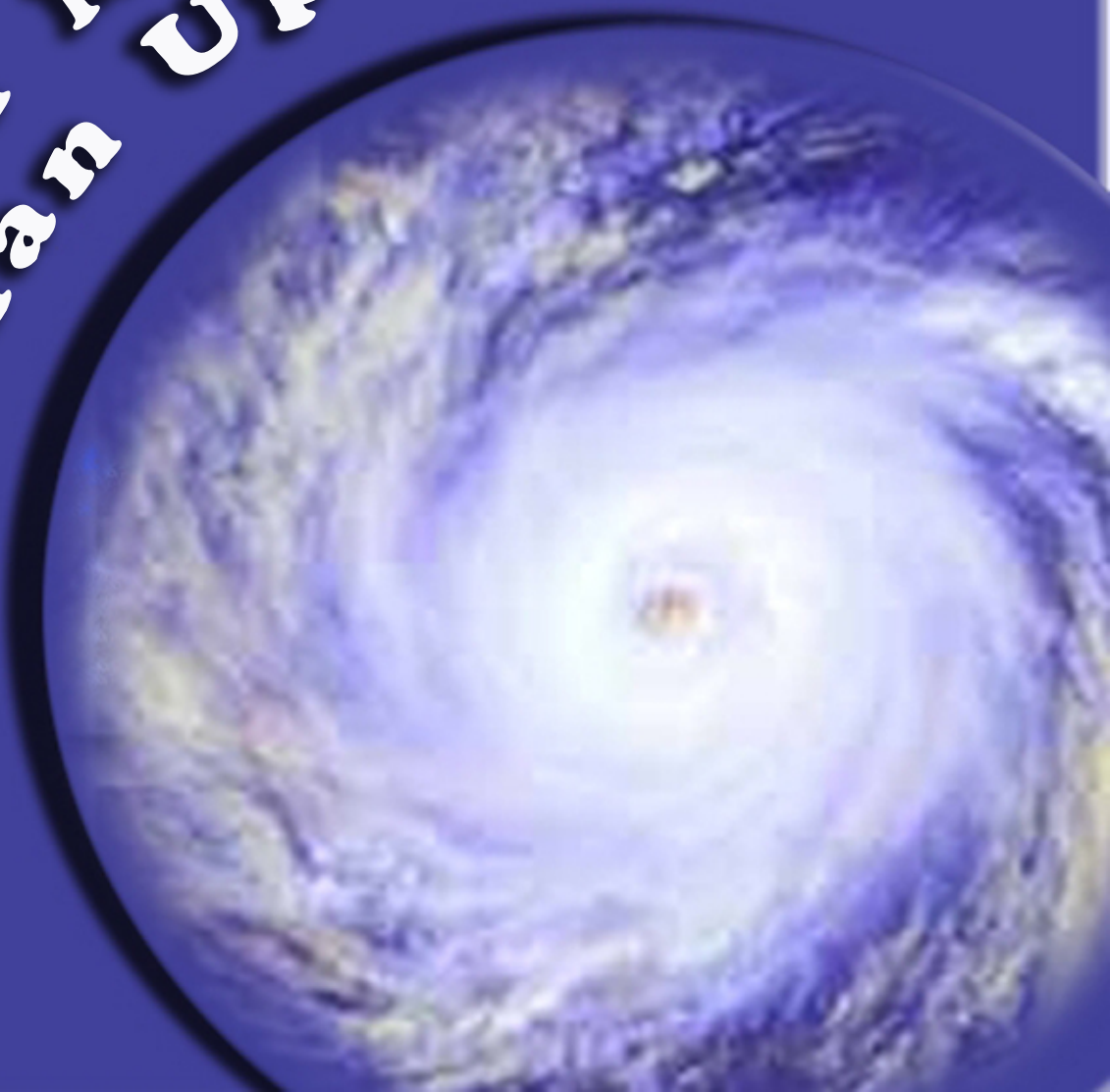
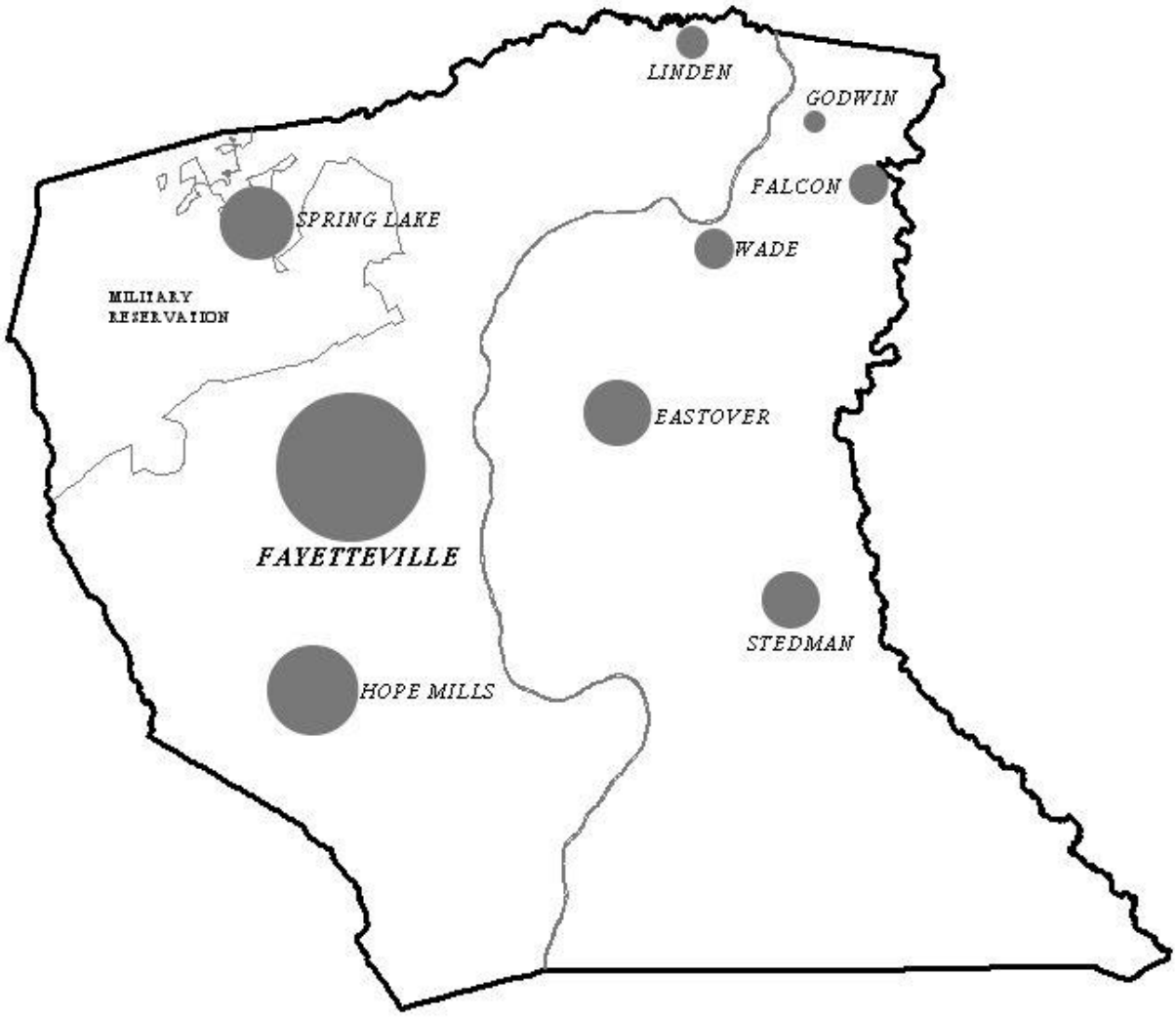
Cumberland County Multi-Jurisdictional

Hazard Mitigation Plan Update



CUMBERLAND COUNTY MULTI-JURISDICTIONAL



HAZARD MITIGATION PLAN UPDATE

APRIL 2011

U.S. Department of Homeland Security
Region IV
3003 Chamblee Tucker Road
Atlanta, Ga 30341

FEMA

October 25, 2011

Mr. Chris Crew
State Hazard Mitigation Officer
North Carolina Division of Emergency Management
4713 Mail Service Center
Raleigh, North Carolina 27699

Reference: Cumberland County, NC Multi-jurisdictional Hazard Mitigation Plan Update

Dear Mr. Crew:

We are pleased to inform you that the Cumberland County Multi-jurisdictional Hazard Mitigation Plan is in compliance with the federal hazard mitigation planning standards resulting from the Disaster Mitigation Act of 2000, as contained in 44 CFR 201.6. The plan is approved for a period of five (5) years, to October 25, 2016.

This plan approval extends to the following participating jurisdictions that provided copies of their resolutions adopting the plan:

- Cumberland County, Unincorporated
- City of Fayetteville
- Town of Eastover
- Town of Falcon
- Town of Godwin
- Town of Hope Mills
- Town of Linden
- Town of Spring Lake
- Town of Stedman
- Town of Wade

The approved participating jurisdictions are hereby eligible applicants through the State for the following mitigation grant programs administered by the Federal Emergency Management Agency (FEMA):

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Severe Repetitive Loss (SRL)
- Flood Mitigation Assistance (FMA)

A fifth program, Repetitive Flood Claims (RFC), does not have a requirement for a local Hazard Mitigation Plan. National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in the Cumberland County plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted.

For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each Community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years.

We also encourage each Community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development.

When the plan is amended or revised, it must be resubmitted through the State as a "plan update" and is subject to a formal review and approval process by our office. If the plan is not updated prior to the required five (5) year update, please ensure that the draft update is submitted at least six (6) months prior to expiration of this plan.

The State and Cumberland County should be commended for their close coordination and communications with our office in the review and subsequent approval of the plan. If you or Cumberland County have any questions or need any additional information, please do not hesitate to contact Victor Geer, of the Hazard Mitigation Assistance (HMA) Branch at (770) 220-5659, or Linda L. Byers of my staff at (770)-220-5498.

Sincerely,

Robert E. Lowe, Chief
Risk Analysis Branch
Mitigation Division

TABLE OF CONTENTS

LIST OF TABLES

LIST OF MAPS

INTRODUCTION

This document comprises the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update. The jurisdictions encompassed within this Plan are the Unincorporated Area of Cumberland County; the City of Fayetteville, and the Towns of Hope Mills, Spring Lake, Eastover (incorporated July 26, 2007), Stedman, Wade, Falcon, Godwin, and Linden. Even though portions of Fort Bragg and Pope Air Force Base are part of the City of Fayetteville and the Town of Spring Lake, these portions of the jurisdictions are omitted from the municipalities' data. Fort Bragg and Pope Air Force Base are responsible for their own mitigation plan. Each of these jurisdictions have individual updated plans included in the document and are summarized in the overall Cumberland County Plan. The organization of the Plan document includes general information relevant to all the jurisdictions such as the purpose, the participants in the process, the Planning process, the hazard profile, goals and policies, and adoption. The second part of the document contains the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update. The third part contains the individual plans of the individual jurisdictions in Cumberland County. Information has been duplicated between the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update and the individual plans for each jurisdiction. This is due in part, to shared services between local departments, agencies and organizations and enabling legislation. Additionally, these plans have been designed so that they are independent of each other and can be updated separately. The final part is an appendix that addresses detailed information on hazard profiles in the County.

PURPOSE

The primary purpose of this Multi-Jurisdictional Mitigation Plan Update is to protect the health, safety, and economic security of County residents by reducing the impacts of natural hazards; influence decision -making in both public and private sectors; fulfill statutory requirements of the Disaster Mitigation Act of 2000; fulfill contractual obligations under the Hazard Mitigation Grant; receive credit under the Community Rating System (CRS); prove the County, the City of Fayetteville, and the Towns of Hope Mills, Spring Lake, Eastover, Stedman, Wade, Falcon, Godwin, and Linden are eligible for government aid and grant programs and provide the residents an opportunity to participate in activities addressing mitigation of possible natural hazards; speed recovery and redevelopment following future disaster events; to reduce future vulnerability through smart development and redevelopment; and to demonstrate local governments' commitment to hazard mitigation principles.

STATEMENT OF PROBLEM

DEFINITIONS:

HAZARD (*haz erd*) - A chance of being injured or harmed

MITIGATION (*mit igat ën*) - To moderate (a quality or condition) in force or intensity; alleviate

The earth's natural systems are in constant flux. Thus, natural hazards are a part of this process destroying ecosystems and then regenerating new habitats. ~~-~~Unfortunately, in this country the frequency of disasters is rising at an alarming rate, not necessarily because natural hazards have become more frequent, but because more people have chosen to live and work in locations that put them at risk." (Keeping Natural Hazards from Becoming Disasters, A Mitigation Planning Guidebook for Local Governments, NCDEM, pg.1) The built environment is not resilient to storms, floods, fires, tornadoes…and disasters occur when these two events intertwine.

Cumberland County's geographic location makes it susceptible to several types of natural disasters. In fact, Cumberland County has been declared a *Federal Disasters Area* three times in the past decade. Each time the County has been declared a Federal Disaster Area, the nation as a whole has helped supply the resources to recover and rebuild both private and public property. In addition, there have been times when disaster aid has been repeatedly applied in the

same manner and same hazardous location. With the skyrocketing cost for disaster relief, the Federal government has mandated that localities examine their policies, procedures and strategies dealing with hazardous events.

Federal Disaster Mitigation Act of 2000 and NCGA Senate Bill 300 require all local governments to have a Hazard Mitigation Plan approved by FEMA and adopted by November 2004. Failure to adopt a plan means there will be no State or Federal funding assistance in the event of a natural disaster. This update is a part of the federal government requirement that mandates all original Mitigation Plans be updated every five years (Cumberland County's original Plan expires in 2011).

PARTICIPANTS IN THE PLANNING PROCESS

Participants in the Planning process include representatives from all the jurisdictions in Cumberland County. These representatives include the Planning Board/Commissions and technical personnel from these jurisdictions, which were divided into two groups: the Steering committee and the Technical Committee. The Steering Committee is comprised of the Cumberland County Joint Planning Board and the Fayetteville Planning Commission. The Cumberland County Joint Planning Board has representation from all the jurisdictions served by the Board. This includes the Towns of Hope Mills (rejoined the Joint Planning Board in 2007), Spring Lake, Eastover, Stedman, Wade, Falcon, Godwin, and Linden. Representation on the Cumberland County Joint Planning Board and the Fayetteville Planning Commission are as follows:

Cumberland County Joint Planning Board

Lori Epler, Chairman. ..... Cumberland County
Roy Turner, Vice Chairman ..... Cumberland County
Sara Piland. ..... Cumberland County
Garland C. Hostetter ..... Town of Spring Lake
Donovan McLaurin ..... Towns of Wade, Falcon, and Godwin
Charles C. Morris ..... Town of Linden
Walter Clark ..... Cumberland County
Harvey Cain, Jr. ..... Town of Stedman
Benny Pearce ..... Eastover
Patricia Hall ..... Town of Hope Mills

Fayetteville Planning Commission

James M. Smith, Chairman
Mark Ledger, Vice Chairman
Charles H. Astrike
Sarah Bialeschki
Larry Boney
Cleatus (Jack) Cox
Mary Ellen Lavoie
Ronald Michael
Thomas S. Speight, Jr.
Bill J. Snuggs, Alternate
Willis M. ~~B~~Bill" Watt, Alternate

Members of the Technical Committee also consisted of representatives from all the governmental entities. The Cumberland County Emergency Services Director Kenny Currie served as coordinator of the Technical Committee. Members on the Technical Committee were as follows:

Hazard Mitigation Technical Committee

Kenny Currie, Coordinator……Director, Cumberland County of Emergency Services
Thomas Lloyd, ……...Planning and Inspections Director, Cumberland County
Mike Osbourn …… 911 Coordinator, Cumberland County
David Nash, AICP ……..……..Planner, Fayetteville Planning Department
Denise Sykes ……...Representing Wade, Falcon, Godwin, and Linden*
Wayne Dudley…… Engineering Tech/ Certified Flood Mapper, Cumberland County Engineering Dept.
Jeffery Brown…….....Director, Engineering and Infrastructure Dept., City of Fayetteville
Giselle Rodriguez…….....Engineer II, Engineering and Infrastructure Dept, City of Fayetteville
Cecil Combs……..…Deputy Director, Cumberland County Planning & Inspections Department
Robert Anderson ……..…….Chief Planning Officer, City of Fayetteville
Karen Hilton……...… Manager, Fayetteville Planning Department
Benjamin Nichols……....Fire Chief, City of Fayetteville Fire Department
James McMillian…….Fayetteville/Cumberland County Parks and Recreation Department
Johnathan Tatum……...Planner, City of Fayetteville Fire Department
Greg Phillps …….…….Cumberland County Emergency Services, Chief Fire Marshal
Marsha Byrant ……...Planner, Fayetteville Planning Department
Craig Harmon……..…..Planner, Fayetteville Planning Department
David Steinmetz…….....Senior Code Enforcement Administrator, Fayetteville Planning Department
Mike Bailey ……..…Chief Building Inspector, Town of Hope Mills
Kim Nazarchyk ……..…Town Manager, Town of Eastover
Will Denning ……..…….Representing Town of Stedman
Joe Glass …….....Engineering Manager, Public Work Commission
Billy Canady……..... Water Resources Division, Public Work Commission
Thomas Cooney ……...Director, Cumberland County Public Utilities Department
Jonah Rooney…….....Intern, Cumberland County Planning & Inspections Department

** Denise Sykes serves as the Planner for each of the Towns of Wade, Falcon, Godwin, and Linden and worked directly with each of these jurisdictions regarding this project.*

THE PLANNING PROCESS

The Planning process for development of the Plan began with a meeting of representatives from Cumberland County, the City of Fayetteville, the Towns of Hope Mills, Spring Lake, Eastover, Stedman, Wade, Falcon, Godwin, and Linden to review the Plan requirements and determine the best approach to complete the Updated Plan. The group formed the Cumberland County Hazard Mitigation Technical Committee, which decided that a multi-jurisdictional plan was the best format for the updated Plan. The Technical Committee reviewed the Planning Process that was originally developed for the Plan and recommended that the process fulfilled the necessary steps needed to complete the Cumberland County Multi-jurisdictional Plan Update and met FEMA criteria. While some of the planning phases required extensive updates, others were either minor or required no updates.

The Cumberland County Hazard Mitigation Technical Committee developed an action plan, assigned group tasks (such as assembling GIS data, ranking critical facilities, generating Countywide goals, etc.), responsibilities of each jurisdictional representative, developed a format for the data and the Plan document, and a timeline. A technical representative from each jurisdiction is responsible for developing their jurisdiction‘s Plan in accordance with the action plan. These individual jurisdiction‘s plans would then be compiled to form the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update.

The Planning Process consists of five phases, which are as follows:

Phase I - Organization
1. Develop Technical Hazard Mitigation Committee
2. Technical Committee develop methodology and time line
3. Organize work elements and assign tasks

Phase II - Assess Risks
1. Review Identify hazards
2. Assess vulnerability and profile hazards
3. Estimate potential losses

Phase III - Develop Mitigation Plan
1. Create a non-technical Hazardous Mitigation Steering Committee with representation from all governmental units and make periodic updates on the process
2. Assess capability
3. Conduct public input activity
4. Review Countywide mitigation goals
5. Identify and analyze mitigation measures
6. Review Individual governing units strategies that accomplish the goals within their jurisdiction
7. Research funding sources
8. Submit draft Plan to NCEM for review and comment
9. Refine document and add NCDEM recommendations

Phase IV - Adoption
1. Conduct jurisdictional public input activity, use local community channel, and place document on County website and at various locations around the County
2. Hold Public hearings and adoption by each jurisdiction's governing body

Phase V - Implementation
1. Implement mitigation measures
    a. Existing programs, policies, regulations, ordinances, etc.
    b. New programs, policies, regulations, ordinances, etc.
2. Monitor progress
3. Evaluate effectiveness of implemented measures
4. Make Plan adjustments (if necessary)
5. Update Plan
6. Continue public involvement and education

During the initial development of the Multi-Jurisdictional Hazard Mitigation Plan, public involvement was incorporated into the Planning Process through discussion of Hazard Mitigation and specific actions taken by each local jurisdiction, a well as specific meetings before planning groups soliciting public input regarding Hazard Mitigation. Each local jurisdiction agreed to participate in the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update and approved goals and strategies for their respective jurisdictions. Discussions and decisions were made during regularly scheduled board meetings, which are advertised and open to the public. The Fayetteville Planning Commission, and the Cumberland County Joint Planning Board (members representing the County, Eastover, Falcon, Godwin, Linden, Spring Lake, Stedman and Wade), held a joint meeting to discuss the Hazard Mitigation Planning Process. These Boards agreed to serve as the Hazard Mitigation Steering Committee. They directed the Planning Staffs to get as much public input and involvement in the efforts as possible. An extensive public involvement effort was made to gather input into the Plan. The Planning Staffs of the Cumberland County Joint Planning Board and the Fayetteville Planning Commission held public meetings to gather additional public input regarding the Hazard Mitigation Planning Process and Hazard Mitigation. On July 23, 2003 an advertisement was placed in

the Fayetteville Observer offering the citizens input into the Hazard Mitigation Plan (*see Fayetteville Observer advertisement Invitation for Citizen Input at the end of this section)*. This public input meeting of the Hazard Mitigation Steering Committee was held on July 29, 2003.

As you can tell from the information above, there were extensive efforts made to get the public involved, the participation from the general public during development of the initial Plan; the public showed little interest. In updating the Plan, it was felt that effort should be made to get the public comments by holding open house sessions. A Public Open House Session was held on July 1, 2010 from 1:00pm to 7:00 pm in the Cumberland County Historic Courthouse at 130 Gilespie Street in Fayetteville, N.C. There were also copies of the existing Plan at the Town Halls of each participating jurisdiction available for the public to view and make comments anytime, the County Commissioners Office, and the Planning Departments for the County and the City of Fayetteville. Despite advertising for public input, no one from the public showed up at the open house sessions or at the various other places the document was made available to the public. There was no additional information, other the public initial input during development of the original plan gathered for the updated plan. The staff proceeded to develop the plan based on input gathered during development of the original plan, the actions and mitigation measures outlined in that Plan; and measures implemented and currently being pursued by the various jurisdictions since adoption of the original Plan. The updated draft Plan was made available to the public for input and comments at an open house session held between 1:00pm and 7:00 pm on September 30, 2010 in the Historic Courthouse at 130 Gillespie Street in Fayetteville, N.C. There were also copies of the draft updated plan available for review at the Town Hall of all the Jurisdictions, The County Commissioners‘ Office, and at the County and City of Fayetteville Planning Departments. The public was also invited and encouraged to make comments and input in the Updated Plan as it was being drafted by the Staff.

Additionally, the following agencies and organizations were given the opportunity to make input through meetings of the Hazard Mitigation Technical Committee: Cumberland County Tax Office; Cumberland County Health Department; Cape Fear Valley Health System; Cumberland County Board of Education; Center for Geographic Information and Analysis; and North Carolina Emergency Management. These agencies and organizations were contacted by the Hazard Mitigation Technical Committee. While these organizations had input in the original draft, they submitted no comments for the Updated Plan. Some of them however had representatives on the Technical Committee.

Neighboring communities, State and Federal agencies, businesses, academia, nonprofits, and other interested parties were invited to participate in the planning process. These individuals were invited by advertising a public announcement in the Fayetteville Observer.

PUBLIC NOTICE ANNOUNCEMENTS

1 There will be a **drop-in session** for residents of Cumberland County to voice concerns regarding the update of the "Cumberland County Multi-Jurisdictional Hazard Mitigation Plan," the blueprint for reducing property damage and saving lives from the effects of future natural disasters. The event is scheduled from 1 to 7 p.m. in Hearing Room 3 of the Historic Courthouse, 130 Gillespie St. Staff will be available to answer questions and note concerns about the plan.

2 Cumberland County and its municipalities will soon begin updating the **Cumberland County Multi-Jurisdictional Hazard Mitigation Plan**, the blueprint for reducing property damage and saving lives from the effects of future natural disasters. A drop-in session concerning the update is set for today from 1 to 7 p.m. in Hearing Room No. 3 of the old courthouse at 130 Gillespie St. Staff will be available to answer any questions or concerns regarding the plan, as well as listen to feedback.

PUBLIC NOTICE
UPDATE TO THE CUMBERLAND COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

Cumberland County and its municipalities will begin the process of developing an update to the **Cumberland County Multi-Jurisdictional Hazard Mitigation** Plan. The update will be the blueprint for reducing property damage and saving lives from the effects of future natural disasters.

There will be a drop-in session concerning the update on July 1, 2010 from 1:00pm - 7:00pm in the Historic Courthouse, Hearing Room #3 located at 130 Gillespie Street, Fayetteville, NC. Staff will be available to solicit your input. A copy of the original **Cumberland County Multi-Jurisdictional Mitigation** Plan is available for review at all municipal Town Halls; County Commissioner's office; and Cumberland County and Fayetteville Planning Departments.

2516778ll

PUBLIC NOTICE
UPDATE TO THE CUMBERLAND COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

Cumberland County and its municipalities have begun the process of developing an update to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan. The update will be the blueprint for reducing property damage and saving lives from the effects of future natural disasters.

There will be a drop-in session concerning the update on **September 30, 2010** from 1:00 p.m. - 7:00 p.m. in the Historic Courthouse, Hearing Room #3 located at 130 Gillespie Street, Fayetteville, NC. Staff will be available to solicit your input. A copy of the draft Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update is available for review at all municipal Town Halls; County Commissioner's office; and Cumberland County and Fayetteville Planning Departments.

Hazard plan

Cumberland County will be updating its plan for responding to natural disasters and is looking for input from the public.

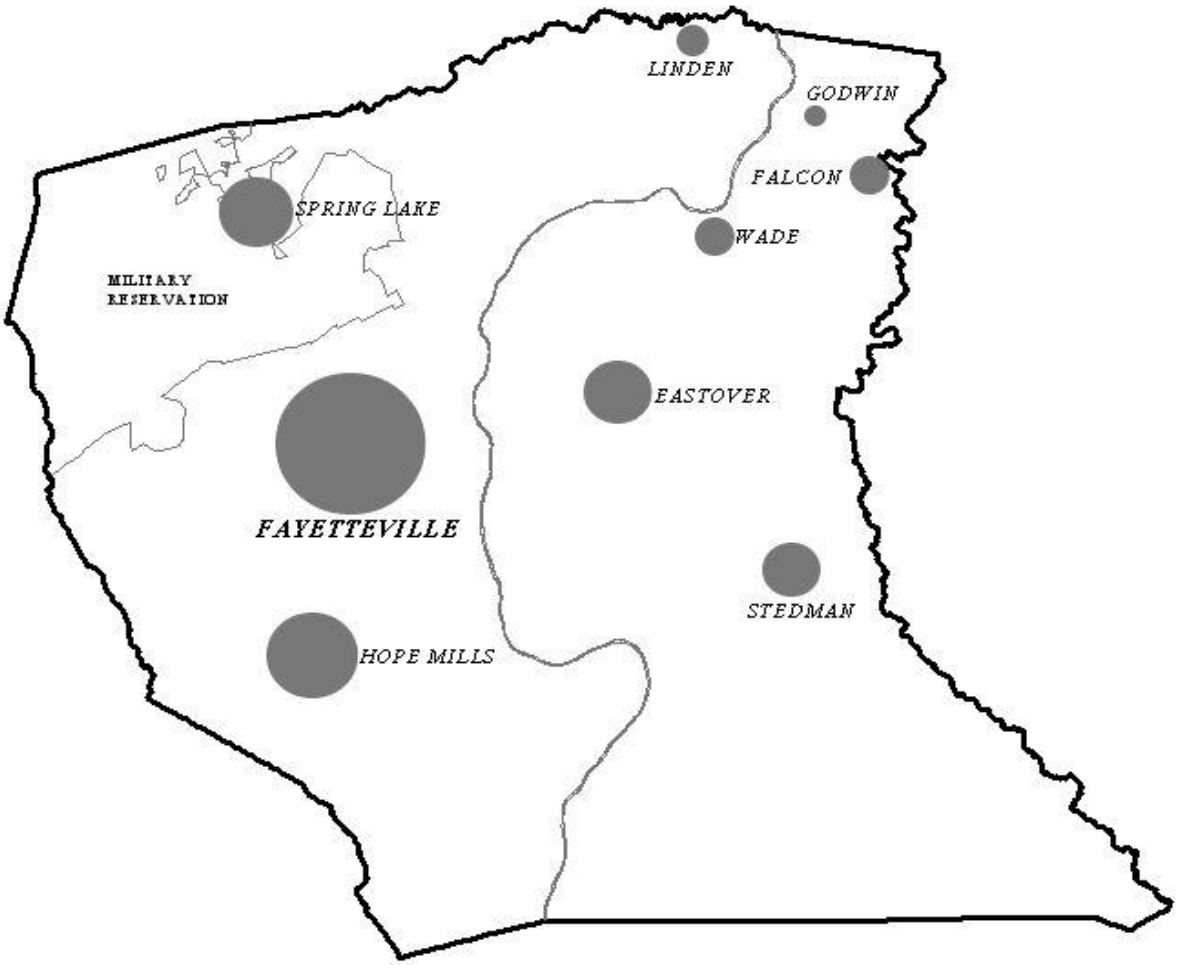
There will be a drop-in session concerning the update from 1 to 7 p.m. Thursday in Hearing Room No. 3 of the Historic Courthouse at 130 Gillespie St.

County Seeks Input on Hazard Plan

Cumberland County and its municipalities will begin the process of developing an update to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan. The update will be the blueprint for reducing property damage and saving lives from the effects of future natural disasters.

There will be a drop-in session concerning the update on July 1 from 1 p.m. to 7 p.m. in Hearing Room #3 of the Historic Courthouse at 130 Gillespie St. Staff will be available to solicit input and answer any questions or concerns regarding the plan. A copy of the original plan is available for review at all municipal Town Halls; the County Commissioners' office; and the city and county planning departments.

OVERALL CUMBERLAND COUNTY HAZARD MITIGATION PLAN UPDATE



MULTI-JURISDICTIONAL

THE CUMBERLAND COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

COMMUNITY PROFILE

Cumberland County is located in the Upper Coastal Plains section of North Carolina, distinctively known as the –Sandhills". It is bordered on the north by Harnett County, to the east by Sampson County, on the south by Bladen County and on the west by Moore, Hoke, and Robeson Counties, and contains approximately 661 square miles. Physically, the county slopes from northwest to southeast with an elevation change from 400 feet above sea level to 100 feet above sea level. There are nine municipalities within the County: City of Fayetteville, and the Towns of Hope Mills, Spring Lake, Eastover, Stedman, Wade, Falcon, Godwin, and Linden. The North Carolina Office of Management and Budget 2009 estimated population in the County was 321,071 persons. Over 50% of the Nation's population lies within a 400-mile radius of the County. Interstate 95, which bisects the County, serves as a major north-south route on the eastern seaboard. Most of the urban development is located west of the Interstate, while land located east of Interstate – 95 is generally rural. Other major State routes that traverse the County include U. S. 401, U. S. 301, U. S. 13, N.C. 87, N C. 24, N.C. 210, N.C. 53, N.C. 82, and N.C. 59. Due to this highway network and geographical location, Cumberland County is the center of trade for southeastern North Carolina and northeastern South Carolina. According to the North Carolina Department of Commerce Quarterly Profile 2009, at least 13% of the civilian labor force within the County comprises retail trade. Additionally, 17% of the civilian labor force is associated with healthcare and social assistance. The highest ranked civilian labor force category in the County is private industry (70%) followed by government with 28%. The County is the home of Fort Bragg and Pope Air Force Base, combined is one of the largest military installations in the world. Their presence provides an economic impact of $9,484,962,825 annually.

The land in Cumberland County slopes generally from northwest to southeast. The northwestern section of the County, within Fort Bragg, has elevations of over 400 feet. Elevations in the southeastern section of the County tend to be at 100 feet or less. The Cape Fear River runs through Cumberland County, from north to south. The elevation of the river is approximately 35 feet above sea level. Land on the western side of the river is dissected by several systems of streams that flow into the Cape Fear River.

Most of the urban development in Cumberland County has occurred in the central part of the County, west of the Cape Fear River. There are three distinct physical areas on the western side of the Cape Fear River where urban development have occurred: the lower terrace, the second terrace, and the uplands area.

The lower terrace is a low, flat area adjacent to the Cape Fear River. On the western side of the river, the lower terrace extends from Longview Drive Extension on the north to Rockfish Creek on the south. On average, the lower terrace is about a mile wide. This area has historically served as a flood plain for the Cape Fear River; the larger floods of the Cape Fear River have inundated this area in the past. The lower terrace is poorly drained, because is flat and because it has soils that tend to be plastic and impervious. Campbellton, one of the earliest settlements in the Fayetteville/Cumberland County area, was established on the lower terrace in 1762, due to its proximity to the Cape Fear River. Poor drainage and the threat of flooding from the Cape Fear River caused development to shift west from the lower terrace to the second terrace.

The second terrace is located on higher ground, west of the lower terrace. The dividing line on the east between the second terrace and the lower terrace is a noticeable rise in elevation that can be seen along Person Street (near Liberty Point) and along Grove Street (just east of Green Street) in downtown Fayetteville. Drainage on the second terrace tends to be more favorable than in the lower terrace. The

village of Cross Creek and then the central business district of Fayetteville developed on the second terrace. The higher elevation of the second terrace has made it less vulnerable to flooding from the Cape Fear River. However, the second terrace is still vulnerable to flooding from Cross Creek and Blounts Creek.

The uplands area is located west of the second terrace. The eastern edge of the uplands area can be seen along Hay Street, west of Robeson Street, at the western edge of Downtown Fayetteville, where the elevation rises abruptly. Topography in the uplands area varies from relatively flat on some of its plateaus to gently rolling. Drainage is better in the uplands than in the second terrace or in the lower terrace. The Haymount residential neighborhood was the first residential area built in the uplands area. The uplands area has traditionally served as a site for residential development and associated commercial development in the Fayetteville area.

IDENTIFYING AND PROFILING HAZARDS

For this update the Technical Committee reviewed **Table A1 – Hazard Identification and Analysis** and **Table A2 – Summary by Hazard Vulnerability by Jurisdiction**. The Technical Committee determined the following hazards could still affect all of the jurisdictions within Cumberland County: hurricane, drought, thunderstorms, severe winter storms, tornadoes, extreme heat, wildfires, and earthquakes. The Technical Committee recommended the removal of volcanoes and tsunamis from the original list of hazards. As of this time no volcanoes or tsunamis have any impact on Cumberland County and its municipalities due to the County's geographic location and geology. Additionally, the Technical Committee focused on flooding since it is associated with and caused by other types of hazards, such as thunderstorms, hurricanes and tornadoes. Between January 1950 and June 2010 all of Cumberland County has experienced 372 hazards per NOAA history profile of Local Storm Events. Based on this profile the County has experienced eight hurricanes, 19 documented tornadoes, 152 powerful thunderstorms, 78 hailstorms, one drought, 19 winter storms, two extreme heat event, 33 flash floods and 6 floods. Wildfires, earthquakes, tsunamis and volcanoes have not been documented within the County. Detailed information on each hazard type and their profile are contained in Appendix A. Information within the hazard profile includes a location of the geographic area affected by each natural hazard, historical impact of each hazard, including the previous occurrences and extent of impact relative to Cumberland County.

MITIGATION STRATEGIES

The jurisdictions in Cumberland County jointly agreed upon three goals to be achieved by their hazard mitigation plan and developed individual strategies accordingly. Outlined below are these goals and the compilation of the strategies of all the governmental units as a hazard mitigation effort for Cumberland County.

Goal #1 - Reduce vulnerability of Cumberland County and its municipalities to all natural hazards for existing development, future development, redevelopment and infrastructure.

Goal #2 - Identify and protect all properties/natural resources that are at risk of damage due to a hazard and to undertake cost-effective mitigation measures to minimize losses.

Goal #3 - Improve public awareness, education and outreach programs for the natural hazards that Cumberland County and its municipalities are most likely to experience.

Mitigation Strategies for Cumberland County are presented below. These strategies were designed based upon the following criteria: cost-benefit, hazard identification and profile, as well as vulnerability and capability assessments. Additionally the Technical Committee designed each strategy to be cost-effective, technically feasible, environmentally sound and based upon local resources. In the Plan

Update, the Technical Committee revisited the Goals and Strategies and decided that the three goals were still valid. The Committee also reviewed the mitigation actions taken by the various jurisdictions to address these Goals and found that while the jurisdictions made great strides addressing various mitigation measures, there was still work to be done to continue pursuing mitigation efforts. The Technical Committee recommended the revision of Strategy #17 and the deletion of Strategy #6 and #7 as presented below.

Strategies

1. Restrict residential and non-compatible uses within the Special Flood Hazard Area.
2. Increase the lowest finished floor elevation for new developments in the Special Flood Hazard Area to two feet above the base flood elevation as noted on the FIRM maps.
3. Encourage the use of cluster type development to preserve special hazard areas
4. Provide incentives for developers willing to use environmentally friendly development practices (such as preserving open space, landscaping with native vegetation, providing an abundance of trees, and utilizing environmental friendly technology and techniques).
5. Identify and map structures that are vulnerable to high winds.
6. Develop and implement a uniform Flood Damage Prevention Ordinance.*(Deleted in the Update)*
7. Adopt a comprehensive countywide Storm Water Ordinance. *(Deleted in the Update)*
8. Require all utilities except high voltage electrical lines to be placed underground.
9. Develop a program to identify and eliminate existing development that is below the Special Flood Hazard Area elevation.
10. Develop a program to ensure that all drainage ways, culverts, and storm drains are kept free of debris.
11. Limit the amount of impervious surfaces and provide incentives to encourage the use of pervious surfaces.
12. Develop a Landscape Ordinance that will provide protection for natural areas by design and increasing the amount of vegetation in urban developed areas.
13. Develop a Tree Ordinance to address clear cutting and the protection of existing trees.
14. Develop a reforestation program to increase vegetative cover in highly urban areas and in denuded flood prone areas.
15. Develop a greenway program and encourage low impact uses along rivers, streams, creeks, and drainage ways as a means of protecting these areas.
16. Amend development standards to require an additional vehicular access for developments located near special hazard areas to accommodate emergency vehicles and to serve as an evacuation route.
17. Identify areas that are susceptible to wildfires and consider prescribed fire (controlled burning) management tool to reduce the impact of wildfire hazards.(Revised)
18. Promote the continuation of the mutual aid agreement between all electrical providers.
19. Continue to provide protection of wetlands and environmentally sensitive areas.
20. Develop a damage assessment data base to provide a mechanism for monitoring and evaluating mitigation efforts to include the type of hazard, when and where it occurred, death or injury, damage cost, and actual replacement costs.
21. Encourage the maintenance of trees along power lines.
22. Encourage all rest homes and long-term care or physically challenged facilities to have a reciprocal agreement.

23. Provide better multi-lingual awareness programs concerning the hazard types, warning signs, their effects, the action to take, and the location of emergency shelters including the distribution of written information in neighborhoods with high concentrations of foreign born populations.
24. Partner with higher education institutions to participate in the education of citizens about natural hazards.
25. Develop a program to train volunteers to assist vulnerable populations during a hazard.
26. Improve distribution of hazard awareness materials to citizens through websites, schools, and special events.
27. Develop an acquisition/relocation program for structures with a finished floor elevation below the Special Flood Hazard Area base flood elevation.
28. Provide a conservation-zoning district for environmental corridors or Special Flood Hazard Areas along rivers, streams, creeks and drainage ways.
29. Some jurisdictions should consider participating in the Community rating system (CRS) program.
30. Some jurisdictions will consider options to reduce the risk of flooding for government owned buildings located in flood hazard areas.
31. The City of Fayetteville should ask County Tax Department to develop a geographic identifier for individual buildings. This would allow GIS users to link tabular tax information about buildings to the individual buildings.

IMPLEMENTATION

Each jurisdiction is responsible for implementing their individual action and strategic plans. The Updated Plan implementation will start from the time that it is adopted. Each jurisdiction has assigned various departments to address specific elements to implement their Updated Plan. Each jurisdiction will pursue the development of policies, programs, ordinances, amendments, and regulations for their planning area. Planning staff will prepare these planning documents, ensuring that the goals, objectives and strategies of these planning documents would be consistent with the Hazard Mitigation Update Plan and would not increase hazard vulnerability or decrease hazard capability of the jurisdiction. The appropriate Planning Board/Commission would receive these planning documents for review and approval (This Board/ Commissions make up the Cumberland County Hazard Mitigation Steering Committee). These review comments are forwarded to each jurisdiction governing body for consideration prior to their review and adoption of these planning documents. The public will have an opportunity to comment on these documents at public hearings held by the Planning Board/Commission and each governing body. It will be the responsibility of the County, City, Town manager or Chief Official to ensure that these actions are carried out within the allocated time frame and keep their governing bodies informed of the progress annually. Regarding the implementation process in the Updated Plan, the Technical Committee felt that this is still the proper process that should be followed and is still in accordance with the criteria set forth by FEMA.

Two local television stations that cover Cumberland County and its jurisdictions have enacted a personalized severe weather alert system for severe thunderstorms and/or tornadoes. These severe weather warning phone calls (24 hours a day) are based on the street address submitted when a resident or business signs up for these calls. There is a small yearly fee for this service where residents receive a telephone call when a severe thunderstorm or tornado is within the vicinity of their address. Residents are allowed to receive these calls on three phone numbers. Also local radio stations use the National Weather Alert system to alert residents of surrounding severe weather.

MONITORING, EVALUATING, AND REPORTING PROGRESS

All the jurisdictions in Cumberland County have included periodic monitoring and reporting as part of their hazard mitigation plans. This ensures that their goals and objectives for the Plan are being met. The monitoring and reporting is to supplement the Plan within the five-year cycle. The jurisdictions have agreed that the Cumberland County Emergency Services Department will serve as the contact and clearing house for any relevant information.

The jurisdictions have also agreed to annually review their Plan, unless a situation occurs making it necessary to review sooner (e.g. natural disasters). The various Planning Departments' Staff, coordinated through the Hazard Mitigation Technical Committee, and the Cumberland County Emergency Services Department, will conduct the review. This annual review and report will be forwarded to the individual jurisdictions' Planning Board/Commission and governing body for review and adoption. Public hearing will be held at these meetings to gather citizen input.

The annual report will include the following:

1. An evaluation of the effectiveness and appropriateness of the mitigation actions proposed in the Update Plan.
2. A list of problems that have occurred in the implementation process.
3. Changes in jurisdictions' priorities.
4. Recommendations for changes, revisions, or amendments to the Plan Update.

The Technical Committee concluded, after reviewing the Monitoring, Evaluating and Reporting Progress that these processes and departments (agencies) involved were still valid and should be followed for the next five years.

REVISIONS AND UPDATES

As updates occur, the date, reason and responsible party will be noted. Updates or revisions, which affect the Update Plan as a whole and impact any other jurisdiction, will require the approval of those jurisdictions' governing body.

At the end of every five-year cycle (period established by FEMA), the Hazard Mitigation Technical Committee will submit the hazard profile, vulnerability assessment and local capability section updates or revisions to FEMA and NCDEM for review. Increased development, increased exposure to certain hazards, the development of new mitigation capabilities or techniques and changes to Federal or State legislation are examples of changes that may affect the condition of the Plan. The updated Plan will be reviewed by the various planning organizations and forwarded to the respective governing bodies for consideration and adoption. Copies of any revision, amendment or update to the Plan will be filed with the Clerks of the various jurisdictions, the Cumberland County Emergency Services Department, and added to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update. The Technical Committee concluded after the review of the Revisions and Updates that this process was still valid and in accordance with FEMA criteria.

VULNERABILITY ASSESSMENT

The assessment of the vulnerability of the population and facilities in the County considered the type of and location of development, the infrastructure and public buildings. As mentioned in the Identifying and Profiling Hazards Section above, Cumberland County has experienced eight hurricane events between 1950 and 2010. These hurricanes affected the entire geographic area of the County. The severity of these events ranged from moderate (1:2) to extreme (1:4) in intensity. Twenty tornadoes, ranging

between (F0) and (F3) have been documented; with an average cost of $50,000 in property damage per event have occurred. Approximately 153 documented thunderstorms have occurred during this time frame. These storms characteristically had wind ranging between 50 knots - 73 knots and/or lightning, causing between $15,000 - $180,000 per event. A total of 33 floods/flash floods have occurred between 1950 and 2010. Approximately 98 hailstorms have also been recorded. The County has experienced one drought event. Due to this event, it was declared a disaster area (along with 72 other North Carolina counties). Other data for this event is not available. At least 23 winter/Ice storms/Extreme Cold have been documented. Although damage estimates were not available, these events caused property damage throughout the entire County. Two extreme heat events was recorded, although data on the magnitude or property or crop damage is not available. Each jurisdiction in the County is vulnerable to all of the hazards listed in Identifying and Profiling Hazards Section above. The Technical Committee knew the Vulnerability Assessment required an extensive update due to annexations, incorporation of the Town of Eastover, new construction, adoption of the new FIRM's and the 2010 re-evaluation of property and buildings within Cumberland County and its municipalities. This information was compiled for the County by the Technical Hazard Mitigation Committee through GIS data, tax records, existing studies, zoning and subdivision regulations, past records, and data from State, Federal, and local agencies provided data to assess vulnerable structures, infrastructure, and critical facilities. The information is a summary compiled from the data collected on each jurisdiction in Cumberland County, which included the Unincorporated Area of the County; the City of Fayetteville; and the Towns of Hope Mills, Spring Lake, Eastover, Stedman, Falcon, Wade, Linden, and Godwin. Explanation of the methodology used for the Vulnerability Assessment Update is explained in **Appendix C – Methodology.** The types of hazards and the areas they impact are delineated in **Table A-1: Hazard Identification and Analysis** and **Table A-2: Summary of Hazard Vulnerability By Jurisdiction** located in Appendix A - Hazard Profile.

Current Conditions

The current vulnerable structures, infrastructure, and critical facilities subject to all hazards in Cumberland County are as shown in **Table 1 - Cumberland County Current Vulnerability Assessment By Jurisdiction**. The total number of persons affected by natural hazards occurring throughout the County is 417,344 persons (Unincorporated County – 166,713; Fayetteville – 278,064; Hope Mills – 34,934; Spring Lake -21,356; Stedman -1,980; Wade -638; Falcon - 492; Godwin - 154; and Linden - 177). The methodology used in preparing this data is described in Appendix C - Methodology. The total number of private buildings impacted by all hazards is 109,686. This data breaks down as 32,041 in the Unincorporated Area of the County; 67,617 in Fayetteville; 5,336 in Hope Mills; 2,374 in Spring Lake; 1,373 in Eastover; 460 in Stedman; 231 in Wade, 122 in Falcon, 611 in Godwin, and 71 in Linden. Current total value for these private buildings is approximately $ 20,489,813,294. The highest value of these buildings are located in City of Fayetteville at $8,613,362,902 followed by the Unincorporated Area of the County at $8,619,296,786; Hope Mills at $1,686,489,719; Spring Lake at $839,964,937; Stedman at $138,316,510; Falcon at $75,499,158; Wade at $49,088,654; Linden at $20,988,400; and Godwin at $13,966,054.

Compiled current data for the entire County's public buildings and critical facilities shows a total of 1,623 buildings valued at $2,974,333,754 impacting 92,608 persons; 8,020,646 linear feet of water lines valued at $721,269,860; 7,179,121 linear feet of sewer lines, valued at $1,076,868,150; 13,733,351 linear feet of streets, valued at $2,595,603,339; 265 bridges, valued at $677,000,000; and 91 dams valued at $142,970,000. This data was compiled by jurisdiction.

The City of Fayetteville has 1,293 buildings and critical facilities valued at $1,631,406,817 impacting 54,681 persons; 5,095,468, linear feet of water lines valued at $458,592,120; 5,122,376 linear feet of sewer lines valued at $768,356,400; 5,637,766 linear feet of streets valued at $1,065,537,774; 80 bridges valued at $169,000,000; and 44 dams valued at $43,600,000.

The Unincorporated Area of the County has 199 public buildings and critical facilities valued at $982,519,690; 2,023,324 linear feet of water lines valued at $182,099,160; 1,149,775 linear feet of sewer lines valued at $172,466,250; 6,785,812 linear feet of roads valued at $1,282,518,468; 157 bridges valued at $415,400,000; and 38 dams valued at $77,000,000.

Hope Mills has 45 public buildings and critical facilities valued at $189,600,400; 416,807 linear feet of water lines valued at $37,512,630; 394,185 linear feet of sewer lines valued at $59,127,750; 413,367 linear feet of streets valued at $78,126,363; 3 dams valued at $15,500,000; and 4 bridges valued at $20,000,000.

Spring Lake accounts for 24 public buildings and critical facilities valued at $92,516,210; 161,541 linear feet of water lines valued at $14,538,690; 175,738 linear feet of sewer lines valued at $26,360,700; 341,460 linear feet of streets valued at $64,535,940; five dams valued at $6,800,000; and 5 bridges valued at $15,000,000.

Eastover contains 26 public buildings and critical facilities valued at $41,017,026; 168,503 linear feet of water lines valued at $15,165,270; 100,418 linear feet of sewer lines valued at $15,062,700; 392,576 linear feet of streets valued at $74,196,864; and 16 bridges valued at $56,500,000.

There are 11 public buildings and critical facilities valued at $20,782,592; 63,266 linear feet of water lines valued at $5,693,940; 78,000 linear feet of sewer lines valued at $11,700,150; 66,488 linear feet of streets valued at $12,566,232; and 2 bridges valued at $800,000 in the Town of Stedman.

Wade has 16 public buildings and critical facilities valued at $10,144,735; 32,201 linear feet of water lines valued at $2,898,090; 51,544 linear feet of sewer lines valued at $7,731,600; and 35,394 linear feet of streets valued at $6,689,466.

Falcon has six public buildings and critical facilities valued at $4,646,940; 27,062 linear feet of water lines valued at $2,435,580; 59,560 linear feet of sewer lines valued at $8,934,000; 27,101 linear feet of streets valued at $5,122,089; one bridge valued at $300,000; and one dam valued at $70,000.

Godwin has one public building valued at $433,656; 15,666 linear feet of water lines valued at $1,409,940; 47,524 linear feet of sewer lines valued at $7,128,600; and 17,372 linear feet of streets valued at $3,283,308.

Linden contains two public buildings and critical facilities valued at $1,265,690; 16,808 linear feet of water lines valued at $924,440; and 16,015 linear feet of streets valued at $3,026,835.

The total value of all properties impacted by natural hazards in the Cumberland County is $28,674,860,396. Breaking this data down by jurisdiction shows that the Unincorporated Area has $11,731,300,354; City of Fayetteville has $12,749,858,013, Hope Mills $2,083,356,861; Spring Lake has $1,059,716,477; Eastover has $634,782,034; Stedman has $189,859,424; Wade has $76,552,543; Falcon has $97,007,767; Linden has $26,205,365; and Godwin has $26,221,558.

Critical facilities in Cumberland County are located as shown on **Map 1 - County Critical Facilities\Structures Location**. Detailed information regarding the ranking of critical facilities relevant to Cumberland County is provided in Appendix B - Critical Facilities Ranking.

Flooding is a natural hazard that has occurred and remains possible in the County. At least 33 flash floods and six floods have been documented between 1950 and 2010 causing damage between $170,000 and over $10 million dollars. The probability of flooding impacting structures, critical facilities, and infrastructure increases considerably within the Special Flood Hazard area.

According to Federal Insurance Rate Maps (FIRMS) there are 36,193 acres of Special Flood Hazard Area in the County. Summarized flood data for Cumberland County is shown in **Table 2 - Cumberland**

County Current Flood Vulnerability Assessment By Jurisdiction and is as shown on **Map 2 - County Critical Facilities\Structures Within Flood Prone Areas**.

This data shows that currently, the defined Special Flood Hazard Areas will impact 43,546 persons; 4,894 existing private buildings with an estimated value of $1,278,066,968; 392 public buildings and critical facilities valued at $452,375,349 impacting 13,130 persons; 231,055 linear feet of water lines valued at $20,794,950; 705,818 linear feet of sewer lines valued at $105,872,700; 236,088 linear feet of streets valued at $ 44,620,627; 98 bridges valued at $203,000,000; and 46 dams valued at $70,370,000 in Cumberland County.

The greatest impact is in the City of Fayetteville with 5,330 acres of Special Flood Hazard Area and currently impacts 17,299 persons in 3.205 private buildings valued at $563,476,491; 372 public buildings and critical facilities valued at $406,275,220 impacting 13,040 persons; 223,664 linear feet of water lines valued at $20,129,760; 587,628 linear feet of sewer lines valued at $88,144,200; 93,487 linear feet of streets valued at $17,669,043; 47 bridges valued at $76,600,000, and 30 dams valued at $89,200,000.

The Unincorporated Area of the County data shows that flood prone areas impacts 22,424 persons in 1,284 private buildings valued at $456,447,299; 13 public buildings and critical facilities valued at $37,976,945 impacting 58 persons; 462 linear feet of water lines valued at $41,580; 90,586 linear feet of sewer lines valued at $13,587,900; 125,105 linear feet of streets valued at $23,644,845; 38 bridges valued at $77,800,000; and eight dams valued at $20,500,000. The total current valued of the flood prone impacted area is $629,998,569.

Approximately 752 persons are impacted by the Hope Mills‘ flood prone area in 166 private buildings valued at $72,906,666; two public buildings and critical facilities valued at $2,100,004 impact 23 persons; 1,616 linear feet of water lines valued at $145,440; 17,023 linear feet of sewer lines valued at $2,553,450; 863 linear feet of streets valued at $163,107; three bridges valued at $14,000,000; and one dam valued at $14,000,000. The total value of the impacted flood prone area in the Town is $105,868,667

Flood prone areas impact 2,635 persons in 102 private buildings valued at $125,038,142; four public building and critical facilities valued at $5,623,180 impacting nine persons; 6,514 linear feet of sewer lines valued at $977,100; 1,219 linear feet of streets valued at $230,391; four bridges valued at $12,000,000; and four dams valued at $6,600,000 within the Town of Spring Lake. The total ot the impacted area is $150,593,853.

The Town of Eastover data shows that flood prone areas impacts 265 persons in 96 private buildings valued at $37,751,432; one public buildings and critical facilities valued at $400,000 and impact no persons; 2,879 linear feet of water lines valued at $259,110; 180 linear feet of sewer lines valued at $27,000; 13,822 linear feet of streets valued at $2,612,358; and six bridges valued at $21,800,000. The total valued of the impacted area is $62,849,900.

The Town of Falcon currently have 109 persons impacted by flood prone areas in 31 private buildings valued at $18,837,222; 479 linear feet of water lines valued at $43,110; 677 linear feet of streets valued at $127,953; and one dam valued at $70,000. The total valued of the impacted area is $241,063.

Stedman has 56 persons impacted by flood prone areas; seven private buildings valued at $2,602,748; 449 linear feet of water lines valued at $40,410; 3,821 linear feet of sewer lines valued at $573,150; 635 linear feet of street valued at $120,015; and two bridges valued at $800,000. In total, the amount of valued in the Town subject to the flood prone areas is $4,136,323

The Town of Wade data shows that flood prone areas impacts six persons in three private buildings valued at $1,006,968; 150 linear feet of water lines valued at $13,500; 66 linear feet of sewer lines valued at $9,900; and 280 linear feet of streets valued at $52,920. The total valued of the impacted area is $1,083,288.

Linden and Godwin have no designated flood prone areas.

Vulnerable Populations

Special populations are vulnerable to natural hazards due to the lack of resources or control over certain variables necessary for recovery. These special populations include the elderly (persons over 65 year old), the disabled, non-English speaking persons, the institutionalized, households without telephones and vehicles, those below the poverty level, those living in high hazard areas, those living in certain mobile homes, and renters.

According to the 2000 Census, there are 23,395 persons over 65 years of age in the County, 1,795 institutionalized persons in group quarters, 9,802 persons that speaks English –less than very well", 52,909 persons with a disability, 8,128 households without access to a vehicle, 2,721 households without access to a telephone, 8,097 families below the poverty level, 16,264 families live in mobile homes, and there are 113,853 people living in 43,622 renter - occupied units. The figures for the Unincorporated Area of Cumberland County, Fayetteville, Hope Mills, Spring Lake, Eastover, Stedman, Wade, Falcon, Godwin, and Linden are found in the individual Plans in this document. Since the 2010 Census data was not available during the preparation of this document, we have kept the Census 2000 data in the document. If this data comes available during the review process, we will update the final document the 2010 data.

Development Trends and Projections

Development trends include the direction of growth, current zoning, the land use plan, and projections. The Technical Committee reviewed the Development Trends and Projections and found that this section was in need of updating. The Committee recommended that the Planning Staff should update this Section in the Overall Plan and all the jurisdictions that are a part of this Multi-jurisdictional Plan. The update includes current vulnerability assessment data; current Land Use Plan map and data; and current zoning map and data. Primary growth in Cumberland County is toward the southwest and the north. The southwestern growth direction has been the predominant direction of growth over the years. This may be altered due to recent improvements in the infrastructure in other parts of the County. The construction of the Fayetteville Outer Loop from I- 95 to Ramsey Street; the extension of sewer service to the eastern part of the County (Towns of Stedman, Wade Falcon and Godwin as well as the Eastover Community); the national trend toward the desirability of suburban living will impact greatly on the direction of future growth in the County. The greatest short term influence on growth in the County is BRAC which is relocating over 40,000 troops and their families, support personnel, civilian employees and others into the Region.

All of Cumberland County with the exception of property inside the town of Linden is zoned. The Town of Linden is currently working on a zoning ordinance for the Town. The zoning districts include agricultural; residential (suburban- two or less units per acre, low - greater than two but less than six units per acre, medium - greater than six but less than 15 units per acre and high - greater than 15 units per acre.), office and institutional and professional, commercial, manufacturing, and conservancy as shown on **Map 3 - County Zoning**. Statistics shows that approximately 213,577 acres are zoned agricultural (A1 & A1A); 6,374 acres zoned suburban density residential (R20, R20A, RR, and R30. R30A, R40, R40A), 57,060 acres zoned low density residential (PND, R10, R10M, R15, R15A,), 17,448 acres medium density (R6, R6A, and R5A), and 2,033 acres high density (R5). Further statistics shows that there are 1,090 acres of office and institutional and professional zoning (O&I, P1, P2, and P3P), 11,139acres of commercial zoning (CP, C3, C1, C1P, C1A C2, C2P, C2S, and HSP), 13,740 acres of manufacturing (MP, M1, and M2), and 10,462 acres of conservation zoning (CD).

The proposed land use for Cumberland County area is shown on **Map 4 – Cumberland County 2030 Plan**. This map indicates the community's vision for the future use of land. According to the Plan 149,248 acres is designated as rural area, 47,897 acres as conservation area, 44,974 as urban fringe, 105,585 acres as urban area and 26,558 as community growth area. The data above does not reflect

the detailed Land Use Plans that have been completed for certain areas of the County and some of its municipalities. The municipalities that have had detailed plans completed and adopted is reflected in that municipality's portion of this Updated Plan.

The projected residential population in the County for year 2025 is 379,250 according to the Cumberland County 2006-2035 Population and Economic Study, 2008 prepared by the Fayetteville Metropolitan Planning Organization. The location of this growth within the County is shown in **Map 5 - Cumberland County Projected Population Growth 2000-2030**. This is the basis for projecting the number of private and public buildings\critical facilities subject to natural hazards. The methodology used to make these projections is outline in Appendix C - Methodology.

The 2025 projected vulnerable structures, infrastructure, and critical facilities subject to all hazards are as shown in **Table 3 - Cumberland County Potential Vulnerability Assessment By Jurisdiction**. The total projected number of persons affected by natural hazards occurring throughout the County is 403,126 persons. A break out of the impacted population by jurisdiction shows the Unincorporated Area County - 172,711; Fayetteville – 244,957; Hope Mills - 32,799; Spring Lake - 21,553; Eastover - 4,788; Stedman - 1,646; Wade - 767; Falcon - 503; Godwin - 187; and Linden - 215.

The projected total number of private buildings impacted by all hazards in the County is 125,732 structures. This data broken down by jurisdiction shows 38,868 in the Unincorporated Area of the County; 74,699 in Fayetteville; 6,473 in Hope Mills; 2,880 in Spring Lake; 1,666 in Eastover; 558 in Stedman; 281 in Wade; 147 in Falcon; 74 in Godwin; and 86 in Linden. The projected total value of all private buildings in Cumberland County is approximately $23,876,549,933. The highest value of these buildings are located in the City of Fayetteville at $9,469,530,473 followed by the Unincorporated Area of the County at $10,455,849,387; Hope Mills at $2,045,837,720; Spring Lake at $1,018,940,070; Eastover at $525,067,390; Stedman at $167,788,235; Falcon at $91,586,106; Wade at $59,548,195; Linden at $25,460,493; and Godwin at $16,941,864.

The compiled 2025 projected data for the entire County's public buildings and critical facilities shows a total of 1,796 buildings valued at $3,410,633,396 impacting 105,709 persons; 9,214,618 linear feet of water lines valued at $828,602,077; 8,191,068 linear feet of sewer lines, valued at $1,228,660,046; 16,089,745 linear feet of streets, valued at $3,037,322,384; 312 bridges, valued at $804,169,861; and 106 dams valued at $169,026,416. This data was compiled by jurisdiction.

The City of Fayetteville 2025 projected data has 1,399 public buildings and critical facilities valued at $1,781,562,934 impacting 60,017 persons; 5,666,160 linear feet of water lines valued at $509,954,400; 5,696,082 linear feet of sewer lines valued at $854,412,300; 6,269,196 linear feet of streets valued at $1,184,878,044; 89 bridges valued at $187,928,000; and 49 dams valued at $48,483,200.

In 2025, the Unincorporated Area of the County is projected to have 242 public buildings and critical facilities valued at $1,191,869,610 impacting 29,524; 2,454,443 linear feet of water lines valued at $220,899,853; 1,394,763 linear feet of sewer lines valued at $209,214,415; 8,231,696 linear feet of roads valued at $1,555,790,486; 190 bridges valued at $503,911,159; and 46 dams valued at $93,406,739. The total value of the projected impact is $14,230,941,650.

The Town of Hope Mills is projected to have 55 public buildings and critical facilities valued at $229,999,416 impacting 9,578 persons; 505,618 linear feet of water lines valued at $45,505,616; 478,176 linear feet of sewer lines valued at $71,726,367; 501,445 linear feet of streets valued at $91,133,877; four dams valued at $18,802,655; and five bridges valued at $24,261,491. The total value of the projected impact is $2,527,267,142.

The Town of Spring Lake data projects 29 public buildings and critical facilities valued at $112,229,058 impacting 4,354 persons; 195,961 linear feet of water lines valued at $17,636,515; 213,183 linear feet of sewer lines valued at $31,977,494; 414,216 linear feet of streets valued at $78,286,905; six dams valued

at $8,248,907; and six bridges valued at $18,196,118. The total value of the projected impact is $1,285,515,066.

The Town of Eastover data projects 32 public buildings and critical facilities valued at $49,756,310 impacting 1,273 persons; 204,407 linear feet of water lines valued at $18,396,603; 121,815 linear feet of sewer lines valued at $18,272,178; 476,224 linear feet of streets valued at $90,006,326; no dams; and 19 bridges valued at $68,538,711. The total value of the projected impact is $770,037,917.

There will be 12 public buildings and critical facilities valued at $25,210,834 impacting 756 persons; 76,746 linear feet of water lines valued at $6,907,174; 94,621 linear feet of sewer lines valued at $14,193,154; 80,655 linear feet of streets valued at $15,243,776; and two bridges valued at $970,460 projected in 2025 in the Town of Stedman. The total value of the projected impact is $230,313,632.

Wade is projected to have 18 public buildings and critical facilities valued at $12,306,317 impacting 84 persons; 39,062 linear feet of water lines valued at $3,515,599; 62,527 linear feet of sewer lines valued at $9,379,007; and 42,936 linear feet of streets valued at $8,114,821. The total value of the projected impact is $92,863,940.

Falcon is projected to have six public buildings and critical facilities valued at 5,637,084 impacting 95 persons; 32,828 linear feet of water lines valued at $2,954,540; 72,251 linear feet of sewer lines valued at $10,837,608; 32,876 linear feet of streets valued at $6,213,476; one bridge valued at $363,922; and one dam valued at $84,915. The total value of the projected impact is $117,677,651.

Godwin is projected in 2025 to have 19,004 linear feet of water lines valued at $1,710,362; 57,650 linear feet of sewer lines valued at $8,647,523; 21,074 linear feet of streets valued at $3,982,897 and one public building and critical facility valued at $526,057 impacting two persons. The total value of the projected impact is $31,808,704.

The Town of Linden is projected to have two public buildings and critical facilities valued at $1,535,376 impacting 26 persons; 20389 linear feet of water lines valued at $1,121,415; and 19,427 linear feet of streets valued at $3,671,776. The total value of the projected impact is $31,789,061.

Projections were made for the year 2025 on the impact Special Flood Hazard Areas will have in the County. It is projected that current defined Special Flood Hazard Area will impact 54,407 persons; 6,925 private buildings with an estimated value of $1,411,426,697; 396 public buildings and critical facilities valued at $462,201,752, impacting 31,251 persons; 257,679 linear feet of water lines valued at $23,191,187; 796,815 linear feet of sewer lines valued at $119,522,292; 276,944 linear feet of streets valued at $52,342,348; 115 bridges valued at $238,511,820; and 50 dams valued at $82,412,678 in Cumberland County. This data is shown in **Table 4 - Cumberland County Potential Flood Vulnerability Assessment By Jurisdiction**.

It is expected that flood prone areas will have the biggest impact in the City of Fayetteville, where it is projected that 31,142 persons could potentially be impacted by flooding in the year 2025. It is expected that the following features in the City might be impacted by flooding in the year 2025: 3,355 private buildings valued at $589,845,424 impacting 18,102; 372 public buildings and critical facilities valued at $406,275,220; 248,714 linear feet of water lines valued at $22,384,260; 653,442 linear feet of sewer lines valued at $98,016,300; 103,958 linear feet of streets $19,648,062; 52 bridges valued at $85,179,200), and 33 dams valued at $32,470,400.

The Unincorporated Area of the County projected 2025 data shows that Special Flood Hazard Areas will impact 27,202 persons in 1,558 private buildings valued at $553,704,592; 16 public buildings and critical facilities valued at $46,068,865 impacting 70 persons; 560, linear feet of water lines valued at $50,440; 109,888 linear feet of sewer lines valued at $16,483,136; 151,762 linear feet of streets valued at $28,682,959; 46 bridges valued at $94,377,198; and 10 dams valued at $24,868,028. The total value of the Special Flood Hazard Area impacted is projected to be $764,235,217.

Approximately 912 persons are projected to be impacted by the Hope Mills' Special Flood Hazard Area in 201 private buildings valued at $88,441,220; two public buildings and critical facilities valued at $2,547,461 impacting 28 persons; 1,960 linear feet of water lines valued at $176,430; 20,650 linear feet of sewer lines valued at $3,097,525; 1,047 linear feet of streets $197,861; three bridges valued at $16,983,043; and one dam valued at $16,983,043. The total value of the Special Flood Hazard Area impacted is projected to be $128,426,583.

Special Flood Hazard Areas is projected, in 2025 to impact 3,196 persons in 124 private buildings valued at $151,680,585; five public building and critical facilities valued at $6,824,976 impacting 11 persons; 7,902 linear feet of sewer lines valued at $1,185,295; 1,479 linear feet of streets valued at $279,481; five dams valued at $8,006,292; and five bridges valued at $14,556,894 within the Town of Spring Lake. The total value of the Special Flood Hazard Area impacted is projected to be $182,681,567.

The Town of Eastover projected 2025 data shows that Special Flood Hazard Areas impacts 4,788 persons in 1,666 private buildings valued at $525,067,390; one public buildings and critical facilities valued at $485,230 and impact no persons; 3,492 linear feet of water lines valued at $314,320; 218 linear feet of sewer lines valued at $32,753; 16,767 linear feet of streets valued at $3,168,985; and seven bridges valued at $26,445,025. The total valued of the impacted area is $76,241,613.

The Town of Falcon's projected 2025 impact of Special Flood hazard Areas is 132 persons in 37 private buildings valued at $22,850,954; 581 linear feet of water lines valued at $52,296; 821 linear feet of streets valued at $155,217; and one dam valued at $84,915. The total value of the Special Flood Hazard Area impacted is projected to be $23,143,382.

Stedman is projected in 2025 to have 68 persons impacted by Special Flood Hazard Areas in eight private buildings valued at $3,157,328; 545 linear feet of water lines valued at $49,020; 4,635 linear feet of sewer lines valued at $695,274; 770 linear feet of street valued at $145,587; and two bridges valued at $970,460. In total, the amount of projected valued in the Town subject to the Special Flood hazard Areas is $5,017,668.

The Town of Wade projected data shows that Special Flood Hazard Areas impacts seven persons in three private buildings valued at $1,221,527; 182 linear feet of water lines valued at $16,377; 80 linear feet of sewer lines valued at $12,009; and 340 linear feet of streets valued at $64,377. The total projected valued of the impacted area is $1,314,109.

The Towns of Linden and Godwin have no designated Special Flood Hazard Areas with their corporate limits.

Table 1 - Cumberland County Current Vulnerability Assessment by Jurisdiction

Hazard Type(s): Hurricane, Drought, Thunderstorms, Severe Winter Storms, Tornadoes, Extreme Heat, Wildfires, and Earthquakes

Current Conditions							
Jurisdiction	**Number Private Buildings.**	**Current Value**	**Current Number of Persons**	**Number of Public Buildings & Critical Facilities.**	**Current Value**	**Current Number of Persons**	**Total Current Value**
Eastover	1,373	$432,840,174	3,947	Buildings - 26 Water Lines - 168,503 linear feet Sewer Lines - 100,418 linear feet Streets - 392,576 linear feet Bridges - 16	$ 41,017,026 $ 15,165,270 $ 15,062,700 $ 74,196,864 $ 56,500,000	1,310	$ 634,782,034
Falcon	122	$75,499,158	414	Buildings - 6 Water Lines – 27,062 linear feet Sewer Lines – 59,560 linear feet Streets - 27,101 linear feet Bridges - 1 Dams - 1	$4,646,940 $2,435,580 $8,934,000 $5,122,089 $300,000 $70,000	78	$97,007,767
Fayetteville	67,617	$8,613,362,902	223,483	Buildings – 1,293 Water Lines – 5,095,468 linear feet Sewer – 5,122,376 linear feet Streets – 5,637,766 linear feet Bridges - 80 Dams - 44	$1,631,406,817 $458,592,120 $768,356,400 $1,065,537,774 $169,000,000 $43,600,000	54,681	$12,749,858,013
Godwin	61	$13,966,054	154	Buildings - 1 Water Lines - 15,666 linear feet Sewer Lines – 47,524 linear feet Streets - 17,372 linear feet	$433,656 $1,409,940 $7,128,600 $3,283,308	2	$26,221,558
Hope Mills	5,336	$1,686,489,719	27,038	Buildings - 45 Water Lines – 416,807 linear feet Sewer Lines – 394,185 linear feet Streets – 413,367 linear feet Dams - 3 Bridges - 4	$189,600,400 $37,512,630 $59,127,750 $78,126,363 $15,500,000 $20,000,000	7,896	$2,083,356,861
Linden	71	$20,988,400	177	Buildings -2 Water Lines - 16,808 linear feet Streets - 16,015 linear feet	$1,265,690 $924,440 $3,026,835	22	$26,205,365

Current Conditions							
Jurisdiction	**Number Private Buildings.**	**Current Value**	**Current Number of Persons**	**Number of Public Buildings & Critical Facilities.**	**Current Value**	**Current Number of Persons**	**Total Current Value**
Spring Lake	2,374	$839,964,937	17,767	Buildings - 24 Water Lines – 161,541 linear feet Sewer – 175,738 linear feet Streets – 341,460 linear feet Bridges - 5 Dams - 5	$92,516,210 $14,538,690 $26,360,700 $64,535,940 $15,000,000 $6,800,000	3,589	$1,059,716,477
Stedman	460	$138,316,510	1,357	Buildings - 11 Water Lines – 63,266 linear feet Sewer – 78,001 linear feet Streets – 66,488 linear feet Bridges - 2	$20,782,592 $5,693,940 $11,700,150 $12,566,232 $800,000	623	$189,859,424
Wade	231	$49,088,654	632	Building -16 Water Lines – 32,201linear feet Streets – 35,394 linear feet Sewer Lines – 51,544 linear feet	$10,144,733 $2,898,090 $6,689,466 $7,731,600	69	$76,552,543
Unincorporated Area	32,041	$8,619,296,786	142,375	Building - 199 Water Lines - 2,023,324 linear feet Sewer - 1,149,775 linear feet Streets - 6,785,812 linear feet Bridges - 157 Dams - 38	$982,519,690 $182,099,160 $172,466,250 $1,282,518,468 $415,400,000 $77,000,000	24,338	$11,731,300,354
Cumberland County Total	**109,686**	**$20,489,813,294**	**417,344**	**Building - 1,623** **Water Lines - 8,020,646 linear feet** **Sewer – 7,179,121 linear feet** **Streets – 13,733,351 linear feet** **Bridges - 265** **Dams - 91**	**$2,974,333,754** **$721,269,860** **$1,076,868,150** **$2,595,603,339** **$677,000,000** **$142,970,000**	**92,608**	**$28,674,860,396**

* Values and building counts from County GIS- January 2010

** Information not available at this time

The methodology used in preparing this data described in Appendix C.

Table 2 - Cumberland County Current Flood Vulnerability Assessment by Jurisdiction

Hazard Type(s): Flood

Current Conditions							
Jurisdiction	**Number of Private Buildings**	**Current Value**	**Current Number of Persons**	**Number of Public Buildings & Critical Facilities**	**Current Value**	**Current Number of Persons**	**Total Current Value**
Eastover	96	$37,751,432	265	Buildings - 1 Water Lines – 2,879 linear feet Sewer - 180 linear feet Streets – 13,822 linear feet Bridges - 6	$400,000 $259,110 $27,000 $2,612,358 $21,800,000	0	$62,849,900
Falcon	31	$18,837,222	109	Water Lines - 479 linear feet Streets - 677 linear feet Dams - 1	$43,110 $127,953 $70,000	0	$241,063
Fayetteville	3,205	$563,476,491	17,299	Buildings - 372 Water Lines – 223,664 linear feet Sewer – 587,628 linear feet Streets – 93,487 linear feet Bridges - 47 Dams – 30	$406,275,220 $20,129,760 $88,144,200 $17,669,043 $76,600,000 $29,200,000	13,040	$1,201,494,714
Godwin [2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hope Mills	166	$72,906,666	752	Buildings - 2 Water Lines – 1,616 linear feet Sewer Lines – 17,023 linear feet Streets - 863 linear feet Dams - 1 Bridges - 3	$2,100,004 $145,440 $2,553,450 $163,107 $14,000,000 $14,000,000	23	$105,868,667
Linden [2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Spring Lake	102	$ 125,038,142	2,635	Buildings - 1 Water Lines - 1,356 linear feet Sewer - 6,514 linear feet Streets – 1,219 linear feet Bridges – 4 Dams - 4	$5,623,180 $122,040 $977,100 $230,391 $12,000,000 $6,600,000	9	$150,593,853

Current Conditions							
Jurisdiction	**Number of Private Buildings**	**Current Value**	**Current Number of Persons**	**Number of Public Buildings & Critical Facilities**	**Current Value**	**Current Number of Persons**	**Total Current Value**
Stedman	7	$2,602,748	56	Water Lines - 449 linear feet Sewer Lines – 3,821 linear feet Streets - 635 linear feet Bridges - 2	$40,410 $573,150 $120,015 $800,000	0	$4,136,323
Wade	3	$1,006,968	6	Water Lines - 150 linear feet Sewer Lines – 66 linear feet Streets - 280 linear feet	$13,500 $9,900 $52,920	0	$1,083,288
Unincorporated Area	1,284	$456,447,299	22,424	Building - 13 Water Lines - 462 linear feet Sewer Lines – 90,586 linear feet Streets – 125,105 linear feet Bridges - 38 Dams - 8	$37,976,945 $41,580 $13,587,900 $23,644,845 $77,800,000 $20,500,000	58	$629,998,569
Cumberland County Total	**4,894**	**$1,278,066,968**	**43,546**	**Building - 392** **Water Lines – 231,055 linear feet** **Sewer – 705,818 linear feet** **Streets – 236,088 linear feet** **Bridges - 98** **Dams - 46**	**$452,375,349** **$20,794,950** **$105,872,700** **$44,620,627** **$203,000,000** **$70,370,000**	**13,130**	**$2,156,266,377**

* Values and building counts from County GIS- January 2010
** Information not available at this time
1 – The methodology used in preparing this data is described in Appendix C.
N/A - Has no designated Special Flood Hazard Area

Table 3 - Cumberland County Potential Vulnerability Assessment by Jurisdiction

Hazard Type(s): Hurricane, Drought, Thunderstorms, Severe Winter Storms, Tornadoes, Extreme Heat, Wildfires, Earthquakes

Potential Future Conditions							
Jurisdiction	**Number of Private Buildings.**	**Projected Value**	**Projected Number of Persons**	**Number of Public Buildings & Critical Facilities.**	**Projected Value**	**Number of Persons**	**Total Projected Value**
Eastover	1,666	$525,067,390	4,788	Buildings - 1 Sewer Lines – 121,815 linear feet Water Lines – 204,407 linear feet Streets – 476,224 linear feet Bridges - 19	$49,756,710 $18,272,178 $18,396,603 $90,006,326 $68,538,711	1,273	$770,037,917
Falcon	147	$91,586,106	503	Buildings - 6 Sewer Lines – 72,251 linear feet Water Lines – 32,828 linear feet Streets – 32,876 linear feet Bridges - 1 Dams - 1	$5,637,084 $10,837,608 $2,954,540 $6,213,476 $363,922 $84,915	95	$117,677,651
Fayetteville	74,699	$9,469,530,473	244,957	Buildings – 1,399 Sewer Lines – 5,696,082 linear feet Water Lines – 5,666,160 linear feet Streets – 6,269,196 linear feet Bridges - 89 Dams - 49	$1,781,562,934 $854,412,300 $509,954,400 $1,184,878,044 $187,928,000 $48,483,200	60,017	$14,036,749,351
Godwin	74	$16,941,864	187	Buildings - 1 Water Lines – 19,004 linear feet Sewer Lines – 57,650 linear feet Streets – 21,074 linear feet	$526,057 $1,710,362 $8,647,523 $3,982,897	2	$31,808,704
Hope Mills	6,473	$2,045,837,720	32,799	Buildings - 55 Sewer Lines – 478,176 linear feet Water Lines – 505,618 linear feet Dams - 4 Bridges - 5 Street – 501,445 linear feet	$229,999,416 $71,726,367 $45,505,616 $18,802,655 $24,261,491 $91,133,877	9,578	$2,527,267,142
Linden	86	$25,460,493	215	Buildings - 2 Streets - 19,427 Water Lines – 20,389	$1,535,376 $3,671,776 $1,121,415	26	$31,789,061

Potential Future Conditions							
Jurisdiction	**Number of Private Buildings.**	**Projected Value**	**Projected Number of Persons**	**Number of Public Buildings & Critical Facilities.**	**Projected Value**	**Number of Persons**	**Total Projected Value**
Spring Lake	2,880	$ 1,018,940,070	21,553	Building - 29 Streets – 414,216 linear feet Water Lines – 195,961linear feet Sewer lines – 213,183 linear feet Bridges - 6 Dams - 6	$ 112,229,058 $ 78,286,905 $ 17,636,515 $ 31,977,494 $ 18,196,118 $ 8,248,907	4,354	$ 1,285,515,066
Stedman	558	$ 167,788,235	1,646	Buildings - 12 Streets – 80,655 linear feet Water Lines – 76,746 linear feet Sewer Lines – 94,621linear feet Bridges - 2	$ 25,210,834 $ 15,243,776 $ 6,907,174 $ 14,193,154 $ 970,460	756	$ 230,313,632
Wade	281	$ 59,548,195	767	Buildings - 18 Streets – 42,936 linear feet Water Lines – 39,062 linear feet Sewer Lines – 62,527 linear feet	$ 12,306,317 $ 8,114,821 $ 3,515,599 $ 9,379,007	84	$ 92,863,940
Unincorporated Area	38,868	$ 10,455,849,387	172,711	Building - 242 Bridges - 190 Dams - 46 Sewer Lines - 1,394,763 linear feet Water Lines - 2,454,443 linear feet Streets – 8,231,696 linear feet	$ 1,191,869,610 $ 503,911,159 $ 93,406,739 $ 209,214,415 $ 220,899,853 $ 1,555,790,486	29,524	$ 14,230,941,650
Cumberland County Total	**125,732**	**$ 23,876,549,933**	**480,126**	**Bldg. - 1,796 Water Lines – 9,214,618 Sewer – 8,191,068 Streets – 16,089,745 Bridges - 312 Dams - 106**	**$ 3,410,633,396 $ 828,602,077 $ 1,228,660,046 $ 3,037,322,384 $ 804,169,861 $ 169,026,416**	**105,709**	**$ 33,354,964,114**

* Values and building counts from County GIS - January 2010

** Information not available at this time

1- The methodology used in preparing this data is described in Appendix C.

Table 4 - Cumberland County Potential Flood Vulnerability Assessment by Jurisdiction

Hazard Type(s): Flood

Potential Future Conditions							
Jurisdiction	**Number of Private Buildings.**	**Projected Value**	**Projected Number of Persons**	**Number of Public Buildings & Critical Facilities.**	**Projected Value**	**Number of Persons**	**Total Projected Value**
Eastover	1,666	$ 525,067,390	4,788	Buildings - 1 Sewer Lines - 218 linear feet Water Lines - 3,492 linear feet Streets – 16,767 linear feet Bridges - 7	$ 485,230 $ 314,320 $ 32,753 $ 3,168,985 $ 26,445,025	0	$ 76,241,613
Falcon	37	$ 22,850,954	132	Water Lines - 581 linear feet Streets - 821 linear feet Dams - 1	$ 52,296 $ 155,217 $ 84,915	0	$ 23,143,382
Fayetteville	3,355	589,845,424	18,102	Buildings - 372 Sewer Lines – 653,442 linear feet Water Lines – 248,714 linear feet Streets – 103,958 linear feet Bridges – 52 Dams - 33	$ 406,275,220 $ 98,016,300 $ 22,384,260 $ 19,648,062 $ 85,179,200 $ 32,470,400	31,142	1,253,818,866
Godwin [2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hope Mills	201	$ 88,441,220	912	Buildings - 2 Sewer Lines - 20,650 linear feet Water Lines - 1,960 linear feet Dams - 1 Bridges - 3 Street - 1,047 linear feet	$ 2,547,461 $ 3,097,525 $ 176,430 $ 16,983,043 $ 16,983,043 $ 197,861	28	$ 128,426,583
Linden [2]	N/A	N/A	N/A	N/A	N/A	N/A	N/A

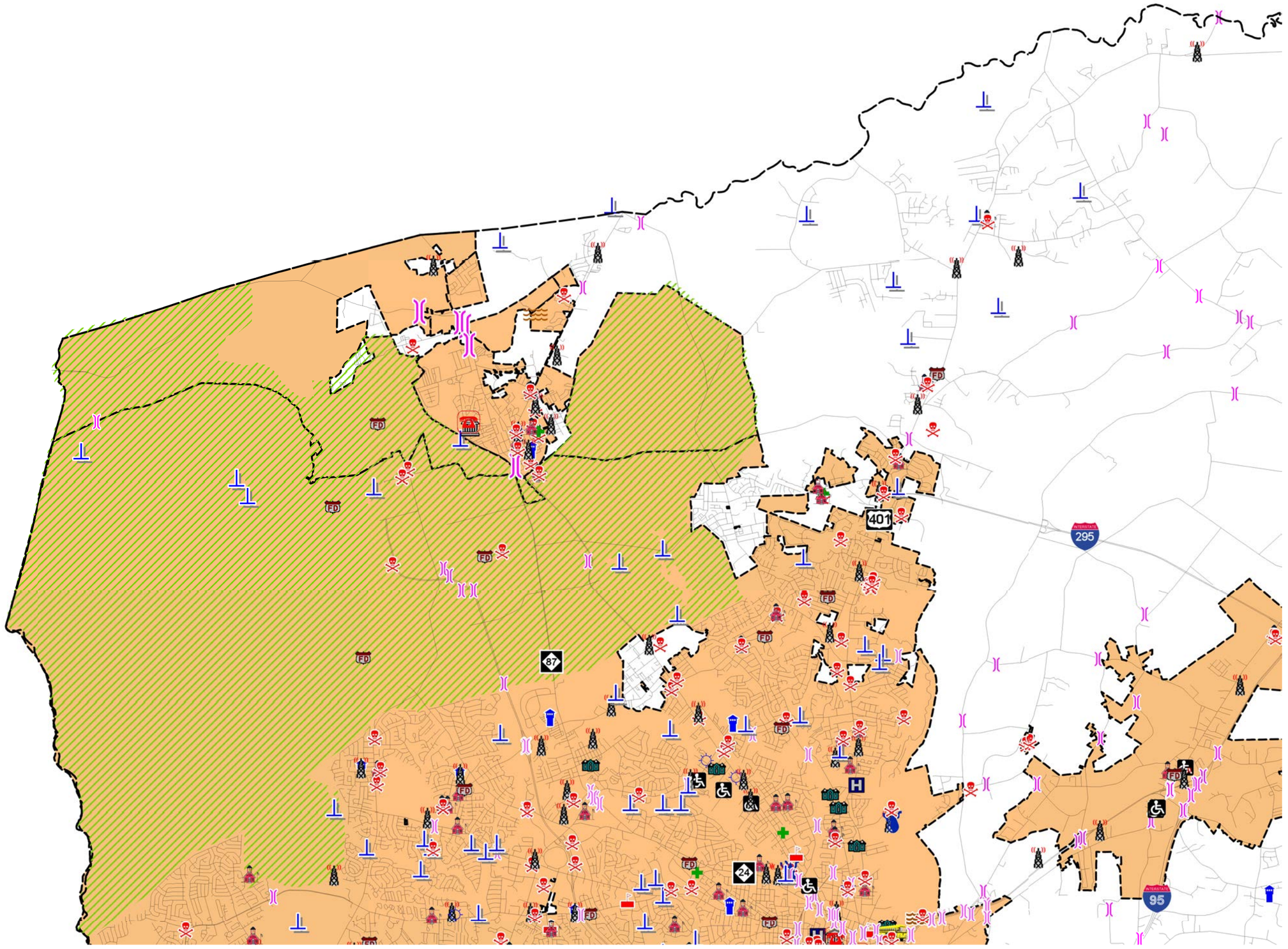
Potential Future Conditions							
Jurisdiction	**Number of Private Buildings.**	**Projected Value**	**Projected Number of Persons**	**Number of Public Buildings & Critical Facilities.**	**Projected Value**	**Number of Persons**	**Total Projected Value**
Spring Lake	124	$ 151,680,585	3,196	Building - 5 Streets - 1,479 Water Lines - 1,645 Sewer lines - 7,902 Bridges - 5 Dams - 5	$ 6,824,976 $ 279,481 $ 148,044 $ 1,185,295 $ 14,556,894 $ 8,006,292	11	$ 182,681,567
Stedman	8	$ 3,157,328	68	Sewer Lines - 4,635 linear feet Water Lines - 545 linear feet Streets - 770 linear feet Bridges - 2	$ 49,020 $ 695,274 $ 145,587 $ 970,460	0	$ 5,017,668
Wade	3	$ 1,221,527	7	Sewer Lines - 80 linear feet Water Lines - 182 linear feet Streets - 340 linear feet	$ 16,377 $ 64,196 $ 12,009	0	$ 1,314,109
Unincorporated Area	1,558	$ 553,704,592	27,202	Building - 16 Bridges - 46 Dams - 10 Sewer Lines - 109,888 linear feet Water Lines - 560 linear feet Streets – 151,762 linear feet	$ 46,068,865 $ 94,377,198 $ 24,868,028 $ 16,483,136 $ 50,440 $ 28,682,959	70	$ 764,235,217
Cumberland County Total	**6,952**	**$ 1,411,426,697**	**54,407**	**Bldg. - 396 Water Lines – 257,679 Sewer – 796,815 Streets – 276,944 Bridges - 115 Dams - 50**	**$ 462,201,752 $ 23,191,187 $ 119,522,292 $ 52,342,348 $ 238,511,820 $ 82,412,678**	**31,251**	**$ 2,434,878,955**

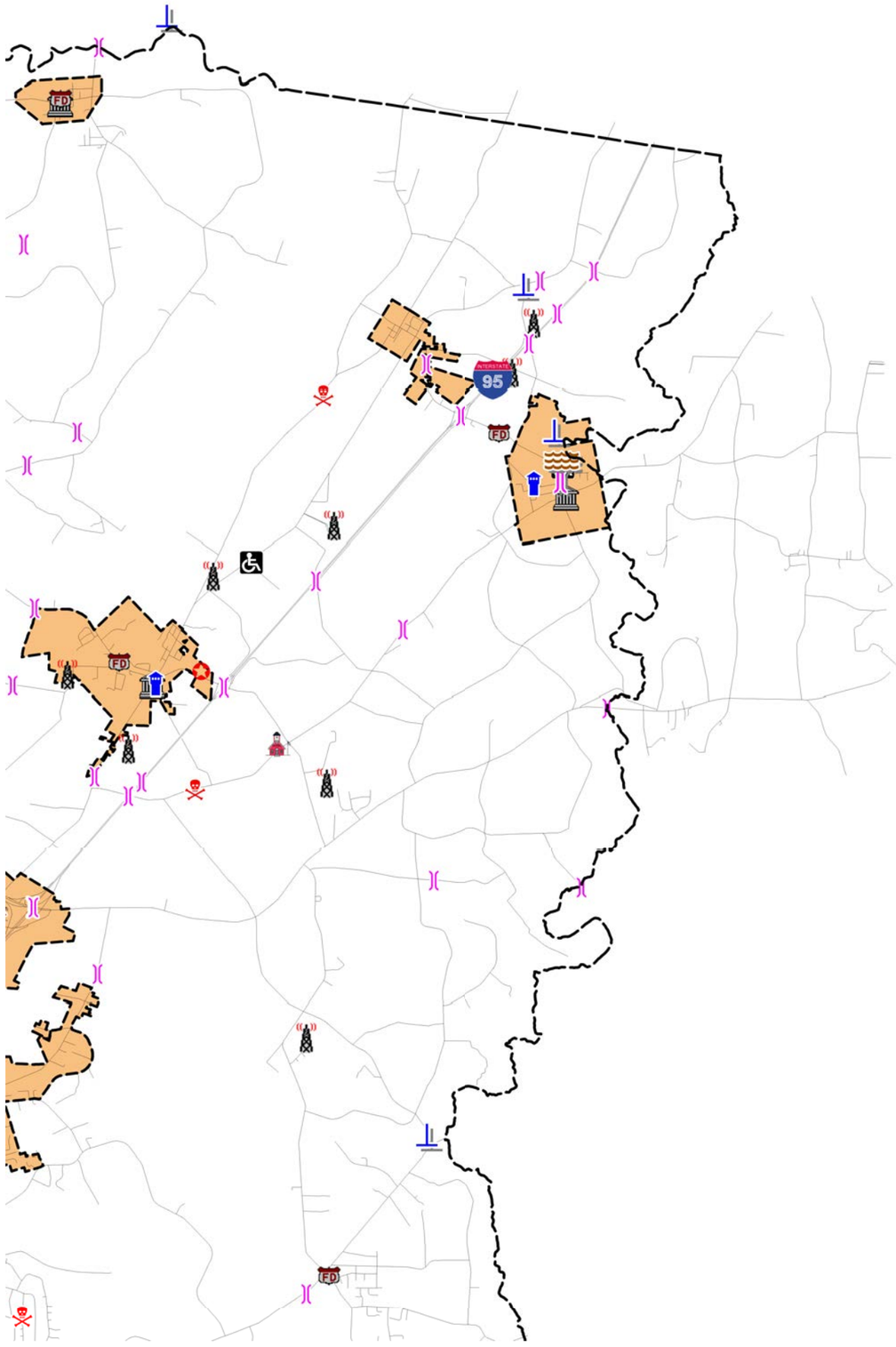
* Values and building counts from County GIS - January 2010

** Information not available at this time

1- The methodology in preparing this data is described in Appendix C.

N/A - No designated Special Flood Hazard Area within the jurisdiction


FD
87
401
24
295
95

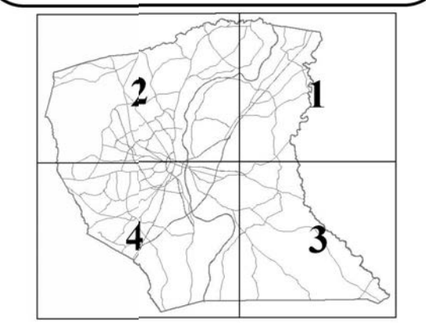


Map 1

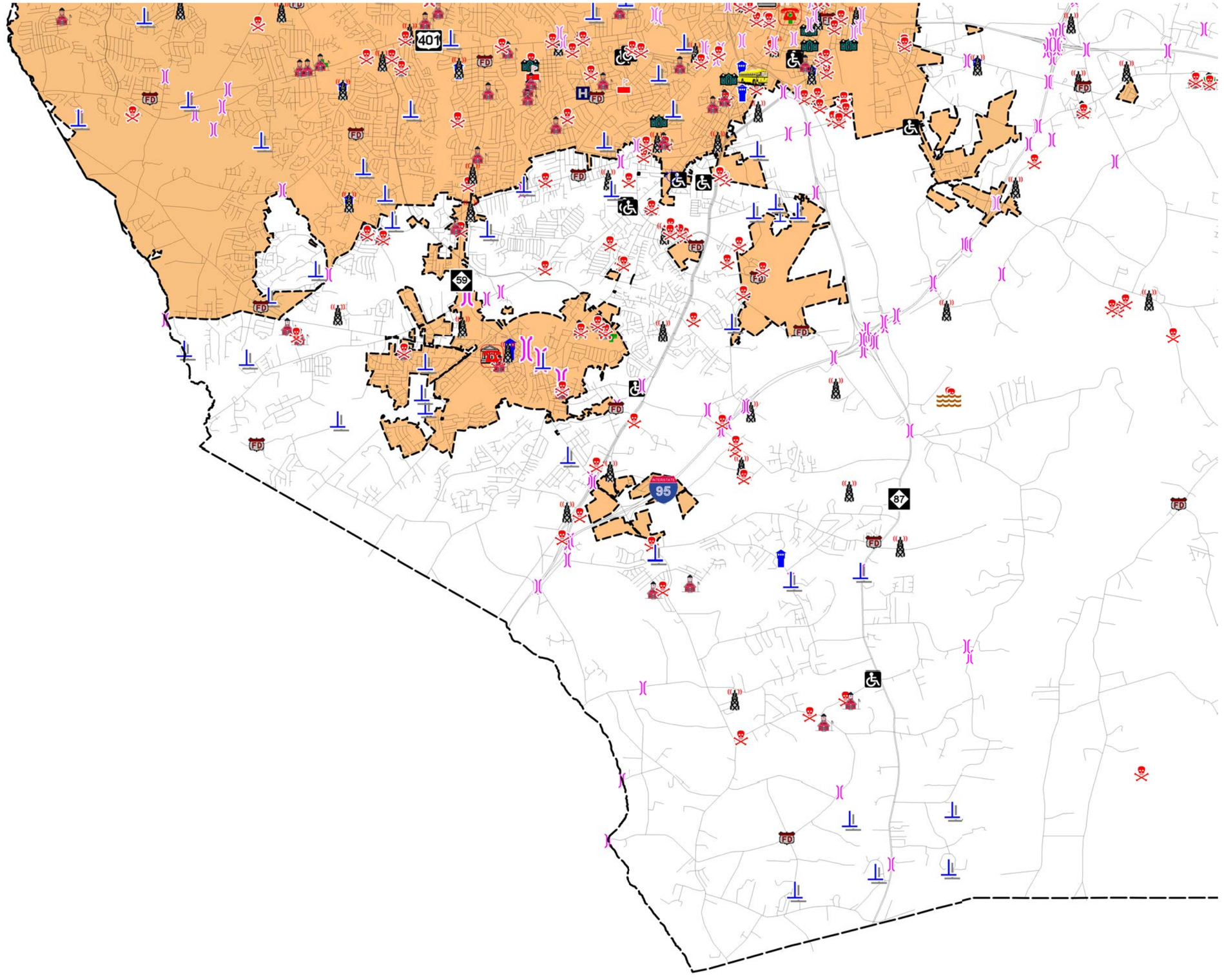
Cumberland County Critical Facilities

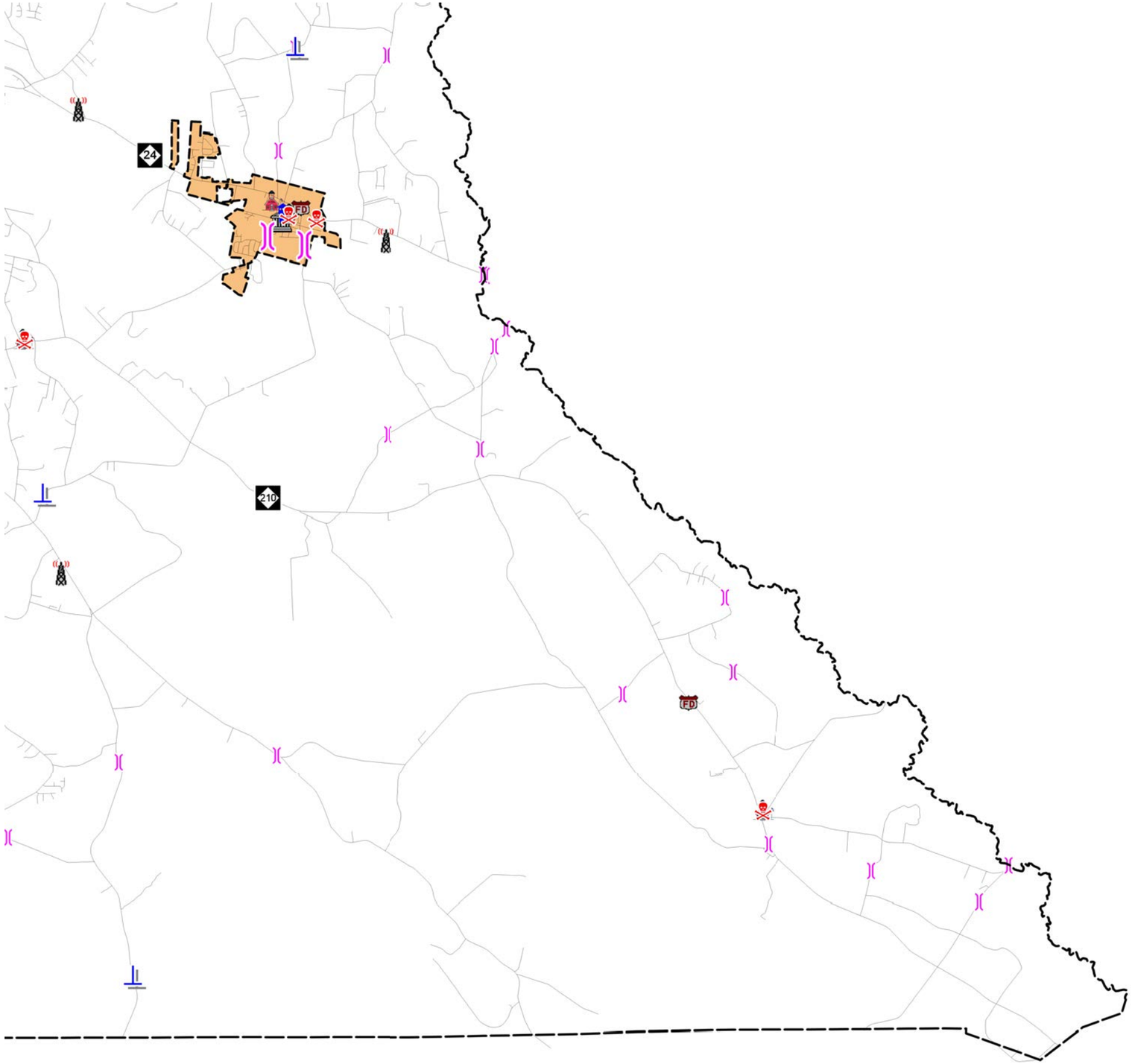
Legend

- Bulk Fuel Storage
- Communication Center
- Public Housing
- Cell Tower
- Hazardous Materials
- Water Tower
- Water Treatment Facility
- Sewage Treatment Facility
- Bridge
- Emergency Shelter
- Police Department
- Town Hall
- Fire Department
- Private - Higher Education
- Public School
- Municipal Boundary
- Streams-Rivers
- Lakes
- Dams
- Resthome
- Bus Station
- Hospital



Sheet 1 of 4


401
59
95
87
FD



Legend

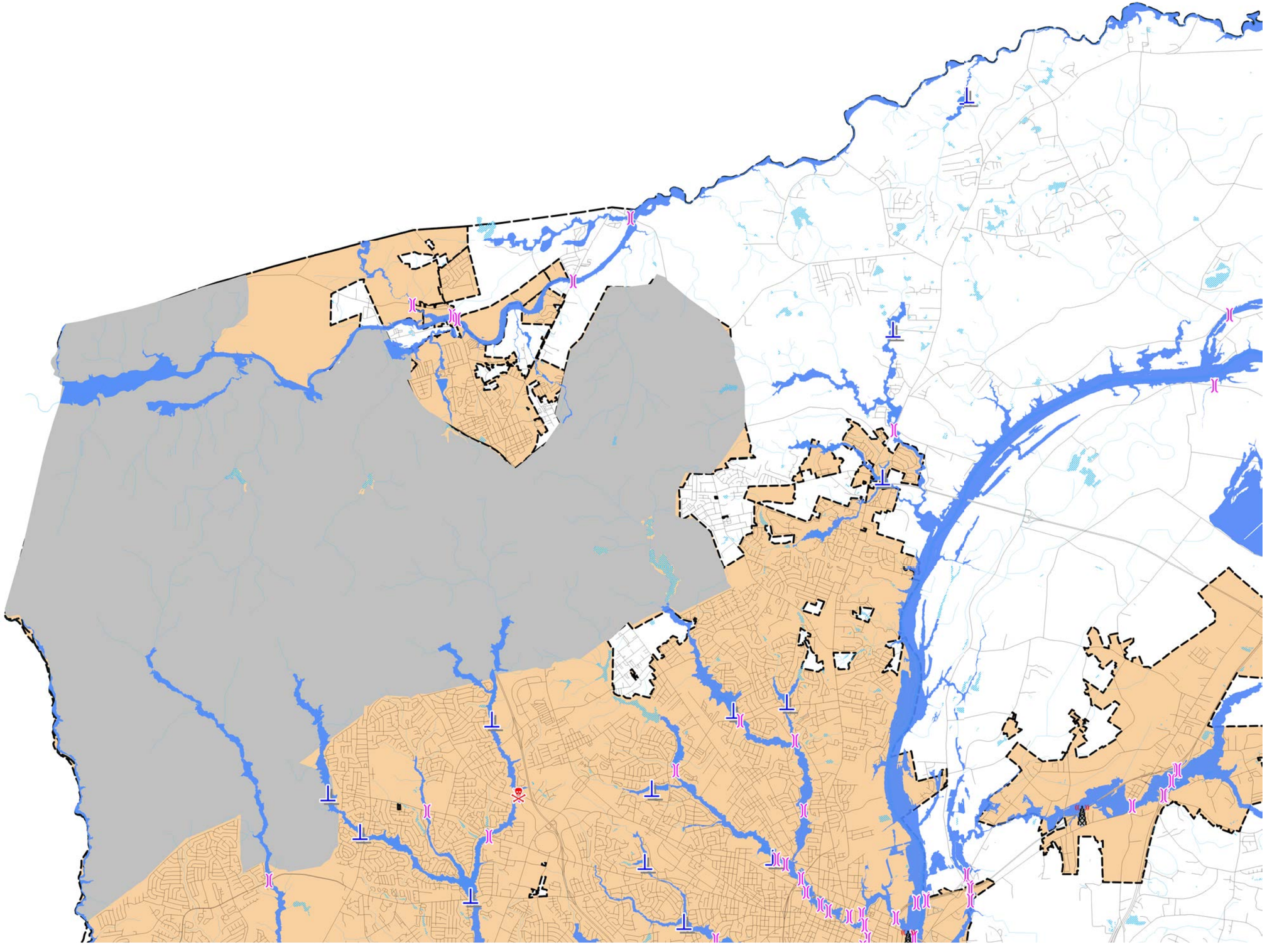
- Bulk Fuel Storage
- Communication Center
- Public Housing
- Cell Tower
- Hazardous Materials
- Water Tower
- Water Treatment Facility
- Sewage Treatment Facility
- Bridge
- Emergency Shelter
- Police Department
- Town Hall
- Fire Department
- Private - Higher Education
- Public School
- Municipal Boundary
- Streams-Rivers
- Lakes
- Dams
- Resthome
- Bus Station
- Hospital

N

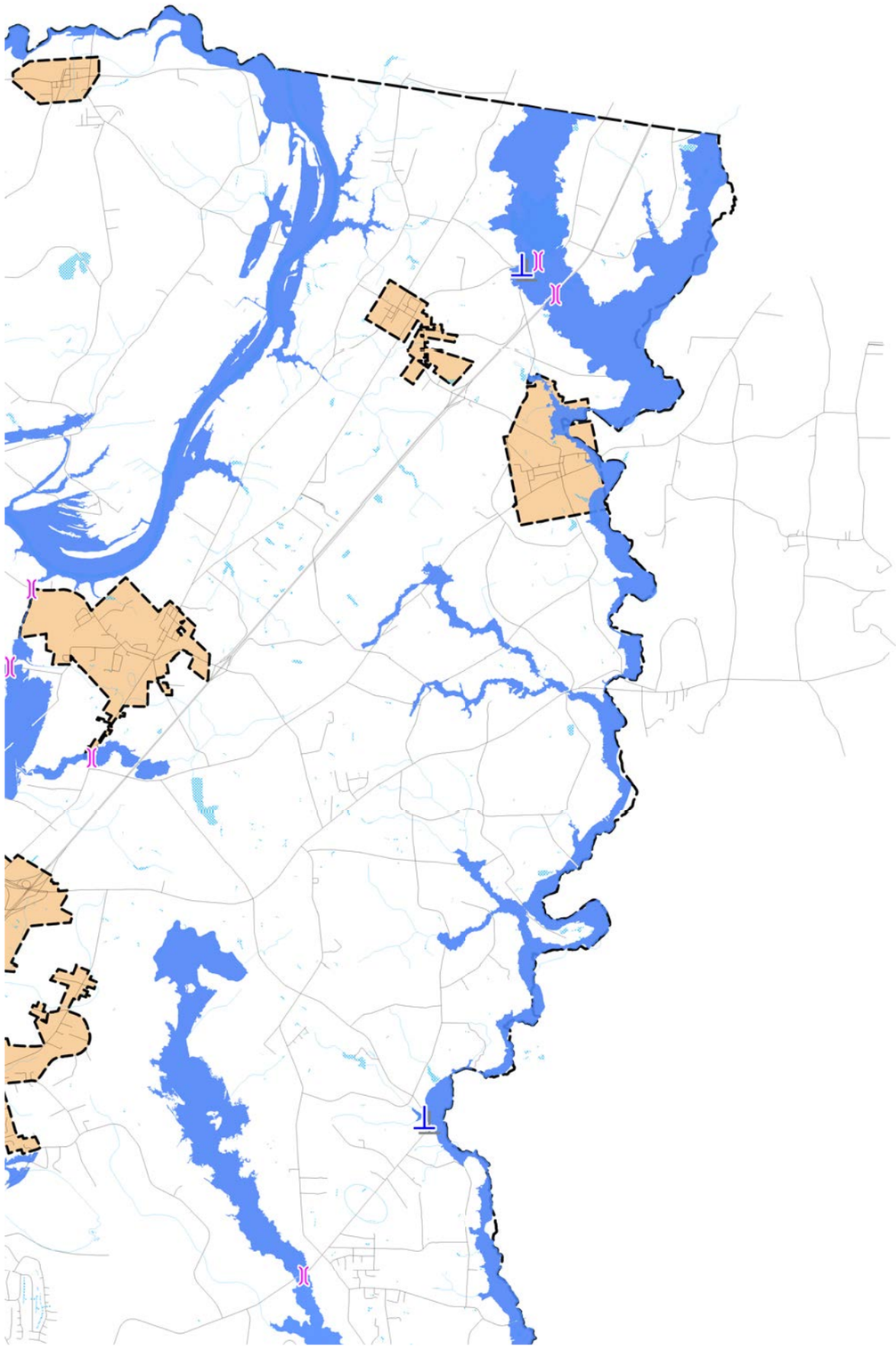
0 2.5 5

miles

Cumberland County
Multi-Jurisdictional
HAZARD MITIGATION PLAN
Update



Sheet 2 of 4



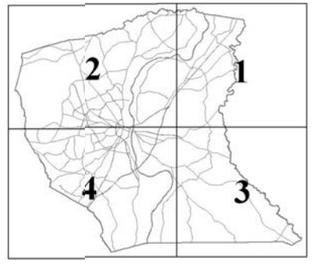
Map 2

Cumberland County Critical Facilities

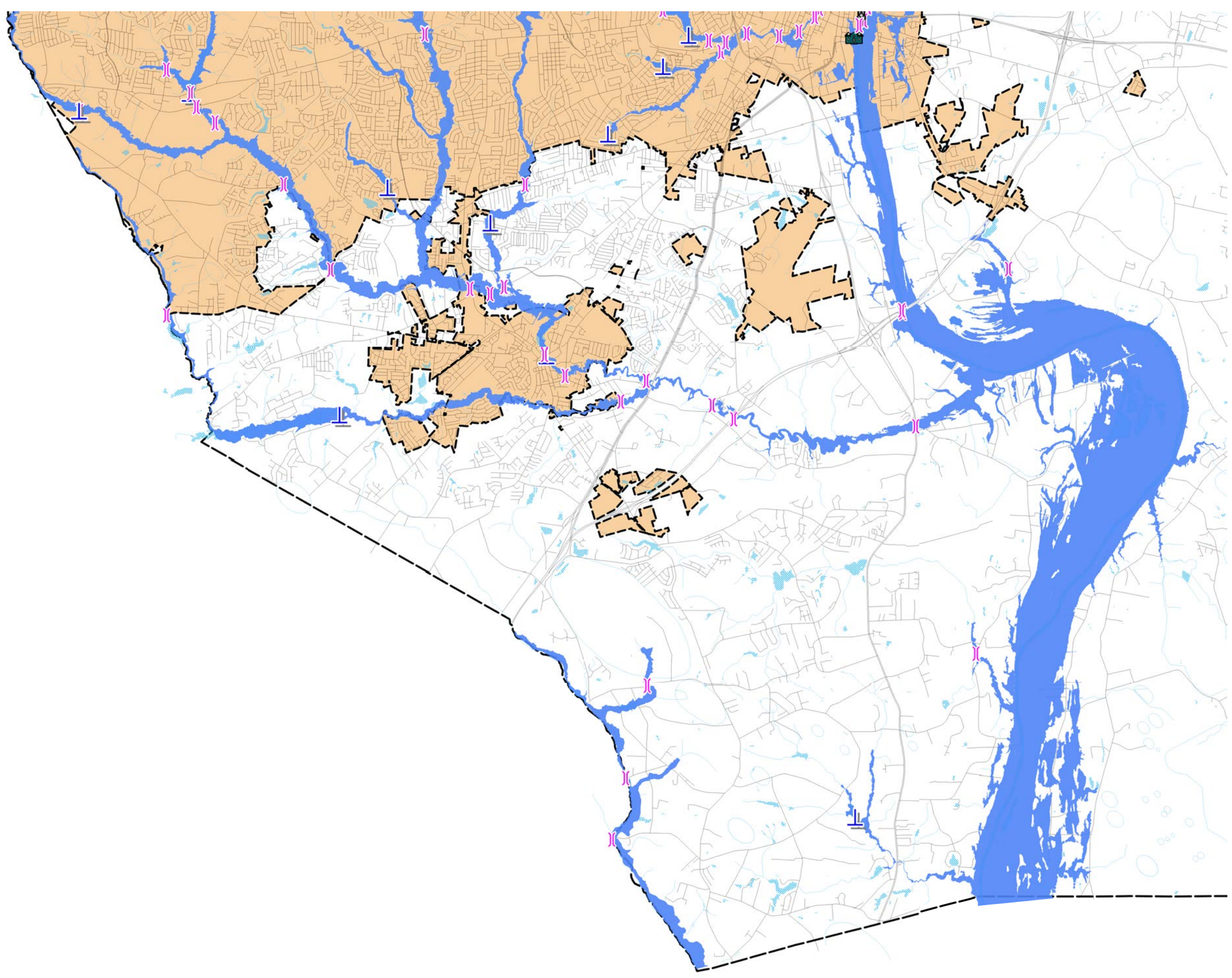
Special Flood Hazard Area

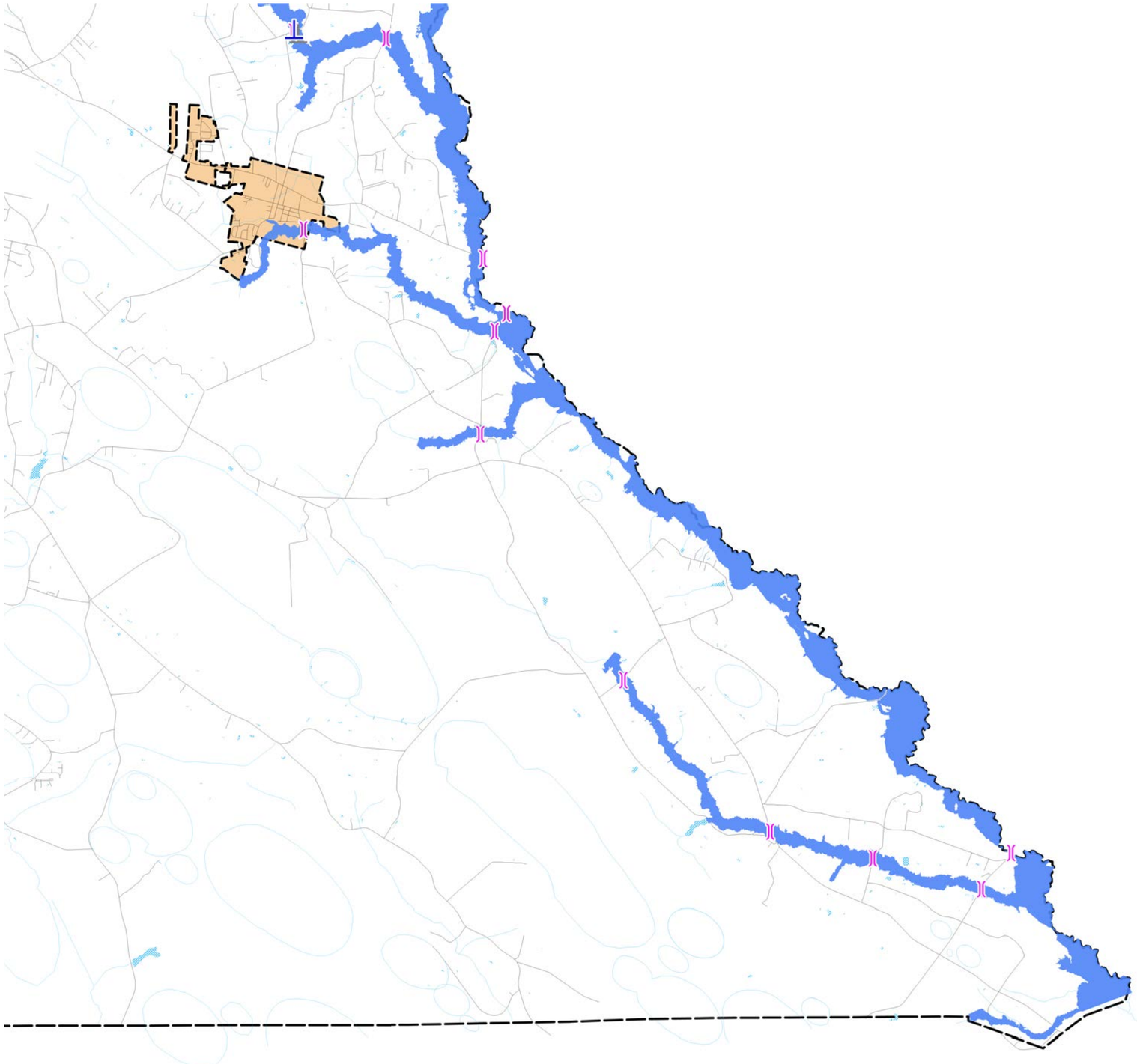
Legend

- Cell Tower
- Hazardous Materials
- Bridge
- Fire Department
- Municipal Boundary
- Streams-Rivers
- Lakes
- Dams
- Resthome
- Ft. Bragg - Pope AFB
- Sewage Treatment Facility
- Special Flood Hazard Area



Sheet 1 of 4





Legend

- Cell Tower
- Hazardous Materials
- Bridge
- Fire Department
- Municipal Boundary
- Streams-Rivers
- Lakes
- Dams
- Resthome
- Ft. Bragg - Pope AFB
- Sewage Treatment Facility
- Special Flood Hazard Area

N

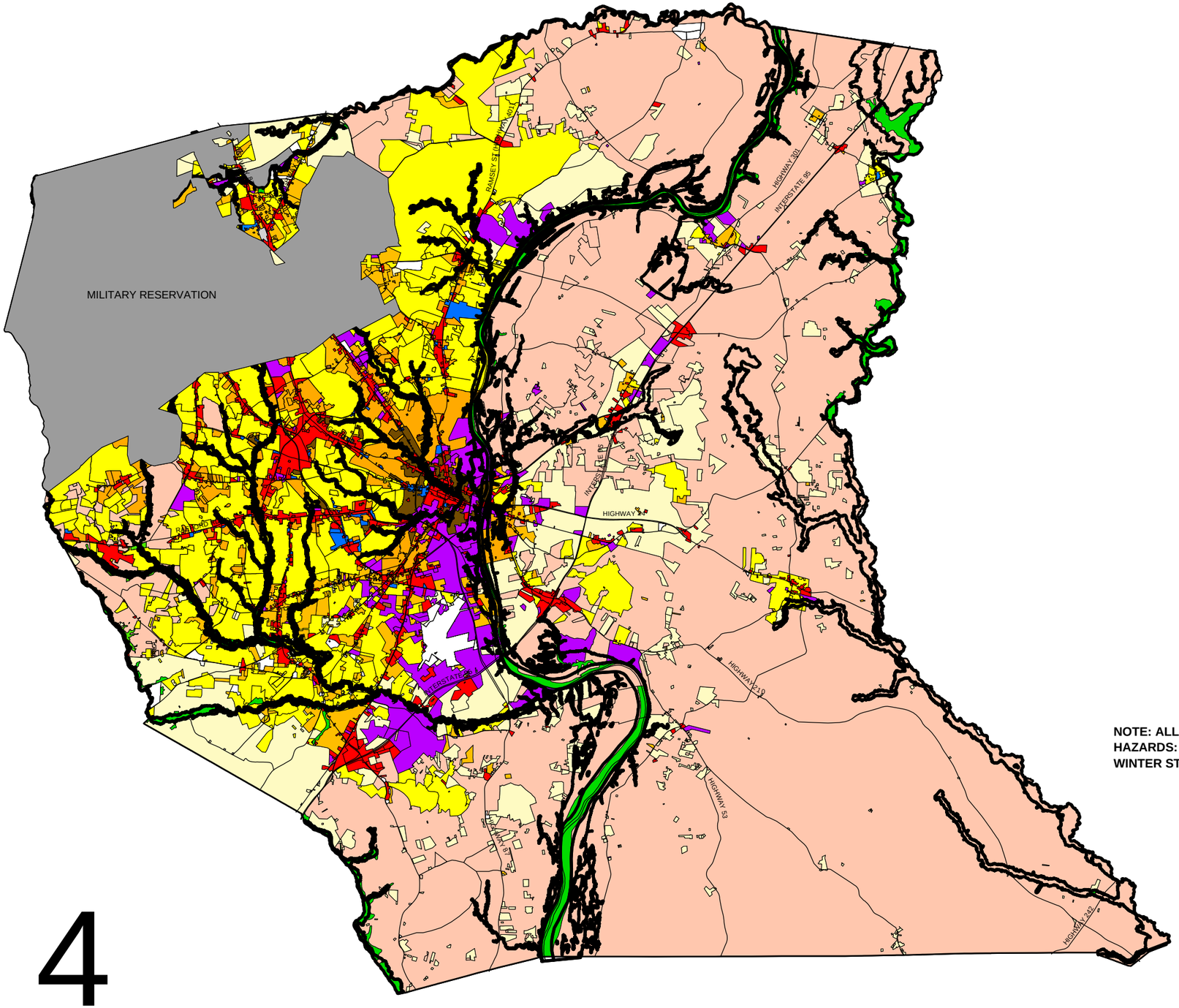
0 2.5 5

miles

Cumberland County
Multi-Jurisdictional
HAZARD
MITIGATION
PLAN
Update

MAP 3

CUMBERLAND COUNTY ZONING



LEGEND

- SPECIAL FLOOD HAZARD AREA
- AGRICULTURAL DISTRICTS
- RURAL RESIDENTIAL DISTRICTS
- LOW DENSITY RESIDENTIAL DISTRICTS
- MEDIUM DENSITY RESIDENTIAL DISTRICTS
- HIGH DENSITY RESIDENTIAL DISTRICTS
- OFFICE & INSTITUTIONAL
- CENTRAL BUSINESS DISTRICTS
- COMMERCIAL DISTRICTS
- INDUSTRIAL DISTRICTS
- CONSERVANCY DISTRICT
- OTHER DISTRICTS (CU &TOD)
- NOT ZONED

NOTE: ALL OF CUMBERLAND COUNTY IS DESIGNATED FOR THE FOLLOWING HAZARDS: HURRICANES, TORNADOES, THUNDERSTORMS, DROUGHTS, SEVERE WINTER STORM, EXTREME HEAT, WILDFIRES, AND EARTHQUAKES.

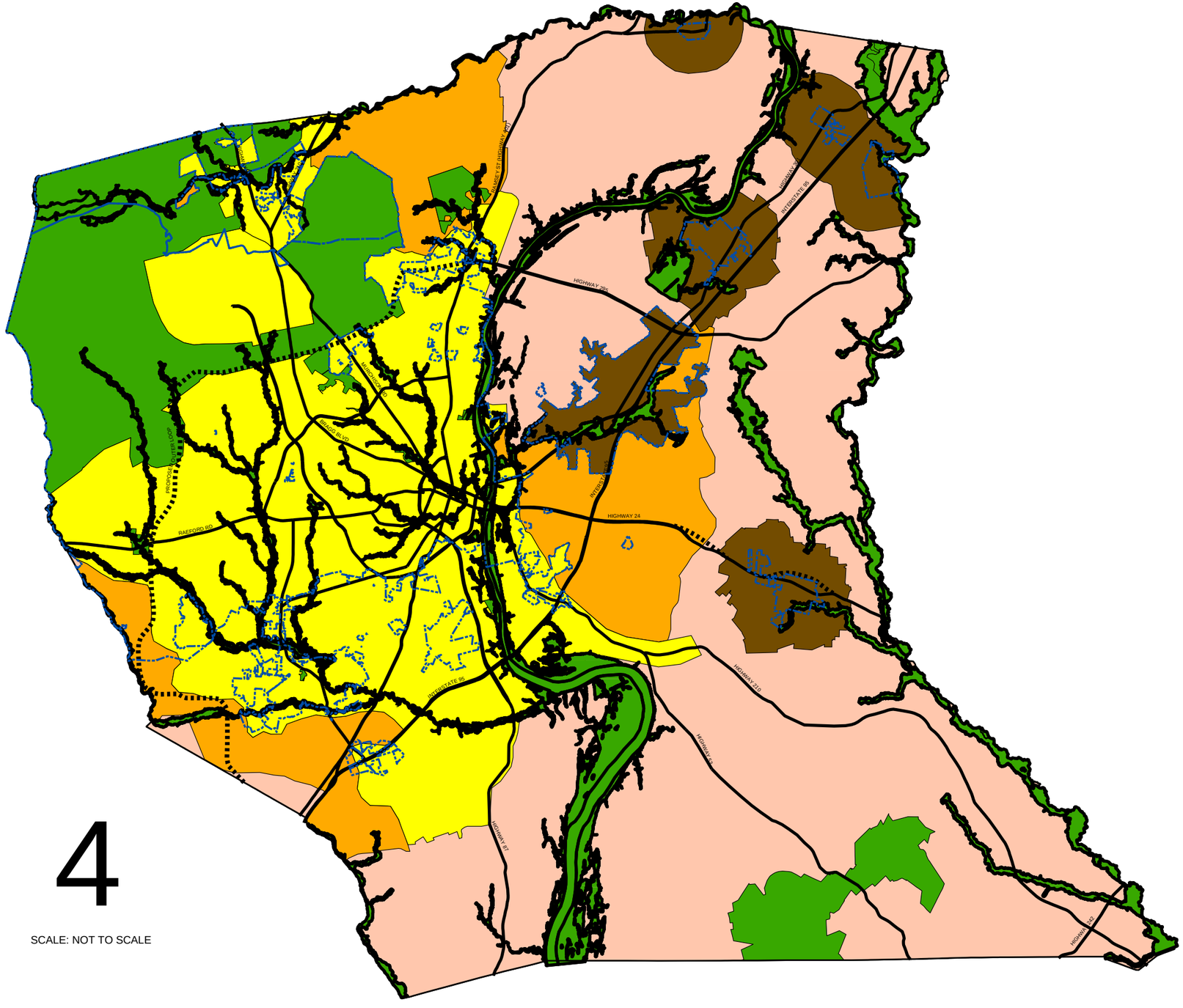
4

SCALE: NOT TO SCALE

Cumberland County Multi-Jurisdictional HAZARD MITIGATION PLAN UPDATE

MAP 4

CUMBERLAND COUNTY LAND USE PLAN



Legend

- SPECIAL FLOOD HAZARD AREA
- URBAN AREAS
- URBAN FRINGE AREA
- RURAL AREA
- COMMUNITY GROWTH AREAS
- CONSERVATION AREA

4

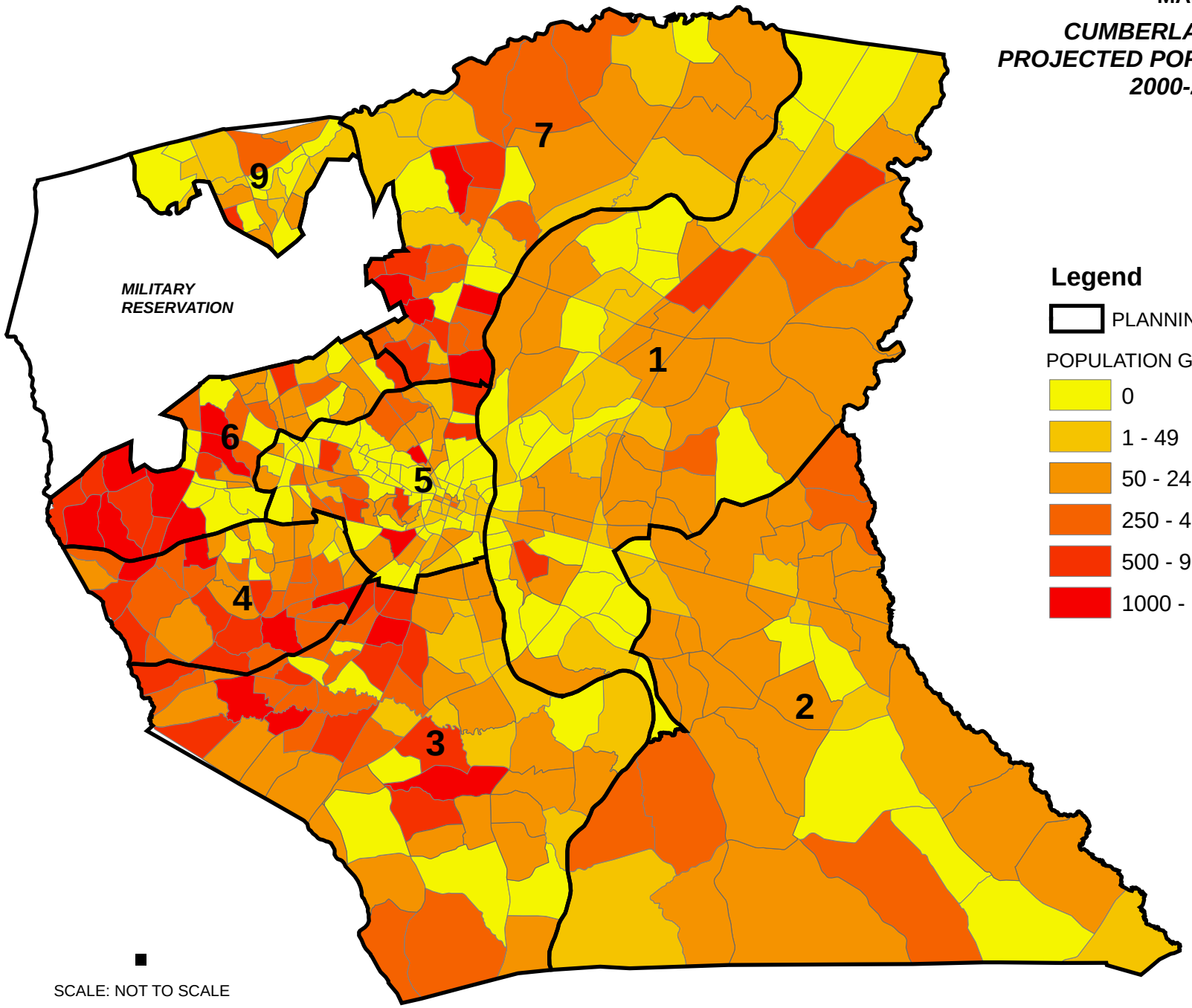
SCALE: NOT TO SCALE

Cumberland County Multi-Jurisdictional HAZARD MITIGATION PLAN UPDATE

NOTE: ALL OF CUMBERLAND COUNTY IS DESIGNATED FOR THE FOLLOWING HAZARDS: HURRICANES, TORNADOES, THUNDERSTORMS, DROUGHTS, SEVERE WINTER STORMS, EXTREME HEAT, WILDFIRES, AND EARTHQUAKES.

MAP 5

CUMBERLAND COUNTY
PROJECTED POPULATION GROWTH
2000-2030



Legend

PLANNING DISTRICTS

POPULATION GROWTH BY TAZ ZONES

- 0
- 1 - 49
- 50 - 249
- 250 - 499
- 500 - 999
- 1000 - 2241

SCALE: NOT TO SCALE

Cumberland County Multi-Jurisdictional HAZARD MITIGATION PLAN UPDATE

CAPABILITY ASSESSMENT

The capability assessment for Cumberland County consists of the composite capability assessment of all the Jurisdictions in the County. This composite capability includes the local departments, agencies, and organizations; State agencies and organizations; and Federal agencies and organizations. It also includes examining local ordinances, policies and programs relevant to hazard mitigation; legal capability; fiscal capability; and the political climate. The purpose of this assessment is to identify weaknesses within Cumberland County's governmental jurisdictions and their community interaction that could contribute to vulnerability, as well as emphasize positive mitigation measures already in existence.

The Technical Committee reviewed the Capability Assessment and decided there was a need for revisions/updates to this Section. The Cumberland County and City of Fayetteville Planning Staff's were instructed by the Technical Committee to make the necessary revisions and updates to all sections of the Capability Assessment.

Local Departments, Local, State, and Federal Agencies and Organizations

Cumberland County, the City of Fayetteville and the Towns of Hope Mills and Spring Lake have numerous departments relevant to hazard mitigation. These departments include administration, animal control, emergency services, engineering, finance, maintenance, mental health, health, parks and recreation, public utilities, police, fire, sheriff social services, solid waste, tax administration, planning and inspections, stormwater, sanitation, and community development. The Towns of Eastover, Falcon, Godwin, Linden, Stedman and Wade have fewer departments, relying upon Cumberland County and/or other agencies for these services. All the jurisdictions are impacted by local, state, and federal agencies and organizations. These organizations include the governing bodies of each jurisdiction; the Public Works Commission; Fayetteville Metropolitan Housing Authority; Eastover Sanitary and NORCRESS Sanitary Sewer Districts; Cooperative Extension Service; Cape Fear Valley Hospital System; Veterans Administration Medical Center; Womack Army Medical Center; Cumberland County School System; Moore County Equine Emergency Response Unit; NCSU College of Veterinary Medicine; North Carolina Departments of Motor Vehicles, Agriculture and Consumer Services, Crime Control and Public Safety, Transportation, Wildlife Resources, Natural Resources; and Emergency Management; United Way of Cumberland County; Salvation Army; SPCA of Cumberland County; American Red Cross; Cape Fear Food Bank; Cape Fear Amateur Radio Society; Fayetteville Urban Ministry; Cape Fear River Assembly; and Sandhill Area Land Trust. All of these agencies and organizations collectively provide Cumberland County great capability to deal with natural hazards and to recover afterward.

Local Ordinances, Policies and Programs Relevant to Hazard Mitigation

Each jurisdiction has mitigation initiatives through local ordinances, policies and programs. All of the local jurisdictions, with the exception of the Town of Linden, have zoning and subdivision ordinances, which include several sections containing highly effective hazard mitigation tools. The Town of Linden recently adopted a Subdivision Ordinance for the Town and is currently working on a zoning ordinance. In all cases, the subdivision ordinances contain more mitigation initiatives than the zoning ordinances. Several sections of the subdivision ordinances were rated as moderately effective. The proposed mitigation strategy for these sections is to add standards to improve drainage, reduce the amount of impervious surface and require additional vehicular access points within a subdivision. Restricting the subdivision of property within an identified hazard area, requiring all lots to have a buildable site outside of an identified hazard area and consolidation of development standards were also included as mitigation strategies.

Each jurisdiction has adopted the 2000 International Building Code with North Carolina Amendments. This code provides highly effective standards for construction and maintenance of structures to protect the public health, safety and welfare.

Cumberland County has prepared the Cumberland County Emergency Operations Plan, which has been adopted by all of the jurisdictions. This Plan provides organized actions to reduce the vulnerability to a disaster and expedite the recovery from a disaster. Additionally, the Town of Hope Mills has prepared and adopted a Civil Emergencies Ordinance.

The Water Supply Watershed Management Ordinance applies to areas within the Unincorporated Area of the County, the City of Fayetteville and the Towns of Eastover and Wade. Designed to minimize the amount of stormwater runoff, this ordinance is rated as moderately effective for mitigation. The suggested strategy is to revise it to place increased limitations on the amount of impervious surface within the water supply watershed areas.

All of the jurisdictions have adopted the Revised Flood Damage Prevention Ordinance, N.C. DOT Subdivision Roads Minimum Construction Standards (except Fayetteville, Hope Mills, and Spring Lake which have their own standards) and are members of the National Flood Insurance Program. Each of these tools is highly effective in mitigating flooding and assisting during a flood hazard event.

Land use plans contain recommendations that are designed to: provide planned growth and development, preserve natural resources and environmentally sensitive areas, protect the 100-year floodplain, create development standards, as well as plan community facilities and services. Each of the jurisdictions has adopted the Cumberland County 2030 Growth Vision Plan, Cumberland County Land Use Policies Plan, and some of the jurisdictions have adopted additional detailed land use plans (portions of the unincorporated area Cumberland County, North Fayetteville, Spring Lake, Stedman, Wade, Falcon and Godwin). Each of these land use plans has effective mitigation measures, however they recommend specific development standards and landscape requirements that need to be incorporated into zoning and subdivision ordinances. A regional land use plan addressing the Military Reservations impacting a six-county region has been prepared and adopted by several of the counties within the region. Cumberland County adopted this Plan with modifications. These modifications are outlined in the Fort Bragg Small Area Plan adopted in concept by the Cumberland County Board of Commissioners on February 22, 2005. The Plan addresses many issues, including environmentally sensitive areas and the impact of urban encroachment on military operations. The endorsement of this regional Plan in concept is an effective mitigation strategy.

The Sedimentation Pollution Control Act applies to each jurisdiction within the County and the City of Fayetteville, Towns of Hope Mills and Spring Lake have adopted Stormwater Ordinances. Additionally, the Town of Spring Lake has prepared and adopted a Stormwater Management Plan. These tools provide mechanisms for controlling stormwater runoff and erosion and sedimentation control.

Parks and Recreation Master Plans contain recommendations and action plans for utilizing open space and environmentally sensitive areas as well as providing a means of protecting and preserving them. Cumberland County, Fayetteville, Falcon, Hope Mills, and Wade have prepared and adopted individual Parks and Recreation Master Plans.

The Fayetteville Area Metropolitan Planning Organization (FAMPO) and the Mid-Carolina Rural Planning Organization provide multi-modal transportation planning for both urban and rural portions of Cumberland County. All of the jurisdictions are members of one, or both of these organizations. The technical support and specific plans provided by these organizations assist in providing adequate vehicular access for emergency services and evacuation as well as properly designed streets and roads in terms of drainage.

There are three regional organizations (Cape Fear River Assembly, Sandhill Area Land Trust, and Sustainable Sandhills) working to preserve and protect environmentally sensitive lands and sustain the quality of life within the Cape Fear Region. Each of these organizations plays a significant role in hazard mitigation within Cumberland County.

Legal Capability

Local governments in Cumberland County have been authorized by the State legislature to carry out four broad governmental powers: Regulation, Acquisition, Taxation and Spending. The following is a summary of North Carolina enabling legislation granting these broad governmental powers relevant to hazard mitigation.

Regulations

Regulations authorized to the county and the municipalities by the State include general police power, building codes and building inspection, land use, zoning, comprehensive or master planning, subdivision regulations and floodplain regulations

Cumberland County and the municipalities have been granted broad regulatory powers (general police power) in their respective jurisdictions by the North Carolina General Statutes (NCGS). NCGS bestow the general police power on counties and municipalities, allowing them to enact and enforce ordinances, which define, prohibit, regulate or abate acts, omissions, or conditions detrimental to the health, safety and welfare of the people and to define and abate nuisances (including public health nuisances).

Hazard mitigation can be included under the police power to protect the public health, safety and welfare, therefore the County and the municipalities may include requirements for hazard mitigation in local ordinances. They may also use their power to abate nuisances, which could include by local definition, any activity or condition making people or property more vulnerable to any hazard [NCGS Chapter 153A, Article 6 Delegation and Exercise of the General Police Power to Counties and NCGS Chapter 160A Article 8 Delegation and Exercise of the General Police Power to Cities and Towns].

Building Codes and Building Inspection power allow jurisdictions to engage in risk reduction measures focusing on strengthening building codes and requiring retrofitting of existing structures and facilities to protect the public health, safety, and welfare in the event of a natural hazard. North Carolina has a State mandatory building code, which applies throughout the State [NCGS 143-138 (c)]. However, local jurisdictions may adopt codes for their respective jurisdictions if approved by the State as providing ~~-a~~dequate minimum standards" [NCGS 1143-138 (e)]. Local regulations cannot be less restrictive than the State Code. Exempted from the State code are public utility facilities other than buildings; liquefied petroleum gas and liquid fertilizer installations, and farm buildings outside municipal jurisdictions. No State permit may be required for structures under $20,000. (Note that exemptions apply only to State, not local permits). The State Legislature has also empowered the jurisdictions to carry out building inspections. NCGS Chapter 153A, Article 18, Part 4, and NCGS Chapter 160A, Article 19, Part 5 empower the jurisdictions to create an Inspections Department, and enumerates its duties and responsibilities, which include enforcing State and local laws relating to the construction of buildings, installation of plumbing, electrical, heating systems, etc; building maintenance; and other matters.

Land use regulatory powers, granted by the State, allow local governments to control the amount, timing, density, and location of new development. These growth characteristics can determine the level of vulnerability of an area in the event of a natural hazard. Land use regulatory powers include the power to engage in planning, enact and enforce zoning, subdivision, floodplain, and stormwater and watershed ordinances.

Zoning is the most basic tool available to control the use of land. The North Carolina General Statutes 153A-340 and 160A-381 give broad enabling authority to the county and the municipalities to use zoning as a planning tool. Counties may also regulate inside a municipal jurisdiction at the request of a municipality, as set forth in NCGS 160A-360(d). The statutory purpose for the grant of power is to promote the health, safety or the general welfare of the community. Land ~~-u~~ses" controlled by zoning include the type of use, such as residential, commercial, industrial, as well as minimum specifications for use such as lot size, building height, setback, density, etc. The local jurisdictions are authorized to divide their territorial jurisdiction into districts, and to regulate and restrict the erection, construction,

reconstruction, alteration, repair or use of buildings, structures, or land within those districts [NCGS 153A-340 and 160A-382]. Districts may include general use districts, overlay districts, special use districts, or conditional use districts. Zoning ordinances consist of maps and written text.

In North Carolina, local governments are required to create or designate a planning agency in order to exercise the regulatory powers related to land use [NCGS 160A-387; 153A-321]. The planning agency may: prepare studies for an area/neighborhood; determine objectives; prepare and adopt plans for achieving objectives; develop and recommend policies, ordinances and administrative means to implement plans; and perform other related duties [NCGS 160A-361; 153A- 321]. NCGS 153A- 341 and 160A-383 requires that zoning regulations be made in accordance with a comprehensive plan. While the ordinance itself may provide evidence that zoning is being conducted ~~in~~ accordance with a plan," the existence of a separate comprehensive planning document ensures that the government is developing regulations and ordinances that are consistent with the overall goals of the community.

Subdivision regulations control the division of land into parcels for the purpose of building a development or sale. Subdivision is defined as all divisions of a tract or parcel of land into two or more lots and all divisions involving a new street or a change in existing streets [NCGS 153A-335 and NCGS160A-376]. Flood-related subdivision controls typically require that developers install adequate drainage facilities and design water and sewer systems to minimize flood damage and contamination. They prohibit the subdivision of land subject to flooding unless flood hazards are overcome through filing or other measures, and they prohibit filling of floodway areas. Subdivision regulations require that subdivision plans be approved prior to the division of land. Subdivision regulation is limited in its ability to directly affect how land is used or minimum specifications for structures.

The North Carolina legislature passed the ~~A~~Act to Prevent Inappropriate Development in the One Hundred-Year Floodplain and to Reduce Flood Hazards" to regulate development within floodways [NCGS 143-214.51-214.61]. It serves as a risk reduction or risk elimination tool depending upon local government use. The purpose of this law is to minimize the extent of floods by preventing obstructions that inhibit water flow and increase flood height and damage; prevent and minimize loss of life, injuries, property damage and other losses in flood hazard areas; and promote the public health, safety and welfare of citizens. The statute directs, rather than mandates, local government to designate a one hundred-year floodplain; adopt local ordinances to regulate uses in flood hazard areas; enforce those ordinances; and grant permits for use in flood hazard areas that are consistent with the ordinance. Also, the Statute ensures that local ordinances meet the minimum requirements of participation in the National Flood Insurance Program (NFIP), which will afford residents the ability to purchase flood insurance through the NFIP. Additionally, communities with such ordinances will be afforded priority in the consideration of applications for loans and grants from the Clean Water Revolving Loan and Grant Fund.

Acquisition

The local governments can eliminate the risk of hazards through their power to acquire property, either in fee or lesser interest such as an easement. This removes the property from the private marketplace, thereby eliminating or reducing the possibility of inappropriate development. North Carolina legislation empowers counties and cities to acquire property for public purpose by gift, grant, devise, bequest, exchange, purchase, lease or eminent domain [NCGS Chapter 153A Article 18 and Chapter 160A, Article 11].

Taxation

The power to levy taxes and special assessments has been delegated to the County and the municipalities by the North Carolina Legislature [NCGS 153A Article 7, and 160A, Article 9]. This power allows the local jurisdictions to set preferential tax rates for areas unsuitable for development, such as wetlands, thereby discouraging development in hazardous areas. The local jurisdictions may also levy special assessments on property owners for all or part of the costs of acquiring, constructing, reconstructing, extending or otherwise building or improving beach erosion control, or flood and hurricane protection works within a designated area [NCGS 160A 238].

Spending

The County and the municipalities have been granted power to make expenditures in the public interest by the North Carolina General Assembly. An annual budget and a Capital Improvement Plan (CIP) can include hazard mitigation efforts. A CIP serves as a schedule for providing government services over a specified period of time. Committing to a timetable for the extension of facilities and services, local governments can effectively steer future growth and development and mitigate the impacts of natural hazards. Cumberland County does prepare an annual budget, but does not have a CIP.

Fiscal Capability

The North Carolina General Assembly has empowered the County and the municipalities to make expenditures in the public interest [NCGS 153A 101]. The primary source for funding these expenditures comes from property taxes. These revenues generally finance critical services available and delivered on a daily basis. Examples of these services include: public utilities, solid waste management, emergency services, health and social services, and schools. Most of the local jurisdictions do not have available funds to support special projects such as hazard mitigation activities. The jurisdictions will have to look to other sources for hazard mitigation funding:

These sources may include Federal and State government funds such as: (a) Hazard Mitigation Grant Program, which provides funding for hazard mitigation measures following a Presidential disaster declaration. Even though the Federal government supplies the majority of the funds for this program, the program is administered on the State level. HMGP funds can be used for projects such as acquisition or relocation, retrofitting, development of local mitigation standards and comprehensive mitigation plans, structural hazard control and the purchase of equipment to improve preparedness and response; (b) Pre Disaster Mitigation Program Grants provides funding to States and local jurisdictions for cost-effective hazard mitigation actions. FEMA provides PDM grants to States, that in turn, provide sub-grants to local governments for mitigation activities such as planning and the implementation of projects identified through the evaluation of natural and man-made hazards; (c) Flood Mitigation Assistance Programs which furnishes mitigation assistance to States, local jurisdictions and individuals to reduce or eliminate the long-term risk of flood damage to the built environment and real property. FMAP is available on an annual basis and eligibility is based upon a jurisdiction participating in the National Flood Insurance Program and developing a mitigation plan. These funds may be used for elevation and/or dry flood proofing of structures, acquisition of real property, relocation or demolition of structures, as well as other minor structural projects; (d) National Flood Insurance Program which in order to participation in this risk-sharing program requires jurisdictions to adopt and enforce floodplain management ordinances designed to reduce future losses; (e) Buy-Out Programs which is available to buy back floodplains, relocate residents, and demolish structures in order to eliminate or reduce payouts for recurring flood damage; (f) Earthquake Hazard Reduction Grants which are available to States having a moderate or high risk of seismic activity; (g) Community Development Block Grants which is designed to assist counties and municipalities in rehabilitating substandard dwelling units and to expand economic opportunities, primarily for low-to-moderate income families. Additionally, as a result of a Presidential declared disaster, CDBG funds may be used for long-term needs such as acquisition, reconstruction, and redevelopment of disaster-affected areas; (h) Small Business Administration (SBA) Pre-Disaster Mitigation Loan Program which is to make low-interest, fixed-rate loans to eligible small businesses for the purpose of implementing mitigation measures to protect business property from damage that may be caused by future disasters. The program is a pilot program, which supports the Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation Program; (i) Uniform Relocation Act for tenants who must relocate as a result of acquisition of their housing are entitled to Uniform Relocation Act relocation benefits, such as moving expenses, replacement housing rental payments, and relocation assistance advisory services, regardless of the owner‘s voluntary participation; (j) Ability to Pay which is a State grant by the North Carolina Department of Commerce that has ranked the 100 counties in an economic tier system due to the Lee Quality Jobs and Business Expansion Act of 1966, which provides for a sliding scale of State tax credits for economic investment. This Act has become North Carolina‘s primary development tool in an effort to assist smaller rural counties to become economically competitive. The most economically depressed counties are ranked in Tier 1 and the most economically prosperous are ranked in Tier 5. These rankings

are evaluated annually using the following factors population growth, unemployment rate, and per capita income. The tier ranking is widely used by the State as a measure of an individual county's ability to pay when applying for State and Federal grants. Cumberland County is ranked as a Tier 2 County.

There are also some potential non-government sources of revenue for local mitigation efforts such as churches, charities community relief funds, the American Red Cross, hospitals, for-profit businesses and non-profit organizations, such as nature conservancy and land trust organizations.

Technical Capability

State and Federal Technical Assistance

Agencies such as the Federal Emergency Management Agency (FEMA) and the North Carolina Division of Emergency Management (NCDEM) have made available numerous implementation manuals and other resource documents. These manuals provide information on mitigation techniques for various hazards, including hurricanes, floods, wildfires, tornadoes and earthquakes. Additionally, they provide technical information on engineering principles, construction methods, costs and suggestions for how techniques can be financed and implemented. Federal agencies such as the U.S. Army Corps of Engineers and Soil Conservation Service also provide similar services.

Statewide Floodplain Mapping Initiative

The State of North Carolina, through the Federal Emergency Management Agency's Cooperating Technical Community partnership initiative, has been designated as a Cooperating Technical State (CTS). As CTS, the State will assume primary ownership and responsibility for Flood Insurance Rate Maps (FIRM) for all North Carolina communities. This project includes conducting flood hazard analysis and producing updated digital FIRM (DFIRM).

The State has acquired raw elevation data for the six eastern river basins, Cape Fear, Lumber, Neuse, Pasquotank, Tar-Pamlico, and White Oak, which will be used to develop Digital Elevation Models (DEMs) update flood hazard data. The updated flood hazard data provides current, accurate information for local jurisdictions and property owners to make sound site planning and design decisions when building new structures and infrastructure and retrofitting existing structures.

Local Technical Assistance

Cumberland County has a geographic information system (GIS) that provides essential information and technology for hazard response and mitigation. The GIS system provides detailed data on property ownership, land use type and location, values of property and structures, location of the Special Flood Hazard Area and other infrastructure.

This system provides quick access and processing of detailed data that can be used to assist in deployment of resources, before, during and after a natural disaster, as well as assists in planning for the mitigation of future disasters.

As previously mentioned in the section entitled Local Departments, Agencies and Organizations, Cumberland County and the municipalities therein, have responsive and highly trained staff who care capable of implementing mitigation strategies, as well as educating the public about potential hazards and the process necessary to mitigate these hazards.

Political Capability

The Cumberland County Board of Commissioners and the elected officials of each municipality are knowledgeable of the potential hazards faced by their respective jurisdictions, as well as past history of hazard events and recovery efforts. Additionally, the Cumberland County Joint Planning Board (serving Cumberland County and the Towns of Hope Mills, Eastover, Falcon, Godwin, Linden, Spring Lake, Stedman, and Wade) and the Fayetteville Planning Commission are also aware of the importance of hazard mitigation planning. Due to this knowledge and understanding, the current and future political climates are expected to be favorable for supporting hazard mitigation strategies.

Resolution

WHEREAS, Cumberland County, the City of Fayetteville, and the Towns of Eastover, Falcon, Godwin, Hope Mills, Linden, Spring Lake, Stedman, and Wade desire to remain eligible for the State and Federal disaster relief funds in the event of a declared disaster within their jurisdiction; and

WHEREAS, Cumberland County, the City of Fayetteville, and the Towns of Eastover, Falcon, Godwin, Hope Mills, Linden, Spring Lake, Stedman, and Wade recognize the value of having a Plan in place for identifying, prioritizing, and mitigating potential and real hazards that could affect all sections within their jurisdiction; and

WHEREAS, the Cumberland County Joint Planning Board Staff, in conjunction with the City of Fayetteville Planning Staff, have prepared the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update and have revised the Plan as suggested by the North Carolina Division of Emergency Management after its submittal to all appropriate government entities for review and comments; and

WHEREAS, the North Carolina Division of Emergency Management has endorsed the proposed Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

NOW, THEREFORE, BE IT RESOLVED that Cumberland County, the City of Fayetteville, and the Towns of Eastover, Falcon, Godwin, Hope Mills, Linden, Spring Lake, Stedman, and Wade adopts the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

BE IT FURTHER RESOLVED that Cumberland County, the City of Fayetteville, and the Towns of Eastover, Falcon, Godwin, Hope Mills, Linden, Spring Lake, Stedman, and Wade resolve to conduct an annual review of the Plan and make revisions to all sections regarding their respective jurisdiction within the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update when new data and information becomes available, as mitigation measures are achieved, and as mitigation strategies evolve; and

FURTHER, that Cumberland County, the City of Fayetteville, and the Towns of Eastover, Falcon, Godwin, Hope Mills, Linden, Spring Lake, Stedman, and Wade may update and revise the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update as it relates to their jurisdiction but does not affect any other jurisdictions. If any revision, update or amendment involves more than one jurisdiction, the updates and revisions must be approved by all of the affected governing bodies. Copies of any revision, amendment or update to the Plan by Cumberland County, the City of Fayetteville, and the Towns of Eastover, Falcon, Godwin, Hope Mills, Linden, Spring Lake, Stedman, and Wade must be kept on file with their Clerks, with the Cumberland County Emergency Services Department, and added to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

FURTHER, that administrative changes, wording corrections, the hazard analysis, and vulnerability assessment or other such portions of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update, do not require additional action by the respective jurisdictions.

Adopted 19th day of September, 2011

Candice M. White
Cumberland County Clerk

Kenneth S. Edge
Chairman, Cumberland County Board of Commissioners

Adopted 26th day of September, 2011

Pamela J. Megill
City of Fayetteville Clerk

Anthony G. Chavonne
Mayor, City of Fayetteville

Adopted 6th day of September, 2011

Jane F. Faircloth
Eastover Town Clerk

Mayor, Town of Eastover

Adopted 1st day of August, 2011

Belinda D. White
Falcon Town Clerk

Mayor, Town of Falcon

Adopted 19th day of September, 2011

Mark Royal
Godwin Board of Commissioner

Deborah L. Godwin
Mayor, Town of Godwin

Adopted 15th day of August, 2011

Melissa P. Adams
Hope Mills Town Clerk

Eddie Dees
Mayor, Town of Hope Mills

Adopted 16th day of August, 2011

Ruby Hedges
Linden Town Clerk

Marie Jackson Butler
Mayor, Town of Linden

Adopted 12th day of September, 2011

Rhonda D. Webb
Spring Lake Town Clerk

Ethel J. Clark
Mayor, Town of Spring Lake

Adopted 4th day of August, 2011

Jennifer Wilson-Kersh
Stedman Town Administrator

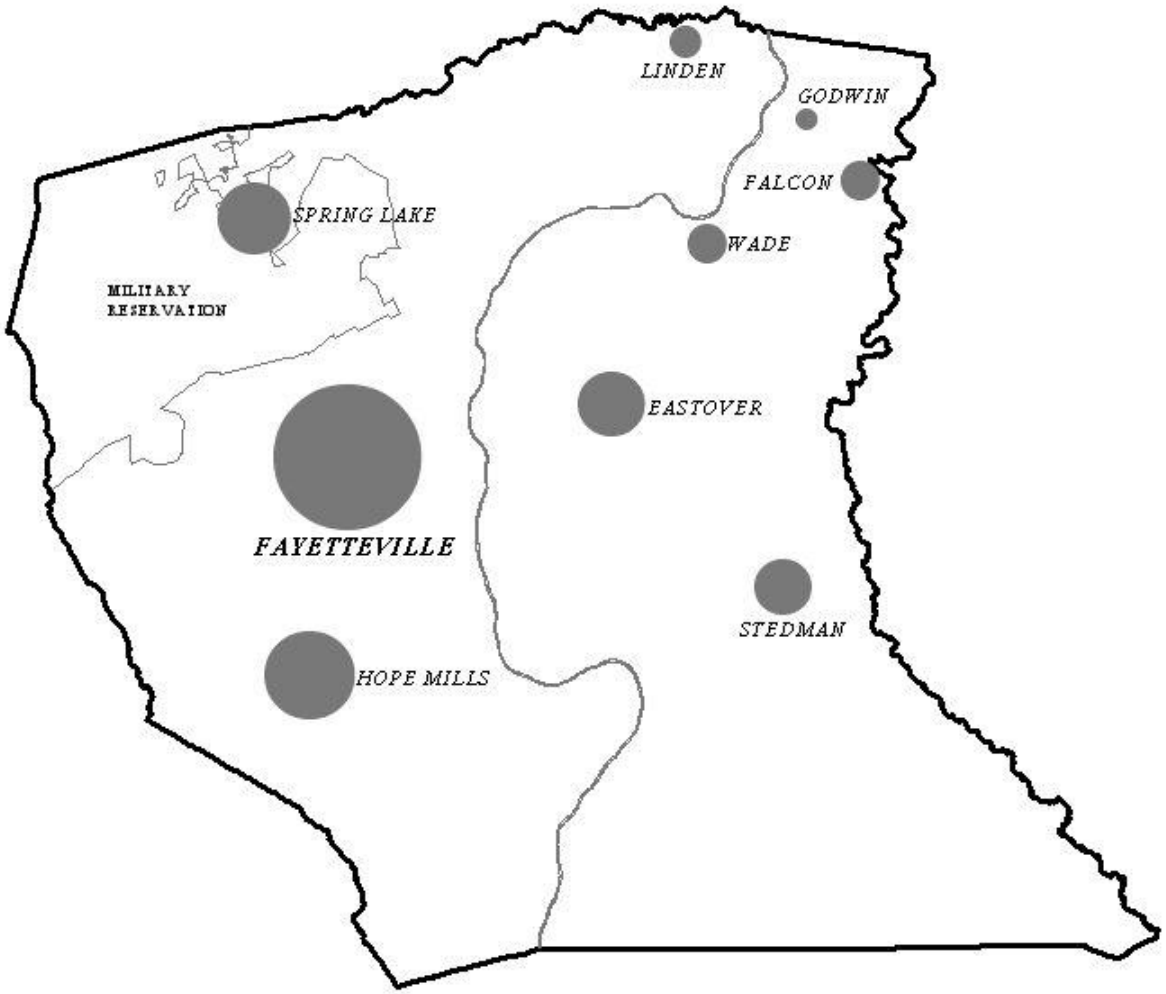
Billy D. Harris
Mayor, Town of Stedman

Adopted 9th day of August, 2011

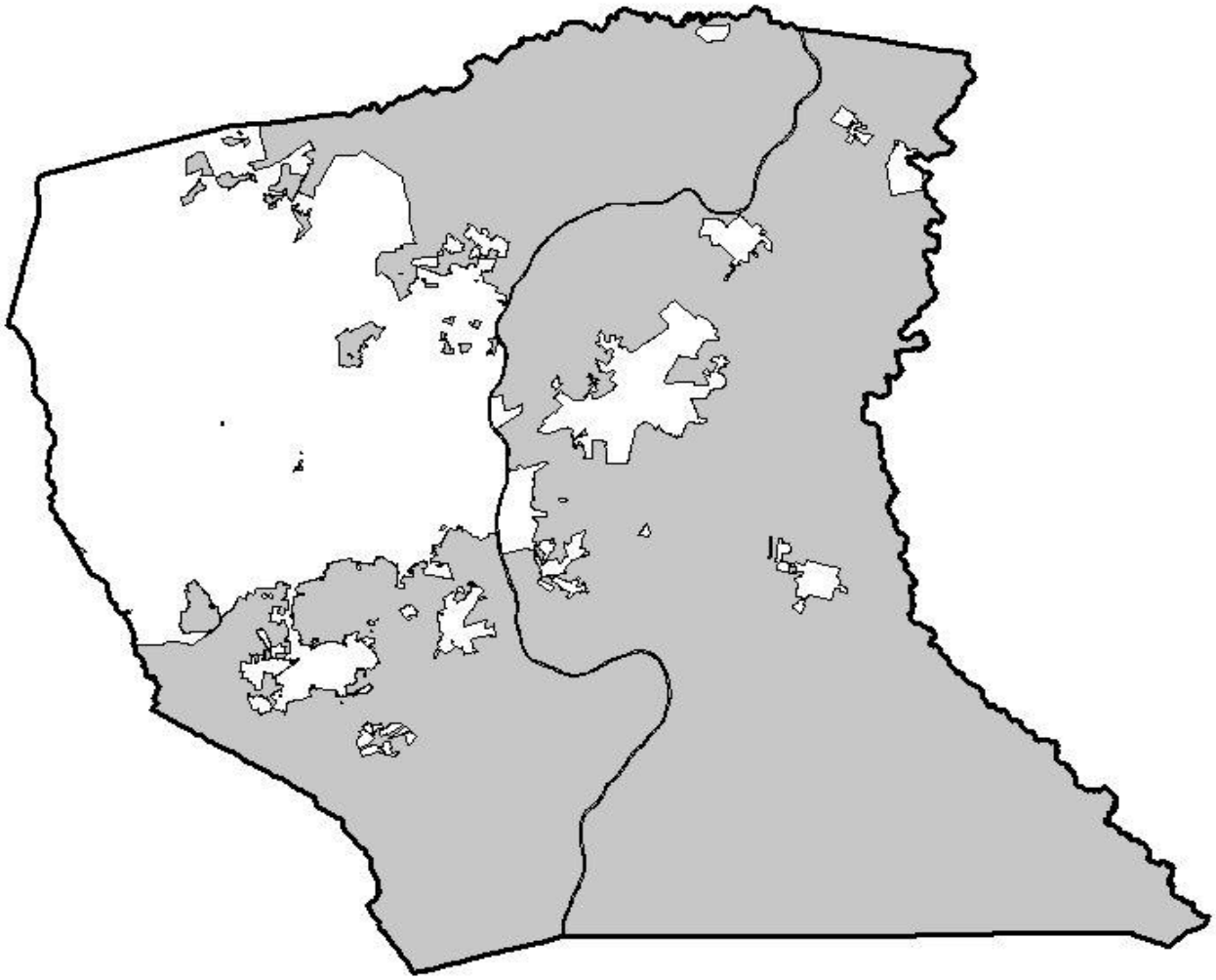
Cindy C. Burdett
Wade Town Clerk

Hull Atkins
Mayor, Town of Wade

CUMBERLAND COUNTY GOVERNMENTAL UNITS HAZARD MITIGATION PLAN UPDATE



CUMBERLAND COUNTY UNINCORPORTATED AREA HAZARD MITIGATION PLAN



UNINCORPORATED AREA OF CUMBERLAND COUNTY HAZARD MITIGATION PLAN

COMMUNITY PROFILE

The Unincorporated Area of Cumberland County consists of approximately 464 square miles located both within the urban and rural areas. According to the North Carolina Office of Management and Budget, there are 79,458 persons living in the Unincorporated Area. The physical and economic profile of the Unincorporated Area is the same as the Community Profile of the County. Cumberland County is governed by the Board of Commissioners elected from the populous, with five from districts and two at large. The County Manager is the chief administrative officer appointed by the Commissioners. Cumberland County government consists of 35 departments.

IDENTIFYING AND PROFILING HAZARDS

For this update the Technical Committee reviewed Table **A1 – Hazard Identification and Analysis and Table A2 – Summary by Hazard Vulnerability by Jurisdiction**. The Technical Committee determined the following hazards could still affect the Unincorporated Area of Cumberland County: hurricane, drought, thunderstorms, severe winter storms, tornadoes, extreme heat, wildfires, and earthquakes. Additionally, the Technical Committee focused on flooding since it is associated with and caused by other types of hazards, such as thunderstorms, hurricanes and tornadoes. Between January 1950 and June 2010 the Unincorporated Area has experienced eight hurricanes, 17 tornadoes, 76 thunderstorms, 52 hailstorms, one drought, 15 winter storms, two extreme heat event, eleven flash floods, and six floods between 1950 and 2010 per NOAA history profile of Local Storm Events. It is highly likely that thunderstorms and extreme heat events will occur in the future. Additionally, it is likely that the Unincorporated Area will experience hurricanes, tornadoes, droughts, severe winter storms, and wildfires. Flooding and earthquakes are possible. Detailed information on each hazard type, their profile, and a list of significant hazard events occurring within the county are contained in Appendix A – Hazard Profile of the overall document.

MITIGATION STRATEGIES

For the purposes of this Mitigation Plan, Cumberland County has developed three (3) goals to serve as a basis for a more specific plan of action. The following goals are broad policy Statements aimed at guiding and directing future activity so that persons, property, government, and infrastructure are protected from the impacts of the natural hazards that affect the Unincorporated Area of Cumberland County.

GOAL #1

Reduce vulnerability of Cumberland County and its municipalities to all natural hazards for existing development, future development, redevelopment and infrastructure.

GOAL#2

Identify and protect all properties/natural resources that are at risk of damage due to a hazard and to undertake cost-effective mitigation measures to minimize losses.

GOAL#3

Improve public awareness, education and outreach programs for the natural hazards that Cumberland County and its municipalities are most likely to experience.

Within the following pages, mitigation actions for the Unincorporated Area of Cumberland County are listed and will identify the following information for each action:

- Hazard targeted – *Hazard the action is targeted to mitigate.*
- Goals addressed – *Goal(s) the action will address.*
- Document reference – *Ordinance(s), Policies or Programs that the action references, if any.*
- Whether it would be a new policy or continuation or an amendment to an existing policy
- Priority – *Each action ranked in terms of overall importance (high, moderate or low). Priorities were based upon the following criteria: cost-benefit, hazard identification and profile, vulnerability and capability assessments, and mitigation goals.*
- Funding sources – *List of funding source or potential funding source*
- How the action will mitigate the hazard
- How the action will reduce overall vulnerability
- Will the action be:
  Cost effective – *Is a measure of how well the cost achieves the intended action.*
  Environmentally Sound – *Is a determination if technology exists within the financial means of the jurisdictions that can achieve an action.*
  Technically feasible - *The actions has minimal or no harm to nature or the environment.*
- On-going, Short-term or Long-term Implementation - *On-going actions are those that currently exist and should be continued. Short-term actions are those that can be implemented within existing resources and should be accomplished within a time frame of six (6) months to two (2) years. Long-term actions will take additional resources or authorities and should be organized to begin implementation within a time frame of 3-5 years.*
- Person(s) or department responsible for the action – *Person(s) or Department(s) responsible for implementing the action.*
- Benchmark and indicator of progress – *Explains what needs to be accomplishment to meet this action.*
- Update – *Explains what has or has not been done to this action.*

The Hazard Mitigation Technical Committee looked at all the actions from the original Plan and the Updated Plan and considered the jurisdiction‘s cost of the action to be taken and their cost if no action is taken. In most cases it was determined that it was far less costly for the jurisdictions to take preventive action whenever possible than wait until a hazard occurred, therefore most of the actions taken are more preventive in nature. Most of the jurisdictions have limited financial resources to establish capital projects that address existing facilities vulnerable to the various hazards, such as relocating, removing, purchasing vulnerable properties; providing public water, or placing electrical lines underground. The Hazard Mitigation Technical Committee determined that flooding was the most likely hazard to occur based on past records. Most of the past damage occurred on properties located in the Special Flood Hazard Area. Many of these properties are aged and through attrition and general decay will eventually be removed from the hazardous area. Preventive measures will keep new structures from being built in these areas.

ACTION 1: ***Restrict Residential And Non-Compatible Uses Within The 100-Year Flood Area.***

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Cumberland County Zoning & Subdivision Ordinances
New, Continuation, Amendment	Continuation
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Prohibit developing within the Special Flood Hazard Area and promote the Special Flood Hazard Area as an environmental corridor and open space area.
Reduce Overall Vulnerability	Limiting vulnerable types of development within the Special Flood Hazard Area thus reducing potential losses during a flood.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	On-going
Person(s) or Department Responsible	Cumberland County Joint Planning Board
Benchmark and Indicator Of Progress	Continuing to work on this, especially in those areas of the County that were zoned prior to Flood Maps of 1981 and where no Conservancy District was designated. The County Zoning Ordinance includes CD (Conservancy District) that applies mainly to the Special Flood Hazard Area which limits the type of permitted and special uses within the Special Flood Hazard Area. As rezoning cases are received by the Planning Department that includes portions of the Special Flood Hazard Area the Planning Staff and County Commissioners require that the Special Flood Hazard Areas be zoned for the Conservancy District which prohibits residential and non-compatible uses.

ACTION 2: ***Increase The Lowest Floor Elevation To 2 Feet Above The Base Flood Elevation.***

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Flood Damage Prevention Ordinance
New, Continuation, Amendment	Completed on October 17, 2006
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Require new developments to be built at a higher elevation than what is currently required.
Reduce Overall Vulnerability	Reduce the vulnerability of existing and redevelopment projects because they would be required to meet the new elevation, if substantial improvements are made. New developments would be built at a higher elevation, further reducing the vulnerability. Reduce Flood Insurance premiums.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Short-term
Person(s) or Department Responsible	Cumberland County Engineering Department
Benchmark and Indicator Of Progress	Completed October 17, 2006 when the Commissioners adopted the revised Flood Damage Prevention Ordinance that includes 2 foot free boarding. Cumberland County CRS was lower to an 8 effective 10/1/2010.

ACTION 3: ***Encourage The Use Of Cluster Type Development To Preserve Special Flood Hazard Areas.***

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Cumberland County Subdivision Ordinance (Zero Lot Line Development)
New, Continuation, Amendment	Completed on August 19, 2008
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Preserve the Special Flood Hazard Area, while allowing property to be developed to its potential density.
Reduce Overall Vulnerability	Limit future development within the Special Flood Hazard Area.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	On-going
Person(s) or Department Responsible	Cumberland County Planning Department
Benchmark and Indicator Of Progress	Completed on August 19, 2008 when the County Commissioners adopted the revised Cumberland County Subdivision Ordinance that allows Zero Lot Line Developments, Density Developments-Conditional Use District, and Planned Neighborhood Developments-Conditional Use District so that the developer can maximize their potential density and not encroach into the Special Flood Hazard Area. Also those areas currently zoned CD (Conservancy District) prohibits residential and non-compatible uses. The Conservancy District is mostly those areas of the County that are designated as the Special Flood Hazard Area.

ACTION 4: ***Provide Incentives For Developers Willing To Use Environmentally Friendly Development Practices (Such As Preserving Open Space, Landscaping With Native Vegetation, Providing An Abundance Of Trees And Reduction Of Environmental Impact).***

Hazard Targeted	Flood, Extreme Heat
Goals Addressed	1; 2
Document Reference, if applicable	Cumberland County Subdivision Ordinance
New, Continuation, Amendment	Completed February 19, 2008 and August 19, 2008
Priority	Low
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Amount of vegetation would reduce flooding (less impervious surface) and provide shade to help shield from extreme heat.
Reduce Overall Vulnerability	Reduce flooding and exposure to extreme heat.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Planning Department
Benchmark and Indicator Of Progress	Completed - Cumberland County has regulations in their Zoning and Subdivision Ordinances that permit environmentally friendly type developments. These regulations include Density Developments-Conditional Use District, Zero Lot Line Developments, and Planned Neighborhood Developments-Conditional Use District. Currently 4 environmentally friendly subdivisions have been constructed in the County and 2 are under construction at this time.

ACTION 5: ***Identify And Map Structures That Are Vulnerable To High Winds***.

Hazard Targeted	Tornadoes, Hurricanes, Thunderstorms
Goals Addressed	1; 2
Document Reference, if applicable	Not applicable
New, Continuation, Amendment	Deferred
Priority	High
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Provide the location of those structures that would be greatly impacted by high winds and provide vital information to those responsible for emergency response.
Reduce Overall Vulnerability	By identifying those structures that are vulnerable to high winds, actions could be taken to lessen the impact during a hazard event.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Emergency Services, Cumberland County Planning Department, and Cumberland County Tax Assessors' Office
Benchmark and Indicator Of Progress	This project was planned as part of the County's short – term efforts to address mitigation by focusing efforts to structures that are most vulnerable to tornadoes, high winds, hurricanes and severe thunderstorms. Due to current limited resources, this effort has been changed to a long – term implementation. This change in implementation would allow for the development of an efficient workable warning system to alert the public and serve as a data base for any post disaster needs.

ACTION 6: ***Develop Uniform Flood Damage Prevention Ordinance.***

Hazard Targeted	Flood
Goals Addressed	1
Document Reference, if applicable	Cumberland County Flood Damage Prevention Ordinance
New, Continuation, Amendment	Deletion of this Action
Priority	Medium
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Reduce the impact of development within Special Flood Hazard Areas, thus reducing the amount of losses during a hazard event and maintaining compliance with NFIP.
Reduce Overall Vulnerability	Limiting development within the Special Flood Hazard Areas would reduce the losses during a hazard event.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Engineering Department
Benchmark and Indicator Of Progress	Even though the Cumberland County, City of Fayetteville and the Towns of Hope Mills and Spring Lake Flood Damage Prevention Ordinances are largely the same now, each of these jurisdictions preferred to maintain and enforce their own Flood Damage Prevention Ordinance. The Cumberland County Flood Damage Prevention Ordinance applies to all of the smaller municipalities (Towns of Eastover, Falcon, Godwin, Linden, Stedman and Wade) within Cumberland County. Also Cumberland County participated in the Community Rating System (CRS) whereas the City of Fayetteville and Towns of Hope Mills and Spring Lake at this time do not participate. The Technical Committee recommends that this action be deleted from Cumberland County's actions.

ACTION 7: ***Revise Subdivision Ordinance To Require That All Utilities Be Placed Underground With The Exception Of High Voltage Electrical Transmission Lines.***

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms and Winter Storms)
Goals Addressed	1; 2
Document Reference, if applicable	Cumberland County Subdivision Ordinance
New, Continuation, Amendment	Completed on August 19, 2008
Priority	Medium
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Reduce the overall impact of lost utility services and protect the public health, safety, and welfare.
Reduce Overall Vulnerability	Reduce damage cost, loss of service, and eliminate life-threatening situations to citizens and utility companies.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Short-term
Person(s) or Department Responsible	All Electrical Providers in Cumberland County
Benchmark and Indicator Of Progress	Completed on August 19, 2008 when the Revised Cumberland County Subdivision Ordinance was adopted by the Board of Commissioners that requires all developments shall have utilities placed underground where practical. High voltage electrical lines are exempted from this requirement. Changed person(s) or Department Responsible to —All Electrical Providers in Cumberland County.

ACTION 8: ***Develop A Program To Identify And Eliminate Existing Development That Is Below The 100-Year Flood Elevation.***

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Not applicable
New, Continuation, Amendment	Deferred
Priority	Moderate
Funding	Cumberland County Community Development (HUD Funds), Cumberland County General Fund and the Hazard Mitigation Planning Grant (HMPG).

How the Action Will:

Mitigate the Hazard	The program will assist in the identification of those residents that are located in repeating flood prone areas and a process will be developed to assist in relocating those residents to a safer area. Additionally, non-residential structures will be identified within these areas and targeted for relocation.
Reduce Overall Vulnerability	Eliminate all structures that are prone to flooding.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Engineering Department, Cumberland County Planning Department, and Cumberland County Community Development Department
Benchmark and Indicator Of Progress	This information is provided to the County through NFIP and currently there are no buildings located below the Special Flood Hazard Area. This information will be monitored by the Cumberland County Engineering Department for the Unincorporated Area of the County and its participating jurisdictions.

ACTION 9: ***Develop A Program To Ensure Drainage Ways, Culverts And Storm Drains Are Free Of Debris.***

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	
New, Continuation, Amendment	Completed
Priority	High
Funding	Stormwater Fund

How the Action Will:

Mitigate the Hazard	Regular maintenance of debris from drainageways, culverts and storm drains would provide the proper flow of water and reduce flooding.
Reduce Overall Vulnerability	Reduce vulnerability of flooding to streets, structures, and land located along drainageways, culverts and storm drains.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Engineering Department
Benchmark and Indicator Of Progress	Most all of the roads in the Unincorporated Area of the County are the responsibility of NC Department of Transportation and they maintain those drainage ways, storm drains and culverts that impact their roadways.

ACTION 10: ***Adopt A Comprehensive Countywide Storm Water Ordinance.***

Hazard Targeted	Flooding
Goals Addressed	1; 2
Document Reference, if applicable	
New, Continuation, Amendment	Deletion of this action
Priority	Moderate
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Provide better control of water runoff from new developments.
Reduce Overall Vulnerability	Reduce vulnerability of flooding to streets, structures, and land located along drainageways, culverts and storm drains.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Engineering Department
Benchmark and Indicator Of Progress	Recommend deletion of this action due to fact that enforcement of storm water regulations for the Unincorporated Area of Cumberland County and some of its small Towns is the responsibility of NC DENR while the City of Fayetteville, Towns of Hope Mills and Spring Lake have their own Storm Water Department that enforces Phase I and Phase II of their Storm Water Ordinance.