary Housing Site shall mean the area where tents or mobile home units may be set-up for residents to live before they are able to return to their homes or until they find a new home.

Temporary Debris Storage Area shall mean a park, open area, or landfill space where debris will be held after debris clearance until it can be moved to a landfill, incinerator or other appropriate disposal location.

Topographic shall mean the maps that show natural and manmade features and indicate the physical shape of the land using contour lines.

Tropical Cyclone shall mean a generic term for a cyclonic, low-pressure system over tropical or sub-tropical waters.

Vulnerability shall mean the description of how exposed or susceptible to damage an asset is. Vulnerability depends on an asset's construction, contents, and the economic value of its functions. Like indirect damages, the vulnerability of one element of the community is often related to the vulnerability of another. For example, many businesses depend on uninterrupted electrical power – if an electric substation is flooded, it will affect not only the substation itself, but a number of businesses as well. Often, indirect effects can be much more widespread and damaging than direct ones.

Vulnerability Assessment shall mean the extent of injury and damage that may result from a hazard event of a given intensity in a given area. The vulnerability assessment should address impacts of hazard events on the existing and future built environment.

Wildfire shall mean an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures.

Zone shall mean a geographical area shown on a Flood Insurance Rate Map (FIRM) that reflects the severity or type of flooding in the area.

1.0 INTRODUCTION

1.1 Purpose

The purpose of the Post Disaster Redevelopment Plan (PDRP) is to provide Nassau County and its jurisdictions with an overarching strategic, interdisciplinary plan for guiding action and decision making during the disaster recovery and redevelopment period, as well as identifying actions that can be implemented prior to a disaster to expedite the recovery process. This PDRP establishes a strategy for Nassau County to leverage coordination amongst county departments, municipalities, businesses, non-governmental organization and regional organization to redevelop after a catastrophic disaster in a proactive and effective manner. The PDRP positions Nassau County and its jurisdictions to be in a better position to recover more expeditiously from a disaster to utilize redevelopment as an opportunity to build a more sustainable community and maintain or enhance the “quality of life”, which is often cited by residents as a benefit of living in Nassau County.

This PDRP is developed with the intent to provide cohesive, consistent treatment of redevelopment issues throughout the county. Establishing redevelopment guidelines provides equitable considerations of impact throughout the county, in an objective, rational consistent basis. Implementation of this plan will be based on thresholds, which are applicable on a countywide basis. These thresholds are to provide guidance for determining when to implement various PDRP actions.

1.2 Authorities

1.2.1 Federal

There are currently no Federal requirements for the development of a Post Disaster Redevelopment Plan. However, the Robert T. Stafford Act, as amended by the Disaster Mitigation Act of 2000 supports the joining of community-wide interdisciplinary planning efforts that collectively reduce hazard vulnerability.

1.2.2 State

Rule 9J-5 Florida Administrative Code (F.A.C.), is the implementing regulations of Chapter 163, Florida Statutes that requires coastal communities to develop a Post Disaster Redevelopment Plan.

Pursuant to **§9J-5.012(3)(b)(8) F.A.C.**, the State of Florida requires that all coastal jurisdictions include in their comprehensive plan’s Coastal Management Element, one or more specific objectives to support a goal to prepare post-disaster redevelopment plan that will reduce or eliminate the exposure of human life and public and private property to natural hazards.

Pursuant to **§9J-5.012(3)(5) F.A.C.**, the Coastal Management Element shall include post-disaster redevelopment including policies to: distinguish between immediate repair and cleanup actions needed to protect public health and safety and long-term repair and redevelopment activities; address the removal, relocation, or structural modification of damaged infrastructure as determined appropriate by the local government but consistent with federal funding provisions and unsafe structures; limiting redevelopment in areas of repeated damage; and, policies for incorporating the recommendations of interagency hazard mitigation reports, as deemed appropriate by the local government, into the local government’s comprehensive plan when the plan is revised during the evaluation and appraisal process.

1.2.3 Local

Each unit of local government is required to have a Comprehensive Plan and each coastal community requires a PDRP. For example, the Nassau County Comprehensive Plan contains an objective and two supporting policies in the Coastal Management Element that pertain to the development of a PDRP as follows:

OBJECTIVE 5.04 POST DISASTER REDEVELOPMENT

Upon Plan adoption, the County shall review annually, and where possible revise its Comprehensive Emergency Management Plan to ensure continued safety for its residents during the post-disaster reconstruction/rehabilitation period.

5.04.02 The County hereby adopts by reference, its Post Disaster Plan, which describes facilities and sites designed to serve as local, state and federally sponsored emergency assistance locations. Examples of such facilities include disaster application centers, citizen assistance centers, disaster field offices; include temporary housing sites and debris disposal locations.

5.04.03 The County shall coordinate the development and maintenance of Post Disaster plans and programs among the relevant local, regional and state governments, districts or agencies.

1.3 Situation

This plan is to be implemented in an organized, seamless transition from emergency response and short term recovery efforts, as established in the Nassau County Comprehensive Emergency Management Plan, to long term redevelopment actions. Conditions that would cause this plan to be implemented would include a major or catastrophic disaster that causes the need for redevelopment, such as a hurricane, flood or wildfire.

1.4 Scope

- The PDRP serves to facilitate returning Nassau County to pre-disaster condition when this makes sense and to better position itself to maximize post-disaster opportunities to reduce hazard vulnerability
- The PDRP serves as an umbrella planning document that references, supports and works in tandem with existing Nassau County emergency management and growth management plans.
- The PDRP identifies a cooperative, interdisciplinary, holistic redevelopment process for coordination amongst county departments, municipalities, businesses, non-governmental organization and regional organization.
- The PDRP establishes a seamless means to transition from short term recovery Emergency Support Function (ESF) operations to long term recovery and redevelopment.
- The PDRP identifies and addresses short-term recovery efforts that will have an effect on long-term recovery and community redevelopment efforts. Short-term recovery efforts that affect long-term recovery and redevelopment include the restoration of essential services, damage assessment,

temporary housing and debris removal. Examples of long-term recovery and redevelopment actions include rebuilding structures and infrastructure, the economy and culture, and restoring the natural environment.

1.5 Planning Assumptions

- Nassau County has the ultimate responsibility for managing response and short-term recovery efforts, yet redevelopment is a shared responsibility amongst the county and the jurisdictions of Callahan, Fernandina Beach and Hilliard.
- The PDRP will be implemented for a disaster that requires the redevelopment of an area in Nassau County, which could be for a specific location or countywide.
- The PDRP is applicable to predominantly major and catastrophic disasters, for which redevelopment would be required. It is flexible and expanding, depending on the situation and need. Any part or section of this plan may be utilized separately if required by the situation.
- PDRP implementation criteria based on disaster impacts is provided in the Implementation Section of this plan.
- Implementation of the PDRP will begin during the Emergency Operations Center activation for an Activation Level 1¹. Implementation at this stage of the disaster, will involve intergovernmental and intercommunity coordination to ensure that decisions that are made during response and short-term recovery are in support of the PDRP strategy.

1.6 Plan Organization

The PDRP is organized into nine sections, as listed in **Table 1.1**.

Table 1.1: Post Disaster Redevelopment Plan			
No.	Section	Contents	Existing v. New Information
1	Introduction	<ul style="list-style-type: none"> • Purpose • Authorities • Situation • Scope • Planning Assumptions • Plan Organization 	New
2	Planning Process	Overview, Organizational Structure, Meetings, Public Involvement	Based on process

¹ Activation Level I (Full County) may be implemented for a major event. All Emergency Support Functions (ESFs), the Command Staff, Liaison Group and Support Staff will be staffed 24 hours a day.

Table 1.1: Post Disaster Redevelopment Plan

No.	Section	Contents	Existing v. New Information
3	Implementation Plan	Pre- and Post-Disaster Implementation, Maintenance and Training	New
4	Vulnerability Assessment	Population, Private and Public Property, Major Employers, Land Use, Historic, Faith Based Facilities, Environmental,	Based on existing data
5	Capability Assessment	<ul style="list-style-type: none"> • Planning and Regulatory • Administrative and Technical • Fiscal • LMS, CEMP, COMP, COOP, COG, Debris Management, Temp Housing, Historic Preservation, Capital Improvement, Zoning, Building Code, Strategic Regional Policy, Economic Development, CEDS, BRP, 	Based on existing information
6	Recovery and Redevelopment Strategy	Goals and Issues: <ul style="list-style-type: none"> • Govt. Ops and Citizen Response • Housing and Structural Repairs • Infrastructure and Public Facility Recovery • Economic Resumption • Land Use and Development • Quality of Life Resiliency 	Developed by ETC
7	Recovery and Redevelopment Action Plan	Pre- and Post-Disaster Actions	Based on existing policies and procedures; new recommendations
8	Communications Plan	<ul style="list-style-type: none"> • Information Collection and Distribution (Inter- and Intra-Governmental, General Public and Businesses) • Public Participation / Citizen Input on Redevelopment • Regional, State and Federal Coordination 	Based on existing and new CEMP procedures (ESF 14 and 18)
9	Financing Plan	Revenue Sources: County; State and Federal Grants and Loans, Mutual Aid, Donations, Faith Based Organizations	Based on existing resources

2.0 PLANNING PROCESS

The PDRP planning process began in May 2008 and was completed in June 2009. This section provides a description of the Nassau County PDRP planning process, organizational structure and meeting synopses.

The planning process used to develop the PDRP involved a multi-disciplinary, intergovernmental and intercommunity coordinated approach. Stakeholders were invited from county and municipal departments, local and regional entities, non-governmental organizations, local businesses and citizens. All meetings were publicly noticed. The Nassau County Board of County Commissioners (BOCC) were apprised of the PDRP project throughout the plan development process.

2.1 Overview

The major components of the planning process included:

- Presentation of PDRP concept, proposed planning process, capabilities, expectations and desired results to stakeholders and steering committee, formally known as the Executive Technical Committee (ETC).
- ETC's identification of PDRP Goals and Issues/Actions. Issues and Actions were recorded in the Issues Identification and Implementation Timeline. It was common to identify actions along with the issues.
- Land Use Planning Working Group and Economic Working Group meetings to discuss these topics in greater detail.
- Preparation of a Vulnerability Assessment and Capability Assessment to support the identification of PDRP Goals and Issues/Actions, and prioritization of the Issues/Actions. Coordination with the Emergency Management Department and Northeast Florida Regional Planning Commission, to ensure that the PDRP Vulnerability Assessment was prepared in a complementary, but not duplicative, manner with the 2009 Local Mitigation Strategy (LMS) Update. Input was also received from the Jacksonville the National Weather Service Office for development of the Hurricane Wind Analysis.
- Coordination with Growth Management Department to ensure that the PDRP analyses and actions reflected the 2008 Evaluation and Appraisal Report, and PDRP analyses methodologies were shared to use for the 2030 Comprehensive Plan Update.
- Development of PDRP sections with guidance, reviews and feedback from the ETC Chair, Vice-Chair, Emergency Management Director, and ETC members.
- Provision of draft PDRP to all stakeholders, including citizens, for review and comment.
- Provision of the draft PDRP to the Nassau BOCC.
- Provision of the final draft PDRP to the ETC members for a final review to ensure all comments were adequately addressed, prior to their recommending it for Nassau BOCC approval.

- Official PDRP adoption as part of the Local Comprehensive Plan Coastal Management Element.

2.2 Organizational Structure

The ETC was formed to steer the development of the PDRP. Walter Fufidio, Growth Management Director, was elected to serve as the ETC Chair and Scott West, Emergency Management Coordinator, was elected to serve as the ETC Vice Chair by the ETC.

Table 2.1 lists the ETC members, which represent the major departments of county and municipal governments, non-profits, county-wide and regional organizations, local entities and businesses. During the implementation process, the ETC will be called the PDRP Redevelopment Task Force.

Table 2. 1: Nassau County PDRP Executive Technical Committee		
Entity	Representative	Role
County Department Representatives		
Nassau County Building Dept.	John Crowder / Robert McKinney	GIS Coordinator, CBO
Nassau County Coordinator	Edward Sealover	County Coordinator
Nassau County Emergency Management Department	Nancy Freeman	Emergency Management Director
Nassau County Emergency Management Department	Scott West	Emergency Management Coordinator
Nassau County EOC Policy Group	John Drew	Tax Collector
Nassau County Growth Management Department	Walter Fufidio	Planning Director
Nassau County Health Department	Patrick Higgins	Environmental Specialist II
Nassau County School Board	Sharyl Wood	Executive Director of Services
Nassau County Sheriff's Office	Carl Woodle	Under Sheriff
Nassau County Sheriff's Office	Gary Gaskill	IT Director
Nassau Fire/Rescue Department	Chuck Cooper	Chief
Countywide, Regional and Business Representatives		
Amelia Island - Yulee - Fernandina Beach Chamber of Commerce	Jeff Lawrence	
American Red Cross	Ann-Marie West	Preparedness Manager
Baptist Hospital Nassau	Jim Mayo	Hospital Administration
Baptist Hospital Nassau	Wayne Arnold	Director of Plant Facilities
Fernandina Beach Historic District Council	Marjorie Weibe Reed	Member
First Coast MPO	Jeff Sheffield	Director of Planning
Florida Department of Community Affairs	Sandy Meyer	Emergency Management Coordinator
Florida Power & Light	David Cobb	External Affairs Manager
Greater Nassau Chamber & Economic Development Board	Mike Cole	Vice-Chair
JEA	John V. Sposato	EOC Liaison
Nassau County Planning and Zoning Board	John Stack	Board Member
Countywide, Regional and Business Representatives		
Nassau/Amelia Utilities	Douglas Hewett	Director of Utilities

Table 2. 1: Nassau County PDRP Executive Technical Committee		
Entity	Representative	Role
NEFRC	Jason Taylor	Regional Planner
Northeast Florida Builders Association	Jamie Sandifer	
Ocean, Highway and Port Authority	Margie Gandy	Board Member
Okeefenokee Rural Electric	David Smith / Elvin Cushman	Marketing Cust. Service
Rayonier, Inc.	Larry Coleman	Manager, Safety and Security
Municipal Representatives		
City of Fernandina Beach Fire/Rescue	Daniel Hanes	Chief
City of Fernandina Beach Planning Department	Kelly Gibson	Planner II
City of Fernandina Beach Police Dept.	James B. Norman	Captain
Okeefenokee Rural Electric	Elvin Cushman	Regional Manager
Town of Callahan	Martin Fontes	Councilman
Town of Callahan Public Works	Mike Williams	Director of Public Works
Town of Hilliard	Cris McConnell	Ex-Councilman, Retired NCSB Director
Town of Hilliard Public Works	David Thompson	Director of Public Works

Table 2.2 shows the six **Working Groups** that were initially conceived to address the details of the plan development as listed below. During the implementation process, the Working Groups will be called subcommittees.

Table 2.2: PDRP Working Groups	
Working Groups*	Topics
Government Operations and Citizen Response	Government, Organization and Authority and Communications
Housing and Structural Repairs	Temporary Housing, Long Term Housing and Structural Repairs
Infrastructure and Public Facility Recovery	Debris and Infrastructure Repairs
Economic Resumption	Business Recovery
Land Use Planning	Land Use
Quality of Life Resiliency	Environmental, Social, Historical Preservation and Cultural Affairs

*Damage Assessment was not assigned to a Working Group, as it requires feedback from all. This topic was addressed by the ETC.

Nassau County is one of the lesser populated counties in Florida and relies on fewer staff than a larger community would have. As such, there were not a lot of members to participate on the various Working Groups without having too many meetings from a practical standpoint. To ensure participation, the ETC decided that it was more realistic to meet as the ETC instead of breaking up into Working Groups for each topical area. This process was productive, as ETC members possessed an interdisciplinary knowledge of the community recovery issues, policies and interdepartmental working relationships that created a synergistic understanding of the often times interrelatedness of PDRP issues and actions within the various topical areas.

The ETC decided that the Land Use Planning Working Group (**Table 2.3**) and Economic Resumption Working Group (**Table 2.4**) should meet separately to determine the issues, capabilities and needs for redevelopment. Additional stakeholders were invited to these meetings to assess land use and economic issues and identify redevelopment actions.

Table 2.3: Nassau County PDRP Land Use Planning Working Group Member List		
Entity	Representative	Role
County Department Representatives		
Nassau County Growth Management Department	Walter Fufidio	Director
Nassau County School Board	Sharyl Wood	Executive Director of Serv.
Nassau County Planning & Zoning Board	John Stack	Board Member
Nassau County Growth Management Department	Doug McDowell	Strategic Planner
Countywide, Regional and Business Representatives		
Amelia Island Company	Bill Moore	Representative
Fleet & Associates (Callahan/Hilliard)	Janis Fleet	Town Planning Consultant
Northeast Florida Builders Association	Jamie Sandifer	
Rogers Towers	Mike Mullin	County Attorney
NEFRC	Guy Parola	Representative
The Nature Conservatory	Trish Gramajo-St. John	Community Relations Manager
Municipal Representatives		
Fernandina Beach Historic Preservation Board	Marjorie Weire Reed	Member
City of Fernandina Beach Planning Department	Kelly Gibson	Planner II
Florida Wildlife Federation	Sarah Owen-Goodhill	Northwest Florida Planning Advocate
City of Fernandina Beach CDD	Adrienne Dessy	Planner II

Table 2.4: Nassau County PDRP Economic Resumption Working Group Member List		
Entity	Representative	Role
County Department Representatives		
Nassau County Growth Management Department	Walter Fufidio	Director
Nassau County Economic Development Board	Noelle Perry	Executive Assistant
Nassau County Economic Development Board	Steve Rieck	Executive Director
Countywide, Regional and Business Representatives		
Amelia Island	Bill Moore	
The Nature Conservatory	Trish Gramajo-St. John	Community Relations Manager
Amelia Island Chamber of Commerce	Jeff Lawrence	
Rotary Club of Amelia Island Sunrise	Stan Fishburn	President
Small Business Development Center	Cathy Hagan (contacted)	Certified Business Analyst
Worksource		
Municipal Representatives		
Fernandina Beach Planning	Kelly Gibson	Planner II
Northeast Florida Builders Association	Jamie Sandifer	
Fernandina Beach Airport Advisory Commission	Richard Johnson	Airport Manager
Ocean, Highway and Port Authority	Margie Gandy	Board Member

ETC Meeting attendance ranged from 12 to 20 members. Group dynamics and dialogue were productive, focused and supported the PDRP development process. ETC meetings were held from 10:00 a.m. to 4:00 p.m., with nearly all of the attendees staying to the end and after when needed to finish an activity. Working Group meetings were attended by about a dozen members and were held in two-hour durations.

ETC and Working Group Meeting invitees were provided with meeting agendas, handouts, and previous meeting minutes (or follow up working materials) prior to scheduled meetings.

2.3 Meeting Synopsis

A synopsis of each meeting is described below. Meeting minutes are provided in **Appendix A**.

On **June 4, 2008**, PBS&J conducted a **Preliminary PDRP Kickoff Meeting** via teleconference with Nassau County to acquaint the project team and discuss the pilot project initiative, planning process, timeline, expectations, capabilities and desired outcomes.

On **June 9, 2008**, Lisa Flax, PBS&J PDRP Project Manager, conducted a meeting with **Nassau County PDRP Pilot Coordinator** Walter Fufidio, Growth Management Director, and Nancy Freeman, Emergency Management Director. This meeting was held to discuss the PDRP development process in greater detail and better understand the needs and expectations of the County, as well as the role and capabilities of both the County and the consultant.

On **July 9, 2008** a presentation was made to the **Nassau BOCC** to convey the PDRP project overview, process, goals, results, timeline and project team; and how this plan complements existing disaster preparedness, recovery and mitigation planning. The Nassau BOCC acknowledged the importance of this endeavor and pledged their full support of the PDRP.

On **August 8, 2008**, Lisa Flax, PBS&J PDRP Project Manager, conducted a meeting with **Nassau County PDRP Pilot Coordinator** Walter Fufidio, Growth Management Director; Nancy Freeman, Emergency Management Director; and Doug McDowell, County Planner. This meeting was held in advance of the Kickoff Meeting to discuss the purpose and gather existing data and plans for the development of the PDRP Capability Assessment, Vulnerability Assessment and Plan Implementation sections.

On **August 12, 2008** the **PDRP Kickoff Meeting** featured an introduction of the project team, plan purpose, roles and responsibilities, project schedule and an overview of the plan development process. A proposed PDRP outline (plan sections) and possible PDRP issues were presented and discussed. Next steps were established: identification of PDRP issues and policies, and the development of the Capability Assessment, Vulnerability Assessment and Implementation Plan sections. An Issues Identification Worksheet was distributed to all attendees for their input.

On **October 16, 2008** the first **ETC Meeting** was held. The agenda for this meeting included a brief review of what was presented during the Kickoff Meeting as a courtesy for new members of the planning team, a review and discussion of the PDRP issues that were submitted via the Issues Identification Worksheet and presentations by two guest speakers: Sandy Meyer and Mitchell Austin.

Walter Fufidio was elected as the ETC Chair and Scott West was elected as the ETC Vice-Chair by the ETC

Sandy Meyer, Florida Department of Community Affairs, Division of Emergency Management Hazard Mitigation Project Manager, presented the overarching guidelines for the PDRP development process.

Mr. Meyer emphasized that the focus of the PDRP is on redevelopment of structures and infrastructure, land use densities, future land use patterns and non-conforming uses. The intent of the PDRP is to facilitate short-term recovery actions that affect long-term redevelopment and long-term redevelopment, not recovery. The PDRP is not intended to address issues that are already well addressed in existing plans, yet will support these plans.

Mitchell Austin, City of Punta Gorda Urban Planner, delivered a presentation at the first ETC meeting on redevelopment issues and lessons learned after Hurricane Charley. Mr. Austin describe short term recovery issues that can have long term implications such as temporary housing, business resumption, debris management and the importance of public infrastructure inventory and siting practices. Lessons learned included the need for immediate information for understanding the issues; good communication; the inclusion of local businesses, faith-based organizations and private citizens in the redevelopment process; location of temporary debris staging sites; and capitalizing on opportunities to redevelop in a manner that reduces future vulnerability and increases the quality of life in a community in the face of the myriad of challenges following a disaster.

On **October 31, 2008**, Lisa Flax, PBS&J PDRP Project Manager, conducted a meeting with **Nassau County PDRP Pilot Coordinator/ETC Chair** Walter Fufidio, Growth Management Director and **ETC Vice-Chair** Scott West, Emergency Management Coordinator, to discuss progress and outstanding data for the PDRP Vulnerability Assessment and Capability Assessment, and discuss the agenda and outputs for the next ETC meeting.

On **November 6, 2008** the second **ETC Meeting** was held. The agenda for this meeting included a brief recap of the first meeting, a presentation of example maps and analyses for the vulnerability assessment and a continuation of the identification of the PDRP Issues. The ETC categorized the issues by PDRP Topic and assigned them to Working Groups. There were many topics that would need to be addressed by more than one Working Group. So, the ETC members agreed that the PDRP Topics should be condensed and matched up with the Working Groups to streamline the process for addressing the issues, from which to develop actions via policies, plans and procedures.

ETC Meeting follow-up: Lisa Flax and Walter Fufidio met to revise the Working Groups and assign the PDRP Topics and Issues to them, based on the ETC members' feedback.

On **November 11, 2008**, Lisa Flax, PBS&J PDRP Project Manager, conducted a meeting with Nassau County (**PDRP Pilot Coordinator/ETC Chair** Walter Fufidio, Growth Management Director and **ETC Vice-Chair** Scott West, Emergency Management Coordinator, and Doug McDowell, County Planner) and the Northeast Regional Planning Center (NERFC) Jason Taylor, Regional Planner. This meeting was held to collaborate on the development of the PDRP and Nassau County Local Mitigation Strategy Vulnerability Assessments, to ensure consistency and sharing of information and results.

On **December 4, 2008** the first **Working Group Meeting** was held. The agenda for this meeting included the presentation of the revised Working Groups, a recap of example maps and analyses for the vulnerability assessment and a presentation of draft PDRP Goals. However, not enough people attended to break out into the Working Groups, so the group operated as the ETC and developed, reviewed and edited the PDRP Goals.

On **December 12, 2008** Lisa Flax, PBS&J PDRP Project Manager, attended a Nassau County Local Mitigation Strategy Meeting. She was asked to explain the PDRP project and how the PDRP and LMS Vulnerability Assessments are being collaboratively developed.

On **February 20, 2009** a Coordination meeting with Emergency Management and Growth Management was held to review comments on draft plan sections, work on the Communications Plan and schedule and plan for the upcoming ETC and Working Group meetings.

On **March 19, 2009** an **ETC Meeting** was held. The purpose of this meeting was to deliver a status update on the PDRP development process, for the ETC to provide comments on draft PDRP sections and to prioritize the PDRP Issues/Actions and identify an implementation timeline for the Issues/Actions.

A **March 31, 2009** Coordination meeting was held with Emergency Management and Growth management to review draft plan sections and develop agendas for upcoming meetings.

On **April 2, 2009** Lisa Flax and Walter Fufidio attended the Greater Nassau Chamber of Commerce and Economic Development Board Meeting. Together, they presented the status of the PDRP development, the economic resumption component, and invited local business and economic entities to attend the upcoming Economic Resumption Working Group Meetings.

April 8, 2009 a Status Report was delivered to the **Nassau BOCC**

On **April 13, 2009** a Coordination meeting with Emergency Management and Growth Management was held to discuss CEMP and PDRP integration, and the draft Implementation, Communications and Vulnerability Assessment section content.

April 21, 2009 Land Use Planning Working Group Meeting. ETC members were joined by community stakeholders to identify the issues pertaining to land use planning in hazard vulnerability areas and develop recommendations for pre- and post-disaster redevelopment actions.

April 24, 2009 Economic Resumption Working Group Meeting. ETC members were joined by stakeholders from the Business Community, to discuss their existing post disaster recovery capabilities and recommend actions for improving economic circumstances following a disaster.

April 29, 2009 Land Use Planning Working Group Meeting. The Working Group met to continue identifying redevelopment actions pertaining to land use planning.

On **May 20, 2009** a Status Update Presentation was delivered to the **Nassau BOCC** and Planning and Zoning Board.

On **June 23, 2009** an **ETC Meeting** was held. The purpose of this meeting was to discuss the ETC's review comments on the draft PDRP.

On **June 30, 2009** an **ETC Meeting** was held. The purpose of this meeting was to discuss the ETC's review comments that were incorporated into the final PDRP and for the ETC to vote on recommending that the Nassau BOCC adopt the PDRP.

2.4 Public Involvement

The public were invited to participate in the PDRP development from the onset of the planning process. All meetings were publicly noticed. The general public attended the Kickoff Meeting, some of the Executive Technical Committee Meetings, and four Nassau County Board Meetings.

PDRP development participation was encouraged on a countywide basis. PDRP development participation was sought from community groups that deal with various aspects of redevelopment. The Executive Technical Committee had members from the following community groups:

- Nassau County Local Mitigation Strategy Task Force
- Greater Nassau County Chamber of Commerce and local businesses
- Nassau County Economic Development Board
- Nassau County Planning and Zoning Board
- Hilliard Town Council
- Callahan Town Council

The general public and organizations familiar with redevelopment conditions in various sectors, helped identify some of the post disaster redevelopment issues, actions, and existing and recommended policies and procedures to complement existing redevelopment abilities.

The Nassau County PDRP was made available online for the public to review and provide comments.

Future public outreach will focus on familiarizing the general public with the PDRP.

2.5 Other Ongoing Planning Initiatives

During the course of development of the PDRP, there were several major planning initiatives that were occurring simultaneously at the county and municipal level.

These planning initiatives include the following:

- Local Mitigation Strategy Update – Emergency Management
- Comprehensive Emergency Management Plan Update - Emergency Management
- Visioning – Growth Management
- Evaluation and Appraisal Report – Growth Management
- Hilliard and Callahan – working on Comprehensive Plan amendment

3.0 PLAN IMPLEMENTATION, TRAINING AND MAINTENANCE

This section establishes the procedures for how the PDRP will be implemented. The PDRP provides strategic planning guidance for many aspects of disaster redevelopment in both pre-disaster and post-disaster phases. This section describes:

- 3.1 Plan Implementation
 - 3.1.1 Disaster PDRP Implementation
 - 3.1.2 Post-Disaster PDRP Implementation
- 3.2 Organizational Roles and Responsibilities
- 3.3 Training
- 3.4 Plan Maintenance

3.1 Plan Implementation

3.1.1 Disaster PDRP Implementation

The pre-disaster phase includes the development and implementation of policies and procedures to reduce hazard vulnerability and collaborative processes to enhance redevelopment efficiency and effectiveness following a disaster. The pre-disaster actions focus on assessing vulnerability, institutional capacity, intergovernmental and intercommunity coordination; and examining and implementing hazard vulnerability reduction policies and procedures.

Upon adoption of the PDRP, the Executive Technical Committee (ETC) Chair will convene the ETC to implement the pre-disaster PDRP actions, assign actions to responsible lead entities, further identify roles for all ETC members and stakeholders, develop specific procedures and policies and set the ETC meeting schedule.

3.1.2 Post-Disaster PDRP Implementation

The PDRP will be implemented for short term recovery (1-90 days after the disaster occurs) and long term redevelopment (90 days or more after the disaster occurs) actions. Short term recovery includes damage assessment, temporary housing, debris operations; measures that can impact long term redevelopment. Long term redevelopment actions focus on land use planning, infrastructure reconstruction, structural and facility repair, environmental restoration, historic preservation and hazard mitigation.

3.1.2.1 Authority

The decision to activate the PDRP will be made by the Executive Policy Group. The request for activation will be made by the Emergency Management Director. This will occur after a declaration of a Local State of Emergency has been made, the Emergency Operation Center (EOC) is activated, and there are major or catastrophic damages that warrant redevelopment.

3.1.2.2 Triggers

The PDRP will be implemented for a major or catastrophic disaster. **Table 3.1** lists examples of impacts that are associated with a major or a catastrophic disaster. The establishment of these implementation

guidelines provides equitable consideration of impacts throughout the county, in an objective, rational, consistent basis. The thresholds are applicable on a countywide basis, and are to provide guidance for determining when to implement the PDRP. However, they can be adjusted to account for other risk factors that would affect the decision to implement the plan. The PDRP implementation is flexible, and some or all actions may be taken as appropriate depending on the level of the disaster.

Table 3.1: PDRP Triggers: Example Characteristics of Major and Catastrophic Disasters

CATASTROPHIC DISASTER	MAJOR DISASTER
<p>Category 4 or 5 hurricanes: Winds 131 MPH and higher, Surge 13 feet and greater A direct hit by storms of this magnitude will cause immense destruction in the County.</p>	<p>Category 2 and 3 hurricanes: Winds between 96 and 130 MPH, Surge between 6 and 12 feet.</p>
<p><i>May exhibit some or all of the following:</i></p> <p>More than 25% of housing is destroyed or not habitable. With such a severe reduction in housing stock much of the population will at least temporarily relocate. This could lead to workforce shortages which slow economic recovery and reductions in the tax base which limit local governmental functions.</p> <p>Most or all of the community's structures are impacted in some way. This places a strain on the construction industry and local government building and planning staff, as well as making it difficult for anyone to return to normal daily operations.</p> <p>Most government operational centers are inoperable and County EOC is severely impacted. This causes an organizational hurdle for recovery operations. Government should provide assistance to citizens in a time of need, but when they are also victims the response effectiveness is hampered.</p> <p>More than 75% of customers' electric utilities are inoperable for 4 or more days. Electricity outages affect residents' everyday life and limit commercial activity. Without electricity, street lights are inoperable and curfews continue to be enforced. Non-functioning traffic signals are also a hazard and consume police personnel hours.</p> <p>Communication is not operational due to damaged telecommunications systems. Severely hampers recovery activities. All utility companies will be affected by a lack of personnel and reliant on outside help.</p> <p>Extensive shortages of water and extended "boil" orders as well as environmental impacts from sewer system failures. Lack of potable water is a major inconvenience for residents and boil water notices are often confusing for the public. Sewer system failures pollute waterways and require beaches to be closed.</p> <p>Transportation (roadways, railroads, and the airport) are severely damaged and gas shortages are widespread for 4+ days. Transportation disruptions prevent the inflow of supplies, slow the response times of those providing assistance, and stop citizens from returning to work.</p>	
<p>5-25% of housing is destroyed or not habitable. A greater percentage of the population can return from evacuation, however shelters will remain overburdened. Also, some workforce shortages will slow recovery efforts.</p> <p>A majority, but not all, of the built structures are impacted. With a reduced number of impacted structures, reconstruction crews can make repairs quicker and since more habitable structures remain, repopulation can occur more quickly.</p> <p>Government operational centers are severely impacted and County EOC is partially impacted. The EOC can remain the center of operations with minor repairs, however, other government locations will need work before they can be reopened causing a delay in services.</p> <p>50 - 75% of customers' electric utilities are inoperable for 4 or more days. Telecommunications are heavily damaged, but remain partially operational. Fewer electrical outages or those lasting fewer days mean fewer inconveniences, safety hazards are reduced and work crews can correct the problems quicker than during a catastrophe. However, a great amount of external personnel will be utilized to repair both systems.</p> <p>Some impacts to water utilities and limited sewer system failures. Boil water orders are required for limited portions of the population and are short in duration. Some pump stations are temporarily down.</p> <p>Transportation is largely functioning within a week, once debris is cleared and minimal repairs complete. Response supplies can reach the destination with minor delays. Debris removal and sufficient employee power are the major impediments to restoring transportation operations.</p>	

3.2 Organizational Roles and Responsibilities

Implementation of the PDRP will first occur during the EOC activation. Initially when the PDRP is first implemented, the PDRP Liaison Officer will work at the EOC, within the Unified Command organizational structure, to coordinate short-term recovery actions that can affect long-term redevelopment. The PDRP Liaison Officer will review and coordinate the impact assessment data for redevelopment planning considerations, and work with Operations, Logistics and Planning to ensure that efforts are coordinated and not duplicated, and that long term redevelopment concerns are addressed early on in the recovery process.

Figures 3.1 and **3.2** show the organization charts during Short-Term Recovery and Long-Term Redevelopment.

Figure 3.1: Nassau County CEMP EOC Organizational Chart – Short-Term Recovery Phase

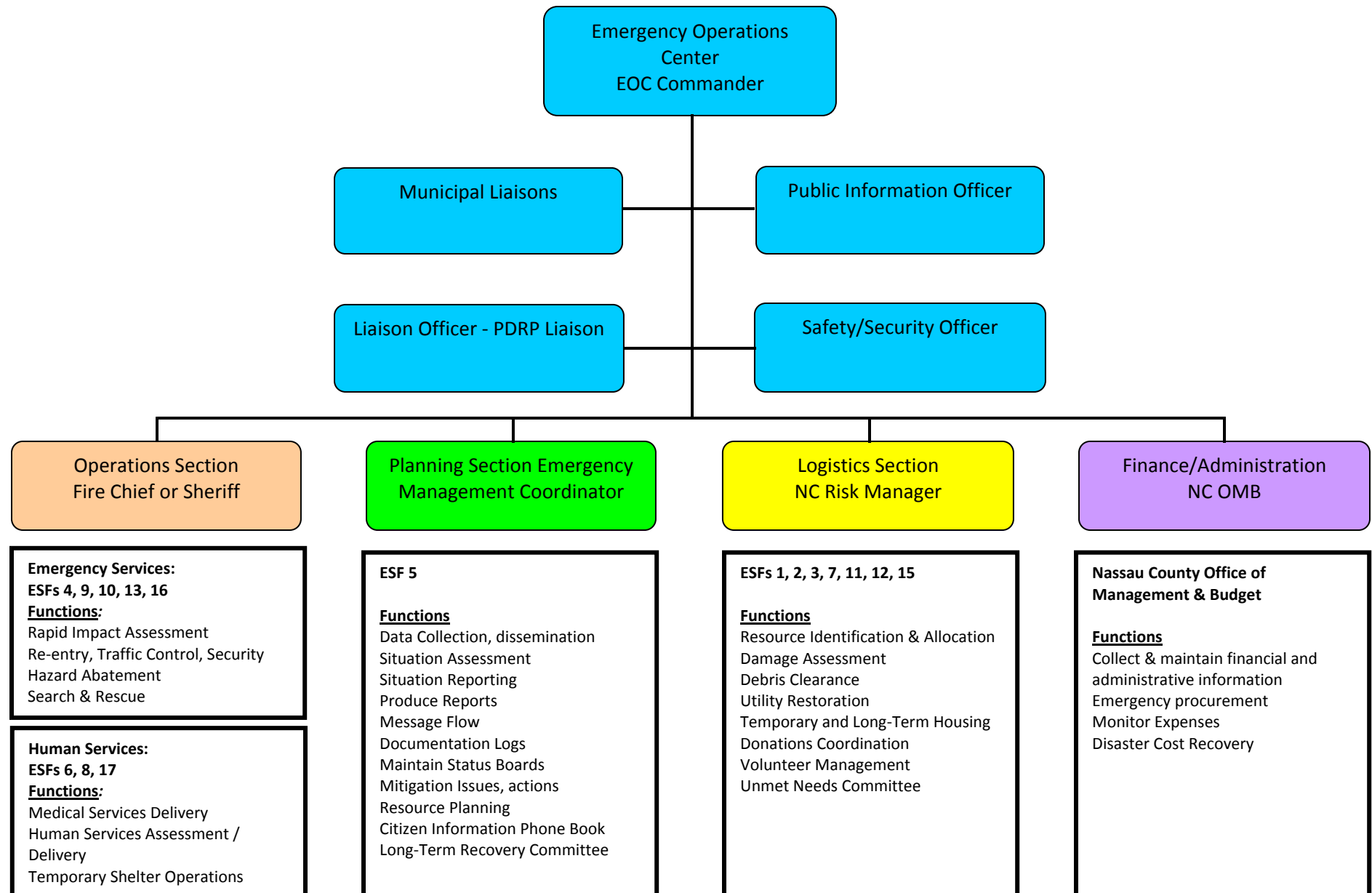
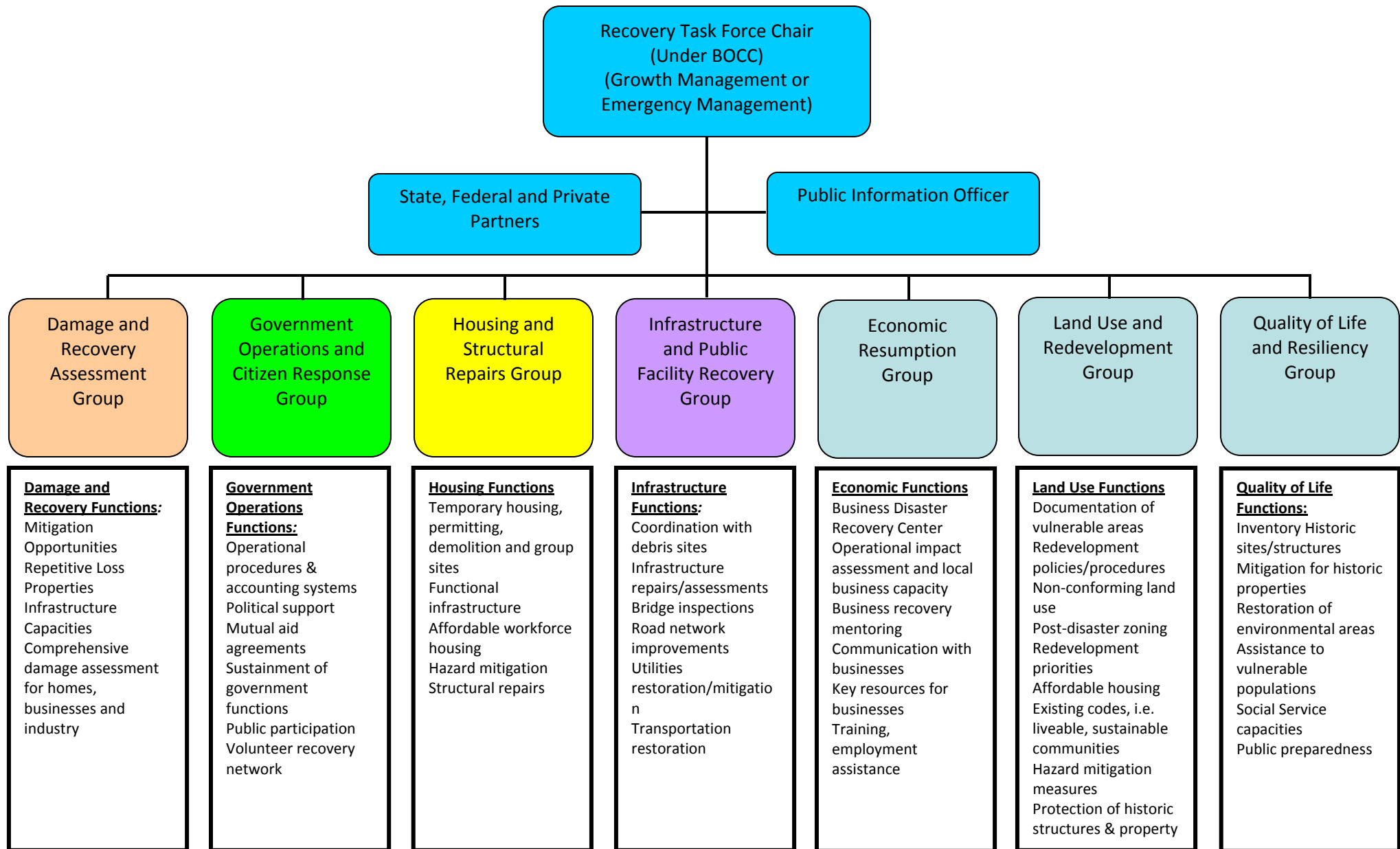


Figure 3.2: Nassau County CEMP EOC Organizational Chart – Long-Term Redevelopment Phase



Once the PDRP is implemented, members of the Redevelopment Task Force (formerly known as the Executive Technical Committee), will be notified of the PDRP activation by the PDRP Redevelopment Task Force Chairperson (Chairperson). The Chairperson will facilitate the meetings of the Nassau County PDRP Redevelopment Task Force (Task Force). The Task Force will be comprised of subcommittee facilitators that will each focus on various redevelopment functions. Previously during the development of the PDRP, the members of the subcommittees served on the Executive Technical Committee and/or Working Groups. The background of the members vary widely, as they represent governmental departments from Nassau County and the jurisdictions of Callahan, Fernandina Beach and Hilliard, as well as regional planning, non-profits, businesses and other stakeholders. The Task Force is responsible for coordinating the redevelopment procedure and activities of local governments within Nassau County, State Agencies, FEMA, and other Federal Response Agencies.

The Task Force will strategically manage the redevelopment process and coordinate activities amongst each subcommittee. Community stabilization will be a major concern during the shift from emergency response to recovery. Sustainable development will be a major concern during the shift from recovery to redevelopment. The Task Force will serve as an advisory committee to the Nassau County personnel and stakeholders that are responsible for redevelopment activities. The Task Force will brief elected officials and provide recommendations to decision makers based on the PDRP and available resources and opportunities. The Task Force will also coordinate with various local organizations for economic recovery and faith-based organizations for recovery support. The PDRP Redevelopment Task Force committees, primary functions, and members are listed in **Table 3.2**.

Table 3.2: Nassau County PDRP Redevelopment Task Force		
Task Force Committees	Function / Contribution	Proposed Task Force Members¹
Committee Chair	<ul style="list-style-type: none"> Leadership and authorization 	Not applicable
Vice Chair	<ul style="list-style-type: none"> Assists with leadership and authorization 	Not applicable
Damage Assessment Subcommittee	<ul style="list-style-type: none"> Housing, Business, Public Facility, Infrastructure and Natural Environment Mitigation Opportunities 	<ul style="list-style-type: none"> All members
Housing and Structural Repairs Subcommittee	<ul style="list-style-type: none"> Hazard Mitigation Project Identification Permitting Temporary Housing Affordable workforce housing Regional Coordination 	<ul style="list-style-type: none"> Building Department Permitting Growth Management Emergency Management NEFRC NEFBA Sheriffs Office Public Works (Local) FDOT

¹ Based on availability

Table 3.2: Nassau County PDRP Redevelopment Task Force		
Task Force Committees	Function / Contribution	Proposed Task Force Members¹
Land Use and Development Subcommittee	<ul style="list-style-type: none"> • Land Use and Comprehensive Planning • Sector Planning • Redevelopment Policies and Procedures • Non-conforming uses • Post-disaster zoning • Hazard Mitigation Measures 	<ul style="list-style-type: none"> • Growth Management • Planning and Zoning Board • Fernandina Beach CDD • Fernandina Beach Historic District Council • Callahan / Hilliard Planning • School Board • Florida Wildlife Federation • Roger Towers • The Nature Conservancy • NEFRC • NEFBA • FDEP
Infrastructure and Public Facility Recovery Subcommittee	<ul style="list-style-type: none"> • Debris Management • Infrastructure Temporary and Long Term Repairs, and Hazard Mitigation • Road and Bridge Repairs and Regional Coordination • Utilities Restoration • Road Network Improvements 	<ul style="list-style-type: none"> • Engineering • Road and Bridge Dept. • Public Works (Local) • Electric. Power (FPL, FPU, JEA) • Nassau/Amelia Utilities • Okefenokee Rural Electric • Ocean, Highway and Port Authority • FDOH
Economic Resumption Subcommittee	<ul style="list-style-type: none"> • Networking / Resource Collaboration • Business Disaster Recovery Center • Operational Impact Assessment • Business Continuity • Strategic Business Redevelopment • Communication with Businesses • Training and Employee Assistance 	<ul style="list-style-type: none"> • Chambers of Commerce • Nassau Economic Development Board • Small Business Development Center • Amelia Island Plantation • Rayonier • Fernandina Beach Airport Advisory Committee • Ocean, Highway and Port Authority • Rotary Club or Amelia Island Sunrise • FDOH

Table 3.2: Nassau County PDRP Redevelopment Task Force		
Task Force Committees	Function / Contribution	Proposed Task Force Members¹
Government Operation and Citizen Response Subcommittee	<ul style="list-style-type: none"> Budgeting Contracting Accounting Political Support Mutual Aid Agreements Emergency Ordinances Staffing Capabilities New Or Modified Regulations Mapping: Vulnerability And Redevelopment Mapping Volunteer Network Public Participation 	<ul style="list-style-type: none"> Emergency Mgmt. Law Enforcement and Fire Rescue (Co./Local) Hospitals Red Cross FDOH School Board Administration Finance and Purchasing Clerks Legal GIS Department Faith Based Organizations
Quality of Life Resiliency Subcommittee	<ul style="list-style-type: none"> Environmental Protection and Restoration Historic Preservation: Property Identification, Vulnerability Assessment, Repairs And Restoration Flood Mitigation Health and Social Services Volunteer Support 	<ul style="list-style-type: none"> Fernandina Beach Historic District Council Fernandina Beach Planning Parks and Rec. The Nature Conservancy Baptist Hospital Nassau American Red Cross Salvation Army Faith Based Organizations

3.3 Training

Training is an important factor in successfully implementing the PDRP. Personnel must be familiar with their specific role in the PDRP and how to fulfill their responsibilities. Training is required to maintain, implement and test the PDRP. Education and training of recovery personnel can serve to inform them of their roles and also to gain a greater understanding of redevelopment measures and modify them as deemed necessary resulting from lessons learned during training scenarios. Training should be conducted on a regular basis and in a comprehensive manner to ensure that staff is familiar with all aspects of the redevelopment process. Training will cover all sections of the PDRP.

A training program will be offered to provide guidance for local governments, regional planning bodies, non-profit organizations and private industries to improve their capacity and knowledge in supporting the implementation of the PDRP.

The training program will include an annual orientation on the PDRP to inform stakeholders about purpose of the plan, roles and responsibilities for implementation and the plan components. The orientation training program is designed for new or transferring employees, as well as management and staff from other departments who should be familiar with the PDRP. Orientation training is designed to familiarize staff with the PDRP.

The training program will also include an annual table top exercise to test redevelopment coordination and capacity amongst the stakeholders, and to detect any plan or implementation deficiencies. The table top exercise will focus on a post-disaster scenario that would result in the activation of the PDRP. Training should focus on the functionally based resources, actions and procedures that are necessary to perform redevelopment activities in the required timeframe.

The PDRP Redevelopment Task Force Chairperson (Chairperson) is responsible for ensuring that Nassau County and jurisdictions staff fully understands the post-disaster redevelopment programs, policies and procedures. The Chairperson will coordinate training and scheduling of training both with the county and the municipalities. Department/agency heads should budget for, and participate in, training activities related to redevelopment programs or initiatives.

The Chairperson will schedule the orientation and table top exercises to evaluate the components of the PDRP. PDRP deficiencies and lessons learned that are identified during training will be included as a Remedial Action Plan that identifies the action items and deliverable dates to correct the issues identified. Upon completion of the training exercise(s), procedures and training will be modified to correct noted deficiencies.

3.4 Plan Maintenance

The PDRP is a living document that will be evaluated and modified to ensure that it is current with the growth patterns, development trends and organizational changes that occur within Nassau County. The PDRP will be maintained to reflect current updates that are pertinent to the successful execution of the plan. Information will be updated on an annual basis or following a PDRP activation, as specified herein.

The PDRP will be evaluated during table top and functional training exercises on an annual basis and will be evaluated during and after PDRP implementation. An after-action review information-collection process will be initiated prior to the deactivation of the PDRP. The information to be collected will, at a minimum, include information from any employee working during the PDRP activation and a review of lessons learned, to include processes that were effective as well as those that proved less than effective. The after-action review should provide recommended actions to improve areas identified as deficient or requiring improvement.

The information should be incorporated into a PDRP remedial action plan. Recommendations for changes to the PDRP and any accompanying documents will be developed and incorporated into the PDRP annual review process.

Examples to consider for evaluation include:

- Evaluate whether all issues were identified in the PDRP.
- Identify additional issues were discovered. Formulate as an action to add to the Action Matrix. Determine the course of action needed (policy or procedure).
- Evaluate how well the timeframes for implementing the Actions were established.
- Identify if the Actions were appropriate, as outlined in the PDRP.

- Evaluate whether all necessary procedures were identified in the PDRP.
- Identify modifications that were/are still needed per the Procedural Checklists. Determine the course of action needed (policy or procedure).

The PDRP should be updated after table top and functional exercises on an annual basis, and after a disaster occurs, for which the PDRP is implemented. The Vulnerability Assessment should be updated every five years along with the LMS update, or based on post-disaster damage assessment. The Capability Assessment should be updated every five years along with the LMS update, based on PDRP implementation and per exercise after action reports. The Issues, Actions and Procedural Checklist should be updated as needed.

4.0 VULNERABILITY ASSESSMENT

This section supports the Post Disaster Redevelopment Plan (PDRP), as it provides an assessment of the hazards that could significantly impact Nassau County and its municipal jurisdictions to the extent of requiring post-disaster redevelopment activity. The purpose of this vulnerability assessment is to identify areas that are exposed to natural hazards and provide a basis for identifying and prioritizing post-disaster redevelopment actions. The first step is to identify the hazards to which Nassau County is vulnerable. The second step is to identify and analyze the people, property, infrastructure and environment that are vulnerable to these hazard impacts.

The vulnerability assessment can be used to determine areas that are most likely to be redeveloped after a disaster. The vulnerability assessment of the existing built environment indicates areas that may have significant enough impacts to reach the damage threshold to warrant redevelopment. The assessment of land use planning and growth management provides the means to evaluate alternate future land use scenarios in hazard areas. This information can be used to potentially modify the future land use map and future land use element policies within the Comprehensive Plan, which would reduce future hazard vulnerability.

Nassau County can use this knowledge to be better prepared in making proactive short-term recovery and long-term redevelopment decisions.

This vulnerability assessment consists of the following subsections:

4.1 Hazard Risk Overview

- 4.1.1 Disaster History
- 4.1.2 National Flood Insurance Program (NFIP) Payments
- 4.1.3 Repetitive Flood Losses

4.2 Methodology

- 4.2.1 HAZUS-MH
- 4.2.2 GIS Parcel Analysis

4.3 Population and Demographic Vulnerability

- 4.3.1 Existing and Future Population
- 4.3.2 Social Vulnerability

4.4 GIS Vulnerability and Risk Assessment Results

- 4.4.1 Building Vulnerability
- 4.4.2 Economic Vulnerability
- 4.4.3 Vulnerability of Critical Facilities and Infrastructure
- 4.4.4 Vulnerability of Properties of Cultural Significance
- 4.4.5 Vulnerability of Environmentally Sensitive Areas
- 4.4.6 Cemeteries

4.5 Considerations for Short Term Recovery Operation Sites

- 4.5.1 Debris Operation Sites
- 4.5.2 Temporary Housing Sites

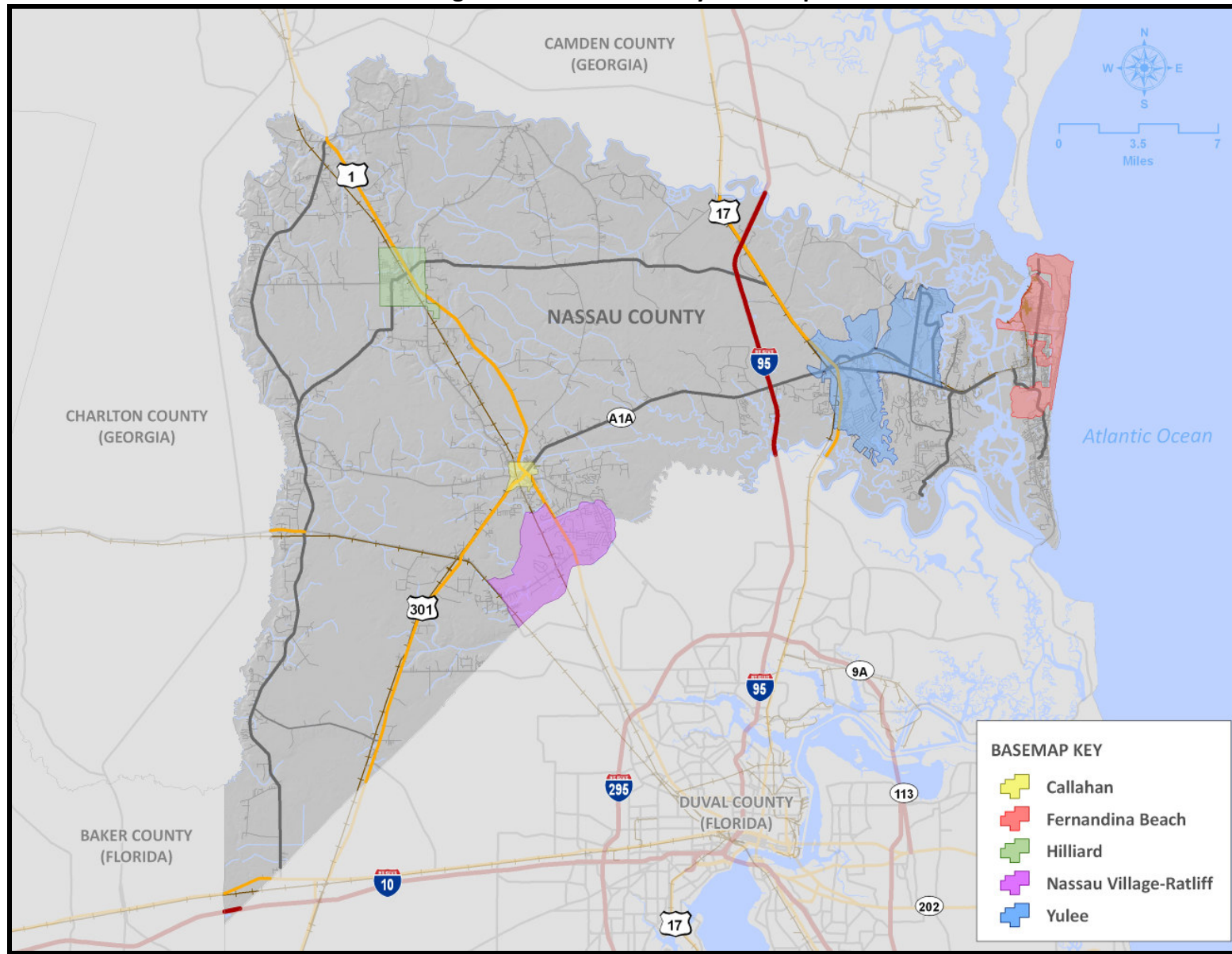
4.6 Development Trends and Implications

- 4.6.1 Analysis of Current and Future Vulnerability Based on Land Use

4.7 Conclusions on Hazard Vulnerability

The vulnerability assessment was prepared using the best available data and technology. Data was obtained from the Nassau County GIS and Emergency Management Departments, as available. The vulnerability assessment includes a quantitative summary of exposure and loss estimates to hazards that would most likely trigger the implementation of the PDRP. For the most part, mapping and GIS analysis was conducted for Nassau County and the incorporated jurisdictions of Callahan, Fernandina Beach, and Hilliard. However, in some cases, mapping, analyses or references were made to Amelia Island, Bryceville and Yulee, which are not incorporated. **Figure 4.1** shows the base map that was used for Nassau County.

Figure 4.1: Nassau County Base Map



4.1 Hazard Risk Overview

Nassau County is vulnerable to various hazards, as it is a coastal community located on the Atlantic Ocean with many rivers, streams, creeks, and marshes spanning from the coast to the inland areas.

The highest risk hazards for Nassau County as identified in the County's 2003-2004 Local Mitigation Strategy (LMS) and the 2007 County Comprehensive Emergency Management Plan (CEMP) are tropical cyclone-generated storm surge and high winds, flooding, wildfires, and hazardous materials spills. An assessment of hazardous materials release is not included in this vulnerability assessment for the PDRP, as it would not likely warrant redevelopment. Information about tropical cyclones, flooding and wildfire are provided below, based on information in the Nassau County CEMP and Local Mitigation Strategy.

Tropical Cyclones

Tropical cyclone events have a high probability and a major impact on Nassau County. Being a coastal community, the county is susceptible to wind and surge damage.

Although the entire county can be affected by high winds, there are certain areas where winds would be higher due to their geography and/or higher elevations, such as the shoreline, areas adjacent to the Intercoastal Waterway, developed areas and areas in around the City of Fernandina Beach and Amelia Island. It is important to note that hurricanes wind often affects inland locations as well. For example, Hurricane Hugo affected areas 100 miles inland in South Carolina in 1989, and Hurricane Floyd impacted 66 of the 100 counties in North Carolina in 1999.

Hurricane storm surge is not limited to the coastline either. Many tributaries flow through the county, which can cause surge damage well into western parts of the county. The Nassau and Saint Mary's Rivers, which form the northern and southern boundaries of the county respectively, are shallow and strongly influenced by tides from the Atlantic Ocean. As a result, within Nassau County, areas adjacent to the Rivers and their tributaries are subject to storm surge impacts. Areas of particular vulnerability include the entire shoreline of the Nassau River, and the Town of Callahan, which are in the path of the River's fallout when it retreats from hurricane storm surge. The eastern portions of St. Mary's River and the Lofton Creek, shorelines in the eastern portion of the County are also of particular concern. Alligator Creek located in the western portion of the County frequently causes local flooding from rainfall the effects of hurricane rain fall volumes would be greatly intensified.

Catastrophic hurricanes have impacted Nassau County in the past and will very likely occur in the future. The 1898 Hurricane was devastating. During the 1898 hurricane, older homes fared better than the newer homes. Similar to Duval County, Nassau has a heavy tree canopy in some areas. Falling limbs and trees would likely result in many downed power lines and roof damage, and uprooted tree roots would likely rip out underground water and sewer lines. During a recent full-scale exercise using this exact scenario, National Weather Service – Jacksonville meteorologists opined a storm commensurate with the 1898 hurricane would essentially bury Nassau County in felled trees literally requiring "cutting paths" back into the County.

Nassau County's coastal proximity predisposes it to major wind and water damage for any category of tropical cyclone event. Tropical Storm Fay caused significant flood damage, with an estimated 60 homes flooded. The Lake Hampton area was badly damaged. Unanticipated flooding occurred to numerous roads and homes near Thomas Creek. Wells were contaminated and there was septic system failure.

Flooding

Flooding may pose severe impacts in flood prone areas of the County. Bank overflow and ponding are the most common due to the number of small lakes and swampy areas along waterways. These natural water bodies and other drainage systems can be overwhelmed by large amounts of runoff generated by short episodes of extremely heavy rainfall or freshwater flooding. The expansive marsh between the mainland and Amelia Island has been an attractive location for residential development. A history of development along the marsh combined with recently introduced restrictions and construction standards leave a large number of older residences vulnerable to flooding. Lack of individuals and businesses carrying flood insurance could result in large uninsured losses due to rising waters. Flooding from a heavy rain has the potential of slowing or eliminating the southern route off Amelia Island leaving only A1A accessible. Approximately 33 percent of the county lies within the 100-year flood plain. Flooding can affect approximately twenty- five (25) to thirty-three (33) percent of the county's population.

Wildfire

Wildland fires cause significant annual losses to timber, agriculture and wildlife. A little more than seventy-five (75) percent of the land acreage in the county is forest lands. While large portions of the County are used for tree farms, other portions are transforming from a rural area to an area with characteristics more urban in nature, with a large percentage of the land area still covered in natural forest. The most vulnerable areas are those generally located at the wild land urban interface, primarily located in the western portions of the County. Large amounts of dry underbrush require only an ignition course which can be from a fireplace, trash burn, cigarette, lightening or even the wheels of passing train. Due to the concentration of residents in rural wooded areas of the county, additional threats to life and property exist therefore requiring increased mitigation efforts. Recent years have indicated an increase in wildfire activity. Since 1998 more than 15,000 Florida wildfires have devastated over one million acres and destroyed more than 750 structures. Historically, a major forest fire has occurred at least once every five years in Nassau County. It should be noted that the majority of the forest land acreage is privately owned by timber companies. Florida's typical "fire season" is from January through May.

4.1.1 Disaster History

Nassau County has been impacted by various natural disasters including tropical cyclones, severe storms, coastal surge, inland flooding, tornadoes and wildfires. The most devastating disaster to date was the 1898 Hurricane that made landfall in Camden County, Georgia, and caused 53 casualties and approximately \$2.5 million in damages in Nassau County. Since 1973, 12 hazard incidents in Nassau County have been designated as Presidential Disaster Declarations. Presidential Disaster Declarations are requested by state governments on behalf of local governments when disasters overwhelm local resources (the 1898 Hurricane would have undoubtedly been designated as a Presidential Disaster Declaration, had this process been in place at that time). Once the declaration has been made, several types of federal assistance become available from the Federal Government such as the Hazard Mitigation Grant Program (HMGP), Public Assistance (PA) program and Individual Assistance (IA) program. The Federal Emergency Management Agency (FEMA), now part of the Emergency Preparedness and Response Directorate of the Department of Homeland Security, is the federal agency tasked with coordinating federal assistance such as IA to citizens and PA to government or eligible not-for-profit entities. **Table 4.1** provides a listing of the disasters that have impacted Nassau County from 1898 to 2008.

Table 4.1: Disasters That Have Impacted Nassau County

Date	Type	Presidential Disaster Declaration
10/02/1898	1898 Hurricane	
09/10/1964	Hurricane Dora	
05/30/1973	Severe storms and flooding	IA, PA
10/22/1992	Severe storms, tornadoes and flooding	IA, PA
03/22/1993	Tornadoes, flooding, high winds and tides, and freezing	IA, PA
09/15/1994	Flooding	
10/11/1994	Flood	
09/14/1995	Flood	
10/06/1996	Flash Flood	
10/15/1996	Tropical Storm Josephine	IA
12/15/1997	Flood	
02/17/1998	Flood	
03/01/1998	Severe storms, high winds, tornadoes and flooding	IA, PA
07/09/1998	Extreme fire hazard	IA, PA
08/25/1998	Flood	
03/09/1999	Wild/forest Fire	
03/23/1999	Wild/forest Fire	
04/13/1999	Wild/forest Fire	
05/04/1999	Wild/forest Fire	
05/09/1999	Wild/forest Fire	
05/21/1999	Wild/forest Fire	
09/15/1999	Hurricane Floyd	PA
02/06/2001	Severe freeze	IA
06/13/2004	Flash Flood	
08/13/2004	Hurricane Charley and Tropical Storm Bonnie	PA-AB
09/04/2004	Hurricane/Tropical Storm Frances	IA, PA
09/08/2004	Flood	
09/24/2004	Hurricane/Tropical Storm Jeanne	IA, PA
06/29/2005	Flood	
10/05/2005	Tropical Storm Tammy	
06/13/2006	Tropical Storm Alberto	
03/21/2007	Wildfire	
03/23/2007	Wildfire	
05/09/2007	Tropical Storm Andrea	
07/20/2007	Wildfire	
10/01/2007	Coastal Flood	
06/24/2008	Wildfire	
08/24/2008	Tropical Storm Fay	IA, PA

Source: FEMA and National Climatic Data Center

4.1.2 National Flood Insurance Program (NFIP) Payments

During January 1978 to August 2008, there were 410 NFIP losses for flood-related claims that were paid in the amount of \$2.3 million throughout Nassau County. The unincorporated areas of the county along with Fernandina Beach accounted for nearly all of these insurance claims. No flood loss claims were filed for the Town of Hilliard, as they do not participate in the NFIP. **Table 4.2** provides a list of the losses and payments by jurisdiction.

Table 4.2: NFIP Flood Losses and Payments by Jurisdiction		
Jurisdiction	Total NFIP Losses	Total Payments
Nassau County (Unincorporated)	167	1,070,905
Callahan	5	121,737
Fernandina Beach	239	1,107,175
Hilliard	0	0
COUNTYWIDE TOTAL	411	2,299,817

Source: FEMA NFIP

4.1.3 Repetitive Flood Losses

FEMA defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period, since 1978. A repetitive loss property may or may not be currently insured by the NFIP. Currently there are over 122,000 repetitive loss properties nationwide.

Several areas of Nassau County have had repetitive flood losses to residential and non-residential properties from heavy rainfall associated with storms or hurricanes. Repetitive losses have occurred specifically in Amelia Island (1), unincorporated Bryceville (1), Callahan (1), Fernandina Beach (10), and Hilliard (1). The coastal area of American Beach and Fletcher Avenue of Fernandina Beach has experienced the majority of the repetitive losses.

Table 4.3 provides a list of the number of repetitive loss properties, the number of uninsured and insured properties, total property value, total flood losses, and the percentage of cumulative losses with regard to total property value by jurisdiction. As of August 2008, 14 repetitive loss properties have had flood losses totaling \$777,273. This represents nearly 40 percent of the total repetitive loss property values countywide. Without mitigation, these properties will likely continue to experience flood losses.

Table 4.3: Repetitive Flood Losses by Jurisdiction							
Jurisdiction	Repetitive Loss Properties	Uninsured	Number of Losses	Insured	Total Property Value	Total Flood Losses	Cumulative Losses as a Percent of Total Property Value
Amelia Island	1	1	2		300,000	273,933	91%
Bryceville	1	1	2		94,050	16,366	17%
Callahan	1		2	1	250,831	118,396	47%
Fernandina Beach	10	5	30	5	1,184,207	351,106	30%
Hilliard	1	1	2		158,400	17,472	11%
COUNTYWIDE TOTAL	14	8	38	6	1,987,488	777,273	39%

Source: FEMA c/o Nassau County Emergency Management

4.2 Methodology

This vulnerability assessment was conducted using a geographic information systems (GIS) analysis. GIS can be defined as a collection of computer hardware and software tools used to enter, edit, store, analyze and display geographically referenced information. GIS tools allow users to conduct interactive queries, analyze spatial information, edit data, create maps and present the results of all these operations in a consolidated report.

4.2.1 HAZUS-MH

FEMA's HAZUS-MH MR3 software was used to model and generate estimated potential losses for hurricane winds. To estimate vulnerable populations in hazard areas, digital Census 2000 data by census block was obtained and census blocks intersecting with hazard areas were used to determine vulnerable population concentrations.

HAZUS-MH is FEMA's standardized loss estimation methodology built upon an integrated GIS platform to conduct analysis at a regional level (i.e., not on a structure-by-structure basis). The HAZUS-MH risk assessment methodology is parametric, in that distinct hazard and inventory parameters (e.g., wind speed and building types) can be modeled using the software to determine the impact (i.e., damages and losses) on the built environment.



The HAZUS-MH MR3 Hurricane Wind Model is an improvement over existing loss estimation models because it uses a wind hazard-load-damage-loss framework¹. New features in the HAZUS-MH MR3 Flood Model include:

- commercial data has been updated to Dun & Bradstreet 2006, Building valuations have been updated to R.S. Means 2006, and Building counts are now based on census housing unit counts instead of calculated building counts;
- the historic storms database has been updated to include the storms for 2004 and 2005 for several existing historic storms;
- NOAA hurricane advisory data is used to model storms with an adjustment feature for calculating building damage and loss;
- the new probabilistic storm set reflects updates to the Holland pressure profile model and filling model;
- there is an updated wind field model for user-defined storms; and
- new vulnerability functions to permit calculation of additional losses to manufactured housing due to tree blowdown.

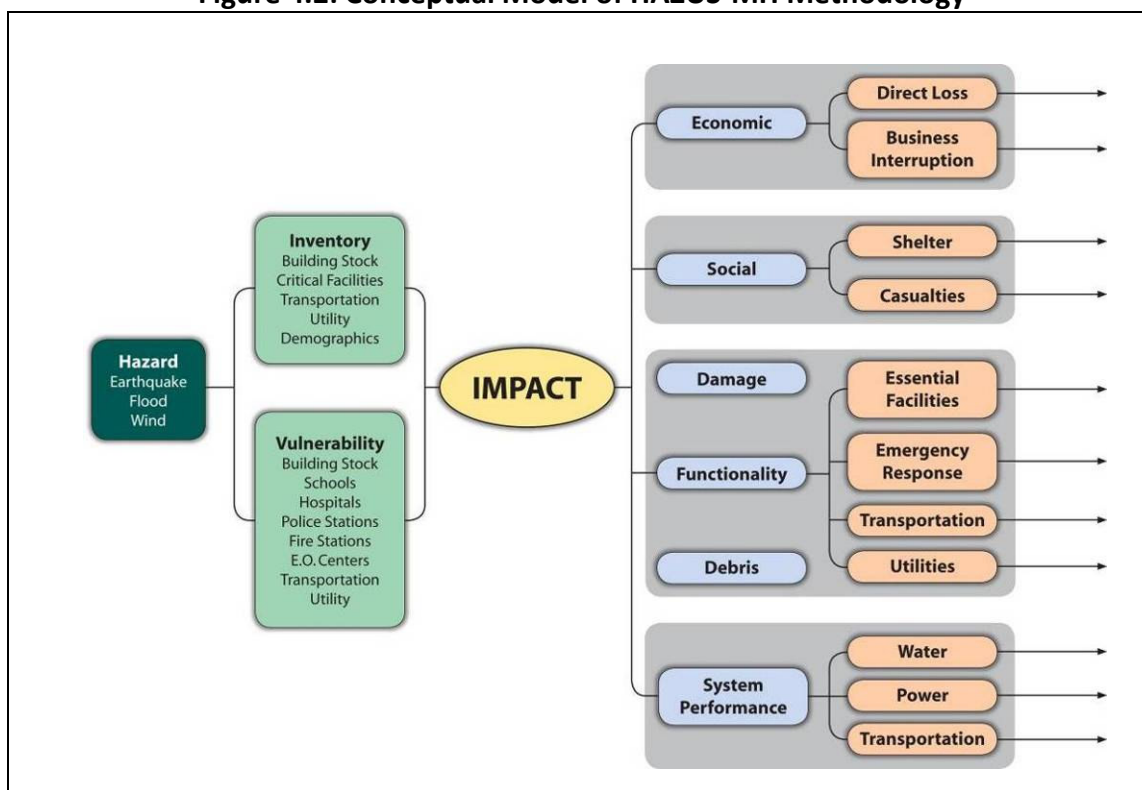
¹ FEMA, "Resource Record Details: [HAZUS-MH MR3 Hurricane Model Technical Manual](http://www.fema.gov/library/viewRecord.do?id=3034)," [fema.gov](http://www.fema.gov). 2008. FEMA. 8 Jan 2009 <<http://www.fema.gov/library/viewRecord.do?id=3034>>.

As noted in the HAZUS-MH MR3 User Manual, the replacement costs were derived from Means Square Foot Costs 2005 for residential, commercial, industrial and institutional building occupancy classes. The Means publication is a nationally accepted reference on building construction costs, which is published annually. This publication provides cost information for a number of low-rise residential buildings, and for 70 other residential, commercial, institutional and industrial buildings. These are presented in a format that shows typical costs for each model building, showing variations by size of building, type of building structure and building enclosure. More detailed information on HAZUS-MH and its default national inventory data is available through FEMA at: www.fema.gov/plan/prevent/hazus/.²

HAZUS-MH is a loss estimation tool for planning purposes only. Uncertainties are inherent in any loss estimation methodology and arise in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment. Uncertainties also result from (1) approximations and simplifications necessary to conduct such a study; (2) incomplete or outdated data on inventory, demographic, or economic parameters; (3) the unique nature and severity of each hazard when it occurs; and (4) the amount of advance notice that residents have to prepare for the event. As a result, potential exposure and loss estimates are approximate. Results should not be interpreted or used as precise results from a hazard event and should be used only to understand relative risk.

Figure 4.2 illustrates the conceptual model of the HAZUS-MH methodology as applied to Nassau County.

Figure 4.2: Conceptual Model of HAZUS-MH Methodology



² FEMA. 2008. *HAZUS-MH MR3 User Manual*. Department of Homeland Security, Federal Emergency Management Agency, Mitigation Division. Washington, D.C.

4.2.2 GIS Parcel Analysis

The GIS-based parcel analysis approach provides estimates for the potential impact of hazards by using a common, systematic framework for evaluation. To perform the assessment, digital data was collected from the Nassau County GIS Department and regional, state and national sources as needed. ESRI® ArcGIS™ 9.2 was used to assess vulnerability utilizing digital data including local tax records for individual parcels, georeferenced point locations for critical facilities and historic properties, as well as georeferenced polygons for land use classifications and environmentally sensitive areas. Using these data layers, risk was assessed by estimating the assessed building value associated with parcels determined to be located in identified hazard areas with delineable geographic boundaries. Vulnerability was assessed by identifying the number of critical facilities and historic properties, and the acreage of future land use and environmentally sensitive areas in these hazard areas too.

4.3 Population and Demographic Vulnerability

4.3.1 Existing and Future Population

Population estimates for all jurisdictions within Nassau County and the percent change from the 2000 U.S. Census are presented in **Table 4.4**, based on information from the April 1, 2008, population estimate by the University of Florida's Bureau of Economic and Business Research (BEBR). Approximately 76 percent of the county's residents live in the county's unincorporated areas. Nassau County has experienced rapid population growth in recent years, a trend that is expected to continue. Between 1990 and 2000, Nassau County had a growth rate of 31.2 percent, which was nearly one third greater than the statewide average of 23.5 percent for the same time period. The county's population increased by nearly 21 percent between 2000 and 2007.

Table 4.4: Population Estimates by Jurisdiction				
Jurisdiction	Population (Census 2000)	Population (Estimate 2007)	Percent Change 2000-2007	Percent of Total Population (2007)
Unincorporated	43,450	53,326	22.73%	76.54%
Callahan	962	1,412	46.78%	2.03%
Fernandina Beach	10,549	11,921	13.01%	17.11%
Hilliard	2,702	3,011	11.44%	4.32%
COUNTYWIDE TOTAL	57,663	69,670	20.82%	100.00%

Source: U.S. Census Bureau

Nassau County's population is projected to grow steadily and reach an estimated 104,800 by the year 2030, increasing the average population density of 107 to 161 persons per square mile. **Figure 4.3** illustrates medium growth population projections for Nassau County based on 2007 calculations.

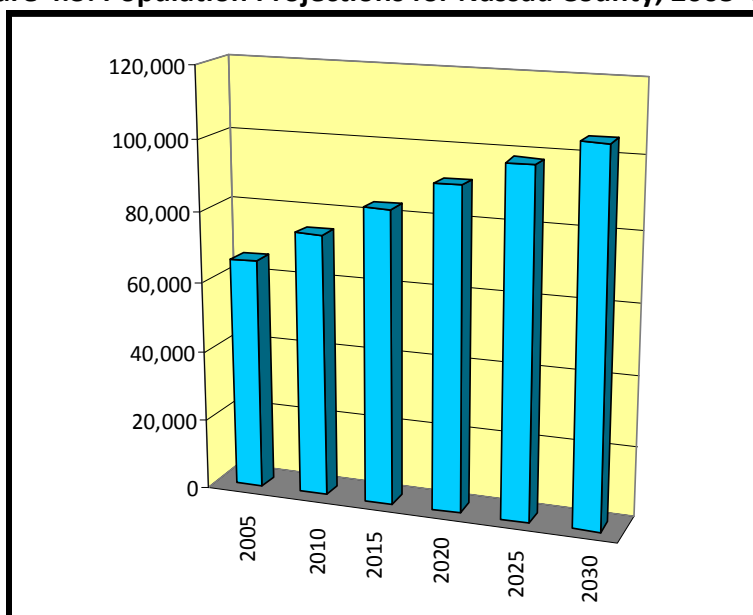
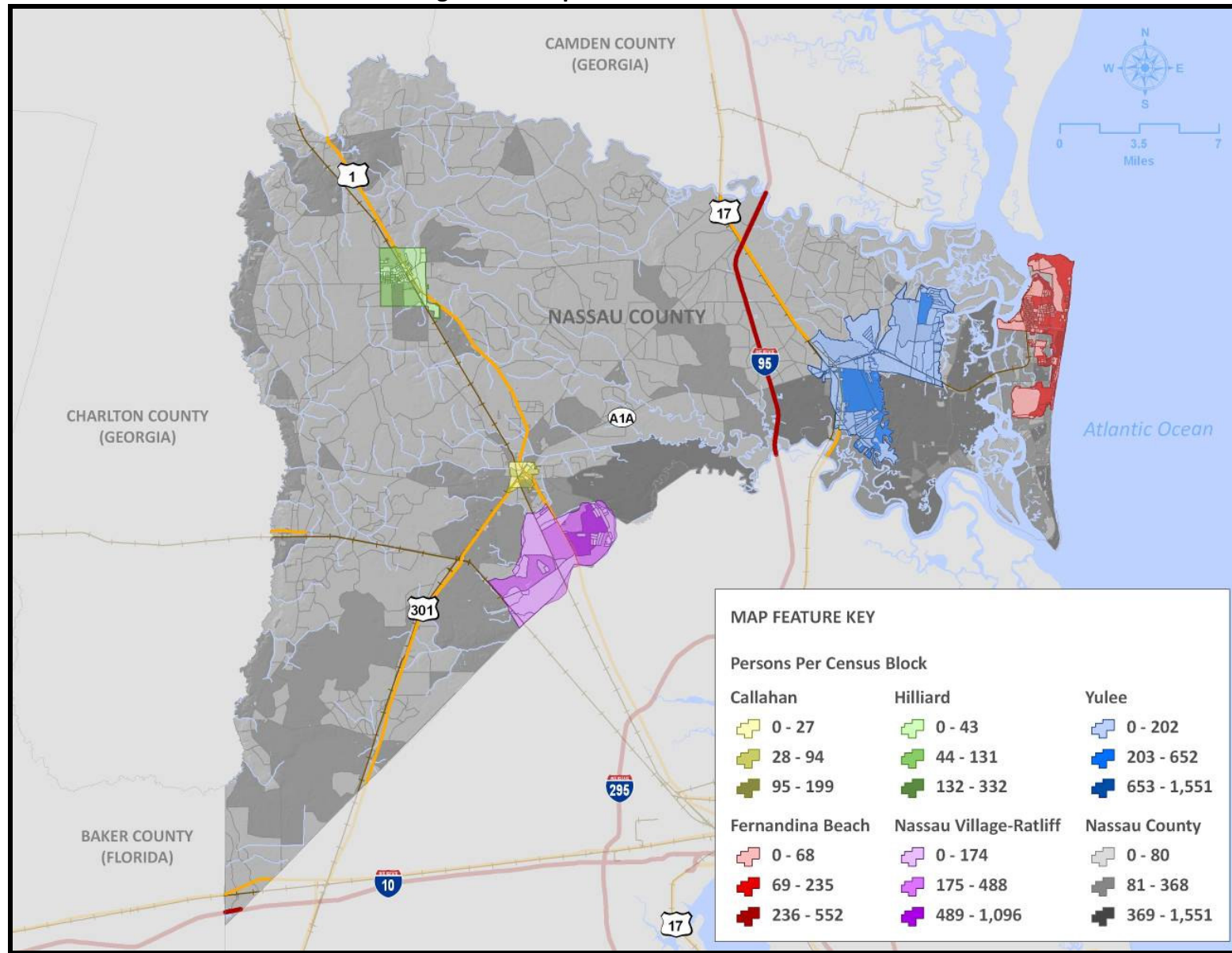
Figure 4.3: Population Projections for Nassau County, 2005–2030

Figure 4.4 shows the U.S. Census 2000 population per census block for the unincorporated and incorporated areas of Nassau County.

Figure 4.4: Population Per Census Block



4.3.2 Social Vulnerability

The U.S. Census Bureau has estimated that the 2007 population for Nassau County was 69,670 which is an increase of 20.8% over the 2000 population of 57,663. According to 2006 data from the U.S. Census Bureau, the median age in Nassau County is 41.2 years, which is considerably higher than the national average of 36.4 years. The average household size is 2.56 persons.

Of particular concern within Nassau County's population are those persons with special needs or perhaps limited resources such as the elderly, disabled, low-income or language isolated residents. Female headed households may have fewer resources for childcare or post-disaster work opportunities (typically, there is an increase in debris removal and construction jobs after a disaster, for which females might not be trained). In terms of population segments that may potentially be at higher risk in the event of a disaster, in general, 5.7% of the total population (66,506) is under the age of five (a total of 3,771 persons) and 15% is age 65 years and over (a total of 9,957 persons). Approximately 17% of households have incomes of \$25,000 or less (4,427 households), and 19.7% (12,223 persons age five and up) hold disability status. The U.S. Census Bureau defines disability as a long-lasting sensory, physical, mental, or emotional condition or conditions that make it difficult for a person to do functional or participatory activities such as seeing, hearing, walking, climbing stairs, learning, remembering, concentrating, dressing, bathing, going outside the home, or working at a job³. However, this is not the same as the number of Special Needs Population, as characterized for needing special assistance before, during and after disasters, per the Nassau County CEMP. There are approximately 175 people who are registered as having Special Needs, and are located throughout the county due to the number of nursing homes, home health agencies and Baptist Medical Center Nassau. There are 2,768 female householders with no husband present, of which 1,866 have children under the age of 18. **Table 4.5** provides an overview of the social vulnerability in Nassau County.

Table 4.5: Social Vulnerability		
Social Vulnerability Category	Number of Persons	% of Population
Over 65 years old	9,957	15%
Under 18 years old	14,602	21.6%
Under 5 years old	3,771	5.7%
English not spoken at home	N	N
Disabled	12,223	19.7%
Female householder, no husband present	2,768	4.1%
Female householder with children under 18	1,866	2.8%

Source: U.S. Census Bureau

N = data is not available as the number of sample cases is too small

Figures 4.5 through 4.7 show the number of people per census block who are over 65 years of age, under 18 years of age, and under the age of five.

³ U.S. Census Disability Status definition:

http://www.census.gov/acs/www/Downloads/2006/usedata/Subject_Definitions.pdf

Figure 4.5: Population Over 65 Years of Age

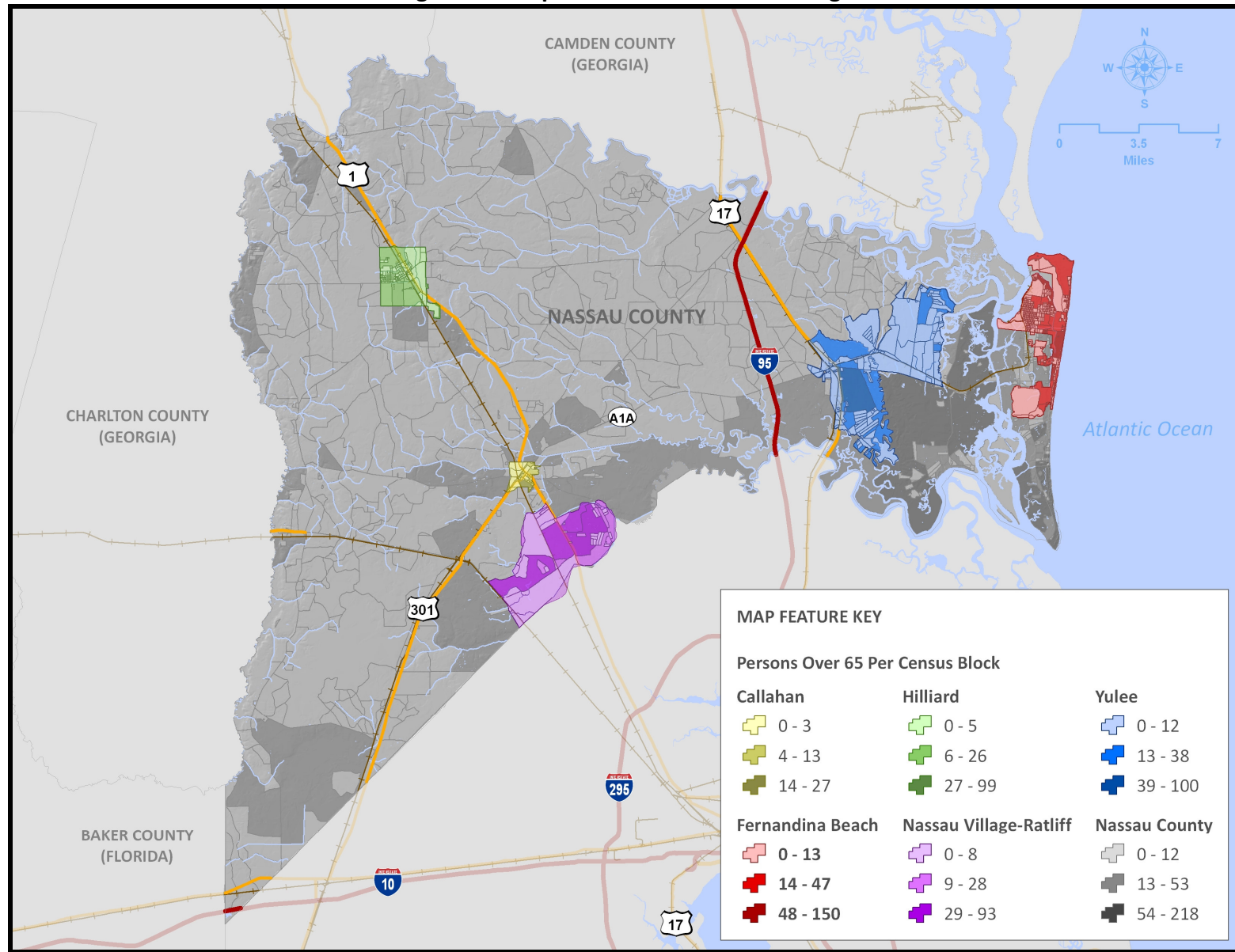


Figure 4.6: Population Between 5 -17 Years of Age

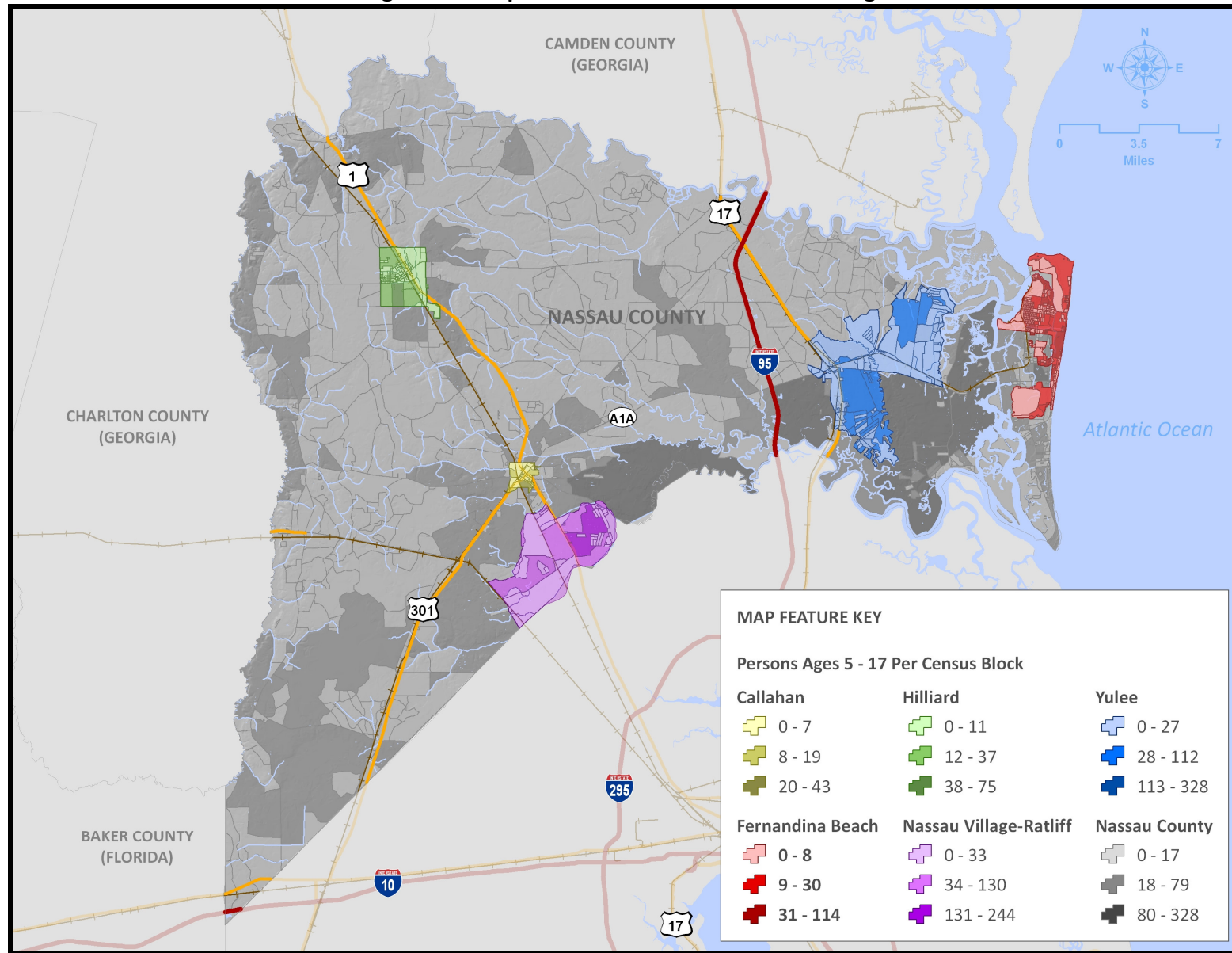
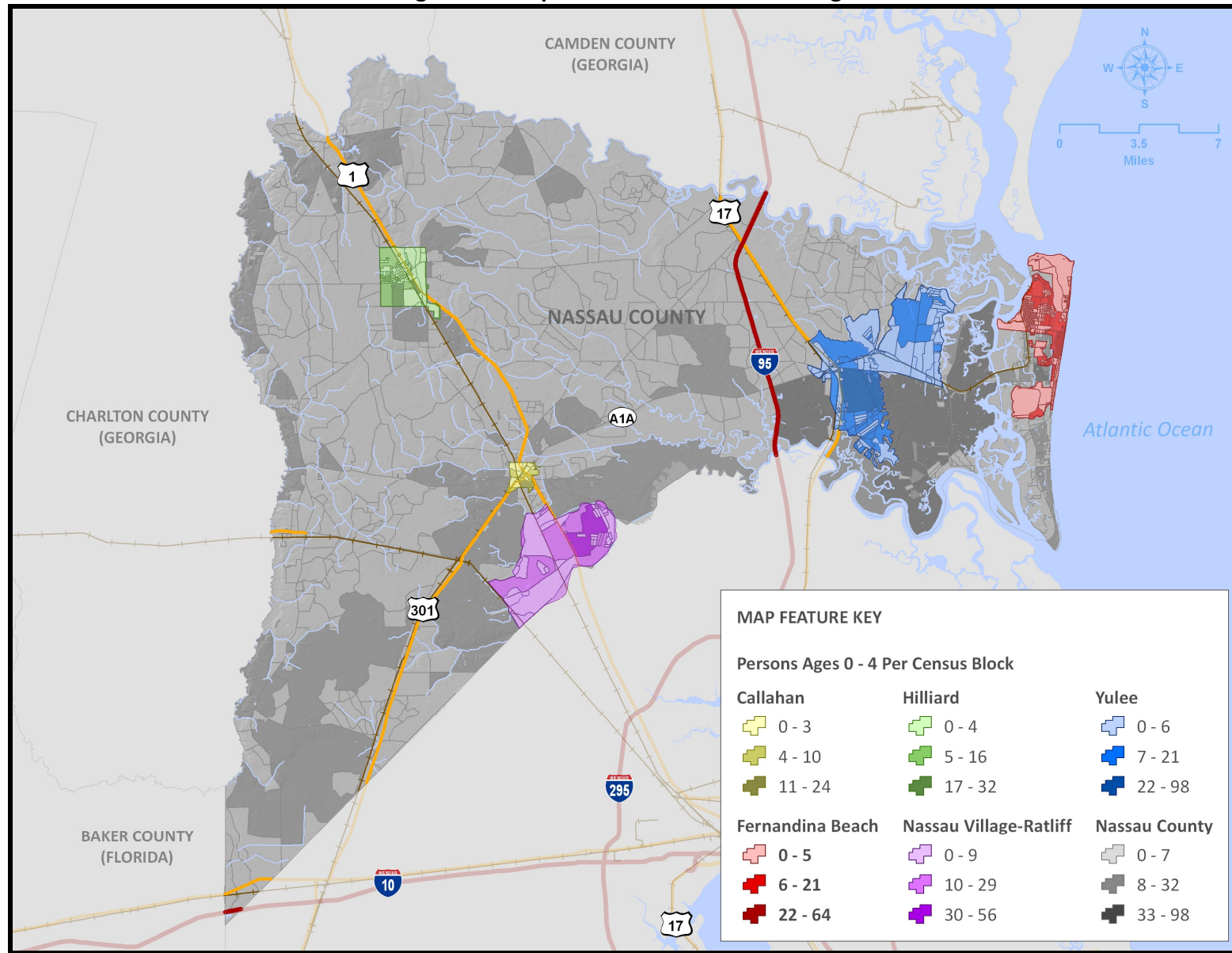


Figure 4.7: Population Under 5 Years of Age



4.4 GIS Vulnerability and Risk Assessment Results

Various data sources were used to conduct the vulnerability and risk assessment for improved property, critical and essential facilities, properties of cultural significance, the local economy, the natural environment and social characteristics.

The vulnerability assessment and risk results were generated using the Nassau County GIS Department's geospatial databases for improved property (structures), critical facilities, other essential facilities, and properties of cultural significance. The Nassau County Economic Development Board provided data and information for the economic vulnerability assessment. Environmentally sensitive area GIS data was provided by the Florida Natural Area Inventory and hazardous materials sites were provided by the Northeast Florida Regional Council to perform the environmental vulnerability assessment. U.S. Census data was used to prepare the social vulnerability assessment.

4.4.1 Building Vulnerability

Building vulnerability was assessed using HAZUS-MH MR3 for hurricane wind and by performing a parcel level analysis for riverine flood, storm surge and wildfire.

HAZUS-MH Hurricane Wind Analysis

HAZUS-MH was used to determine the amount of damage and loss that could occur in Nassau County using two scenarios: a probabilistic scenario for various return periods and a deterministic scenario to simulate damage and loss for the 1898 Hurricane were it to occur today. HAZUS-MH calculates losses that are due to building and contents damage and monetary losses resulting from loss of function. Losses are not calculated for individual buildings, but instead are based on the performances of entire occupancy classes of buildings (i.e., residential, commercial and other).

Based on the default data included in HAZUS-MH, which uses U.S. Census 2000 tract data and R.S. Means 2006 building valuations, there were an estimated 24,300 buildings with a total dollar exposure of \$3,562,750, 000. The building count and dollar exposure, by occupancy class, are listed in **Table 4.6**.

Table 4.6: General Building Stock Exposed to Hurricane Wind		
Occupancy	Building Count	Dollar Exposure
Residential	23,847	2,884,147
Commercial	325	465,519
Other	126	213,083
TOTAL	24,298	3,562,749

Source: HAZUS-MH MR3

Probabilistic Scenario

A probabilistic scenario was modeled for the most likely tropical cyclones that could potentially impact Nassau County based on historical incidents and the type of structures that exist in the county. The probabilistic scenario utilized the historical HURDAT storm database, which includes all Atlantic Basin tropical cyclones from 1886 to 2001. These storms were simulated for a 100,000-year period to generate hurricane tracks and wind speeds for 10, 20, 50, 100, 500, and 1,000-year probabilistic tropical cyclones.⁴ A 100-year return period corresponds to a 1 percent chance per year of equaling or exceeding the estimated loss of a 100-year event.⁵

Qualitative damage was estimated for the number and percent of buildings in Nassau County for various return periods, as listed in **Table 4.7**. Nearly 20 percent of the buildings are estimated to be damaged resulting from a 100-year event, nearly 30 percent for a 200-year event, and over 50 percent for a 500-year event.

Table 4.7: Number of Buildings Damaged by Hurricane Wind										
Return Period	Minor	%	Moderate	%	Severe	%	Destroyed	%	Total	%
10	15	0.1%	0	0.0%	0	0.0%	0	0.0%	15	0.1%
20	127	0.5%	10	0.0%	0	0.0%	0	0.0%	137	0.6%
50	1,177	4.8%	116	0.5%	2	0.0%	1	0.0%	1,296	5.3%
100	3,551	14.6%	770	3.2%	45	0.2%	18	0.1%	4,384	18.0%
200	6,467	26.6%	2,585	10.6%	374	1.5%	149	0.6%	9,575	39.4%
500	5,541	22.8%	4,610	19.0%	1,848	7.6%	784	3.2%	12,782	52.6%
1000	5,668	23.3%	6,513	26.8%	3,476	14.3%	1,818	7.5%	17,474	71.9%

Source: HAZUS-MH MR3

The capital stock losses include direct property damage losses and business interruption losses. The direct property damage losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the hurricane. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the hurricane. Loss was estimated for residential, commercial, industrial, agricultural, religious, government and education buildings. Most of the loss is attributed to the residential building stock. **Table 4.8** lists the potential capital stock losses for Nassau County for various return periods. There would be an estimated \$78,134,000 in potential losses for a 100-year event.

Table 4.8: Potential Capital Stock Losses from Tropical Cyclone Winds (by Return Period)		
Return Period	Peak Wind Gusts (mph)	Estimated Potential Losses (Countywide)
10-year	60 - 69	\$595,000
20-year	60 - 79	\$5,512,000
50-year	90 - 94	\$25,475,000

⁴ University of Florida and Nassau County Emergency Management *Nassau County, Florida Hurricane Simulation and Damage Assessment*. January 21, 2007.

⁵ FEMA. 2008. *HAZUS-MH MR3 User Manual*. Department of Homeland Security, Federal Emergency Management Agency, Mitigation Division. Washington, D.C.

Table 4.8: Potential Capital Stock Losses from Tropical Cyclone Winds (by Return Period)		
100-year	88 - 111	\$78,134,000
200-year	95 - 123	\$260,260,000
500-year	84 - 146	\$842,199,000
1,000-year	93 - 147	\$1,405,493,000

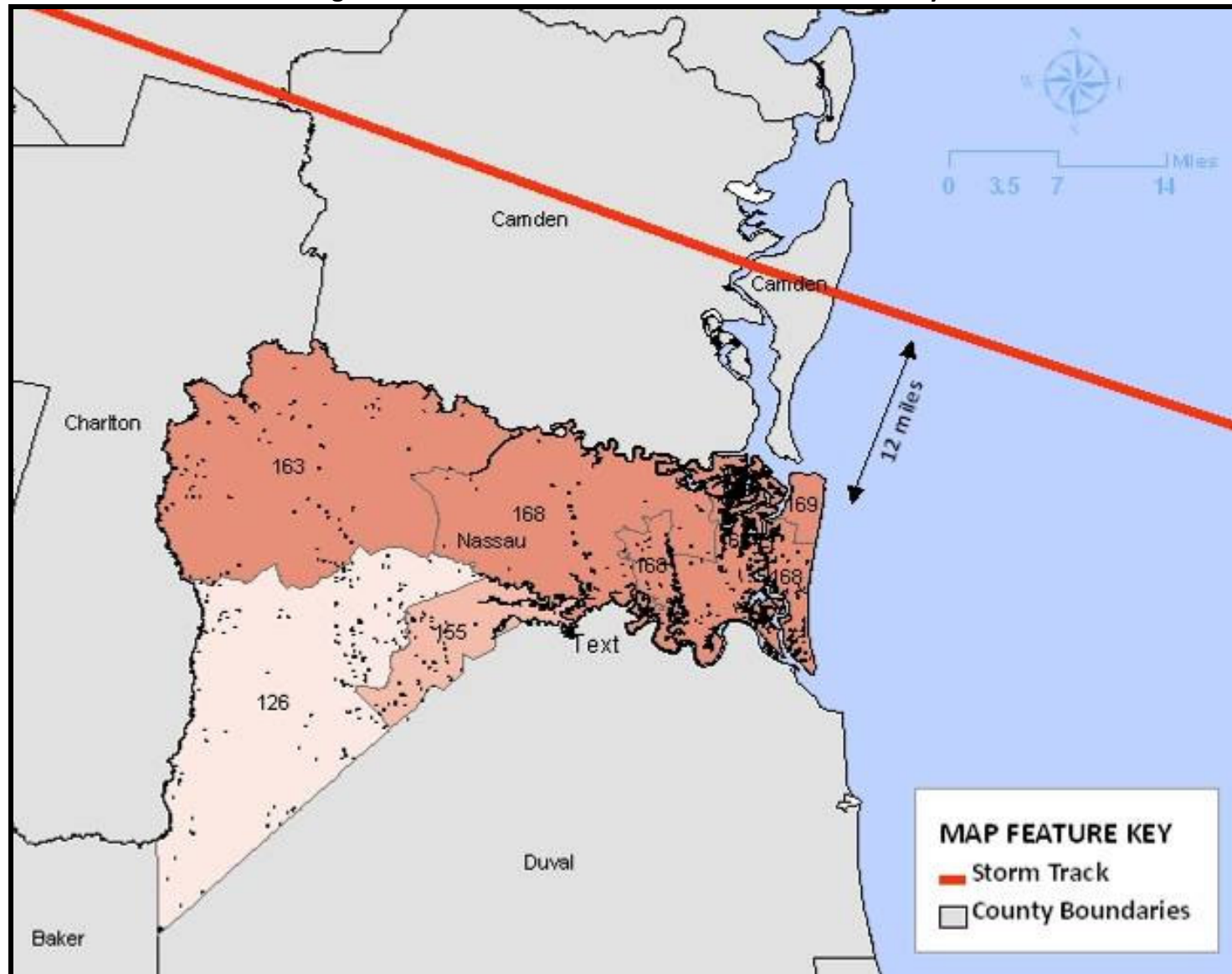
Source: HAZUS-MH MR3

Deterministic Scenario: 1898 Hurricane

A deterministic scenario was run for the October 2, 1898, a Category 4 hurricane that made landfall in Camden County, Georgia, with sustained winds of 135 miles per hour (mph). This hurricane caused 53 casualties and \$2.5 million (1898 dollars) in losses in Nassau County over a century ago. Loss estimates for current building stock were modeled using parameters for the 1898 Hurricane (i.e., storm track, forward speed, radius to maximum winds, and barometric pressure). The hurricane parameters were derived from ongoing research by Warning Coordination Meteorologist of the NOAA National Weather Service in Jacksonville, Florida.⁶ Previously, the University of Florida and Nassau County Emergency Management jointly conducted a HAZUS-MH analysis using MR2. This PDRP vulnerability assessment reflects an updated analysis using MR3. **Figure 4.8** illustrates the simulated storm track and maximum peak wind gusts of the 1898 Hurricane simulation. Although the hurricane made a direct landfall 12 miles north of the Nassau County border, the county still experienced significant damage.

⁶ University of Florida and Nassau County Emergency Management *Nassau County, Florida Hurricane Simulation and Damage Assessment*. January 21, 2007.

Figure 4.8: 1898 Hurricane Simulation for Nassau County



Source: HAZUS-MH MR3

Table 4.9 summarizes the expected building damage by occupancy if the 1898 Hurricane were to occur today. HAZUS-MH estimated that about 19,515 or 80 percent of the county's buildings would be at least moderately damaged and 6,821 buildings would be completely destroyed.

Table 4.9: Expected Building Damage by Occupancy Class by Hurricane Wind

Occupancy Class	Minor	%	Moderate	%	Severe	%	Destroyed	%	Total
Agriculture	1	12.18%	2	21.54%	4	40.78%	1	16.32%	8
Commercial	21	6.54%	59	18.25%	197	60.58%	25	7.65%	302
Education	0	7.71%	1	16.96%	4	64.27%	0	2.32%	5
Government	1	7.09%	4	17.62%	14	65.98%	0	1.24%	19
Industrial	3	6.33%	8	14.93%	33	63.77%	4	7.59%	48
Religion	4	10.13%	8	21.30%	22	55.45%	2	4.20%	36
Residential	2,718	11.40%	5,421	22.73%	6,919	29.01%	6,788	28.47%	21,846
TOTAL	2,748		5,503		7,193		6,820		22,264

Source: HAZUS-MH MR3

Table 4.10 shows the expected building damage by building type. There are an estimated 3,146 or 27 percent of the masonry buildings and 2,522 or 37 percent of the manufactured homes that would be completely destroyed.

Table 4.10: Expected Building Damage by Building Type by Hurricane Wind

Building Type	Minor	%	Moderate	%	Severe	%	Destroyed	%	Total
Concrete	47	5.23%	153	17.20%	631	70.80%	4	0.49%	835
Masonry	1,317	11.17%	2,682	22.74%	4,026	34.14%	3,146	26.69%	11,171
Manufactured Housing	705	10.46%	1,375	20.39%	846	12.54%	2,522	37.42%	5,448
Steel	11	4.84%	33	14.80%	148	66.13%	16	7.19%	208
Wood	525	11.32%	1,143	24.63%	1,563	33.68%	1,192	25.68%	4,423

Source: HAZUS-MH MR3

Storm Surge, Flood and Wildfire GIS Parcel Analysis

The building vulnerability assessment was conducted using a GIS analysis process in which hazards with a spatial delineation (storm surge, flood and wildfire) were overlaid with local parcel data to determine the number of parcels with improved values that intersect these hazard zones. 2008 tax assessment data was then used to determine the assessed value of these at-risk properties. Additionally, year built information was used to determine whether the buildings built on the at-risk parcels are pre-FIRM.⁷

In summary, there are a total of 47,480 parcels in Nassau County, 30,712 of which have building values associated with them. According to the U.S. Census, 2005-2007 American Community Survey, there are over 25,000 occupied housing units, of which 20,000 (80 percent) were owned and 5,000 (20 percent) were rented. Over 800 housing units were used for seasonal, recreational or occasional use. The number of seasonal residents in Nassau County is 2,600 with most tourists to the area visiting for two to three night stays. The winter population does increase primarily in the southern part of the county. This population has little or no effect on the county.

⁷ Pre-FIRM buildings are those built before the effective date of the first Flood Insurance Rate Map (FIRM) for a community. These dates for Nassau County, Callahan, Fernandina Beach and Hilliard are 1984, 1983, 1977 and 2003 respectively, according to the NFIP Community Status Book.

The total dollar value of the 47,480 parcels (counting the building value only) is \$5,112,611,007. **Tables 4.11 through 4.15** provide an overview of the numbers and values of parcels located in identified flood hazard zones for each jurisdiction. Analyses were conducted for the 1 percent annual chance flood (ACF) hazard area (100-year floodplain), 0.2 percent ACF hazard area (500-year floodplain), and the storm surge inundation area associated with a Category 1, 2, 3, 4 or 5 storm event. **Table 4.11** provides the cumulative percentages and building values for storm surge on a countywide basis. Each successive category of surge would also impact the lower category(ies). For example, a Category 3 surge would also impact Category 1 and 2 zones. Cumulative impacts identify the worst case scenarios, or the total improved property values in an identified mapped flood hazard area, according to the Flood Insurance Rate Map (FIRM). Actual flooding will be dependent on the nature of the event (e.g., flash flooding, riverine flooding, stormwater management issues, etc.). **Tables 4.12 through 4.15** provides the number, percent and values of parcels at risk to flood or storm surge, for each hazard area, but is not cumulative.

Table 4.11: Flood Hazard Vulnerability of Improved Parcels in Nassau County				
Hazard Zone	Percent At-Risk for Each Flood Hazard Zone	Total Assessed Building Value of At-Risk Parcels	Cumulative Percent of Improved Parcels at Risk to Storm Surge	Cumulative Assessed Building Value of Parcels At-Risk to Storm Surge
1 Percent Annual Chance Flood	25%	\$1,444,095,084		
0.2 Percent Annual Chance Flood	16%	\$934,243,901	41%	\$2,378,338,985
Coastal V/VE Zone	3%	\$427,863,244	44%	\$2,806,202,229
Category 1 Storm Surge	10%	\$818,985,301		
Category 2 Storm Surge	6%	\$272,904,564	16%	\$1,091,889,865
Category 3 Storm Surge	26%	\$2,042,655,811	42%	\$3,134,545,676
Category 4 Storm Surge	23%	\$1,606,506,126	65%	\$4,741,051,802
Category 5 Storm Surge	19%	\$1,129,604,620	84%	\$5,870,656,422

Table 4.12: Flood Hazard Zone Vulnerability – Unincorporated Nassau County							
Hazard Zone	Total Number of Improved Parcels	Parcels with Improved Values At-risk	Percent At-risk	Total Assessed Building Value of At-risk Parcels	Parcels with Improved Values At-risk (Pre-FIRM Only)	Percent At-risk	Total Assessed Building Value of At-Risk Parcels (Pre-FIRM Only)
1 Percent Annual Chance Flood	23,239	5,776	25%	\$975,518,018	1,813	8%	\$195,725,664
0.2 Percent Annual Chance Flood		3,881	17%	\$709,105,239	1,119	5%	\$118,020,330
Coastal V/VE Zone		483	2%	\$282,168,807	149	1%	\$16,830,815
Category 1 Storm Surge		1,933	8%	\$538,011,429	1,732	7%	\$449,582,392
Category 2 Storm Surge		1,282	6%	\$166,331,481	397	2%	\$35,566,415
Category 3 Storm Surge		5,769	25%	\$1,614,730,054	4,795	21%	\$959,330,246
Category 4 Storm Surge		5,826	25%	\$1,306,266,592	1,458	6%	\$130,422,338
Category 5 Storm Surge		4,435	19%	\$833,311,216	1,378	6%	\$128,779,552

Source: GIS Analysis

Table 4.13: Flood Hazard Zone Vulnerability – Callahan

Hazard Zone	Total Number of Improved Parcels	Parcels with Improved Values At-risk	Percent At-risk	Total Assessed Building Value of At-risk Parcels	Parcels with Improved Values At-risk (Pre-FIRM)	Percent At-risk	Total Assessed Building Value of At-Risk Parcels (Pre-FIRM)
1 Percent Annual Chance Flood	405	125	31%	\$22,912,581	43	11%	\$11,122,013
0.2 Percent Annual Chance Flood		0	0%	\$0	0	0%	\$0
Coastal V/VE Zone		0	0%	\$0	0	0%	\$0
Category 1 Storm Surge		1	0%	\$554,523	0	0%	\$0
Category 2 Storm Surge		1	0%	\$554,523	0	0%	\$0
Category 3 Storm Surge		3	1%	\$1,244,380	0	0%	\$0
Category 4 Storm Surge		123	30%	\$24,337,784	40	10%	\$12,427,437
Category 5 Storm Surge		165	41%	\$36,612,028	71	18%	\$21,919,076

Source: GIS Analysis

Table 4.14: Flood Hazard Zone Vulnerability – Fernandina Beach

Hazard Zone	Total Number of Improved Parcels	Parcels with Improved Values At-risk	Percent At-risk	Total Assessed Building Value of At-risk Parcels	Parcels with Improved Values At-risk (Pre-FIRM)	Percent At-risk	Total Assessed Building Value of At-Risk Parcels (Pre-FIRM)
1 Percent Annual Chance Flood	6,173	1,746	28%	\$443,547,106	364	6%	\$56,254,691
0.2 Percent Annual Chance Flood		1,158	19%	\$225,138,662	437	7%	\$49,224,689
Coastal V/VE Zone		386	6%	\$145,694,437	34	1%	\$10,231,703
Category 1 Storm Surge		1,278	21%	\$280,419,349	1,075	17%	\$251,778,676
Category 2 Storm Surge		493	8%	\$106,018,560	129	2%	\$21,444,363
Category 3 Storm Surge		2,189	35%	\$426,681,377	750	12%	\$100,812,531
Category 4 Storm Surge		1,252	20%	\$275,901,750	597	10%	\$84,192,489
Category 5 Storm Surge		1,212	20%	\$259,681,376	584	9%	\$53,406,788

Source: GIS Analysis

Table 4.15: Flood Hazard Zone Vulnerability – Hilliard

Hazard Zone	Total Number of Improved Parcels	Parcels with Improved Values At-risk	Percent At-risk	Total Assessed Building Value of At-risk Parcels	Parcels with Improved Values At-risk (Pre-FIRM)	Percent At-risk	Total Assessed Building Value of At-Risk Parcels (Pre-FIRM)
1 Percent Annual Chance Flood	896	13	1%	\$2,117,379	13	1%	\$2,117,379
0.2 Percent Annual Chance Flood		0	0%	\$0	0	0%	\$0
Coastal V/VE Zone		0	0%	\$0	0	0%	\$0
Category 1 Storm Surge		0	0%	\$0	0	0%	\$0
Category 2 Storm Surge		0	0%	\$0	0	0%	\$0
Category 3 Storm Surge		0	0%	\$0	0	0%	\$0
Category 4 Storm Surge		0	0%	\$0	0	0%	\$0
Category 5 Storm Surge		0	0%	\$0	0	0%	\$0

Source: GIS Analysis

Table 4.16 identifies the number of mobile homes in Nassau County by hazard area.

Table 4.16: Mobile Homes at Risk to Hazards	
Hazard Zone	Mobile Homes at Risk
1 Percent Annual Chance Flood	1,146
0.2 Percent Annual Chance Flood	410
Coastal V/VE Zone	6
Category 1 Storm Surge	260
Category 2 Storm Surge	240
Category 3 Storm Surge	506
Category 4 Storm Surge	943
Category 5 Storm Surge	1,440
Wildfire (High and Medium Potential)	4,394

Figures 4.9 through 4.12 show riverine and coastal flood hazard areas for Nassau County and its incorporated jurisdictions. **Figures 4.13 through 4.15** show storm surge inundation areas for Nassau County and two of its incorporated jurisdictions (Hilliard has no storm surge hazard areas to map).

Areas of flooding concern include:

- Nassau River Shoreline
- Callahan
- Lofton Creek Shoreline
- O’Neal and Piney Island Area

- St. Mary's River Shoreline
- Alligator Creek
- Yulee
- Intercoastal Waterway Shoreline
- Egan's Creek
- Amelia Island
- Thomas Creek

Figure 4.13 shows storm surge inundation for the entire county. Currently there are areas in the northwest portion of the county for which storm surge inundation data is not available. As such, it is possible that some buildings could not be identified as being at risk, and therefore, would not be included in the results in **Table 4.11**.

New surge inundation maps will be available after the LiDAR GIS layer is complete. The surge analysis presented here can be revised as part of future plan updates.

Figure 4.9: Riverine and Coastal Flood Hazard Areas (Countywide)

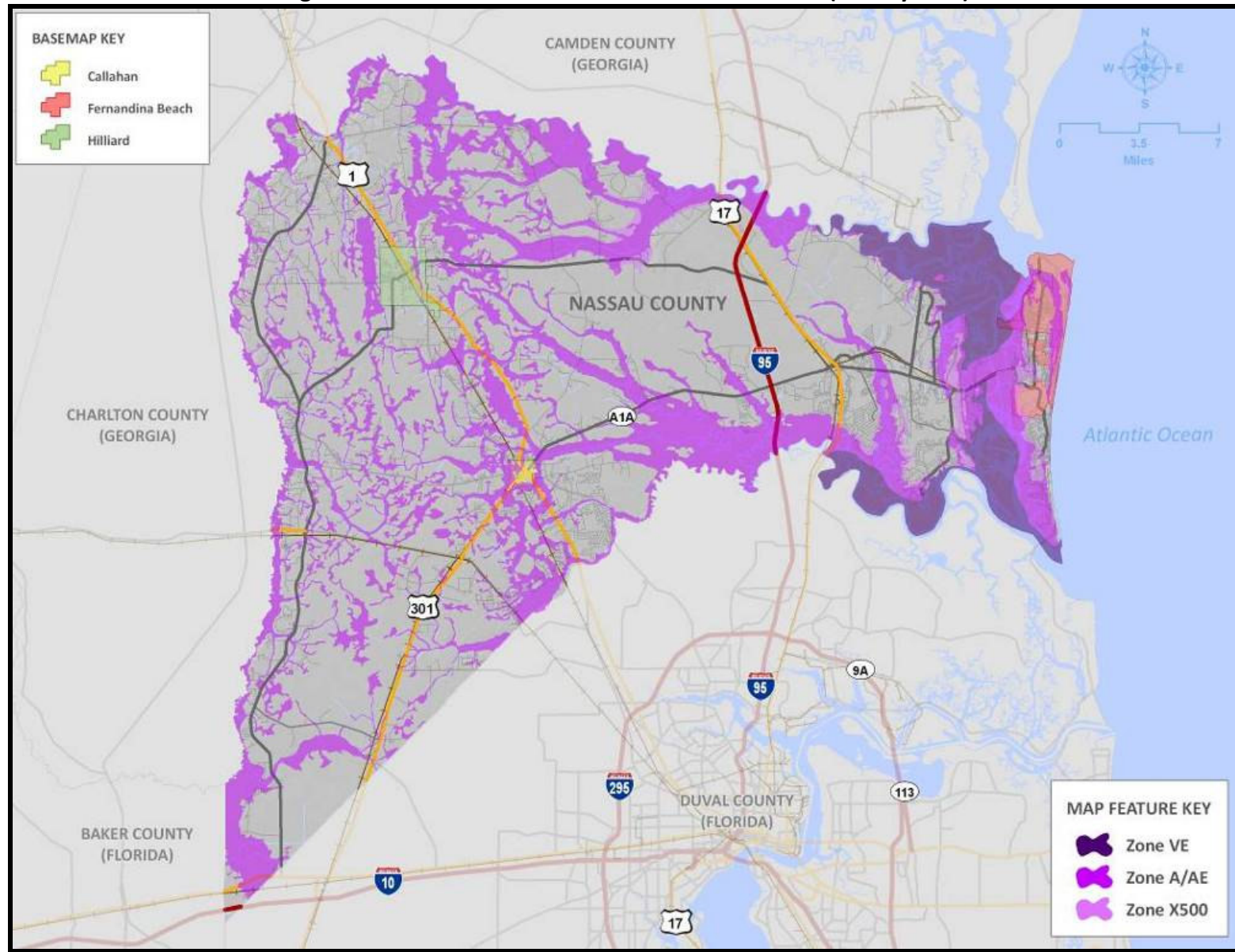


Figure 4.10: Riverine and Coastal Flood Hazard Areas (Callahan)

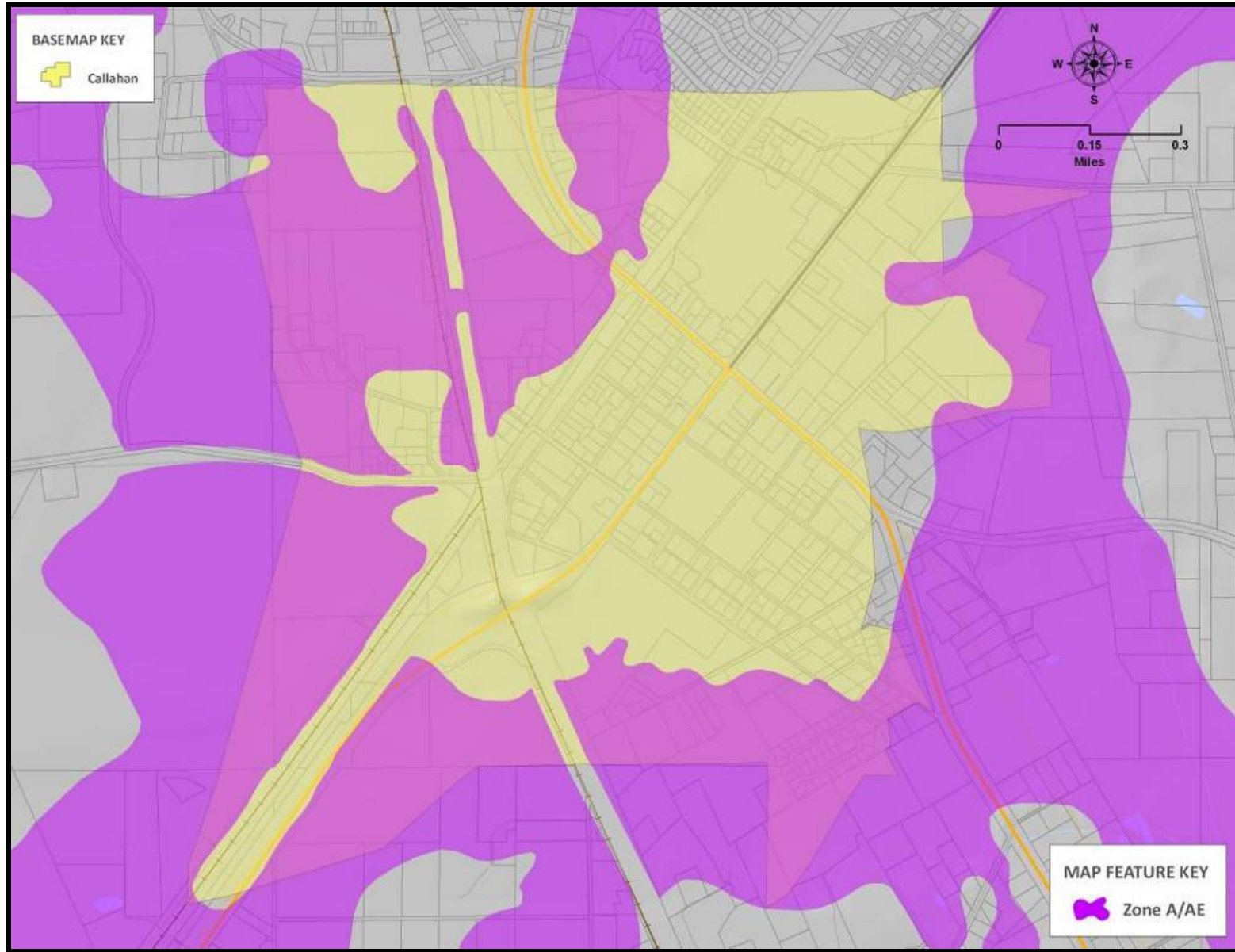


Figure 4.11: Riverine and Coastal Flood Hazard Areas (Fernandina Beach)

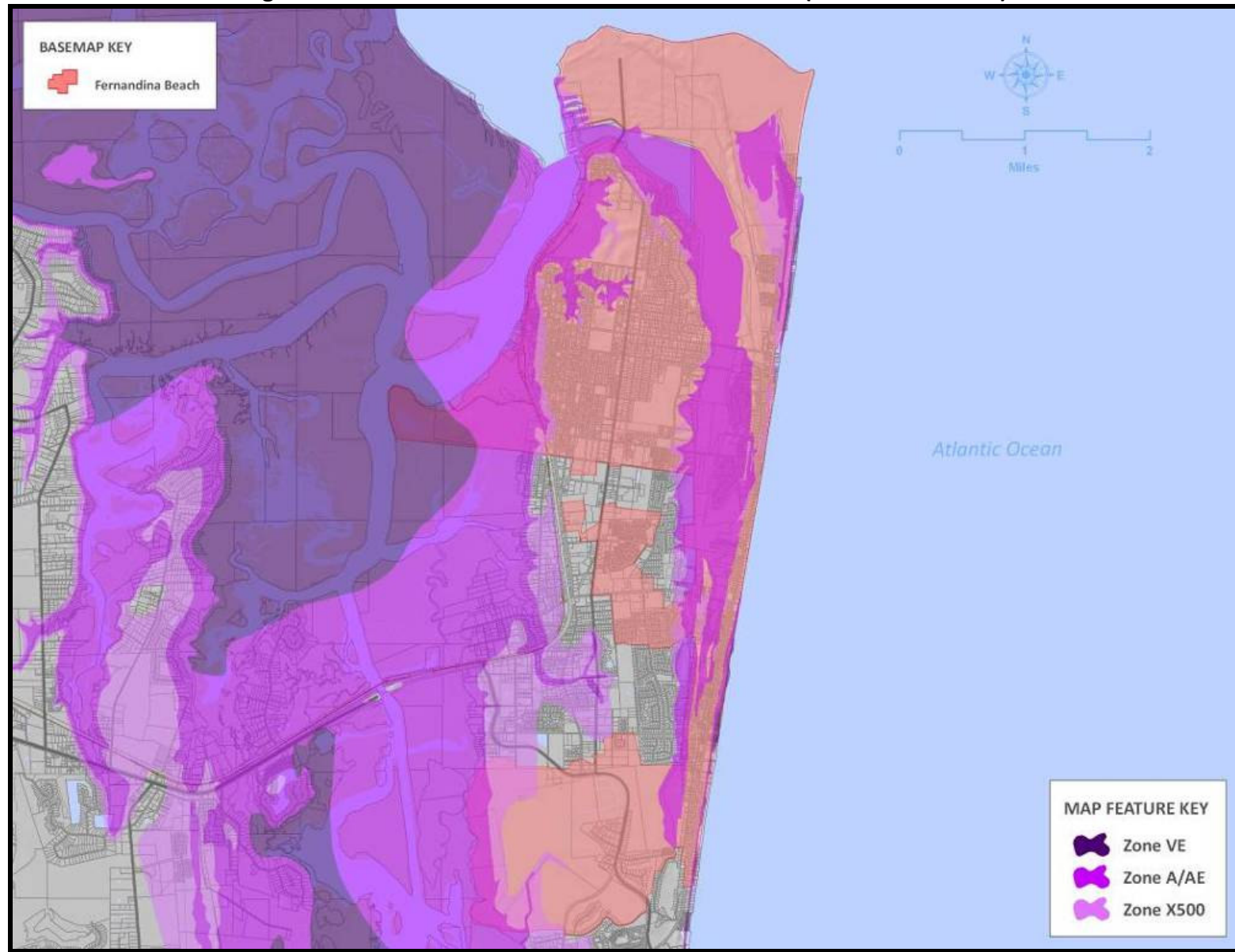


Figure 4.12: Riverine and Coastal Flood Hazard Areas (Hilliard)

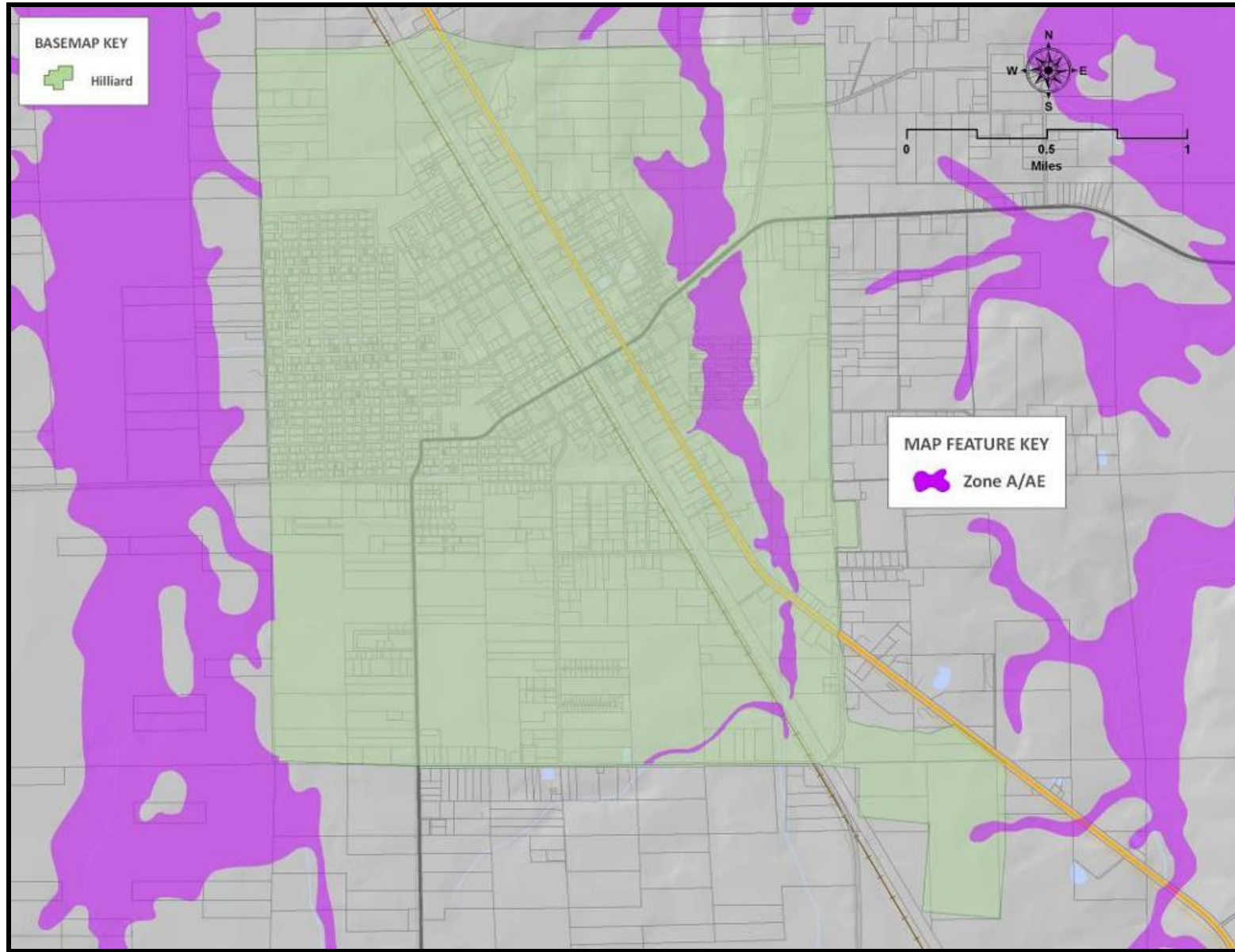


Figure 4.13: Storm Surge Hazard Areas (Countywide)

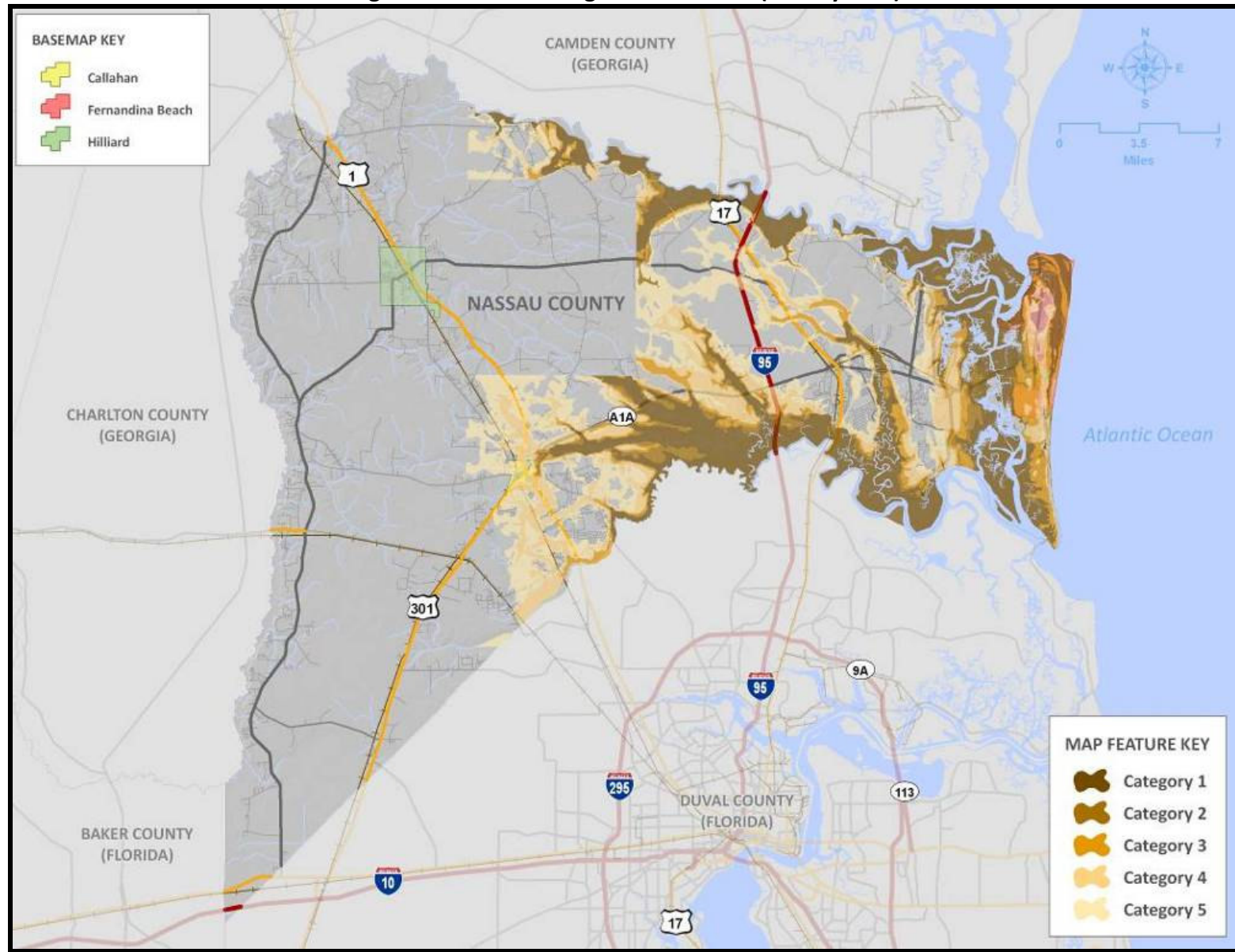


Figure 4.14: Storm Surge Hazard Areas (Callahan)

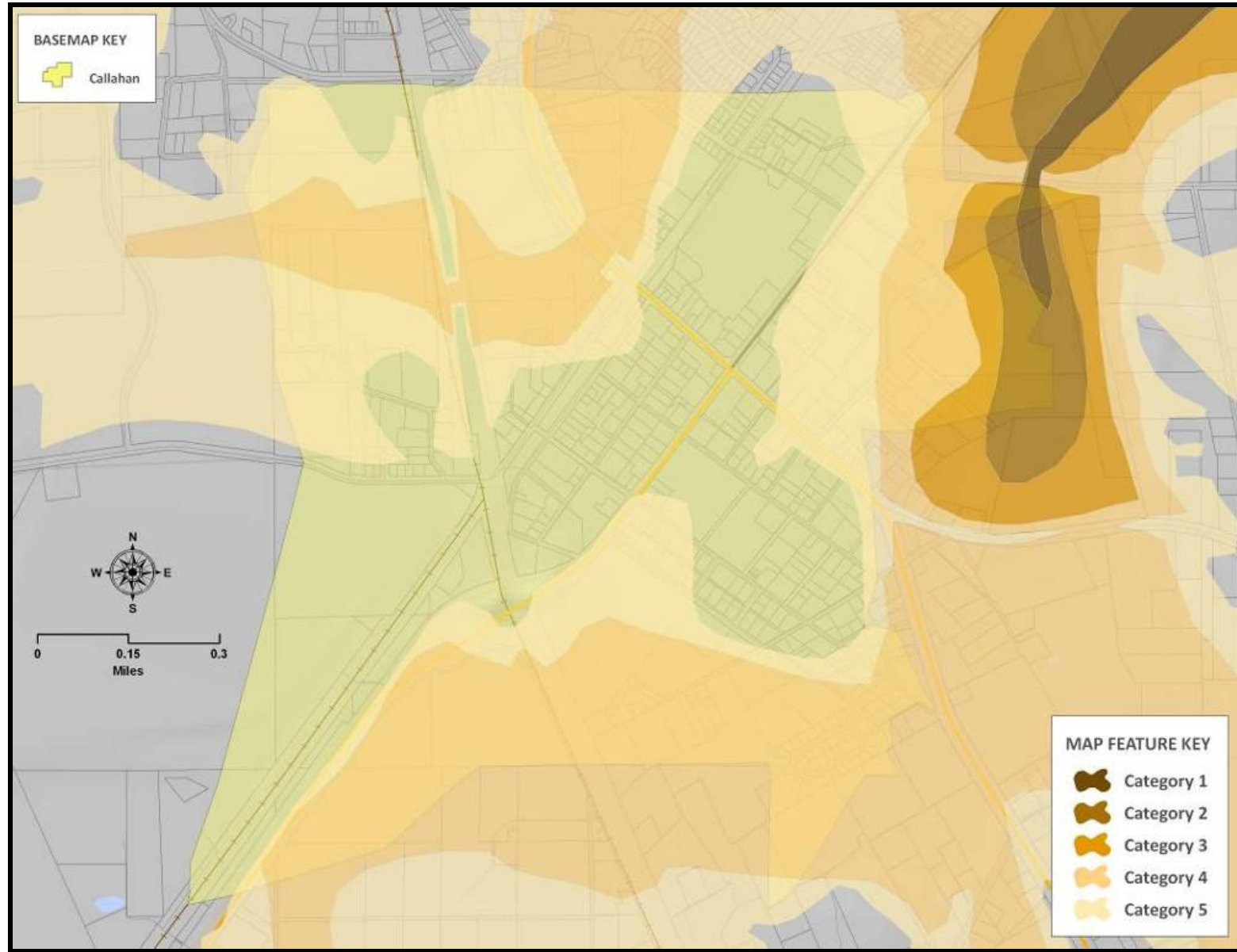
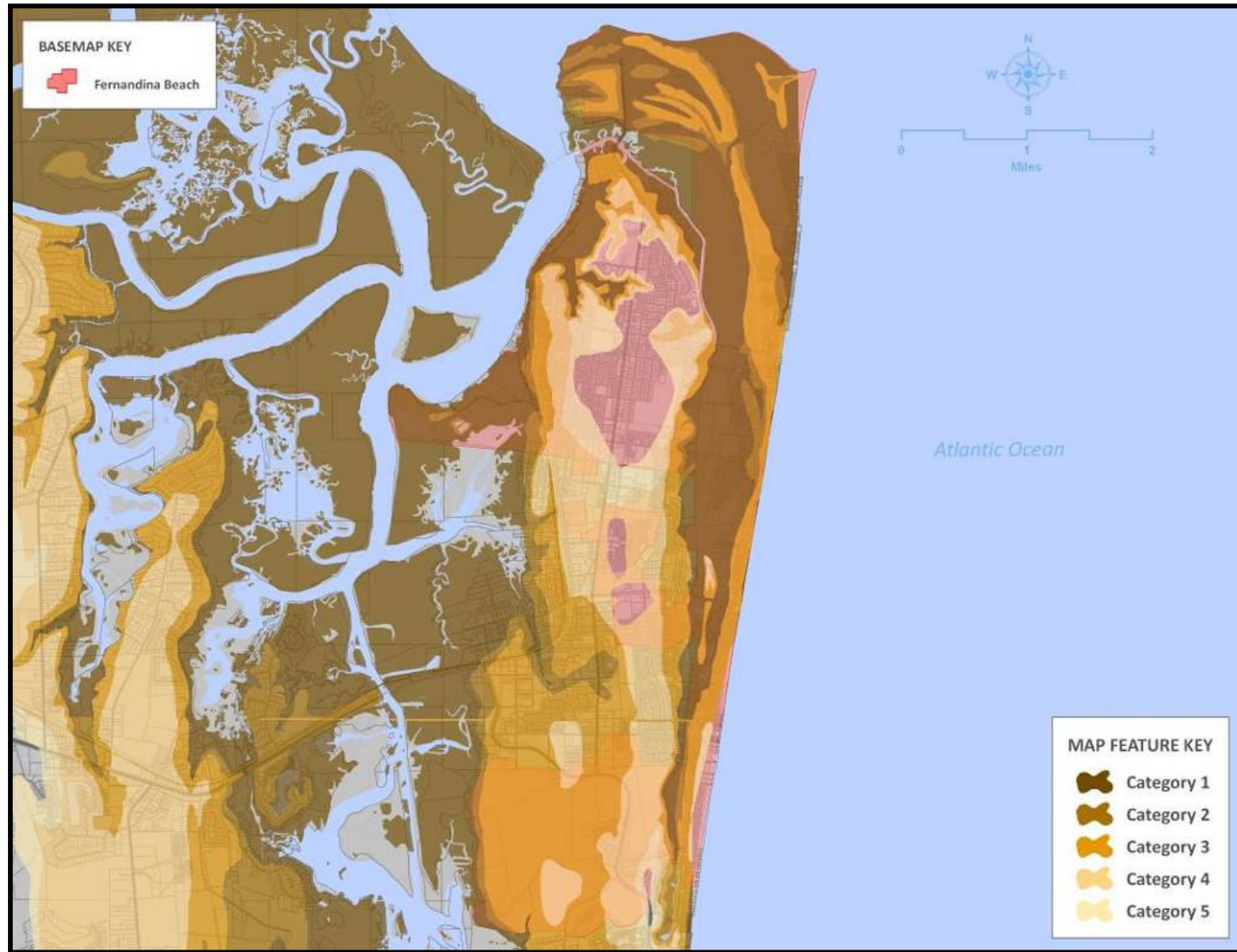


Figure 4.15: Storm Surge Hazard Areas (Fernandina Beach)



The data used in the analysis of the wildfire hazard uses a risk index of “low,” “medium,” or “high” based on fire-spreading potential during a climatologically “dry” year. **Tables 4.17 through 4.20** show the total number of parcels with improved values that intersect with high and medium fire potential areas, along with the total building values associated with those at-risk parcels. In summary, there are a total of 9,544 parcels countywide potentially at **high** risk of being impacted by a wildfire, with a combined total of \$1,638,359,284 in assessed building values. There are a total of 16,735 parcels countywide potentially at **medium** risk of being impacted, with a combined total of \$3,122,462,045 in assessed building values. (**Figure 4.16** shows potential wildfire hazard areas countywide.)

Table 4. 17: Wildfire Hazard Zone Vulnerability – Unincorporated Nassau County

Hazard Zone	Total Number of Parcels with Improved Values	Total Number of Parcels with Improved Values At-risk	Percent At-risk	Total Assessed Building Value of At-risk Parcels
High Wildfire Potential	23,239	8,196	35%	\$1,360,555,597
Medium Wildfire Potential		14,246	61%	\$2,533,329,249

Source: GIS Analysis

Table 4.18: Wildfire Hazard Zone Vulnerability – Callahan

Hazard Zone	Total Number of Parcels with Improved Values	Total Number of Parcels with Improved Values At-risk	Percent At-risk	Total Assessed Building Value of At-risk Parcels
High Wildfire Potential	405	91	22%	\$13,225,079
Medium Wildfire Potential		113	28%	\$36,945,799

Source: GIS Analysis

Table 4.19: Wildfire Hazard Zone Vulnerability – Fernandina Beach

Hazard Zone	Total Number of Parcels with Improved Values	Total Number of Parcels with Improved Values At-risk	Percent At-risk	Total Assessed Building Value of At-risk Parcels
High Wildfire Potential	6,173	1,010	16%	\$229,394,228
Medium Wildfire Potential		2,085	34%	\$513,598,094

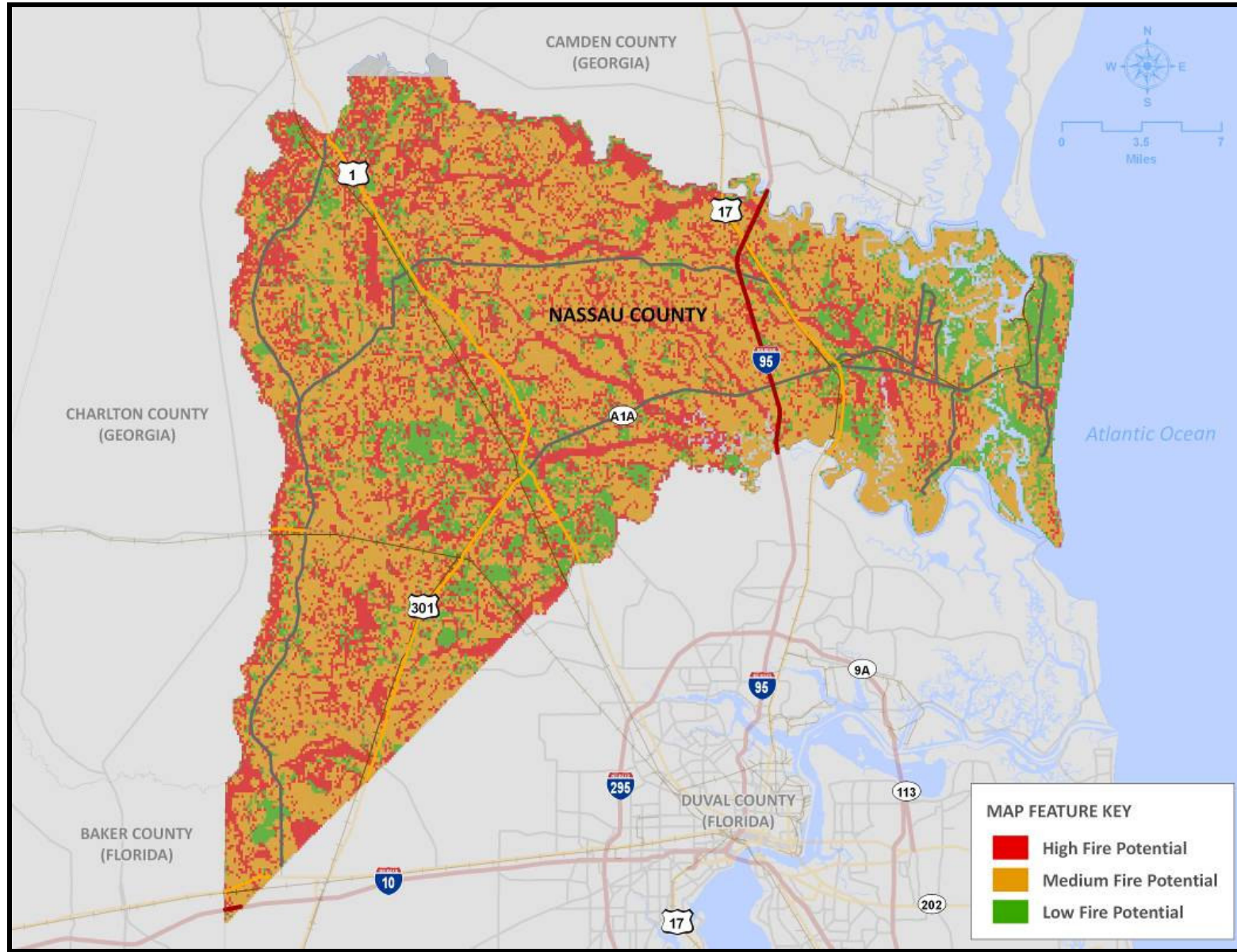
Source: GIS Analysis

Table 4.20: Wildfire Hazard Zone Vulnerability – Hilliard

Hazard Zone	Total Number of Parcels with Improved Values	Total Number of Parcels with Improved Values At-risk	Percent At-risk	Total Assessed Building Value of At-risk Parcels
High Wildfire Potential	896	247	28%	\$35,184,380
Medium Wildfire Potential		291	32%	\$38,588,903

Source: GIS Analysis

Figure 4.16: Potential Wildfire Hazard Areas (Countywide)



4.4.2 Economic Vulnerability

The economy plays a significant role in recovery and redevelopment activities, as it provides employment, revenue, and resources after a disaster. These factors contribute to returning the sense of community, stability, and quality of life. According to various sources, including the U.S. Department of Labor and Statistics, 50 to 70 percent of businesses either never reopen or fail after reopening following a major disaster. A substantial amount of these failures are small businesses.

Large businesses typically have a wider pool of resources to rely on including preparedness and business continuity plans, and funding. Small businesses are at a disadvantage as they usually do not have disaster recovery plans in place and generally use personal savings to offset their losses.

Most losses do not occur during and immediately after the event. Business losses far exceed initial damage to the structure, equipment, and inventory. Impacts include business interruption, lost income to employers and employees, and lost assets in the form of business equity.⁸

As of 2007, the labor force in Nassau County was 34,554. **Table 4.21** lists the employment by industry in Nassau County

Table 4.21: Employment by Industry in Nassau County	
Industry	Percent of Labor Force
Natural Resources & Mining	No Data
Construction	3.80%
Manufacturing	3.50%
Trade, Transportation and Utilities	13.30%
Information	0.40%
Financial Activities	1.80%
Professional & Business Services	3.60%
Education & Health Services	3.20%
Leisure & Hospitality	11.70%
Other Services	2.20%
Public Administration	3.60%

Source: Nassau County Economic Development Board (2007)

Table 4.22 provides a list of the 10 major employers in the county, sector, and number of employees, as identified by the Nassau County Economic Development Board. There are several hundred small businesses in Nassau County that are members with the three Chambers of Commerce.

⁸ Alesch, Daniel J., James N. Holly, Elliott Mittler, and Robert Nagy. 2001. *Organizations at Risk: What Happens when Small Businesses and Not-for-Profits Encounter Natural Disasters*. First Year Technical Report of the Small Organizations Natural Hazards Project, Center for Organizational Studies, University of Wisconsin. Green Bay. Fairfax, Virginia: Public Entity Risk Institute.

Table 4.22: Major Employers in Nassau County

Employer	Sector	Number of Employees	Location
Nassau County School Board	Education	1,485	Countywide
Amelia Island Plantation	Resort/Hospitality	1,133	Amelia Island
The Ritz-Carlton	Resort/Hospitality	700	Amelia Island
Smurfit-Stone	Manufacturing	650	Fernandina Beach
FAA	Aviation	430	Yulee
Nassau County Government	Government	400	Yulee
Baptist Medical Center-Nassau	Healthcare	368	Fernandina Beach
Rayonier	Manufacturing	280	Fernandina Beach
City of Fernandina Beach	Government	280	Fernandina Beach
White Oak Plantation	Resort/Hospitality	190	Yulee

Source: Nassau County Economic Development Board (2007)

Nassau County has a diverse economy, ranging from agricultural and silvicultural activity in the west and central areas (predominantly tree farms), to a variety of economic sectors in the eastern portion of county such as commercial, industrial, manufacturing and tourism. Rayonier, a major employer in the area, owns most of the land used for tree farming and a large pulp mill in Fernandina Beach. Historically, tree farming, trucking and paper production has accounted for a large part of the economy. However, that is changing due to growth in the county. **Figures 4.17** and **4.18** show the agricultural lands, including tree farming, which are potentially vulnerable to flood and wildfire hazard.

Figure 4.17: Agricultural Lands in Flood and Surge Susceptible Areas

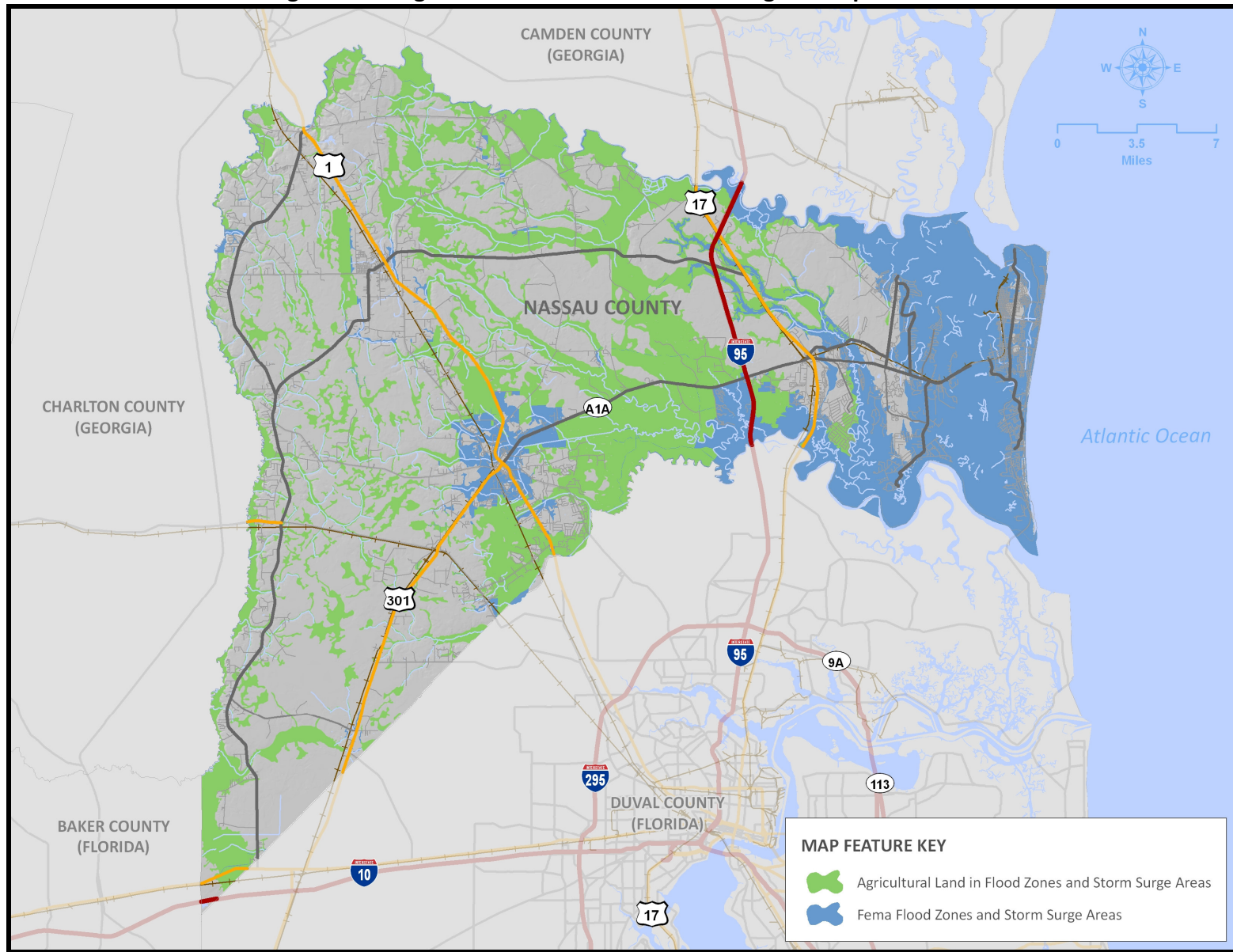
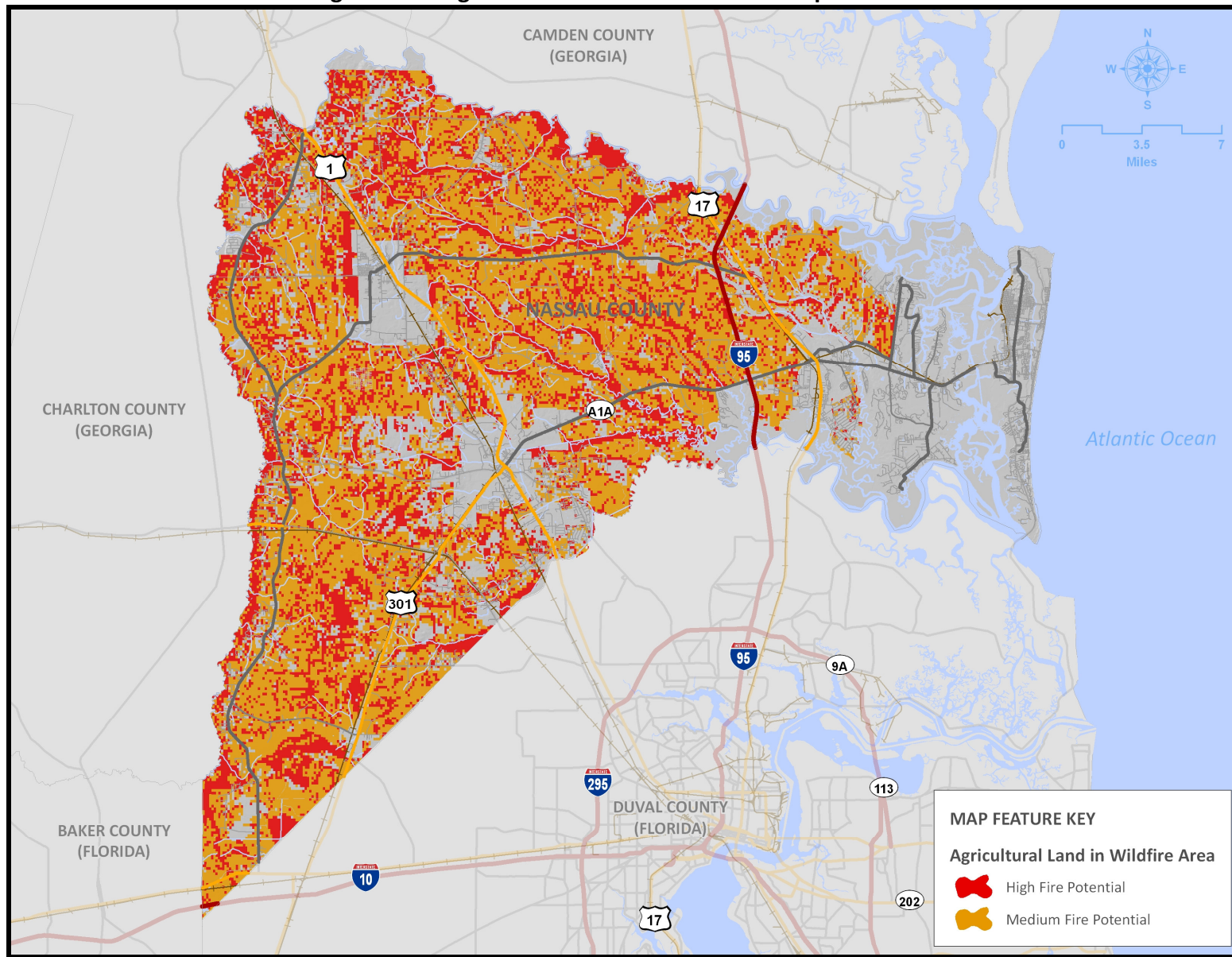


Figure 4.18: Agricultural Lands in Wildfire Susceptible Areas



Fernandina Beach has mostly industries such as real estate, legal services, medical care and tourism. Amelia Island has beautiful white sand beaches, small-town convivial flair, meeting and convention spaces, world-class golfing, fine dining and other tourism activities.⁹ Amelia Island has over 2,000 rental homes and condo units.

Tourism plays a major role in Nassau County's economy, spawning employment growth, personal income, tax revenue and gross regional product. As indicated in *The Economic Impact of Amelia Island Tourism on Nassau County, Florida*:

- Tourism has raised awareness of Amelia Island across the globe. The tourism industry's marketing efforts have attracted other business and industry, which helps diversify the Nassau County economy.
- The tourism industry is Nassau County's largest employer.
- Through the collection and payment of the tourism development tax, sales taxes, and property taxes, the tourism industry provides direct fiscal benefits to Nassau County and Fernandina Beach.
- The tourism industry is environmentally friendly, generates the largest amount of direct spending, and is an active participant in the local community.
- The tourism industry supports an enhanced quality of life including fine dining, golf, clean and renourished beaches, and unique special events.
- Visitors generate approximately \$346 million in total sales (retail plus business-to-business sales) locally.
- There are about 4,781 jobs tourism related jobs and approximately \$94 million in local income and wages.
- Tourism-related sales averaged 36% of Nassau County's total taxable sales.
- Nassau County is twice as dependent on tourism as the average county in the state of Florida.
- The "visitors" sector accounts for nearly 20% of the jobs and 15% of the earnings in Nassau County.

The White Oak Plantation, located on the banks of the Saint Mary's River in Yulee on 7,400 secluded acres, is home to one of the most private and unique golf courses in the country, a conservation center for endangered species, a dance center built for Mikhail Baryshnikov for his touring company and conference programs for topics such as cardiovascular research, international cooperation and wildlife conservation.

Although not one of the largest employers but nonetheless important to the local and regional economy, the Port of Fernandina is located in Fernandina Beach is located off the Saint Mary's River. It

⁹ Neal, Melissa and Pooley, Phyllis K., 2008. *The Economic Impact of Amelia Island Tourism on Nassau County Florida*. University of West Florida Haas Center for Business Research and Economic Development. Pensacola, Florida.

is classified as a small port with a small railroad. It is located to the north of Historic Downtown Fernandina Beach. In 2008, there were over \$21 million in imports (a decrease of 74% compared to 2007) and over \$400 million in exports, according to the World Port Source (www.worldportsource.com). The top countries receiving goods from the port were Colombia, Bermuda, Ecuador and the Dominican Republic. Following a disaster, reliance on the port could be necessary to receive goods for Amelia Island if the causeway was damaged.

Figures 4.19 through 4.24 show riverine and coastal flood hazard areas in relation to three of the employers listed in **Table 4.22**: Amelia Island Plantation, The Ritz-Carlton and Baptist Medical Center–Nassau. The Amelia Island Plantation and Ritz-Carlton Hotel and, the second and third largest employers respectively, are two upscale resorts located on Amelia Island. Both resorts are susceptible to hurricane wind and storm surge. Each of these establishments has a disaster recovery plan.

Baptist Medical Center-Nassau is a local government owned acute care hospital, located in Fernandina Beach. It has two specialty units, including adult and pediatric intensive care. It has 54 beds and offers the following services: cardiac, critical care, gastrointestinal, general surgery, orthopedic and pulmonary. The top procedures and diagnoses are maternity care, chronic obstructive pulmonary disease, pneumonia and heart failure. The hospital is located in a 500-year floodplain and is vulnerable to Category 4 storm surge.

The facilities of the Nassau County School Board, Smurfit-Stone, Nassau County Government, Rayonier and City of Fernandina Beach are too widespread to map in any way that would appear meaningful or accurate.

Figure 4.19: Amelia Island Plantation (Second Largest Employer) – Riverine



Figure 4.20: Amelia Island Plantation (Second Largest Employer) – Storm Surge

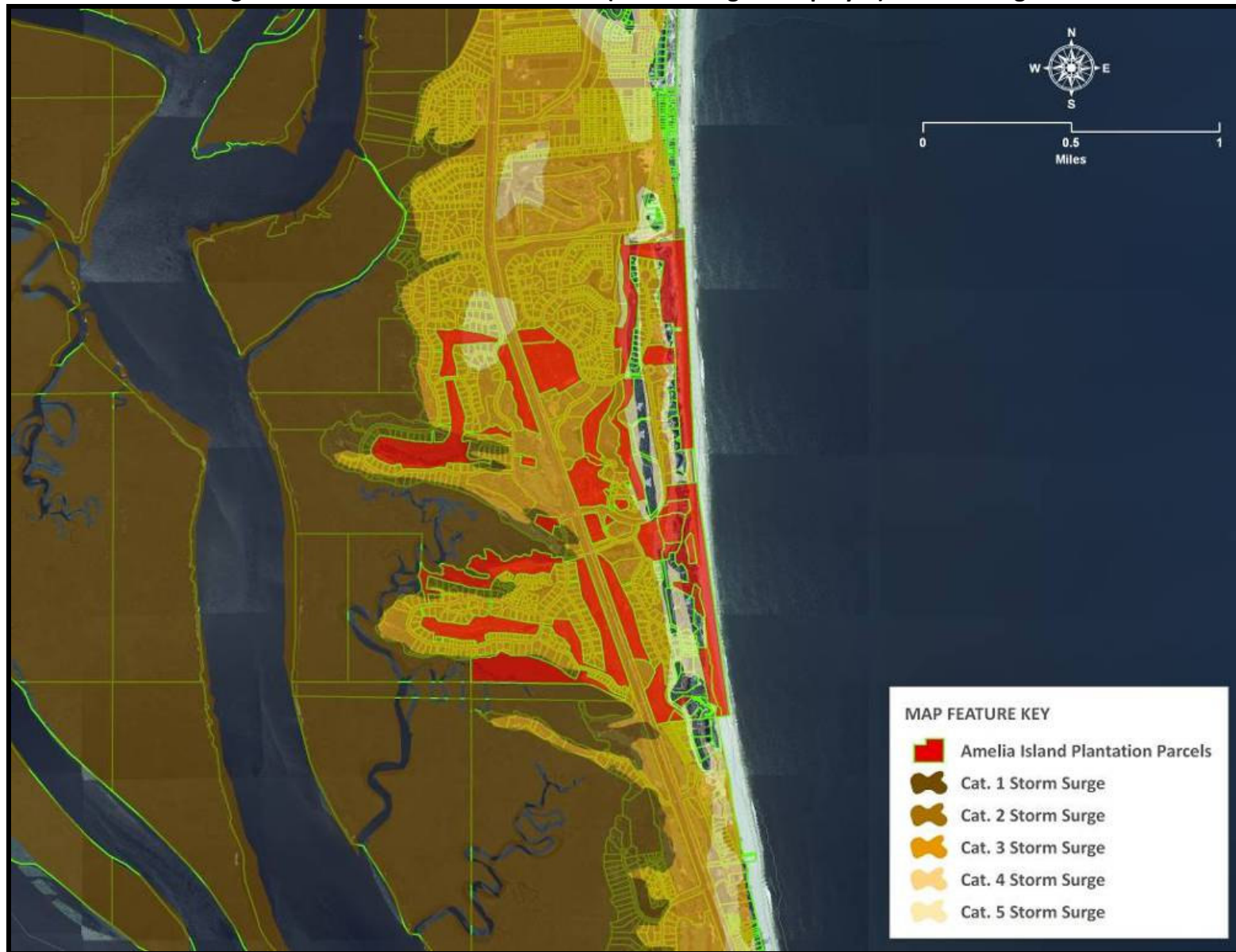


Figure 4.21: The Ritz-Carlton (Third Largest Employer) – Riverine



Figure 4.22: The Ritz-Carlton (Third Largest Employer) – Storm Surge

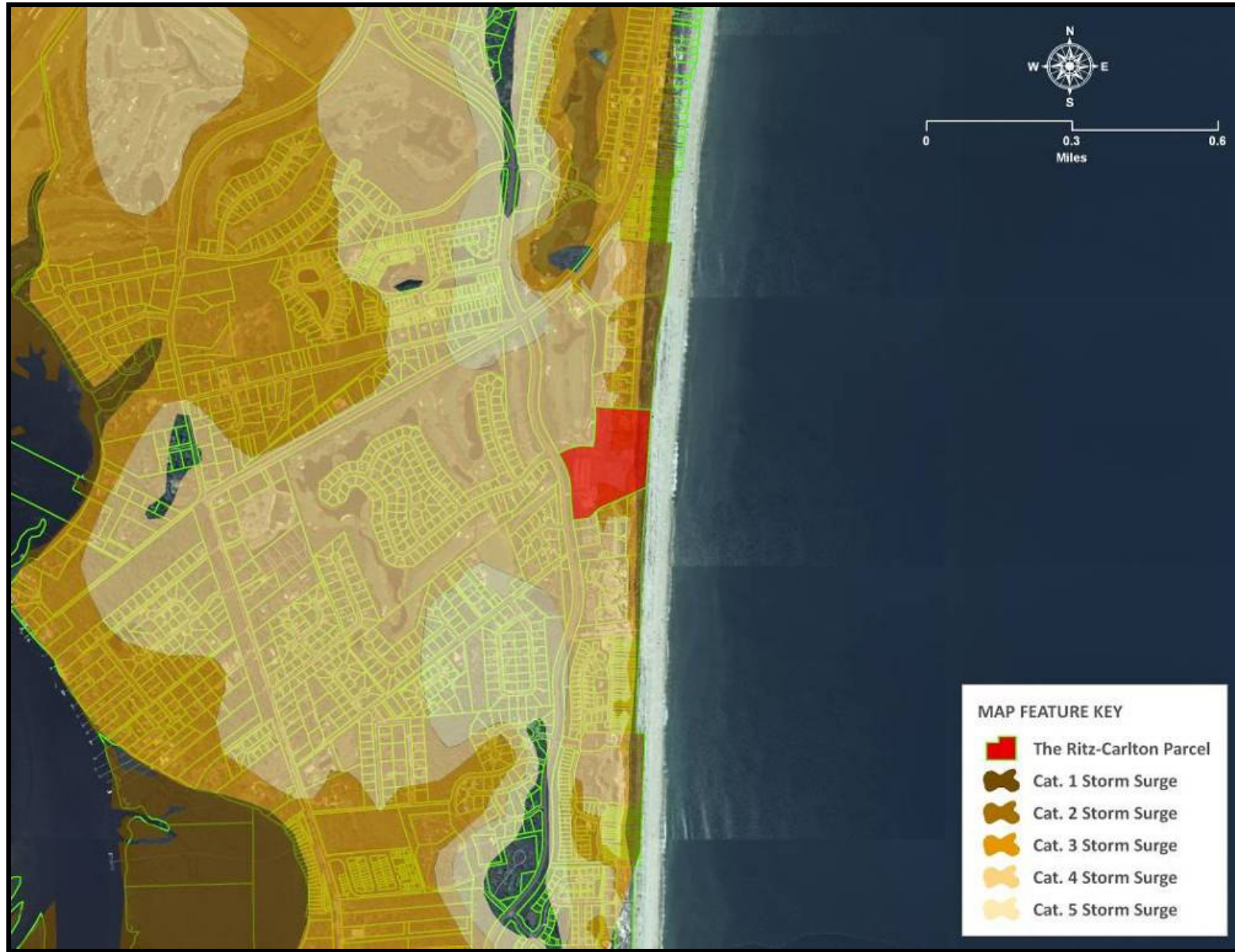


Figure 4.23: Baptist Medical Center (Seventh Largest Employer) – Riverine

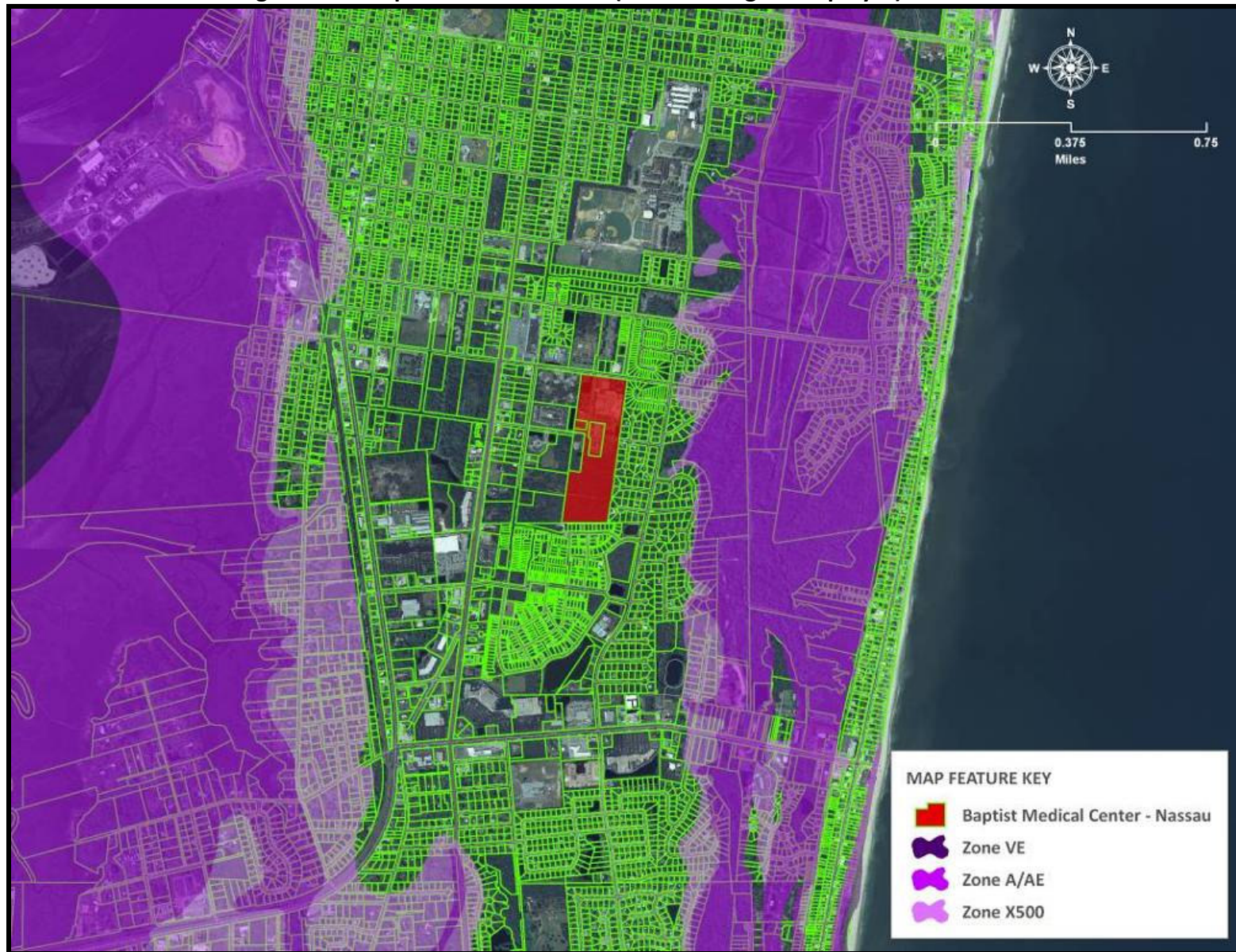
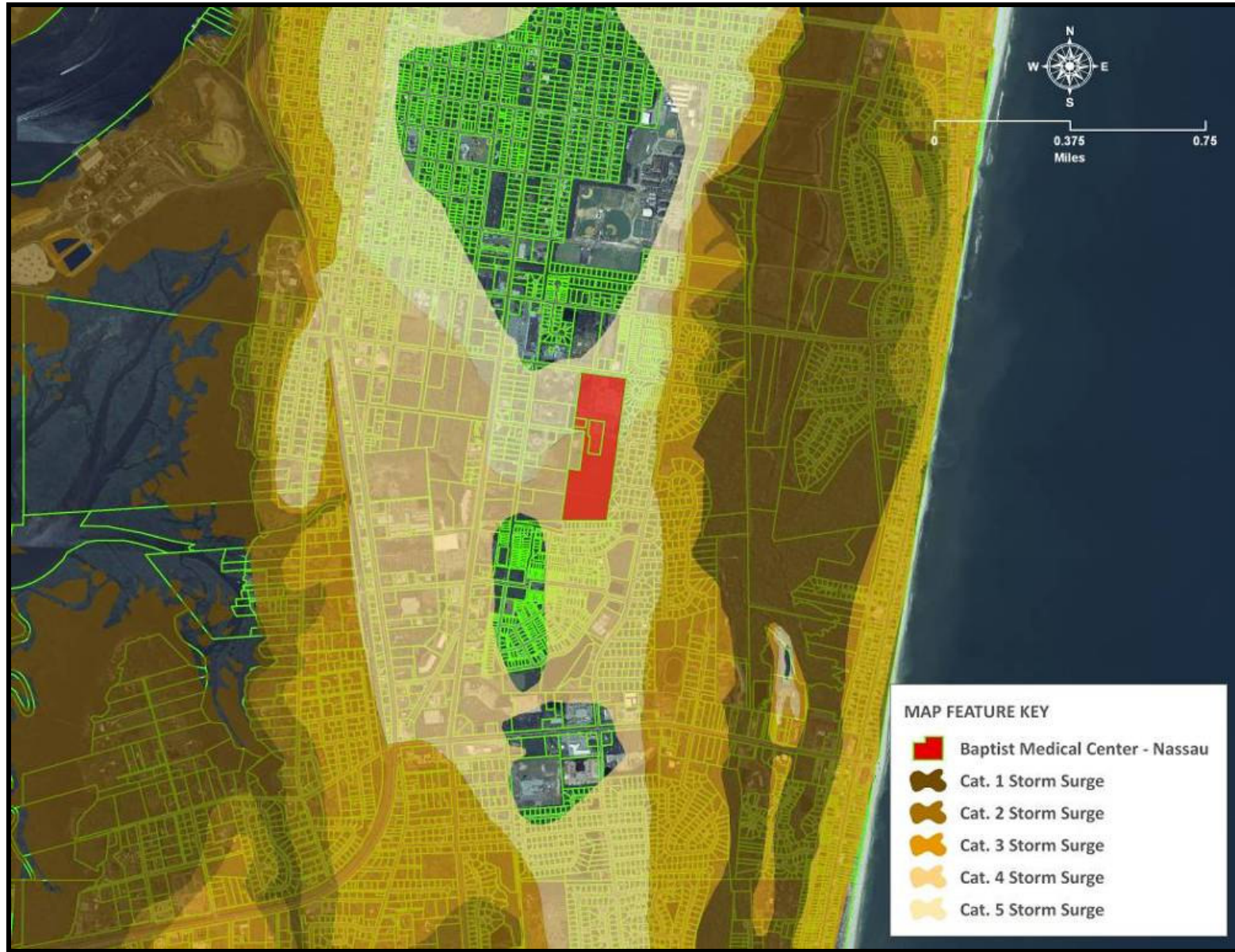


Figure 4.24: Baptist Medical Center (Seventh Largest Employer) – Storm Surge



4.4.3 Vulnerability of Critical Facilities and Infrastructure

In order to complete the vulnerability assessment for Nassau County's critical facilities, geospatial databases made available through the Nassau County GIS Department were used for a GIS-based analysis. These databases included georeferenced point locations for the following critical facilities: fire departments, health care facilities, schools, police stations, airport and port; and the following infrastructure: roads, bridges, railway and culvert crossings.

To determine the vulnerability of critical facilities and infrastructure to hazards, an overlay analysis was conducted using a GIS. Storm surge, flood, and other spatially-delineated hazard zones were overlaid with critical public infrastructure and facilities, and with roads, bridges. **Table 4.23** provides a list of the critical facilities and infrastructure that are located in identified hazard zones.

Table 4.23: Critical Facilities Located in Known Hazard Zones

Facility	Hazard Zones							
	Flood (Zones A/AE/ VE)	Storm Surge (Cat. 1)	Storm Surge (Cat. 2)	Storm Surge (Cat. 3)	Storm Surge (Cat. 4)	Storm Surge (Cat. 5)	Wild- fire (High)	Wildfire (Moderate)
Fire Departments								
Bryceville Vol. FD 6								x
Callahan Vol. FD 5							x	
City of Fernandina Beach FD 1							x	
City of Fernandina Beach FD 2		x						
Gray Gables/Nassau Village Vol. FD 8								
Hilliard Vol. FD 4								
Nassau County FD 20					x			
Nassau County FD / Rescue 30								
Nassau County FD / Rescue 40							x	
Nassau County FD / Rescue 50							x	
Nassau County FD / Rescue 70					x			x
Ratliff Vol. FD 10						x		x
River Road Vol. FD 9								x
Yulee Vol. FD 3								
Health Care Facilities								
Baptist Medical Center, Nassau						x		
Dayspring Village								
Jane Adams House						x		
Life Care Center of Hilliard								
Nassau Co. Health Environmental Branch								
Nassau County Health (Callahan)								x

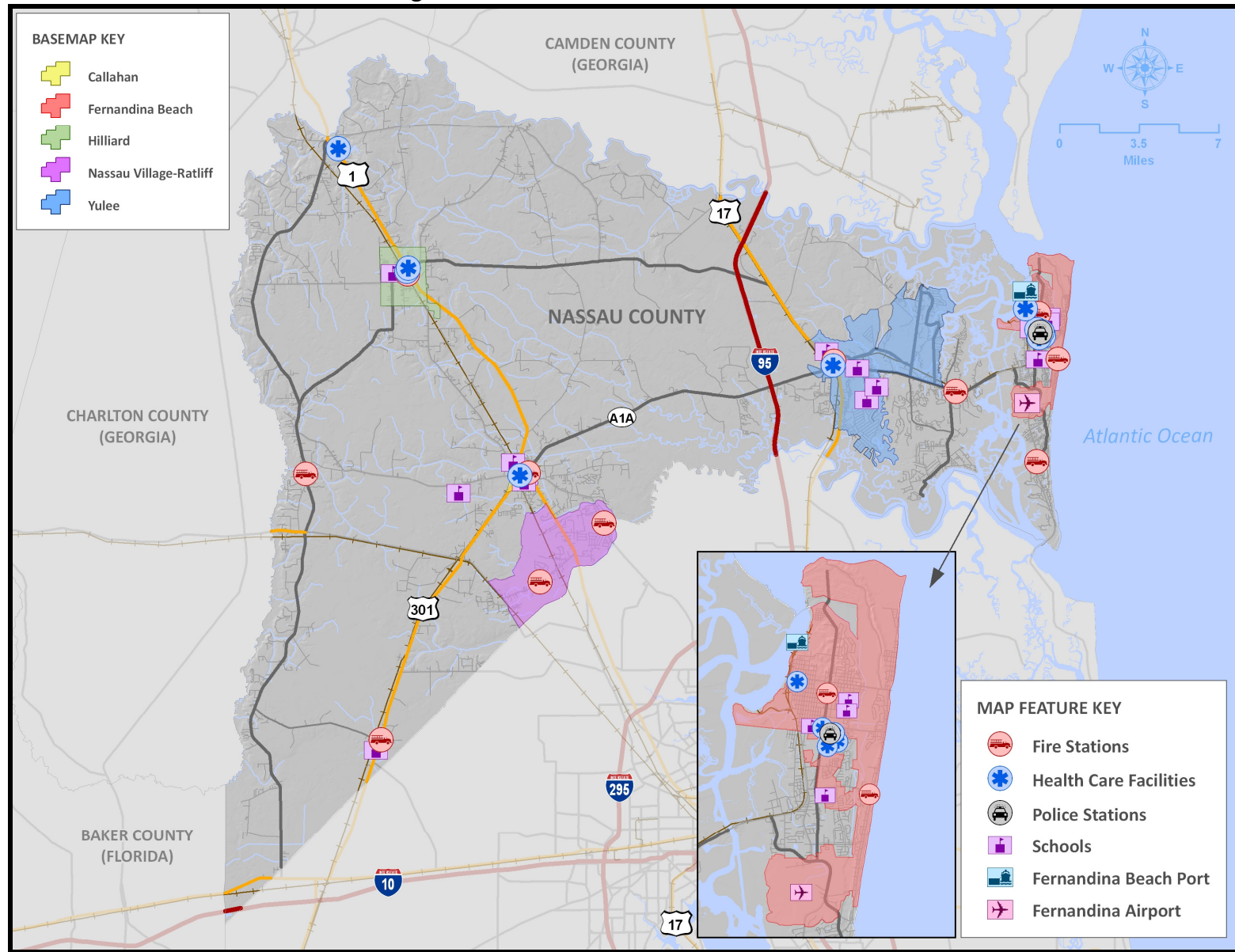
Table 4.23: Critical Facilities Located in Known Hazard Zones

Facility	Hazard Zones							
	Flood (Zones A/AE/ VE)	Storm Surge (Cat. 1)	Storm Surge (Cat. 2)	Storm Surge (Cat. 3)	Storm Surge (Cat. 4)	Storm Surge (Cat. 5)	Wild- fire (High)	Wildfire (Moderate)
Nassau County Health (Yulee)								
Nassau County Health (Fernandina Beach)				x				
Nassau County Health (Hilliard)							x	
Quality Health of Fernandina Beach								
Schools								
Bryceville Elementary								x
Callahan Elementary								
Callahan Intermediate								x
Callahan Middle								
Emma Love								
Fernandina Beach High								
Fernandina Beach Middle						x		
Hilliard Elementary							x	
Hilliard Middle / Senior							x	
Southside Elementary						x		
West Nassau High						x		
Yulee Elementary								
Yulee High							x	
Yulee Middle							x	
Yulee Primary								x
Police Stations								
City of Fernandina Beach Police Department								
Other Essential Facilities								
Fernandina Airport				x			x	
Fernandina Beach Port		x						

Source: GIS Analysis

Figure 4.25 shows a map of the critical facilities.

Figure 4.25: Critical Facilities Point Locations



There are transportation routes in Nassau County that are susceptible to flooding and surge.

Roadways that are prone to flooding include:

- A1A (SR-200) and Lofton Creek in the Yulee area
- On Amelia Island, the southern end of A1A near Scott Road can become impassable
- Several sections of Saddler Road, which runs west from Fletcher Avenue on Amelia Island
- Pages Dairy Road often becomes impassable
- The Plumbers Creek area near Callahan

Table 4.24 identifies the total miles of transportation infrastructure in flood and surge zones. **Figures 4.26** and **4.27** show roads, bridges and railways that are flood and surge zones, respectively and **Figure 4.28** shows the culvert crossings that are susceptible to flood and surge. There are about 22 percent of culverts (1,556 out of 7,043) that intersect a flood hazard area.

Table 4.24: Length of Infrastructure Elements in Flood Hazard Areas									
Infrastructure Element	Hazard Zones								
	TOTAL MILES	Zone VE	Zones A/AE	Zone X500	Storm Surge (Cat. 1)	Storm Surge (Cat. 2)	Storm Surge (Cat. 3)	Storm Surge (Cat. 4)	Storm Surge (Cat. 5)
Category									
Roads	1,263.6	0.5	148.4	77	33.2	30.9	121.8	143.3	133.8
Railroads	85.0	0.0	20.5	2.3	5.5	2	3.2	4.9	7.3
Bridges	3.8	0.1	1.9	0.2	0.7	0.6	0.1	0.2	0.0

Figure 4.26: Infrastructure in Flood Zones

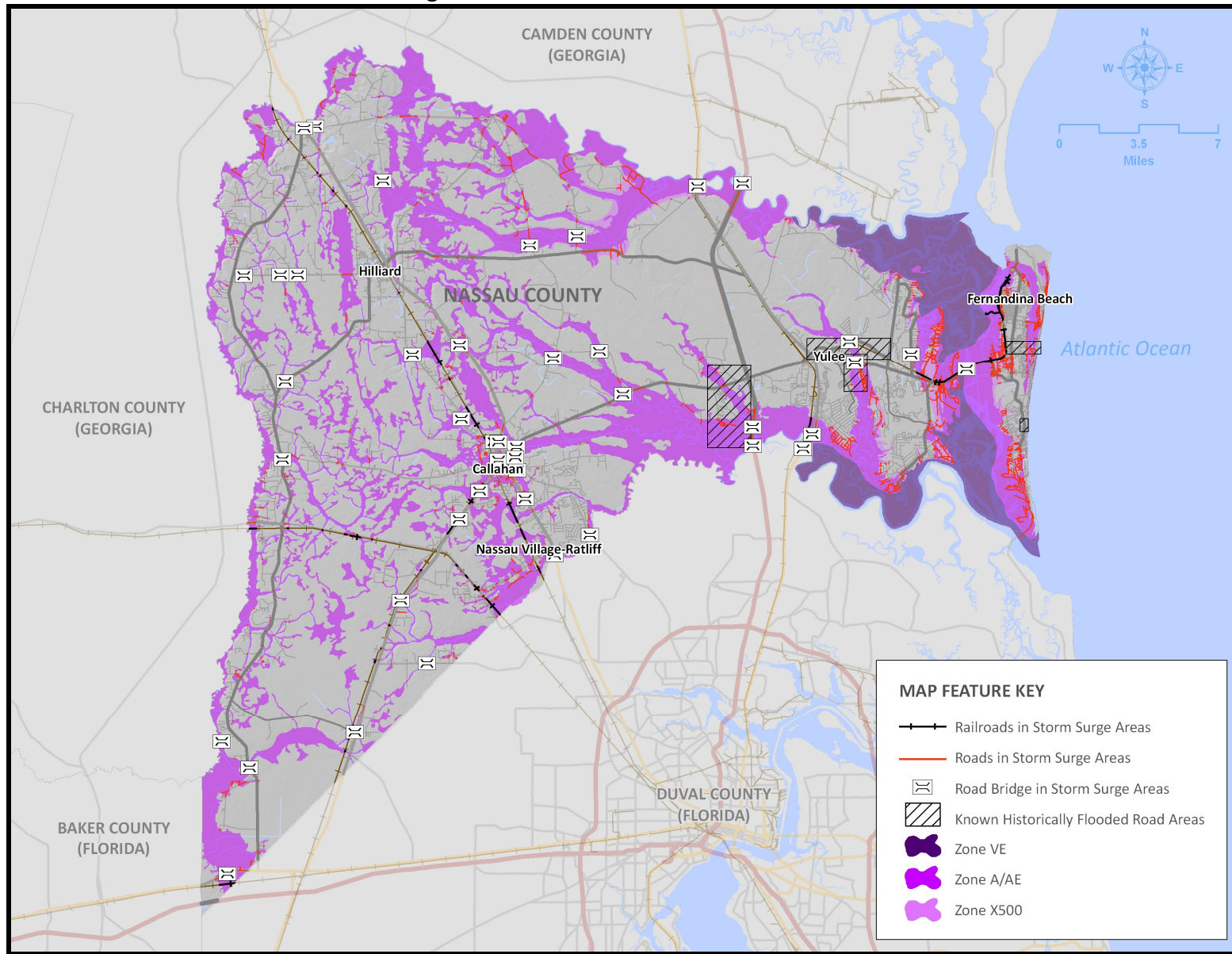


Figure 4.27: Infrastructure in Surge Zones

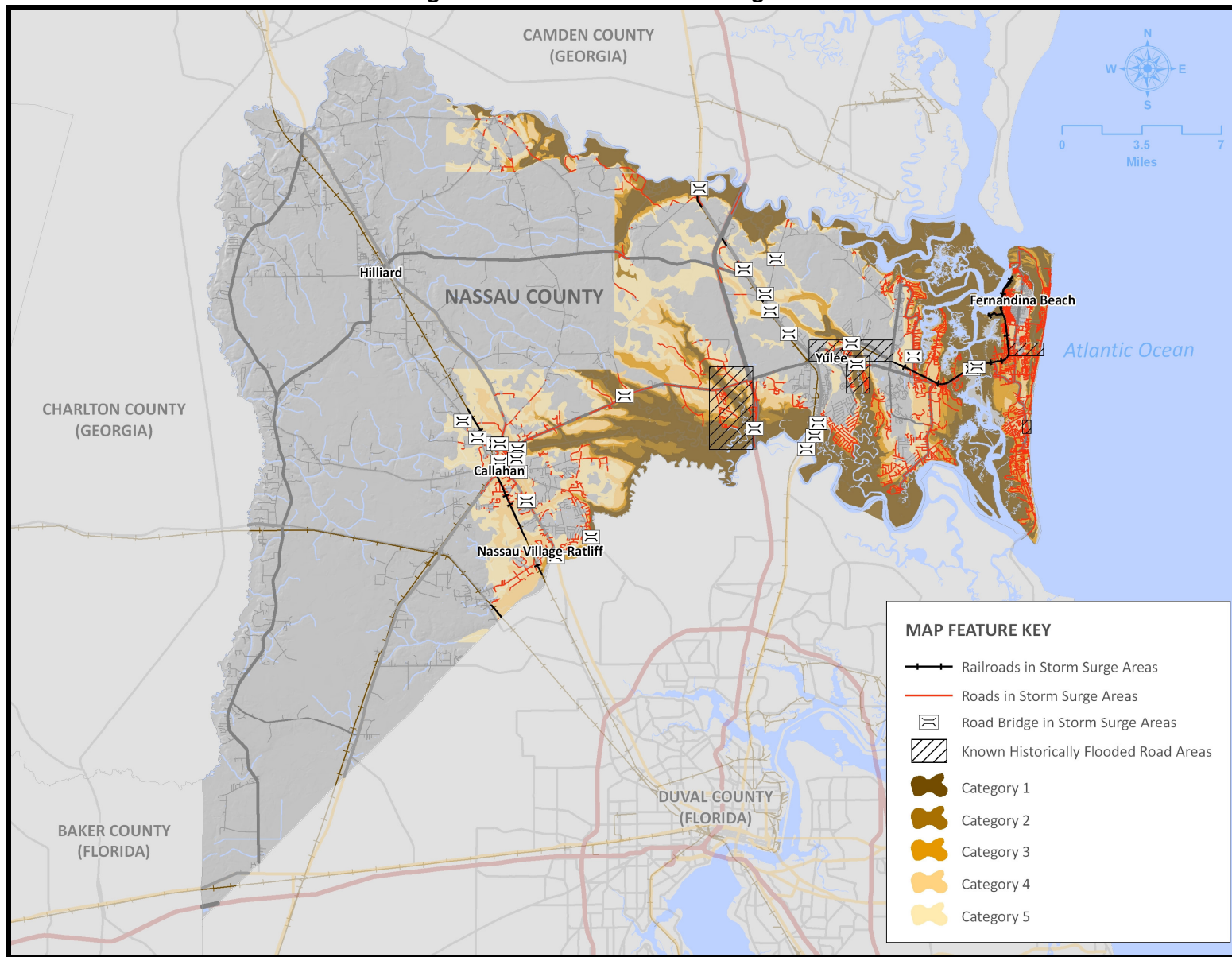
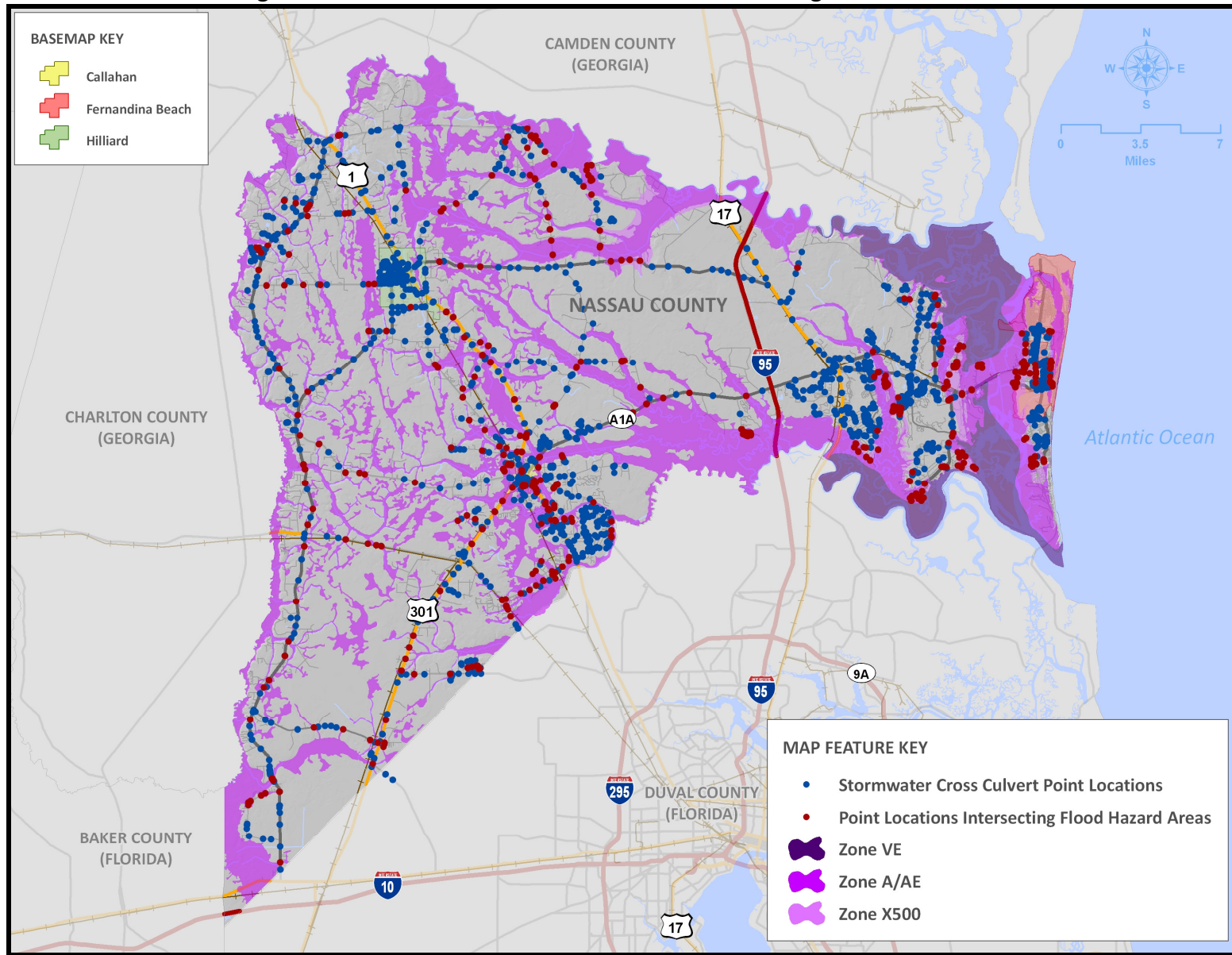


Figure 4.28: Stormwater Cross Culvert Locations in Surge and Flood Zones



4.4.4 Vulnerability of Properties of Cultural Significance

This subsection will focus on an analysis of individual historic and religious buildings that intersect with known flood hazard areas (namely the 100-year floodplain, the 500-year floodplain and storm surge inundation areas) and will seek to provide a baseline understanding of the level of risk and vulnerability associated with properties of cultural significance in Nassau County.

4.4.4.1 Historic Buildings

In general, historic properties are defined as any historic district, site, building, structure or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior or any such property recognized by the State Historic Preservation Office (SHPO) as being historically significant. This term may also be used to cover artifacts, records and remains that are related to and located within such properties. For the purposes of this study, historic properties will consist primarily of buildings (based on building footprint data) and their related parcels.

According to the National Register Information System¹⁰ and data provided by the SHPO, there are 10 individual National Register entrees for Nassau County plus two historic districts and the Original Town of Fernandina Historic Site (**Table 4.25**). This assessment will also reference a GIS dataset containing 894 properties recognized by the State Historic Preservation Office that includes NRHP properties and other properties of historic significance dating from c1839 to c1965 (**Figure 4.29**).

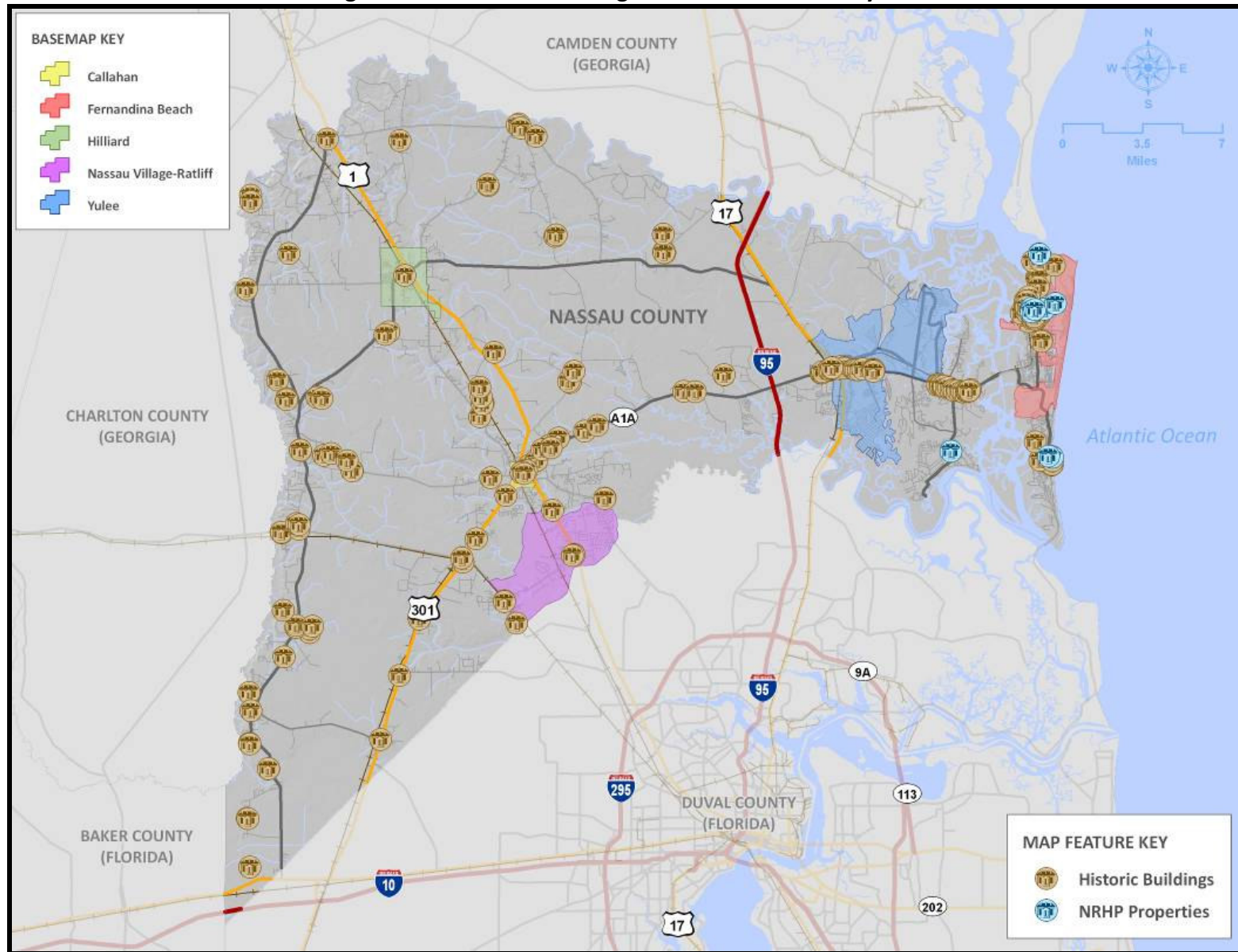
Table 4.25: NRHP Properties and Districts In Nassau County

Site Name	Details	
	Year Built	Description
5406 Ervin Street (The Hippard House)	1938	Private Residence
Amelia Island Lighthouse	1839	Lighthouse
American Beach Historic District	Listed 2002	Historic District
Ervin's Rest	1938	Private Residence
Fairbanks House	1885	Bed and Breakfast and Private Residence
Fernandina Beach Historic District	Listed 1973	Historic District
Fernandina Beach Historic District (Boundary Increase)	Listed 1987	Historic District
Fort Clinch	c1847	Military Fortification/Park
Merrick-Simmons House	1860	Private Residence
Mount Olive Missionary Baptist Church	1920	Lodge (Club) Building and Place of Worship
Original Town Of Fernandina Historic Site	Listed 1990	Historic Site
John Denham Palmer House	1900	Funeral Home and Private Residence
The Bailey House	1895	Bed and Breakfast and Private Residence
The "Tabby" House	1885	Bed and Breakfast and Private Residence

Source: National Register Information System

¹⁰ The National Register Information System (NRIS) is a computerized database accessible via the National Park Service Web site (www.nps.gov) that contains information on every property in the National Register of Historic Places.

Figure 4.29: Historic Building Point Locations Countywide



There are also 54 cemeteries in the county recognized by the SHPO as having historic or cultural significance, dating from 1868 to c1951. These sites would likely require special risk analysis and mitigation consideration and may be addressed in detail in future plan updates.

Table 4.26 defines the exposure of 642 historic buildings to flood hazard areas by determining whether the point location available for the building intersects with the 1 percent annual chance flood (ACF) hazard area (100-year floodplain), 0.2 percent ACF hazard area (500-year floodplain), and/or a storm surge inundation area associated with a Category 1, 2, 3, 4 or 5 storm event. The 642 potentially at-risk properties discussed here are pulled from the total 894 properties provided by the SHPO. This total of 642 potentially at-risk properties represents approximately 72 percent of the identified historic sites in the county.

National Register sites are highlighted in red in the table.

Table 4.26: Exposure to Flood Hazards							
Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
10 S. 10TH ST.							x
10 S. 7TH ST.						x	
10 S. 9TH ST.							x
1008 BEECH ST.							x
101 N. 10TH ST.							x
101 NORTH FRONT ST	x		x				
101 S. 4TH ST.		x					
101 S. 8TH ST.						x	
1011 BROOME ST							x
1015 BEECH ST							x
102 N. 10TH ST.							x
102 N. 6TH ST.						x	
102 S. 7TH ST.						x	
103 N. 6TH ST.						x	
103 S. 10TH ST.							x
103 S. 9TH ST.							x
104 ALACHUA ST	x			x			
106 S. 7TH ST.						x	
107 N. 10TH ST.							x
108 BROOME ST.	x			x			
108 N. 10TH ST.							x
109 ESTRADA ST.		x					
109 NORTH 3RD ST		x					
109 S. 6TH ST.						x	
109 S. 8TH ST.						x	
11 N. 4TH ST.		x					
11 S. 7TH ST.						x	
110 BROOME ST.	x						
110 S. 6TH ST.						x	
110 S. 7TH ST.						x	
111 N. 5TH ST.						x	
111 NORTH 3RD ST		x					
111 S. 4TH ST.		x					
111 S. 6TH ST.						x	

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
111 S. 7TH ST.						x	
111 S. 9TH ST.							x
111 SOUTH 11TH ST							x
1114 BEECH ST.							x
112 N. 6TH ST.						x	
112 N. 9TH ST.						x	
112 NORTH 10TH ST							x
112 S. 10TH ST.							x
112 S. 7TH ST.						x	
112 S. 9TH ST.							x
113 NORTH 10TH ST							x
113 S. 8TH ST.						x	
114 N. 3RD ST.		x					
114 N. 9TH ST.						x	
114 S. 6TH ST.						x	
114 S. 7TH ST.						x	
115 S. 6TH ST.						x	
115 S. 9TH ST.							x
116 N. 4TH ST.						x	
116 NORTH 2ND ST	x						
116 S. 10TH ST.							x
116 S. 4TH ST.		x					
117 BROOME ST	x						
117 N. 3RD ST.		x					
117 S. 9TH ST.							x
118 CENTRE ST						x	
118 CENTRE STREET	x			x			
118 S. 6TH ST.						x	
119 N. 4TH ST.						x	
119 S. 4TH ST.		x					
12 N. 10TH ST.							x
12 S. 3RD ST.		x					
12 S. 6TH ST.						x	
120 N. 3RD ST.		x					
120 N. 6TH ST.						x	
120 S. 4TH ST.		x					
120 S. 6TH ST.						x	
1202 BEECH ST							x
121 N. 10TH ST.							x
121 N. 3RD ST.		x					
121 N. 6TH ST.						x	
121 S. 8TH ST.						x	
122 S. 6TH ST.						x	
123 N. 10TH ST.							x
123 S. 6TH ST.						x	
123 SOUTH 4TH ST		x					
124 S. 3RD ST.		x					
125 N. 10TH ST.							x
125 S. 4TH ST.		x					
125 S. 6TH ST.						x	

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
125 S. 8TH ST.						x	
125 SOUTH 11TH ST							x
126 S. 4TH ST.		x					
126 S. 6TH ST.						x	
126 S. 9TH ST.							x
126 SOUTH 10TH ST							x
129 N. 10TH ST.							x
129 N. 4TH ST.						x	
130 N. 4TH ST.						x	
130 N. 6TH ST.						x	
130 NORTH 3RD ST		x					
130 S. 6TH ST.						x	
1306 CENTRE ST.							x
131 S. 6TH ST.						x	
131 S. 7TH ST.						x	
131 S. 8TH ST.						x	
1352 PETREE ROAD							x
14 S. 10TH ST.							x
14 S. 3RD ST.		x					
14 S. 6TH ST.						x	
14 S. 7TH ST.						x	
15 N. 6TH ST.						x	
1508 LEWIS STREET						x	
16 NORTH 10TH ST							x
16 S. 10TH ST.							x
16 S. 2ND ST.	x			x			
17 S. 3RD ST.	x						
17 S. 7TH ST.						x	
17 SOUTH 8TH ST						x	
1714 JULIA STREET		x					
1720 LEWIS STREET		x					
1723 LEWIS STREET		x					
1731 LEWIS STREET		x					
1735 LEWIS STREET		x					
1736 LEWIS STREET		x					
1752 LEWIS STREET		x					
18 NORTH 2ND ST	x						
18 SOUTH 9TH ST							x
1878 STEAK HOUSE	x						
1878 STEAK HOUSE	x						
19 S. 10TH ST.							x
19 S. 6TH ST.						x	
1945 BURNEY ROAD							x
1ST BAPTIST MISSIONARY CHURCH							x
1ST PRESBYTERIAN CHURCH SUNDAY SCHOOL						x	
1ST PRESBYTERIAN YOUTH CENTER						x	
20 S. 13TH ST.							x
20 S. 2ND ST.	x			x			
20 S. 3RD ST.		x					
20 S. 4TH ST.		x					

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
20 S. 6TH ST.						x	
201 A NORTH FRONT ST	x		x				
201 N. 3RD ST.						x	
201 N. 4TH ST.						x	
201 S. 4TH ST.		x					
201 S. 6TH ST.						x	
201 S. 9TH ST.							x
202 S. 7TH ST.						x	
202 S. 9TH ST.							x
204 S. 6TH ST.						x	
205 N. 13TH ST.						x	
206 S. 6TH ST.						x	
207 SOUTH 10TH ST							x
208 S. 7TH ST.						x	
209 BROOME ST.	x						
209 DADE ST.						x	
209 N. 6TH ST.						x	
209 S. 9TH ST.							x
209 SOUTH 3RD ST	x						
21 NORTH 2ND ST	x			x			
21 SOUTH 11TH ST							x
210 N. 3RD ST.						x	
210 S. 3RD ST.		x					
211 BROOME ST.	x						
211 N. 3RD ST.						x	
211 S. 4TH ST.		x					
211 S. 6TH ST.						x	
211 S. 7TH ST.						x	
211 S. 9TH ST.							x
211 SOUTH 10TH ST							x
211 SOUTH 3RD ST	x						
212 S. 6TH ST.						x	
212 S. 9TH ST.							x
213 N. 4TH ST.						x	
213 SOUTH 6TH ST						x	
213 SOUTH 9TH ST							x
214 S. 7TH ST.						x	
214 SOUTH 10TH ST							x
215 N. 3RD ST.						x	
215 S. 7TH ST.						x	
215 S. 8TH ST.						x	
215 SOUTH 5TH ST						x	
216 S. 5TH ST.						x	
216 S. 6TH ST.						x	
216 S. 7TH ST.						x	
217 N. 3RD ST.						x	
217 S. 10TH ST.							x
218 ASH ST.		x					
218 S. 5TH ST.						x	
219 S. 6TH ST.						x	

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
219 S. 8TH ST.						x	
219 S. 9TH ST.							x
22 S. 3RD ST.		x					
22 S. 6TH ST.						x	
220 NORTH 3RD ST						x	
220 S. 6TH ST.						x	
2207 3RD MT. ZION CIRCLE							x
221 N. 3RD ST.						x	
221 N. 4TH ST.						x	
221 N. 6TH ST.						x	
221 N. 8TH ST.	x		x				
221 S. 6TH ST.						x	
221 SOUTH 5TH ST						x	
222 N. 5TH ST.						x	
222 N. 8TH ST.	x		x				
222 S. 6TH ST.						x	
223 N. 2ND ST.		x					
223 N. 4TH ST.						x	
223 N. 8TH ST.	x		x				
224 N. 2ND ST.	x						
224 N. 6TH ST.		x					
224 N. 6TH ST.						x	
224 S. 7TH ST.						x	
225 SOUTH 4TH ST		x					
225-7 S. 8TH ST.						x	
226 N. 8TH ST.	x		x				
226 S. 7TH ST.						x	
227 N. 3RD ST.						x	
227 NORTH 11TH ST							x
227 S. 4TH ST.		x					
228 N. 6TH ST.		x				x	
229 S. 8TH ST.						x	
229 SOUTH 5TH ST						x	
23 S. 10TH ST.							x
23 S. 3RD ST.	x						
23 S. 5TH ST.						x	
23 S. 7TH ST.						x	
230 N. 8TH ST.	x		x				
230 S. 4TH ST.		x					
230 SOUTH 3RD ST		x					
231 N. 2ND ST.		x					
231 N. 3RD ST.						x	
231 NORTH 11TH ST							x
232 N. 6TH ST.		x				x	
232 S. 7TH ST.						x	
232 SOUTH 8TH ST						x	
233 S. 6TH ST.						x	
24 S. 2ND ST.	x			x			
25 N. 10TH ST.							x
25 S. 3RD ST.	x						

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
25 S. 6TH ST.						x	
27 N. 3RD ST.	x						
27 S. 5TH ST.						x	
28 S. 7TH ST.						x	
29 S. 3RD ST.	x						
30 N. 10TH ST.							x
30 N. 6TH ST.						x	
30 S. 3RD ST.		x					
301 BROOME ST.						x	
301 N. 3RD ST.						x	
301 S. 6TH ST.						x	
301 S. 7TH ST.						x	
301 SOUTH 9TH ST							x
302 ASH ST.		x					
302 N. 3RD ST.						x	
302 S. 7TH ST.						x	
303 BROOME ST.						x	
303 S. 8TH ST.						x	
304 NORTH 4TH ST						x	
304 S. 9TH ST.							x
305 NORTH 10TH ST							x
305 S. 6TH ST.						x	
305 S. 7TH ST.						x	
306 CEDAR ST		x					
306 S. 9TH ST.							x
306 SOUTH 7TH ST						x	
307 NORTH 5TH ST						x	
309 N. 5TH ST.						x	
309 S. 6TH ST.						x	
309 S. 9TH ST.							x
31 S. 10TH ST.							x
31 S. 5TH ST.						x	
310 ASH ST.		x					
310 ESCAMBIA ST.						x	
310 N. 5TH ST.						x	
310 S. 6TH ST.						x	
312 S. 3RD ST.		x					
314 N. 5TH ST.						x	
314 NORTH 9TH ST							x
314 S. 5TH ST.						x	
314 S. 7TH ST.						x	
314 S. 9TH ST.							x
315 CALHOUN ST.						x	
315 N. 8TH ST.	x		x				
315 S. 7TH ST.						x	
315 SOUTH 4TH ST		x					
315 SOUTH 5TH ST						x	
316 N. 8TH ST.	x		x				
316 S. 6TH ST.						x	
317 NORTH 5TH ST		x				x	

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
317 S. 6TH ST.						x	
317 SOUTH 4TH ST		x					
317 SOUTH 5TH ST						x	
318 DADE ST.		x				x	
318 S. 5TH ST.						x	
318 S. 6TH ST.						x	
318 S. 9TH ST.							x
319 S. 6TH ST.						x	
32 N. 9TH ST.							x
320 N. 5TH ST.						x	
320 NORTH 9TH ST							x
320 S. 3RD ST.		x					
320 S. 4TH ST.		x					
320 S. 9TH ST.							x
321 CEDAR ST	x						
321 S. 6TH ST.						x	
322 N. 3RD ST.						x	
322 S. 6TH ST.						x	
323 NORTH 9TH ST							x
324 S. 7TH ST.						x	
324 SOUTH 9TH ST							x
325 S. 6TH ST.						x	
326 S. 6TH ST.						x	
326 S. 7TH ST.						x	
326 S. 9TH ST.							x
327 S. 7TH ST.						x	
329 PLACE						x	
329 S. 6TH ST.						x	
330 S. 7TH ST.						x	
331 N. 4TH ST.						x	
331 SOUTH 4TH ST		x					
332 N. 3RD ST.						x	
332 S. 6TH ST.						x	
332 S. 9TH ST.							x
34 S. 13TH ST.							x
3670+ SR 200						x	
3675 SR 200						x	
3679 RATLIFF ROAD							x
3685+ RATLIFF ROAD							x
3698 SR 200						x	
3721 E SR 200		x					
3730A SR 200						x	
3730B E SR 200						x	
3733 E SR 200		x					
383 PEEPLES ROAD							x
3936 E SR 200		x				x	
4000 E SR 200		x				x	
401 DATE ST		x					
401 N. 3RD ST.						x	
401 S. 6TH ST.						x	

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
401 S. 7TH ST.						x	
402 BEECH ST.		x					
402 CEDAR ST		x					
402 DATE ST.		x					
402 S. 7TH ST.						x	
403 N. 3RD ST.						x	
403 NORTH 4TH ST						x	
403 S. 6TH ST.						x	
4035 E SR 200						x	
404 N. 4TH ST.		x				x	
405 S. 6TH ST.						x	
406 BEECH ST.		x					
406 N. 4TH ST.		x				x	
406 S. 7TH ST.						x	
407 BEECH ST.		x					
407 CEDAR ST.	x						
407 NORTH 4TH ST						x	
408 BEECH ST.		x					
409 CEDAR ST.	x						
409 S. 6TH ST.						x	
409 S. 7TH ST.						x	
410 S. 7TH ST.						x	
411 N. 5TH ST.	x						
412 N. 3RD ST.						x	
413 N. 5TH ST.	x						
414 CEDAR ST.						x	
414 S. 7TH ST.						x	
4145 E SR 200		x				x	
415 ALACHUA ST.						x	
415 NORTH 4TH ST						x	
416 N. 3RD ST.						x	
416 S. 7TH ST.						x	
418 S. 6TH ST.						x	
419 S. 6TH ST.						x	
419 SOUTH 7TH ST						x	
4193 E SR 200	x						
421 N. 3RD ST.						x	
421 S. 6TH ST.						x	
423 S. 6TH ST.						x	
424 N. 3RD ST.						x	
426 S. 6TH ST.						x	
426 SOUTH 7TH ST						x	
4263 EASE SR 200 NORTH		x					
427 S. 7TH ST.						x	
428 N. 8TH ST.	x		x				
4291-1 E SR 200	x						
4291-2 E SR 200	x						
4291-3 E SR 200	x						
4291-4 SR 200	x						
430 S. 7TH ST.						x	

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
431 S. 7TH ST.						x	
4315 E SR 200	x						
432 N.3RD ST.						x	
4327 E SR 200	x						
4393 RATLIFF ROAD							x
45142 GRESSMAN DAIRY RD.							x
501 CALHOUN ST.						x	
501 CEDAR ST.						x	
501-3 S. 6TH ST.						x	
502 BROOME ST.						x	
502 CEDAR ST						x	
502 DATE ST.						x	
502 S. 6TH ST.						x	
505 CEDAR ST.						x	
506 CALHOUN ST.						x	
506 CEDAR ST.						x	
506 DATE ST.						x	
506 S. 6TH ST.						x	
506 S. 7TH ST.						x	
507 S. 6TH ST.						x	
508 ASH ST.						x	
508 DADE ST.		x					
509 BEECH ST.						x	
509 CEDAR ST.						x	
510 ALACHUA ST						x	
510 S. 6TH ST.						x	
511 CEDAR ST.						x	
511 S. 6TH ST.						x	
512 ALACHUA ST.						x	
512 DADE ST.	x						
512-4 S. 6TH ST.						x	
513 BROOME ST.						x	
515 BROOME ST.						x	
517 BROOME ST.						x	
518 S. 7TH ST.						x	
519 S. 7TH ST.						x	
520 S. 6TH ST.						x	
521 S. 7TH ST.						x	
524 S. 7TH ST.						x	
530 S. 6TH ST.						x	
5406 ERVIN STREET (THE HIPPARD HOUSE)						x	
5406 MARY STREET		x					
5406 WALDRON STREET						x	
5424 WALDRON STREET						x	
5431 OCEAN BOULEVARD						x	
5436 PRICE STREET						x	
5437 OCEAN BOULEVARD						x	
5443 OCEAN BOULEVARD						x	
5443 WALDRON STREET						x	
5449 WALDRON STREET						x	

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
5454 LEE STREET		x					
5455 OCEAN BOULEVARD						x	
5455 WALDRON STREET						x	
5466 LEONARD STREET		x					
5472 LEE STREET		x					
5473 WALDRON STREET						x	
5475 OCEAN BOULEVARD						x	
5478 LEE STREET I		x					
5478 LEE STREET II		x					
5479 ERVIN STREET		x					
5479 LEONARD STREET		x					
5479 WALDRON STREET						x	
5484 LEE STREET		x					
5485 WALDRON STREET						x	
5491 ERVIN STREET		x					
5491 LEONARD STREET		x					
5495 LEONARD STREET		x					
602 DATE ST.						x	
603 ASH ST.						x	
603 BROOME ST.						x	
604 ASH ST.						x	
605 BROOME ST.						x	
606 CEDAR ST.						x	
606 DATE ST.						x	
612 BEECH ST.						x	
614 ASH ST.						x	
614 BEECH ST.						x	
70 BLACKROCK ROAD							x
701 S. 6TH ST.		x					
710 BEECH ST.						x	
712 S. 6TH ST.		x					
714 BEECH ST.						x	
728 S. 6TH ST.		x					
731 S. 6TH ST.		x					
801 BEECH ST.						x	
810 CENTRE ST.							x
812 BROOME ST.	x						
816 CENTRE ST.							x
9 N 2ND ST	x			x			
902 CENTRE ST.							x
909 CENTRE ST.							x
911 CALHOUN ST							x
912 BEECH ST.							x
914 CALHOUN ST							x
915 BROOME ST							x
ALLAN BUILDING		x					
ALONZO JOYCE BARN						x	
ALONZO JOYCE HOUSE						x	
ALONZO JOYCE SYRUP HOUSE						x	
AMELIA COMMUNITY THEATRE	x			x			

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
AMELIA ISLAND PAINTS						x	
AMELIA PARK						x	
AMELIA PARK 1						x	
AMERICAN LEGION POST 54							x
ANDOLINA, JOSEPH C & MARILYN J HOUSE							x
ANGEL & FRIEND BUILDING		x					
ARMSTRONG, RICKY & MC HOUSE							x
ART & ANTIQUES						x	
ATLANTIC ELEMENTARY SCHOOL							x
ATLANTIC ELEMENTARY SCHOOL							x
ATLANTIC ELEMENTARY SCHOOL							x
ATLANTIC ELEMENTARY SCHOOL							x
ATLANTIC ELEMENTARY SCHOOL CAFETERIA							x
BAKER HOUSE						x	
BARBER SHOP		x					
BARRACKS			x				
BEAN SCHOOL OF DANCE		x					
BELL HOUSE						x	
BOBS IRRIGATION AND LANDSCAPE INC.		x				x	
BRADDOCK, MARTHA HOUSE						x	
BRIDGEVIEW NURSERY & GARDEN CENTER		x				x	
C. H. HUOT BLDG.	x						
CALLAHAN CABOOSE							x
CALLAHAN FUNERAL HOME	x						x
CALLAHAN HOUSE 1						x	
CAROLYN'S ON CENTRE		x					
CHADWICK HOUSE						x	
CHRISTMAS ON THE RIVER	x			x			
CLARENCE RERRINE HOUSE	x						x
COLDWELL BANKER		x					
COMBINATION BUILDING			x				
COMITO GRILL & SUSHI						x	
CONNERS/HADDOCK HOUSE	x						
COOK & COOK SEAFOOD	x		x				
CORNER OF US 301 AND EVELYN STREET							x
CRAVEY HOUSE						x	
DAVIS & CARTER, PA						x	
DIAL EXCHANGE BUILDING						x	
DOTTERER BLDG/WHAT'S YOUR BAG GIFTS	x			x			
DOTTIE B. FLORIST						x	
DR D G HUMPHREY HOUSE						x	
DURHAM HOUSE						x	
DURYEE BUILDING	x		x				
EGMONT HOUSE #1						x	
EGMONT HOUSE #2						x	
EGMONT HOUSE #3						x	
EGMONT HOUSE #4						x	
EIGHT FLAGGS ANTIQUE MART						x	
EXXON							x
FAIRBANKS HOUSE						x	

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
FERNANDINA BEACH CITY HALL	x						
FERNANDINA BEACH LIFT STATION #5	x		x				
FERNANDINA BEACH NEWS LEADER BUILDING						x	
FINGAR, ROBERT HOUSE						x	
FIRST PRESBYTERIAN CHURCH						x	
FISH HOUSE	x		x				
FLORIDA HOUSE, 20 S 3RD ST		x					
FLORIDA HOUSE, 23 S 3RD ST	x						
FLORIDA PETROLEUM	x		x				
FORT CLINCH			x				
FRED'S							x
GENTRY BUILDING		x					
GREATER FERNANDINA BEACH CHURCH OF GOD		x					
GRIFFIS, JOYCE HOUSE	x						
HADDOCK SHED		x					
HARDEE BROS.		x					
HARDEE BROS. HARDWARE		x					
HARDEE HOUSE						x	
HIRTH HOUSE						x	
HISTORIC STRUCTURE #1						x	
HORSESHOE CIRCLE HOUSE	x						
HORSEY HOUSE						x	
HOYT #1							x
HOYT #2							x
HOYT BUILDING	x						
HUFF & BATTISE FUNERAL HOME						x	
HURST BAIL BONDS							x
ISLAND AUTO CARE, INC.						x	
ISLAND STYLE							x
J. & T. KYDD BLDG.		x					
JEFFEREYS HOUSE						x	
JEFFREY'S BLDG/STEGE DRUGS	x						
JOE'S BISTRO	x						
JOHNSON, JUANITA HOUSE						x	
KELLY HOUSE						x	
LA BODEGA CAFE	x						
LAND AND WILLIAMS, INC.	x			x			
LASSERE HOUSE						x	
LAST FLIGHT OUT	x			x			
LATRINE			x				
LESENE HOUSE						x	
LESSENE-ANGEL DAVIS HOUSE						x	
LLEWELLYN'S OFFICE SUPPLY		x					
LOCK DOCTOR						x	
LYNN'S DRESS SHOP	x						
MAINTENANCE SHED				x			
MARIGOLD PATCH, THE	x						
MEMORIAL METHODIST CHURCH						x	
MERRICK-SIMMONS HOUSE							x
MOUNT CALVARY BAPTIST CHURCH							x

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
MOUNT OLIVE MISSIONARY BAPTIST CHURCH							x
N.E. CORNER OF ALACHUA AND 3RD ST		x					
N.E. CORNER OF CENTER AND 6TH ST.						x	
NASSAU COUNTY COURTHOUSE						x	
NEW ZION MISSIONARY BAP.CHURCH							x
O'KANES		x					
OLD JAIL-FLA.MUSEUM,TRANS.HIS.	x						
OLD SCHOOL HOUSE							x
OLDE TOWNE TITLE		x					
ONEAL MEMORIAL		x					
PALACE SALOON	x			x			
POMPEO'S		x					
POOLE AND STODDARD INTERIORS						x	
POST OFFICE						x	
PRESCOTT HOUSE (ROSS-LIBBY HOUSE)						x	
PUB. SCHOOL NO.1 BAND & MANUAL TRNG BLDG							x
PUBLIC SCHOOL #1							x
PUBLIC SCHOOL NO.1 GYMNASIUM							x
RAILROAD DEPOT/CHAMBER OF COMMERCE	x			x			
REAR RANGE BEACON OIL STORAGE HOUSE			x				
RT 2 BOX 1030							x
RUSSELL HOUSE	x		x				
RUTISHAUSER HOUSE							x
SANS SOUCI						x	
SAX NORTH 3RD ST		x					
SCAVENGER GIFT SHOP		x					
SCHUYLER RESIDENCE							x
SEDYEL BLDG/CRAB TRAP RESTURANT	x						
SHACKELFORD, CHRISTELLE B HOUSE						x	
SIMMONS RESTAURANT		x					
SNACK SHAK		x					
ST PETERS EPISCOPAL CHURCH							x
ST. JOSEPH'S HALL						x	
ST. MICHAEL'S CHURCH						x	
ST. MICHAEL'S SCHOOL						x	
ST. PETER'S CLAVER PAROCHIAL SCHOOL		x				x	
STARK BLDG/AMELIA IS. OFFICE SUPPLY	x						
STEIL HOUSE						x	
STORAGE BUILDING			x				
SUSI BOTIQUE	x			x			
SWEAT HOUSE							x
THE "TABBY" HOUSE						x	
THE BAILEY HOUSE						x	
THE FIRST BAPTIST CHURCH						x	
THE FISH HOUSE	x		x				
THE HOYT HOUSE							x
THREE-STAR SALOON/SOUTHERN TRAVELER	x						
TRAILER PARK COLLECTIBLES	x						
TRINITY UNITED METHODIST CHURCH						x	
VACANT						x	

Table 4.26: Exposure to Flood Hazards

Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
VANZANT, ROLLAND H & DELORES P HOUSE							x
VILLA LAS PALMAS						x	
WAAS HOUSE						x	
WALL ART GALLERY						x	
WICKED DAVEY'S FANCY SALOON		x					
WILLIAMS HOUSE							x
YULEE ROAD BARN						x	
YULEE ROAD CRIB						x	

Source: GIS Analysis

Figures 4.30 through 4.35 illustrate the intersection of 197 historic buildings with the boundaries of the 1% ACF hazard and the 0.2% ACF hazard. **Figures 4.36 through 4.40** illustrate the intersection of 41 historic buildings with storm surge inundation areas associated with a Category 1, 2 or 3 storm event.

Figure 4.30: Exposure to Flood Hazards (1% and 0.2% ACF) Countywide

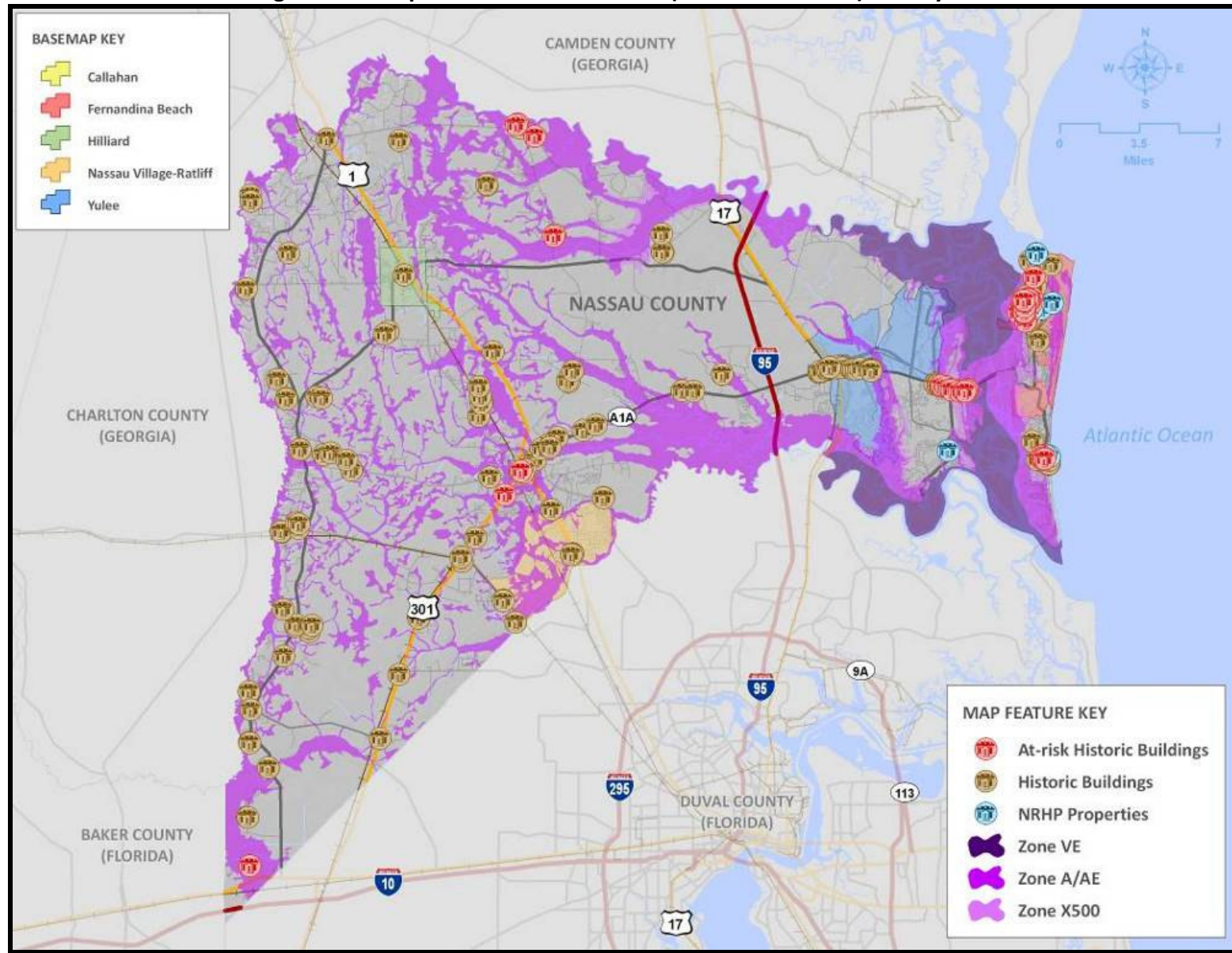


Figure 4.31: Exposure to Flood Hazards (1% and 0.2% ACF) Callahan

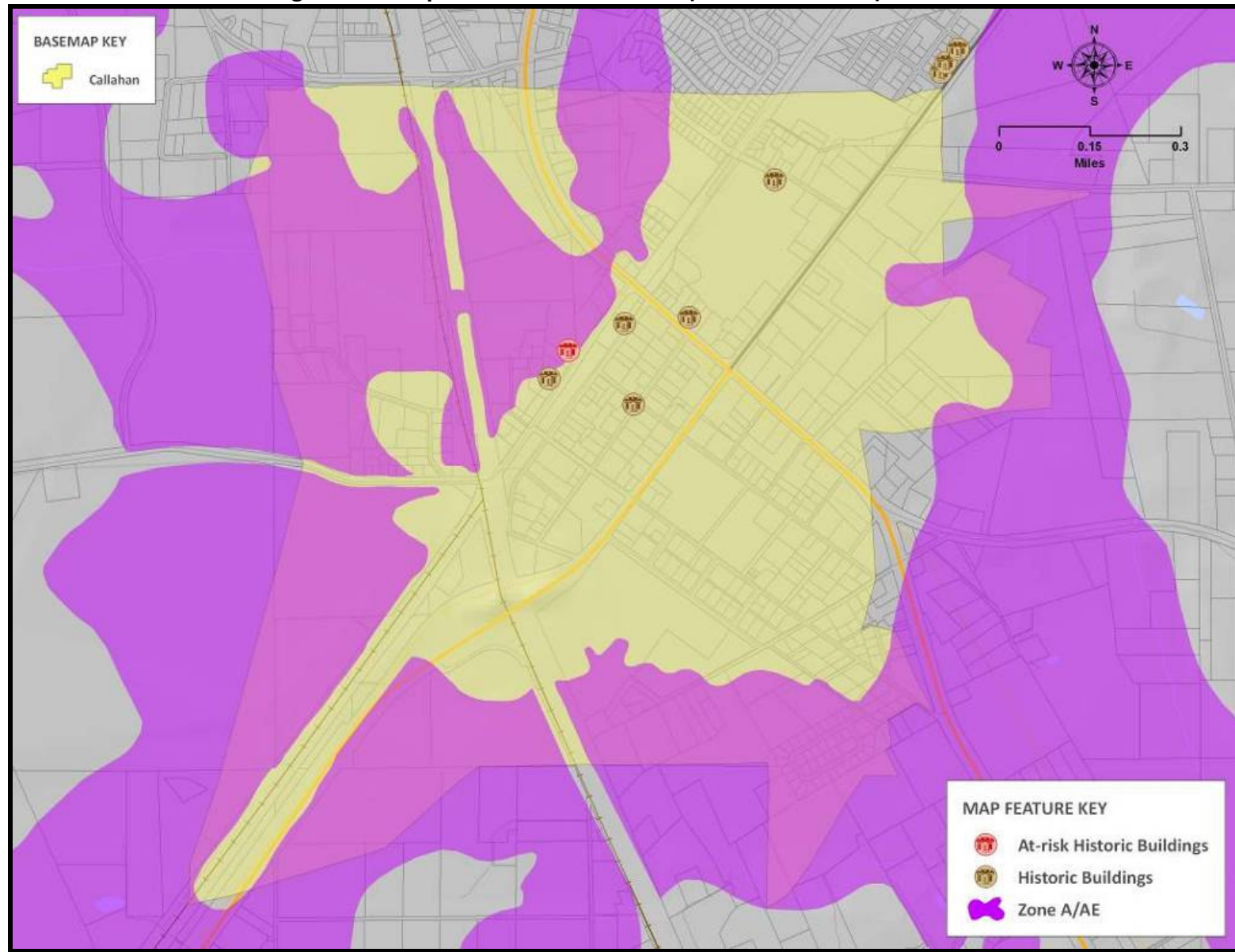


Figure 4.32: Exposure to Flood Hazards (1% and 0.2% ACF) Fernandina Beach

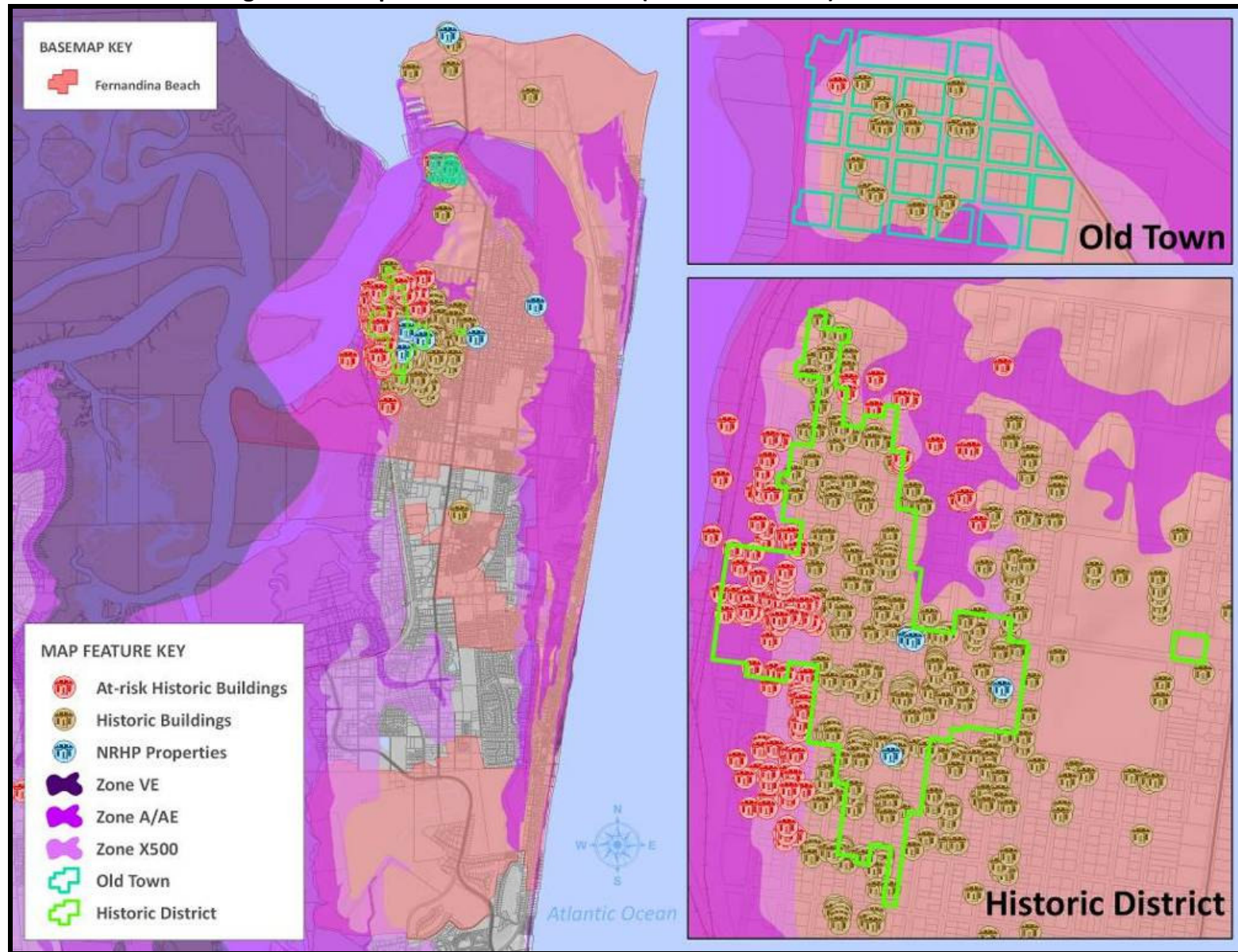


Figure 4. 33: Exposure to Flood Hazards (1% and 0.2% ACF) Hilliard

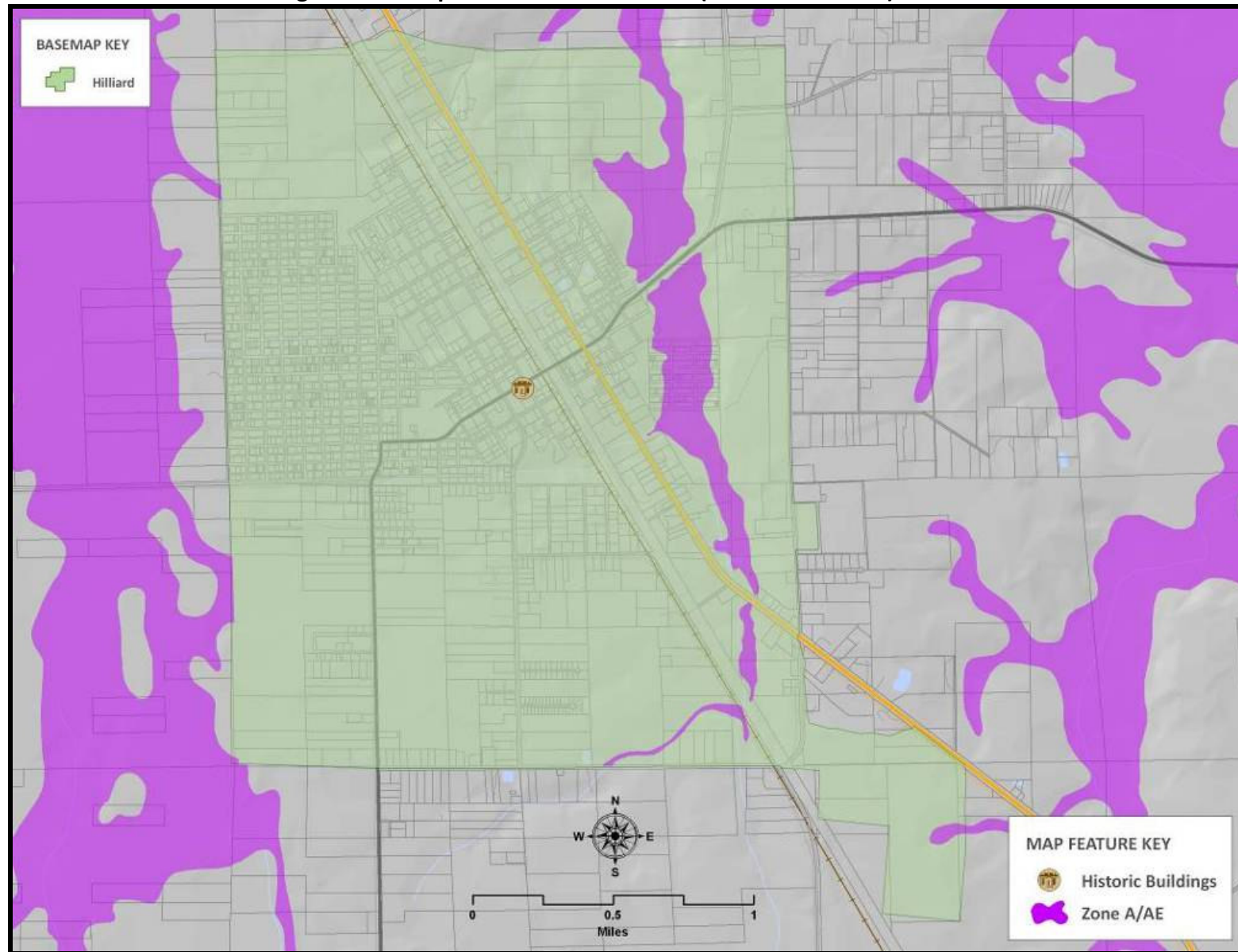


Figure 4.34: Exposure to Flood Hazards (1% and 0.2% ACF) Nassau Village-Ratliff

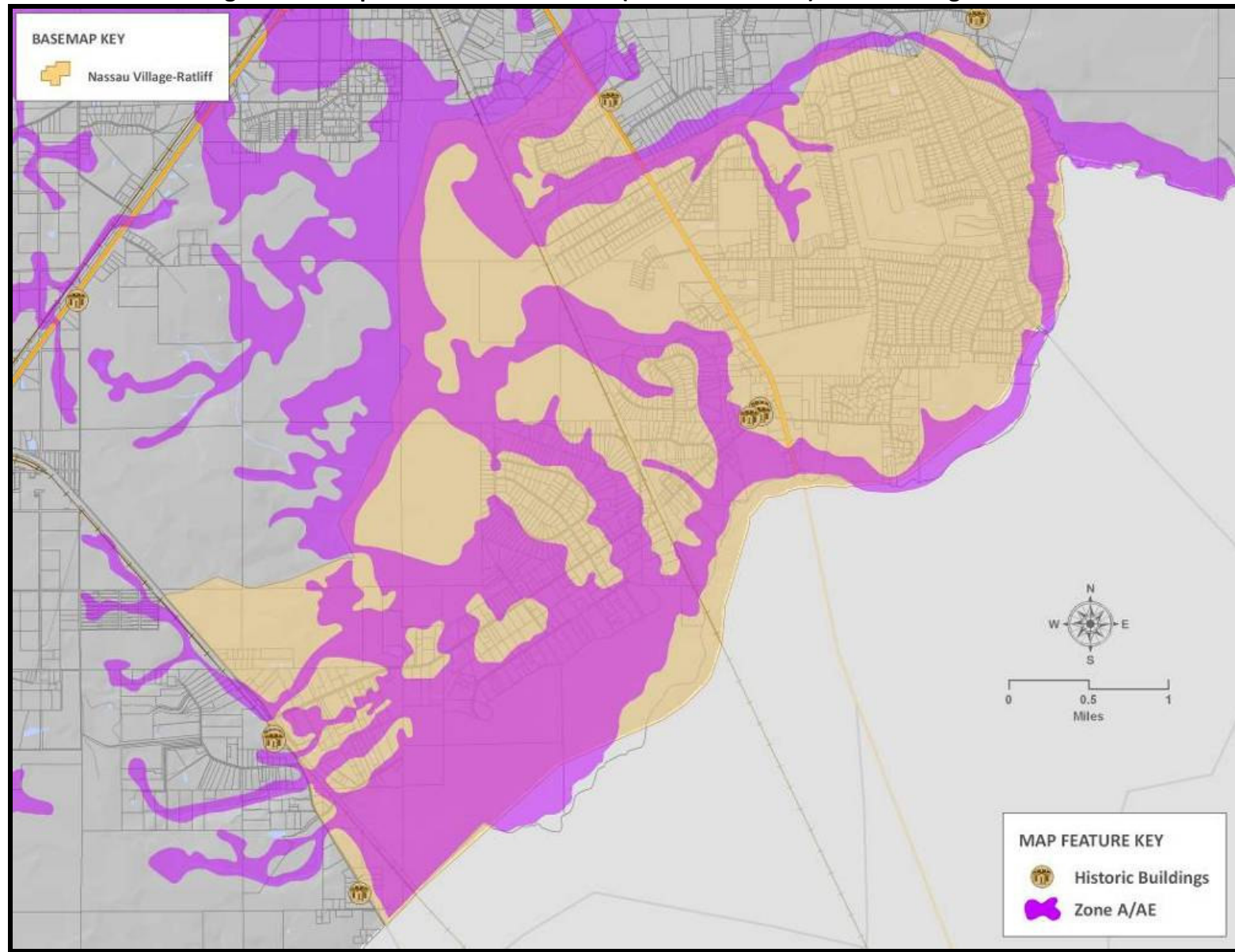


Figure 4.35: Exposure to Flood Hazards (1% and 0.2% ACF) Yulee

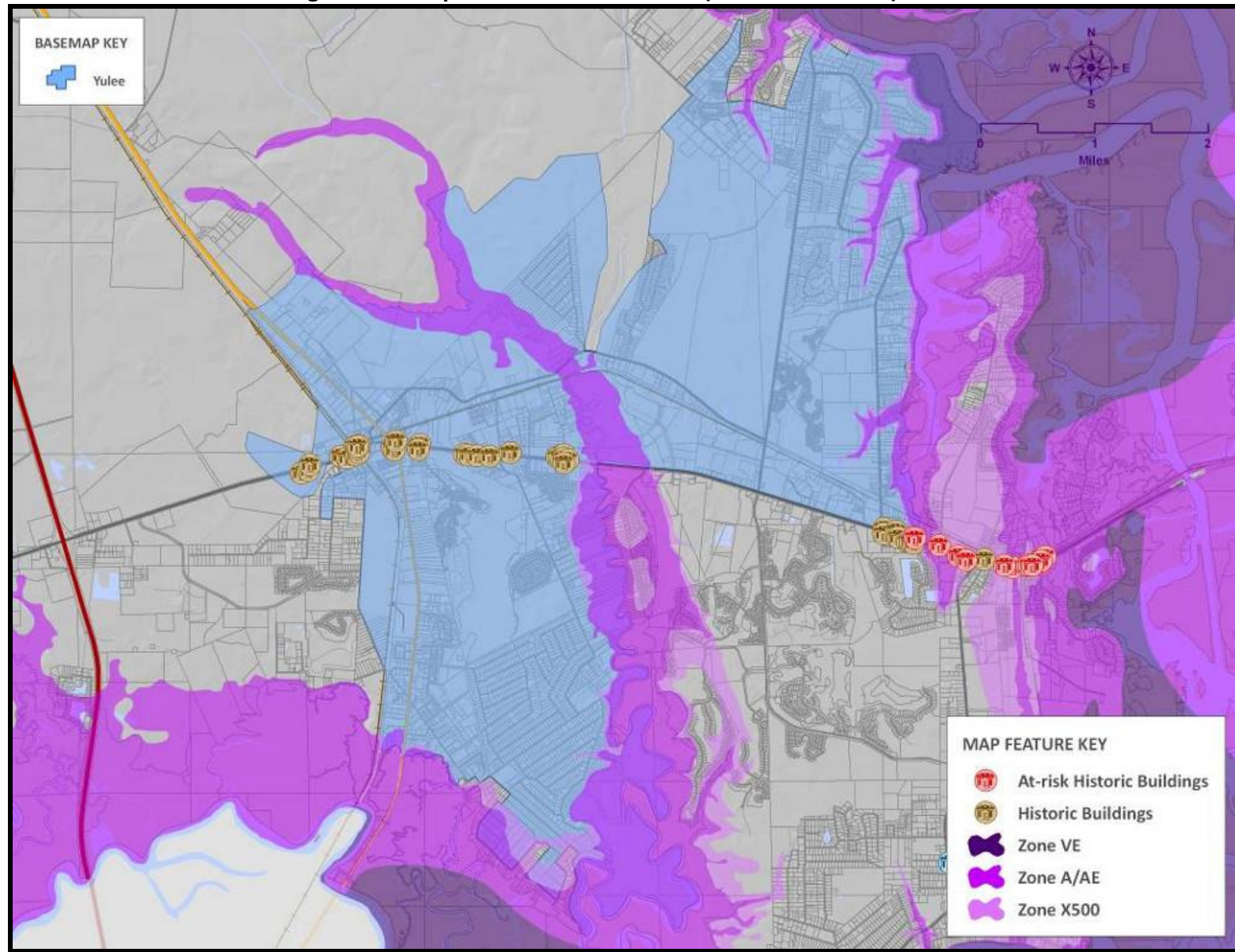


Figure 4.36: Exposure to Flood Hazards (Storm Surge) Countywide

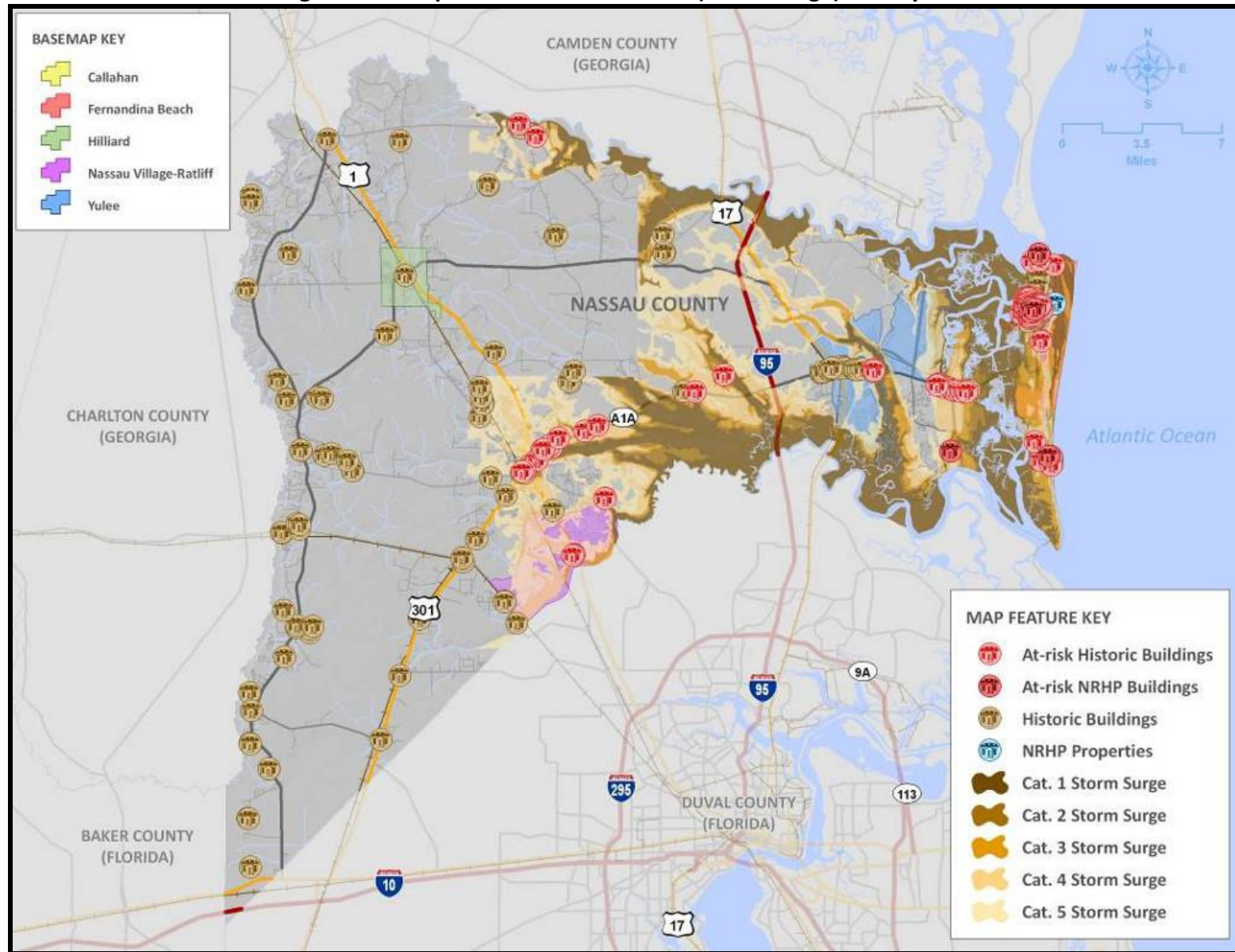


Figure 4.37: Exposure to Flood Hazards (Storm Surge) Callahan

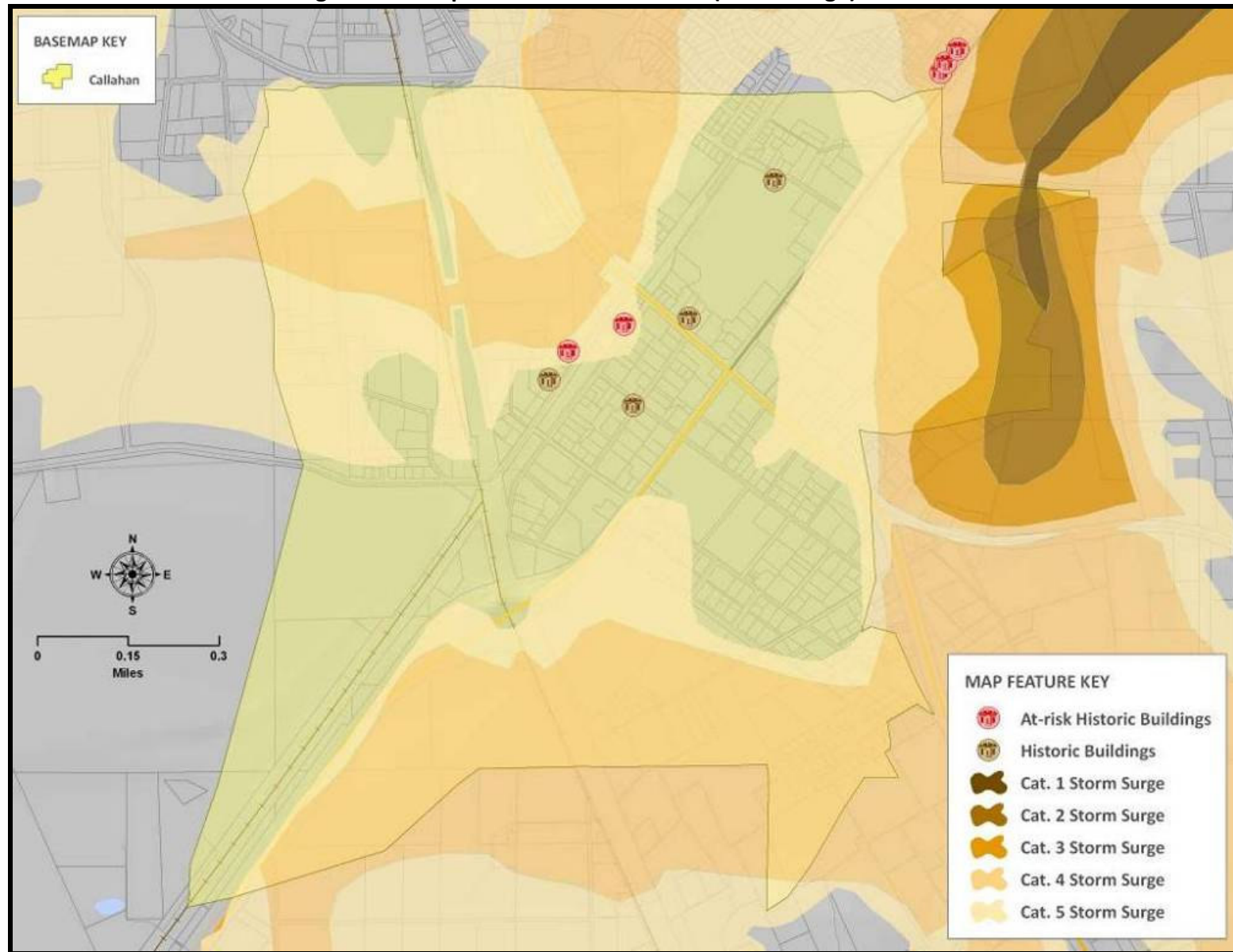


Figure 4.38: Exposure to Flood Hazards (Storm Surge) Fernandina Beach

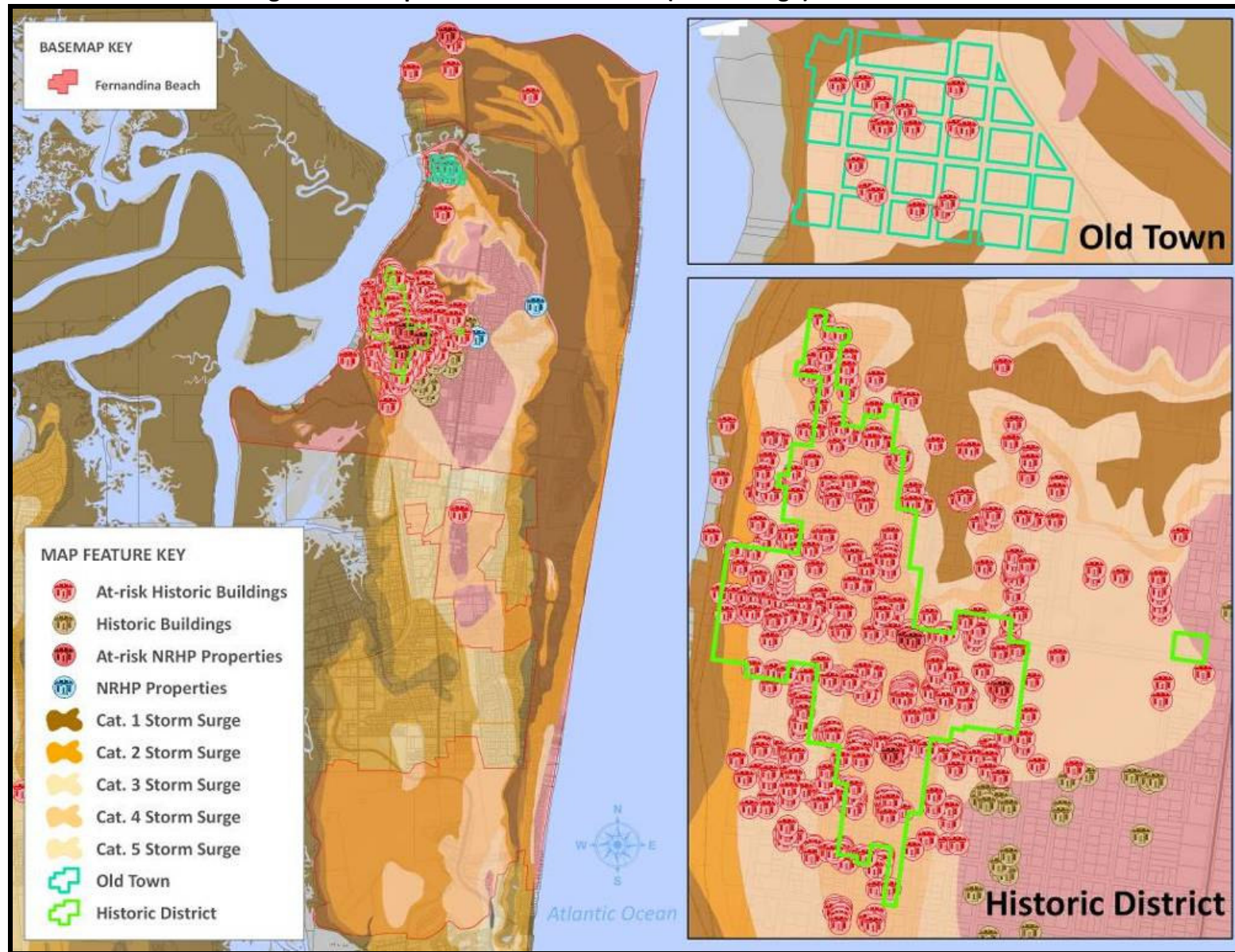


Figure 4.39: Exposure to Flood Hazards (Storm Surge) Nassau Village-Ratliff

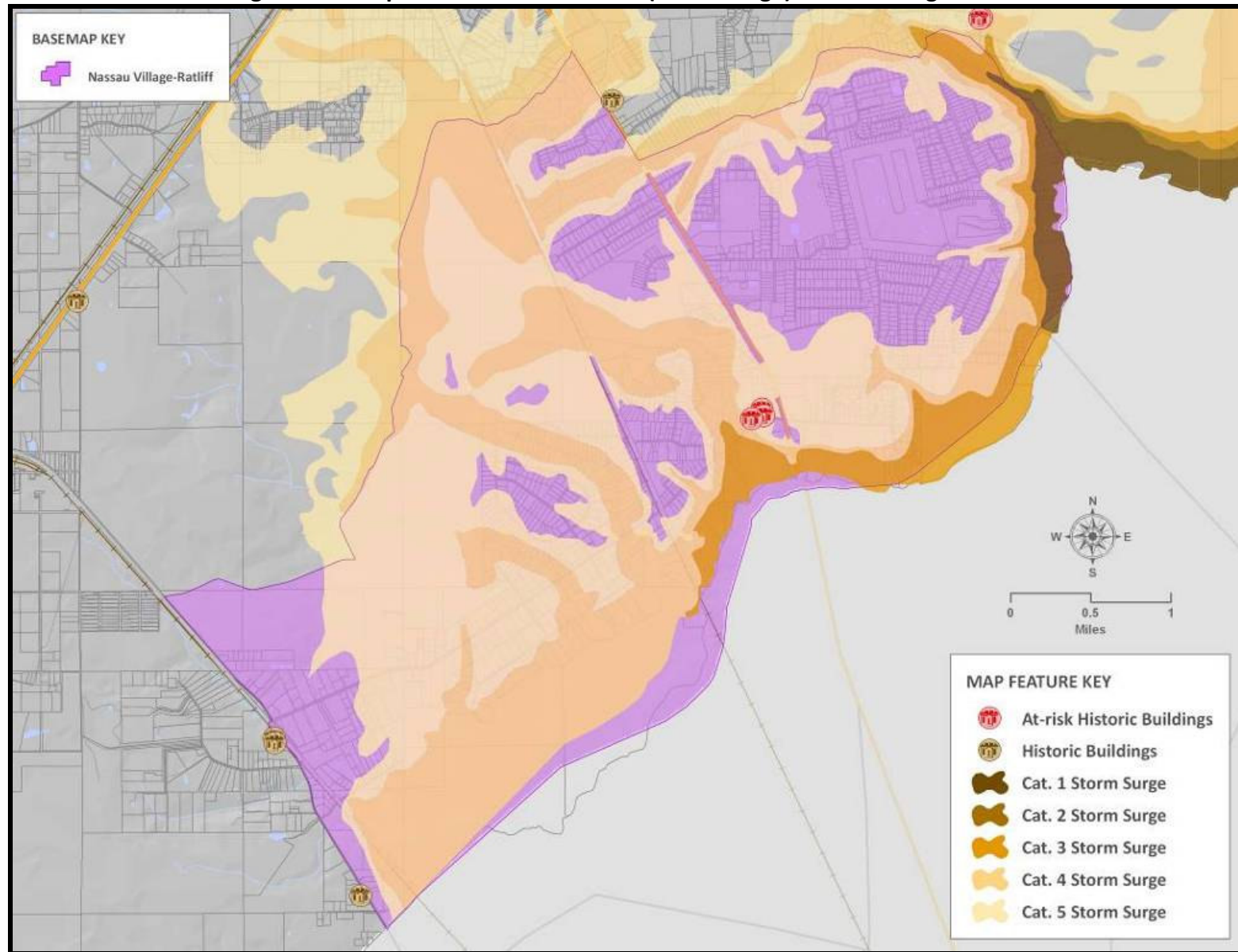
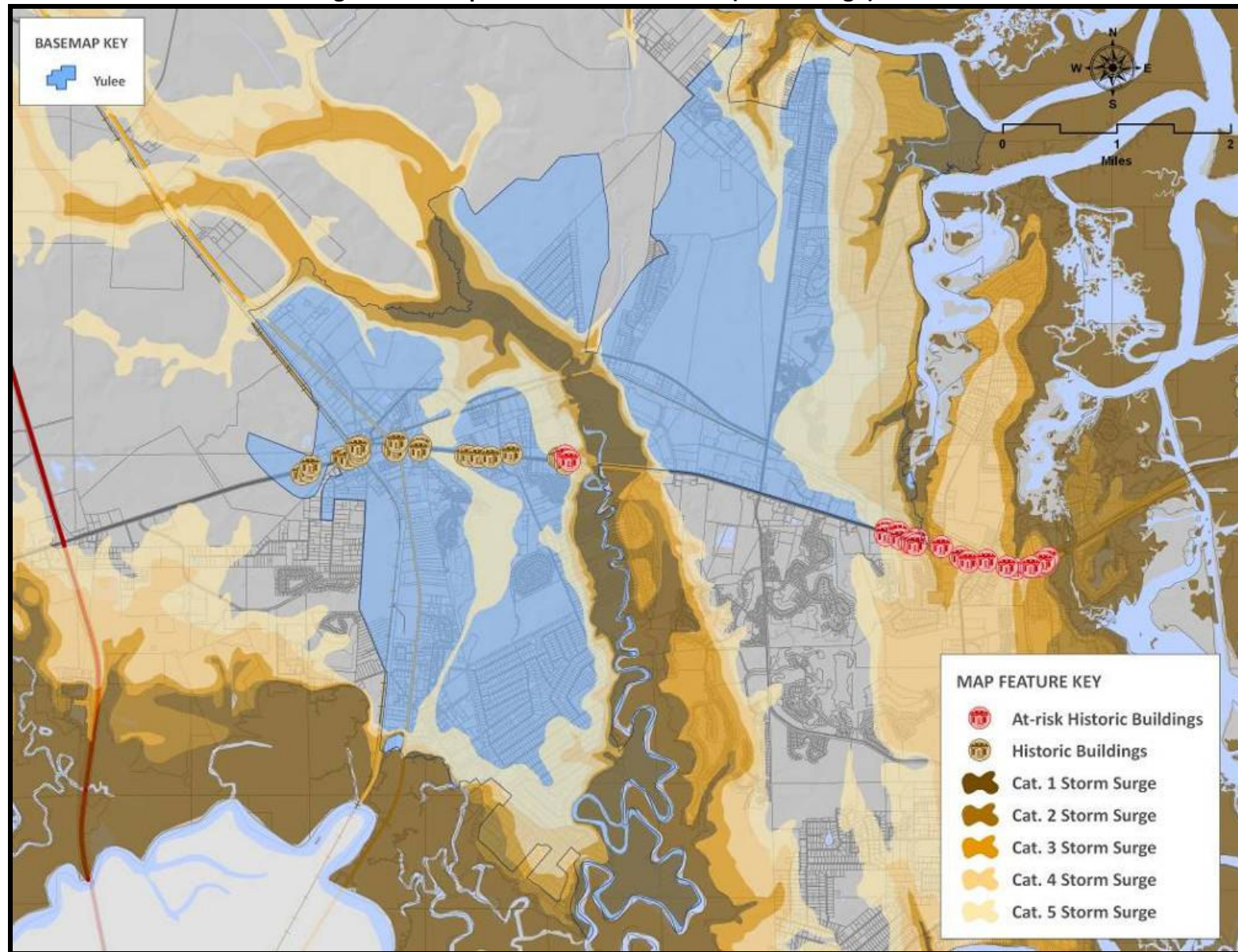


Figure 4.40: Exposure to Flood Hazards (Storm Surge) Yulee



The overall physical status of the NRHP historic buildings identified as at-risk in Nassau County¹¹ can be categorized, for the purposes of this study, in terms of “year built,” “structural system,” “exterior materials” and “current use.” **Table 4.27** presents information for the seven NRHP properties identified as at-risk to the flood hazard.

Table 4.27: Status of At-Risk NRHP Buildings				
Site Name	Status Of Buildings			
	Year Built	Structural System	Exterior Materials	Current Use
5406 ERVIN STREET (THE HIPPARD HOUSE)	1938	Masonry	Concrete Block	Private Residence
FAIRBANKS HOUSE	1885	Wood Frame	Wood/Plywood	Bed and Breakfast/ Private Residence
FORT CLINCH	c1847	Brick/Concrete	Brick/Concrete	Fortification/Military Park
MERRICK-SIMMONS HOUSE	1860	Wood Frame	Wood/Plywood	Private Residence
MOUNT OLIVE MISSIONARY BAPTIST CHURCH	1920	Wood Frame	Drop Siding	Lodge (Club) Building/ House of Worship
THE BAILEY HOUSE	1895	Wood Frame	Brick	Bed and Breakfast/ Private Residence
THE “TABBY” HOUSE	1885	Cast-In-Place Concrete	Concrete-Poured	Bed and Breakfast/ Private Residence

Table 4.28 provides a summary analysis of the findings presented with regard to historic sites that intersect with flood hazard areas, with the addition of approximate dollar values based upon GIS parcel data. For the purposes of this summary estimation of potential losses, the riverine flood loss figures focus on the 1% ACF hazard and the storm surge figures focus on Category 1, 2 and 3 storms only.

Table 4.28: Extent and Value of At-Risk Historic Buildings						
Category	Total No. Of Historic Properties In Category	Approx. No. And Value Of Historic Properties In Select Hazard Areas				Percentage Of Total At-Risk To Select Hazards ¹
		1% ACF		Storm Surge (Category 1, 2, 3)		
		Number	Est. Value ³	Number	Est. Value	
SHPO Sites	894	82	\$8,422,073	40	\$6,326,990	14%
NRHP Sites	10	0	0	1	\$810,595	10%

¹ This is based on 894 unique SHPO sites and 10 unique NRHP sites, as most of the sites exposed to storm surge are also exposed to the 1% ACF. Some properties may be counted twice in the way this table is presented (for summary purposes) as some properties are exposed to both of these hazard types.

² For the purposes of this study, “Est. Value” is an estimate based upon improved value figures taken from local parcel data.

¹¹ NRHP sites were selected for detailed analysis by the planning team as a first step toward conducting a complete vulnerability assessment for properties of cultural significance in Nassau County. Additional properties may be added to this section in future plan updates.

4.4.4.2 Religious Buildings

Based on critical facilities data provided by Nassau County, there are 22 religious buildings (i.e., churches) in the county that are recognized as critical faith-based facilities in the context of local emergency management planning (see **Table 4.29** and **Figure 4.41**).

Table 4.29: Religious Buildings In Nassau County		
Site Name	Details	
	Year Built	Description
Bethel Church	1973	Faith-Based Facility
Brandy Branch Church	1973	Faith-Based Facility
Buford Grove Church	1969	Faith-Based Facility
Chester Missionary Church	1967	Faith-Based Facility
Ephesus Church	C1950	Faith-Based Facility
Gray Gables Church	Unknown	Faith-Based Facility
Harpers Chapel	1972	Faith-Based Facility
Live Oak Church	Unknown	Faith-Based Facility
Memorial Church	1900	Faith-Based Facility
Mount Horne Church	Unknown	Faith-Based Facility
Mount Olive Church (Callahan)	Unknown	Faith-Based Facility
Mount Olive Church (Kings Ferry)	Unknown	Faith-Based Facility
Mount Zion Church (Hedges)	Unknown	Faith-Based Facility
Mount Zion Church (Saint Marys)	Unknown	Faith-Based Facility
New Hope Church	Unknown	Faith-Based Facility
Pigeon Creek Church	C1950	Faith-Based Facility
Pine Grove Church	Unknown	Faith-Based Facility
Prince Chapel	1996	Faith-Based Facility
Saint James Church	1900	Faith-Based Facility
Saint Pauls Church	Unknown	Faith-Based Facility
Saint Peters Church	Unknown	Faith-Based Facility
Spring Hill Church	1976	Faith-Based Facility

Source: Nassau County

Figure 4.41: Religious Building Point Locations Countywide

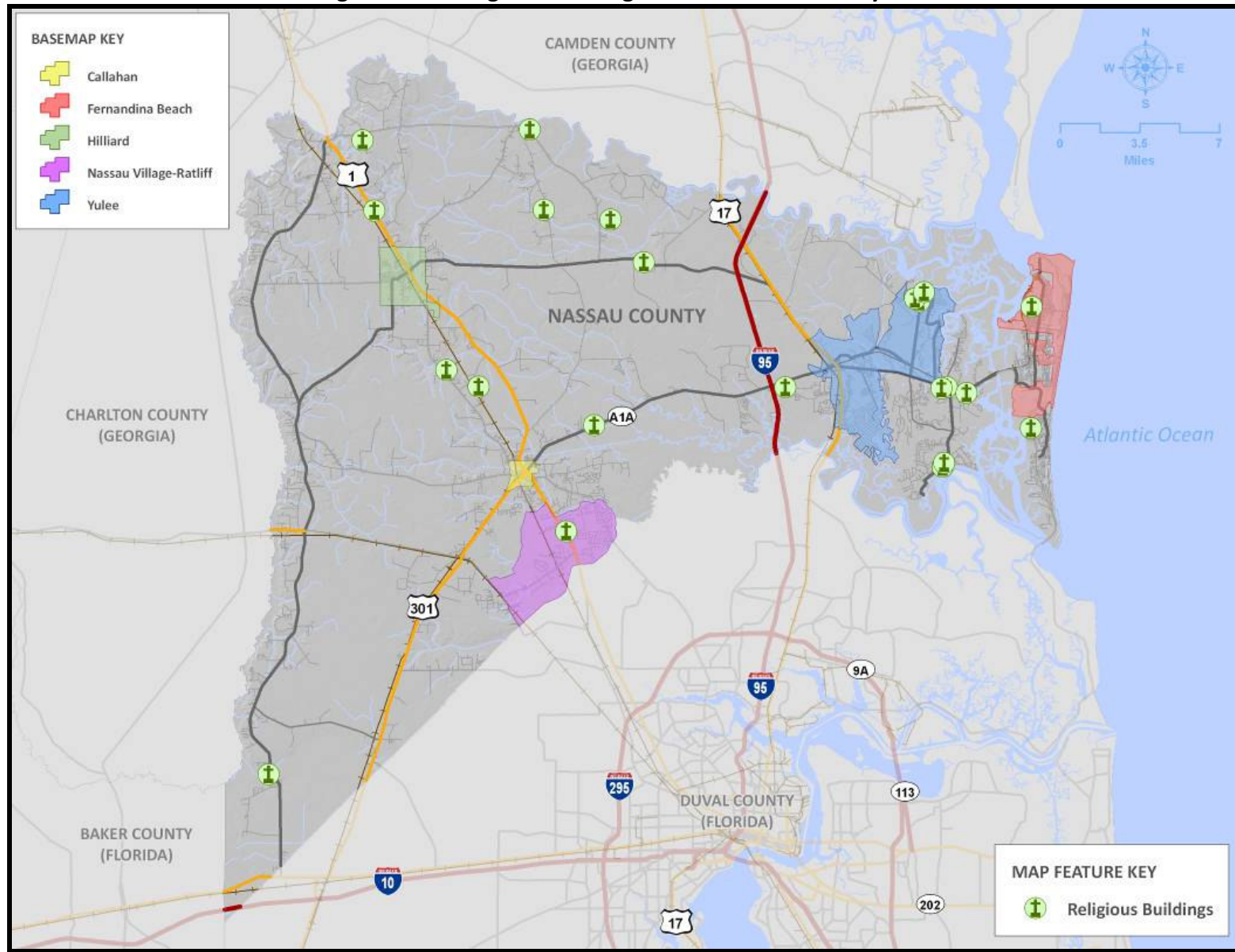


Table 4.30 defines the exposure of 12 religious buildings to flood hazard areas by determining whether the point location available for the religious building intersects with the 1% ACF hazard area, 0.2% ACF hazard area, and/or a storm surge inundation area associated with a Category 1, 2, 3, 4, or 5 storm event. The 12 potentially at-risk religious properties discussed here are pulled from the total 22 properties provided by Nassau County. This total of 12 potentially at-risk properties represents approximately 55 percent of the identified religious sites in the county.

Table 4.30: Exposure to Flood Hazards							
Site Name	Riverine Flooding		Storm Surge Inundation Area				
	1% ACF	0.2% ACF	CAT 1	CAT 2	CAT 3	CAT 4	CAT 5
Chester Missionary Church							x
Harpers Chapel							x
Memorial Church		x				x	
Mount Olive Church (Callahan)							x
Mount Olive Church (Kings Ferry)	x						
Mount Zion Church						x	
Pine Grove Church		x			x		
Prince Chapel						x	
Saint James Church							x
Saint Pauls Church						x	
Saint Peters Church			x				
Spring Hill Church	x					x	

Source: GIS Analysis

Figure 4.42 illustrates the intersection of four religious buildings with the boundaries of the 1% ACF hazard and the 0.2% ACF hazard. **Figure 4.43** illustrates the intersection of 11 buildings with storm surge inundation areas.

Figure 4.42: Exposure to Flood Hazards (1% and 0.2% ACF) Countywide

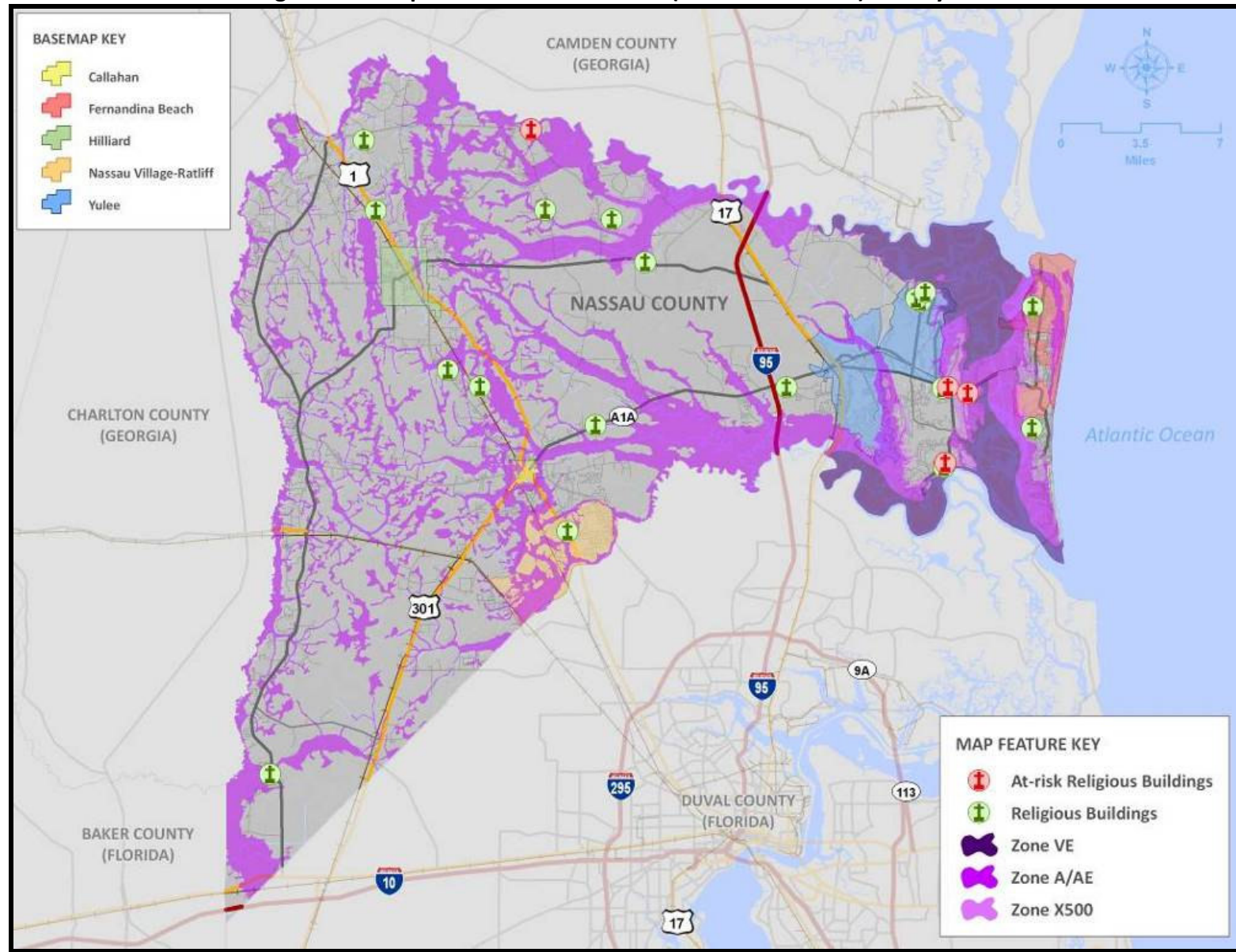
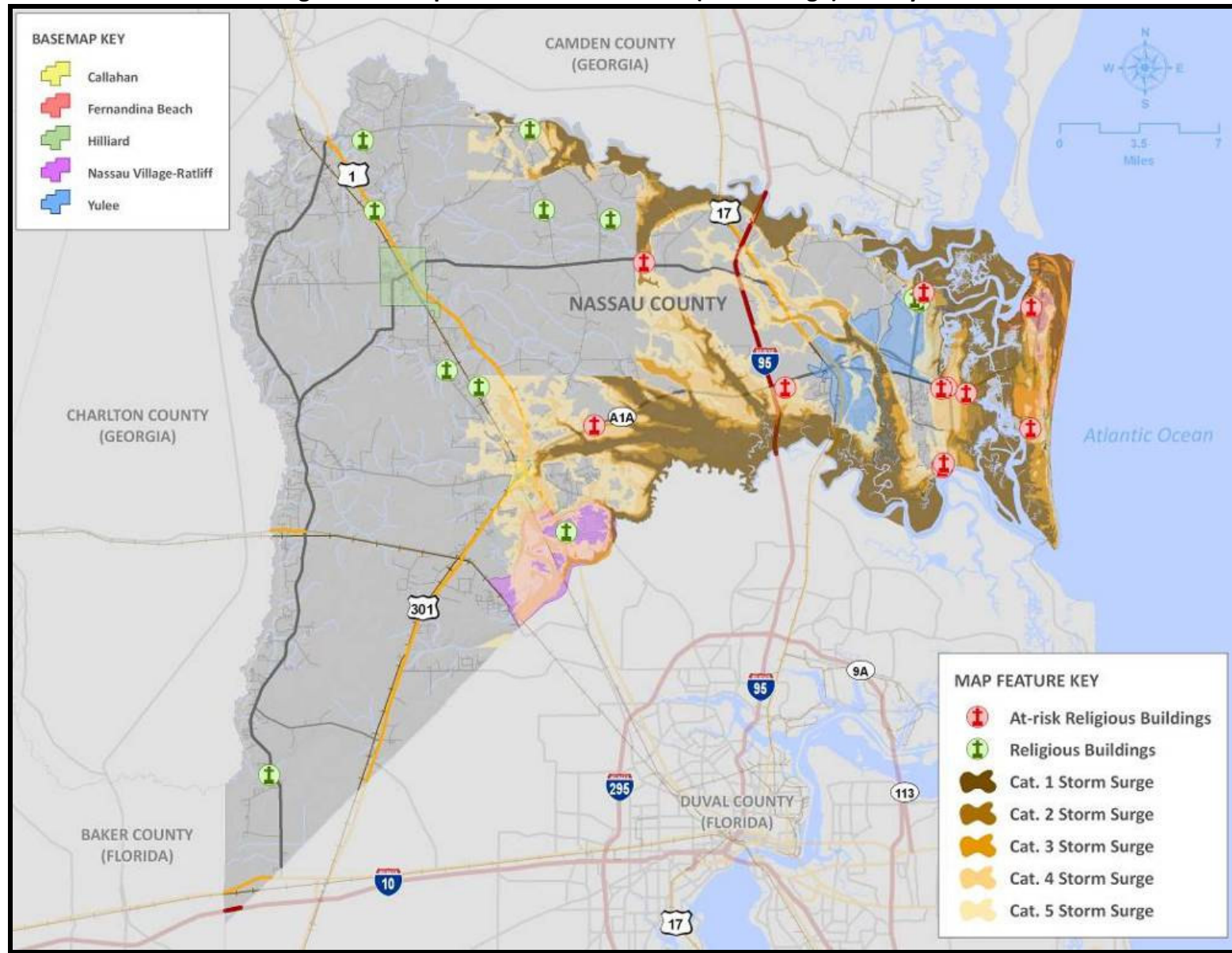


Figure 4.43: Exposure to Flood Hazards (Storm Surge) Countywide



The overall physical status of the religious buildings identified as at-risk in Nassau County can be categorized, for the purposes of this study, in terms of “year built,” “structural system,” “exterior materials” and “current use.” **Table 4.31** presents information for the 12 religious properties identified as at-risk to the flood hazard.

Table 4.31: Status of At-Risk Religious Buildings

Site Name	Year Built	Structural System	Exterior Materials	Current Use
Chester Missionary Church		Unknown	Unknown	Faith-based Facility
Harpers Chapel		Unknown	Unknown	Faith-based Facility
Memorial Church	1900	Unknown	Unknown	Faith-based Facility
Mount Olive Church (Callahan)		Unknown	Unknown	Faith-based Facility
Mount Olive Church (Kings Ferry)		Unknown	Unknown	Faith-based Facility
Mount Zion Church		Unknown	Unknown	Faith-based Facility
Pine Grove Church		Unknown	Unknown	Faith-based Facility
Prince Chapel		Unknown	Unknown	Faith-based Facility
Saint James Church		Unknown	Unknown	Faith-based Facility
Saint Pauls Church		Unknown	Unknown	Faith-based Facility
Saint Peters Church		Unknown	Unknown	Faith-based Facility
Spring Hill Church	1976	Unknown	Unknown	Faith-based Facility

Table 4.32 provides a summary analysis of the findings presented with regard to religious sites that intersect with flood hazard areas, with the addition of approximate dollar values based upon GIS-based parcel data.

Table 4.32: Extent and Value of At-Risk Religious Buildings

Category	Total No. Of Religious Properties In Category	Approx. No. And Value Of Historic Properties In Hazard Areas				Percentage Of Total At-Risk To Select Hazards ¹
		1% ACF		Storm Surge (Category 1, 2, 3)		
		Number	Est. Value ²	Number	Est. Value	
Church	22	4	\$4,635,830	1	\$144,390	23%

¹ Some properties may be counted twice in the way this table is presented (for summary purposes) as some properties are exposed to both of these hazard types.

² For the purposes of this study, “Est. Value” is an estimate based upon improved value figures taken from local parcel data.

4.4.4.3 Site Specific Illustrations

Figures 4.44 through **4.59** show site specific information for the seven NRHP and 12 religious sites identified as at-risk to the flood hazard (based on digital parcel data, SHPO-provided data and county-provided critical facilities data).

Figure 4.44: 5406 Ervin Street (The Hippard House)

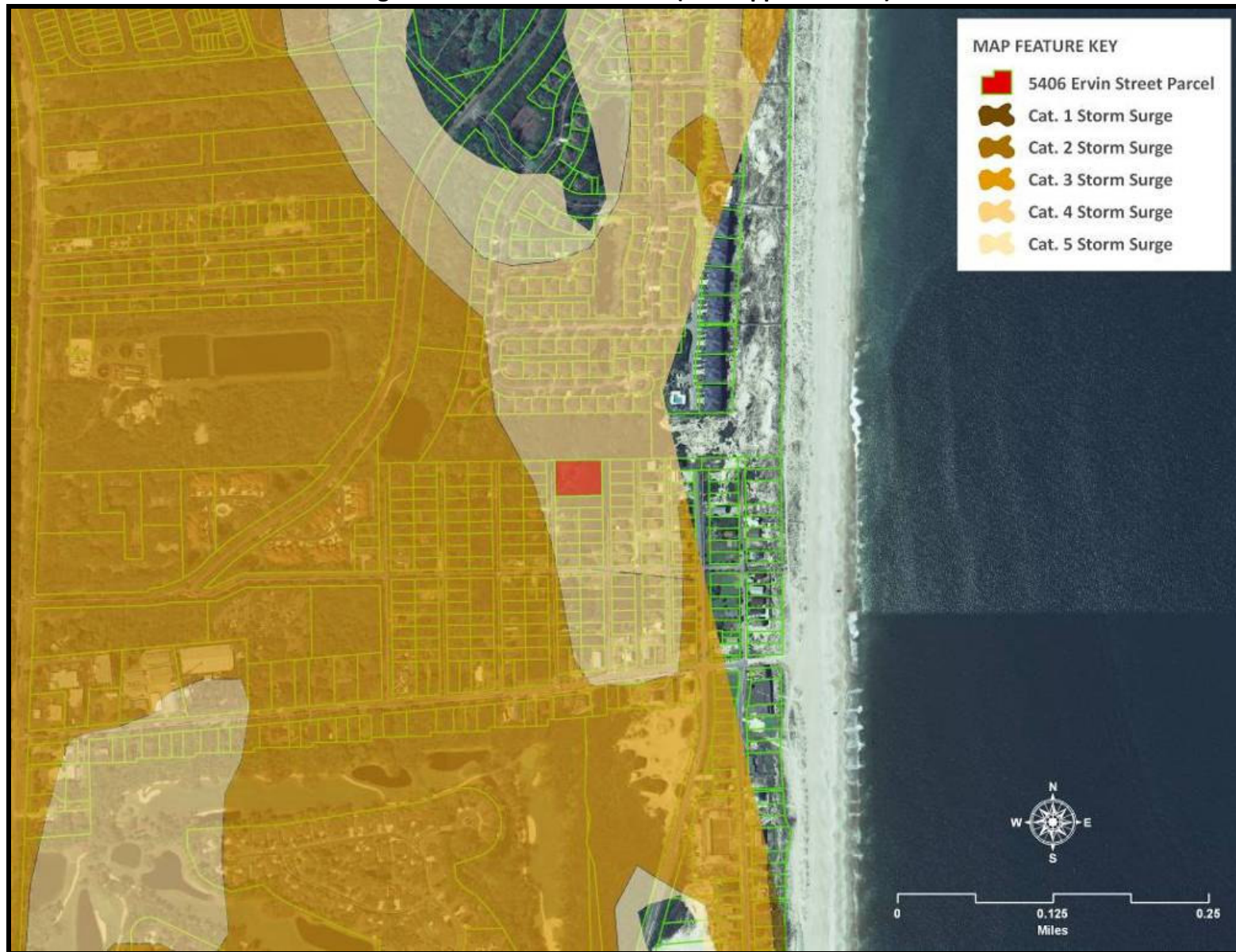


Figure 4.45: Chester Missionary Church

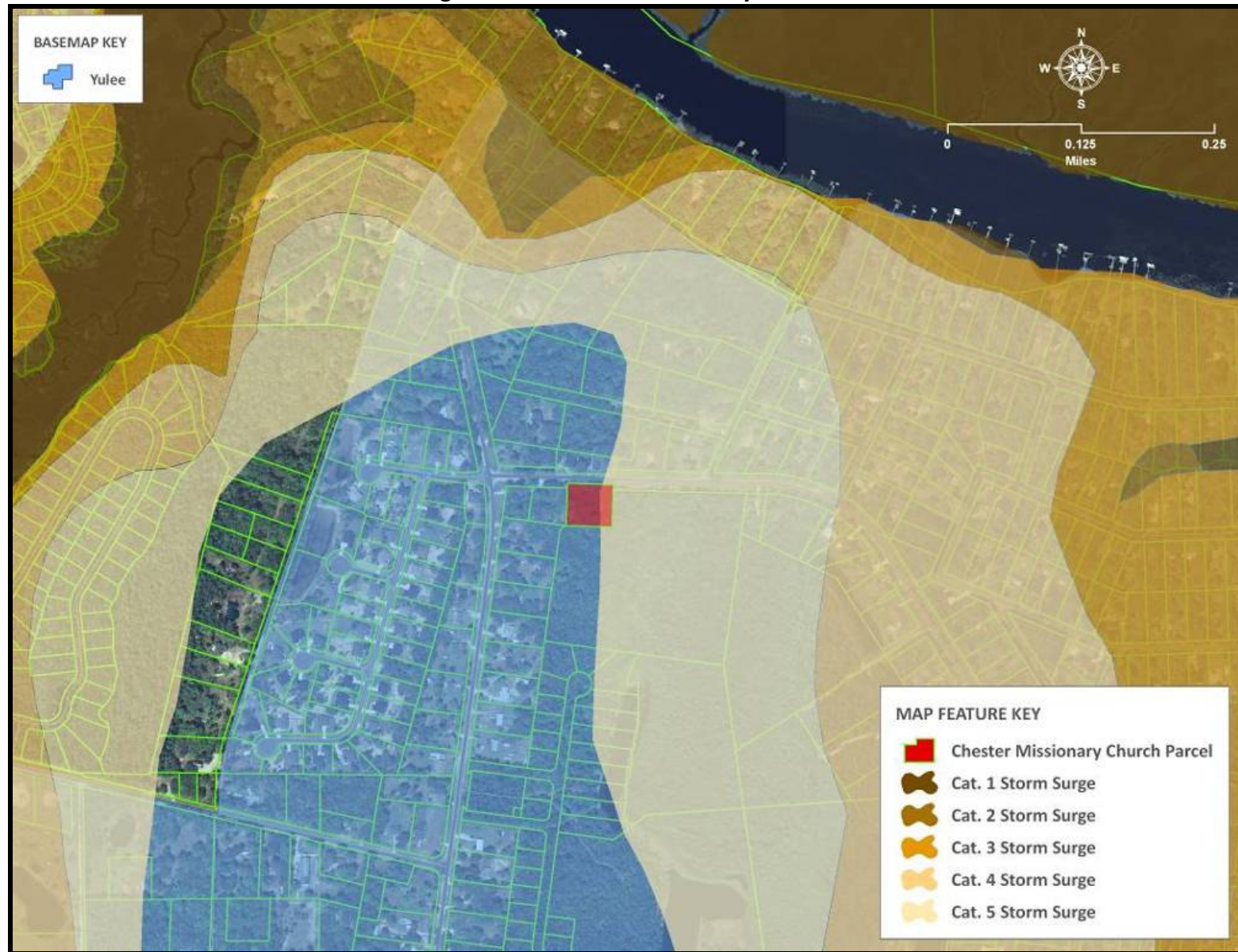


Figure 4.46: Fairbanks House, Merrick-Simmons House, The Bailey House, The “Tabby” House and Saint Peters Church

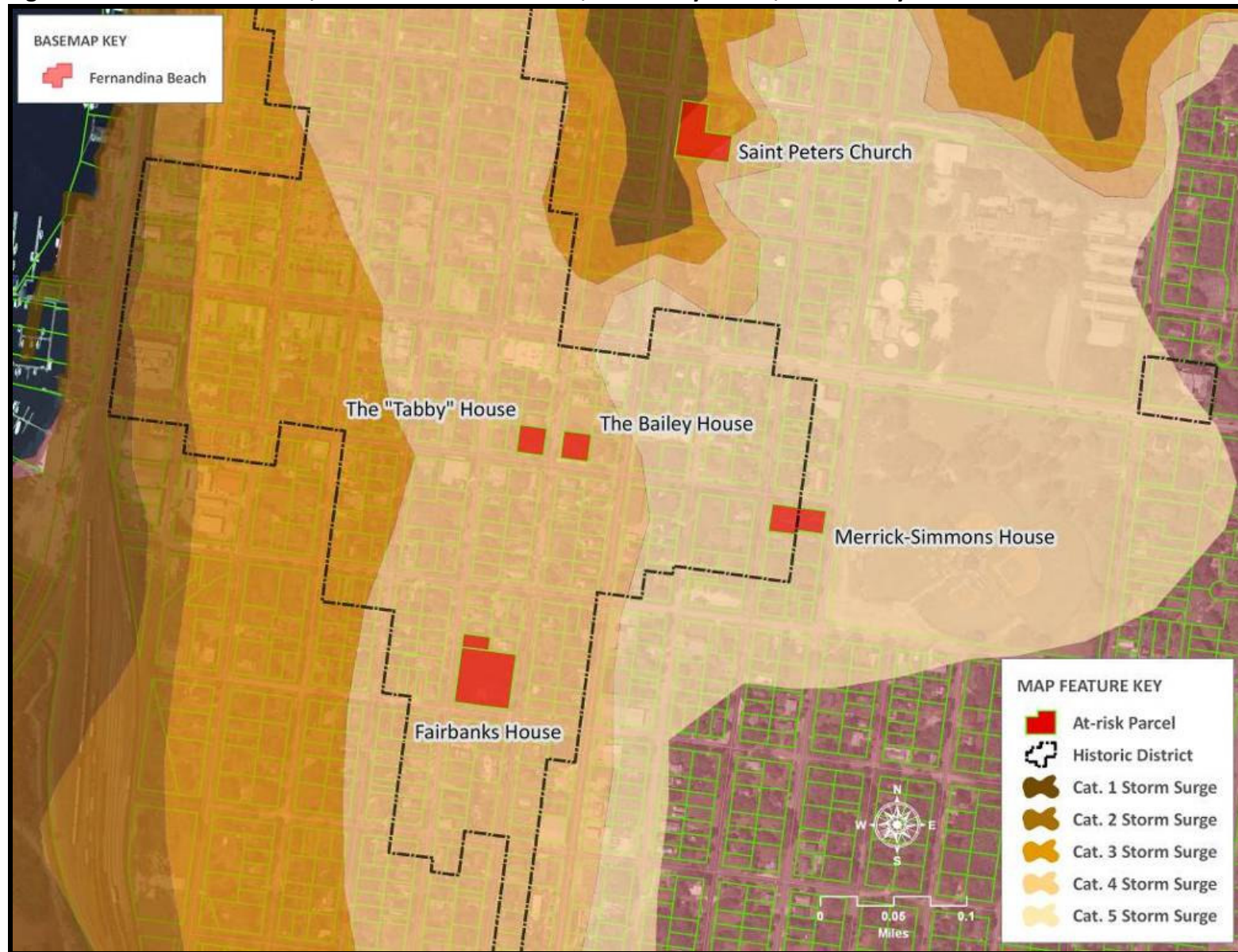


Figure 4.47: Harpers Chapel

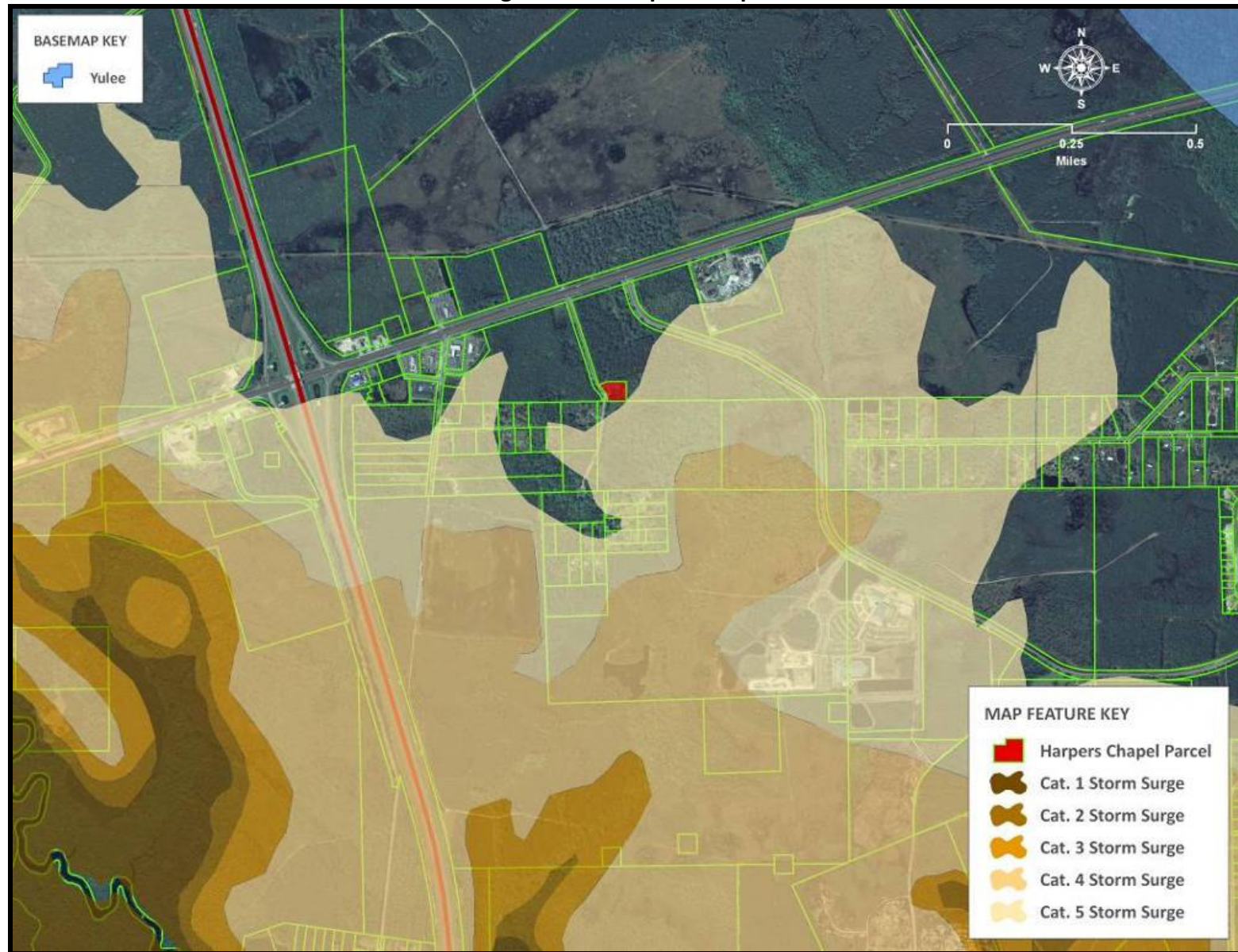


Figure 4.48: Fort Clinch

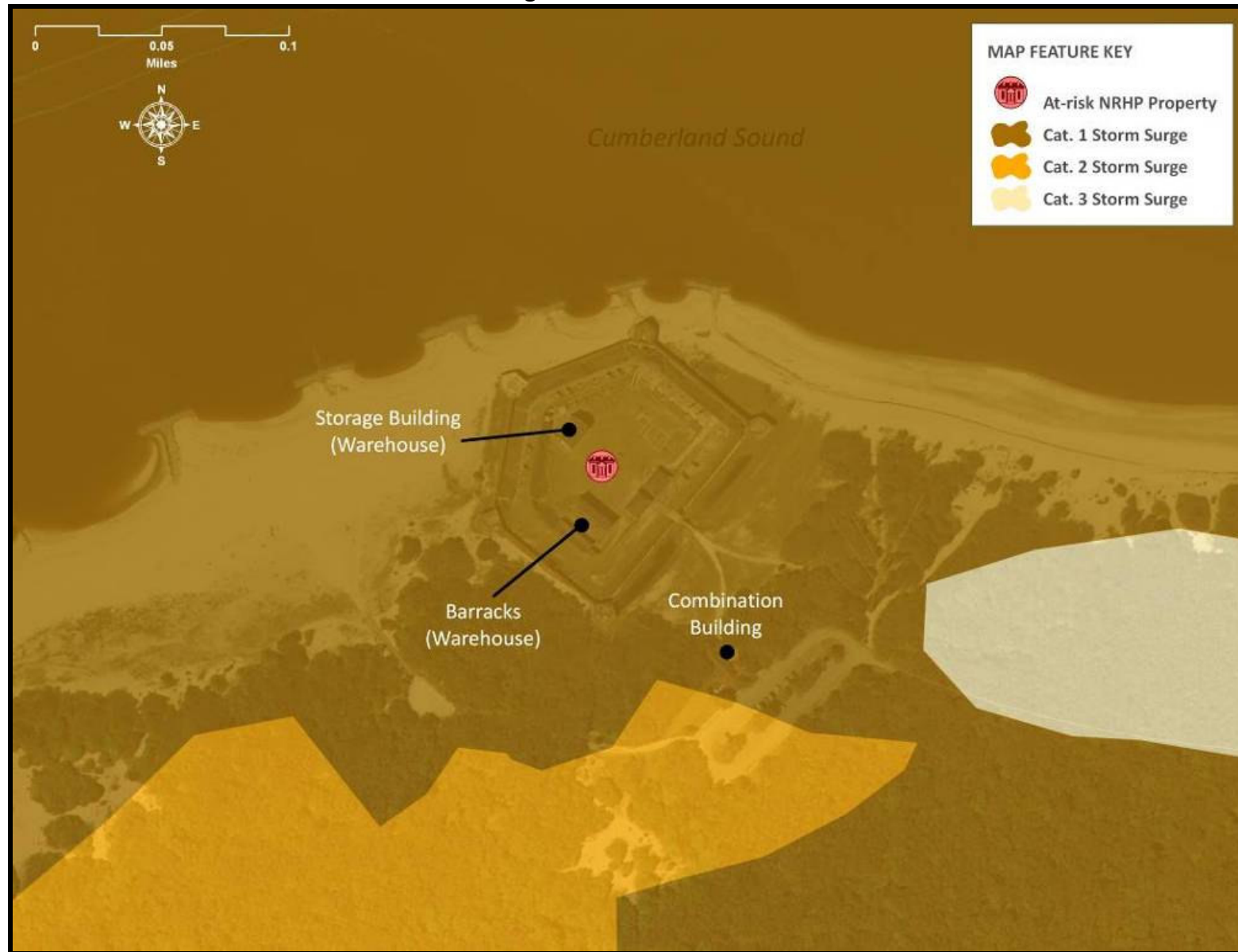


Figure 4.49: Memorial Church (Riverine)

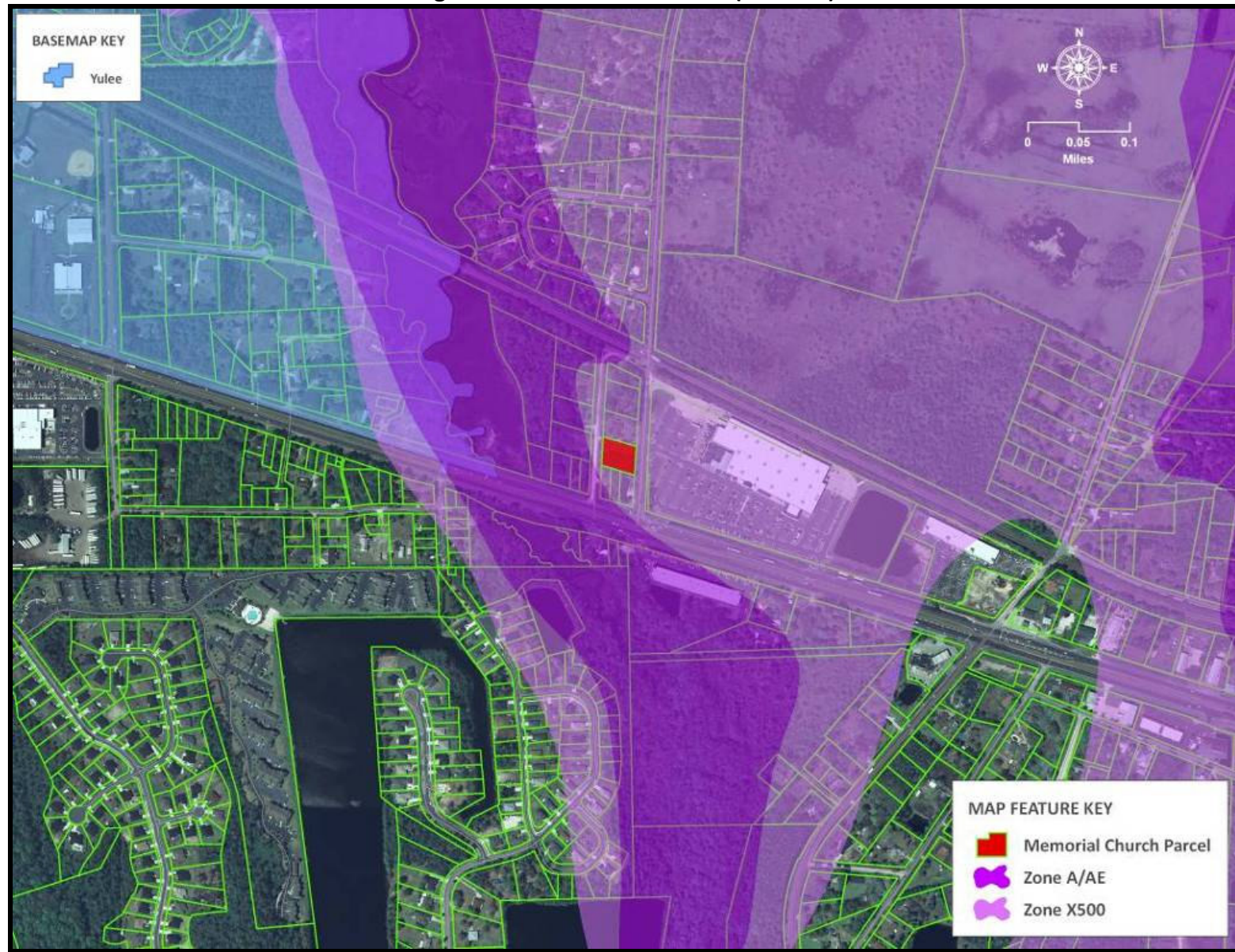


Figure 4.50: Memorial Church and Mount Zion Church (Storm Surge)

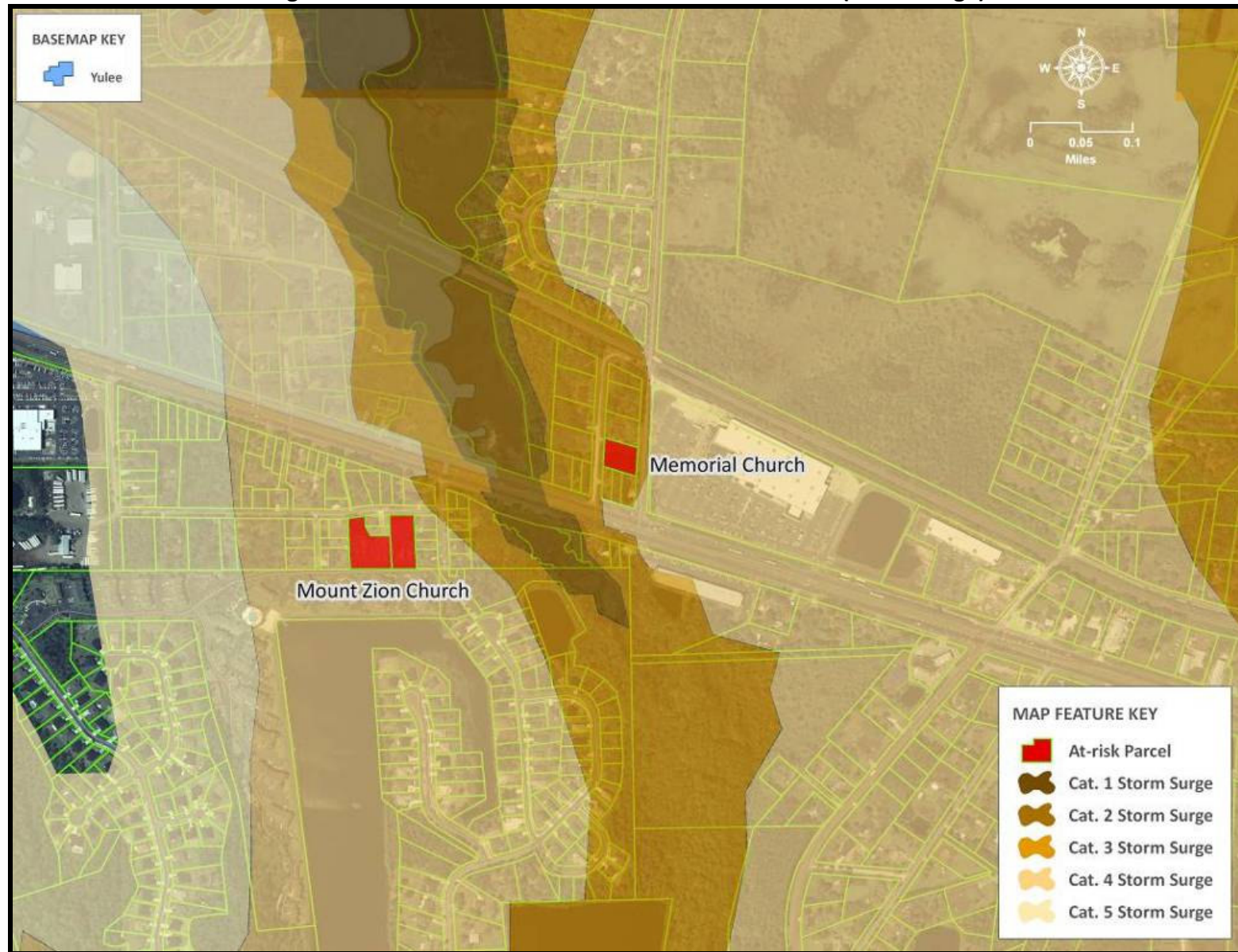


Figure 4.51: Mount Olive Church (Callahan)

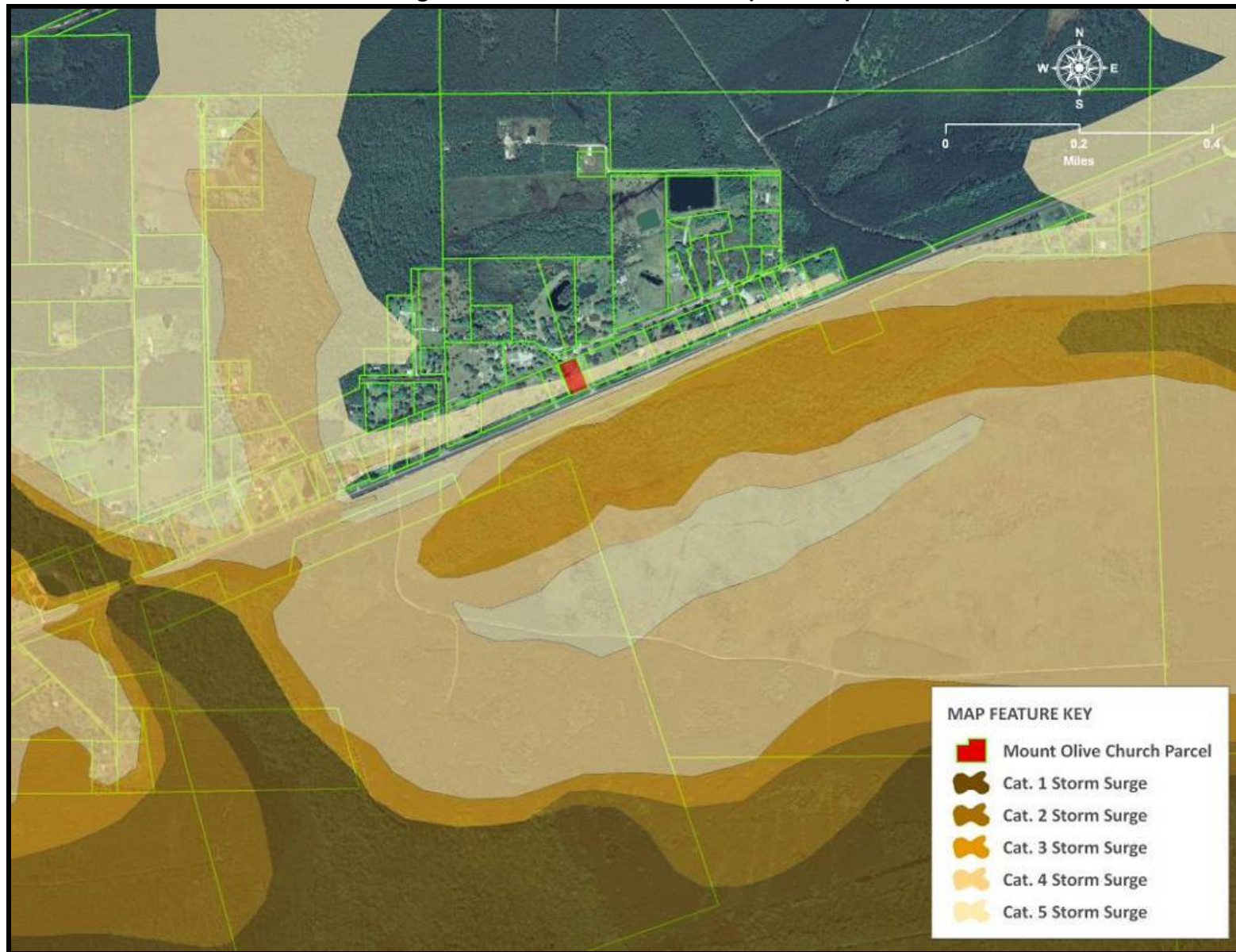


Figure 4.52: Mount Olive Church (Kings Ferry)

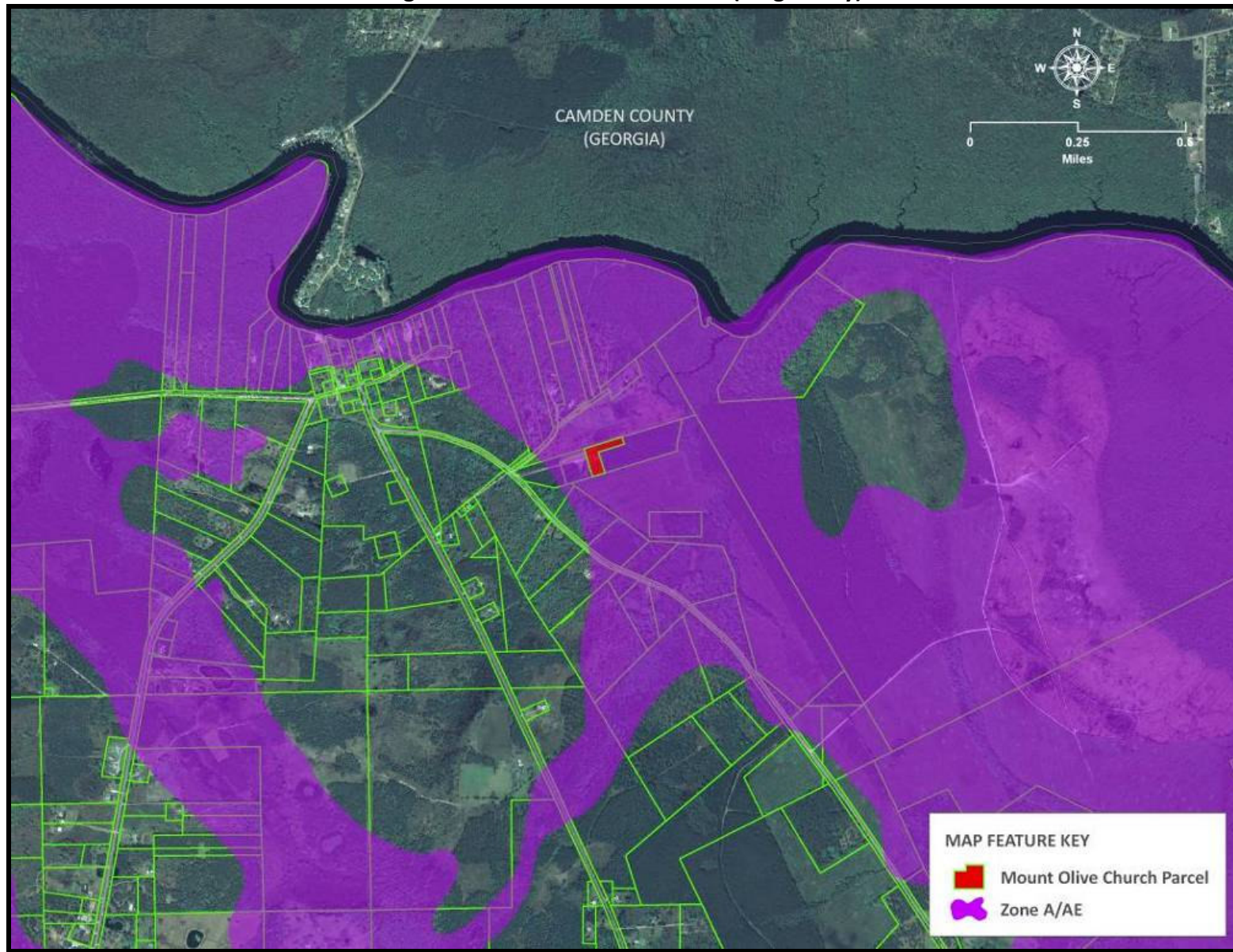


Figure 4.53: Mount Olive Missionary Baptist Church

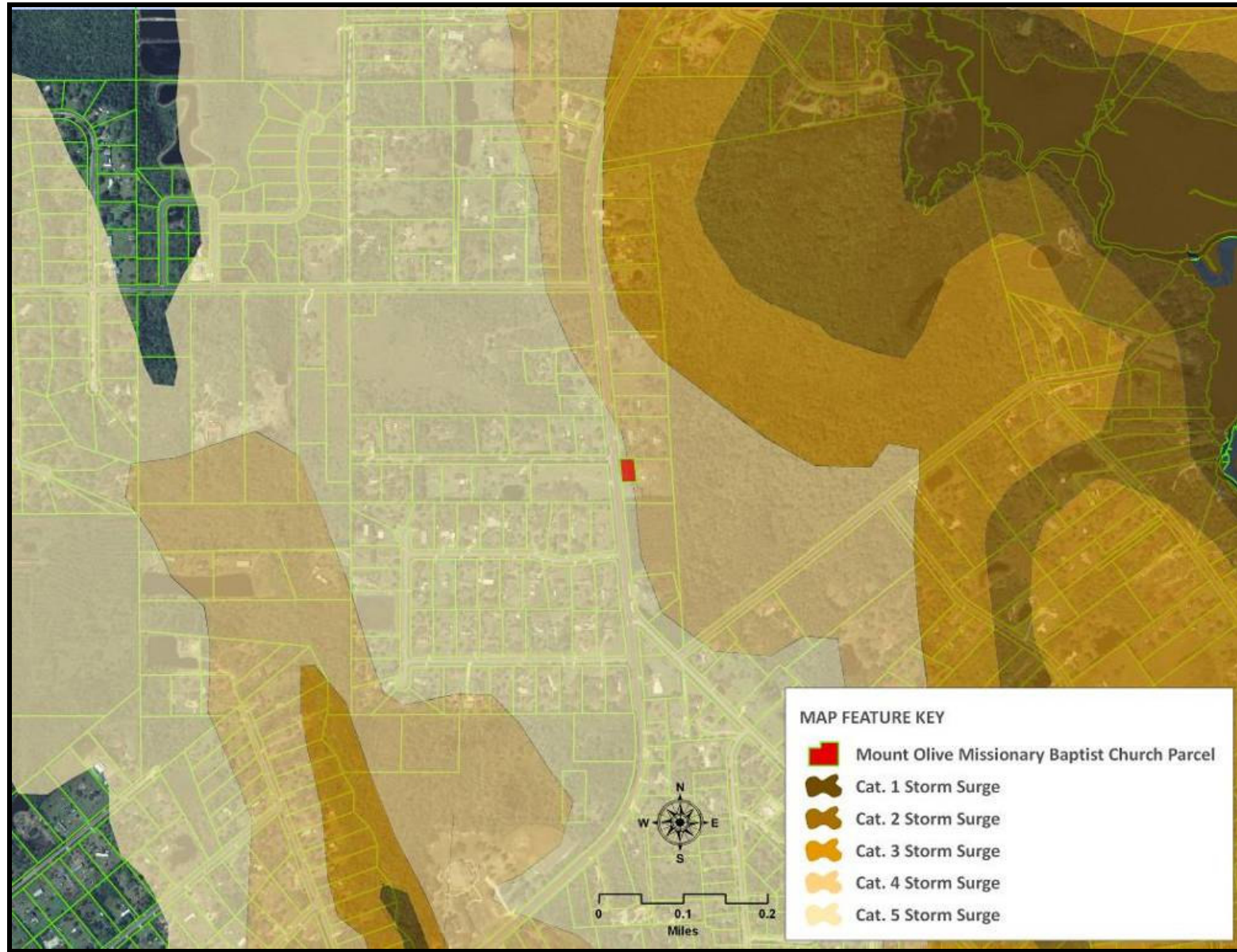


Figure 4.54: Pine Grove Church (Riverine)



Figure 4.55: Pine Grove Church (Storm Surge)

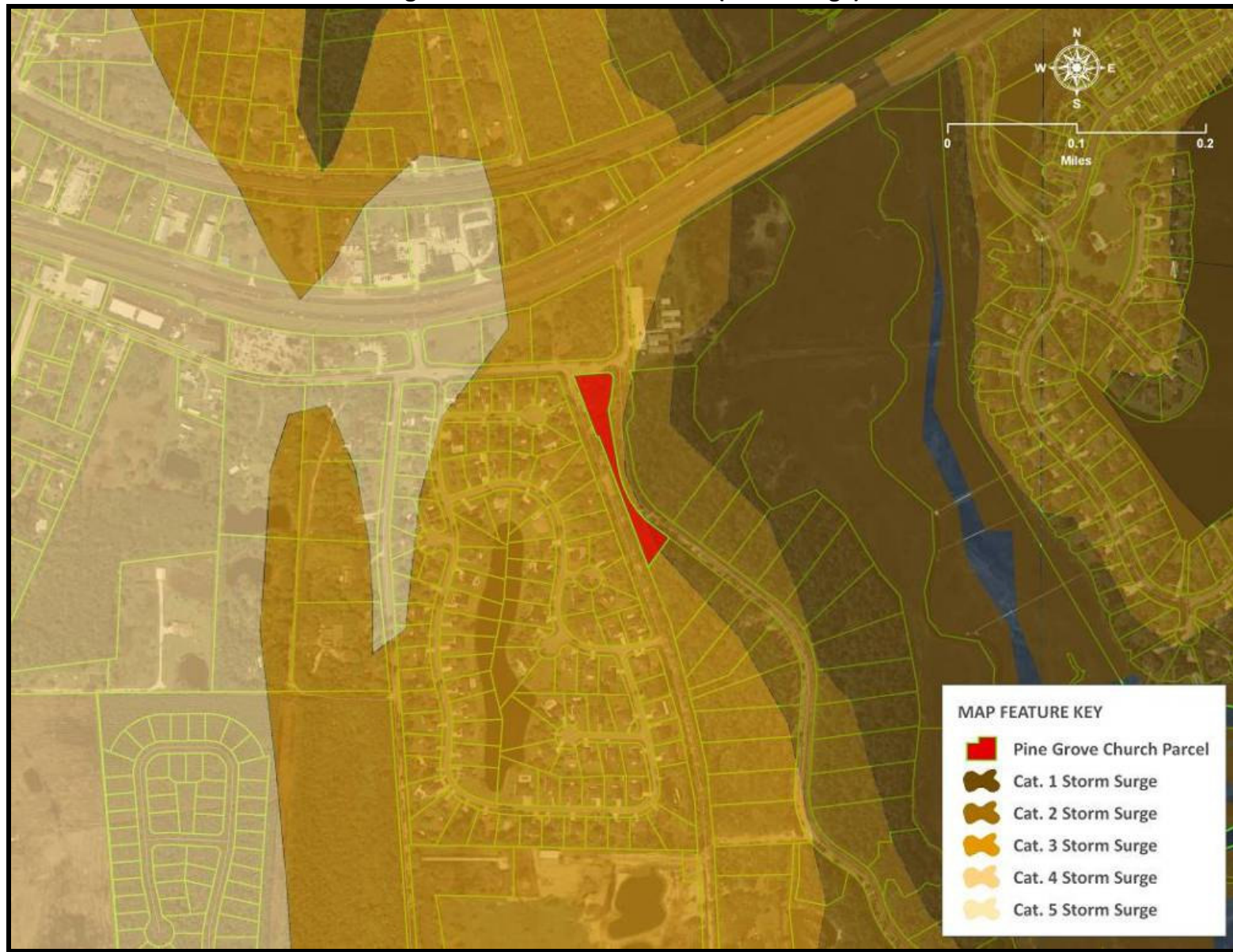


Figure 4.56: Saint James Church

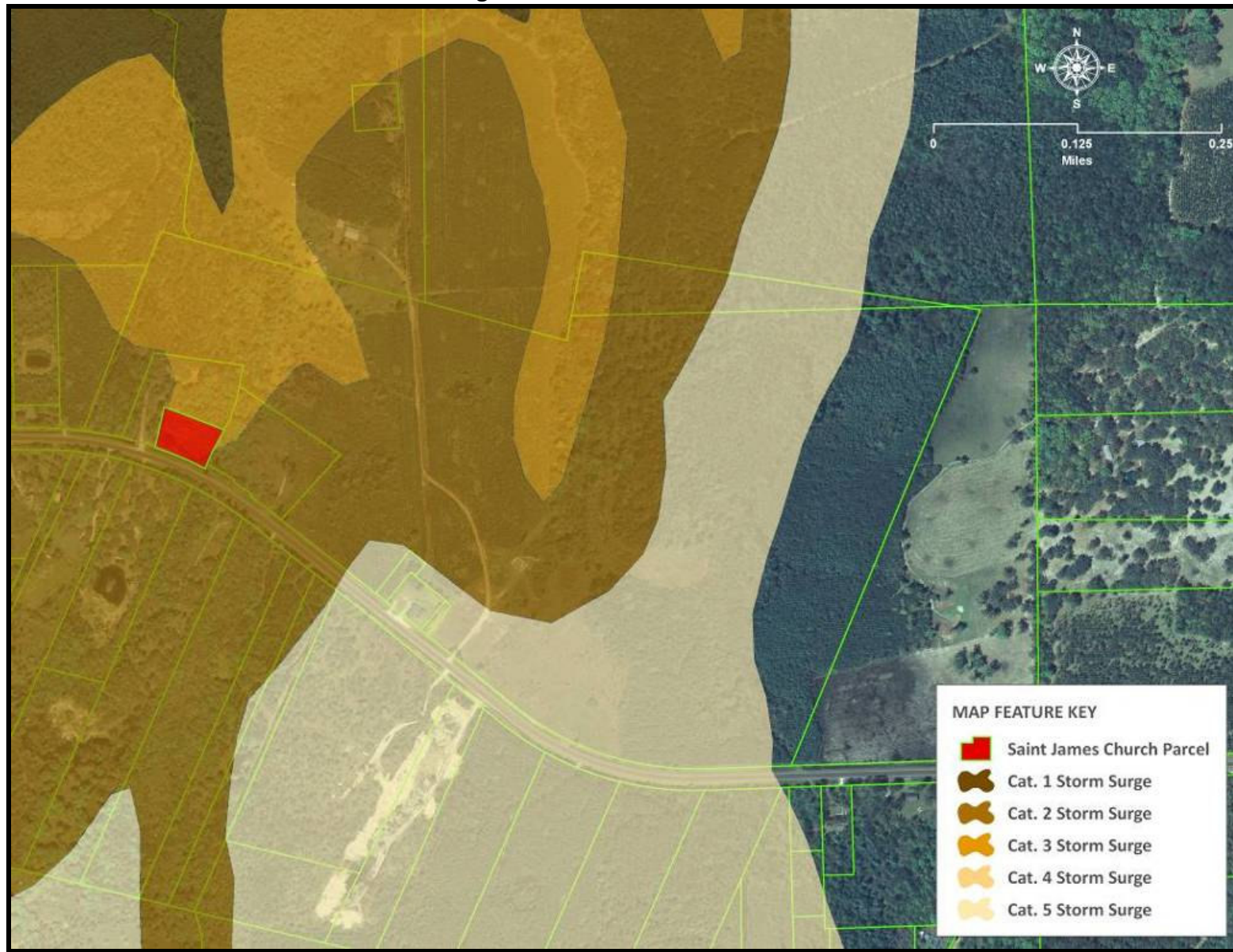


Figure 4.57: Saint Pauls Church



Figure 4.58: Spring Hill Church (Riverine)



Figure 4.59: Spring Hill Church and Prince Chapel (Storm Surge)



4.4.4.4 Loss Estimation for Properties of Cultural Significance

Total Potential Loss

According to GIS analysis, there is a total of approximately \$13,057,903 in property value associated with historic and religious buildings that intersect with the 1% ACF hazard and approximately \$7,281,975 in property value associated with historic and religious buildings that intersect with Category 1, 2 and 3 storm surge inundation areas. These loss estimates are mutually exclusive, as many of the properties exposed to the riverine flood hazard are also exposed to coastal storm surge.

These figures (also presented in Tables 4.24 and 4.28) reflect the improved value associated with the at-risk parcel (i.e., the value of the structure located on the parcel). They do not include the value of the land or the value of individual cultural assets present within the structures (e.g., art, statuary, historic furnishings, photos, records, archives, family heirlooms, memorabilia, military artifacts or armaments, etc.), nor do they account for economic “loss of use” losses as might be the case with bed and breakfast establishments, gift shops, meeting facilities, places that charge admission, etc.

Level of Community Value

There is a **high** level of community value placed on historic and religious properties and cultural resources in Florida, at the state, regional and local levels. This extends to historical, archaeological, museum and folk culture resources and religious buildings. The state’s Bureau of Historic Preservation, for example, invests in and provides architectural preservation, compliance review, survey and registration, master site file, Florida Folklife Program and grant services. There is a widespread belief that Florida’s many cultural resources, including those in Nassau County, contribute significantly to the state’s character and economic base and reflect each community’s distinct heritage.

In addition to the intrinsic community value of religious structures, religious facilities and their members contribute resources after a disaster. These faith-based organizations may provide shelter, feeding, assistance with debris removal and home repairs, childcare and counseling services.

4.4.5 Vulnerability of Environmentally Sensitive Areas

Disasters not only affect buildings and infrastructure, but also impact the natural environment. Surge and flood exacerbate erosion of beaches and rivers, and can also cause secondary hazards such as pollution infiltration of water bodies and other sensitive environmental areas. Flood and surge can transport debris, sewage, chemicals and animal carcasses into these areas. Additionally, extensive development related fragmentation of natural environments has decreased ecosystem resiliency, as storm impacts can have greater, more expensive and long-lasting impacts on coastal resources¹².

Nassau County has a widespread network of waterways, wetlands and unique natural features. There are several wetland areas, which are environmentally sensitive, primarily in the low land areas near the lakes and rivers. These areas accommodate a variety of residential, commercial, industrial and recreational uses. Protection of these unique natural features is important for maintaining the vitality and unique character of the county, and to simultaneously reduce potential damage from natural hazards such as flooding and storm surge.

¹² H. John Heinz III Center for Science, Economics and the Environment, 2000. The Hidden Costs of Coastal Hazards. Island Press. Washington, D.C.

Incorporating disaster resilient and sustainable development practices that include environmental amenities, saves money and lives and enhances the quality of life in the community¹³. Wetlands and riparian areas assist with the absorption of floodwater and prevent erosion. Open space, greenways and parks provide habitat for wildlife, protect streams from pollutants, help maintain water temperatures and protect high risk areas from development. Trees can also reduce the costs of stormwater management, as tree canopy reduces stormwater.

GIS analyses were performed to identify location and number of acres (**Table 4.33**) for the following environmentally sensitive areas in Nassau County that are susceptible to flood and surge, and secondary hazards such as hazardous materials:

- Tidally influenced areas that contain hazardous materials facilities (**Figure 4.60**)
- Wetlands (**Figure 4.61**)
- Aquatic preserves and essential fish habitats (**Figure 4.62**)
- Conservation and wildlife management areas (**Figure 4.63**)
- Conservation Areas For Plants (**Figure 4.64**)
- Conservation areas for vertebrates (**Figure 4.65**)

These areas could be targeted for identifying natural areas that could be impacted by flood and surge hazards, to prioritize redevelopment priorities such as mitigating hazards impacts through conservation.

Table 4.33: Number of Acres of Environmentally Sensitive Areas Located in Known Hazard Zones

Facility	Hazard Zones								
	TOTAL ACRES	Flood Zones (A/AE/VE)	Storm Surge (Cat. 1)	Storm Surge (Cat. 2)	Storm Surge (Cat. 3)	Storm Surge (Cat. 4)	Storm Surge (Cat. 5)	Wild-fire (High)	Wild-fire (Medium)
Category									
Marine NWI Wetland System	237.4	20.3	23.2	0.0	0.5	0.0	0.0	-	-
Estuarine NWI Wetland System	42,499.5	38,758.4	25,369.9	98.4	128.2	2.9	2.1	-	-
Riverine NWI Wetland System	1,040.6	718.5	208.1	0.0	1.8	0.0	0.0	-	-
Lacustrine NWI Wetland System	278.0	135.8	83.4	1.3	20.3	49.6	3.2	-	-
Palustrine NWI Wetland System	94,444.0	51,570.5	11,784.4	1,066.9	3,176.7	5,746.1	8,591.2	-	-
Aquatic Preserves	13,448.7	13,234.2	9,156.6	3.9	21.1	20.6	38.5	-	-
Essential Fish Habitats (includes: Snapper/Grouper, Coastal Migratory Pelagics, Spiny Lobster, Shrimp, Coral, Coral Reef and Live/Hard Bottom)	51,906.4	50,801.3	28,642.4	139.0	300.0	77.86	68.3	-	-
Wildlife Management Areas and Managed Conservation Lands	40,551.4	12,633.3	6,251.2	2,600.4	2,482.3	5,436.4	4,936.4	6,284.4	10,278.9

¹³ Natural Hazards Center, 2005. Holistic Disaster Recovery: Ideas for Building Local Sustainability After a Natural Disaster (482 UCB). University of Colorado. Boulder Colorado.

Table 4.33: Number of Acres of Environmentally Sensitive Areas Located in Known Hazard Zones

Facility	Hazard Zones								
	TOTAL ACRES	Flood Zones (A/AE/VE)	Storm Surge (Cat. 1)	Storm Surge (Cat. 2)	Storm Surge (Cat. 3)	Storm Surge (Cat. 4)	Storm Surge (Cat. 5)	Wild-fire (High)	Wild-fire (Medium)
Agricultural Areas	314,491.0	84,968.9	13,819.3	3,910.6	5,405.1	12,126.3	23,192.1	100,323.2	171,465.0
Plant Habitat Conservation Priority 1 (highest priority)	1,680.9	1,551.0	507.1	17.5	24.4	0.0	0.0	904.8	625.3
Plant Habitat Conservation Priority 2	22.2	0.0	0.0	0.0	0.0	0.0	0.0	15.7	6.3
Plant Habitat Conservation Priority 3	663.6	303.7	2.5	1.0	0.0	0.0	0.0	311.6	250.4
Plant Habitat Conservation Priority 4	13,797.7	13,698.8	12,375.1	75.3	115.4	18.1	9.4	125.2	8,655.6
Plant Habitat Conservation Priority 5	14,223.4	11,740.2	10,623.3	130.0	312.1	403.5	548.7	1,341.5	9,998.6
Plant Habitat Conservation Priority 6 (lowest priority)	73,074.6	15,515.8	2,119.7	600.1	2,507.0	3,294.6	8,421.5	22,586.9	37,328.4
Vertebrate Habitat Conservation Priority 1 (highest priority)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vertebrate Habitat Conservation Priority 2	33,780.5	26,651.3	21,377.6	158.4	194.9	713.0	209.3	4,477.4	20,544.8
Vertebrate Habitat Conservation Priority 3	1,231.3	312.1	537.6	155.7	296.7	4.3	1.7	105.9	725.7
Vertebrate Habitat Conservation Priority 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vertebrate Habitat Conservation Priority 5 (lowest priority)	48,635.3	32,559.8	6,553.4	645.6	2,827.6	4,060.1	5,207.3	24,965.3	18,461.8

Figure 4.60: Tidally Influenced Areas That Contain Hazardous Materials Facilities

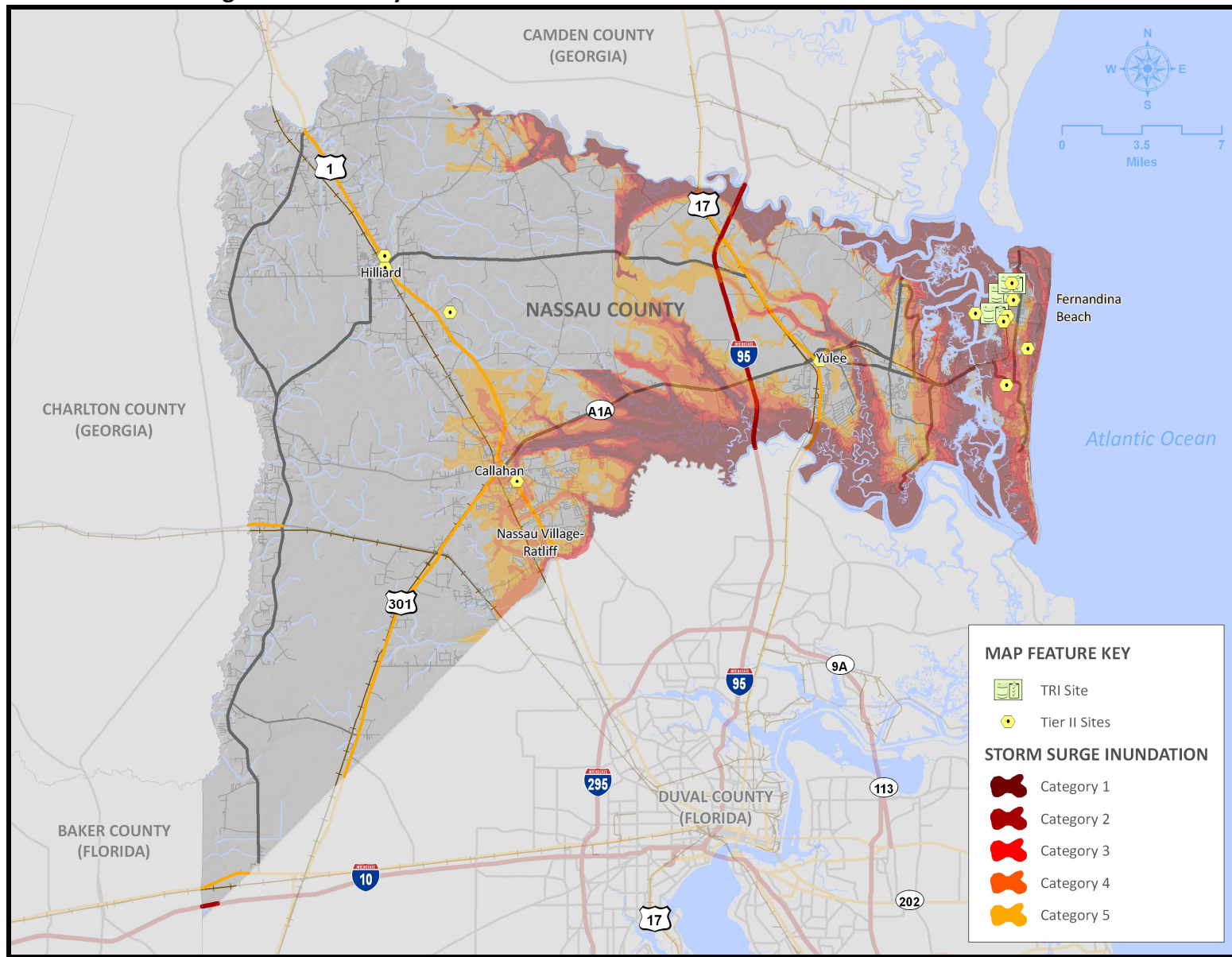


Figure 4.61: Nassau County Wetlands

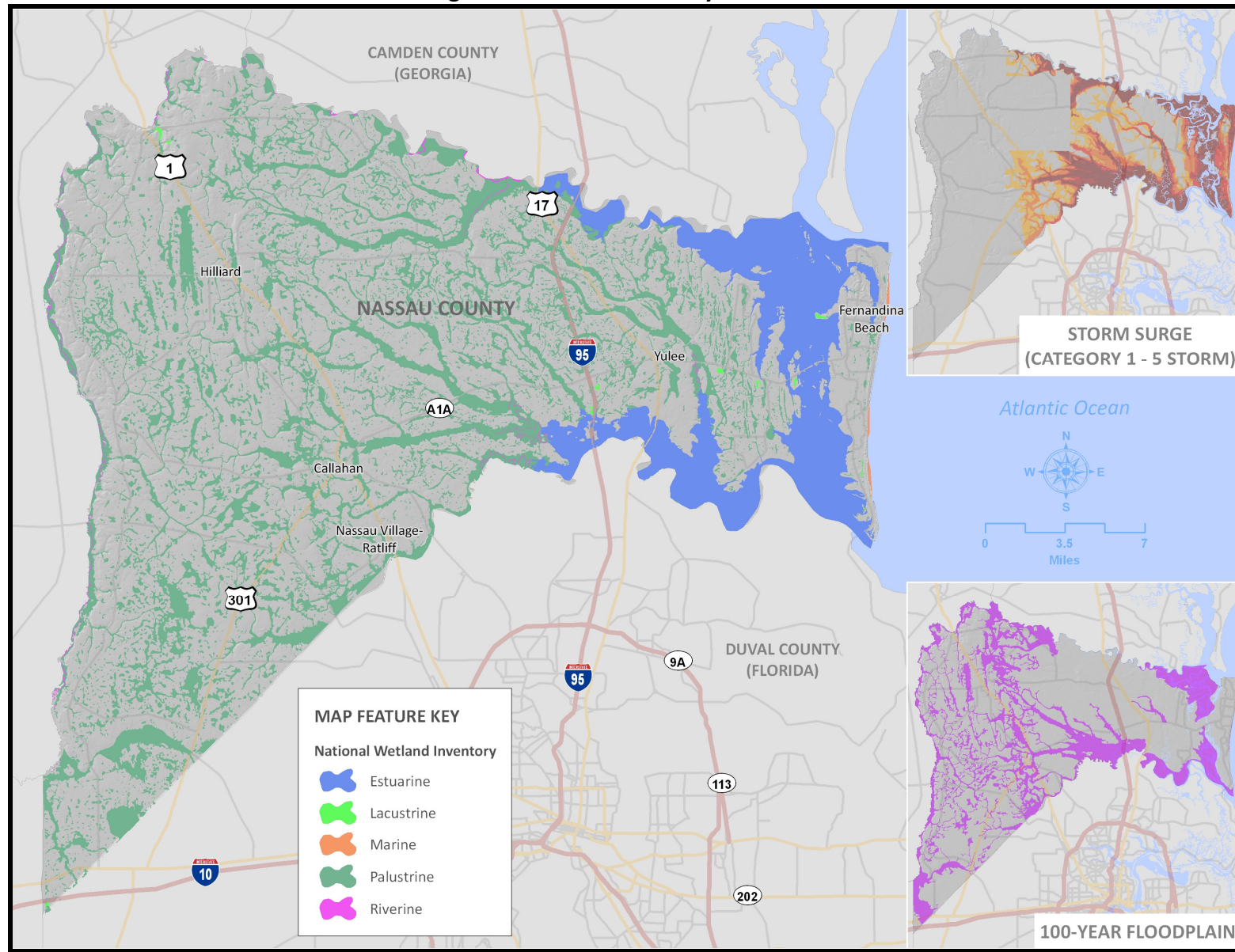


Figure 4.62: Aquatic Preserves And Essential Fish Habitats

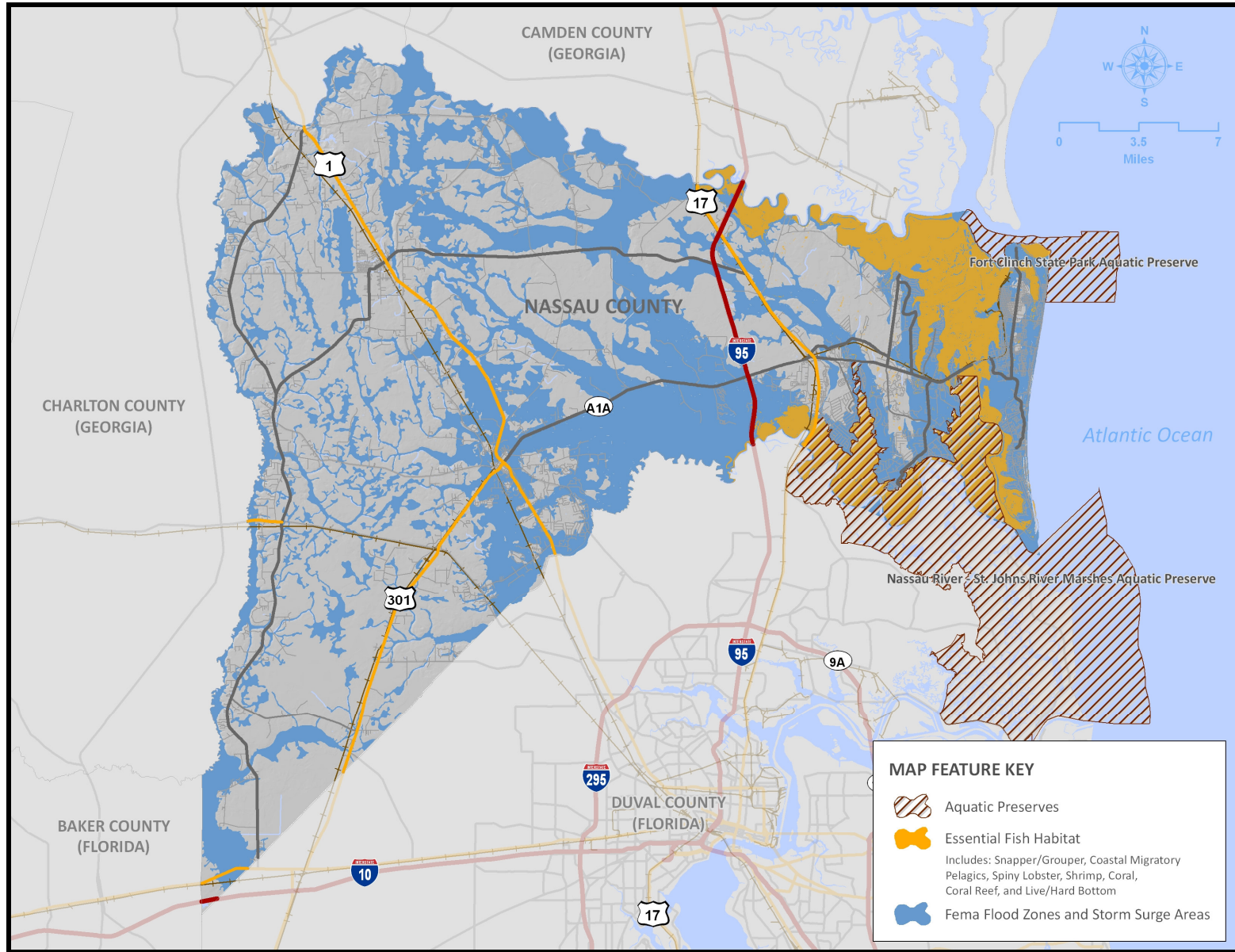


Figure 4.63: Conservation and Wildlife Management Areas

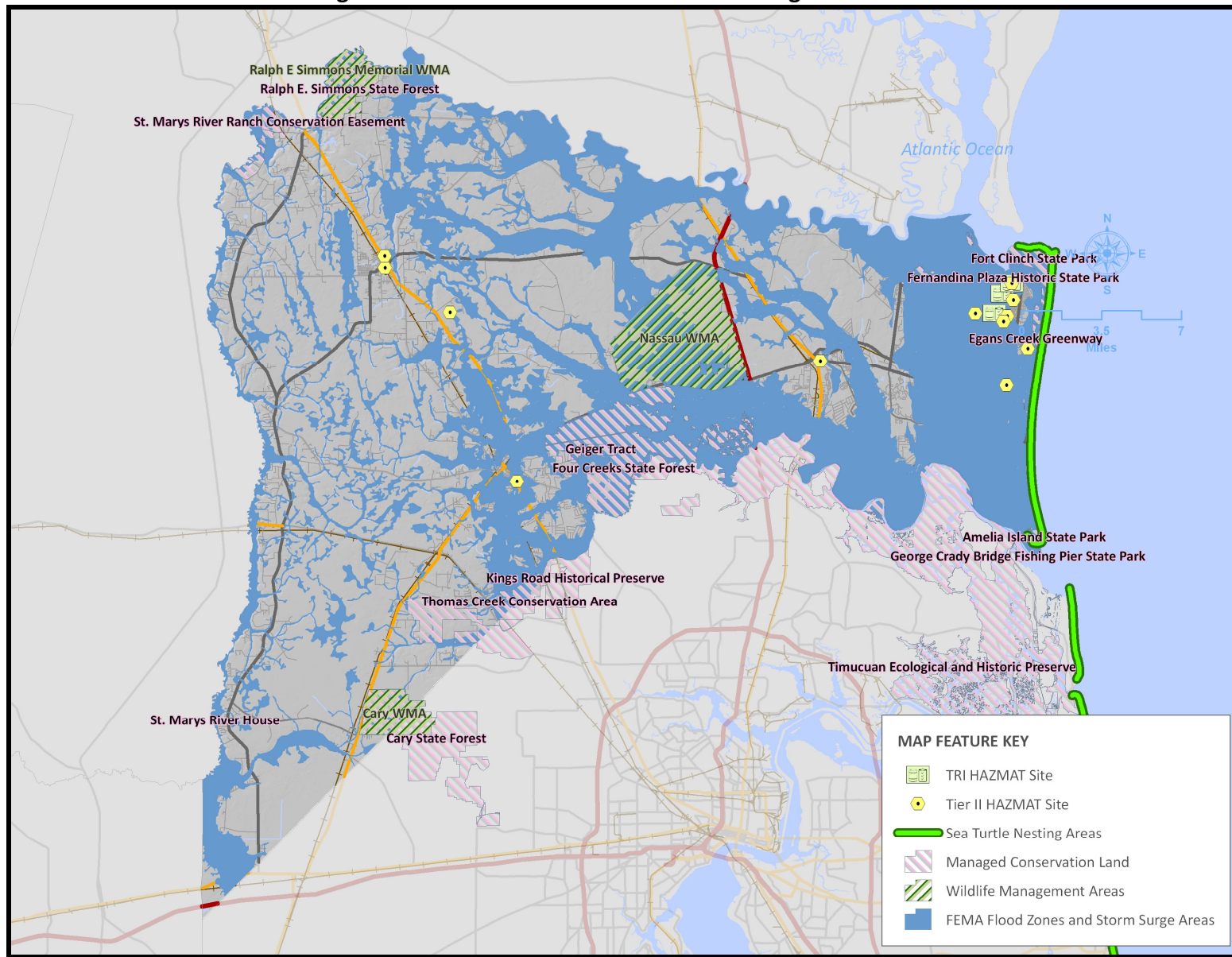


Figure 4.64: Conservation Areas For Plants

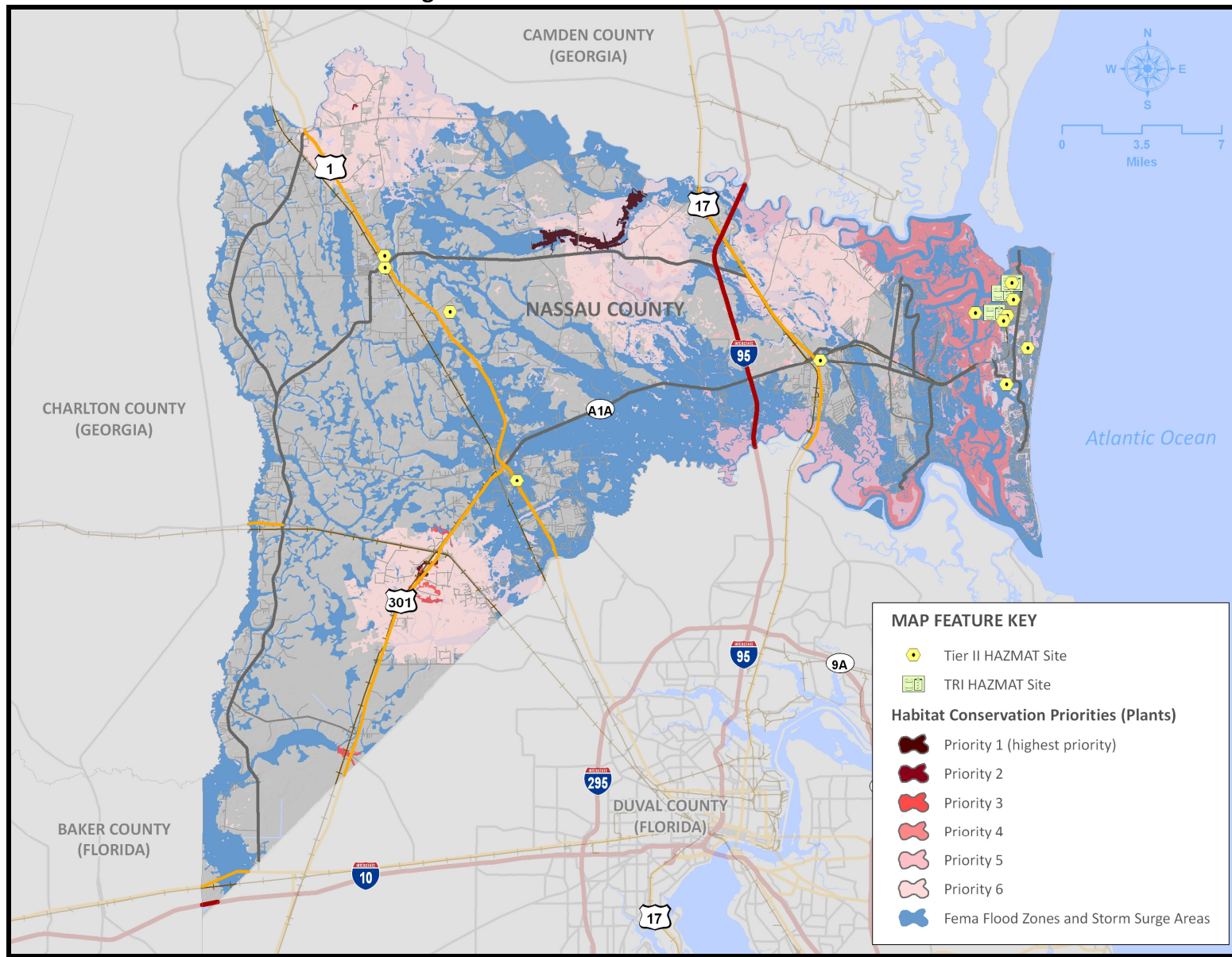
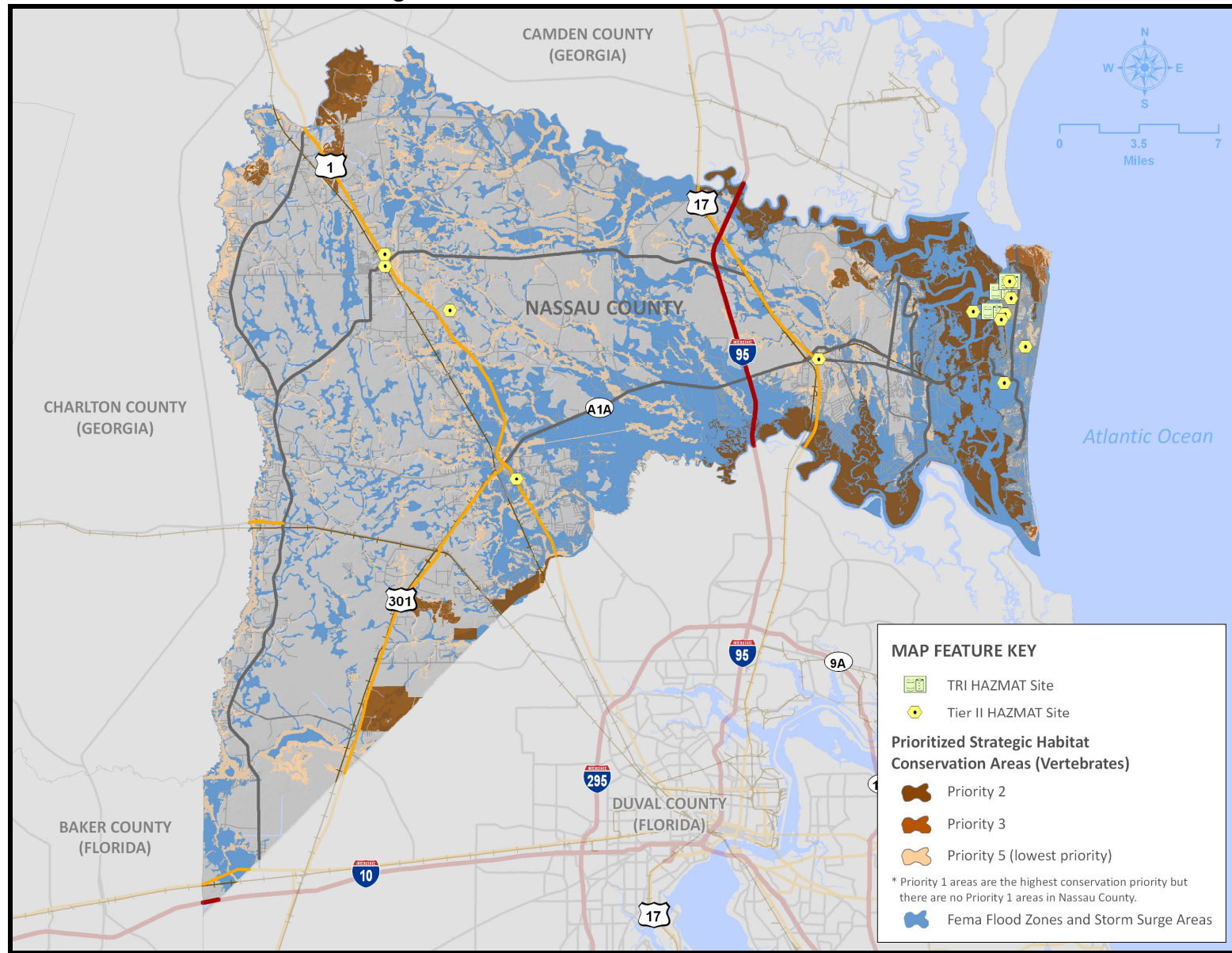
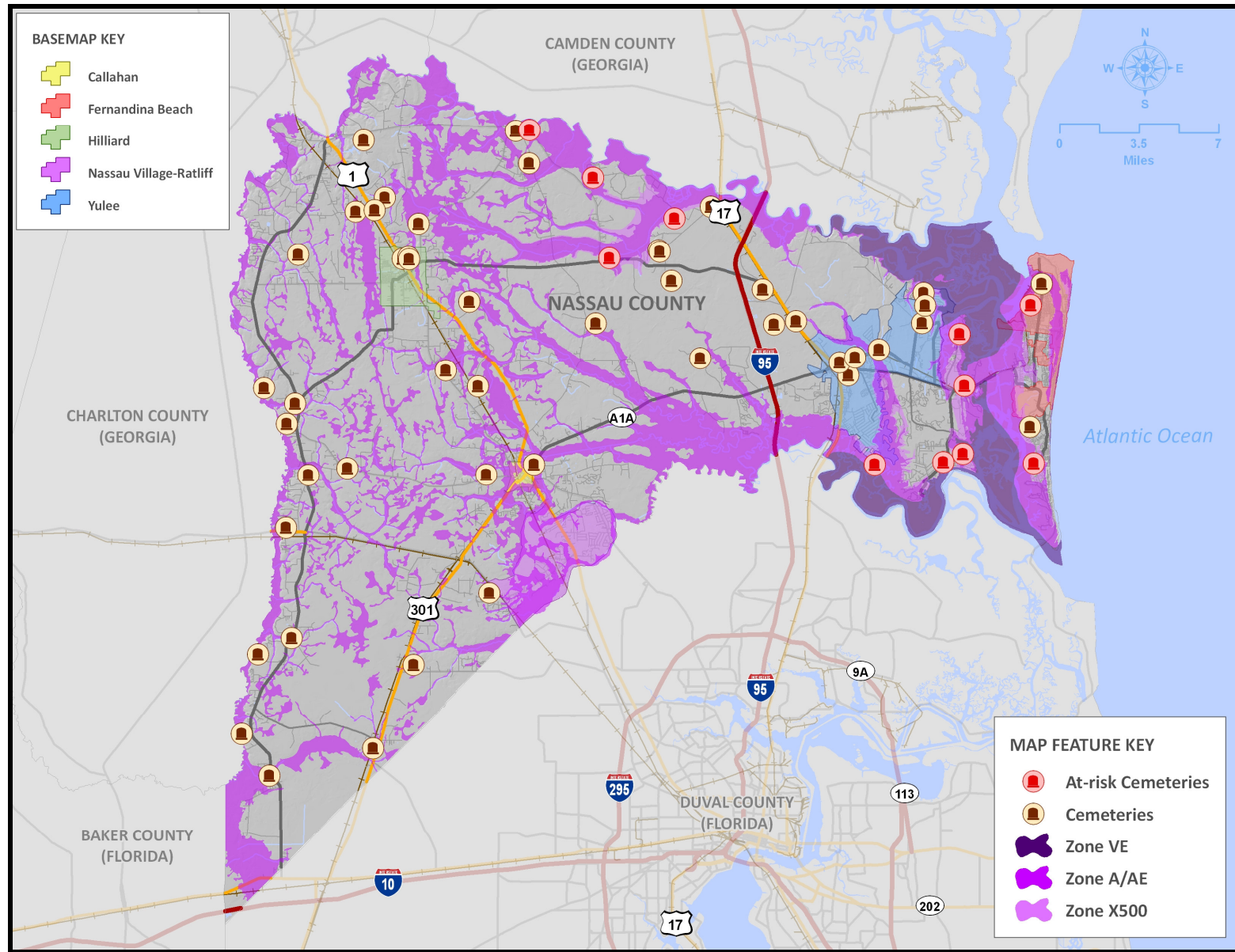


Figure 4.65: Conservation Areas For vertebrates



4.4.6 Cemeteries

Cemeteries have been known to flood in low lying areas during disasters, such as Hurricane Floyd in North Carolina. Flooding can unearth coffins and float them away, creating the need for collection, refrigerated storage and re-interment of the remains, as well as cause potential public health and safety issues. There are 11 cemeteries that are vulnerable to flooding in Nassau County, as shown in **Figure 4.66.**, and four of these are historic. It is important to create as best an inventory of these grave sites as possible to identify the person and their next of kin, if possible.



4.5 Considerations for Short Term Recovery Operation Sites

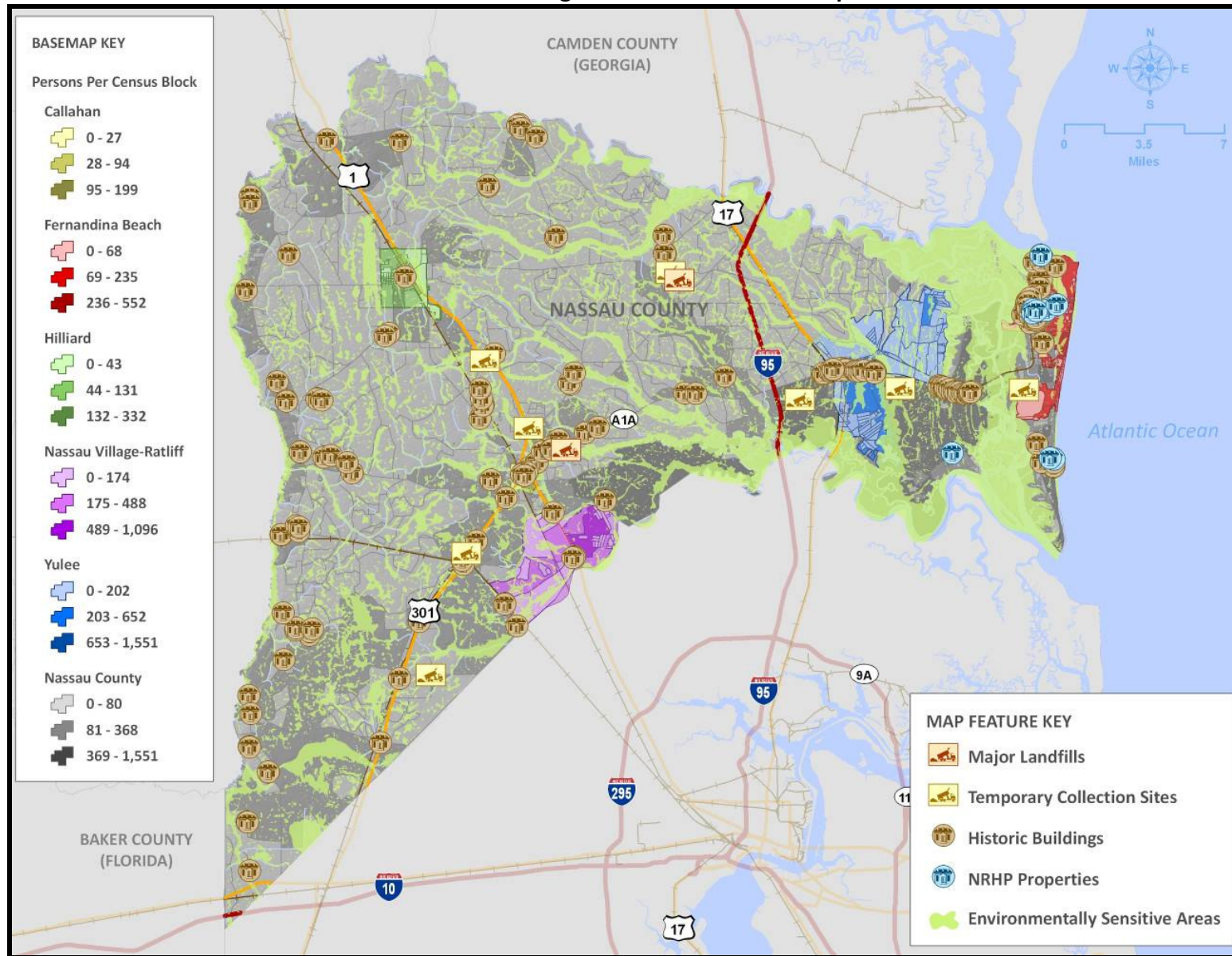
After a disaster, there are open areas that are used for various post-disaster short term recovery operations such as debris operations, resource staging and temporary housing (which can be in place for several years).

It is important to consider where these sites are being located to ensure that the same site is not being perceived for use for multiple operations (e.g., temporary housing and staging), will not conflict with environmental regulations, pose damage to historic districts or sites, nor cause unintended harm or hamper the overall recovery and long term redevelopment process. For example, it might seem prudent to locate a temporary debris staging and reduction site near an urban area. However, vegetative (woody) debris piles that sit for a while can catch on fire, and threaten nearby areas that are developed or are being redeveloped.

4.5.1 Debris Operation Sites

A GIS analysis was conducted to identify the locations of debris staging sites and their proximity to historic districts and environmentally sensitive areas as shown on **Figure 4.67** (i.e., marshes and water bodies).

Figure 4.66: Debris Sites Map



4.5.2 Temporary Housing Sites

After a disaster, there will likely be the need for temporary housing for residents and the disaster recovery workforce. Nassau County has Disaster Housing Standard Operating Guidelines in place that have identified several types of temporary housing, including public and private housing units, rental property, hotel rooms, other vacant housing and vacant property that could be quickly converted to support temporary housing such as recreational vehicles and manufactured homes.

It is important to assess vacant property that is being considered for a large scale temporary housing site, with regard to several factors such as: existing or easily installed road access and utilities, proximity to victims' neighborhoods and employers, floodplain and environmental requirements, zoning, permitting, site preparation, and the need to restore the site to pre-disaster condition. It is also essential to identify whether the site that is going to be used for temporary housing, which is not always temporary (can exist for several years), may need to be used for long-term development or redevelopment in the near future. If so, a temporary housing site could obstruct breaking ground on the long-term project.

Nassau County Emergency Management Department, County Housing Group has been tasked with the development of a database of potential temporary housing site locations. The following types of sites are being considered: county, municipal and private parks; vacant public and private property; vacant spaces in existing mobile home parks; and fairgrounds, parking lots and golf courses.

4.6 Development Trends and Implications

4.6.1 Analysis of Current and Future Vulnerability Based on Land Use

4.6.1.1 Current Land Use

Table 4.34 provides the existing Nassau County unincorporated land use in hazard areas, based on the 2008 parcel data from the Nassau County property appraiser. Nearly half of the residential acres are in either a flood zone or a medium wildfire potential area. Approximately 13 percent of government and public use acreage is in a floodprone area and 92 percent is in wildfire prone area. Nearly 30 percent of Planned Unit Developments are in a floodprone area and nearly 84 percent are in a wildfire susceptible area. Countywide, about 90 percent of the land is classified as Open Rural, of which 30 percent is vulnerable to flood and 85 percent is vulnerable to wildfire.

Table 4.34: Number of Acres in Existing Land Use Categories Intersecting Known Hazard Areas									
Facility	Hazard Zones								
	TOTAL ACRES	Flood Zones (A/AE/VE)	Storm Surge (Cat. 1)	Storm Surge (Cat. 2)	Storm Surge (Cat. 3)	Storm Surge (Cat. 4)	Storm Surge (Cat. 5)	Wild-fire (High)	Wild-fire (Medium)
Commercial	2,151.3	606.7	18.3	26.0	198.1	689.5	356.0	377.9	977.0
Government/Public Use	3,186.3	420.9	3.3	0.0	5.2	27.0	454.2	826.6	2,099.1
Industrial	401.1	41.8	31.4	12.9	5.3	0.0	0.1	150.3	146.7
Marsh	15,925.8	15,897.5	12,604.8	92.0	95.2	27.1	0.0	192.8	9,203.5

Table 4.34: Number of Acres in Existing Land Use Categories Intersecting Known Hazard Areas

Facility	Hazard Zones								
	TOTAL ACRES	Flood Zones (A/AE/VE)	Storm Surge (Cat. 1)	Storm Surge (Cat. 2)	Storm Surge (Cat. 3)	Storm Surge (Cat. 4)	Storm Surge (Cat. 5)	Wild-fire (High)	Wild-fire (Medium)
Open Rural	356,951.3	108,965.6	26,724.7	4,788.1	7,802.2	16,413.1	29,134.6	110,922.3	193,677.4
Planned Unit Development	6,800.4	2,030.9	551.4	201.1	1,183.2	1,296.7	525.8	1,689.9	4,000.4
Recreation Open Space	29.1	18.6	8.0	3.5	9.9	7.3	0.0	1.6	16.8
Residential	11,145.9	4,833.5	1,351.3	737.8	2,480.1	2,182.6	1,317.6	1,932.9	4,978.9

Table 4.35 provides the Nassau County municipal existing land use in hazard areas, based on 2004 Florida Department of Revenue.

Table 4.35: Total Land and Existing Vacant Land in Hazard Areas by Municipal Jurisdiction

Jurisdiction		Coastal High Hazard Area (CHHA) = Surge Zone 1		Hurricane Vulnerability Zone (HVZ) = Surge Zones 1-3		100-Year Floodplain = A Zones and V Zones		Wildfire Susceptible Areas = High and Medium Fire Protection	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Callahan	Acres	0.0	0.0	0.0	0.0	352.5	61.5	0.0	0.0
	%	0.0	0.0	0.0	0.0	14.0	10.9	0.0	0.0
Fernandina Beach 7,169.7 ac.	Acres	2,379.9	78.2	4,770.0	242.2	2,240.2	106.7	3,721.5	181.2
	%	33.2	1.1	66.5	3.4	31.2	1.5	51.9	2.5
Hilliard	Acres	0.0	0.0	0.0	0.0	193.5	26.3	122.2	86.5
	%	0.0	0.0	0.0	0.0	7.7	4.7	100.0	100.0

4.6.1.2 Future Land Use

As Nassau County grows, additional pressure will be placed upon vacant and undeveloped lands, some of which are in hazard vulnerability areas.

A GIS analyses was performed to identify the developed and vacant acreage by future land use classifications in flood, surge and wildfire hazard areas for the unincorporated areas of Nassau County, as indicated in **Table 4.36**. Per House Bill 1359, the State of Florida has required that local governments redefine the Coastal High Hazard Area as the Category 1 Surge Inundation area. This change will impact development throughout the County and will have implications on redevelopment following a disaster.

Currently, there are 2,250 acres in the CHHA that are vacant, with the majority being slated for agricultural use. If this land use classification is changed to allow for development, considerations should be made to ensure that vulnerability to people and property is minimized.

Most of the 3,400 acres of vacant land in the Hurricane Vulnerability Zone, which includes Category 1-3 Surge inundation areas, is classified as conservation. For the 850 acres that are intended for commercial or residential development, surge vulnerability reduction measures should be considered.

Of the 9,400 acres of vacant land in the 100-Year Floodplain, most are agricultural and approximately 2,400 can be developed for residential or multi-use purposes. Flood hazard vulnerability reduction measures should be considered in these areas.

There are over 33,000 vacant acres that are vulnerable to wildfire, of which nearly two-thirds is agricultural. Over 6,800 acres are to be developed for residential buildings, which presents an opportunity to implement wildfire vulnerability reduction measures such as those included in the Firewise Program¹⁴.

Table 4.36: Total Unincorporated Acres in Hazard Areas by Future Land Use Category

Future Land Use Category		Coastal High Hazard Area (CHHA) = Surge Zone 1		Hurricane Vulnerability Zone (HVZ) = Surge Zones 1-3		100-Year Floodplain = A Zones and V Zones		Wildfire Susceptible Areas = High and Medium Fire Protection	
		Total	Vacant	Total	Vacant	Total	Vacant	Total	Vacant
Agriculture 317,978.8 ac.	Acres	21,551.1	2,007.2	30,582.8	2,480.8	91,992.1	6,755.4	273,364.8	23,992.2
	%	6.8	0.6	9.6	0.8	28.9	2.1	86.0	7.5
Commercial 2,370.1 ac.	Acres	51.5	4.3	385.7	162.8	296.5	103.1	1,365.3	512.1
	%	2.2	0.2	16.3	6.9	12.5	4.3	57.6	21.6
Conservation (I & IV) 26,089.1 ac.	Acres	16,218.9	86.4	17,083.2	86.4	20,961.6	95.6	18,779.6	123.9
	%	62.2	0.3	64.5	0.3	80.34	0.4	72.0	0.5
Residential (High, Medium, Low Density) 39,842.7 ac.	Acres	2,345.0	0.0	8,510.0	0.4	9,258.3	2,083.1	31,033.3	6,820.3
	%	5.9	0.0	21.4	0.0	23.2	5.2	77.9	17.1
Industrial 1,074.9 ac.	Acres	17.2	1.73	31.1	2.3	29.5	3.4	814.7	407.6
	%	1.6	0.16	2.9	0.2	2.7	0.3	75.8	38.0
Multi-Use 1,815.1 ac.	Acres	279.3	151.1	940.0	690.5	637.5	395.1	1,781.1	1,540.4
	%	15.4	8.32	51.8	38.0	35.1	21.8	98.1	84.9
Public Building Grounds 1,277.0 ac.	Acres	0.0	0.0	24.1	0.5	21.5	0.0	893.4	6.1
	%	0.0	0.0	1.9	0.0	1.7	0.0	70.0	0.5
Recreation 608.6 ac.	Acres	62.9	0.00	371.6	0.2	240.6	0.0	385.7	13.0
	%	10.3	0.0	61.1	0.0	39.5	0.0	63.4	2.1
Total 391,056.3	Acres	40,526.0	2,250.7	57,928.5	3,423.1	123,437.6	9,435.7	328,417.9	33,415.6
	%	10.4	0.6	14.8	0.9	31.5	2.4	84.0	8.5

Figures 4.68 through 4.74 show the locations of land use classification in flood, surge and wildfire prone areas for Nassau County and Fernandina Beach.

¹⁴ For more information about the Firewise Program, please visit: <http://www.firewise.org/usa/index.htm>

Figure 4.67: Nassau County Future Land Use Map

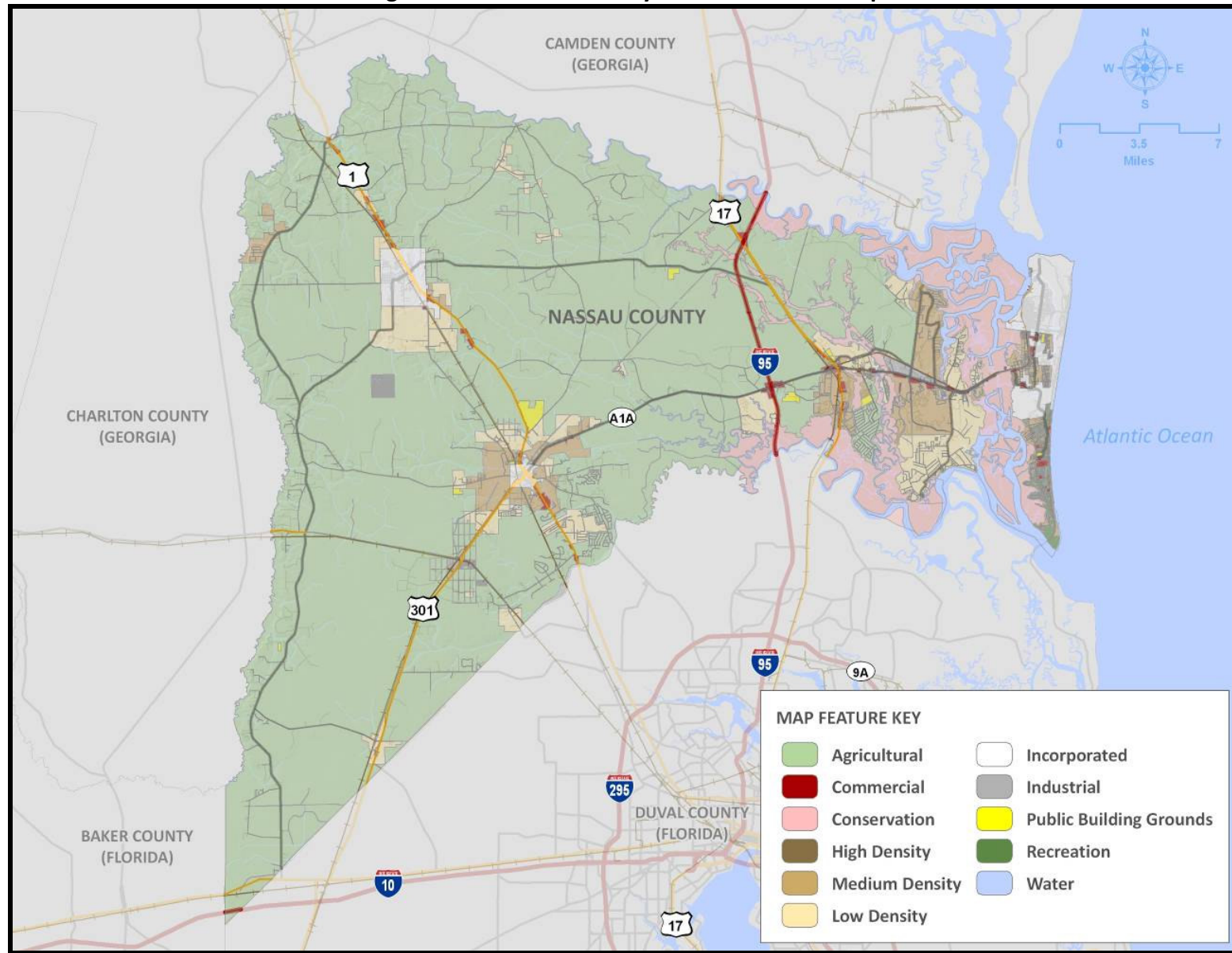


Figure 4. 68: Nassau County Future Land Use Map and Flood Zones

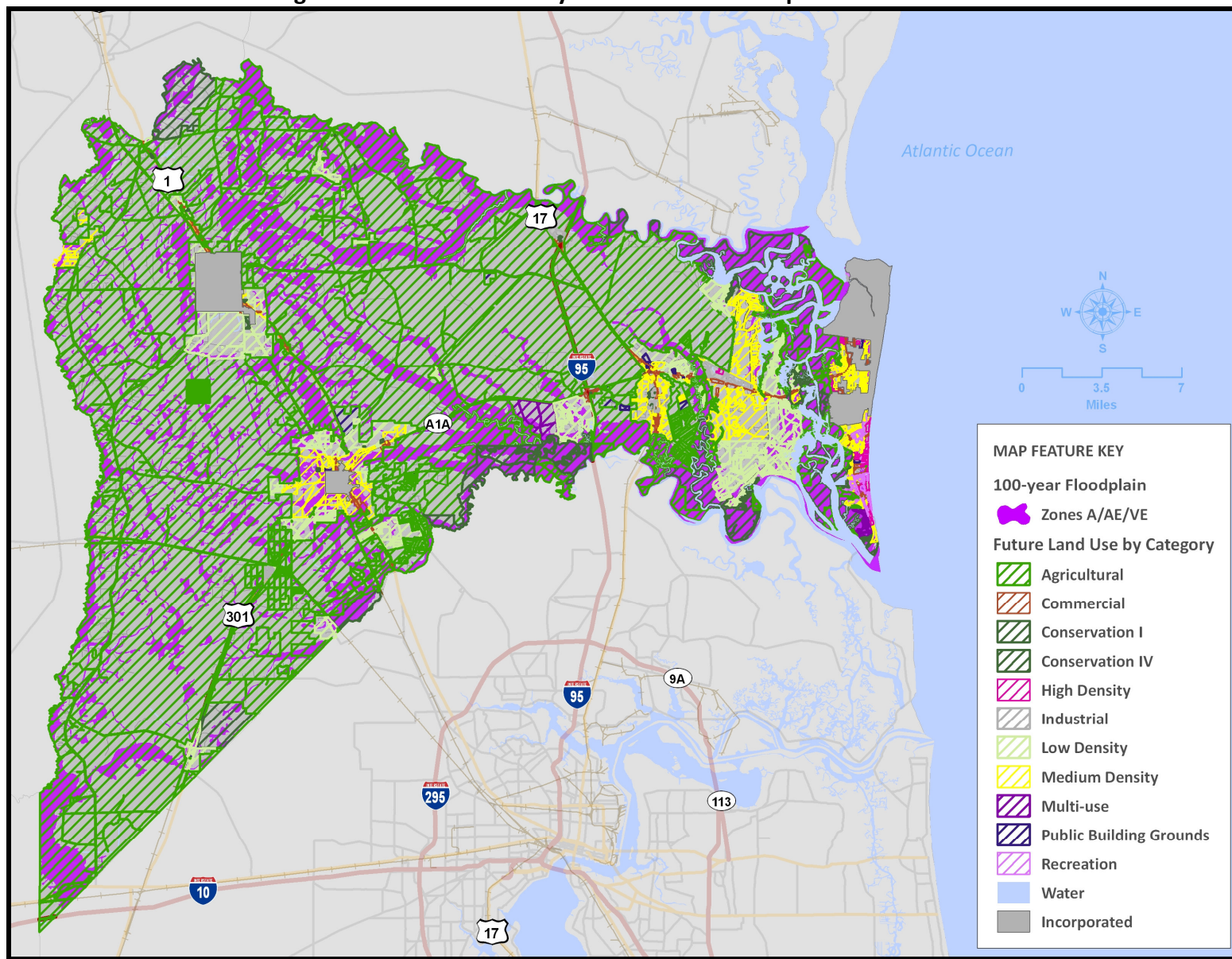


Figure 4.69: Nassau County Future Land Use Map and Surge Zones

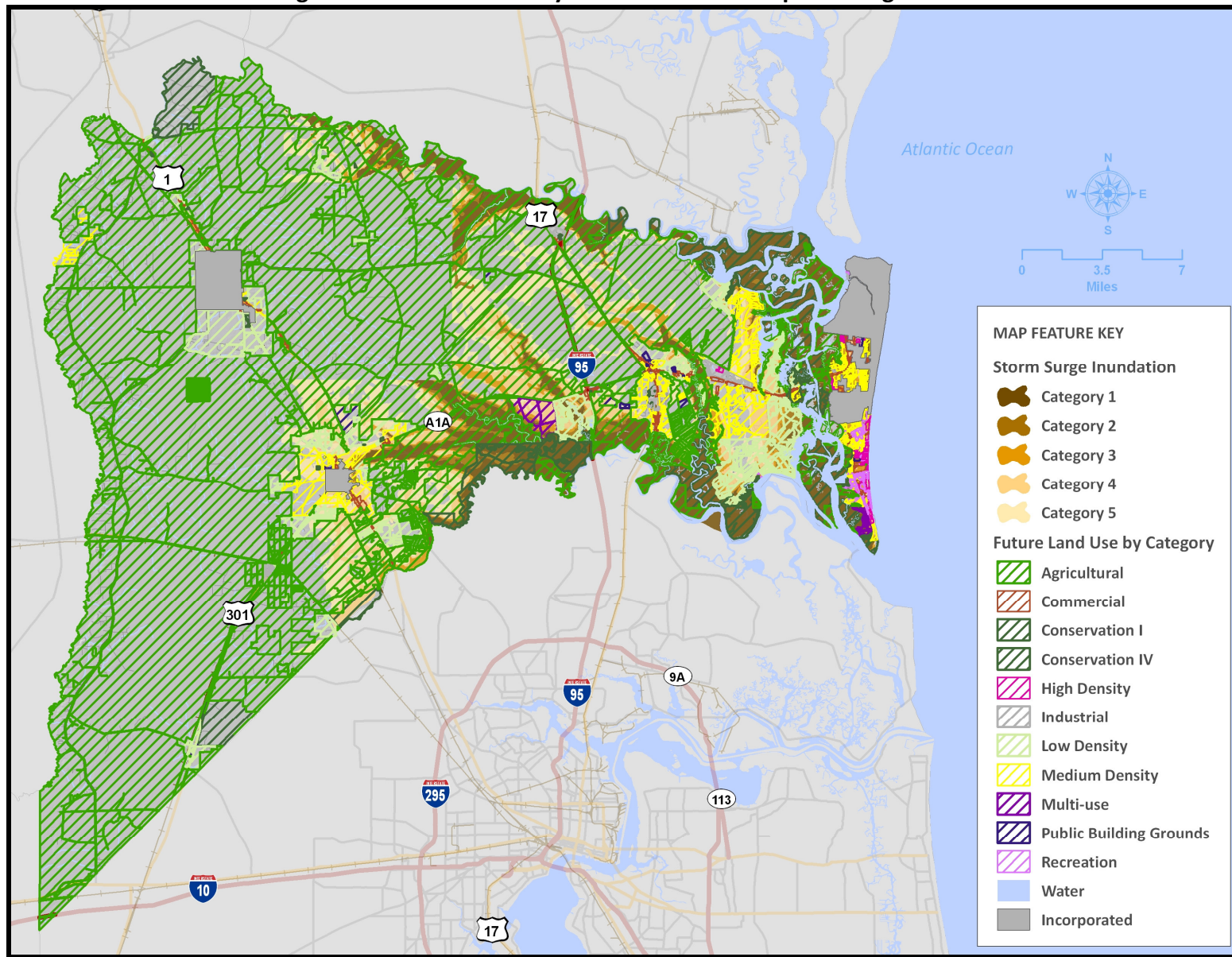


Figure 4.70: Nassau County Future Land Use Map and Wildfire Zones

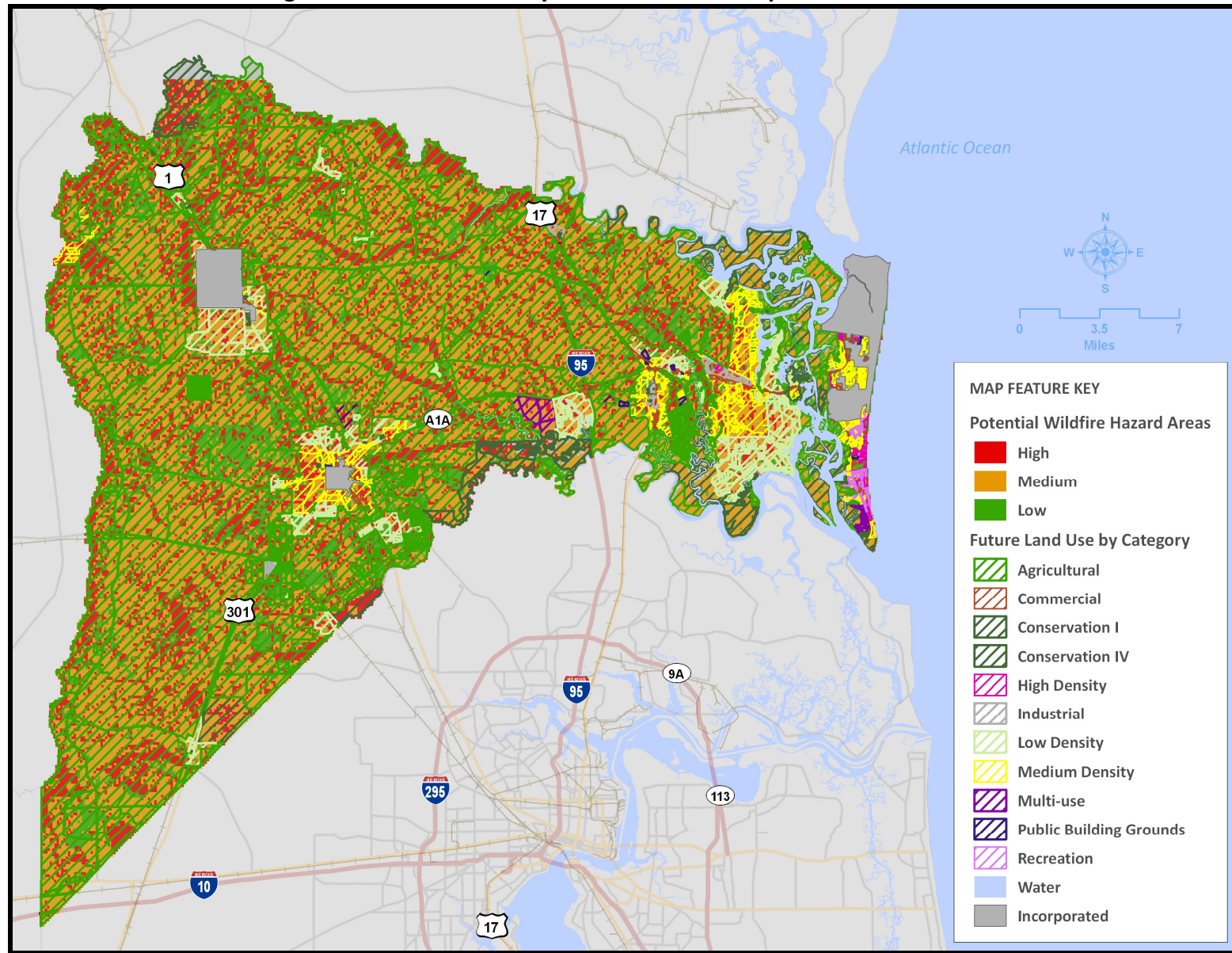


Figure 4.71: Fernandina Beach Future Land Use Map and Flood
ones

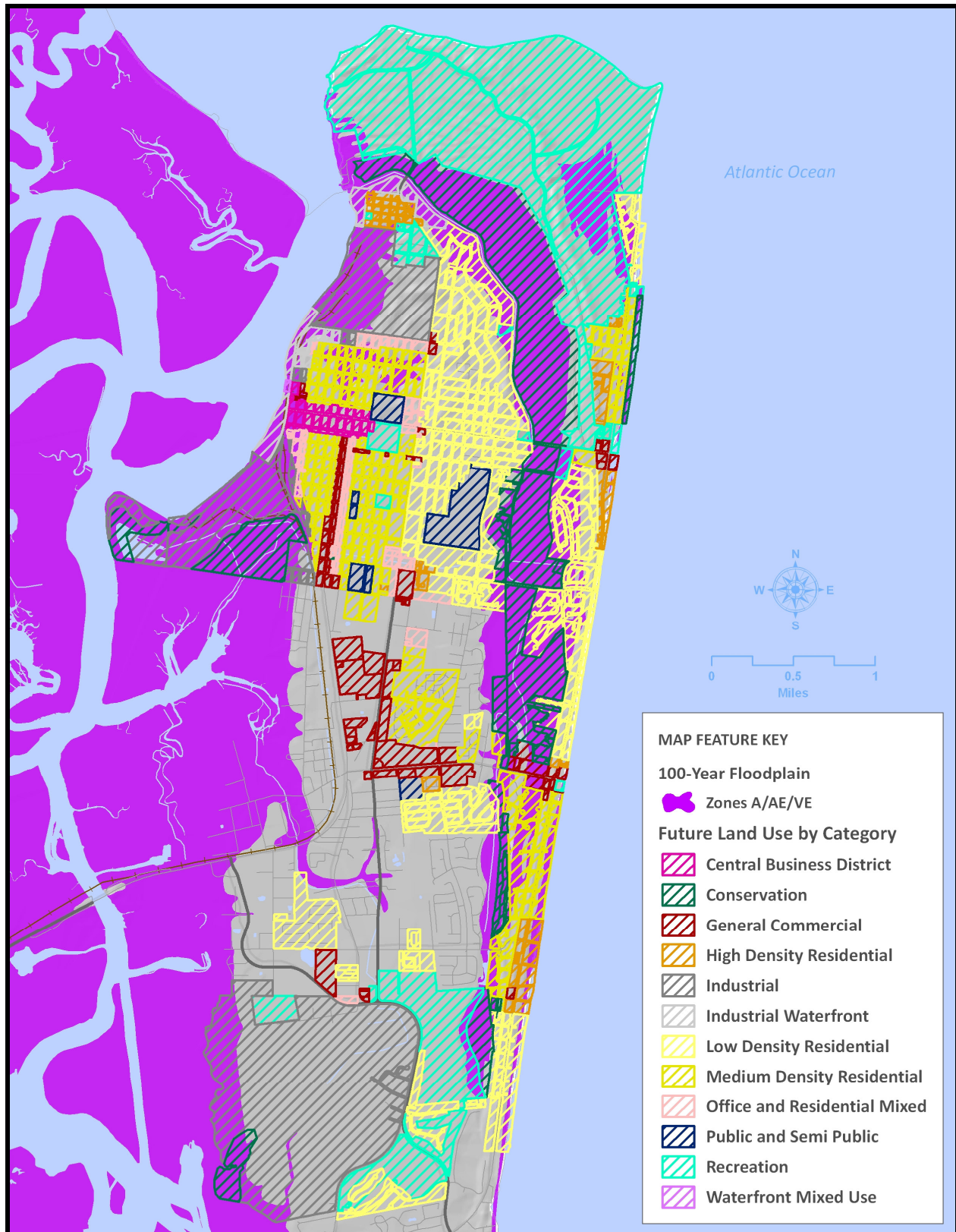


Figure 4.72: Fernandina Beach Future Land Use Map and Surge Zones

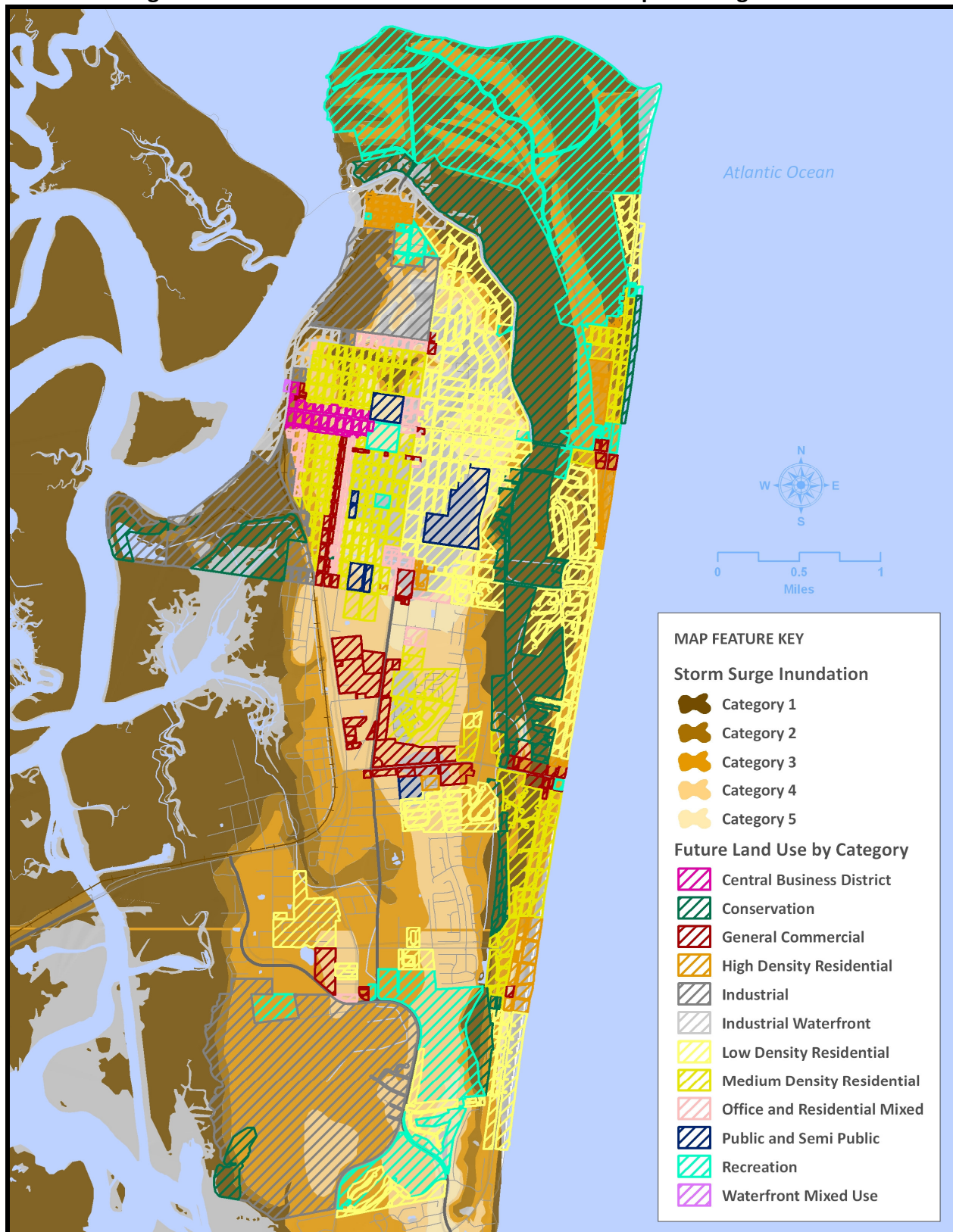
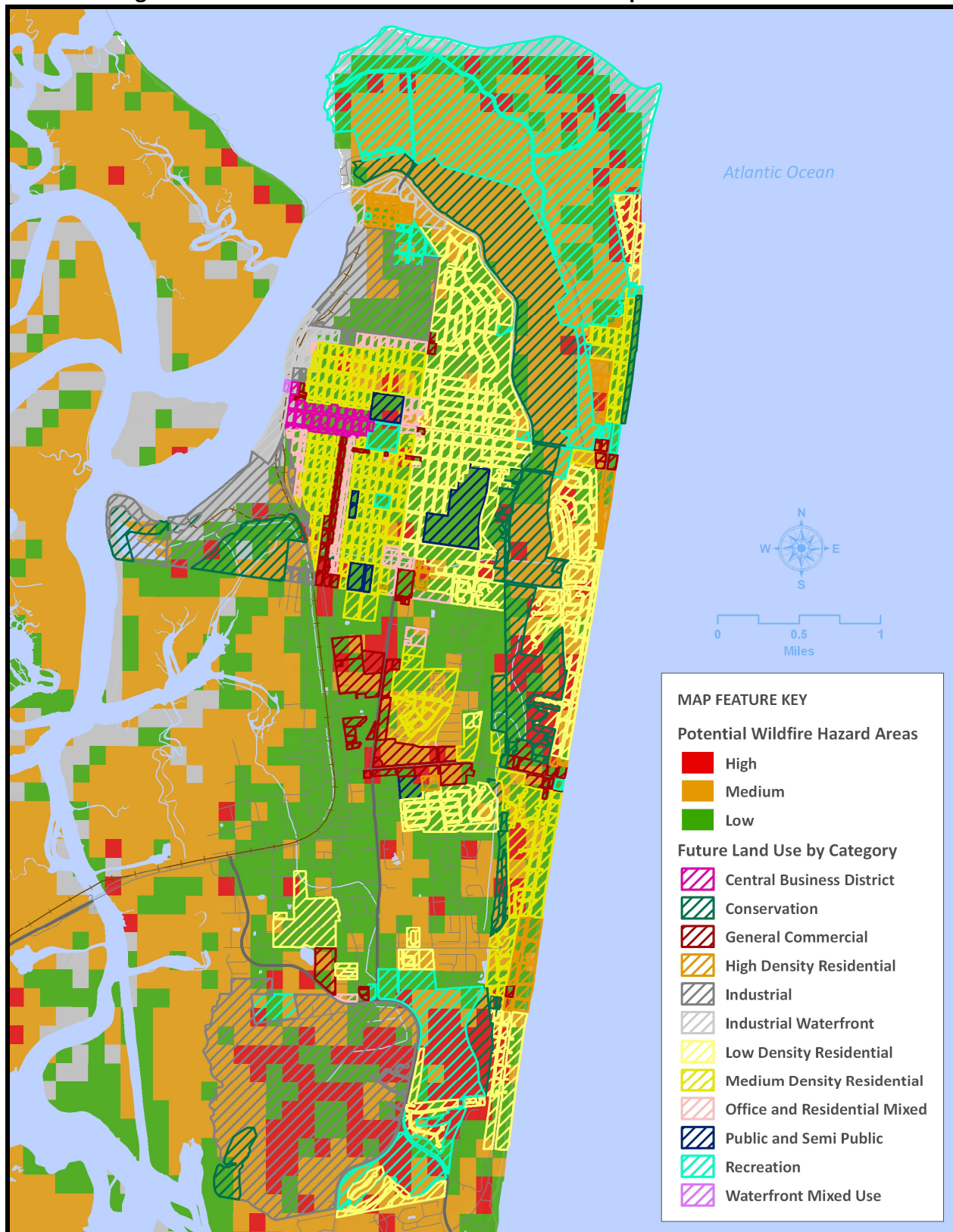


Figure 4.73: Fernandina Beach Future Land Use Map and Wildfire Zones



4.7 Conclusions on Hazard Vulnerability

As evidenced by past disasters and predictions of losses based on current development, the county is most vulnerable to storm surge, flooding, high winds and wildfire.

There are 47,480 parcels with a total building value of over \$5 billion. Nearly 42 percent of this property is vulnerable to Category 1 – 3 storm surge, 25 percent is vulnerable to flood, and 35 percent are in wildfire susceptible areas.

If the 1898 Hurricane were to occur today, it is estimated that about 19,515 or 80 percent of the county's buildings would be at least moderately damaged and 6,821 buildings would be completely destroyed. There have been over 400 NFIP flood losses since 1978.

The population is expected to increase by about 35,000 by 2030 and most of the county is undeveloped. As most of the county is undeveloped, there are opportunities for future development that are sustainable and more disaster resistant. After a major or catastrophic disaster, there will be many challenges to redevelop Nassau County, and there will also be options to reduce hazards vulnerability with siting, construction and creative planning. This vulnerability assessment graphically shows where damages are expected to occur and quantifies how costly the damages are estimated to be.

5.0 CAPABILITY ASSESSMENT

Editorial note: This section is in draft form. Work is still in progress on a number of elements of this section that will be added at a later date. Work to be completed is noted throughout.

This section discusses the capability of Nassau County government and other critical stakeholders to implement a post disaster redevelopment strategy. It consists of the following subsections:

- 5.1 Description of a Capability Assessment
- 5.2 Conducting the Capability Assessment
- 5.3 Capability Assessment Findings
- 5.4 Conclusions on Local Capability
- 5.5 Plan Integration
- 5.6 Recommendations for Improving Institutional Capability

5.1 Description of a Capability Assessment

The purpose of conducting a Capability assessment is to determine the ability of a local jurisdiction to implement a post disaster redevelopment strategy, and to identify potential opportunities for establishing or enhancing specific recovery/redevelopment policies, programs or projects. A capability assessment helps to determine which recovery/redevelopment actions are practical and likely to be implemented over time given a local government's planning and regulatory framework, level of administrative and technical support, amount of fiscal resources and current political climate.

A capability assessment has two primary components: 1) an inventory of a local jurisdiction's relevant plans, ordinances or programs already in place and analysis of their potential impact on post-disaster redevelopment; and 2) an analysis of the jurisdiction's capability to carry them out. Careful examination of local capability will detect any existing gaps, shortfalls or weaknesses with ongoing government activities that could hinder proposed recovery/redevelopment activities and possibly exacerbate community recovery/redevelopment efforts. A capability assessment also highlights the positive steps that have already been taken by the local government to prepare for post-disaster redevelopment, which should continue to be supported and enhanced through future mitigation efforts.

The capability assessment completed for Nassau County serves as a critical planning step and an integral part of the foundation for designing an effective post disaster redevelopment strategy. Coupled with the Vulnerability Assessment, the Capability Assessment helps identify and target meaningful recovery/redevelopment actions for incorporation in the Recovery and Redevelopment Strategy section of the Post Disaster Redevelopment Plan. It not only helps establish the goals and objectives for the County to pursue under this Plan, but also ensures that those goals and objectives are realistically achievable under given local conditions.

5.2 Conducting the Capability Assessment

In order to facilitate the inventory and analysis of the local government capability for Nassau County, a detailed Capability Assessment Questionnaire¹ was distributed to members of Nassau County Government's Growth Management, Emergency Management and Building Departments. The survey questionnaire requested information on a variety of "capability indicators" such as existing local plans, policies, programs or ordinances that contribute to and/or hinder the County's ability to implement recovery and redevelopment actions. Other indicators included information related to the County's fiscal, administrative and technical capabilities, such as access to local budgetary and personnel resources.

At a minimum, the questionnaire results provide an extensive inventory of existing County plans, ordinances, programs and resources in place or under development as of March 2009, in addition to their overall effect on post disaster recovery and redevelopment. In completing the questionnaire, County staff members were also required to conduct a self-assessment of the County's specific capabilities. The questionnaire instrument thereby not only helps accurately assess the degree of local capability, but also serves as a good source of introspection for County departments and agencies that want to improve their capabilities as identified gaps, weaknesses or conflicts can be recast as opportunities for specific actions to be proposed as part of the post disaster recovery and redevelopment strategy.

The information provided in response to the questionnaire was incorporated into a database for further analysis. A general scoring methodology² was then applied to quantify Nassau County's overall capability. According to the scoring system, each capability indicator was assigned a point value based on its perceived relevance to post disaster recovery and redevelopment. Additional points were added based on the County's self-assessment of their own planning and regulatory capability, administrative and technical capability and fiscal capability.

Using this scoring methodology, a total score and general capability rating of "High," "Moderate" or "Limited" could be determined according to the total number of points received. These classifications are designed to provide nothing more than a general assessment of local government capability. The results of this capability assessment lend critical information for developing an effective and meaningful post disaster recovery and redevelopment strategy.

5.3 Capability Assessment Findings

The findings of the capability assessment are summarized in this Plan to provide insight into the relevant capability of Nassau County to implement post disaster recovery and redevelopment activities. All information is based upon the input provided by County Growth Management, Emergency Management and Building Departments staff members through the Capability Assessment Questionnaire and during meetings with the Executive Technical Committee.

1 The Capability Assessment Questionnaire instrument is available through Nassau County upon request.

2 The scoring methodology used to quantify and rank Nassau County's Capability is fully described later in this section of the Plan under Conclusions on Local Capability.

5.3.1 Planning and Regulatory Capability

Planning and regulatory capability is based on the implementation of plans, ordinances and programs that demonstrate a local jurisdiction's commitment to guiding and managing growth, development and redevelopment in a responsible manner, while maintaining the general welfare of the community. It includes emergency response and mitigation planning, comprehensive land use planning and transportation planning, in addition to the enforcement of zoning or subdivision ordinances and building codes that regulate how land is developed and structures are built, as well as protecting environmental, historic and cultural resources in the community. Although some conflicts can arise, these planning initiatives generally present significant opportunities to integrate recovery and redevelopment principles and practices into the local decision making process.

This assessment is designed to provide a general overview of the key planning and regulatory tools or programs in place or under development for Nassau County, along with their potential effect on recovery and redevelopment. This information will help identify opportunities to address existing gaps, weaknesses or conflicts with other initiatives in addition to integrating the implementation of this Plan with existing planning mechanisms where appropriate.

Table 5.1 provides a summary of the relevant local plans, ordinances and programs already in place or under development for Nassau County. A checkmark (✓) indicates that the given item is currently in place and being implemented, or that it is currently being developed for future implementation. Each of these other local plans, ordinances and programs should be considered available mechanisms for incorporating certain elements of the Post Disaster Redevelopment Plan.

Table 5.1: Relevant Plans, Ordinances and Programs						
Planning / Regulatory Tool	In Place	Under Development	Department / Agency Responsible	Effect on Recovery/Redevelopment		
				Strongly Supports	Helps Facilitate	Hinders
Post-Disaster Redevelopment Plan		✓	Growth Management	✓		
Post-disaster Redevelopment / Reconstruction Ordinance						
Comprehensive Land Use Plan (or General, Master or Growth Mgt. Plan)	✓		Growth Management	✓		
Open Space Management Plan (or Parks & Rec./ Greenways Plan)		✓	Growth Management	✓		
Stormwater Master Plan		✓	Engineering Services	✓		
Stormwater Ordinance	✓		Engineering Services	✓		
Flood Response Plan						
Emergency Operations Plan	✓		Emergency Management	✓		
Continuity of Operations Plan	✓		Emergency Management	✓		
Evacuation Plan	✓		Emergency Management		✓	

Table 5.1: Relevant Plans, Ordinances and Programs						
Planning / Regulatory Tool	In Place	Under Development	Department / Agency Responsible	Effect on Recovery/Redevelopment		
				Strongly Supports	Helps Facilitate	Hinders
Hazard Mitigation Plan (Local Mitigation Strategy)	✓		Emergency Management	✓		
Capital Improvements Plan	✓		Office of Management and Budget	✓		
Economic Development Element of Comprehensive Plan	✓		Growth Management	✓		
Economic Development Plan "Nassau County Economic Development Board Business Plan"	✓		Economic Development Board		✓	
Comprehensive Economic Development Strategy for NE FL	✓		Northeast Florida Regional Council	✓		
Historic Preservation or Restoration Plan	✓		City of Fernandina Beach Community Development Department.	✓		
Floodplain Ordinance (or Flood Damage Prevention Ordinance)	✓		Building Dept.	✓		
Zoning Ordinance	✓		Growth Management		✓	
Coastal Management Element of the Comprehensive Plan	✓		Growth Management	✓		
Subdivision Ordinance	✓		Growth Management and Engineering Services			
Unified Land Development Code		✓	Growth Management	✓		
Building Code	✓		Building Department	✓		
Debris Management Plan	✓		Emergency Management	✓		
Temporary Housing Plan	✓		Emergency Management	✓		
National Flood Insurance Program (NFIP)	✓		Building Dept.	✓		
NFIP Community Rating System (CRS Program)		✓	County Coordinator			
Strategic Regional Policy	✓		Northeast Florida Regional Planning Council	✓		

A more detailed discussion on Nassau County's planning and regulatory capability follows, along with the incorporation of additional information based on the narrative comments provided by County staff members in response to the questionnaire.

5.3.1.1 Emergency Management

Recovery is recognized as one of the four primary phases of emergency management. The three other phases include preparedness, response and mitigation. In reality each phase is interconnected as **Figure 5.1** suggests.



Recovery is generally described as the process of taking the steps necessary, following a disaster, to return a community to the condition it was in before the event occurred. There are two general phases of recovery: short-term and long-term. Short-term recovery activities are generally those activities that have to take place following a disaster in order for citizens to return to their homes. They are typically initiated in the County Emergency Operations Center while in emergency response mode. Short-term recovery activities include such functions as: implementing a curfew; conducting impact assessments; re-establishing the critical infrastructure necessary for community reconstruction; re-establishing critical services that meet the physical and safety needs of the community (e.g., water, food, ice, medicine and medical care, emergency access, and continuity of government operations), and coordinating re-entry procedures. Short-term recovery typically does not include reconstruction of the built environment.

Long-term recovery usually involves those activities that are taken in an attempt to return the community to the conditions that existed before the disaster or emergency occurred, preferably while taking advantage of opportunities to mitigate against the impacts of future disasters. Long-term recovery activities can last for many years following a disaster. They include activities such as: redevelopment; environmental preservation and restoration; rebuilding; construction; repairs; and restoration. Economic recovery and business assistance are some of the most important long-term recovery activities that must take place in order for a community to fully recover from a disaster.

Planning for each phase of emergency management is a critical part of a local comprehensive emergency management program and a key to the successful implementation of a post disaster recovery and redevelopment strategy. As a result, the Capability Assessment Questionnaire asked several questions across a range of emergency management plans in order to assess Nassau County's willingness to plan and their level of technical planning proficiency.

Post Disaster Redevelopment Plan: A Post Disaster Redevelopment Plan (PDRP) is a 9J-5.012 Coastal Management Element requirement for coastal communities. A PDRP includes analyses such as existing and proposed land used in coastal high hazard areas, structures with repeated damaged from coastal storms, and infrastructure in coastal high hazard areas. A PDRP identifies policies, operational strategies, and roles and responsibilities for implementation that will guide decisions that affect long-term recovery and redevelopment of the community after a disaster. The plan emphasizes seizing opportunities for hazard mitigation and community improvement consistent with the goals of the local comprehensive plan and with full participation of the citizens. Recovery topics addressed in the plan should include business resumption and economic redevelopment, housing repair and reconstruction, infrastructure restoration and mitigation, short-term recovery actions that affect long-term redevelopment, sustainable land use, environmental restoration, and financial considerations as well as other long-term recovery issues identified by the community.

- This plan serves as Nassau County's first Post Disaster Redevelopment Plan.
- The PDRP will provide policy direction and implementation strategies. There will be a need for flexibility greater than provided by a standing ordinance.

Local Mitigation Strategy (LMS): Also called a hazard mitigation plan, the local mitigation strategy represents a community's blueprint for how it intends to reduce the impact of natural and human-caused hazards on people and the built environment. The essential elements of a local mitigation strategy include a risk assessment, capability assessment, mitigation strategy and the mitigation projects list.

- Nassau County developed the first version of their local mitigation strategy plan in 1999 and has subsequently updated the plan in 2004-2005. The plan is currently undergoing a revision that will be completed in 2009. Because the LMS is being updated at the same time that this plan was being developed, Nassau County staff took the opportunity to integrate certain elements of the *Vulnerability Assessment* developed for this plan into the Risk Assessment for the LMS.
- The Nassau County LMS is reviewed in greater detail earlier in this section under the *Plan Integration* discussion.

Comprehensive Emergency Management Operations Plan (CEMP): The CEMP outlines responsibilities and the means by which resources are deployed during and following an emergency or disaster. The CEMP also establishes command and control of the emergency management program and coordination among municipal, county, state, and federal agencies. Although the CEMP is predominantly an operations plan, the following sections contain elements that are highly relevant to post-disaster redevelopment:

- Nassau County Emergency Management has prepared an Emergency Management Operations Plan to address the County's response to a variety of disasters and emergencies.

Recovery Annex to the Emergency Management Operations Plan: This section of the CEMP establishes the organization and procedures for conducting short-term recovery operations.

- The Nassau County CEMP does contain a Recovery Annex.

Continuity of Operation Plan (COOP): A COOP establishes a chain of command, line of succession, vital records and plans for backup or alternate emergency facilities in case of an extreme emergency or disaster event.

- Nassau County has developed COOps for the Sheriff's Office, Fire/EMS, Emergency Management, 911 Communications, Road & Bridge, Clerk's IT, Clerk's Finance and Supervisor of Elections.

Continuity of Government Plan (COG): A COG Plan identifies how the jurisdiction's constitutional responsibilities will be preserved, maintained or reconstituted. The plan includes identification of succession of leadership, delegation of emergency authority and command and control.

- The Nassau County CEMP contains elements of a COG, including succession of leadership, delegation of emergency authority and command and control. A separate COG is under development.

Debris Management Plan (DMP): The DMP provides the operational and coordination activities to remove, collect and dispose of debris following a disaster. The DMP explains the organizational structure, roles and responsibilities and the concept of operations including debris removal priorities. Debris removal is important to expedite recovery efforts in the affected area and reduce the threat to public health and safety. While debris operations are mainly considered short-term recovery, certain elements (including placement of debris reduction sites) can have impacts on long-term recovery.

- Nassau County has a DMP in place that is discussed in greater detail in the Plan Integration portion of this section.

Temporary Disaster Housing Plan (TDHP): The TDHP establishes the framework for addressing temporary housing for those that are left homeless following a disaster and identifies the key agencies that can be brought together to identify and activate housing resources. This plan is currently being updated as a result of FEMA's recent change in temporary disaster housing policies. While the temporary disaster housing issues are mainly considered short-term recovery, certain elements (including location of the temporary housing sites) can have impacts on long-term recovery.

- Nassau County has a TDHP in place that is discussed in greater detail in the Plan Integration portion of this section (5.5).
- Nassau County could consider including a section in the plan to address workforce and disaster workers' temporary housing capabilities.

Strategic Regional Policy (SRP): The SRP establishes guidelines and policy requirements for hazards vulnerability reduction measures through outreach, preparedness, structural and non-structural hazard mitigation and redevelopment actions.

- The Northeast Florida Regional Council has developed the Strategic Regional Policy.

5.3.1.2 General Planning

The implementation of post disaster redevelopment activities relies heavily on the local planning department. Other important stakeholders may include public works officials, economic development specialists and others. In many instances, concurrent local planning efforts will help to achieve or complement recovery and redevelopment goals even though they are not designed as such. Therefore,

the Capability Assessment Questionnaire also asked questions regarding each of Nassau County's general planning capabilities and to the degree to which post disaster recovery and redevelopment planning is integrated into other on-going planning efforts.

Comprehensive Land Use Plan: The Comprehensive Plan establishes the goals and objectives that govern the community's growth and development and policies for daily land-use and development decision making. The Comprehensive Plan serves as the foundation for land development regulations, zoning, major capital expenditures and other initiatives to accomplish the community's overall vision. The Comprehensive Plan includes a demographic analysis and elements that address future land use, housing transportation, public facilities and services, conservation, recreation and open space, intergovernmental coordination and capital improvements. Given the broad nature of the plan and its regulatory standing, the integration of post-disaster redevelopment policies into the Comprehensive Plan can enhance the likelihood of implementing a successful post-disaster redevelopment strategy following a disaster.

- Nassau County adopted their 2010 Comprehensive Plan in 2002. The plan is revised every seven years through the Evaluation and Appraisal Report process coordinated through the Florida Department of Community Affairs (FDCA). The County also updates the plan as needed, in coordination with FDCA. The Comprehensive Plan is evaluated in greater detail later in this Section.
- The 2030 Comprehensive Plan Update is in process.

Capital Improvements Plan: A capital improvement plan guides the scheduling of spending on public improvements. A capital improvements plan can serve as an important mechanism for guiding future development away from identified hazard areas. Limiting public spending in hazardous areas is one of the most effective long-term mitigation actions available to local governments and helps to reduce post disaster damage.

- Nassau County has a Capital Improvements Element (CIE) that is part of the Comprehensive Plan. The CIE was developed by the Office of Management and Budget. The 2009-2013 Capital Improvements Plan was adopted on September 30, 2008. The Capital Improvement Plan should be considered a local funding source for mitigation projects recommended as part of the Local Mitigation Strategy and the implementation of those actions will help to reduce post disaster damages.

Historic Preservation Plan: A historic preservation plan is intended to preserve historic structures or districts within a community. An often overlooked aspect of the historic preservation plan is the assessment of buildings and sites located in areas subject to natural hazards, and the identification of ways to reduce future damages. This may involve retrofitting or relocation techniques that account for the need to protect buildings that do not meet current building standards, or are within a historic district that cannot easily be relocated out of harms way. These properties provide unique challenges in the post disaster environment.

- While Nassau County has not developed a specific Historic Preservation Plan, the County's Comprehensive Plan does address the protection of historical and archaeological resources through the provision of density bonuses and site review.

- The City of Fernandina Beach Historic District Council administers design guidelines to protect historic districts in the city.
- The County has applied for federal grant funds (i.e., PDM, FMA, and HMGP) to protect identified at-risk historic structures within the County and in any future County historic planning efforts. The County is currently seeking BOCC approval for the procurement and installation of storm-wind shutters or screens on all doors and windows on the Nassau County Historic Courthouse (downtown Nassau County has adopted Land Development Code (LDC) that serves as the zoning ordinance. The LDC is used to regulate new development and to guide local decisions for residential, commercial and industrial growth in the unincorporated areas of the County. Unwise development patterns in hazardous areas is prohibited or discouraged through floodplain and conservation districts.

Subdivision Ordinances: A subdivision ordinance is intended to regulate the development of housing, commercial, industrial or other uses, including associated public infrastructure, as land is subdivided into buildable lots for sale or future development. Subdivision design that accounts for natural hazards can dramatically reduce the exposure of future development.

- Nassau County enforces subdivision regulations and includes the consideration of natural hazards as part of their application (i.e., buffer zones and setbacks against flood hazards areas).

Building Codes, Permitting and Inspections: Building Codes regulate construction standards. In many communities permits are issued for new construction and inspections of work take place over the course of construction of the building. Decisions regarding the adoption of building codes (that account for hazard risk), the type of permitting process required both before and after a disaster, and the enforcement of inspection protocols all affect the level of hazard risk faced by a community.

- Nassau County has adopted and enforces the Florida Building Code. The 2007 Florida Building Code became effective March 1, 2009.

The adoption and enforcement of building codes by local jurisdictions is routinely assessed through the Building Code Effectiveness Grading Schedule (BCEGS) program developed by the Insurance Services Office, Inc. (ISO).³ Under the BCEGS program, ISO assesses the building codes in effect in a particular community and how the community enforces its building codes, with special emphasis on mitigation of losses from natural hazards. The results of BCEGS assessments are routinely provided to ISO's member private insurance companies, which in turn may offer ratings credits for new buildings constructed in communities with strong BCEGS classifications. The concept is that communities with well-enforced, up-to-date codes should experience fewer disaster-related losses, and as a result should have lower insurance rates.

In conducting the assessment, ISO collects information related to personnel qualification and continuing education, as well as number of inspections performed per day. This type of information combined with local building codes is used to determine a grade for that jurisdiction. The grades range from 1 to 10, with the lower grade being better. A BCEGS grade of 1 represents exemplary commitment to building code enforcement, and a grade of 10 indicates less than minimum recognized protection.

- Nassau County could consider participating in the BCEGS program.

³ Participation in BCEGS is voluntary and may be declined by local governments if they do not wish to have their local building codes evaluated.

5.3.1.3 Floodplain Management

Flooding, not to be confused with storm surge, is generally associated with rivers, small natural streams or other drainage systems that are overwhelmed by large amounts of runoff caused by brief episodes of extremely heavy rainfall, or tidal bodies of water that experience high influxes of rising water. There are flood-prone areas scattered across the County. However, a majority of the large swaths surround the many creeks, streams and tidal wetlands including the Intracoastal Waterway and regions of the St. Mary River and the Nassau River. At the same time the tools available to reduce the impacts associated with flooding are among the most developed. In addition to approaches that cut across hazards, such as education, outreach, and the training of local officials, the National Flood Insurance Program (NFIP) contains specific regulatory measures that enable government officials to determine where and how growth occurs relative to flood hazards. These regulations particularly apply to buildings damaged during a disaster through the NFIP's Substantial Damage regulations. These regulations will play an important role in post disaster redevelopment. Therefore, the community's floodplain management program is evaluated as a key indicator for measuring local capability as part of this assessment.

In order for a community to join the NFIP, they must adopt a local flood damage prevention ordinance that requires jurisdictions to follow established minimum building standards in the floodplain. These standards require that all new buildings and substantial improvements to existing buildings will be protected from damage by the 100-year flood, and that new floodplain development will not aggregate existing flood problems or increase damage to other properties.

Another key service provided by the NFIP is the mapping of identified flood hazard areas. Once prepared the Flood Insurance Rate Maps (FIRMs) are used to assess flood hazard risk, regulate construction practices and set flood insurance rates. FIRMs are an important source of information to educate residents, government officials and the private sector about the likelihood of flooding in their community.

- Nassau County local jurisdictions are committed to maintaining its continued compliance with the NFIP. The NFIP entry date, FIRM effective date, policies in force, coverage⁴ and loss information is provided in **Table 5.2**.

Table 5.2: NFIP Entry Date, FIRM Date, Policies, Claims and Payments						
Jurisdiction	NFIP Entry Date	Effective FIRM Date	Policies In Force	Flood Insurance Coverage	Total NFIP Losses	Total Payments
Nassau County (unincorporated)	8/15/1984	5/18/1992	7,304	\$1,959,619,300	167	\$1,070,905
Callahan	4/4/1983	4/4/1983	56	\$8,209,800	5	\$121,737
Fernandina Beach	1/14/1977	5/18/1992	3,313	\$862,511,600	239	\$1,107,175
Hilliard	10/1/2003	10/1/2003	16	\$4,360,700	0	\$0
Countywide Total			10,689	\$2,834,701,400	411	\$2,299,817

An additional indicator of floodplain management capability is the active participation of local jurisdictions in the Community Rating System (CRS). The CRS is an incentive-based program that encourages counties and municipalities to undertake defined flood mitigation activities that go beyond

⁴ General NFIP policy participation and coverage data is current as of November 30, 2008 and loss data is current as of August 23, 2008, as provided by the Federal Emergency Management Agency.

the minimum requirements of the NFIP, adding extra local measures to provide protection from flooding. All of the 18 creditable CRS mitigation activities are assigned a range of point values. As points are accumulated and reach identified thresholds, communities can apply for an improved CRS class. Class ratings, which run from 10 to 1, are tied to flood insurance premium reductions as shown in **Table 5.3**. As class ratings improve (decrease), the percent reduction in flood insurance premiums for NFIP policy holders in that community increases.

Table 5.3: CRS Premium Discounts	
CRS Class	Premium Reduction
1	45%
2	40%
3	35%
4	30%
5	25%
6	20%
7	15%
8	10%
9	5%
10	0

Community participation in the CRS is voluntary. Any community that is in full compliance with the rules and regulations of the NFIP may apply to FEMA for a CRS classification better than class 10. The CRS application process has been greatly simplified over the past several years based on community feedback to make the CRS more user-friendly. Extensive technical assistance is also available for communities who request it.

- Nassau County is actively pursuing participation in the CRS program. The FEMA Floodplain Management and Insurance Branch of the Mitigation Division conducted a community assistance visit during the week of May 24, 2009 to assess the counties eligibility for joining the CRS program.
- An analysis of Nassau County's existing activities that would qualify for the CRS program is being researched as part of the PDRP development process.

Floodplain Management Plan: A floodplain management plan (or a flood mitigation plan) provides a framework for action regarding the corrective and preventative measures in place to reduce flood-related impacts.

- The Nassau County Building Department has developed a Floodplain Ordinance and practices floodplain management through the County Land Development Regulations.
- The County uses the Floodplain Ordinance in lieu of a Floodplain Management Plan.

Open Space Management Plan: An open space management plan is designed to preserve, protect and restore largely undeveloped lands in their natural state, and to expand or connect areas in the public domain such as parks, greenways and other outdoor recreation areas. In many instances open space management practices are consistent with the goals of reducing hazard losses, such as the preservation of wetlands or other flood-prone areas in their natural state in perpetuity.

- The Nassau County Growth Management Department is currently preparing this plan, which will assist with effective open space and recreation planning.

Stormwater Management Plan: A stormwater management plan is designed to address flooding associated with stormwater runoff. The stormwater management plan is typically focused on design and construction measures that are intended to reduce the impact of more frequently occurring minor urban flooding.

- The Stormwater Management Plan is under development by the Nassau County Engineering Services Department. They are also seeking to create a Drainage Master Plan.

5.3.1.4 Administrative and Technical Capability

The ability of a local government to develop and implement a post disaster redevelopment strategy through projects, policies and programs is directly tied to its ability to direct staff time and resources for that purpose. Administrative capability can be evaluated by determining how post disaster redevelopment-related activities are assigned to local departments and if there are adequate personnel resources to complete these activities.

The degree of intergovernmental coordination among departments will also affect administrative capability for the implementation and success of proposed post disaster redevelopment activities.

Technical capability can generally be evaluated by assessing the level of knowledge and technical expertise of local government employees, such as personnel skilled in using Geographic Information Systems (GIS) to analyze and assess community hazard vulnerability.

The Capability Assessment Questionnaire was used to capture information on administrative and technical capability through the identification of available staff and personnel resources.

Table 5.4 provides a summary of the results for Nassau County with regard to relevant staff and personnel resources. A checkmark (✓) indicates that the given local staff member(s) is maintained through the County's local government resources.

Table 5.4: Relevant Staff / Personnel Resources				
Staff / Personnel Resources	Yes	No	Department / Agency	Comments
Planners with knowledge of land development and land management practices	✓		Growth Management	
Engineers or professionals trained in construction practices related to buildings and/or infrastructure	✓		Building Department and Engineering Services	
Planners or engineers with an understanding of natural and/or human-caused hazards	✓		Growth Management, Emergency Management	
Emergency manager	✓		Emergency Management	

Table 5.4: Relevant Staff / Personnel Resources

Staff / Personnel Resources	Yes	No	Department / Agency	Comments
Floodplain manager	✓		Building Department	
Land surveyors	✓		Growth Management	Under contract for Chap. 177, F.S. required review
Scientist familiar with the hazards of the community		✓	St. Johns River Water Management District and the NEFRC	County coordinates with these entities for various hazard studies (e.g., SJRMD – flood, NEFRC – storm surge, etc.).
Staff with education or expertise to assess the community's vulnerability to hazards	✓		Emergency Management	
Personnel skilled in Geographic Information Systems (GIS) and/or FEMA's HAZUS program	✓		GIS Department/Building Department	GIS services are provided to all County departments and the public.
Information and Technology expertise	✓		Technical Services Department	
Resource development staff or grant writers	✓		Office of Management and Budget	No staff grant writer but technical assistance available to departments through Office of Management and Budget
Historic preservation planner		✓		County coordinates with the Fernandina Beach Historic District Council. There are few historic structures in the County; they are predominantly in Fernandina Beach.

5.3.1.5 Fiscal Capability

The ability of a local government to implement a successful post disaster redevelopment strategy is often closely associated with the amount of money available to implement policies and projects. This may include external grant funding awards or locally-based revenue and financing. Costs associated with recovery/redevelopment policy and project implementation vary widely. In some cases, policies are tied primarily to staff time or administrative costs associated with the creation and monitoring of a given program. In other cases, direct expenses are linked to actual projects which can require a substantial commitment from local, state and federal funding sources.

The Capability Assessment Questionnaire was used to capture information on Nassau County's fiscal capability through the identification of locally available financial resources. **Table 5.5** provides a summary of the results for Nassau County with regard to relevant fiscal resources. A checkmark (✓) indicates that the given fiscal resource is locally available.

Table 5.5: Relevant Fiscal Resources

Financial Resources	Yes	No	Department / Agency	Comments
Capital Improvement Programming	✓		Office of Management and Budget, Municipal administrative agencies	
Community Development Block Grants (CDBG)	✓		TBD	
Community Development Districts*	✓		Public Works Department	Fee paid annually by property owner for infrastructure improvements. There are six CDD's in Nassau County
Municipal Services Benefits Unit**	✓		Tax Assessor	Property assessments for specific purpose for a defined length of time.
Special District/ Utility Fees		✓		Would have to be implemented by private power providers
Water / Sewer Fees	✓		Nassau Amelia Utilities, Municipal water utilities	
Stormwater Utility Fees		✓		
Development Impact Fees	✓		County Building Department	Nassau County School Board
General Obligation or Revenue	✓		BOCC and Clerk of Court/Finance Dept.	
Public/private partnerships	✓		Implementing department or agency	
Mutual Aid Agreements	✓		County Emergency Management	Mutual aid agreements exist for: general resources
Development Agreement			County Growth Management and Building Department	To develop vacant land adjacent to catastrophically damaged areas to be redeveloped

* South Amelia Island Shoreline Stabilization District

** Amelia Concourse

5.3.1.6 Economic Redevelopment Capability

There are several local and regional entities that provide economic development capability, support, resources, training and information to local businesses and promote attracting new business, industry and trade to Nassau County. These entities include the Greater Nassau Chamber of Commerce; the Amelia Island, Fernandina Beach and Yulee Chamber of Commerce; the Nassau County Economic Development Board; the Northeast Florida Regional Council, Workforce, the University of North Florida's Small Business Development Center, and Cornerstone.

Examples of several plans, strategies and Comprehensive Plan elements that support economic development, which in turn facilitates or supports post disaster economic resumption, are listed as follows:

Comprehensive Economic Development Strategy (CEDs): The Comprehensive Economic Development Strategy (CEDs) that unites the public and private sectors in the creations of an economic strategy to

diversify and strengthen regional economies. The CEDS plan of action implements and goals and objectives to promote economic opportunity, enhance transportation access to businesses, protect the environment, maximize workforce development and use, be consistent with state and local strategies, promote the use of technology, balance development with natural resources, efficiently use resources (e.g., funds), and be consistent with the State's economic priorities.

- The Northeast Florida Regional Council has developed the CEDS for Northeast Florida, and updates the plan every five years. The current version is slated for Economic Development Agency approval by December 31, 2009.

Economic Development Board Business Plan (EDBBP): The EDBBP includes goals and objectives for educating Nassau County residents and elected officials about economic development activities such as sustainable growth opportunities, improving transportation and trade opportunities, marketing the County to enhance the local economy and attract new business, and work collaboratively with private and public sector officials to develop incentives and local projects that will bolster the economy.

- The Nassau County Economic Development Board updates the EDBBP each year. The next update will be available in September 2009.

Economic Development Element of the Comprehensive Plan (EDE): The EDE promotes economic development within the county, which may include seeking funding for grants to build infrastructure or low interest loans to encourage new and expanded business opportunities, or support expanding the amount of land designated and infrastructure required for industrial and commercial development in various municipal planning districts.

- The Nassau County Comprehensive Plan currently has several objectives that promote economic development.
- An optional elements is under development by the NCEDB and Growth Management.

Business Recovery Plan (BRP): A BRP is developed by businesses to provide recovery strategies for expediting recovery from business interruption, such as a disaster. The plan includes the identification of business processes and an impact analysis, and how the plan will be implemented according to responsibilities, communication, training and plan maintenance.

- Since 2003, Nassau County Emergency Management has offered a BRP template and facilitation guidelines for businesses to develop their own plan.

Health and Social Services Capability

Health and social services are in higher demand after a disaster, especially to those with social vulnerabilities (e.g., those under age 5 or over 65, disabled, etc.). Following a disaster, health and social services are provided by local medical care facilities, the American Red Cross, Salvation Army, charitable agencies and faith based organizations.

- During long term recovery, unmet needs are coordinated through ESF-15 (volunteers and donations). Per the CEMP, Human Needs Assessment Teams identify unmet needs following a disaster. ESF-15 works to fulfill these requests through existing community service providers, local churches, community outreach programs and municipalities. ESF-15 members and local community

service providers are often trained in emergency home repair, donations management, disaster relief processing, crisis counseling and other types of assistance.

- ESF- (health and medical) 8 lead and support agencies identify Special Needs or special concerns.
- Community Relations Teams disseminate and collect information about disaster survivors, and provide survivors with information on how to access disaster recovery services.
- Disaster Recovery Centers (DRC)s are opened throughout the county following a disaster that results in a Federal Disaster Declaration. DRCs offer assistance with accessing human services such as: emergency needs, loans, grants, advice on rebuilding, assistance with completing applications, aging services, consumer services, crisis counseling, disaster unemployment assistance, insurance information, legal services, social security benefit assistance, tax assistance and veterans benefit assistance.

5.4 Conclusions on Local Capability

In order to form meaningful conclusions on the assessment of local capability, a quantitative scoring methodology was designed and applied to results of the Capability Assessment Questionnaire. The Capability Assessment Questionnaire was answered by various Nassau County department staff representing Growth Management, Emergency Management and the Building Department.

The results are reported for Planning and Regulatory Capability (Table 5.1), Administrative and Technical Capability (Table 5.4) and Fiscal Capability (Table 5.5). Self Assessment of Capability results are reported in Table 5.6.

5.4.1 Self Assessment of Capability

In addition to the inventory and analysis of specific local capabilities, the Capability Assessment Questionnaire asked Nassau County staff to conduct their own self assessment of capability to develop a post disaster redevelopment plan and to implement a recovery and redevelopment strategy. As part of this process, county staff members were encouraged to consider the barriers to implementing a PDRP in addition to identifying the mechanisms that could enhance a PDRP. In response to the questionnaire, county staff classified each of the aforementioned capabilities as either “limited,” “moderate” or “high.”

Table 5.6 summarizes the results of the self assessment process for Nassau County.

Table 5.6: Self Assessment of Capability	
Planning and Regulatory Capability	High
Administrative and Technical Capability	High
Fiscal Capability	Moderate
Overall Capability	High

The scoring methodology, further described below, attempts to assess the overall level of capability of Nassau County to implement a recovery and redevelopment strategy.

5.4.2 Points System for Capability Ranking

0-35 points = Limited overall capability
 36-71 points = Moderate overall capability
 72-105 points = High overall capability

I. Planning and Regulatory Capability – 48 points (Up to 67 points)

Yes = 3 points

Under Development = 1 point

No = 0 points

- Post Disaster Redevelopment Plan (1)
- Post Disaster Redevelopment Ordinance (0)
- Comprehensive Land Use Plan (3)
- Coastal Management Element of Comprehensive Land Use Plan (3)
- Floodplain Management Plan (0)
- Recovery Annex to CEMP (3)
- Continuity of Operations Plan (3)
- Continuity of Government Plan (3)
- Hazard Mitigation Plan (Local Mitigation Strategy) (3)
- Debris Management Plan (3)
- Temporary Housing Plan (3)
- Participate in CRS Program (1, in pursuit)
- BCEGS Grade of 1 to 5 (0)

Yes = 2 points

Under Development = 1 point

No = 0 points

- Emergency Operations Plan (2)
- Building Code (2)
- BCEGS Grade of 6 to 9 (0)
- Floodplain Ordinance (for Flood Damage Prevention) (2)
- Zoning Ordinance (2)
- Unified Land Development Code (1)
- Participate in NFIP Program (2)
- Strategic Regional Policy (includes Hazards Vulnerability Reduction measures) (2)

Yes = 1 point

No = 0 points

- Open Space Management / Parks & Rec. Plan (0)
- Stormwater Master Plan (0)
- Stormwater Ordinance (1)
- Evacuation Plan (1)
- Flood Response Plan (0)
- Capital Improvements Plan (1)

- Economic Development Plan (1)
- Economic Development Element of Comprehensive Land Use Plan (1)
- Comprehensive Economic Development Strategy (1)
- Historic Preservation Plan (1)
- Subdivision Ordinance (1)
- Fire Code (1)

II. Administrative and Technical Capability – 18 points (Up to 18 points)

Yes = 2 points

No = 0 points

- Planners with knowledge of land development and land management practices (2)
- Engineers or professionals trained in construction practices related to buildings and/or infrastructure (2)
- Planners or engineers with an understanding of natural and/or human-caused hazards (2)
- Emergency manager (2)
- Floodplain manager (2)
- Historic preservation planner (2, Fernandina Beach)

Yes = 1 point

No = 0 points

- Land surveyors (1)
- Scientist familiar with the hazards of the community (1, NEFRC, SJWMD, and NWS)
- Staff with education or expertise to assess the community's vulnerability to hazards (1)
- Personnel skilled in Geographic Information Systems (GIS) and/or HAZUS (1)
- Information and Technology expertise (1)
- Resource development staff or grant writers (1)

III. Fiscal Capability – 9 points (Up to 12 points)

Yes = 1 point

No = 0 points

- Capital Improvement Programming (1)
- Community Development Block Grants (1)
- Community Development Districts (1)
- Municipal Services Benefits Unit (1)
- Special District / Electric Utility Fees (0)
- Water / Sewer Fees (1)
- Stormwater Utility Fees (0)
- Development Impact Fees (1)
- General Obligation/ Revenue (1)
- Public / private partnerships (1)
- intergovernmental agreements / Mutual Aid Agreements (1)
- Development Agreements (0)

IV. Self-Assessment of Overall Capability – 7 points (Up to 8 points)

High = 2 points

Moderate = 1 points

Low = 0 points

- Planning and Regulatory Capability (2)
- Administrative and Technical Capability (2)
- Fiscal Capability (1)
- Overall Capability (2)

5.4.2.1 Capability Score

According to the Capability assessment, the Capability score for Nassau County is 82 which represent 78 percent of the total number of points achievable through the Capability scoring methodology developed by the project consultant. This indicates an overall “High” level of local Capability.

The Capability score is based solely on the information provided by county staff in response to the Capability Assessment Questionnaire. The questionnaire instrument was designed to measure local Capability based on those indicators determined to be most relevant for post disaster recovery and redevelopment purposes.

5.4.2.2 Linking the Capability Assessment with the Vulnerability Assessment and the Recovery and Redevelopment Strategy

The conclusions of the *Vulnerability Assessment and Capability Assessment* serve as the foundation for the development of a meaningful recovery and redevelopment strategy. During the process of identifying specific recovery and redevelopment actions to pursue, Nassau County considered not only its level of hazard risk but also the existing Capability to implement a successfully recovery and redevelopment strategy.

Figure 5.2 shows a *Risk vs. Capability Matrix* that is used to illustrate Nassau County’s overall hazard risk⁵ in comparison to overall Capability. Based on the assessments completed for Nassau County, hazard risk was determined to be HIGH while the overall Capability is HIGH. This means that while Nassau County does face the potential to be impacted by natural hazards, it also has significant Capability to implement a successful post disaster recovery and redevelopment strategy to manage the impacts of those hazards.

⁵ Overall hazard risk was determined using the results of the risk assessment combined with information on the following factors: total population, population growth rate, land area, historical disaster declarations, unique hazard risks, NFIP participation and the value of existing Pre-FIRM structures.

Figure 5.2: Risk vs. Capability Matrix				
		HAZARD RISK		
		Limited	Moderate	High
OVERALL CAPABILITY	High			✓
	Moderate			
	Limited			

5.5 Plan Integration

An in-depth understanding of the community's existing plans, policies and programs is an important part of determining a community's Capability to implement a post-disaster redevelopment strategy. This section provides an assessment of Nassau County's local plans, policies and programs as they relate to post-disaster redevelopment.

The plans evaluated as part of this section are:

- Nassau County Local Mitigation Strategy, 2003 - 2004
- Nassau County Comprehensive Emergency Management Plan, March 2005
- Nassau County Debris Management Plan
- Nassau County Temporary Housing Plan: Disaster Housing Standard Operating Guidelines, 2007
- Nassau County Comprehensive Plan, 2010, Amended (Ordinance 2007-38, November 28, 2007)

5.5.1 Nassau County Local Mitigation Strategy (LMS)

The LMS represents Nassau County's blueprint for how it intends to reduce the impact of natural hazards on people and the built environment. The purpose of the LMS is to provide guidance in developing pre- and post-disaster mitigation plans, identifying priority projects and programs for funding, and increasing the likelihood of State and Federal funding for hazard mitigation projects. The essential elements of the LMS include goals and guiding principles, hazard identification and vulnerability assessment, vulnerable properties and estimated losses, mitigation initiatives, projects and potential funding sources. The LMS guiding principles section includes natural hazards mitigation policies from the community's comprehensive plan and local ordinances, which provides for purposeful

integration among local planning initiatives to guide post disaster redevelopment risk reduction and sustainability.

The Nassau County LMS establishes the following goals:

- **Goal 1** – Protect the lives of the citizens of Nassau County
- **Goal 2** – Minimize or eliminate damages to personal residences in Nassau County
- **Goal 3** – Insure protection of existing infrastructure of Nassau County
- **Goal 4** – Protect values and associated economic value of property in Nassau County.

5.5.2 Nassau County Comprehensive Emergency Management Plan (CEMP)

The CEMP defines the functional roles responsibilities of each government entity that partners with the County's disaster organization and their relationship to each other before, during and following an emergency or disaster. The CEMP establishes direction and control of the emergency management program in the context of emergency preparedness, response, recovery and mitigation actions. The Basic Plan, Recovery Functions Annex and Mitigation Functions Annex were reviewed to determine the levels of organization and coordination among entities, and the essential functions and actions related to post disaster reconstruction and redevelopment.

The Basic Plan outlines the general purpose, scope and methodology of the plan; coordination, control and organizational structure; concept of operations, and identifies responsibilities of all entities and resources mobilized by the county to assist in recovering from a disaster. Intergovernmental coordination occurs among local (i.e., county, city and town), state and federal agencies; the private sector and volunteer organizations. In accordance with FS 119.071 the CEMP is exempt from inspection or copying as it is a Security System Plan document. As such, the CEMP has not been included in this document.

The activities relevant to PDRP include:

- identification of level storm severity
- formal intergovernmental coordination using mutual aid agreements;
- damage assessment;
- restoration of essential public facilities, infrastructure and services;
- preservation of vital records for the continuation of government;
- obtaining pre-disaster funds (e.g., Pre-Disaster Mitigation Program and Flood Mitigation Assistance) to reduce risk before a disaster
- securing post-disaster funds (e.g., Public Assistance and Hazard Mitigation Grant Program) to further reduce risk after a disaster

Annex I – Recovery Functions outlines specific tasks or functions that may be carried out before, during and after a disaster and details control, coordination, planning efforts, and policies within Nassau County designed to facilitate both immediate and long-term recovery after a disaster has occurred. This provides for a rapid and orderly start of rehabilitation of people and restoration of property affected by a disaster anywhere in Nassau County.

The activities relevant to PDRP include:

- coordinated efforts among federal, state and local government entities and volunteers for post-disaster recovery operations, communications, planning, logistics and administration/finance
- initial impact assessment for countywide overview of most significantly impacted areas reported in a GIS
- preliminary damage assessment coordinated by Emergency Management Department (EMD) to substantiate state and federal assistance
- compilation of damage assessment by Building Department for private property and businesses
- identification of FEMA Public Assistance projects to repair and reconstruct public structures and infrastructure
- individual assistance and human needs assessment
- economic injury assessment (e.g., job loss)
- debris removal
- habitability certification for structures for utility restoration, reconstruction permits and requirements (i.e., 50% threshold) and/or condemnation determination(s)
- utility restoration
- Disaster Recovery Center (DRC) establishment to coordinate state and federal individual assistance, which provides help to citizens with immediate needs and a foundation for long term recovery needs
- provision of temporary housing

Annex II – Mitigation Functions includes the projects, policies and programs that reduce the county's vulnerability to disaster impacts before they happen. Mitigation opportunities are also discovered during the initial and preliminary damage assessments and throughout the public assistance processes. The annex also details requirements and the programs incorporated in post-disaster recovery efforts to prevent recurring losses from future disasters. The EMD is responsible for coordinating pre- and post-disaster mitigation activities.

The activities relevant to PDRP are as follows:

- Coordination of pre-disaster mitigation activities through the LMS process such as: facility and structure vulnerability assessment, prioritization of mitigation projects and funding identification.
- Coordination of post-disaster mitigation activities with municipalities and the State Emergency Operations Center.
- Coordination with the Northeast Florida Regional Planning Council for mitigation planning activities
- The EMD works closely with damage assessment teams, county and municipal departments as well as building inspectors to identify opportunities for future mitigation projects such as: elevation and/or acquisition of floodprone structures, drainage improvement projects and infrastructure enhancement projects.
- EMD coordinates the application process and manages recovery and mitigation grants for the FEMA Hazard Mitigation Grant Program (HMGP) and the Flood Mitigation Assistance (FMA) program.
- The County Property Appraiser provides technical expertise regarding property values, damages and losses to properties as a result of a disaster.
- The Nassau County Building Department and the Municipal Public Works Departments identify mitigation activities that could reduce the vulnerability of public infrastructure, businesses and housing stock to damage and loss from natural and manmade disasters.
- The County Road and Bridge Department and the Municipal Public Works Departments will assist Emergency Management in identifying potential road, bridge, culvert and water and sewer mitigation projects.
- The EMD provides public outreach regarding pre-disaster mitigation activities and building policies in flood prone areas.

5.5.3 Nassau County Debris Management Plan

The Debris Management Plan, which is the “Debris Management Standard Operating Guidelines” (DMSOG), establishes guidelines for post-disaster debris removal operations. The purpose of the DMSOG is to facilitate the removal, collection and disposal of debris; to minimize potential threats to health, safety and welfare of impacted citizens; expedite recovery in the impacted area; address the threat of significant damage to improved public or private property; and provide a coordination process under operational functions of the Nassau County Emergency Management Department and Emergency Operations Center. Nassau County is responsible for removing debris from property under its own authority, as well as from private property when it is deemed in the public interest.

The DMSOG describes the organizational structure, roles and responsibilities, concept of operations and supplemental assistance. Specific information includes a list of qualified contractors, solid waste facilities, debris site closeout procedures, debris classification, debris reduction, site selection, debris removal priorities, debris estimation and documentation that is required by the Federal Emergency Management Agency to complete Public Assistance Project Worksheets for funding reimbursement.

The Nassau County Road & Bridge Department (NCRBD) is responsible for the debris removal function. The NCRBD will work in conjunction with designated support agencies, utility companies, waste management firms, private contractors and trucking companies, to facilitate the debris clearance, collection, reduction, and disposal needs following a disaster.

Various County departments are tasked with the responsibility of coordinating all available and obtainable resources related to infrastructure clearance, debris removal and disposal. The Nassau County Debris Management Committee (“Committee”) consists of the Nassau County Emergency Management Director, Solid Waste Director, Engineering Director and Road and Bridge Supervisor. The Building Maintenance Director is involved in site selection of Temporary Debris Staging/Reduction areas.

5.5.4 Nassau County Temporary Disaster Housing Plan

The Temporary Disaster Housing Plan, which is the “Disaster Housing Standard Operating Guidelines” (DHSOG), establishes guidelines for post-disaster for post-disaster housing. The purpose of the DHSOG is to support the following Target Capabilities:

1. Establish a framework for adequately addressing the issue of temporary and long-term housing options and alternatives for disaster victims.
2. Provide guidelines and procedures for implementing post-impact shelter, and temporary, transient and long-term housing alternatives.
3. Identify the process and procedures for the temporary placement of travel trailers; building permit processing; identification of local rental, shelter and mobile home sites; and identify resources and capabilities to administer a temporary roofing program.

The DHSOG describes the organizational structure, roles and responsibilities, concept of operations, disaster housing phases, financial options and positional responsibilities. It includes EOC contracts, financing options, and temporary lodging availability. The Nassau Emergency Management Department is responsible for the overall coordination of temporary housing activities, as carried out by the Nassau County EOC staff with the coordination and support of various agencies and entities.

Temporary disaster housing implementation is separated into four main phases: Emergency Shelter, Short-term temporary housing, Long-term temporary housing and permanent housing.

5.5.5 Nassau County Comprehensive Plan

The Comprehensive Plan establishes the goals and objectives that guide the community’s growth and development and policies for daily land-use and development decision making. The Comprehensive Plan serves as the foundation for land development regulations, zoning, major capital expenditures and other initiatives to accomplish the community’s overall vision. All land development regulations and development permits must be consistent with the Comprehensive Plan. Nassau County’s Comprehensive Plan includes a demographic analysis and elements that address future land use, housing transportation, public facilities and services, conservation, recreation and open space, intergovernmental coordination and capital improvements. Given the broad nature of the plan and its regulatory standing in many communities, the integration of hazard mitigation measures into the

Comprehensive Plan can enhance the likelihood of achieving post disaster recovery actions following a disaster.

The Comprehensive Plan is supported by the Nassau County Development Review Regulations (DRRs), Ordinance No. 2000-40, which was revised February 4, 2008 (Ordinance 2008-01). This ordinance provides individual land owners and developers with requirements for the development of housing, commercial, industrial or other uses, including associated public infrastructure, as land is subdivided into buildable lots for sale or future development. The DRRs require the minimization of flood losses, and that developers or surveyors disclose information to a potential purchaser if said property is located in known hazard areas and consequences of construction in hurricane flood hazard areas.

The State's administrative rules at Sec. 9J-5.012, F.A.C. require each coastal county to address post-disaster redevelopment issues both as part of the data and analysis of the comprehensive plan or as policies in the comprehensive plan elements. In 2006 the legislature adopted H.B. 1359 that affected definitions, redevelopment issues and evacuation time levels of service in coastal communities throughout the State of Florida. The 2010 Nassau County Comprehensive Plan, adopted in 2002 and required to be updated by 2010, already addresses some, but not all, of these requirements.

As part of the Evaluation and Appraisal Report (EAR) process, Nassau County has identified Comprehensive Plan policy amendments in the Coastal Management Element that will further reduce vulnerability in the Coastal High Hazard Area.

- Support the restoration of altered beaches or dune systems.
- Incorporate and integrate findings and recommendations from the PDRP, CEMP and LMS into the Comprehensive Plan.
- Manage post disaster expenditures based on the findings from the PDRP.

The Nassau County Comprehensive Plan was reviewed to determine objectives and policies that support PDRP. A list of the objectives and policies is located in **Appendix B**.

The **Future Land Use Element** includes policies for:

- establishing the Conservation III overlay that establishes supplemental development criteria in flood hazard areas and floodplains. The County will coordinate future land uses of the coastal areas to the ability to evacuate coastal areas in a major hurricane event.
- allowing public expenditures in the Coastal High Hazard Area (CHHA) for restoration of natural resources, replacement of septic tanks, and/or consolidation of public facilities and services; and disallowing public schools in Coastal Lands; which can reduce vulnerability and public funds spent in areas susceptible to coastal hazard impacts
- seeking funds to promote economic development during pre- and post-disaster scenarios
- updating its hurricane evacuation plan and disaster preparedness plan every five years and also re-evaluate its effectiveness immediately after a major disaster event to recommend appropriate improvements.

The **Housing Element** includes a policy to seek federal and state funding to demolish or rehabilitate substandard housing.

The **Public Facilities Element** includes policies for:

- maintaining and monitoring County controlled drainage ditches to reduce flood risk, which could qualify as a Community Rating System (CRS) activity
- creating a geographic information system (GIS) for all stormwater management facilities, which could be useful in a post-disaster situation for identifying facility locations
- regulating encroachments, including fill, new construction, substantial improvements, and other development, within a FEMA designated “special flood hazard area” that would result in any increase in flood levels during the occurrence of a flood discharge

The **Coastal Management Element** includes policies for:

- preserving coastal dunes to mitigate the effects of storm surge
- revising land development regulations to reduce flood vulnerability
- disclosing property in hazard areas and potential consequences of construction in the areas to potential buyers, which would be important during a redevelopment phase for buyers to understand the associated risk
- incorporating the Comprehensive Emergency Management Plan (CEMP) into the Coastal Management Element to bolster its effect
- not subsidizing public facilities in the CHHA unless necessary to maintain level-of-service standards and those related to public access or recreation areas
- addressing post disaster redevelopment issues such as damage assessment and identification of risk reduction measures, public facility floodproofing, temporary housing, debris issues and public assistance; coordination with entities for implementation of the LMS; enforcing the 50 percent damage rule requirements; requiring that land development regulations include reduced densities and minimization of public expenditures in the CHHA per the FLUM; development of plans and criteria for immediate and long-term recovery and reconstruction needs
- identifying the CHHA as the Category 1 Evacuation Zone as defined in Chapter 9J-5 F.A.C.; however, consideration is being made to redefine this as the NOAA Sea Lake and Overland Surge Height (SLOSH) model Category 1 Surge Zone per HB 1359. Reference is made to 2007 amendment to the Capital Improvement Element adopting the statutory definition.
- stipulating that evacuation routes will be elevated or rerouted, and water and sewer facilities will be elevated or flood proofed during post disaster redevelopment
- requiring that redevelopment plans include reduced densities and public expenditures are minimized necessary to support land uses per the FLUM so as to decrease risk

- stating that County will develop plans and requirements for short and long term recovery and redevelopment measures, which includes mitigation of damaged structures and reconstruction that is limited to the intensity and density per the comprehensive plan so as to decrease risk
- prioritizing improvement of evacuation routes, and disallowing draw bridges as replacements to reduce evacuation problems if draw bridges would become inoperable
- assessing vulnerability of local government owned buildings that are located in the CHHA
- adhering to County requirements for provision infrastructure in the FEMA FIRM V Zone that have been damaged destroyed by storm forces
- mitigating in-place infrastructure that is destroyed by hurricane forces
- recognizing the Florida Department of Environmental Protection (DEP) Coastal Construction Control Line (CCCL), as established by Chapter 161.053. F.S.

The **Capital Improvements Element** includes policies for:

- limiting public expenditures in high hazard coastal areas to maintenance of existing structures, improvements listed in the Coastal Management Element, those necessary for public health and safety and to facilitate public natural open space and recreation to reduce coastal hazard vulnerability
- defining the CHHA as the area below the elevation of the category 1 storm surge line as established by a Sea, Lake and Overland Surges from Hurricanes (SLOSH) computerized storm surge model

The comprehensive plan did not address the following Florida Regulations related to PDRP:

- identification of structures with repetitive losses
- specific policies that specify short term clean up and repair versus long term repair and redevelopment activities
- policies that limit development in areas of repeated damage
- identification of areas needed redevelopment with regard to eliminating unsafe conditions and inappropriate uses; however, there are non-redevelopment policies that address these concepts
- identify potential sites, or site selection criteria, for debris removal and temporary housing
- establish a level of service for hurricane evacuation time and mitigation options

The **Economic Development Element** was summarized previously in 5.3.1.

5.5.5.1 Conclusions on Local Plan Integration

Nassau County has a wide variety of programs and policies in the Comprehensive Plan, LMS and CEMP that support PDRP. For example, the Comprehensive Plan includes policies to assess vulnerability and

limit public expenditures in the CHHA, reduce inconsistent land uses, maintain or reduce density and intensity in vulnerable areas, protect natural dune and coastal resources, and implement hazard mitigation measures for public facilities and structures to reduce natural hazard impacts. The LMS also includes goals to protect lives, reduce vulnerability to public infrastructure and residences, and values and associated economic property values. The CEMP includes coordination efforts at the county, state and federal levels for recovery and mitigation activities to enhance reconstruction capabilities for government structures, facilities and government functions; residences and the private sector. The Debris Management Standard Operating Guidelines provides procedures for debris removal, which is a critical immediate step in expediting other means of recovery throughout the community. The Disaster Housing Standard Operating Guidelines includes procedures for immediate, short- and long-term housing needs to ensure that people have a place to live in order to maintain the sense of community and return to work once their places of employment open.

5.6 Recommendations for Improving Institutional Capability

After completing the review the County's existing plans to determine what post disaster redevelopment plans and policies are already in place, some recommendations are provided for ways to further integrate post disaster redevelopment into the plans and procedures. The Recovery and Redevelopment Action Plan indicates whether the Capability exists or is needed to implement the action.

Recommendations for improving institutional capability (i.e., intergovernmental coordination, plan integration, and policy and/or procedure development) are included in the Recovery and Redevelopment Action Plan in Section 7.

Examples of recommendations are listed as follows:

- Develop a Post Disaster Recovery and Redevelopment Ordinance that provides the force of law to policies for post disaster redevelopment such as:
 - Financing for implementing actions found in the PDRP
 - Redevelopment priorities
 - Post disaster planning and permitting procedures
- Develop Mutual Aid Agreements for the following (as deemed necessary):
 - Damage Assessment
 - Permitting Specialists
 - GIS Analysts
 - Community Planners
 - Engineers
 - Public Information Officer for PDRP activities
 - Architects
- Develop a cadre of disaster reservist volunteers (e.g. retirees or interns from local university and college to assist with PDRP activities) that would be mentored and trained prior to a disaster regarding County post-disaster redevelopment actions.

- Each of the municipal jurisdictions is encouraged to adopt the PDRP sections that are pertinent to their community and revise PDRP sections (e.g., Capability Assessment, Actions, etc.) as deemed appropriate to reflect local policies and procedures.
- Include an updated list of all religious buildings and resources and services (PDRP Vulnerability Assessment, Table 4.29).
- Identify structural and use information for religious buildings that provide post-disaster recovery assistance (PDRP Vulnerability Assessment, Table 4.31)
- Include land use maps can be incorporated into a future update of the PDRP, when made available for Callahan and Hilliard (PDRP Vulnerability Assessment).
- Create a Development Agreement regarding catastrophically damaged structures and/or infrastructure (e.g., could be used to develop vacant land that is adjacent to redeveloped areas).
- Create a future land use map that includes Nassau county and all jurisdictions. Use broad land use categories, such as residential, commercial, and industrial.
- Create an official partnership between the two Chambers of Commerce, Greater Nassau Chamber of Commerce and the Amelia-Island-Fernandina-Beach-Yulee Chamber of Commerce, and the Economic Development Board to assist each other with pre- and post-disaster PDRP actions.
- Coordinate economic resumption initiatives with Emergency Support Function (ESF) 18 and the local business stakeholders (i.e., Economic Development Board, Chambers of Commerce, local businesses, etc.).
- Develop specific policies and procedures to implement the short term recovery and long term recovery action items. The PDRP Redevelopment Task Force will continue to assess the redevelopment strategies set forth in this plan, and determine the appropriate policies and procedures to operationalize this plan as well as the responsible entity. There was not enough time in the planning process to develop specific policies and procedures. However, the Action Plan includes recommendations for development of policies and procedures, as well as intergovernmental and intercommunity coordination.

6.0 RECOVERY AND REDEVELOPMENT STRATEGY

The recovery and redevelopment strategy is comprised of a list of the post-disaster redevelopment goals and issues that were identified by the Executive Technical Committee (ETC). The issues were grouped into seven major Working Group topics:

1. Damage and Recovery Assessment
2. Government Operations and Citizen Report
3. Housing and Structural repairs
4. Infrastructure and Public Facility Recovery
5. Economic Resumption
6. Land Use and Redevelopment
7. Quality of Life Resiliency

A goal was developed for each of the topics. The goals and prioritized issues are listed below:

6.1 PDRP Goals and Issues

Goal 1: Government Operations and Citizen Response

The County and participating jurisdictions, agencies and organizations shall effectively coordinate with each other to restore and sustain government operations and services that expedites the communities' ability to recover from a disaster. Collaboration will hinge on proactive strategies that incorporate reasonable expectations and actual capabilities of the local government, agencies, businesses, non-governmental organizations and private citizens. Procure and disperse all available private, federal and state disaster recovery funding, services and donated supplies.

Government operations and citizen response issues were categorized as 1) organization and authority, 2) government / local capacity, or 3) communications / disaster information dissemination. After a disaster, it is important to maintain government services and communication throughout the community. High priority issues include: sustaining local government functions per the Continuity of Government (COG) and Continuity of Operations (COOP) plans, maintaining local oversight of the recovery strategy, retaining or hiring additional staff to work on essential functions, setting up an accounting system to manage recovery funding, explaining the applicability of the PDRP and other emergency management plans, coordinating with faith based organizations to provide assistance, and communicating redevelopment information to citizens.

Goal 2: Housing and Structural Repairs

The County and participating jurisdictions, agencies and organizations shall collaboratively work together to provide temporary housing for its residents and incoming disaster workforce to support expedient repair of homes and businesses. This will include expedited repair procedures (e.g., permitting) and incorporating hazard vulnerability reduction measures for permanent structures. Each

unit of local government will endeavor to enter into mutual aid agreements to provide adequate permitting and inspections to accommodate post-disaster volume.

Housing and structural repairs were categorized into 1) temporary housing, 2) long term housing, and 3) structural repairs. The decisions made at the onset of recovery can greatly impact long-term redevelopment and should be weighed carefully. High priority issues include: establishing criteria for on-site and group-site temporary housing to ensure that there is proper zoning to allow for temporary structures, identifying site suitability and infrastructure availability for group sites, ensuring that there is enough workforce housing, using hazard mitigation measure to reduce structural vulnerability, and creating an expedited permitting process for structural repairs.

Goal 3: Infrastructure and Public Facility Recovery

The County and participating jurisdictions, and local utility providers will work together to restore infrastructure, critical facilities and public facilities in support of community recovery based on established priorities and hazard vulnerability reduction measures.

Infrastructure and public facility recovery was categorized as 1) debris and 2) infrastructure repairs. The repair and restoration of infrastructure and public facilities affects the community's ability to recover at large. The restoration of transportation networks is essential to recovery and redevelopment. High priority issues include: evaluating whether to replace infrastructure or facilities to pre-disaster condition or to rebuild them stronger or in a different location to avoid future damage, identifying critical transportation routes for prioritized emergency and long-term repairs, coordinating with utility providers to ensure that utilities are being restored in areas with critical facilities and businesses, and identifying alternate transit if the Intercoastal bridge is damaged or destroyed.

Goal 4: Economic Resumption

Based upon priorities in the PDRP, the County and participating jurisdictions will support the local business community through the disaster impact assessment, needs identification, infrastructure restoration, employee assistance and disaster recovery funding that fosters economic resumption.

Economic resumption is extremely important as it affects the entire community's recovery efforts and is a major indication of how long it takes the community to redevelop. The return of jobs, tourism, and other indicators of economic health is interdependent on housing recovery, infrastructure restoration, and public service provision. High priority issues include: determining and prioritizing business recovery resources, identifying funding sources for business recovery, establishing a business recovery center, assessing damage and economic impacts, and tracking business recovery data.

Goal 5: Land Use and Development

The County and participating jurisdictions shall enforce compliance with applicable regulations for construction and reconstruction and use the post-disaster environment to reduce hazard vulnerability. Hazard vulnerability reduction will be focused within the Coastal High Hazard Area, Special Flood Hazard Areas, Repetitive Loss Areas and the Wildland Urban Interface.

Land use and zoning decisions pertaining to redevelopment can have long-term effects on the community's hazard vulnerability. After a disaster, there will likely be opportunities to rebuild infrastructure and structures back in a less vulnerable manner. Although there is often pressure to build

back as quickly as possible, it is important to assess how and where the community will rebuild to reduce hazard vulnerability through hazard mitigation measures. High priority issues include: mapping land use in high hazard areas to understand how to reduce future vulnerability, identifying non-conforming land use and structures and considering how to address restoration, providing the opportunity for citizens to provide feedback on how to redevelop through the use of facilitated charette workshops, and ensuring that proper restoration techniques are being employed for historic properties.

Goal 6: Quality of Life Resiliency

The County and participating jurisdictions, agencies and organizations shall attempt to prevent degradation during post-disaster restoration of social, cultural, historic, faith based, health care and educational amenities and the environment.

Quality of life was categorized as 1) cultural / historic preservation, 2) environmental, 3) health and social services. Quality of life is highly valued in Nassau County, as it attracts and maintains residents and tourists. High priority issues include: providing historic restoration guidelines to private property owners, prioritizing resources for making temporary and long-term repairs, conducting a post-impact assessment for historic properties to help guide appropriate repair, restoring aquatic areas, educating the public on asbestos abatement and mold remediation, providing mental and physical health care, and providing continued public education on disaster preparedness and redevelopment requirements.

The goals and issues were assessed and formulated into action items in Section 7.

7.0 RECOVERY AND REDEVELOPMENT ACTION PLAN

This section provides the pre- and post-disaster actions to implement the PDRP at the county level. Although there are a considerable number of actions that have been identified, the list is not exhaustive. This list of actions was developed to help guide the county and municipalities (as they deem appropriate) during the complex recovery and redevelopment process.

The list of actions is presented in tabular format. Actions have been categorized and assigned to one of the following Subcommittees:

1. Damage and Recovery Assessment Subcommittee
2. Government Operations and Citizen Response Subcommittee
3. Housing and Structural Repairs Subcommittee
4. Infrastructure and Public Facility Recovery Subcommittee
5. Economic Resumption Subcommittee
6. Land Use and Redevelopment Subcommittee
7. Quality of Life Resiliency Subcommittee

The following information has been provided for each action:

- Implementation Timeline – pre- or post-disaster (short- and long-term)
- Existing Capability – existing plan, policy or activity
- Required Capability – funding potential, human resources and institutional recommendations. (i.e., intergovernmental coordination, plan integration, and policy and/or procedure development)

The pre-disaster actions focus on assessing vulnerability, intergovernmental and inter-community coordination, and examining and implementing hazard vulnerability reduction policies and procedures. Short term recovery actions include damage assessment, temporary housing, debris operations; measures that can impact long term redevelopment. Long term redevelopment actions focus on land use planning, infrastructure reconstruction, structural and facility repair, business resumption, and environmental and cultural restoration.

The PDRP Redevelopment Task Force will continue to assess the redevelopment strategies set forth in this plan, and determine the appropriate policies and procedures to operationalize this plan. There was not enough time in the planning process to develop specific policies and procedures. However, the Action Plan includes recommendations for development of policies and procedures, as well as intergovernmental and intercommunity coordination and further plan integration.

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18		18- 24	24 +	Plan or Policy		Funding
REDEVELOPMENT TASK FORCE (all members to address cross-cutting topic)																
TOPIC: Damage and Recovery Assessment for Redevelopment Planning																
Review damage assessment in accordance with LMS, for high priority hazard mitigation projects and redevelopment opportunities.			■	■	■	■						CEMP, LMS	HMGP, FEMA PA	Local		
Identify areas with repetitive loss properties, for which vulnerability could be reduced. Identify areas for potential HMGP acquisition or elevation in 100-year floodplain (and where this could result in checker boarding).	■		■	■	■	■	■	■				CEMP, LMS	HMGP	Local		
Review pre-identified areas that are considered for land-use modification in vulnerable hazards areas.	■		■			■	■	■	■			Comp Plan, CEMP, LMS		Local	Develop policies	
Identify areas that are inappropriate for rebuilding (non-conforming uses).			■	■	■	■	■	■	■			CEMP, LMS		Local	Develop database	
Perform a detailed damage and economic impact assessment (e.g., direct revenue loss, product supply and revenue loss to other businesses that rely on these industries) to businesses. Identify how this information is collected and acted upon to understand impacts and take actions to reduce revenue and employment loss.	■		■	■	■	■	■	■	■	■		CEMP		Local	ESF 18 to work with local businesses to expand existing assessment	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18		18- 24	24 +	Plan or Policy		Funding
Develop a post-impact damage assessment data for historic properties. The Building Department identifies damages to historic buildings during the initial assessment to help guide appropriate repair. The site level assessment is performed by or with the Historic Resource Assessment Team (HRAT), to identify redevelopment opportunities.			■	■	■							CEMP		Local	Coordination between EM, Building Dept., and HRAT; address in CEMP	
Perform a detailed assessment of natural environment to determine ecological and recreational/tourism based loss (e.g., revenue/employment loss at major hotels on beach). Determine how information is collected and acted upon to understand impacts and take appropriate actions that feed into redevelopment.	■		■	■	■	■	■	■	■			CEMP		Local	ESF 18 to coordinate with FDEP and local businesses; address in CEMP	
Evaluate critical facilities damage assessment to determine repair priorities.	■	■	■	■	■	■						CEMP, LMS	HMGP, FEMA PA	Local		
Promote the use of certified (pre-approved general contractors) to conduct site level damage assessment to identify redevelopment opportunities.	■		■	■								CEMP	AIA Disaster Assistance Program	Architects and Engineers	Address in CEMP	

Actions	Implementation Timeline											Capabilities				Lead Entity
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18		18- 24	24 +	Plan or Policy	Funding	
GOVERNMENT OPERATIONS AND CITIZEN RESPONSE SUBCOMMITTEE																
TOPIC: Organization and Authority																
Recommend operations policies	■											CEMP, COG, COOP		Local	Update COOPs	
Identify an accounting systems to facilitate the receipt of disaster assistance	■	■	■											Local	EM to coordinate with Finance Department	
Have trained/informed business liaison at the Emergency Operations Center (EOC).	■	■	■	■								CEMP		Local	ESF 18 Coordination	
Engage political support for PDRP.	■	■	■	■	■	■	■	■	■	■	■			Local	Brief local politicians on the PDRP strategies and community benefits	
Develop mutual aid agreements to support PDRP activities.	■					■	■					Statewide Mutual Aid Agreement	FEMA PA	Local	Identify specific staff and resources	
TOPIC: Government / Local Capacity																
Sustain essential government functions.	■		■	■								COG, COOP		Local		
Complement local authority during redevelopment with state, federal, private and volunteer assistance.	■		■	■								COG, CEMP, PDRP	See Section 9	Local		

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			D3 - 2	1-15	15-30	30-60	60-90	4-6	6-12	12-18		18-24	24+	Plan or Policy		Funding
Coordination with Faith Based Organizations (FBO) to provide redevelopment assistance.			■	■								CEMP		FBO Volunteers	Identify needs and resources	
Ensure equitable redevelopment and maintenance of tax base throughout the county (utility restoration and temporary housing provision).	■		■	■	■	■	■	■						Local	Identify needs and resources	
Establish disaster volunteer network / citizencorp to assist with redevelopment (e.g., permit review, inspections, administrative, etc.).	■	■	■									CEMP		Local and Volunteers	Identify needs and resources	
TOPIC: Communications / Disaster Information Dissemination																
Conduct citizen outreach twice a year about redevelopment information (e.g. assistance programs, permitting process, fraudulent contractors, etc.). Disseminate via the County's Web site, local homebuilders association, schools, neighborhood watch organization, faith based organizations, etc.	■											CEMP		Local	Include in CEMP	
Encourage public participation and feedback about the redevelopment strategies and opportunities.	■				■	■	■					PDRP Communic- ations Plan		Local	Conduct outreach and request feedback	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
		D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18	18- 24	24 +	Plan or Policy	Funding	Human Resources		Institutional
HOUSING AND STRUCTURAL REPAIRS SUBCOMMITTEE																
TOPIC: Temporary Housing																
Recommend criteria for on-site temporary housing.	■		■	■	■	■						Disaster Housing SOP	FEMA	Local	Address in SOP	
Identify permit expediting procedures from the County/City Building Departments and FDOH.	■			■	■									Local	Develop procedures	
Identify non-conforming areas before a disaster occurs.	■											Comp Plan		Local	Develop inventory	
Identify site requirements (e.g., site preparation, utilities) and establishing baseline for returning site to pre-disaster condition for pre-identified potential temporary group housing sites in the county. Most are county owned.	■											Disaster Housing SOP		Local	Address in SOP	
Identify existing infrastructure (roads, utilities) that would support temporary housing.	■				■	■	■					Disaster Housing SOP		Local	Address in SOP	
Ensure availability of temporary housing for critical workforce.	■		■	■	■	■	■					Disaster Housing SOP		Local	Address in SOP	
Identify hotels, motels, campgrounds and recreational vehicle (RV) areas.	■											Disaster Housing SOP		Local	Update existing list as needed	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
		D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18	18- 24	24 +	Plan or Policy	Funding	Human Resources		Institutional
TOPIC: Long Term Housing																
Identify protocols for inspections for asbestos and mold.	■		■	■	■	■	■							Local	Coordinate with FDOH, County/City Building Dept. and NDOH; develop MOU	
Identify permitting expediting procedures from the County/City Building Departments and Florida Department of Health (FDOH).	■		■	■										Local	Develop procedures	
Provide affordable workforce housing.	■	■	■	■	■	■	■	■	■	■	■	Disaster Housing SOP		Local	Address in SOP	
Encourage requiring damaged structures to be restored using hazard mitigation measures to reduce hazard vulnerability. For qualifying historic structures located within the a designated historic district or listed on the National Register, encourage requiring restoration using hazard mitigation measures to the extent that such measures will not compromise the exterior appearance of the historic structure.	■		■	■	■	■	■	■	■	■		LMS, CEMP, PDRP, Disaster Planning for FL's Historic Resources		Local	FBHDC and EM to conduct outreach to property owners	
Identify code enforcement ordinance for abandoned or blighted properties for application in a post-disaster scenario.	■							■	■	■	■	Comp Plan			Local	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18	18- 24		24 +	Plan or Policy	Funding		Human Resources
TOPIC: Structure Repairs																
Identify the process for expediting building permits; taking into account when there is not electricity. Streamline process based on type of permit needed (e.g., reoccupancy, emergency, window, roof, or electric).	■	■	■	■	■	■	■							Local	Develop procedures	
Determine staffing requirements for expediting permits. Estimate the permit customer base based on vulnerability assessment; confirm post-disaster based on damage assessment.	■		■	■	■	■	■	■	■			Statewide Mutual Aid Agreement		Local and Mutual Aid (likely)	Address in mutual aid agreement	
Ensure effective intergovernmental coordination between permitting agencies.	■		■	■	■	■	■							Local	Update or create MOU	
Determine accelerated measures for demolition of unsafe structures; taking into account asbestos.	■		■		■	■	■	■	■					Local	Update or create MOU	
Establish an ombudsman to coordinate and provide outreach for what is required for building repairs (permits, contractor licensing).	■		■	■										Local	Need to develop a procedural checklist	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
		D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18	18- 24	24 +	Plan or Policy	Funding	Human Resources		Institutional
INFRASTRUCTURE AND PUBLIC FACILITY RECOVERY SUBCOMMITTEE																
TOPIC: Debris																
Identify debris staging / reduction sites; avoid siting near environmentally sensitive areas or areas where debris operations could hamper other redevelopment measures such as, but not limited to, temporary housing sites.	■				■							Debris SOP		Local	Address PDRP coordination issues in SOP	
Coordinate with debris removal contractors to ensure that damage to historic properties and archaeological sites are avoided.	■		■	■	■	■	■					Debris SOP		Local	Address in SOP	
TOPIC: Infrastructure Repairs																
Identify critical infrastructure for restoration prioritization and necessity for emergency repairs to expedite redevelopment.	■	■	■	■	■							CEMP	HMGP, FEMA PA	Local		
Conduct bridge inspections	■	■	■	■	■							CEMP		Local and FDOT	May need mutual aid	
Identify road network improvements; coordinate with LMS projects to elevate evacuation routes; create secondary parallel route to A1A.	■											CEMP	HMGP, FEMA PA	Local		
Identify critical infrastructure mitigation project sites (retrofit, relocate)	■			■	■	■	■	■	■			LMS	HMGP, FEMA PA	Local		

Actions	Implementation Timeline										Capabilities				Lead Entity		
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required					
			D3 - 2	1-15	15-30	30-60	60-90	4-6	6-12	12-18		18-24	24+	Plan or Policy		Funding	Human Resources
Utilities restoration and/or mitigation. Evaluate whether to replace above ground infrastructure with below-ground infrastructure.	■	■	■	■	■	■	■							HMGP, FEMA PA	Local		
Coordinate with electric, utility and telecommunications providers for restoration of power in areas for redevelopment, critical facilities and businesses.	■	■	■	■	■	■							Service Restoration Plan		Local	ESF 18 to coordinate with local business and services providers	
Government communications: Ensure that Sonetring (government offices communication system) is operational, as it is needed to communicate within the government.	■	■	■	■											Local		
Assess whether infrastructure should be replaced in areas that are destroyed; analyze if it makes sense to rebuild in the same place, the same way.	■			■	■	■	■						LMS and PDRP	HMGP, FEMA PA	Local	Intergovern-mental coordination	
If port is damaged, identify what type of disaster transit will be used until port capabilities are restored.			■	■											Local	Develop alternate transportation strategy	
If bridges are damaged, identify water transit to be used for transportation (ferry).			■	■											Local	Intergovern-mental coordination	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18		18- 24	24 +	Plan or Policy		Funding
Coordinate with CSX and First Coast Railroad for restoration and impacts to businesses.					■									Local		
Coordinate with the School Board to identify where new schools would be built, if existing schools were substantially damaged and had to be relocated.	■					■	■	■	■	■	■		HMGP, FEMA PA		EM and School Board coordination	
Identify permitting process for temporary cell towers (State CEMP has cellular on wheels).	■						■					State CEMP (cellular on wheels)			Identify local procedures	
ECONOMIC RESUMPTION SUBCOMMITTEE																
TOPIC: Business Recovery																
Identify a methodology to collect key business information (using the Business Continuity Information Network or a comparable database). Identify a responsible entity to manage this database.	■													Local with Volunteer Support	Develop procedures and database; coordinate with ESF 18	
Identify criteria and procedures for assessing operational impacts to local businesses.	■											CEMP (SBA Economic Injury Survey Report)		Chambers and EDB to work with local business	Develop criteria and procedures	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			D3 - 2	1-15	15-30	30-60	60-90	4-6	6-12	12-18		18-24	24+	Plan or Policy		Funding
Identify local business capacity for disaster recovery (how long can they go without power, employees, products, whether they have a recovery plan)	■											Business Recovery Plan template on line		Chambers and EDB to work with local business	Encourage Business to develop recovery plan	
Local businesses that have recovery plans to mentor other businesses, to provide ideas on how to develop/what's included.	■														Mentoring	
Update the CEMP to define ESF 18 (Business, Industry and Economic Stabilization).	■											CEMP		Local	Update CEMP	
Identify effective methods for post-disaster communication (e.g., e-mail, phone) for business related matters.			■									COG, COOPs		Local	ESF 18 to coordinate with businesses	
Identify key resources needed for business resumption (e.g., infrastructure, auxiliary power, road clearance.	■		■	■										Local	ESF 18 to coordinate with businesses, EM and service providers	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18		18- 24	24 +	Plan or Policy		Funding
Identify if businesses have a business recovery plan (BRP) in place. Provide recovery plan templates. House business recovery plans at the EOC.	■											BRP furnished online by EM		Local government and businesses that have BRPs to mentor	Conduct outreach and training on BRP development and importance	
Recommend that business identify critical staff that would need to return to each business, before all staff return.	■													Local	ESF 18 to coordinate with local businesses	
When conducting economic development efforts to targeted industries, identify the advantages of having a PDRP.	■													Local	Include PDRP benefits in outreach materials to prospective businesses	
Maintain tracking of impacted businesses d and their resumption timelines. Analyze ability of small businesses to stay afloat until adequate financial assistance and customer base resumes.			■	■	■	■	■								ESF 18 to coordinate with local businesses	
Establish a business disaster recovery resource center to provided needed resources (e.g., business space).	■	■	■	■								CEMP			ESF 18 to identify needs and resources	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18		18- 24	24 +	Plan or Policy		Funding
Identify impacts of lost workforce and means to assist them with returning to work in Nassau County.			■	■											ESF 18 to coordinate with local businesses	
Identify the businesses that are operational, and/or have resources (e.g., employees, products, supplies, services) to help with disaster recovery.			■	■	■										ESF to determine	
Establish sequencing of bringing businesses and supporting infrastructure back. Identify procedures for bringing businesses and citizens back to impacted areas. Establish priority recovery areas for businesses, infrastructure. Identify pre-disaster and re-prioritize post disaster.	■		■												Develop sequencing procedures	
Provide job training and employment assistance to disaster displaced workforce.			■	■								Procedures in place		Workforce		
Expedite school openings to help facilitate recovery (e.g., with children in school, parents can return to work and repair homes and/or business, and children are out of harms way of damaged areas).			■	■	■									Local	Update temporary classroom procedures	
Develop a Business Sector Recovery Plan (BSRP).	■														Develop BSRP	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
		D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18	18- 24	24 +	Plan or Policy	Funding	Human Resources		Institutional
LAND USE AND REDEVELOPMENT SUBCOMMITTEE																
TOPIC: Land Use																
Map and tabulate by acreage, land use classifications and vacant land in the Coastal High Hazard Area (CHHA), 100-year floodplain and Wildland Urban Interface (WUI).	■											PDRP		Local	Update as necessary	
Inventory historic properties in CHHA, 100-year floodplain and WUI.	■											PDRP		Local	Update as necessary	
Identify zoning and densities in CHHA, 100-year floodplain and WUI.	■											Comp Plan		Local	Update as necessary	
Map natural resources in CHHA, 100-year floodplain WUI; identify for resource protection and hazard mitigation.	■											LMS, PDRP, Comp Plan		Local	Update as necessary	
Identify repetitive loss properties	■											LMS, PDRP		Local	Update as necessary	
Create non-conforming structure inventory. Maintaining an inventory will speed the decision making process for redevelopment orders and permitting.	■													Local	Develop database	
Identify areas of major non-conforming land use.	■													Local	Update as necessary	

Actions	Implementation Timeline										Capabilities				Lead Entity		
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required					
			D3 - 2	1-15	15-30	30-60	60-90	4-6	6-12	12-18		18-24	24+	Plan or Policy		Funding	Human Resources
Review pre-identified surge, flood and wildfire vulnerable areas during applications for FLUM modification to reduce vulnerability of structures and infrastructure.	■											Comp Plan			Local	Develop review criteria	
Develop post-disaster zoning allowance for temporary housing on existing home and business sites with a set time limit that can be extended as necessary.	■											Comp Plan			Local	Develop ordinance	
Identify vacant lands for temporary housing and determine if adequate zoning is in place.	■											Disaster Housing SOP			Local	Update as necessary	
Develop procedures for pre-disaster decision making for post disaster land-use zoning.	■					■	■	■	■						Local	Develop procedures	
Identify damaged areas that contain repetitive loss properties, for which vulnerability could be reduced through the Hazard Mitigation Grant Program (HMGP) such as acquisition or elevation in the 100-year floodplain.	■			■	■							LMS	HMGP		Local		
Identify damages to structures that are of non-conforming land use.				■	■	■						Comp Plan			Local		

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18		18- 24	24 +	Plan or Policy		Funding
Periodically, convene the Land Use and Redevelopment Subcommittee of the Redevelopment Task Force, to continue the identification of post-disaster redevelopment procedures, rezoning, FLUM amendments, etc.	■				■							PDRP		Local	Consider Comp Plan amendment and reference in PDRP	
Periodically, convene the Land Use and Redevelopment Subcommittee of the Redevelopment Task Force, to develop charettes with local residents who live in identified high hazard areas to gain interest in ideas for redevelopment after a catastrophic disaster.	■				■							PDRP		Local	Identify meeting frequency and facilitator	
Identify potential sites where public facilities could be relocated if substantially damaged in high hazard areas.			■	■								LMS		Local	Include in LMS update	
Encourage that new Homeowner & Neighborhood Association covenants include hazard mitigation measures. Existing covenants can be amended to improve disaster resiliency.	■													Local	Conduct outreach to Homeowners Association	
Review maximum density and intensity for parcels in hazard prone areas. Consider post-disaster land use changes for unimproved parcels in hazard prone areas to reduce future vulnerability.	■			■	■	■						Comp Plan		Local	Consider Comp Plan amendment	

Actions	Implementation Timeline										Capabilities				Lead Entity		
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required					
			D3 - 2	1-15	15-30	30-60	60-90	4-6	6-12	12-18		18-24	24+	Plan or Policy		Funding	Human Resources
Create Community Land Trusts: County can promote & assist in the formation of CLTs to preserve existing and reconstruct lost affordable housing.																Consider creating CLT	
Identify critical priority redevelopment areas.	■					■	■					PDRP				PDRP Redevelopment Task Force to identify and include in PDRP	
Develop a policy to not allow density/intensity increases, after a disaster, in areas that have major damage or are destroyed.	■					■	■	■				Comp Plan				Consider Comp Plan amendment for hazards overlay on FLUM	
Determine how the waterfront would change after a catastrophic incident (Fernandina CRA addresses some areas).	■					■	■	■	■	■	■	Fernandina CRA				Develop CRA for other waterfront areas	
Consider low impact development practices for catastrophically damaged areas and conservation areas in highest hazard areas in the neighborhood.	■					■	■	■				Comp Plan				Consider Comp Plan amendment	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
		D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18	18- 24	24 +	Plan or Policy	Funding	Human Resources		Institutional
QUALITY OF LIFE RESILIENCY SUBCOMMITTEE																
TOPIC: Cultural/Historic Preservation																
Maintain an inventory is GIS of historic site locations.	■													Local	Identify data source file to be maintained	
Create a Post Disaster Historic Resource Assessment Team, comprised of building department, preservation planner, architect, engineers and volunteers (if available).	■		■											Local, mutual aid and volunteers	Create team	
Create a Historic Preservation Response Network (HPRN).	■	■	■											Local	Create HPRN	
Review and update historic property review and permitting procedures with the Fernandina Beach Historic Development Council (FBHDC) and the Florida Division of Historic Resources (FDHC) to ensure that procedures expedite redevelopment and include consideration for hazard mitigation measures.	■			■	■	■								Local	Develop procedures and provide outreach materials to property owners	
Develop a post-impact workshop or mailing to private historic property owners to let them know about restoration requirements and to avoid demolition.	■			■	■									Local	Develop and deliver/ provide to property owners	

Actions	Implementation Timeline										Capabilities				Lead Entity	
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required				
			D3 - 2	1-15	15-30	30-60	60-90	4-6	6-12	12-18		18-24	24+	Plan or Policy		Funding
Develop Fernandina Beach Historic District Council (FBHDC) procedures for post-disaster restoration plan. Prioritize resources for making temporary and long-term repairs.	■		■	■	■	■	■		■					Local	Develop post-disaster restoration plan	
Encourage local building officials to employ hazard mitigation measures for repairs to historic structures damaged during a disaster. Measures would be consistent with Florida Building Code Sections 1102, 1103.1, 1103.2, 1104 and 1105.	■						■	■	■	■	■			Local	Conduct outreach on mitigation to local building officials and property owners	
Ensure that historic properties are not destroyed by demolition or that damages are exacerbated by recovery activities (i.e., debris removal).		■	■	■	■							Debris SOP		Local	Address in SOP	
TOPIC: Environmental																
Create surface water cleanup procedures to clean up contaminated areas.	■		■	■	■	■								Local/State/Federal	Coordinate with jurisdictions	
Assess damage and restore fisheries.	■				■		■							Federal	Coordinate with NOAA	
Ensure that FDEP files and permits are current, to expedite post-disaster beach/dune nourishment projects.	■			■	■									Local	Review files and permits regularly	
Coordinate with FDEP and USACE to perform a beach and dune assessment.			■	■	■									Local/State/Federal		

Actions	Implementation Timeline										Capabilities				Lead Entity		
	Pre-Disaster	Emer- gency Period	Short-Term Recovery (days)				Long-Term Redevelopment (months)				Existing	Required					
			D3 - 2	1- 15	15- 30	30- 60	60- 90	4- 6	6- 12	12- 18		18- 24	24 +	Plan or Policy		Funding	Human Resources
Communicate requirements and procedures for asbestos abatement and mold removal to contractors and private citizens who are making repairs to their homes and businesses.	■		■	■	■	■	■	■							State/Local	EM, FDOH, NDOH to provide information to contractors and citizens	
TOPIC: Health and Social Services																	
Provide assistance to special needs populations (transportation, help with applying for disaster assistance programs).	■	■	■	■	■	■	■					Disaster Recovery Centers			Local/State/ Federal		
Coordinate with faith based organizations to provide assistance to disaster survivors.			■	■											Volunteers		
Assess the capabilities (structural, operational, financial) of medical care centers to provide services after a disaster.	■		■												Local	ESF 8 to identify	
Continue providing public education on disaster readiness and survival, property protection, insurance, permitting, licensed contractors, etc.	■		■	■	■							CEMP			Locals and volunteers	Distribute outreach materials	

8.0 COMMUNICATIONS PLAN

8.1 Introduction

The purpose of this section is to provide information on how Nassau County staff will collect and disseminate long-term recovery and redevelopment information before and after a disaster. Clear communication of recovery and redevelopment information is imperative to the successful recovery of Nassau County residents and business owners and Nassau County and municipal governments.

This section also provides information about how the public will be involved during the redevelopment process through community redevelopment and revitalization meetings and the role of regional and state coordination agencies during disaster recovery.

Nassau County does not have a dedicated Public information officer (PIO), except when a local state of emergency is declared. Per the Nassau County Comprehensive Emergency Management Plan (CEMP), the Emergency Support Function (ESF) 14 Coordinator (Nassau Emergency Management Director or designee) serves as the Public Information Officer (PIO), during and after a disaster. The PIO is responsible for providing public information regarding the recovery effort and will participate in the Joint Information System (JIS). The JIS provides an organized, integrated and coordinated means for providing information to the public following a disaster. A PIO can be requested via mutual aid. The PIO will represent every aspect of county and municipal government to ensure the dissemination of consistent and complete information. For more information please refer to the CEMP Basic Plan, Recovery and Mitigation Annexes and Public Information Officer Standard Operating Guidelines.

8.2 Information Collection and Dissemination

8.2.1 Inter- and Intra- Governmental Communication

The PDRP Executive Technical Committee Chair and Vice-Chair will facilitate annual orientation for County and municipal staff to ensure that staff are aware of the PDRP actions, policies and procedures that will require implementation following a major disaster.

Recovery and redevelopment-related communication to Nassau County and municipal staff following a major disaster will be coordinated through the **Redevelopment Task Force**, as authorized by the Policy Group, as defined in the CEMP. The Policy Group will be the “authorizing” body for any communication released through the Redevelopment Task Force until the EOC is de-activated. At that point, the Board of County Commissioners will determine the official spokesperson for the Redevelopment Task Force.

Redevelopment Task Force Responsibilities include:

- Serving as the central repository for information concerning long-term recovery.
- Coordinating with the Nassau County EOC during the short-term recovery phases to ensure that the decisions being made are consistent with the PDRP and supports long-term recovery.
- Determining the needs of all county departments with regards to infrastructure and structure repair.

- Work with all county departments and residents to incorporate mitigation, when possible, in to any repair efforts.
- Coordinating with any non-profit agencies such as faith-based organizations, the American Red Cross, United Way, Habitat for Humanity, etc. that may provide assistance to the community.

Recovery operations begin in the Emergency Operations Center and then transition to long-term recovery and redevelopment operations over time. This transition will be overseen by the Policy Group and the structure of the long-term recovery operation will be established by the Redevelopment Task Force. Communication between the members of the long-term recovery operation may have to take place via remote methods or email.

8.2.2 External Communication

Redevelopment information will be disseminated to citizens via Community Response Teams, at the Disaster Recovery Centers, via the County's Web site, traditional media outlets and businesses, churches and neighborhood organizations (if active).

Immediately after a disaster occurs, **Community Response Teams** will disseminate information to affected neighborhoods, and information will be available at Disaster Recovery Centers.

Information dissemination during the recovery and redevelopment period is to be through the County's Web site. The public will also be able to continue to obtain recovery and redevelopment information through traditional media outlets as listed in **Table 8.1**; however, the County Web site is to be considered the primary source for accurate and timely information.

Table 8.1: Traditional Media Outlets for Nassau County Citizens	
Media Type	Name of Media Provider
Television	Comcast Cable Information Channel
Radio	WOKV 690 AM
	WROS 1050 AM
	ZVOJ 1570 AM (Spanish)
	WJCT 89.9 FM
	WNLE 91.7 FM
	WPLA 93.3 FM
	WEJZ 96.1 FM
	WMXQ 102.9 FM
	WJSJ 105.3 FM
Newspaper	The Nassau County Record
	News-Leader

The County also has an existing **Citizens Information Phone Line** (904-548-4980). This provides a central point of contact for citizens to request service, seek information/referrals, and direct complaints, compliments and suggestions regarding government service. Because it is a familiar resource for citizens, the County will continue to utilize the Information Phone Line to field questions, comments, complaints and requests from the public following a disaster. The Information Phone Line can also be

used by citizens that have limited or no access to the Internet. The County realizes that staffing for this service may need to be increased following a disaster to handle the increased volume of calls.

Nassau County has also developed a **Re-Entry Guide** that contains information for the public on what to do and who to contact for different services and needs following a hurricane. This guide is maintained by the Nassau County Emergency Management. Nassau County will update this guide to include information on long-term recovery.

8.2.3 Communication to the Business Community

Recovery and redevelopment information for the business community of Nassau County will be coordinated through the Nassau Economic Development Board; the Greater Nassau County Chamber of Commerce; and the Amelia Island, Fernandina Beach, Yulee Chamber of Commerce and the major employers in the county.

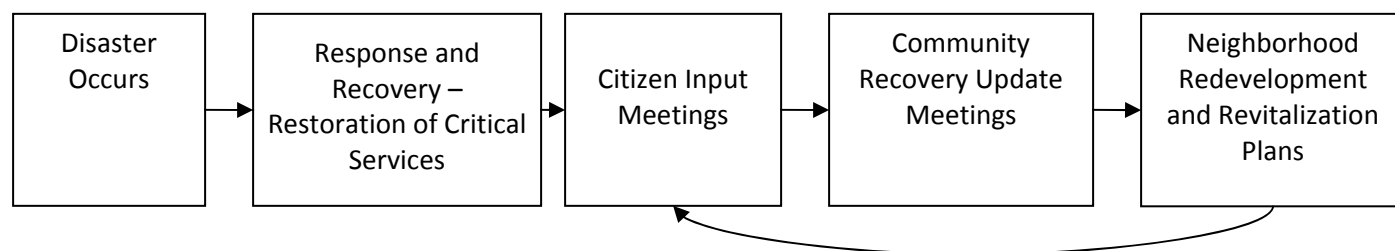
8.3 Public Participation in Redevelopment Decisions

Following a disaster, Nassau County staff will initiate a series of meetings in areas impacted by the disaster. **Figure 8.2** provides a graphical representation of when these meetings will be conducted. As soon as possible following a disaster, County staff will conduct **Citizen Input Meetings**. Meetings will be conducted to provide information and gather input so that the County can collect information, concerns, data, etc. from those citizens that live in the impacted areas and to identify common recovery and redevelopment themes and issues. County staff and (when possible) County Commissioners will be present at these meetings.

Once the Citizen Input Meetings have taken place, Nassau County will use the information gathered through these meetings to refine the County's Recovery and Redevelopment Strategies. As part of this effort, the County will continue to keep the public updated on the status of recovery and redevelopment efforts with neighborhood **Community Recovery Update Meetings**. These meetings are intended to inform the public of the status of the County's progress in recovery and redevelopment projects.

The next phase of community redevelopment will be conducted in the impacted areas with the creation of **Neighborhood Redevelopment and Revitalization Plans**.

The County will also develop an electronic newsletter that will be posted to the Web site and be sent to citizens interested in recovery and redevelopment in the County. Nassau County will advertise the availability of the newsletter and citizens can register to receive the newsletter on the County's Web site. The publication will be unique for each disaster and braded as appropriate so it will be easily identified by the public.

Figure 8.1: Progression of Neighborhood Redevelopment Planning Process Following a Disaster

8.4 Regional, State and Federal Coordination

The primary point of contact for regional, State and Federal staff will be the Emergency Management or Planning Director, as designated by the County Administrator. However, before a disaster occurs, it will be the duty of the [Identify Group] work group to identify those County Departments that will interact with Regional, State and Federal employees following a disaster. The purpose of this identification is to ensure that each Regional, State or Federal agency that interacts with Nassau County Government following a disaster will have a pre-identified point of contact to assist them with their needs. It is expected that the Regional, State and Federal representatives will use these staff members as resources to provide them with information about the situation in the County.

9.0 FINANCE PLAN

9.1 Introduction

The purpose of this section is to provide an overview of the financial challenges that Nassau County government will face following a major disaster and to provide information about the various types of pre and post-disaster funding sources that are available for Nassau County from local, state, federal, private sector, foundations and non-governmental organizations.

Major disasters reduce the revenue of communities that they impact and increase the need for funds for government, businesses and citizens. Communities that are well-prepared to obtain funding and gain support from various organizations, in addition to FEMA, may experience a smoother recovery and post-disaster redevelopment period. Post disaster impacts that strain local governments include physical damage to property and infrastructure including critical and historic properties, economic losses, environmental degradation, and erosion of quality of life and the social fabric of the community. Many of these impacts are addressed through implementation of successful hazard mitigation and redevelopment measures such as those found in the Nassau County LMS and the Recovery and Redevelopment Action Plan (Section 7 of this plan).

9.2 Funds for Nassau County Government

9.2.1 Revenue Sources

Nassau County government relies on the revenues it collect from various sources to provide services for its citizens and visitors. These funds are derived from a variety of sources, as detailed in **Table 9.1**. The FY08-09 budget for Nassau County was approved for \$167,677,632.

Table 9.1: Nassau County Revenue Sources	
SOURCE	PERCENTAGE OF NET AVAILABLE RESOURCES
Ad Valorem Taxes	47%
Special Revenue	19%
Capital Projects	12%
Enterprise	10%
One Cent	8%
Debt Service	4%

Source: Nassau County Finance Department

Property taxes provide the largest source of net available resources for Nassau County. Damage to property from disasters will impact the amount of property taxes that are collected.

Another important consideration for Nassau County is that most of the funding that will be provided to the County for recovery purposes following a disaster through federal and state funds and volunteer donations will mainly be used to rebuild critical infrastructure and facilities. There is currently no source of funding that is used to pay the costs of the extra hours that planners and building department staff will have to put in to review the increased number of plan submittal, building permits, variance requests, rezoning requests, etc that will be coming into the County Planning and Building Departments. Public Assistance grant funding includes an administrative fee for local governments to use for staff

costs for grants administration. However, these funds are based on a sliding scale and do not always cover all associated costs.

9.2.2 Local Reserves, Credit and Insurance

Reserve funds can be important for Nassau County because communities with significant reserves can borrow from themselves to finance operations and rebuild critical facilities until federal funds begin to come in to reimburse the County for their expenditures. The County has a disaster reserve fund of \$500,000.

It is also important that a community to have a strong line of credit available following a disaster. This allows the community to access funding before FEMA Public Assistance reimbursement dollars are available. The Public Assistance program requires that local governments first pay for critical facility and infrastructure repairs (for large projects; the 2009 large project threshold is \$64,200 and annually increases based on the Consumer Price Index) before they can be reimbursed for those expenses. Therefore, a healthy line of credit is in itself an asset to the County.

The private insurance industry also plays a major role in post disaster redevelopment. Nassau County government, businesses and citizens all rely on the funds made available from private insurance companies.

9.2.3 State and Federal Resources, Grants and Loans

Funding for post-disaster redevelopment projects is available both before and after disasters occur. Nassau County is interested in taking full advantage of these funding opportunities and will make every attempt to be in a better position to receive funding by establishing relationships with the potential funding organizations. Proactive partnering and conversations with these funding organizations will provide Nassau County staff with an understanding of the organization's policies, timelines, funding uses and restrictions, types of aid, and recipient and project eligibility.

Nassau County is aware that many funding programs may have local match requirements, which can include in-kind services. In certain cases, funding organizations might allow waivers of certain criteria or allow creative financing solutions depending on the type or magnitude of the disaster, so it is advisable to inquire as to whether these options exist.

There are numerous sources for governmental and non-governmental disaster relief programs and private donations that can support post-disaster redevelopment. For example, the Florida League of Cities has a 370-page resource book entitled, ***Financial and Technical Assistance for Florida Municipalities 2008-2009***, which provides information on grants, loans, technical assistance and other resources that are available to Florida municipalities. This resource book includes information on various programs for topics such as community development and redevelopment, economic development, emergency management, capital facilities, coastal management, environmental, historic preservation, housing and infrastructure. For more information visit: <http://www.flcities.com/membership/grant/>.

Another resource for Nassau County is a program created by the State of Florida that serves as a funding and management source for recovery needs that have not been met by relief organizations, government agencies and insurance. This program, formerly known as the Hurricane Relief Fund that began in 2004, was renamed by Governor Charlie Crist in 2007 as **the Florida Disaster Recovery Fund**. Many

corporations and private foundations may donate funding to a program such as the Florida Disaster Recovery Fund or provide funding through other vehicles after a disaster has occurred. For more information visit: <http://www.flahurricanefund.org/>.

Another important tool available to Nassau County is the **Resource Identification Strategy (RIS)** database that was developed in conjunction between the Department of Community Affairs and the Florida Public Affairs Center at Florida State University. The RIS is designed to identify traditional and non-traditional funding sources for local governments looking to implement disaster preparedness, response, mitigation, recovery and long-term redevelopment projects. The RIS can be accessed by visiting: <http://www.flris.org>.

Through FEMA's **Community Disaster Loan** program, Nassau County may be able to obtain a maximum of \$5 million dollars to cover operating costs for the fiscal year in which the event occurs. Under extraordinary circumstances these loans may exceed \$5 million dollars and in rare cases, the loans are forgiven. However, following a major disaster, Nassau County will likely be faced with a financial crisis that far exceeds the cap that is placed on this program and will need funding outside of the fiscal year in which the event occurred.

Nassau County has identified numerous vulnerability reduction measures in the existing *Local Mitigation Strategy* (LMS) Projects, and *Local Comprehensive Plan* Capital Improvement Projects. Projects placed on either of these lists have a greater likelihood of being funded. A hazard mitigation project must be listed in the LMS as a condition for receiving Federal Emergency Management Agency (FEMA) Section 404 Hazard Mitigation Grant Program (HMGP) grant funding. Having an approved LMS positions a community to be eligible for FEMA Section 406 Public Assistance hazard mitigation funding, which is easier and quicker to receive than HMGP funding as funds are granted earlier on in the recovery process on a non-competitive grant application basis. An approved LMS is also required for local governments to be eligible to receive grant funding for permanent work (i.e., road systems and bridges, water control facilities, public buildings and contents, public utilities, and parks and recreational facilities).

Nassau County staff will further familiarize themselves with potential funding programs, organizations and requirements that are available through inquiry and participation in training classes or workshops in anticipation and well in advance of needing such funds. The County will also keep in mind existing staff levels and capabilities and remember that depending on the workload faced following a disaster, extra staff may be needed to help manage grants or loans once received.

A detailed listing of state and federal grant and loan program is provided at the end of this section.

9.2.4 Commercial Loans

In addition to the various potential funding sources described above, the County still may have to pursue commercial loans to cover disaster costs. These are most often provided through local banks and/or credit unions that have a local stake in the community. Nassau County plans to work with the local banking industry to explore the establishment of different ways the industry can help Nassau County and the businesses in the County following a disaster.

One potential idea for how the local banking industry could help the local economy in a post disaster environment is through the establishment of a private Disaster Recovery Fund. A second form of assistance that private banks within the county could provide is bridge loans. Bridge loans are short term loans that can be used for a variety of purposes. The purpose of these loans in a post disaster

environment would be to help the County and/or local businesses recover from the disaster until the County or the local businesses could secure a more permanent source of financing.

Nassau County has included each of these ideas as actions to be explored in the **Recovery and Redevelopment Action Plan** found in Section 7.

9.2.5 Mutual Aid Agreements

Mutual aid agreements facilitate and expedite recovery, as other local governments that have not been impacted by the disaster can provide staffing and other resources to assist the impacted county. For example, mutual aid agreements can be developed to include the following staffing and services: planners, permit specialists, emergency period debris removal staff and equipment, geographic information system (GIS) specialists, public information officer (PIO), etc.

9.2.6 Pre-Established Recovery Contracts

Pre-established contracts are helpful or expediting the goods and services needed for post disaster recovery. These contracts are more readily procured and executed, as they have already been reviewed and approved by the Nassau County's Financial Management Department. Although, FEMA will reimburse local governments for emergency contracts, services are typically limited to the first 72 hours of work. There are cases when sole source contracts may be let, but there are special requirements that must be adhered to per the Code of Federal Regulations (CFR) Section 13.36.

9.2.7 Private Donations

Following a major disaster, Nassau County will receive an outpouring of donations from private organizations. Nassau County has established ESF 15 in the Comprehensive Emergency Management Plan (CEMP) to address the volunteers and donations that will be available to the County following a disaster.

Nassau County recognizes that an unorganized or cumbersome process for receiving donations following a disaster can have negative impacts. As a result, the County has identified a Recovery and Redevelopment Action to streamline the County's process for receiving private donations and to address the need to be prepared for donations to continue to come in to the County well beyond the short term recovery period.

9.2.8 Potential of Municipal Insolvency

As presented in the Vulnerability Assessment Section of this plan, the municipal governments on Anna Maria Island are particularly at risk to natural hazards, with most of the building stock of the communities located in hazard zones. It is possible that if these municipalities are impacted by a severe enough event, they could be faced with difficult choices to make about their communities.

Nassau County is committed to doing their part to ensure that these communities do not face insolvency. The County will assist the municipalities in whatever ways they can by attempting to anticipate the needs of the municipalities before a disaster occurs.

9.2.9 Funding of Recovery and Redevelopment Actions

Each of the Recovery and Redevelopment Actions found in Section 6 contain information about the resources needed to implement the action. This includes listing potential funding sources, if applicable. For example, funds to implement the actions may be provided from existing operating or future operating budgets or general funds, a previously established contingency fund, a cost-sharing federal or state grant program, etc.

9.3 Conclusions

While Nassau County can be assured that a major disaster will place a strain on the financial stability of the County, careful planning and utilization of both traditional and non-traditional funding sources, resources and techniques can help to minimize the strain. By using the resources and techniques described in this section and by accomplishing the Recovery and Redevelopment Actions identified throughout, Nassau County can make positive strides towards effectively reducing the impacts that a major disaster will place on the County's finances.

Some of the major recovery and mitigation funding programs are described in detail in the following pages.

Pre-Disaster Funding Programs

Pre-Disaster Mitigation (PDM) competitive grants

The PDM program was authorized by Section §203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended by Section §102 of the Disaster Mitigation Act of 2000, to assist communities to implement hazard mitigation programs designed to reduce overall risk to the population and structures before the next disaster occurs. Eligible projects include:

- Property acquisition or relocation;
- Structural and non-structural retrofitting (e.g. elevation, storm shutters, and hurricane clips);
- Minor structural hazard control on protection (e.g. culverts, floodgates, retention basins); and
- Localized flood control projects that are designed to protect critical facilities and are not part of a larger flood control system.
- Ineligible activities include;
- Major flood control projects;
- Engineering designs are not integral to a proposed project;
- Feasibility and drainage studies that are not integral to a proposed project;
- Flood studies that are not and mapping; and

- Response and communication equipment (e.g. warning systems, generators that are not integral to a proposed project).

Florida Department of Community Affairs
Division of Emergency Management
2555 Shumard Oak Blvd.,
Tallahassee, FL 32399-2100
(850) 413-9966

Community Assistance Program State Support Services Element (CAP-SSSE)

To ensure that communities participating in the National Flood Insurance Program (NFIP) are achieving flood loss reduction measures consistent with program direction. The CAP-SSSEE is intended to identify, prevent and resolve floodplain management issues in participating communities before they develop into problems requiring enforcement action.

Federal Emergency Management Agency
Mitigation Directorate
Program Implementation Division
500 C Street SW
Washington, DC 20472
(202) 646-2719

Community Development Block Grant (CDBG) (also see post-disaster funding)

The Community Development Block Grants (CDBG) provide for long-term needs, such as acquisition, rehabilitation or reconstruction of damaged properties and facilities and redevelopment of disaster-affected areas. Funds may also be used for emergency response activities, such as debris clearance and demolition, extraordinary increases in the level of necessary public services. Eligible projects include the following:

- Voluntary acquisition or if appropriate, elevation of storm damaged structures (can be used as match for FMA projects in low income areas);
- Relocation payments for displaced people and businesses;
- Rehabilitation or reconstruction of residential and commercial buildings;
- Assistance to help people buy homes, including down payment assistance and interest rate subsidies; and
- Improvement to public sewer and water facilities

Department of Housing and Urban Development
Community Planning and Development
451 7th Street, SW
Washington, DC 20410
(202) 708-3587
www.hud.gov

Community Facilities Loan Program (10.423)

To construct, enlarge, extend, or otherwise improve community facilities providing essential services to rural residents.

Rural Economic and Community Development
4440 NW 25th Place
PO Box 147010
Gainesville, FL 32614-7010
(904) 334-3440

Conservation and Recreation Lands (CARL)

This grant program is intended to conserve environmentally endangered lands and provide resource conservation measures for other types of lands.

Florida Department of Environmental Protection
Division of State Lands
Marjory Stoneman Douglas Bldg.
3900 Commonwealth Blvd., MS 100
Tallahassee, FL 32399-3000
(850) 245-2555
www.dep.state.fl.us/lands/

Emergency Advance Measures For Flood Prevention

To perform activities prior of flooding or flood fight that would assist in protecting against loss of life and damages to property due to flooding.

US Army Corps of Engineers
Attn: CECW – OE
Washington, DC 20314
(202) 272-0251

Emergency Management Program Assistance (EMPA)

Purpose of program is to administer the Emergency Management Preparedness and Assistant Trust Fund, count base grants, and incoming federal, state, or private funding. Within this program is the Municipal Grant Program. Cities can apply for up to \$50,000 worth of grant money. Also included, is the Open Competitive Grant Program in which cities, counties, not for profits, etc. can apply for up to \$300,000 in grant money.

Emergency Management Program Assistance (EMPA)
Dept. of Community Affairs
2555 Shumard Oaks Blvd.,
Tallahassee, FL 32399-2100
(850) 413-9966

Expanded Local Management Hazardous Waste Program

The primary purpose of this fund is to cover costs incurred to establish the expanded local hazardous waste management program as stated in FS403.7238 including training for county personnel, materials & equipment for educational activities.

Florida Dept. of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400
(850) 488-0300

The Federal Assistance for Beach Renourishment Program

Provides up to 65% of the costs to renourish beaches and for up to 50 years of periodic maintenance.

Southeast Atlantic Division
US Army Corps of Engineers
Jacksonville District
(904) 232-1697

Flood Control Projects

To reduce flood damages through projects not specifically authorized by Congress.

Commander
US Army Corps of Engineers
Attn: CECW – OE
Washington, DC 20314
(202) 272-1975

Flood Mitigation Assistance

To fund cost effective measures to States and communities that reduce or eliminate the long term risk of flood damage to buildings, manufactured homes, and other insurable structures.

Program Implementation Division
Federal Emergency Management Agency
500 C Street SW
Washington, DC 20472
(202) 646-3619

NOTE: We did not include FMAP Projects on the mitigation list due to the owner of the property has to agree and apply.

Flood Plain Management Services

To promote appropriate recognition of flood hazards in land and water use planning and development through the provision of flood and flood plain related data, technical services, and guidance.

US Army Corps of Engineers
Attn: CECW – PF
Washington, DC 20314-1000
(202) 272-0169

Flood Prevention, Emergency Advance Measures

To mitigate, before an event, the potential loss of life and damages to property due to floods.

USACE
CECW-OE
DoD
Washington, DC 20314
(202) 761-0251

Florida Communities Trust (FCT)

This grant program facilitates the purchase of lands for conservation and/or recreation purposes by local governments. This land acquisition program helps to implement conservation, recreation, open space, and coastal elements of local comprehensive plans. The Board of Florida Communities Trust has latitude to consider innovative financing arrangement, loans, and land swaps. However, most of the Trust's funding is for land acquisition. Land acquisition projects in which matching funds are available will receive more favorable consideration, although a portion of available funds may be awarded on outright grants.

Florida Department of Community Affairs
Florida Communities Trust
2555 Shumard Oaks Blvd.,
Tallahassee, FL 32399
(850) 922-2207
www.dca.state.fl.us/ffct/florida_forever.htm

Grants & Loans for Public Works & Development Facilities

To provide financial assistance for the construction of public facilities needed to initiate and encourage the creation or retention of permanent jobs in the private sector in designated areas where economic growth is lagging.

Economic Development Administration
The Federal Building
Room 423
80 N. Hughey Ave.
Orlando, FL 32801
(407) 648-6572

Hazardous Materials Training Program for Implementation of the Superfund Amendment and Reauthorization Act (SARA) of 1986

The goal of the SARA Title III Training Program is to make funding available to support programs of State, local, and Tribal governments, and university sponsored programs designed to improve emergency planning, preparedness, mitigation, response, and recovery capabilities. These programs must provide special emphasis on emergencies associated with hazardous chemicals.

Federal Emergency Management Agency
Support Systems Branch, Training Division
16825 S. Seton Ave.
Emmitsburg, MD 21727
(301) 447-1142

Hurricane Program

To reduce the loss of life, property, economic disruption, and disaster assistance costs resulting from hurricanes.

Director
Program Implementation Division
Mitigation Directorate
FEMA
500 C Street SW
Washington, DC 20472
(202) 646-4621

Insurance Program, National Flood (NFIP)

To enable individuals to purchase insurance against losses from physical damage to or loss of buildings and or contents therein caused by floods, mudflow, or flood-related erosion, and to promote wise floodplain management practices in the nation's flood prone areas.

Claim and Underwriting Division
FIA
FEMA
500 C Street SW
Washington, DC 20472
(202) 646-3422

Payments to States in Lieu of Real Estate Taxes

To compensate local taxing units for the loss of taxes from federally acquired lands, 75 percent of all monies received or deposited in the Treasury during any fiscal year for the account of leasing of lands acquired by the United States for flood control, navigation and allied purposes, including the development of hydroelectric power, are paid at the end of each year to the States in Which such property is situated.

Headquarters
US Army of Corps of Engineers
Attn: CERM-FC
20 Massachusetts Ave. NW
Washington, DC 20314-1000
(202) 272-1931

Protection, Clearing and Straightening Channels

To restore channels for purposes of navigation or flood control.

Commander
US Army Corps of Engineers
Attn: CECW-OD
Washington, DC 20314-1000
(202) 272-8835

Protection of Essential Highways, Highway Bridge Approaches, and Public Works

To provide bank protection of highways, highway bridges, essential public works, churches, hospitals, schools, and other nonprofit public services endangered by flood caused erosion.

US Army Corps of Engineers
Attn: CECW-PM
Washington, DC 20314-1000
(202) 272-1975

Public Works Impact Projects Program (PWIP) (11.304)

To provide financial assistance in the construction of public facilities for the purpose of providing immediate useful work to unemployed and underemployed persons in designated project areas.

Economic Development Administration
The Federal Building, Room 423
80 N. Hughey Ave.
Orlando, FL 32801
(407) 648-6572

Snagging and Clearing for Flood Control

To reduce flood damage.

US Army Corps of Engineers
Attn: CECW-PM
Washington, DC 20314-1000
(202) 272-1975

Post-Disaster Funding Programs**Community Development Block Grants (CDBG)/Entitlement Grants**

To develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low to moderate income individuals.

Entitlement Communities Division
Office of Block Grant Assistance
CPD, HUD
451 7th Street SW
Washington, DC 20410-7000
(202) 708-3587

Community Development Block Grants (CDBG)/State's Program

To develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low to moderate income individuals.

State and Small Cities Division
Office of Block Grant Assistance
CPD, HUD
451 7th Street SW
Washington, DC 20410-7000
(202) 708-3587

Cora C. Brown Fund

To assist disaster victims for unmet disaster related needs. When Cora C. Brown of Kansas City, Missouri, died in 1977, she left a portion of her estate to the Federal Government as a special fund to be used solely for the relief of human suffering caused by disasters.

Human Services Division
Response and Recovery Directorate
FEMA
500 C Street SW
Washington, DC 20472
(202) 646-3642

Disaster Emergency Loans – Farmer Programs

To provide financial assistance to eligible applicants to help them overcome the adverse effects of a natural disaster to their farm operation.

Rural Economic and Community Development
4440 NW 25th Place
PO Box 147010
Gainesville, FL 32614-7010
(904) 334-3440

Disaster Reserve Assistance

To provide emergency feed assistance to eligible livestock owners, in a State, county, or area approved by the Secretary or designee, where because of disease, insect infestation, flood, drought, fire, hurricane, earthquake, hail storm, hot weather, cold weather, freeze, snow, ice, and winterkill, or other natural disaster, a livestock emergency has been determined to exist. The program provides assistance to eligible livestock producers for losses of feed grain crops, forage, and grazing.

Dept. of Agriculture
Farm Service Agency
Emergency and Noninsured Assistance Program Division
STOP 0526
1400 Independence Ave. SW
Washington, DC 20250-0526
(202) 720-3168

Economic Injury Disaster Loans (EIDL)

To assist business concerns suffering economic injury as a result of certain presidential, Secretary of Agriculture, and/or SBA declared disasters.

Office of Disaster Assistance
SBA
409 3rd Street SW
Washington, DC 20416
(202) 205-6734

Emergency Conservation Program

To enable farmers to perform emergency conservation measures to control wind erosion on farmlands, or to rehabilitate farmlands damaged by wind erosion, floods, hurricanes, or other natural disasters and to carry out emergency water conservation or water enhancing measures during period of severe drought.

Consolidated Farm Service Agency
Dept. of Agriculture
PO Box 2415
Washington, DC 20013
(202) 720-6221

Emergency Operations Flood Response and Post Flood Response

To provide emergency flood response and post flood response assistance as required to supplement State and local efforts and capabilities in time of flood coastal storm.

Commander US Army Corps of Engineers
Attn: CECW- OE
Washington, DC 20314-1000
(202) 272-0251

Emergency Shelter Grants Program (ESG)

To provide financial assistance to renovate or convert buildings for use as emergency shelters for the homeless. Grant funds may also be used to operate the shelter (excluding staff) and pay for certain support services.

Community Planning & Development
Dept. of Housing and Urban Development
325 West Adams Street
Jacksonville, FL 32202-4303
(904) 232-2626

Federal Emergency Shelter Grants Program for the Homeless

Grants for the provision of emergency shelter and essential support services to the homeless. Funds may be used for structural improvements to shelters, shelter operating expenses, furnishings and equipment, and other services.

Benefit Recovery & Special Program
Economic Services Program
1317 Winewood Blvd.
Tallahassee, FL 32399-0700
(850) 487-2966

Hazard Mitigation Grant Program (HMGP)

To prevent future losses of lives and property due to disaster; to implement State or local hazard mitigation plans; to enable mitigation measures to be implemented during immediate recovery from a disaster; and to provide funding for previously identified mitigation measures to benefit the disaster area.

Director
Program Implementation Division
Mitigation Directorate
FEMA
500 C Street SW
Washington, DC 20472
(202) 646-4621

Physical Disaster Loans (Business)

To provide loans to businesses affected by declared physical type disasters for uninsured losses.

Office of Disaster Assistance
SBA
409 3rd Street SW
Washington, DC 20416
(202) 205-6734

Public Assistance Program

To provide supplemental assistance to States, local governments, and certain private nonprofit organizations to alleviate suffering and hardship resulting from major disasters or emergencies declared by the President. Public Assistance (PA) provides funding for the repair, restoration, reconstruction, or replacement of a public facility or infrastructure damaged or destroyed by a disaster. Eligible applicants at the county level include local governments and certain private non-profit (PNP) organizations. Eligible PNP's include educational, emergency, medical, rehabilitation, and temporary or permanent custodial care facilities, utilities, and other PNP facilities which provide essential governmental services to the general public. PA Funds are available for debris removal, emergency protective measures, road systems and bridges, water control facilities, public buildings and contents, public utilities, and parks and recreational facilities. PA funds may not be used when other funding sources are available, such as insurance, to avoid the duplication of benefits.

Infrastructure Support Division
Response and Recovery Directorate
FEMA
500 C Street SW
Washington, DC 20472
(202) 646-3026

Other Federal Domestic Assistance Available:

Beach Erosion Control Projects
CFDA # 12.101

Business and Industrial Loans
CFDA # 10.768

Coastal Zone Management Administration Awards
CFDA # 11.419

Watershed Protection and Flood Prevention
CFDA # 10.904

Appendix A

Nassau PDRP Meeting Minutes

Nassau County Post Disaster Redevelopment Kickoff Meeting Minutes
Prepared by Nassau County
YULEE, FLORIDA
AUGUST 12, 2008

An advertised committee meeting was held this 12th day of August 2008 at 9:00 a.m. at the Yulee County Building, 86026 Pages Dairy Road, Yulee, Florida to initiate the creation of a Countywide Post-Disaster Redevelopment Plan (PDRP). The purpose of the kick-off meeting was to introduce the project team, identify the purpose and the schedule; and provide an overview of the plan development process. There were 19 attendees present who are listed on the attached *Exhibit A - Sign-in Sheet*.

Lisa Flax with the consulting firm PBS&J provided an introduction of the Post Disaster Redevelopment Plan. She announced the Project Team consisting of Walter Fufidio, County Planning Director; Nancy Freeman, Director of Emergency Management; Sandy Meyer, Florida Department of Community Affairs; Lincoln Walther, CSA International, Inc.; and Darrin Punchard, Lisa Flax, Nathan Slaughter and Dennis Smith, PBS&J Consulting. The attendees introduced themselves and briefly described their backgrounds.

Ms. Flax provided an overview of the project noting that Nassau County has been selected as a Pilot Community in a statewide initiative to develop guidelines for the development of a Post-Disaster Redevelopment Plan (PDRP). All of Florida's coastal counties and municipalities are required to adopt a PDRP. The State recommends that "these plans should, at minimum, establish long-term policies regarding redevelopment, infrastructure, densities, non-conforming uses, and future land use patterns". The initiative is sponsored by the Florida Department of Community Affairs, Division of Community Planning and Division of Emergency Management who have jointly developed guidelines that will be used to develop the PDRP. As a Pilot Community, the State has provided Nassau County with a qualified consultant for one year to assist the County in developing their PDRP; the cost borne by the State.

Ms. Flax explained that a PDRP identifies policies, operational strategies, and roles and responsibilities for implementation that will guide decisions that affect short-term recovery and long-term recovery and redevelopment of the community after a disaster. The plan emphasizes seizing opportunities for hazard mitigation and community improvement consistent with the goals of the local comprehensive plan and the full participation of the citizens. This would be a true union between the Emergency Management and the comprehensive planning components of the community. The plan will address such hazards as high wind, coastal storm surge, and inland flooding. She

added that there were currently five counties involved in this Pilot project.

Ms. Flax explained the roles and responsibilities of the participating agencies and pointed out that PBS&J would prepare the plan, facilitate the meeting, conduct vulnerability and capacity assessments, and document the case study. The role for Nassau County is to appoint a Pilot Project Coordinator (which is Walter Fufidio with the assistance of Nancy Freeman), attend the Coordination Meetings, assist with data collection (plans, GIS data), participate actively in PDRP Committee meetings, and coordinate public participation. The PDRP Executive Technical Committee has been formed and will serve to guide the process, conduct working groups and provide feedback to the consultant. This committee will review and comment on drafts. The group further discussed various storm scenarios and disaster mitigation.

Next, Ms. Flax discussed the purpose behind the PDRP project:

- Proactive three-year Statewide Initiative (DCA, Division of Emergency Management) to develop PDRPs.
- Local Government Pilot Communities selected to help develop the State-wide guidelines for development of future PDRPs.
- An organized and proactive approach to recovery and redevelopment following an event.
- Facilitate the return of the community to pre-disaster conditions as quickly as possible
- Better position the participating jurisdictions to take advantage of post-disaster opportunities.

Ms. Flax then discussed short term recovery (begins 0-30 days after event) which would entail bridging from response to recovery and restoration of essential services and addressing citizen health and safety needs; and long term recovery (begins 60-90 days after event) entailing rebuilding housing infrastructure, rebuilding the economy and rebuilding the culture.

Ms. Flax then referenced the proposed project timeline in the packet and how the local framework and how each of the groups cover certain recovery issues. She urged the group to review the actions. Public private partnerships were discussed.

The PDRP Project Schedule tasks were reviewed per quarter to illustrate the progress of the committee. Ms. Flax explained the different segments of the plan. All plan sections would go before the Executive Technical Committee made up of representatives of the county, municipalities and invited stakeholders, for review to recommend to the Board of County Commissioners for final approval. Both the County and the municipalities will have a voice in how this plan is structured

as well with the general public. Throughout each quarter, Nassau County fills out an evaluation form to rate their progress and submits this form to the State.

Mr. Walther provided an overview of how the steps Nassau County will be taking will fit into the "big picture". He explained that this was a "cutting edge project" was a three-year process and stressed that actions need to be taken pre and post-disaster. He envisioned a State workshop of all the communities involved in order to keep the group unified. He further discussed temporary housing and debris sites as well as protection of historical sites. Discussion ensued related to the various hazards that could affect the area. It was suggested to invite CSX Railroad to become a part of this plan process. Also, faith-based organizations are the largest untapped volunteer rebuilding resource in the country and should be included as well. Ms. Freeman referenced the stakeholders involved and explained that there will be opportunities to increase the participation in the future. The importance of the role of the School Board and financial institutions was also noted. Ms. Flax requested input from the Committee on any other issues they felt important to identify in this plan.

Next, Ms. Flax reviewed the Planning Process they were envisioning for developing the PDRP.

Ms. Flax also reviewed the proposed outline to accomplish the plan process as follows:

- Vulnerability assessment
- Capacity assessment
- Recovery and Redevelopment Action Plan (Policies and Procedures)
- Communications Plan
- Financing Plan
- Implementation and Maintenance Plan
- Training and Exercise

A lengthy discussion ensued related to response teams and faith-based organizations.

Next, Ms. Flax discussed the possible PDRP issues that may potentially arise:

- Local Capacity/Government Operations
 - Sustaining essential government function
 - Maintaining local control that is complemented by Federal and State assistance
- Public Infrastructure and Facility Repair and Mitigation
 - Critical infrastructure facility repair (water, sewer, electric)

- o Decision to mitigate infrastructure (retrofit, relocation)
- Housing (Temporary and Long Term)
 - o On existing property or on group sites
 - o Restoration using stronger building codes, mitigation
 - o Affordable housing in redevelopment projects
- Economic Recovery
 - o Use of local business capabilities in the disaster recovery process - "staff sharing".
 - o Ability of small business to stay afloat until adequate financial assistance is available and customer base resumes.
 - o Shortages of contractors and/or supplies - pool resources.
 - o Employees affected by person property losses and school closure.
 - o Agricultural losses
- Land Use/Redevelopment
 - o Limiting development in hazardous area - limit public expenditures
 - o Nonconforming issues
 - o Disaster resilient public funding decisions
 - o Debris management and disposal siting
 - o Temporary housing siting
- Environmental Restoration/Improvement
 - o Water pollution
 - o Aquatic restoration
 - o Dune systems, marshlands, and native vegetation
 - o Unhealthy levels and kinds of mold in damages structures
 - o Asbestos abatement
- Cultural Preservation and Quality of Life Improvements
 - o Identification of historic resources
 - o Restoration of historic processes and administrative process
- Social, Health and Equity Concerns
 - o Environmental justice
 - o Affordable housing
 - o Care for special needs populations (transportation, signing)

Ms. Flax pointed out that if a local community does not have a plan in place. F.E.M.A. officials will come in and instruct the County on how the post-disaster should be handled. With a PDRP in place, F.E.M.A. will assist in its implementation.

Ms. Flax pointed out that the next steps would be to:

- Identify PDRP Issues and Policies
- Conduct Capacity Assessment
- Conduct Vulnerability Assessment

- Begin drafting Implementation Plan
- Reconvene the PRDP Executive Technical Committee to present findings and begin identification of recovery and redevelopment policies and procedures to include in the plan.

Ms. Flax requested that each attendee complete the Issues Identification Exercise Worksheet in the packet to identify issues that are likely to occur in a post-disaster scenario and submit to her via hardcopy or email. She reiterated that the Post-Disaster Redevelopment is a complex, holistic and interdisciplinary process and everyone must provide input.

The group then discussed the temporary housing and the pros and cons of allowing the temporary housing on existing home sites versus setting up a separate large scale temporary housing site. Holding a public meeting to engage the community was discussed as well as providing information and education to the public.

The meeting adjourned at 12:35 p.m.

/ps: Emergency Services

Exhibit A - Sign-in Sheet

NAME	DEPARTMENT/COMPANY	CONTACT INFO/E-MAIL	PHONE NUMBER
Ann-Marie West	American Red Cross	westa@redcross.org	904-358-8081 home
Mandy Fortes	Town of Calhoun	Mandy Fortes @ Windstar, Inc	904-403-3854
DAVE COBB	FPL	DAVE-G-COBB@FPL.COM	386-754-2022
J.M. Hare	BLDG: DEPT.	JHare@nassaucountyfl.com	904-321-5989
JEFF SHEFFIELD	FIRST COAST MPO	JSHEFFIELD@FCMPO.COM	904-306-7512
Gary Gaskill	Nassau County Sheriff's Office	ggaskill@nassaucountysheriff.com	904-548-4000
ORLIN MAIN	At Large	96105 DOLPIN WAY Yulee	904 277-3576
Gus McCordell	TOH/ALCOA MATOVINA & CO	37321 Mill St Hillandale	904-845-2502
Janie Sandifer	NEFBA/NASSAU BUILDERS	jsandifer@matovina.com	(904) 292-0788 X.11
WALTER Fufidio	Nassau County	wfufidio@nassaucountyll.com	904 491 3613
Jennifer Kelly - Sheriff	Oceanography ? Port Authority	jenshef@oceanography.net	491-3495
Douglas Mount	Nassau - Amelia Utilities	dheumt@nassaucountyfl.com	904- 361 -0802
NANCY FREEMAN	NASSAU CO. SHERIFFS MGMT	nfreeman@nassaucountyfl.com	904-548-4780
John Smack	P&Z	JSACK@NET-MAGIC.NET	904-556-4491

9:00 A.M.

[illegible]

TUESDAY, AUGUST 12, 2008
9:00 A.M.

KICKOFF MEETING - POST DISASTER REDEVELOPMENT PLAN (PDRP)

NAME	DEPARTMENT/COMPANY	CONTACT INFO/E-MAIL	PHONE NUMBER
Ann-Marie West	American Red Cross	westa@nflondareldcross.org	904-355-8081
Mandy Fortes	Town of Callahan	Mandy Fortes @ Windystan. net	904-403-3854
DAVE COBB	FL	DAVE-G-COBB@FL.com	386-754-2022
Jim Hare	BLDG: DEPT.	JHare@nassaucountyfl.com	904-321-5989
JEFF SHEFFIELD	FIRST COAST MPO	JSHEFFIELD@FCMPO.com	904-306-2512
Gary Gaskill	Nassau County Sheriff's Office	ggaskill@nassaucountysheriff.com	904-548-4000
ORIN MAIN	AT LARGE	96105 DOLPHIN WAY YADE	904 277-3576
Chris McCall	TOH/DEEDS	37321 Mill St. Hilliard 32046	904-845-2502
Janie Sandifer	NETBA/NASSAU BUILDERS	jsandifer@matovina.com	(904) 292-0778 X.11
Walter Fufidio	Nassau County	wfufidio@nassaucountyfl.com	904 491 3613
Jennifer Kelly - Sheriff	Ocean Highway Port Authority	jenshofra@bellSouth.net	491-3495
Douglas Mewett	Nassau - Amelia Utilities	dheuwett@nassaucountyfl.com	904- 361 -0800
NANCY FREEMAN	NASSAU CO. EMER. MGMT.	nfreeman@nassaucountyfl.com	904-548-4980
Tom Stack	P&Z	gstack@NET-MAGIC.NET	904-556-4491

9:00 A.M.

KICKOFF MEETING – POST DISASTER REDEVELOPMENT PLAN (PDRP)

[illegible]



Nassau County PDRP Pilot Project

Executive Technical Committee For the Nassau County Post Disaster Redevelopment Plan

Thursday, October 16, 2008

10:00 a.m. – 5:00 p.m.

Bean Center-FCCJ Campus

76346 William Burgess Blvd

Yulee, Florida 32097

Meeting #1 Minutes

Attendees

Please see attached roster.

Welcome and Introductions

Nassau County Growth Management Director Walter Fufidio welcomed the Executive Technical Committee (ETC) to the meeting. Mr. Fufidio established the vision, purpose, importance and basis for the county's participation in developing the Post Disaster Redevelopment Plan (PDRP). The PDRP is an important document, which hopefully will not be needed. The PDRP has to be developed as a community-wide effort and will go before the Nassau County Board of County Commissioners for their approval. It will be adopted as part of the Comprehensive Plan, which carries the weight of law.

PDRP Overview, Timeline and Roles and Responsibilities

PBS&J Project Manager Lisa Flax provided an overview of the PDRP process, timeline and roles and responsibilities, per the attached presentation and meeting handouts.

Florida Department of Community Affairs, Division of Emergency Management Hazard Mitigation Project Manager Sandy Meyer presented the overarching guidelines for the PDRP development process.

The focus of the PDRP is on redevelopment of structures and infrastructure, land use densities, future land use patterns and non-conforming uses.

The intent of the PDRP is to facilitate short-term recovery actions (e.g., damage assessment, temporary housing, debris operations siting) that affect long-term redevelopment and long-term redevelopment, not recovery.

The PDRP is not intended to address issues that are already well addressed in existing plans such as the Comprehensive Emergency Management Plan, Evacuation Plan, or Local Mitigation Strategy. The PDRP will support these plans.



Nassau County PDRP Pilot Project

The State of Florida and Nassau County have plans in place to facilitate emergency preparedness, response and recovery and they do these things very well. The PDRP is address matters that focus on the long term measures.

The question was posed as to what would trigger the implementation of the PDRP. Typically, the PDRP would be implemented for a catastrophic incident (e.g., half the County staff has lost their homes, major impacts have occurred to government facilities and businesses). Ultimately, the ETC will make the determination about what will trigger the implementation of the PDRP. To assist with this determination, a vulnerability assessment is being prepared to qualitatively and quantitatively estimate the losses and impacts to the residences, government facilities, critical facilities, businesses, infrastructure, historic properties, environmentally sensitive areas, etc. and the cumulative affect on the sense of the community.

Election of ETC Chair and Co-Chair

Walter Fufidio was elected as the ETC Chair and Scott West was elected as the ETC Vice-Chair by the ETC

Guest Speaker: Mitchell Austin, City of Punta Gorda, The Hurricane Charley Redevelopment Experience

Follow-up discussions are welcome. Below, is Mr. Austin's contact information:

Mitchell S. Austin
Urban Planner
City of Punta Gorda
326 W Marion Ave
Punta Gorda, FL 33950
Phone: 941-575-3335 Fax: 941-575-3356
E-mail: maustin@ci.punta-gorda.fl.us

City of Punta Gorda Urban Planner Mitchell Austin presented the redevelopment issues and lessons learned after Hurricane Charley impacted the city in August 2004.

Short-term recovery issues can have long term implications, for example:

- Temporary Housing Residents:
 - will need access to public and social resources
 - may become isolated from the rest of the community if a group site is placed far from their (residents') neighborhoods
- Business is key to redevelopment after a disaster:
 - 80% of businesses were no open three months after Charley
 - 50% of businesses never reopened
- Public Infrastructure:



Nassau County PDRP Pilot Project

- It is VERY important to inventory everything now (e.g., buildings, utilities, street signs) well in advance of a disaster.
 - Use Global Positioning System (GPS) to inventory everything into a Geographic Information System (GIS) format.
 - This will allow everything to be mapped and contain data attributes available in a digital format that can be shared throughout the departments for redevelopment decision making.
 - Having a readily available inventory will make it easier to identify what needs to be replaced, and expedite FEMA Public Assistance grant funds after a presidentially declared disaster.
 - Identify where critical facilities are currently located to determine if they are in a vulnerable location, and where they could be relocated to if damaged.
- The city of Punta Gorda could not find where there street signs were.
- A long term (30-year) city employee could not navigate around the city because the disaster devastation made the area unrecognizable.
- Debris removal operations can damage structures or infrastructure that is below, as it did with a catch basin in Punta Gorda.
- Public records are VERY important to have in a digital format that are redundantly backed-up off-site, preferably out of the region, or possibly the state so they are not damaged.

Examples of some of the lessons learned were as follows:

- Building services needed intelligence information immediately.
- Planners and emergency managers need to communicate.
- In dealing with FEMA and DEM the following are important:
 - Documentation – a description of what was damaged or destroyed, how it was damaged and repaired, quantities of what needed to be replaced (i.e., equipment, supplies), RFPs/contracts, force account labor records, etc.
 - The description of what happened will need to be repeated to staff.
 - Don't be afraid to say "no" or request another way of repairing something (i.e., alternate, improved project, PA 406 mitigation, etc.).
- Ask faith based and non-governmental organizations (NGOs) what they can offer and how they can add value to the redevelopment process.
- Private citizens can make a big difference in redevelopment. For example, a private citizens group raised money to hire a firm to create a post-Charley redevelopment plan.
- Private sector investments follow public sector investments, which creates a better post-disaster environment.



Nassau County PDRP Pilot Project

- Local government policy was on hold for three months after Charley. It is important to decide on what policies will be implemented immediately after a disaster – well before the disaster occurs.
- People were upset that things were being built to pre-disaster condition versus being built back stronger, better or in less vulnerable areas.
- Temporary repairs are important to make, but can have unintended consequences. So, it is important to consider the impacts of temporary measures. For example, the Charlotte County Events Center on the waterfront was badly damaged. A temporary (tent) facility was erected which was costly and delayed long-term reconstruction.
- A temporary debris staging and reduction site (TDSR) was located in the Downtown Area so it was close to the debris collection operations. However, this was a potential fire hazard to the downtown area, as the debris piles were smoking and could have caught on fire. It is important to select TDSRs in locations that are in close proximity to the disaster area when it makes sense to do so, as long as it is in an area that would not cause harm to surrounding populations, structures (e.g., critical facilities, historic, etc.) or environmentally sensitive areas, to name a few.
- A great opportunity presented itself to redevelop the Gulf Breeze Housing Authority from 1960's era construction and site layout of apartment-like structures to a new community that has a New Urbanism feel.
- If there is no sense of community people will relocate elsewhere.
- The Sunloft Center was rebuilt as a four-story mixed used development, which has become the cornerstone for the Downtown Area.
- Expect the unexpected: A black bear was found in Punta Gorda Isle, which is nine miles from the bear's home.
- The City lost five to six months because they didn't know what they wanted to do to redevelop the businesses, the community and the sense of place. It's VERY important to know what the community redevelopment vision, goals, policies and action plan are long before a disaster occurs.
- It is VERY important to know what a community is going to do and when things will be done, as there will very likely be confusion about priorities and competing ideas of what needs to be done.
- Political support is needed to implement the PDRP.
- If housing is not available, it is difficult to get workers in the area.
- Affordable housing is needed.



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- Reinforce what is working
- Identify what is already in place, and what will break.
- Identify how the community comes together.
- Define the economic engine and the necessary redevelopment timeline, and ask the general public what they want.

General Discussion

- The Business Continuity Information Network (BCIN) is available to help local businesses track information (employees who have evacuated, resources, etc.).
- LiDAR data for Nassau County should be available in three months, which will provide six inch and one foot contours. This will be used to improve surge hazard maps.
- The following data will be examined/included in the PDRP vulnerability assessment:
 - The County Emergency Management Department will verify that the most current Critical Facilities GIS inventory is provided.
 - It will be important to look at the new Coastal High Hazard Area (CHHA).
 - The County Building Department/Fernandina Beach will provide an updated data layer for historic properties.

Presentation of Pre- and Post-Disaster Issues

The ETC reviewed issues that were identified during the Kickoff Meeting, as well as those that were identified by two of the other Florida PDRP Pilot Project Counties (i.e., Hillsborough and Manatee Counties).

The ETC members continued identifying issues using the Issues and Implementation Timeline Matrix (see attached). This matrix provides a process for identifying issues by topic, the timeframe in which they would be addressed and the assigned Working Group(s). Topics included Organization and Authority, Damage Assessment, Debris, Temporary Housing, Long Term Housing, Communications/Disaster Information Dissemination, Structure Repairs, Infrastructure Repairs, Business Recovery, Land Use, Cultural and Historic Preservation, Government and Local Capacity, Environmental and Social issues.

During the discussion several related issues were voiced, as follows:

- The Implementation Plan should include language regarding the preservation or passing of institutional knowledge and responsibilities for PDRP implementation, so that knowledge is not lost as a result of staff attrition.



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- Issues that are not relevant to actual PDRP actions, but nonetheless important, will be included as planning assumptions.
- The decision will need to be made by the ETC as to when the PDRP will be implemented, and whether it will be implemented partially or in full.
- Communication is VERY important and needs to cross over into the working groups.
 - For example, who needs to know something and how it should be done.
 - It was suggested to assign a Communication Liaison within each Working Group who will be responsible for sharing key information.
- The ETC will continue to identify GIS data and maps that will be helpful for redevelopment.
 - Since there are a variety of water line types, it might be a good idea to identify where these are to expedite post-disaster repair or replacement.
 - LiDAR data will provide GPS coordinates for power poles.
 - Identify “potential” alternate school construction sites where schools might be rebuilt if a school in a high hazard area is destroyed, prior to a disaster. Site selection has been a lengthy and potentially contentious issue in other recent disasters (i.e., Floyd, Katrina), as there are many factors to consider.
 - Include a map of existing shelters.

Wrap Up, Scheduling of Future Meetings and Other Activities

Due to the numerous issues to discuss, and the ETC decided to schedule a second ETC meeting to complete the first draft of the issues, assign the issues to the various Working Groups and begin prioritizing the issues. The next ETC meeting is scheduled for November 6, 2008.

The Draft Vulnerability Assessment is in process and parts of it will be presented at the second ETC meeting.

The Draft Capacity Assessment along with a Capabilities Survey will be sent to the ETC and Working Group members. This will be used to help the members better understand the capabilities throughout the county.

The Draft Implementation Plan will be sent to the ETC members. This will be modified during the PDRP development process.

NASSAU COUNTY PDRP EXECUTIVE TECHNICAL COMMITTEE
Meeting #1 - October 16, 2008
Sign-In Roster

Attended	Entity	Representative, Title	Phone	Fax	e-mail	Address
Attended	AIFBY Chamber	Dave Koeninger	310-6459 or 239-980-7689		daideku@comcast.net	96294 Heath Point Lane, FB, Fla 32034
	Baptist Hospital Nassau	Jim Mayo, Administrator	321-3501		Jim.Mayo@bmcjax.com	1250 South 18th Street
	Building Dept.	Robert Sasser	321-5760		rsasser@nassaucountyfl.com	96161 Nassau Pl. Yulee FL
Attended	Nassau GIS Department, Building Support Services,	John Crowder	321-5760 or 491- 2020		jcrowder@nassaucountyfl.com	96161 Nassau Pl. Yulee FL
	Callahan Public Works					
Attended	County Coordinator	Edward Sealover	491-7380	321-5784	esealover@nassaucountyfl.com	96160 Nassau Pl. Yulee Fl
Attended	Economic Development Board and Greater Nassau Chamber	Mike Cole	904-704-1152		sargeslawncare@comcast.com	5114 Jewel Thomas Road
Attended	Emergency Management Dept.	Nancy Freeman, Director	548-4980	491-3628	nfreeman@nassaucountyfl.com	96135 Nassau Pl. Yulee, FL 32097
	EOC Policy Group	John Drew, Tax Collector	491-7414		jdrew@nassauftc.com	96135 Nassau Pl. Yulee, FL 32097
Attended	F. B. Historic Preservation Bd.	Travis Fulk/Marjorie Weibe Reed- alternate	407-408-6153		travis@searchinc.com	430 South 7th Street, Fernandina Beach, Fla 32034
	Fernandina Beach Fire/Rescue					
	Fernandina Beach Police Dept.	James B. Norman, Captain	277-7342	ext 227		1525 Lime Street
	Fernandina Beach Utilities					
	First Coast MPO	Jeff Sheffield, Director of Planning	306-7512		jsheffield@fcmpo.com	1022 Prudential Drive
Attended	Florida Power & Light	David Cobb, External Affairs Manager	386-754-2022		Dave_G_Cobb@FPL.com	2618 N.E. Bascom Norris Dr
	Florida Public Utilities					
Attended	Growth Management Dept.	Walter Fufidio, Director	321-5919	491-3611	wfufidio@nassaucountyfl.com	96161 Nassau Pl. Yulee, FL 32097
	Hilliard Public Works					
	JEA					
	Nassau County Animal Control					

Attended	Entity	Representative, Title	Phone	Fax	e-mail	Address
	Nassau County Health Dept.	Patrick Higgins, Env. Specialist II	548-1830	277-7278	patrick_higgins@doh.state.fl.us	1015 South 14th Street
	Nassau Fire/Rescue Dept.	Chief Chuck Cooper	491-7525		ccooper@nassaucountyfl.com	96135 Nassau Pl. Yulee, FL 32097
Attended	Nassau/Amelia Utilities	Douglas Hewett, Director of Utilities	261-9452		dhewett@nassaucountyfl.com	5390 First Coast Hwy
	NEFBA	Jamie Sandifer	497-3860-cell	292-0778-wk	jsandifer@matovina.com	2955 Hartley Rd. Suite 108
	NEFRC					
	Okeefenokee Rural Electric					
	Ocean Highway&Port Authority	Jennifer Kelly-Sheffield	557-8521 cell		jenshef10@bellsouth.net	2354 Friendly Rd, Suite 102
Attended	Red Cross	Ann-Marie West, Preparedness Manager	358-8091	ext 1846	westa@nefloridaredcross.org	751 Riverside Avenue
	Road and Bridge Dept.					
Attended	School Board	Sharyl Wood, Executive Director of Serv.	491-9905	277-9031	sharyl.wood@nassau.k12.fl.us	1201 Atlantic Ave.
	Sherriff's Office	Carl Woodle	548-4058	Director	cwoodle@nassaycountysheriff.com	76001 Bobby Moore Circle
		Gary Gaskill	548-4088	IT Manager	ggaskle@nassaucountysheriff.com	Yulee, Florida 32097
	Town of Callhan	Martin Fontes	879-3801	Councilman	martyfontes@windstream.net	P.O. Box 1245
	Town of Hilliard	Cris McConnell, Ex-Councilman-Retired NCSB Director	845-2502		cmccconnell1@alltel.net	15859 West CR 108, Hilliard, Florida 32046
Attended	Emergency Management Dept.	Scott West, Emergency Management Coordinator	904-548-4980		swest@nassaucountyfl.com	Nassau Place, Suite 2, Yulee, FL 32097
Attended	FL Department of Community Affairs	Sandy Meyer, Hazard Mitigation Project Manager	850-922-1825		sandymeyer@dca.state.fl.us	2555 Shumard Oak Blvd., Tallahassee, FL
Attended	Baptist Medical Center Nassau	Wayne Arnold, Director of Plan Facilities	904-753-2683	321-3727	Wayne.Arnold@bmcjax.net	1250 518th St., Fernandina Beach, FL 32034
Attended	Rayonier, Inc.	Larry Coleman, Mgr., Safety and Security	904-261-1416	277-1411	Larry.Coleman@Rayonier.com	10 Gum St., Fernandina Beach, FL 32034
Attended	Planning, Fernandina Beach	Kelly Gibson	904-277-7325		kgibson@fbfl.org	207 Ash Street, 32034
Attended	City of Punta Gorda	Mitchell Austin, Urban Planner	941-575-3335		maustin@ci.punta-gorda.fl.us	326 W. Marion Ave, Punta Gorda, FL 33950



Nassau County PDRP Pilot Project

Executive Technical Committee For the Nassau County Post Disaster Redevelopment Plan

Thursday, November 6, 2008

10:00 a.m. – 5:00 p.m.

Bean Center-FCCJ Campus

76346 William Burgess Blvd

Yulee, Florida 32097

Meeting #2 Minutes

Attendees

Please see attached roster.

Welcome and Introductions

Nassau County Growth Management Director Walter Fufidio welcomed the Executive Technical Committee (ETC) to the meeting. Mr. Fufidio reemphasized the vision, purpose, importance and basis for the county's participation in developing the Post Disaster Redevelopment Plan (PDRP). The PDRP will be adopted as part of the Comprehensive Plan, which carries the weight of law.

Recap and Review of the ETC Meeting #1

PBS&J Project Manager Lisa Flax provided a brief summary of the first ETC meeting that was conducted on October 16, 2008. During that meeting, the timeline, roles and responsibilities were discussed.

The ETC members elected Mr. Fufidio as the ETC Chair and Emergency Management Coordinator Scott West as the ETC Vice Chair.

City of Punta Gorda Urban Planner Mitchell Austin presented redevelopment issues and lessons learned after Hurricane Charley. He has offered to be contacted during the Nassau PDRP development process to discuss PDRP matters.

The ETC members continued identifying issues using the Issues and Implementation Timeline Matrix. The ETC members identified issues that are likely to occur after a disaster with regard to the following topics: Organization and Authority, Damage and Recovery Assessment for Redevelopment Planning, Debris, Infrastructure Repairs, Business Recovery and Cultural/Historic Preservation.

The ETC members provided several suggestions for the PDRP. It was noted that the PDRP needs to focus more on staff positions than the currently assigned staff, as employees may change over time. It was suggested that the Implementation Plan should state that a PDRP

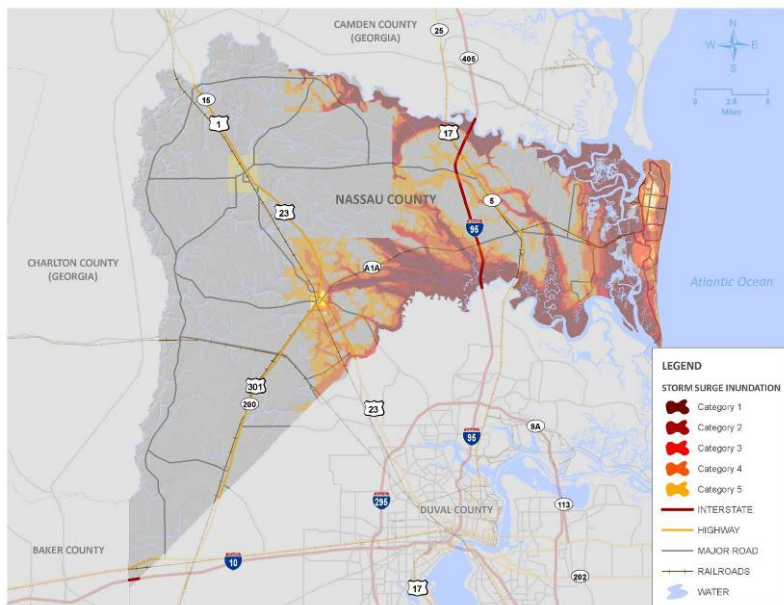


Nassau County PDRP Pilot Project

orientation should be conducted prior to Hurricane Season and representatives should be verified for each staff position.

Presentation of the Draft Vulnerability Assessment

Ms. Flax presented examples of maps and analyses that are being conducted for the PDRP vulnerability assessment. The maps included population distribution based on 2006 U.S. Census data, inland flood hazards based on FEMA Q3 Flood Map data and storm surge hazards based on Hurricane Categories 1 – 5 storm surge inundation that is based on pre-LiDAR study topography (land elevation). Based on the existing storm surge map of the county, Nassau County's storm surge risk reaches far inland around the tributaries from the Atlantic Ocean and major rivers.



HAZUS-MH hurricane wind probabilistic damage and loss estimates were provided for various return periods (i.e., 10 to 1,000-years). Loss estimates were also presented for the 1898 hurricane based on a HAZUS-MH study that was conducted by the University of Florida and Nassau County Emergency Management in January 2007. In 1898 the losses were \$2.5 million. If the 1898 hurricane were to occur today, the losses are estimated at \$2.5 billion. More costly damages would occur now because there is more development and higher property/building values than there were over 100 years ago. The 1898 hurricane did not make a direct landfall in Nassau County, nor did the county experience high of storm surge as they possibly would during a direct landfall.

A wildfire analyses will also be conducted. A chemical, biological, radiological, nuclear and explosive (CBRNE) analysis could also be conducted for specific target areas. This is to be decided based on available data.

ETC members shared their experiences and knowledge of past disasters.



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Tropical Storm Fay caused significant flood damage. The Lake Hampton area was badly damaged. Unanticipated flooding occurred to numerous roads and homes near Thomas Creek. Wells were contaminated and there was septic system failure.

During the 1898 hurricane, older homes fared better than the newer homes. Similar to Duval County, Nassau has a heavy tree canopy in some areas. Falling limbs and trees would likely result in many downed power lines and roof damage, and uprooted tree roots would likely rip out underground water and sewer lines. During a recent full-scale exercise using this exact scenario, National Weather Service – Jacksonville meteorologists opined a storm commensurate with the 1898 hurricane would essentially bury Nassau County in felled trees literally requiring “cutting paths” back into the County. Electric, water and sewer are the first and foremost to restore for recovery and redevelopment. It will be a priority to work with Law Enforcement and the Fire Departments to get the Critical Facilities back on line. Inter-agency coordination is also one of the biggest issues that will be required to expedite recovery and redevelopment.

Approval of the Minutes of October 16, 2008 ETC Meeting

The meeting minutes were approved by the ETC. Patrick Higgins motioned to approve the meeting minutes and John Crowder seconded the motion.

Continuation of Issue Identification

The ETC members continued identifying issues using the Issues and Implementation Timeline Matrix (see attached). The ETC members identified issues for the following topics: Temporary Housing, Long Term Housing, Communications/Disaster Information Dissemination, Structure Repairs, Cultural and Historic Preservation and Government and Local Capacity. The ETC members decided to discuss Land Use, Environmental and Social issues during the next Working Group meeting.

The ETC assigned the topics to the Working Groups. However, there are many topics that would need to be discussed by more than one Working Group. So, the ETC members agreed that the topics should be condensed and matched up with the Working Groups to streamline the process for addressing the issues, from which to develop actions via policies, plans and procedures.



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ETC Meeting #2 Follow-Up:

Mr. Fufidio and Ms. Flax had a follow-up meeting to revise the Working Groups and assign the Topics and Issues to them, based on the ETC members' feedback.

The revised Working Groups are listed as follows:

New Working Groups*	Topics
Government Operations and Citizen Response	Government, Organization and Authority and Communications
Housing and Structural Repairs	Temporary Housing, Long Term Housing and Structural Repairs
Infrastructure and Public Facility Recovery	Debris and Infrastructure Repairs
Economic Resumption	Business Recovery
Land Use and Development	Land Use
Quality of Life Resiliency	Environmental, Social, Historical Preservation and Cultural Affairs

** Damage Assessment was not assigned to a Working Group, as it requires feedback from all. This will be addressed by the ETC.

The Topics and Issues were assigned to the Working Groups as follows:

<i>WORKING GROUP - ALL (cross-cutting issues)</i>
TOPIC: Damage and Recovery Assessment for Redevelopment Planning
Review damage assessment in accordance with LMS, for high priority hazard mitigation projects.
Identify areas with damage that contain repetitive loss properties, for which vulnerability could be reduced through the Hazard Mitigation Grant Program (HMGP).
Identify areas for potential HMGP acquisition or elevation in 100-year floodplain.
Identify neighborhoods where acquisition could result in checker boarding.
Review pre-identified areas that are considered for land-use modification.
Identify areas that are inappropriate for rebuilding (non-conforming uses).
Perform a detailed assessment of local industries (agriculture, silviculture) to determine damage and economic impacts such as internal revenue loss, and product supply and revenue loss to other businesses that rely on these industries.



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Determine how this information is collected and acted upon to understand impacts and take actions to minimize revenue and employment loss.
Perform a detailed assessment of natural environment to determine primary impacts to the environment and secondary/tertiary impacts on tourist/recreation industry (i.e., revenue/employment loss at major hotels on beach and the impacts of this on tourism/businesses that rely on them).
Determine how information is collected and acted upon to understand impacts and take appropriate actions that feed into redevelopment.
Evaluate critical facilities damage assessment to determine repair priorities

WORKING GROUP - GOVERNMENT OPERATIONS AND CITIZEN RESPONSE

TOPIC: Organization and Authority

Establish operations policies
Set up accounting systems for disaster assistance
Have trained/informed business liaison at EOC (KO)
Engage political support for PDRP (KO)
Mutual aid agreements
Develop a communications plan
Explain applicability of PDRP to other documents (LMS, CEMP, etc.); know when to implement and when it takes over from other plans
Establish thresholds for total or partial PDRP activation

TOPIC: Government / Local Capacity

Sustain essential government functions
Maintain local control that is complemented by State and Federal assistance
Coordination with Faith Based Organizations to provide redevelopment assistance.
Put measures into place to ensure equitable redevelopment and maintenance of tax base throughout the county.
Restoration of utilities, schools and public services.
Provision of temporary housing.
Address unquities in East and West portions of the county.
Ensure that there are enough medical care facilities being restored to keep medical personnel from relocating elsewhere.



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TOPIC: Communications / Disaster Information Dissemination

Identify various groups and means to disseminate redevelopment information to citizens to supplement ongoing efforts by Nassau EM and ARC.

Neighborhood watch organization

NGOs, ARC, Faith Based Organizations

Provide information twice a year to citizens to ensure that they know about redevelopment information (e.g. assistance programs, permitting process, etc.)

Use various means of disseminating information such as through the County's Web site, local homebuilders association, schools, etc.

Provide information to citizens about permitting and fraudulent contractors.

Encourage public participation and feedback about the redevelopment strategies and opportunities.

Establish disaster volunteer network / citizen corp to assist with redevelopment (e.g., permit review, inspections, administrative, etc.)

WORKING GROUP - HOUSING AND STRUCTURAL REPAIRS

TOPIC: Temporary Housing

Establish criteria for on-site temporary housing.

Identify permitting requirements.

Identify permitting expediting procedures from the County/City Building Departments and DOH.

Identify non-conforming areas before a disaster occurs.

Identify areas for port-a-johns.

If using group sites for temporary housing, the county has pre-identified sites. Most are county owned. Negotiations would need to be made for site use, site prep and utilities.

Ensure availability of critical workforce staff temporary housing.

Pre-disaster identification of hotels, motels, KOAs.

Determine sites that are critical facility installations (e.g., Camp Blanding, other military installations) that could not be used for temporary housing, as they are used for other emergency purposes.

Identify existing infrastructure (roads, utilities) that would support temporary housing.

TOPIC: Long Term Housing

Identify protocols for inspections for asbestos and mold.

Identify permitting requirements.

Identify permitting expediting procedures from the County/City Building Departments and DOH.

Need workforce housing (police, firefighters, and teachers).



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Consider requiring damaged structures to be restored using hazard mitigation measures such as stronger building codes, greater freeboard and other hazard mitigation measures, as appropriate to reduce vulnerability from a specific hazard (i.e., storm surge, high wind, inland flood, etc.) - or - defer to existing building codes and minimum NFIP requirements.

Identify the process/procedures for damage threshold to determine (50 percent damage) repair v. replacement.

NEFBA to follow-up with DCA.

Identify code enforcement ordinance for abandoned or blighted properties for application in a post-disaster scenario.

TOPIC: Structure Repairs

Address how to bring nonconforming structures into compliance without there being a "taking" of property.

Identify the process for expediting building permits; taking into account when there is not electricity.

Reoccupancy permits

Emergency permits

Streamline process based on type of permit needed (e.g., window, roof, electric, etc.).

Ensure effective intergovernmental coordination between permitting agencies.

Identify needs for short-term temporary building moratorium to make redevelopment decisions that will have a long-term community impact.

Determine accelerated measures for demolition of unsafe structures; taking into account asbestos.

Identify contractor licensing requirements for building repairs.

Include in PDRP what is required for building repairs.

Estimate the permit customer base, pre-disaster, based on vulnerability assessment; confirm post-disaster based on damage assessment.

Determine staffing requirements for expediting permits.



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WORKING GROUP - INFRASTRUCTURE AND PUBLIC FACILITY RECOVERY

TOPIC: Debris

Pre-selected debris staging / reduction site identification with planning department input to avoid siting near environmentally sensitive areas, and ensure on county property that are away from populated areas.

New info for ETC to consider (added, based on information provided during Punta Gorda presentation): Coordinate with debris removal contractors to ensure that damages to property and infrastructure that is beneath debris is avoided, as well as exacerbating damages to historic properties.

TOPIC: Infrastructure Repairs

Identify critical roadways, bridges for restoration prioritization and necessity for emergency repairs.

Bridge inspections

Identify road network improvements; coordinate with LMS projects to elevate evacuation routes, create secondary parallel route to A1A.

Critical infrastructure emergency repair

Critical infrastructure mitigation (retrofit, relocate)

Utilities restoration and/or mitigation.

Evaluate whether to replace above ground infrastructure with below-ground infrastructure. Examine site specific areas to determine feasibility and cost effectiveness.

Coordination with electric utility/telecommunications providers for restoration of power in areas for redevelopment, critical facilities and businesses.

Government communications: Ensure that Sonetring (government offices communication system) is operational, as it is needed to communicate within the government.

Coordinate to decide if infrastructure be replaced in areas that are destroyed; take time to decide whether it makes sense to rebuild in the same place, the same way. Pre-identify these high hazard areas.

If port is damaged, what type of disaster transit will be used, what functionality will replace the port capabilities until it is restored?

If bridges are damaged, identify water transit will be used for transportation (ferry). NERFC has information about this from a recent Tabletop Exercise.

Coordinate with CSX and First Coast Railroad for restoration; impacts to businesses; suggest passenger rail is considered for future plan updates.

How would waterfront change after a catastrophic incident? (Fernandina CRA addresses some areas).

Engage in coordination regarding where new schools would be built, if relocated.

Identify permitting process for temporary cell towers (State CEMP has cellular on wheels).



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WORKING GROUP - ECONOMIC RESUMPTION

TOPIC: Business Recovery

Business resumption and retention (auxiliary power, road clearance.

Tourism renewal. Small Business Administration loans and Individual Assistance grants (employment training, other assistance)

Identify impacts to businesses - damages and what type of assistance will they need?

Prioritize business needs

Establish a business disaster recovery resource center

Identify public and private recovery funds

Identify local business capacity for disaster recovery (how long can they go without power, employees, products, whether they have a recovery plan)

Assess employees affected by personal property losses and school closures

Identify which businesses that haven't been damaged or badly damaged, and/or have resources (employees, products, supplies, services) to help with disaster recovery.

Identify resources that could be supplied (i.e., shared business space). Business Continuity Information Network (BCIN) can be used to catalog and track resources for networking.

Set up business network.

Assess how many businesses are affected, which ones, how much damage; and what nodes (rail, electric, water, sewer, other business, facilities) are necessary to get business up and running. Setting priorities for recovering these nodes. Analyze ability of small businesses to stay afloat until adequate financial assistance and customer base resumes

Tracking of which businesses have been impacted and which are able to recover (how soon?).

Coordination to provide job training, employment assistance, e.g., "worksource"

School openings would support businesses coming back online

WORKING GROUP - LAND USE AND REDEVELOPMENT

TOPIC: Land Use (To be more thoroughly discussed within Working Group)

Consider local policies to discourage or reduce building in CHHA.

Consider policies or ordinances to build to higher standards in CHHA and 100-year floodplain.

Consider land use modifications in flood hazard areas.

Consider land use modifications in repetitive loss areas.



Nassau County PDRP Pilot Project



WORKING GROUP - QUALITY OF LIFE RESILIENCY	
TOPIC: Cultural/Historic Preservation	
Maintain an inventory is GIS of historic site locations	
Review and update historic property review procedures with the Fernandina Beach Historic Board and the Florida Division of Historic Resources.	
Building Department identifies damages to historic buildings during initial assessment to help guide appropriate repair.	
Develop post-impact damage assessment data for historic properties that are publicly owned.	
Develop a post-impact workshop or mailing to private historic property owners to let them know about restoration requirements and to avoid demolition.	
Prioritize resources for making temporary and long-term repairs.	
Develop a restoration plan.	
Ensure that historic properties are not destroyed via demolition or that damages are exacerbated by recovery activities (i.e., debris removal).	
TOPIC: Environmental	
Water pollution	
Aquatic restoration	
Dune systems, marshlands, native vegetation	
Unhealthy mold ins structures	
Asbestos abatement	
TOPIC: Social	
Environmental justice	
Care for special needs populations (transportation, help with applying for disaster assistance programs)	

PDRP EXECUTIVE TECHNICAL COMMITTEE
Meeting #2 - November 6, 2008
Sign-In Roster

Attended	Entity	Representative, Title	Phone	Fax	e-mail	Address
Attended	AIFBY Chamber	Dave Koeninger	310-6459 or 239-980-7689		daideku@comcast.net	96294 Heath Point Lane, FB, Fla 32034
	Baptist Hospital Nassau	Jim Mayo, Administrator	321-3501		Jim.Mayo@bmcjax.com	1250 South 18th Street
Attended	Baptist Medical Center Nassau	Wayne Arnold, Director of Plan Facilities	904-753-2683	321-3727	Wayne.Arnold@bmcjax.net	1250 518th St., Fernandina Beach, FL 32034
	Building Dept.	Robert Sasser	321-5760		rsasser@nassaucountyfl.com	96161 Nassau Pl. Yulee FL
Attended	Building Dept.	Robert McKinney	321-5760		rmckinney@nassaucountyfl.com	96161 Nassau Pl. Yulee FL
Attended	Nassau GIS Department, Building Support Services,	John Crowder	321-5760 or 491- 2020		icrowder@nassaucountyfl.com	96161 Nassau Pl. Yulee FL
	Callahan Public Works					
	County Coordinator	Edward Sealoover	491-7380	321-5784	esealoover@nassaucountyfl.com	96160 Nassau Pl. Yulee Fl
Attended	Economic Development Board	Mike Cole	904-704-1152		sargeslawncare@comcast.com	5114 Jewel Thomas Road
	Emergency Management Dept.	Nancy Freeman, Director	548-4980	491-3628	nfreeman@nassaucountyfl.com	96135 Nassau Pl. Yulee, FL 32097
	EOC Policy Group	John Drew, Tax Collector	491-7414		jdrew@nassauftc.com	96135 Nassau Pl. Yulee, FL 32097
	F. B. Historic Preservation Bd.	Travis Fulk/Marjorie Weibe Reed- alternate	407-408-6153		travis@searchinc.com	430 South 7th Street, Fernandina Beach, Fla 32034
Attended	Fernandina Beach Fire/Rescue	Chief Daniel Hanes	904-277-7331			
Attended	Fernandina Beach Police Dept.	James B. Norman, Captain	277-7342	ext 227		1525 Lime Street
	Fernandina Beach Utilities					
	First Coast MPO	Jeff Sheffield, Director of Planning	306-7512		jsheffield@fcmmpo.com	1022 Prudential Drive
	Florida Power & Light	David Cobb, External Affairs Manager	386-754-2022		Dave_G_Cobb@FPL.com	2618 N.E. Bascom Norris Dr
	Florida Public Utilities					
Attended (same as EDB)	Greater Nassau Chamber	Mike Cole	904-704-1152		sargeslawncare@comcast.com	5114 Jewel Thomas Road
Attended	Growth Management Dept.	Walter Fufidio, Director	321-5919	491-3611	wfufidio@nassaucountyfl.com	96161 Nassau Pl. Yulee, FL 32097
	Hilliard Public Works					
Attended	JEA	John Sposato, EOC Liaison	904-665-6595		sposiv@jea.com	21 W Church St. Jacksonville, FL 32202

Attended	Entity	Representative, Title	Phone	Fax	e-mail	Address
	Nassau County Animal Control					
Attended	Nassau County Health Dept.	Patrick Higgins, Env. Specialist II	548-1830	277-7278	patrick_higgins@doh.state.fl.us	1015 South 14th Street
	Nassau Fire/Rescue Dept.	Chief Chuck Cooper	491-7525		ccooper@nassaucountyfl.com	96135 Nassau Pl. Yulee, FL 32097
	Nassau/Amelia Utilities	Douglas Hewett, Director of Utilities	261-9452		dhewett@nassaucountyfl.com	5390 First Coast Hwy
Attended	NEFBA	Jamie Sandifer	497-3860-cell	292-0778-wk	jsandifer@matovina.com	2955 Hartley Rd. Suite 108
Attended	NEFRC	Jason Taylor, Regional Planner for Jeff Alexander, Director	904-279-0885 x136	904-279-0881	jtaylor@nefrc.org jalexander@nefrc.org	6850 Belfort Oaks Place Jacksonville, FL 32216
Attended	Okefenokee Rural Electric	David Smith, Marketing Cust. Service	904-845-7477 x3319		david.smith@oremc.com	P.O. Box 1229 Hilliard, FL 32046
	Ocean Highway&Port Authority	Jennifer Kelly-Sheffield	557-8521 cell		jenshef10@bellsouth.net	2354 Friendly Rd, Suite 102
	Red Cross	Ann-Marie West, Preparedness Manager	358-8091	ext 1846	westa@nefloridaredcross.org	751 Riverside Avenue
	Road and Bridge Dept.					
Attended	School Board	Sharyl Wood, Executive Director of Serv.	491-9905	277-9031	sharyl.wood@nassau.k12.fl.us	1201 Atlantic Ave.
Attended	Sherriff's Office	Carl Woodle	548-4058	Director	cwoodle@nassaycountysheriff.com	76001 Bobby Moore Circle
Attended		Gary Gaskill	548-4088	IT Manager	ggaskle@nassaucountysheriff.com	Yulee, Florida 32097
Attended	Town of Callhan	Martin Fontes	879-3801	Councilman	martyfontes@windstream.net	P.O. Box 1245
Attended	Town of Hilliard	Cris McConnell, Ex-Councilman-Retired NCSB Director	845-2502		cmccconnell1@alltel.net	15859 West CR 108, Hilliard, Florida 32046
Attended	Emergency Management Dept.	Scott West, Emergency Management Coordinator	904-548-4980		swest@nassaucountyfl.com	Nassau Place, Suite 2, Yulee, FL 32097
	FL Department of Community Affairs	Sandy Meyer, Hazard Mitigation Project Manager	850-922-1825		sandymeyer@dca.state.fl.us	2555 Shumard Oak Blvd., Tallahassee, FL
	Rayonier, Inc.	Larry Coleman, Mgr., Safety and Security	904-261-1416	277-1411	Larry.Coleman@Rayonier.com	10 Gum St., Fernandina Beach, FL 32034
Attended	Planning, Fernandina Beach	Kelly Gibson	904-277-7325		kgibson@fbfl.org	207 Ash Street, 32034



Nassau County PDRP Pilot Project

Executive Technical Committee - Working Groups For the Nassau County Post Disaster Redevelopment Plan

Thursday, December 4, 2008
10:00 a.m. – 4:00 p.m.
Nassau County Building
86026 Pages Dairy Road
Yulee, Florida 32097

Meeting #1 Minutes

Meeting Participants

See attached roster.

Recap and Review of ETC Meeting #2 (November 6, 2008)

The ETC members reviewed the Issues Implementation Worksheet and New Working Groups

Approval of Minutes of November 6, 2008 ETC Meeting

The ETC members approved the meeting minutes.

Proposed Draft PDRP Goals and Objectives for the PDRPs

A very productive effort was made in developing the goals. The participants drafted the goals, reviewed and edited them, and then Mr. Fudio and Ms. Flax officially wrote them up to send out for review to the Working Group members before the Winter Holidays. The goals development lasted from mid-morning through the afternoon. The participants decided that the goals were a high priority in establishing the foci of the PDRP, and the continuation of issues identification and Working Group entity identification would naturally progress during the next meeting.

The ETC members drafted the goals for the PDRP as follows:

Goal 1: Government Operations and Citizen Response

The County and participating jurisdictions, agencies and organizations shall effectively coordinate with each other to restore and sustain government operations and services that expedites the communities' ability to recover from a disaster. Collaboration will hinge on proactive strategies that incorporate reasonable expectations and actual capabilities of the local government, agencies, businesses, non-governmental organizations and private citizens. Procure and disperse all available private, federal and state disaster recovery funding, services and donated supplies.

Goal 2: Housing and Structural Repairs



Nassau County PDRP Pilot Project

The County and participating jurisdictions, agencies and organizations shall collaboratively work together to provide temporary housing for its residents and incoming disaster workforce to support expedient repair of homes and businesses. This will include expedited repair procedures (e.g., permitting) and incorporating hazard vulnerability reduction measures for permanent structures. Each unit of local government will endeavor to enter into mutual aid agreements to provide adequate permitting and inspections to accommodate post-disaster volume.

Goal 3: Infrastructure and Public Facility Recovery

The County and participating jurisdictions, and local utility providers will work together to restore infrastructure, critical facilities and public facilities in support of community recovery based on established priorities and hazard vulnerability reduction measures.

Goal 4: Economic Resumption

Based upon priorities in the PDRP, the County and participating jurisdictions will support the local business community through the disaster impact assessment, needs identification, infrastructure restoration, employee assistance and disaster recovery funding that fosters economic resumption.

Goal 5: Land Use and Development

The County and participating jurisdictions shall enforce compliance with applicable regulations for construction and reconstruction and use the post-disaster environment to reduce hazard vulnerability. Hazard vulnerability reduction will be focused within the Coastal High Hazard Area, Special Flood Hazard Areas, Repetitive Loss Areas and the Wildland Urban Interface.

Goal 6: Quality of Life Resiliency

The County and participating jurisdictions, agencies and organizations shall attempt to prevent degradation during post-disaster restoration of social, cultural, historic, faith based, health care and educational amenities and the environment.

**PDRP Working Group
Meeting #1 - December 4, 2008
Sign-In Roster**

Entity	Representative, Title	Phone	Fax	e-mail	Address
Baptist Hospital Nassau	Jim Mayo, Administrator	321-3720	321-3727	Jim.Mayo@bmcjax.com	1250 South 18th Street
County Coordinator	Edward Sealover	491-7380	321-5784	esealover@nassaucountyfl.com	96160 Nassau Pl. Yulee Fl
Growth Management Dept.	Walter Fufidio, Director	321-5919	491-3611	wufufidio@nassaucountyfl.com	96161 Nassau Pl. Yulee, FL 32097
JEA	John Sposato, EOC Liaison	904-665-6595		sposiv@jea.com	21 W Church St. Jacksonville, FL 32202
Nassau County Health Dept.	Patrick Higgins, Env. Specialist II	548-1830	277-7278	patrick_higgins@doh.state.fl.us	1015 South 14th Street
NEFBA	Jamie Sandifer	497-3860-cell	292-0778-wk	jsandifer@matovina.com	2955 Hartley Rd. Suite 108
Okefenokee Rural Electric	David Smith, Marketing Cust. Service	904-845-7477 x3319		david.smith@oremc.com	P.O. Box 1229 Hilliard, FL 32046
School Board	Sharyl Wood, Executive Director of Serv.	491-9905	277-9031	sharyl.wood@nassau.k12.fl.us	1201 Atlantic Ave.
Town of Callhan	Councilman Martin Fontes	879-3801	Councilman	martyfontes@windstream.net	P.O. Box 1245
Town of Hilliard	Cris McConnell, Ex-Councilman-Retired NCSB Director	845-2502		cmccconnell1@alltel.net	15859 West CR 108, Hilliard, Florida 32046
Emergency Management Dept.	Scott West, Emergency Management Coordinator	904-548-4980		swest@nassaucountyfl.com	Nassau Place, Suite 2, Yulee, FL 32097
Planning and Zoning Board	John Stack	904-556-4491		jstack@net-magic.net	



Nassau County PDRP Pilot Project

Executive Technical Committee - Working Groups For the Nassau County Post Disaster Redevelopment Plan

Thursday, March 19, 2009
10:00 a.m. – 3:00 p.m.
Bean Center-FCCJ Campus
David Yulee Room
76346 William Burgess Blvd
Yulee, Florida 32097

Meeting #4 Minutes

Meeting Participants

See attached roster.

Introduction

Walter Fufidio, Nassau County Growth Management Director/PDRP ETC Chair, opened the ETC meeting and discussed the purpose of the meeting. The purpose of this meeting was to deliver a status update on the PDRP development process, for the ETC to provide comments on draft PDRP sections and to prioritize the PDRP Issues/Actions and identify an implementation timeline for the Issues/Actions.

Sandy Meyer, Florida Department of Community Affairs, provided opening comments on the Florida PDRP Pilot Project. He apprised the ETC of the ongoing PDRP activities in the other pilot communities: Hillsborough, Manatee and Polk counties; and Panama City.

Recap and Review of ETC Meeting #3 (December 4, 2008)

The ETC members developed and approved the PDRP goals.

Approval of Minutes of December 4, 2008 ETC Meeting

The ETC members approved the meeting minutes.

Presentation of PDRP Development Status

Lisa Flax, PBS&J Project Manager, presented a status update on the PDRP development process to the ETC.

The following activities have been accomplished:

- Four ETC meetings have been held to identify the stakeholders, PDRP Goals, Issues and Actions.
- Various meetings have been held with County Growth Management and Emergency Management to develop the Local Capacity Assessment that includes planning and regulatory, administrative and technical, and financial resources that support the PDRP.



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- The following draft PDRP Sections have been completed:
 - Vulnerability Assessment
 - Capacity Assessment
 - Recovery and Redevelopment Strategy (Goals and Issues)
 - Implementation Plan
 - Communications Plan
- The following draft PDRP Sections are in process:
 - Introduction
 - Planning Process
 - Community Profile
 - Recovery and Redevelopment Action Plan
 - Financing Plan

The following activities are to be completed:

1. ETC prioritizes and establish timeframes for PDRP Issues/Actions (by April 8, 2009)
2. Land Use Planning and Economic Development Meetings Occur to Identify Issues and Actions; prioritize and establish timeframes (early April 2009)
3. ETC Meeting #5: Develop Recovery and Redevelopment Action Plan (date TBD in April 2009)
4. PBS&J Completes Draft PDRP Sections (late April 2009)
5. ETC Reviews Draft Sections and Provides Feedback (by mid May 2009)
6. PBS&J Incorporates ETC Review Comments (end of May 2009)
7. Conduct Public Outreach Meeting (end of May 2009)
8. PBS&J Incorporates Comments and Finalizes Draft Sections (by early June 2009)
9. ETC Reviews Final Draft Sections (mid June)
10. PBS&J Incorporates Final Comments (end of June)
11. ETC Meeting #6: ETC Approves PDRP and Recommends BOCC Approval (end of June 2009)

ETC Comments on Draft Vulnerability Assessment and Communications Plan

The ETC members provided comments on the draft Vulnerability Assessment and Communications Plan. PBS&J will incorporate these comments and follow up as required.

Prioritization of Issues by Topic

An Issues and Implementation Matrix was developed by PBS&J for identifying the PDRP Issues early on in the planning process. This matrix has provided a methodology for including issues



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by topic area, prioritization and timeline (pre- and post-disaster) implementation. This has helped foster organized discussions, recording of ideas, and approaching implementation in a manageable way.

A facilitated session was led by Lisa Flax for the ETC to prioritize the PDRP Issues/Actions and to establish the implementation timeline for the following topics:

- Government Operations and Citizen Response
- Infrastructure and Public Facility Recovery
- Housing and Structural Repairs
- Quality of Life Resiliency

Economic Recovery and Land Use Working Group meetings will be conducted separately to do the same during April.

The ETC made very good progress with identifying priorities and implementation timelines. The ETC members did not complete this for all topics, and will receive the Issues and Implementation Matrix to complete this process by the beginning of April 2009.



PDRP EXECUTIVE TECHNICAL COMMITTEE
Meeting #4 - March 19, 2009
Sign-In Roster



Entity	Representative, Title	Phone	Fax	e-mail	Address
Building Dept.	Jim Hare	904-321-5765		jhare@nassaucountyfl.com	96161 Nassau Pl. Yulee FL
Emergency Management Dept.	Nancy Freeman, Director	548-4980	491-3628	nfreeman@nassaucountyfl.com	96135 Nassau Pl. Yulee, FL 32097
Florida Power & Light	David Cobb, External Affairs Manager	386-754-2022		Dave_G_Cobb@FPL.com	2618 N.E. Bascom Norris Dr
Growth Management Dept.	Walter Fufidio, Director	321-5919	491-3611	wfufidio@nassaucountyfl.com	96161 Nassau Pl. Yulee, FL 32097
Nassau County Health Dept.	Patrick Higgins, Env. Specialist II	548-1830	277-7278	patrick_higgins@doh.state.fl.us	1015 South 14th Street
NEFBA	Jamie Sandifer	497-3860-cell	292-0778-wk	jsandifer@matovina.com	2955 Hartley Rd. Suite 108
Ocean Highway&Port Authority	Margie Gandy	904-261-0098		margiegandy@bellsouth.net	P.O. Box 15868 Fernandina Bch, FL 32035
School Board	Sharyl Wood, Executive Director of Serv.	491-9905	277-9031	sharyl.wood@nassau.k12.fl.us	1201 Atlantic Ave.
Town of Hilliard	Cris McConnell, Ex-Councilman-Retired NCSB Director	845-2502		cmccconnell1@windstream.net	15859 West CR 108, Hilliard, Florida 32046
Emergency Management Dept.	Scott West, Emergency Management Coordinator	904-548-4980		swest@nassaucountyfl.com	Nassau Place, Suite 2, Yulee, FL 32097
FL Department of Community Affairs	Sandy Meyer, Hazard Mitigation Project Manager	850-922-1825		sandymeyer@dca.state.fl.us	2555 Shumard Oak Blvd., Tallahassee, FL
Planning, Fernandina Beach	Kelly Gibson	904-277-7325		kgibson@fbfl.org	207 Ash Street, 32034



Nassau County PDRP Pilot Project

Nassau County Post Disaster Redevelopment Plan (PDRP) Land Use Working Group

Tuesday, April 21, 2009

2:00 p.m. – 4:00 p.m.

Nassau County Public Conference Room

96161 Nassau Place

Yulee, Florida 32097

(904)-491-7328

Meeting Minutes

Attendees

Please see attached roster.

Welcome and Introductions

Nassau County Growth Management Director Walter Fufidio welcomed the Land Use Working Group members to the meeting. Mr. Fufidio explained the importance of addressing issues pertaining to land use prior to a disaster, and that the PDRP was a community-wide effort that will be presented to the Nassau County Board of County Commissioners for their approval. It will be adopted as part of the Comprehensive Plan by reference to the Coastal Management Element, which carries the weight of law. The PDRP is being developed for the county and it is encouraged that the municipal jurisdictions adopt the PDRP with modifications for each jurisdiction. Mr. Fufidio stated that a lot of the PDRP planning efforts have involved the Executive Technical Committee (ETC), but that the Land Use Working Group has been convened to include local expertise in land use planning.

How Land Use Planning Supports PDRP

PBS&J Project Manager Lisa Flax provided an overview of the State of Florida regulatory requirements for Post Disaster Redevelopment Plans and the damage potential based on the vulnerability assessment that was conducted for Nassau County for wind, storm surge, flood and wildfire hazards.

Florida Department of Community Affairs, Division of Emergency Management Hazard Mitigation Project Manager Sandy Meyer offered insight into PDRP issues that have been experienced in past disasters:

- Hurricane Katrina – recovery and redevelopment efforts were hampered by not having a PDRP in place in the Gulf Coast Region.
- Hurricane Ike – redevelopment efforts were hindered in the Galveston area, as there was not a plan in place for rebuilding in catastrophically damaged neighborhoods.
- A post-disaster timeframe, although challenging, provides opportunities to build back more resiliently. It is important to work with homeowners in a charrette to decide how to build back a catastrophically damaged area to maintain or improve the quality



Nassau County PDRP Pilot Project

of life (e.g., walkable, sustainable development) and reduce future hazards vulnerability.

Example Land-Use Planning Tools

Ms. Flax presented examples for various land-use planning tools to reduce hazards vulnerability based on the Florida Department of Community Affairs' *Protecting Florida Communities* publication and examples from Florida PDRPs (e.g., Panama City, Manatee County, City of Destin, and Escambia County).

Working Session

The Land Use Working Group members began their working session with a presentation of jurisdictional future land use maps with hazard overlays and the tabulation of land use acreage in hazard areas. The Land Use Working Group began identifying issues and the implementation timeline to address the issues.

Sign-In Sheet, April 21, 2009

[illegible]



Nassau County PDRP Pilot Project

Nassau County Post Disaster Redevelopment Plan (PDRP) Economic Resumption Group

Friday, April 24, 2009

1:00-3:00 p.m.

Florida Community College

David Yulee Room

Room 114A-Bldg. 29

76346 William Burgess Blvd.

Yulee, Florida 32097

Meeting Minutes

Attendees

Please see attached roster.

Welcome and Introductions

Nassau County Growth Management Director Walter Fufidio welcomed the Economic Resumption Working Group members to the meeting. Mr. Fufidio explained the importance of addressing issues pertaining to economic recovery prior to a disaster, and that the PDRP was a community-wide effort that will be presented to the Nassau County Board of County Commissioners for their approval. It will be adopted as part of the Comprehensive Plan by reference to the Coastal Management Element, which carries the weight of law. The PDRP is being developed for the county and it is encouraged that the municipal jurisdictions adopt the PDRP with modifications for each jurisdiction. Mr. Fufidio stated that a lot of the PDRP planning efforts have involved the Executive Technical Committee (ETC), but that the Economic Resumption Working Group has been convened to include local expertise from the business community.

The Florida Council of 100 Communications and Progress Director Mickie Valente attended the meeting via teleconference, and presented information on economic recovery based on prior disaster experience at the state (of Florida) and local levels. Ms. Valente is a member of Enterprise Florida and has worked with the State of Florida Division of Emergency Management to create the Emergency Support Function (ESF) 18 - Business, Industry and Economic Stabilization at the state EOC.

Florida Department of Community Affairs, Division of Emergency Management Hazard Mitigation Project Manager Sandy Meyer presented information on the Business Continuity Information Network (BCIN) and contributed information that has been learned from prior disasters.



Nassau County PDRP Pilot Project

Applicability of PDRP

PBS&J Project Manager Lisa Flax delivered a presentation that included the purpose of the Economic Resumption Working Group (i.e., to gather the expertise necessary to identify economic issues and opportunities Nassau County will face after a disaster and determine methods for a successful rebound); and an overview of the vulnerability assessment that was conducted for Nassau County for wind, storm surge, flood and wildfire hazards; and the goal for economic resumption that was developed by the ETC.

Economic Recovery Timeline

Ms. Flax and Ms. Valente presented examples of issues to be addressed during the Pre-Disaster, Short-term Recovery and Long Term Redevelopment phases:

Pre-Disaster

- Economic Resumption Working Group Coordination
- Review Vulnerability Assessment
- Review local and regional economic development strategies and integration of these with CEMP, PDRP & related plans
- Support Business Continuity and Recovery Plan Development for major employers and small businesses
- Formalize network amongst economic stakeholders and “connect” to the Emergency Operations Center (EOC)
- Establish Tracking System (e.g., Business Continuity Information Network – BCIN)
- Develop system to identify impacted businesses, their needs, and quantify overall economic impact and “connect” to ESF 18 at state EOC.

Short Term Recovery

- Conduct Economic Impact Analysis
 - Business sectors
 - Geographic locations and sites
 - Workforce
- Establish Business Recovery Center, Workshops, etc.
- Identify short -term & long-term capital needs of businesses
- Identify funding sources such as the Economic Development Administration (EDA), National Emergency Grant (NEG) and Community Development Block Grant (CBDG).

Long Term Redevelopment

- Explore developing privately funded low-interest loans
- Organize bankers and training to implement state emergency bridge-loan program (if available)
- Enhance existing business retention & diversification program
- Explore potential local/state incentives for business restoration & policy/rule flexibility for existing incentives
- Retool economic & tourism marketing program with resiliency message...maintain marketing/branding through recovery
- Retool as necessary established recruitment and retention and all relevant program delivery



Nassau County PDRP Pilot Project

- Identify and set priority for workforce needs, skills assessment of available workers and necessary training to employ unemployed
- Targeting recruitment and retention/expansion of existing businesses, with focus on changing economy and sustainable, pre-existing economic and workforce development plans

Ms. Valente explained that it is important for the business community to assess their post-disaster recovery and redevelopment needs, identify available and required resources and to pursue federal, state and local assistance.

Ms. Valente explained that ESF 18 was created to address the recovery and redevelopment needs of local businesses. It is encouraged that businesses engage in emergency management training and exercises at the state and local level to better integrate them into the recovery and redevelopment process. Ms. Valente mentioned that there are existing resources for businesses such as:

- Workforce – provides business resources, mobile unemployment assistance
- NEG – provides temporary employment grants to fill jobs for community recovery staff positions (e.g., government, not-for-profit) to do accounting, debris management, etc.
- EDA – provides funding for strategic development and planning.
- CDBG – provides assistance for housing, infrastructure and economic development.

Ms. Valente also made the following points:

- Northeast Florida is the only region that is not currently certified as an economic development region, but the region is developing a Comprehensive Economic Development Strategy that will be submitted in August 2009.
- It is key to keep local business in operation and residents employed in Nassau County to ensure successful post-disaster recovery.
- Economic impacts are harder to quantify and request assistance. Therefore, it is important to identify economic impact indicators and drivers and essential infrastructure prior to a disaster.

Mr. Meyer offered the following information:

- It is necessary to have an “off the shelf” plan for catastrophic disasters to expedite disaster recovery, to have a formal strategy to enhance community sustainability and disaster resiliency and alleviate chaos.
- A paradigm shift is occurring, whereby ESF 18 is working with local businesses to begin addressing recovery and redevelopment needs and resources prior to a disaster.
- There is currently not funding available to perform business damage assessment. Nassau County does conduct an economic impact assessment for businesses.
- It is extremely important to develop a plan for sequencing the recovery process (i.e., sequenced process for restoring the community, bringing back people into neighborhoods, repairing infrastructure and structures, etc.)

Workforce Recovery – Business Continuity Information Network (BCIN)

Mr. Meyer delivered a presentation on the Business Continuity Information Network (BCIN) that was developed by Florida International University. BCIN is an information service aimed at



Nassau County PDRP Pilot Project

helping businesses, particularly small to medium sized companies, quickly recover and resume operations after a major disaster event.

BCIN provides critical information to help businesses with key pre- and post-disaster decisions:

- Can I reopen?
- Status of employees, customers, supply chain and logistics
- Does the business have to relocate?
- Where can I find disaster relief assistance?
- What is the status of financial networks?
- Where can I find products/services to help me re-open?

BCIN provides the following capabilities:

- Links participating companies into a B2B community network
- Guaranteed to be available after an event
- Supplies tools for company staff to gather and enter situation-awareness data in real-time
- Provides automated means to integrate, analyze and present data
- Offers information fusion techniques to channel the right information to the right people
- Enables communication among company staff and between customers and vendors
- Company relevant business intelligence data helps decision makers revive the business

Quick Assessment of Attendees

The attendees were asked if they had a Business Continuity or Recovery Plan and if they would have enough staff for recovery.

The following businesses have plans:

- Rayonier has a recovery plan and a wildfire mitigation plan.
- First Coast Bank has very detailed recovery plans.
- Florida Community College at Jacksonville (FCCJ), Yulee Campus has a sophisticated recovery plan that includes shifting resources between campuses.
- Nassau Economic Development Board, located on the FCCJ Yulee Campus, participates in the FCCJ recovery plan.
- Amelia Island Plantation has a recovery plan that includes staff and resource relocation.

Those employers who have plans in place could mentor other local businesses to help them develop Business Continuity or Recovery Plans. Nassau Emergency Management provides a plan template on-line at:

The inability to communicate after a disaster was identified as a major challenge and needs to be addressed in the PDRP.

The Business Recovery Center (BRC) will be established after a disaster. It is important to determine local business needs, who will staff the BRC, and what resources will be required.

Business Recovery Actions

The Working Group identified actions that will be incorporated into the PDRP Action Plan.

**Post Disaster Redevelopment (PDRP)
Economic Resumption Working Group
Sign-In Sheet, April 24, 2009**

[illegible]



Nassau County PDRP Pilot Project



Nassau County Post Disaster Redevelopment Plan (PDRP) Land Use Working Group

Wednesday, April 29, 2009

2:00-4:00 p.m.

Nassau County Public

Conference Room

96161 Nassau Place

Yulee, Florida 32097

904-491-7328

Meeting Minutes

Attendees

Please see attached roster.

Welcome and Introductions

Nassau County Growth Management Director Walter Fufidio explained that the purpose of this meeting is to discuss specific post-disaster redevelopment issues pertaining to land use.

Recommendations for policies regarding Post Disaster Reconstruction in Historic Districts

PDRP actions will be developed for Nassau County and will need to be tailored by the jurisdictions prior to their adoption of the PDRP. Each jurisdiction is encouraged to create specific ordinances, based on conditions in their community for restoration of historic properties and tree canopy roads. Historic districts include Old Town, American Beach and Fernandina Beach.

- PDRP Actions will not include form based zoning for historical structures, as set-backs would not apply.
- The City of Fernandina Beach has a historic district overlay. The city could add a new section into their Comprehensive Plan that addresses post-disaster redevelopment.
- The jurisdictions deemed it necessary to convene a meeting to discuss debris operations in historic districts to develop procedures to ensure that debris removal operations do not adversely impact historic properties.
- Mitigation measures should be identified for historic structures based on existing guidance in the State of Florida.

The Land Use Working Group agreed to identify strategic level actions for the PDRP and to reconvene meetings to focus on how to address non-conforming structures and land use, allowances for reconstruction and the possible creation of a Master Plan.

Issues Review and Identification

The Land Use Working Group finalized the recovery and redevelopment actions for the PDRP.

**Post Disaster Redevelopment (PDRP)
Land Use Group
Sign-In Sheet, April 29, 2009**

[illegible]



Nassau County PDRP Pilot Project

Executive Technical Committee For the Nassau County Post Disaster Redevelopment Plan

Tuesday, June 23, 2009
10:00 a.m. – 3:00 p.m.
Bean Center-FCCJ Campus
David Yulee Room
76346 William Burgess Blvd
Yulee, Florida 32097

Meeting #5 Minutes

Welcome and Introductions

Nassau County Growth Management Director Walter Fufidio welcomed the Executive Technical Committee (ETC) to the meeting.

Recap of ETC Meeting #4 (March 19, 2009) and Land Use and Economic Resumption Working Group Meetings (April 21, 24 and 29)

A summary of the last ETC meeting was provided. Since the ETC meeting, a presentation on economic redevelopment was made at a joint Nassau County Economic Development Board / Chamber of Commerce meeting on April 2, 2009, and three Working Group meetings were conducted to identify actions for Land Use and Economic Resumption.

Approval of Minutes of March 19, 2009 ETC Meeting

Cris McConnell made a motion to approve the meeting minutes and this was seconded by Wayne Arnold.

ETC Review Comments on Draft PDRP Sections

The ETC provided comments on the following sections:

- Section 1: Introduction
- Section 2: Planning Process
- Section 3: Implementation Plan
- Section 6: Recovery and Redevelopment Strategy
- Section 7: Recovery and Redevelopment Action Plan
- Section 9: Financing Plan

Global comments were provided regarding formatting and content. All comments will be incorporated into the final PDRP and provided to the ETC for approval.

Schedule next ETC Meeting to Vote on Recommending PDRP for Board of County Commission Approval

The next ETC meeting has been scheduled from 10:00 a.m. to 12:00 p.m. on June 30, 2009.



PDRP EXECUTIVE TECHNICAL COMMITTEE
Meeting #5 - June 23, 2009
Sign-In Roster



Entity	Representative, Title	Phone	Fax	e-mail	Address
Baptist Medical Center Nassau	Wayne Arnold, Director of Plan Facilities	904-753-2683	321-3727	Wayne.Arnold@bmcjax.com	1250 518th St., Fernandina Beach, FL 32034
F. B. Historic Preservation Bd.	Marjorie Weibe Reed-alternate	407-408-6153		mreed@ricearchitect.com	430 South 7th Street, Fernandina Beach, Fla 32034
Growth Management Dept.	Walter Fufidio, Director	321-5919	491-3611	wfufidio@nassaucountyfl.com	96161 Nassau Pl. Yulee, FL 32097
Nassau County Health Dept.	Patrick Higgins, Env. Specialist II	548-1830	277-7278	patrick_higgins@doh.state.fl.us	1015 South 14th Street
NEFBA	Jamie Sandifer	497-3860-cell	292-0778-wk	jsandifer@matovina.com	2955 Hartley Rd. Suite 108
Ocean Highway&Port Authority	Margie Gandy	904-261-0098		margiegandy@bellsouth.net	P.O. Box 15868 Fernandina Bch, FL 32035
Town of Callhan	Martin Fontes, Councilman	879-3801		martyfontes@windstream.net	P.O. Box 1245
Town of Hilliard	Cris McConnell, Ex-Councilman-Retired NCSB Director	845-2502		cmccconnell1@windstream.net	15859 West CR 108, Hilliard, Florida 32046
Emergency Management Dept.	Scott West, Emergency Management Coordinator	904-548-4980		swest@nassaucountyfl.com	Nassau Place, Suite 2, Yulee, FL 32097
Planning and Zoning Board	John Stack	904-556-4491		jstack@net-magic.net	P.O. Box 877, Fernandina Beach, FL 32035



Nassau County PDRP Pilot Project

Executive Technical Committee For the Nassau County Post Disaster Redevelopment Plan

Wednesday, July 1, 2009
10:00 a.m. – 12:00 p.m.
FCCJ Campus
David Yulee Room
Room #A0114A
76346 William Burgess Blvd
Yulee, Florida 32097

Meeting #6 Meeting Minutes

Attendees

Please see attached roster.

Welcome and Introductions

Nassau County Growth Management Director Walter Fufidio welcomed the Executive Technical Committee (ETC) to the meeting. Mr. Fufidio explained that the PDRP will be recommended to the Nassau Board of County Commissioners by reference to the Comprehensive Plan Coastal Management Element, as the Comprehensive Plan governs county development. Each local government in Nassau County is encouraged to adopt the relevant portions of the PDRP and make modifications as necessary.

The PDRP will establish the mechanism to facilitate rational decision making during irrational times, following a catastrophic disaster.

The ETC will reconvene after the PDRP has been adopted to continue working on policies and procedures to implement the strategic actions that were developed thus far. The ETC will meet at least once a year.

Intercommunity communication and economic resumption will play a prominent role in the post-disaster redevelopment process.

The county can update the vulnerability assessment for flood and storm surge hazards once the Light Detection and Ranging (LiDAR) is complete for Nassau County. LiDAR data will be used to revise the flood maps and storm surge inundation maps.

Recap of revisions made to PDRP, based on ETC review comments

PBS&J Project Manager Lisa Flax summarized the changes that were made to the PDRP based on the ETC's review comments.

Additional changes were requested by the ETC:

- Change the term "Capacity Assessment" to "Capability Assessment."
- Develop a section for each municipality.



Nassau County PDRP Pilot Project

- Add a column to the Recovery and Redevelopment Action Plan for funding and responsible entities.
- Include the Orders of Succession.

Vote to recommend approval to Nassau County Board of County Commissioners

A motion to recommend approval to the Nassau BOCC was made by John Stack and seconded by Wayne Arnold.

Closing Remarks

Mr. Fufidio thanked the ETC and the consultant for developing the PDRP.

The ETC was asked to provide observations or lessons learned from the PDRP planning process. Comments were provided as follows:

- It was good to see that GIS data was integrated into the plan
- Having ETC meetings streamlined and expedited the planning process, in lieu of breaking up into Working Groups for each topical area. It aided in communication of information and consensus building. However, it was appropriate to conduct Working Group meetings for Land Use and Economic Resumption to ensure that stakeholders with the appropriate level of expertise were involved in developing actions.
- Work with the Land Use Working Group to ensure that policies pertaining to redevelopment are included in the Evaluation and Appraisal Report (EAR) based amendments to the comprehensive plans on a countywide basis.



PDRP EXECUTIVE TECHNICAL COMMITTEE
Meeting #6 - June 30, 2009
Sign-In Roster



Attended	Entity	Representative, Title	Phone	Fax	e-mail	Address
X	Baptist Medical Center Nassau	Wayne Arnold, Director of Plan Facilities	904-753-2683	321-3727	Wayne.Arnold@bmcjax.net	1250 518th St., Fernandina Beach, FL 32034
X	Building Dept.	Robert McKinney	321-5760		rmckinney@nassaucountyfl.com	96161 Nassau Pl. Yulee FL
X	Nassau GIS Department, Building Support Services,	John Crowder	321-5760 or 491-2020		icrowder@nassaucountyfl.com	96161 Nassau Pl. Yulee FL
X	Emergency Management Dept.	Thomas B. Kochheiser, Acting Director	548-4980	491-3628	tkochheiser@nassaucountyfl.com	96135 Nassau Pl. Yulee, FL 32097
X	Growth Management Dept.	Walter Fufidio, Director	321-5919	491-3611	wfufidio@nassaucountyfl.com	96161 Nassau Pl. Yulee, FL 32097
X	JEA	John Sposato, EOC Liaison	904-665-6595		sposiv@jea.com	21 W Church St. Jacksonville, FL 32202
X	Nassau County Health Dept.	Patrick Higgins, Env. Specialist II	548-1830	277-7278	patrick_higgins@doh.state.fl.us	1015 South 14th Street
X	Okefenokee Rural Electric	David Smith, Marketing Cust. Service Elvin Cushman	904-845-7477 x3319		david.smith@oremc.com elvin.cushman@oremc.com	P.O. Box 1229 Hilliard, FL 32046
Submitted written vote to approve PDRP.	Town of Callhan	Martin Fontes	879-3801	Councilman	martyfontes@windstream.net	P.O. Box 1245
X	Emergency Management Dept.	Scott West, Emergency Management Coordinator	904-548-4980		swest@nassaucountyfl.com	Nassau Place, Suite 2, Yulee, FL 32097
Attended by phone	FL Department of Community Affairs	Sandy Meyer, Hazard Mitigation Project Manager	850-922-1825		sandymeyer@dca.state.fl.us	2555 Shumard Oak Blvd., Tallahassee, FL
X	Rayonier, Inc.	Larry Coleman, Mgr., Safety and Security	904-261-1416	277-1411	Larry.Coleman@Rayonier.com	10 Gum St., Fernandina Beach, FL 32034
X	Planning, Fernandina Beach	Kelly Gibson	904-277-7325		kgibson@fbfl.org	207 Ash Street, 32034
X	Planning and Zoning Board	John Stack	904-556-4491		jstack@net-magic.net	P.O. Box 877, Fernandina Beach, FL 32035

Appendix B

Nassau Comprehensive Plan Policies

Nassau County Comprehensive Plan Goals, Objectives and Policies that Support PDRP

Future Land Use Element

OBJECTIVE 1.02 REDEVELOPMENT/RENEWAL/COMPATIBILITY

Upon Plan adoption, the County will locate future land uses where they appear most compatible with surrounding land uses and will establish the following policies to implement the redevelopment and renewal of blighted areas.

- 1.02.04** Promote the clustering of planned commercial land uses through incentives and regulations such as density bonuses and improved access.

OBJECTIVE 1.03 ELIMINATION OR REDUCTION OF INCONSISTENT LAND USES

Upon Plan adoption, the County shall implement the following policies to eliminate or reduce land uses inconsistent with the County's character and the Future Land Use Map.

- 1.03.02** The County Building Official annually shall review the condition of structures that are suspected to be substandard and when found to be deficient, require that they be brought into compliance with adopted building codes.
- 1.03.03** Land Development Regulations shall provide density bonus incentives to direct commercial and multi-family into "cluster" development patterns, thereby, eliminating or reducing strip or ribbon development, which follows major County or state roads.
- 1.03.05** Land Development Regulations will be amended to provide language that discourages Future Land Use Map changes that increase density.

OBJECTIVE 1.04B PROTECTION OF HISTORICAL and ARCHAEOLOGICAL RESOURCES

Upon Plan implementation, the County will coordinate with the Department of State, Division of Historical Resources in the protection of historic and archaeological resources within the County. The Building Official shall review available materials prior to issuing a building permit or other development order to determine whether the proposed development will impact an identified historical/archaeological site.

- 1.04B.01** The Planning and Zoning Department shall maintain an inventory of historic and archaeological resources within the County.
- 1.04B.02** The County shall protect and preserve known significant archaeological and historic sites through:
1. Pursuing state funds for the purchase of specific sites in eminent danger of destruction by the encroachment of development; and,
 2. Requiring a restraint period in building permits to allow for scientific examination of the site before potential damage can occur from development activity.
- 1.04B.03** The County shall provide incentives such as bonus density incentives where possible to the private sector to preserve the nature of historic areas.

OBJECTIVE 1.05 COORDINATE COASTAL AREAS WITH REGIONAL HURRICANE EVACUATION PLAN

Upon Plan adoption, the County will coordinate future land uses of the coastal areas to the ability to evacuate coastal areas in a major hurricane event.

1.05.05A Public expenditures that subsidize development permitted in Coastal High-Hazard areas will be allowed for restoration or enhancement of natural resources.

1.05.05B Public expenditures for sewer facilities in Coastal High Hazard Areas to serve existing development and future development allowed on the Future Land Use Map will be permitted in order to mitigate the potentially harmful effects of septic tanks on water quality.

OBJECTIVE 1.06 DISCOURAGE URBAN SPRAWL

Upon Plan adoption, the County shall implement the following policies in order to direct development into patterns, which will avoid the proliferation of urban sprawl.

1.06.02 Through interlocal agreements, the County shall strive to replace and/or consolidate public facilities and services in order to most efficiently establish and maintain established levels of service.

1.07.03 Allow public schools, proximate to urban residential areas, in all future land use categories, except Coastal Lands, unless otherwise addressed in Florida Statutes, Section 235.193 (3) *(excerpt)*.

OBJECTIVE 1.10 PROMOTING ECONOMIC DEVELOPMENT

Upon Plan adoption, the County shall promote economic development within the County by implementing the following policies:

1.10.02 Support the use of state and federal grants to fund infrastructure and low- interest loans to encourage new and expanded business opportunities within the County.

OBJECTIVE 3.02 SUBSTANDARD HOUSING

Establish programs, which will work towards the elimination of 60% of substandard housing by 2000. Establish programs to identify substandard housing conditions.

3.03.02 Seek federal and state funding, for the demolition or rehabilitation of substandard housing.

Public Facilities Element**OBJECTIVE 4.05B PROTECT THE FUNCTION OF NATURAL DRAINAGE FEATURES**

Upon Plan adoption, the County shall protect the function of natural drainage features through implementing the following policies:

4.05B.01 In order to maximize the use/functions of existing facilities, the County shall establish a maintenance and monitoring program of County controlled drainage ditches throughout County.

4.05B.06F By 2005, the County shall seek grants to establish a grant funded Geographic Information System (G.I.S.) - based inventory of all stormwater management facilities under the county's jurisdiction *(excerpt)*.

Coastal Management Element

OBJECTIVE 5.02A DUNE PRESERVATION

Upon Plan adoption, the County shall protect, conserve and enhance the remaining coastal barrier dunes and establish construction standards to minimize the impact of man-made structures on the dunes and beaches through implementing the following policies:

- 5.02A.04** In order to help protect the primary and secondary dune system and mitigate the effects of a storm surge, criteria shall be incorporated in the Land Development Regulations within one year of the adoption of the EAR based plan amendment that require the following:
1. Site plan review shall be required for all new beachfront construction.
 2. Vegetated oak hammock and dune interface areas, where they exist, shall be preserved to ensure protection of primary and secondary dune systems. Site plan review and on-site inspections during construction shall require that vegetated areas shall not be destroyed beyond 30 feet outside of the immediate building area.
 3. Excavation shall be confined to construction zones containing building pads, drainage structures, parking and drives and recreational uses with maximum efforts made to minimize damage in all areas of the dune system.
 4. Any excavation in the primary or secondary dune system shall not reduce existing crest elevations below twenty-six feet (26') mean sea level.
 5. Any breaches or blowouts in the primary dune system shall be indicated on the site plan and shall be filled and revegetated per permits obtained through DEP.
 6. Excavation of primary and secondary dunes shall be prohibited, unless there no other development alternatives on site.
 7. In the event of unpermitted destruction or damage to dunes, the developer shall reconstruct or repair the damage to pre-construction conditions.

OBJECTIVE 5.03 HURRICANE EVACUATION AND EMERGENCY MANAGEMENT

The County shall make every reasonable effort to ensure the public safety, health and welfare from the effects of natural and technological hazards. It will participate with all applicable state and federal agencies to ensure public safety by keeping disaster preparedness plans current and coordinated within the region and with adjacent jurisdictions.

- 5.03.01** Within one year of adopting the EAR based plan amendment; the County will revise its land development regulations to further reduce the vulnerability of future development in the 100 year flood plain. Such revisions shall include:
- a. Implementation of road concurrency requirements to ensure evacuation capability;
 - b. Adoption of policies regarding the siting of infrastructure facilities in hazardous areas; and
 - c. Alerting potential purchasers of property in hazard areas of the potential consequences of construction in such areas.
- 5.03.02** The County, by reference, incorporates the Nassau County Comprehensive Emergency Management Plan into the Coastal Management Element. Responsibility for coordination of the Comprehensive Emergency Management Plan with the County Comprehensive Plan shall be designated to the County Planning Director.
- 5.03.03** The County shall not subsidize public facilities within the CHHA, other than those, which are deemed necessary to maintain existing level-of-service standards, and those which are directly related to public access and/or recreation areas.

OBJECTIVE 5.04 POST DISASTER REDEVELOPMENT

Upon Plan adoption, the County shall review annually, and where possible revise its Comprehensive Emergency Management Plan to ensure continued safety for its residents during the post-disaster reconstruction/rehabilitation period.

- 5.04.01** The Nassau County Comprehensive Emergency Management Plan shall be used as the operational guide in preparing for, responding to, and recovering from natural and technological hazards requiring emergency actions by local government officials.
- 5.04.02** The County hereby adopts by reference, its Post Disaster Plan, which describes facilities and sites designed to serve as local, state and federally sponsored emergency assistance locations. Examples of such facilities include disaster application centers, citizen assistance centers, disaster field offices; include temporary housing sites and debris disposal locations.
- 5.04.03** The County shall coordinate the development and maintenance of Post Disaster plans and programs among the relevant local, regional and state governments, districts or agencies.
- 5.04.06A** Consistent with the Comprehensive Emergency Management Plan (as amended), the County will perform an initial damage assessment, immediately following a natural disaster event, in order to determine the extent of damage and prioritize allocation of recovery resources. If the scope of damage exceeds the County's ability to recover, the County shall declare a local state of emergency, pursuant to Chapter 252, F.S. Once a local state of emergency has been declared, the county will request assistance from the Florida Division of Emergency Management (FDEM).
- 5.04.06B** The County, in cooperation with the incorporated municipalities of Nassau County, will coordinate the implementation of the Nassau County Local Mitigation Strategy (LMS), with this Coastal Management Element so as to reduce potential damage from natural disasters.
- 5.04.06D** The Local Mitigation Strategy Working Group will be charged with making recommendations related to implementing, updating, revising and coordinating local mitigation strategies and initiatives. Major issues of the LMS Working Group will be concerned with include:
1. Maintaining a uniform list of mitigation goals and objectives and initiatives to address hazard mitigation;
 2. coordination between the county and the three municipalities;
 3. identifying sources and disbursement of state and federal recovery funds;
 4. pre-identifying potential post-disaster mitigation projects; and
 5. relocating of infrastructure.
- 5.04.06E** Structures located seaward of the Coastal Construction Control Line (CCCL) exhibiting damage from a naturally occurring storm event, greater than 50 percent of its tax assessed market value, shall be required to obtain all applicable permits and comply with all applicable building codes coastal construction prior to reconstruction.
- 5.04.06F** Consistent with National Flood Insurance Program (NFIP) requirements, any structure predating 1989 FEMA Flood Insurance Rate Maps (FIRMs) and located within a flood hazard area that sustains "substantial damage" due to a natural disaster (i.e. repair costs that exceed 50% or more of the building's value) shall be required to be elevated a minimum of twelve (12) inches above the base flood elevation (BFE), as depicted on current FIRMs.

OBJECTIVE 5.04A POST DISASTER EXPENDITURES

Upon Plan adoption, the County shall manage post disaster expenditures to improve the survival of required infrastructure.

- 5.04A.01** In accordance with rule 9J-5.003(17), F.A.C., the county hereby designates the "Coastal High-Hazard Area" (CHHA) as identified as a Category 1 Evacuation Zone as defined in Chapter 9J-5 F.A.C.
- 5.04A.02** The Engineering Services Director, with required support, shall survey disaster sites immediately following the emergency occurrence to identify immediate repair and clean-up actions required to protect public health and safety and shall coordinate with the Director of Emergency Management to accomplish priority tasks.
- 5.04A.03** Roadway segments located within low lying areas that are used as hurricane evacuation routes shall be elevated or rerouted during post-hazard construction.
- 5.04A.04** In the event that sanitary sewer and potable water facilities are damaged hurricane activity, the facilities shall be subject to post disaster redevelopment policies and regulations that require damaged structures and facilities to be reconstructed at an elevated height or otherwise flood proofed in accordance with existing building and development regulations.
- 5.04A.05** F.E.M.A., National Weather Service and Regional Planning Council data, which are pertinent to Nassau County hurricane damage mitigation, shall be incorporated into this element of the Plan through the amendment process specified in s 163.3187 F.S.
- 5.04A.06** The County shall require, through land development regulations, that redevelopment plans within the CHHA include reduced densities and the minimization of public facilities and expenditures to a level no greater than that necessary to support land uses in the effected areas as shown on the Future Land Use Map.
- 5.04A.07** The County shall develop plans and criteria for immediate repair and clean up in addition to long term repair and redevelopment. These plans shall also address removal, modification or relocation of damaged infrastructure and unsafe structures. The level of reconstruction that will be permitted in an area of damage in terms of intensity and density of use shall be consistent with the Goals, Objectives and Policies expressed in this Plan.
- 5.04.A.08** Following a storm event, the Engineering Services Department shall assess all county facilities damaged from storm activity in the CHHA, and shall make recommendations to reduce future expenditures and potential damage risks.

OBJECTIVE 5.05 HURRICANE EVACUATION TIME

Upon Plan adoption, the County shall develop a maximum evacuation time based upon the Northeast Florida Hurricane Evacuation Study of 1998, and shall implement a plan within 6 months of the date of adoption of this ordinance.

- 5.05.03** New or replacement bridges on evacuation routes spanning major or marked navigable waterways shall not be draw bridges.
- 5.05.04** Roadway segments located within low lying areas that are utilized for hurricane evacuation routes shall be considered for elevation increases during construction or reconstruction.
- 5.05.06A** To maintain the maximum evacuation time, the County shall not allow an overall increase in the density of land use that is allowed by the Future Land Use Map within the Coastal High Hazard Area (CHHA).

OBJECTIVE 5.06 EVACUATION SHELTERING

Upon Plan adoption, the County Office of Emergency Services will continue to strive to provide required levels of emergency sheltering for County residents through implementing the following policies:

- 5.06.02A** By 2005, the County will conduct a survey of schools, municipally owned, and county-owned buildings to identify those buildings that are appropriately designed and located to serve as hurricane evacuation shelters. Once this survey is completed, the county will solicit state funding from the Florida Division of Emergency Management to decrease the deficit of "safe" shelter capacity by retrofitting existing primary shelter facilities.
- 5.06.02B** Within one year of adoption of the EAR based plan amendment, the Engineering Services Department shall assist Emergency Management in assessing the vulnerability of public infrastructure within the CHHA.

OBJECTIVE 5.07 PROTECT POPULATION FROM HIGH HAZARD

Upon Plan adoption, the County, through its Future Land Use Map and Development Orders shall direct population concentrations away from known or predicted high hazard areas.

As identified by the time of EAR based plan adoption, the county shall utilize the procedures County's Emergency Management Plan for assisting the special needs population in an emergency, as amended.

- 5.07.01B** Development within the F.E.M.A. FIRM V Zone shall be limited through County restrictions regarding the provision of water/sewer/road facilities to service V Zone areas where infrastructure facilities have been damaged/destroyed by storm forces.

OBJECTIVE 5.11 PRESERVATION OF COASTAL RESOURCES

Upon Plan adoption, the County shall implement the following policies to protect, conserve or enhance remaining coastal wetlands, living marine resources, coastal barriers and wildlife habitat.

- 5.11.01** The County shall adopt land development regulations, which limit specific and cumulative impacts of development or redevelopment on coastal resources.

OBJECTIVE 5.12 LIMITING PUBLIC EXPENDITURE

Upon Plan adoption, the County shall limit public expenditures that subsidize development permitted in coastal high hazard areas except for the restoration or enhancement of natural resources.

- 5.12.01** The County shall promote compact growth within the barrier island whereby the cost of providing public facilities and services that benefit development is borne by those individuals who receive direct benefit. For example, the establishment of Municipal Taxing Units or Benefit Units.
- 5.12.02** The County shall review its Zoning Code and Subdivision regulations and make required revisions to control development on the barrier island in a manner that will reduce vulnerability to hurricane forces.
- 5.12.03** The Emergency Management Department shall review proposed development plans to ensure that infrastructure (water, sewer, roads) is located in a manner that provides least susceptibility to hurricane impact.

Where in-place infrastructure is destroyed by hurricane forces, replacement of such facilities shall be engineered to provide least exposure to hurricane forces.

- 5.12.04** Consistent with DCA Rule 9J-5.012(3)(c)(8), the County shall identify and assess all infrastructure located within the CHHA to determine its vulnerability. This vulnerability assessment will be based on data from FIRMs, The Arbiter of Storms (TAOS) computer model, and other data and analysis contained in the adopted Local Mitigation Strategy. Any decision to abandon or relocate infrastructure outside the CHHA following a natural disaster will be based on a benefit-cost analysis of vulnerable infrastructure consistent with the methodology provided for in the Local Mitigation Strategy.

Capital Improvements Element

OBJECTIVE 9.04

The County shall continue to limit the expenditure of public funds that subsidize development in coastal high hazard areas (CHHA). The CHHA is the area below the elevation of the category 1 storm surge line as established by a Sea, Lake and Overland Surges from Hurricanes (SLOSH) computerized storm surge model.

- 9.04.01** Public expenditures in high hazard coastal areas shall be limited to the maintenance of existing infrastructure and those improvements included in the Coastal Management Element.
- 9.04.02** Only those public expenditures necessary for the health, safety and welfare of the residents of these areas as well as such improvements as are, deemed to be, required to facilitate use of the public natural open space and recreation areas may be funded.

Appendix C

National Incident Management System Checklist

Post-Disaster Redevelopment Plan (PDRP) National Incident Management System Checklist

PDRP Component	Page/Paragraph Indicator	Adoption Date
Does your PDRP define the scope of redevelopment activities necessary for the State (9J-5, F.S. 163)?	1-1, Section 6	
Does your PDRP describe organizational structures, roles and responsibility, policies, and protocols for providing emergency support?	3-4, Section 7	
Does your PDRP facilitate short-term recovery activities and long term redevelopment?	Section 7	
Is your PDRP flexible enough to use in all disasters?	1-2	
Does your PDRP have a description of its purpose?	1-1	
Does your PDRP describe the situation and planning assumptions?	1-2, 1-3	
Does your PDRP contain an implementation plan?	Section 3	
Does your PDRP describe the organization and assignment of responsibilities?	3-4,5 and 6; Section 7 (assignment of responsibilities to be developed)	
Does your PDRP describe administration and logistics?	Section 3 (administration)	
Does your PDRP contain a section that covers the development and maintenance of your EOP?	Section 2, 3-10	
Does your PDRP contain authorities and references?	1-1	
Does your PDRP contain Working Group annexes?	Annexes to be developed	
Does your PDRP contain hazard-specific appendices?	N/A	
Does your PDRP contain a glossary?	ix	
Does your PDRP pre-designate functional area representatives to the Emergency Operations Center / Multi-agency Coordination System?	3-4,5 and 6	
Does your PDRP include pre-incident and post-incident public awareness, education, and communications plans and protocols?	Section 8	

This Emergency Operations Plan (EOP) National Incident Management System (NIMS) Checklist has been modified to be used for a Post-Disaster Redevelopment Plan. The checklist closely mirrors the NIMS checklist that is required for EOPs to ensure that standard planning components are included. However, it is realized that not all NIMS components for EOPs are relevant for the PDRP.