

ACTION 13: *Develop A Tree Ordinance To Address Clear Cutting, Protection Of Existing Trees And Vegetation.*

Hazard Targeted	Flooding
Goals Addressed	1
Document Reference, if applicable	
New, Continuation, Amendment	Completed October 20, 2008
Priority	High
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Provide more pervious area for natural drainage and reducing extreme heat.
Reduce Overall Vulnerability	Reduce the vulnerability to localize 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 Planning Department
Benchmark and Indicator Of Progress	Town of Hope Mills adopted tree preservation standards (Hope Mills Zoning Ordinance) on October 20, 2008.

ACTION 14: *Develop A Reforestation Program To Increase Vegetation Cover In Highly Urbanized Area And In Denuded Areas In Flood Prone Areas.*

Hazard Targeted	Flood, Extreme Heat
Goals Addressed	1; 2
Document Reference, if applicable	Erosion Pollution Control Act , Landscape Ordinance, and Subdivision Ordinance
New, Continuation, Amendment	Continuation
Priority	Low
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Reducing the amount of impervious surface and runoff.
Reduce Overall Vulnerability	Reduce flooding and exposure to extreme heat. In denuded areas the reforestation would reduce amounts of erosion and stabilize the soil from extreme runoff and wind.

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	U.S. Forest Service & Town of Hope Mills
Benchmark and Indicator Of Progress	The strategy of the Town is to protect natural vegetation to enhance air quality, counteract extreme heat in urban areas and reduce sedimentation and pollution of waterways. Denuded areas were to be reforested by the public sector or non-profit organizations. Due to limited resources these efforts have been delayed. The Town's focus now is protecting as much existing vegetation as possible and requiring developments to plant additional vegetation. The Town of Hope Mills adopted tree preservation standards and requirements for landscaping of non-residential, mix use developments and off street parking areas (Hope Mills Zoning Ordinance) on October 20, 2008.

ACTION 15: *Develop A Greenway Program And Encourage Low Impact Uses In Those Areas As A Means To Protect Natural Areas Along Rivers, Streams, Creeks, And Drainage Ways.*

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Zoning Ordinance
New, Continuation, Amendment	Continuation
Priority	Moderate
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Provide buffer from urban encroachment.
Reduce Overall Vulnerability	Reduce flooding and erosion.

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, Parks and Recreation Departments, Cape Fear River Assembly, and State of North Carolina
Benchmark and Indicator Of Progress	At this time a Greenway Plan has been developed for the urban area of the County that includes the Town. The Town of Hope Mills adopted a Conservancy (CD) Zoning District on October 8, 2008 that protects the special flood hazard areas. Also protection of rivers, streams, creeks and drainage ways for those that are not designated as a special flood hazard area is accomplished through the small stream standards in the Hope Mills Flood Damage Prevention Ordinance.

ACTION 16: Revised Subdivision Ordinance Requiring Additional Access To Be Used As An Evacuation Route For Developments Located Near Special Hazard Areas.

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms and Wildfires)
Goals Addressed	1; 2
Document Reference, if applicable	Hope Mills Subdivision Ordinance
New, Continuation, Amendment	Completed on October 19, 2009
Priority	High
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Will provide an additional access for residents, public safety officials and emergency services to those developments located near a special hazard prone area.
Reduce Overall Vulnerability	Reduce the possibility of a life-threatening situation for residents, public safety and emergency services.

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 Planning Department
Benchmark and Indicator Of Progress	Town of Hope Mills Subdivision Ordinance requires subdivisions provide two separate access streets into subdivisions within the Town unless the subdivision is of such a nature, size or configuration, or at such location, as to make more than one access street or road unfeasible or unnecessary as may be determined by the Town or County Planning Staff. Adopted October 19, 2009.

ACTION 17: Continue To Protect Wetlands And Environmental Sensitive Corridors.

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Not applicable
New, Continuation, Amendment	Continuation
Priority	Moderate
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Prohibit urban encroachment in these areas.
Reduce Overall Vulnerability	This will allow the wetlands and environmental corridors to function as they were intended to function.

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	Corp of Engineers, Inspections Department, and non-profit organizations
Benchmark and Indicator Of Progress	The Corp of Engineers is responsible for the mapping and enforcement of wetlands.

ACTION 18: Encourage All Rest Homes To Have A Reciprocal Agreement.

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms, Winter Storms, Wildfires, Drought, Extreme Heat and Earthquakes)
Goals Addressed	2
Document Reference, if applicable	Not applicable
New, Continuation, Amendment	Completed
Priority	High
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Remove population from life threatening situations and provide them shelter during the recovery process.
Reduce Overall Vulnerability	Reduce loss of life and personal belonging.

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 Social Services Department
Benchmark and Indicator Of Progress	The reciprocal agreement currently exists with all the rest homes located in Cumberland County. The agreement is handled through Cumberland County Emergency Services.

IMPLEMENTATION

Plan implementation will start from the time that Updated Plan is adopted. Each Town Department will be responsible for pursuing the development of policies, programs, ordinances, amendments, and regulations as they are assigned by the actions listed above. Cumberland County Planning staff will prepare these planning documents, ensuring that the goals, objectives and strategies of these documents will be consistent with the Hazard Mitigation Plan Update and would not increase the hazard vulnerability or decrease hazard capability of Hope Mills. The Cumberland County Joint Planning Board (also serving on the Cumberland County Hazard Mitigation Steering Committee) would receive all planning documents for review and approval. Their comments are forwarded to the Hope Mills Board of Commissioners for review and adoption. The public will have an opportunity to provide input on these planning documents at public hearings held before both of these entities. It will be the responsibility of the Town Manager to ensure that these actions are carried out within their time frame.

MONITORING, EVALUATING, AND REPORTING PROGRESS

As the adopted plan is implemented and matures, close attention will be paid to the four seasons and the natural occurrences that can be expected to take place during those seasons. Various department heads will be charged with insuring that particular actions described through the strategies are carried out in a timely manner prior to predictable natural occurrences such as hurricanes, tornadoes, etc.

As the plan progresses through each phase of its first year, actions and strategies will be evaluated for their effectiveness. Unforeseen discrepancies or deficiencies in the plan can then be fine tuned to better address the given situation. Regular meetings between public safety officials should be conducted as a routine part of thinking ahead of predictable disaster scenarios to better coordinate and prepare for the event and its aftermath. The same technique should be employed in addressing the unforeseen events that can happen with no warning at all. Local officials will report progress to all other parties to this plan to assist in the continual updating and preparing for situational readiness.

The annual report will include the following:

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

The following questions will be helpful to Hope Mills in assessing the Hazard Mitigation Plan: (1) Do the goals and objectives address current and expected conditions; (2) Has the nature or magnitude of risks changed; (3) Are the current resources appropriate for implementing the Plan; (4) Are there implementation problems, such as technical, political, legal or coordination issues with other agencies/departments; (5) Have the outcomes occurred as expected; and (6) Did the agencies/departments and other partners participate in the Plan and planning process as proposed.

REVISION AND UPDATES

On at least an annual basis, the Plan will be updated to include new construction and values, infrastructure improvements or additions, corporate boundary changes, and population increases. If

necessary, the Plan may be revised to adjust to environmental and physical changes that may occur as a result of growth and development.

The process of monitoring and evaluating the plan is a continual and on-going process that will assist the Town to better prepare for emergency situations. It is assumed that monitoring and evaluating the Plan will be a periodic concern throughout a one-year time span, and the annual review of the plan will include the required adjustments to improve the Plan and its overall effectiveness. The Cumberland County Joint Planning Board and the Hope Mills Board of Commissioners will conduct public hearings to gather citizen input on the Hazard Mitigation Plan. A copy of the Plan will be filed with the Town Clerk and Cumberland County Emergency Services Department as an update to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update and will be available to the public for review.

Resolution

WHEREAS, the Town of Hope Mills desire to remain eligible for the State and Federal disaster relief funds in the event of a declared disaster in the Town; and

WHEREAS, the Hope Mills Board of Commissioners recognizes the value of having a plan in place for identifying, prioritizing, and mitigating potential and real hazards that could affect the Town of Hope Mills.

WHEREAS, Cumberland County Joint Planning Board Staff have prepared the Hope Mills Hazard Mitigation Plan Update as part of 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 Hope Mills Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

NOW, THEREFORE, BE IT RESOLVED by the Hope Mills Board of Commissioners that it adopts the Hope Mills Hazard Mitigation Plan; and

BE IT FURTHER RESOLVED that the Hope Mills Board of Commissioners resolve to annually review the Plan and make revision to all sections regarding the Town of Hope Mills in 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 Town of Hope Mills may update and revise the Hope Mills Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update as it relates to Hope Mills but does not affect any other jurisdictions. If any revision, update or amendment that involves another jurisdiction, the updates and revisions must be approved by the governing body of the affected jurisdiction. Copies of any revision, amendment or update to the Plan by the Town of Hope Mills must be kept on file with the Town Clerk and with the Cumberland County Emergency Services Department and added to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

FURTHER, that any wording corrections and vulnerability assessment data corrections to the Hope Mills Hazard Mitigation Plan of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update, would not require additional action by the Hope Mills Board of Commissioners.

Adopted 15th day of August, 2011

Attest:



Town Clerk, Hope Mills



Mayor, Town of Hope Mills

VULNERABILITY ASSESSMENT

The physical setting of Hope Mills makes it vulnerable to many predictable and unforeseen hazards, both natural and man-made. The primary hazards are those associated directly or indirectly with water. Hope Mills is the receiver of a great deal of the water run-off in Cumberland County. Preliminary and on-going studies prepared and underway since the collapse of the Hope Mills Lake dam on May 29, 2003 have revealed much to inform us just how vulnerable this area is in the event of hard rains, or the torrential rains often brought on by hurricanes. The watershed area is approximately 98 square miles ranging from Fort Bragg and Fayetteville to Hope Mills. There are several watercourses such as Buckhead Creek, Bones Creek, and Little Rockfish Creek that flow from the north to converge into Hope Mills Lake located in the center of the Town. From the west, the Big Rockfish Creek flows from Lake Upchurch just a few miles away to meet the Little Rockfish Creek on the east side of Hope Mills, and from there on to the Cape Fear River. The heavy rains that contributed to the dam collapse were regional. The soils were saturated to the maximum. Once the dam collapsed, and subsequent dam failures occurred in the watershed area, the Cape Fear River had reached such a level that a backwash effect occurred along the watercourses, threatening homes, businesses and bridges along the way. Fortunately, no one was killed, and, aside from the dam and bridge at Hope Mills Lake, property damage was limited to flooding of a few structures and soil erosion. The dam was rebuilt and the lake refilled in 2009. In 2010 the dam failed and the lake drained. At this time the Town is investigating the cause and working towards repairing the problem and refilling the lake. Timetable on this project is unknown at this time

Hurricanes, tornadoes, severe ice storms, and extremely high winds make the overhead power lines grid vulnerable to failure. The majority of the newer residential developments are served by underground utilities. Power lines along the major thoroughfares are overhead and are susceptible to breakage and failure, thereby making many parts of the Town vulnerable to power failure. This threat not only can be harmful to citizens reliant on electricity for heating and air conditioning, but also mostly for those citizens that rely on equipment designed to sustain life. As mentioned previously in the Identifying and Profiling Hazards Section above, and the Vulnerability Assessment Section of the overall County, Hope Mills has experienced some of the same hazard events as the overall County: hurricanes, tornadoes, hailstorms, thunderstorms, drought, severe winter storms and extreme heat. The types of hazards and the areas they impact are delineated in **Table A1 - Hazard Identification and Analysis** and **Table A2 - Summary of Hazard Vulnerability by Jurisdiction** located in Appendix A - Hazard Profile.

Current Conditions

The impact these hazards may have on development, infrastructure, and critical facilities is outlined in **Table 16 - Hope Mills Private Buildings Vulnerability Assessment** and **Table 17 - Hope Mills Public Buildings and Critical Facilities Vulnerability Assessment**. This data shows that private buildings vulnerability include 4,801 single family houses valued at \$1,208,974,710 impacting 12,723 persons; 255 multi-family buildings valued at \$195,298,326 impacting 3,578 persons; 231 commercial buildings valued at \$212,200,172 impacting 10,657 persons; five industrial structures valued at \$15,764,056 impacting 20 persons; and 44 other structures valued at \$54,252,454 impacting 60 persons. In total, there are 5,336 buildings valued at \$1,686,489,719 impacting 27,038 persons.

Public facilities subject to natural hazards include two water towers valued at \$500,000; 29 school buildings valued at \$144,728,364 impacting 6,842; one clinic valued at \$1,860,786 impacting 20 persons; 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 street valued at \$78,126,363; three (3) dams valued at \$15,500,000; four (4) bridges valued at \$20,000,000; eight government offices (includes fire and police station) valued at \$7,502,436, impacting 139 persons; and one emergency shelter valued at \$20,000,000; and four rest homes valued at \$15,008,814 impacting 195 persons. In total, there are 45 structures valued at

\$189,600,400 and \$207,266,743 of infra-structure impacting 7,896 persons. Overall, there are 5,381 structures valued at \$2,083,356,861 impacting 34,934 persons that could be affected by a natural hazard in the entire Town of Hope Mills.

The critical facilities identified are listed in Appendix B - Critical Facilities Ranking. Designated public buildings and critical facilities include schools, fire stations, police stations, infrastructure, government offices, and hazardous materials facilities, hospitals (including rest homes), sewage treatment facilities, water treatment facilities, hospitals, emergency shelter, and public housing as shown on **Map 14 - Hope Mills Critical Facilities Location**.

The physical layout of Hope Mills has expanded east, west and north of its original corporate 1.5 miles diameter circle. This has brought some concern to the Town's ability to adequately respond in times of emergency. Since there is only one fire station and one police station, their advantageous location at the Municipal Center is quickly becoming more of a liability in terms of response, given the increased traffic congestion and other factors that could affect rapid response. It is necessary for the Town to develop plans to address the future expansions and its ability meet these types of emergencies. This includes the location of public safety stations or sub-stations.

Approximately 343 acres within the Town are located in the defined Special Flood Hazard Area. Structures and facilities located in this area are as shown on **Map 15 - Hope Mills Facilities within the Special Flood Hazard Areas**. A summary of the detailed data is shown in **Tables 18 - Hope Mills Private Buildings Flood Vulnerability Assessment**, and **Table 19 - Hope Mills Public Buildings and Critical Facilities Flood Vulnerability Assessment**. Data in these tables show that private building in Special Flood Hazard Areas consist of 137 single family residential structures valued at \$38,500,930 impacting 364 persons; 13 multi-family residential structures valued at \$17,478,472 impacting 286 persons; 11 commercial structures valued at \$6,839,012 impacting 95 persons; and one (1) industrial structure valued at \$234,026 impacting four persons. These tables also show that there are some public buildings and other critical facilities affected by location in Special Flood Hazard Areas. The effected public buildings and critical facilities include one clinic valued at \$1,860,786 impacting 20 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 street valued \$163,107; three bridges valued at \$14,000,000; one dam valued at \$14,000,000; and one government office valued at \$239,218 impacting three persons. The total of public buildings and critical facilities in Hope Mills impacted by the Special Flood Hazard Area is two buildings valued at \$2,100,004 and infra-structure valued \$30,861,997.

A summary of the number of private and public buildings and infra-structure impacted by the Special Flood Hazard Areas in Hope Mills consist of 168 buildings and infra-structure valued at \$105,868,667 impacting 775 persons. Some buildings are included in the Flood Vulnerability Assessment, if the parcel of land the building is on intersects the Flood Area, even though these buildings are not within the Special Flood Hazard Area. The Town of Hope Mills has not had any repetitive loss structures.

Traveling into and out of Hope Mills requires going over at least one bridge. There are at least a dozen bridges in and around the Hope Mills area. The Memorial Day, 2003 disaster served as the best example of how vulnerable Hope Mills is to flooding. Three of the bridges that are located along primary thoroughfares leading into Hope Mills were closed as a precaution due to high rushing water. Fortunately, after the waters receded, they were determined to not be structurally compromised. The inability to cross these bridges presented another set of problems relating to the safe and efficient evacuation of people. This also impacted the ability of public safety officials and rescue workers response time. The Hope Mills Fire and Police Departments are located in the Municipal Center near the core of the community. This is normally convenient to respond effectively in any direction, especially when they work well together with other departments just outside of Hope Mills. The events of Memorial Day 2003 effectively divided the town into several smaller pieces that would have made response in a

timely way nearly impossible. The areas of concern in this respect are directed to fire department activities to include their ability to suppress structural fires, facilitate evacuation and dispatch emergency medical rescue to particular areas throughout Hope Mills.

In the event of natural hazards such as hurricanes, tornadoes and flooding, the town has thus far been able to respond safely and efficiently either on their own or with the assistance of other public safety agencies. One of the strategies being used to help mitigate flooding and infrastructure damage was embedded in the plan of the reconstruction of the Hope Mills Lake Dam and bridge.

Development Trends and Projections

Development trends that may impact hazard mitigation include the direction of growth in the County, current zoning and future land use. The Town is growing to the south and southwest. Activities in the Town that may impact future development includes the widening of access roads to the Town (Cumberland and Hope Mills Roads to five lanes) and the construction of the Hope Mills by-Pass; BRAC which is relocating over 40,000 troops and their families, support personnel, civilian employees into the Region; and proximity of several county schools.

Hope Mills zoning districts include residential (suburban- two or less units per acre, low – greater than two but less than six unit per acre, medium – greater than six but less than 15 units per acre and high – greater than 15 units per acre.), office and institutional, commercial, manufacturing and conservancy Districts as shown on **Map 16 - Hope Mills Zoning Map**. Zoning statistics shows that approximately 122 acres are suburban density (RR), 2,771 acres of low density (PND, R10, R7.5 and R15), 509 acres medium density (R6, R6A, and R5A), 13 acres high density (R5) and 78 acres Mixed Use Development (MXD). Non-residential zoning districts include 66 acres of office and institutional zoning (O&I), 796 acres of commercial zoning (CP, C3, C1P and C1), 37 acres of manufacturing (MP and M2) and .5 acres Conservancy District (CD).

The proposed land use for Hope Mills is shown on **Map 17 - Hope Mills 2030 Growth Strategy Plan Map**. This map indicates the community's vision for the future use of land. According to the Plan approximately 4,219 acres is classified as urban, 169 acres as urban fringe and 372 acres as Conservation Area.

Projections for private buildings in Hope Mills in 2025 shows that there will be 5,824 single family dwellings, valued at \$1,466,576,427 impacting 15,434 persons, 309 multi-family units valued at \$236,911,425 impacting 4,340; 280 commercial buildings valued at \$257,414,624 impacting 12,928; six industrial structures valued at \$19,122,975 impacting 24 persons; and 53 other structures valued at \$65,812,270 impacting 73 persons. In total, the number of private buildings in Hope Mills subject to a natural hazard in 2025 is projected to be 6,473 buildings with an estimated value of \$2,045,837,720 impacting 32,799 persons (See Appendix C-Methodology for projection method)

The projected number of private buildings in Special Flood Hazard Areas in 2025 is 166 single family dwellings valued at \$46,704,498 impacting 442 persons; 16 multi-family units valued at \$21,202,689 impacting 347 persons; 13 commercial structures valued at \$8,296,231 impacting 115 persons, one industrial structure valued at \$283,891 impacting 5 persons; and four other structures valued at \$9,854,226 impacting three persons. The projected total number of private buildings in 2025 is 201 buildings valued at \$88,441,220 impacting 912 persons located in Special Flood Hazard Areas, if no actions are taken. The implementation of mitigation actions in this document should reduce the number of these at risk properties.

The projected number of public buildings and critical facilities in Special Flood Hazard Areas in 2025 is one clinic valued at \$2,257,272 impacting 24 persons; 1,960 feet of water lines valued at \$176,430; 20,650 feet of sewer lines valued at \$3,097,525; 1,047 feet of roads valued at \$197,861; four dams

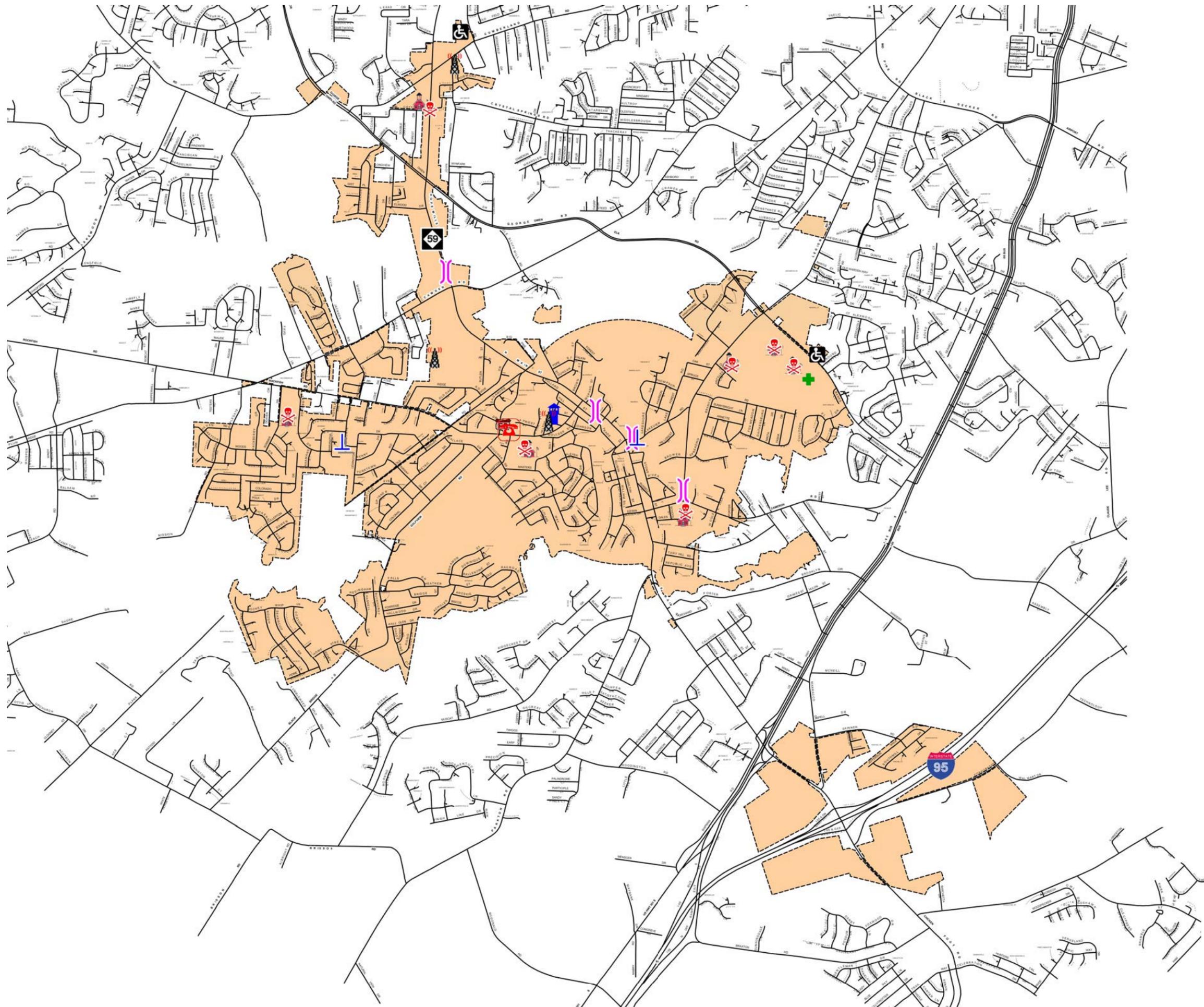
valued at6 \$16,983,043; one bridge valued at \$16,983,043; and one government office valued at \$290,189 impacting four persons. In total it is projected to be two buildings valued at \$2,547,461 and infra-structure valued at \$37,437,902 impacting 28 persons.

In summary, the number of projected public and private buildings and critical facilities in Special Flood Hazard Areas in 2025 is 204 buildings and infrastructure valued at \$128,426,583 impacting 940 persons.

Map 14

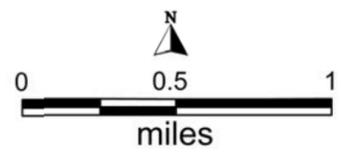
Town of Hope Mills

Critical Facilities

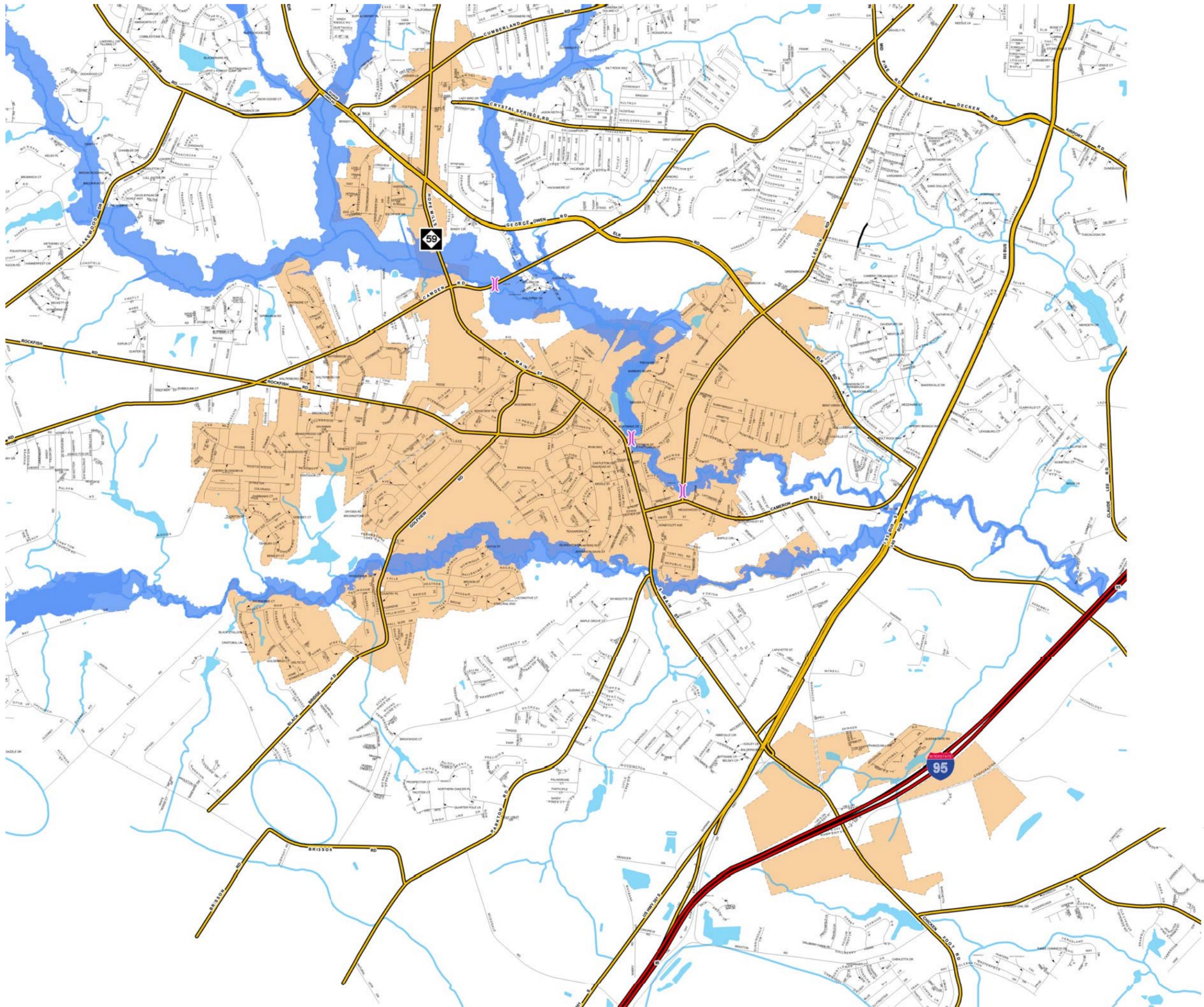


Legend

- Bridge
- Public School
- Municipal Boundary
- Streams-Rivers
- Lakes
- Dams
- Special Flood Hazard Area
- Rest Home



Map 15
Town of Hope Mills
Critical Facilities
 Special Flood Hazard Area



Legend

-  Bridge
-  Public School
-  Municipal Boundary
-  Streams-Rivers
-  Lakes
-  Dams
-  Special Flood Hazard Area

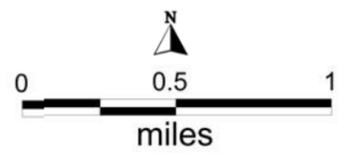


Table 16 - Hope Mills Private Buildings Vulnerability Assessment

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

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Private Buildings	* Current Value	Current Number of People	Projected Number of Private Buildings	Projected Value	Projected Number of People
Single-Family Residential	4,801	\$1,208,974,710	12,723	5,824	\$1,466,576,427	15,434
Multi-Family Residential	255	\$195,298,326	3,578	309	\$236,911,425	4,340
Commercial	231	\$212,200,172	10,657	280	\$257,414,624	12,928
Industrial	5	\$15,764,056	20	6	\$19,122,975	24
Other	44	\$54,252,454	60	53	\$65,812,270	73
Subtotal	5,336	\$1,686,489,719	27,038	6,473	\$2,045,837,720	32,799

* Values and building counts from County GIS - January 2010
The methodology used in preparing this data is described in Appendix C.

Table 17 - Hope Mills Public Buildings & Critical Facilities Vulnerability Assessment

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

Current Condition				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Public Buildings & Critical Facilities	* Current Value	Current Number of People	Projected Number of Public Buildings	Projected Value	Projected Number of People
Sewage Treatment Plant	0	\$ 0	0	0	\$ 0	0
Water Tower	2	\$500,000	0	2	\$606,537	0
Hospital /Clinic	1	\$860,786	20	1	\$2,257,272	24
School	29	\$ 144,728,364	6,842	35	\$175,566,292	8,300
Infrastructure (roads, bridges, drainage, dams, and etc.)	Water Lines – 416,807' Sewer Lines – 394,185' Street s – 413,367' Dams - 3 Bridges - 4	\$37,512,630 \$59,127,750 \$78,126,363 \$15,500,000 \$20,000,000	N/A	Water Lines – 505,618' Sewer Lines – 478,176' Streets – 501,445' Dams - 4 Bridges - 5	\$45,505,616 \$71,726,367 \$91,133,877 \$18,802,655 \$24,261,491	N/A
Police Station	See note 1	See note 1	see note 1	See note 1	see note 1	see note 1
Fire Station	See note 1	see note 1	see note 1	See note 1	see note 1	see note 1
Hazard Materials Facilities	0	\$0	0	0	\$0	0
Government offices	8	\$7,502,436	139	10	\$9,101,014	169
Emergency Shelter	1	\$20,000,000	700	1	\$24,261,491	849
Public Housing	0	\$0	0	0	\$0	0
Rest Homes	4	\$15,008,814	195	5	\$18,206,810	237
Subtotal	Buildings - 45 Infrastructure	\$189,600,400 \$207,266,743	7,896	Buildings - 55 Infrastructure	\$229,999,416 \$251,430,007	9,578
TOTAL:	Buildings - 5,381 & Infrastructure	\$2,083,356,861	34,934	Buildings – 6,528 & Infrastructure	\$2,527,267,142	42,378

* Values and building counts from County GIS - January 2010
1 Included in Government Offices

Table 18 - Hope Mills Private Buildings Flood Vulnerability Assessment

Type(s) Hazard: Flood

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Private Buildings	* Current Value	Current Number of People	Projected Number of Private Buildings	Projected Value	Projected Number of People
Single-Family Residential	137	\$38,500,930	364	166	\$46,704,498	442
Multi-Family Residential	13	\$17,478,472	286	16	\$21,202,689	347
Commercial	11	\$6,839,012	95	13	\$8,296,231	115
Industrial	1	\$234,026	4	1	\$283,891	5
Other	4	\$9,854,226	3	5	\$11,953,911	4
Subtotal	166	\$72,906,666	752	201	\$88,441,220	912

* Values and building counts from County GIS - January 2010
The methodology used in preparing this data is described in Appendix C.

Table 19 - Hope Mills Public Buildings & Critical Facilities Flood Vulnerability Assessment

Type(s) Hazard: Flood

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Public Buildings & Critical Facilities	* Current Value	Current Number of People	Projected Number of Public Buildings	Projected Value	Projected Number of People
Sewage Treatment	0	\$0	0	0	\$0	0
Water Tower	0	\$0	0	0	\$0	0
Hospital / Clinic	1	\$1,860,786	20	1	\$2,257,272	24
School	0	\$0	0	0	0	0
Infrastructure (roads, bridges, drainage, dams, etc.)	Water Lines – 1,616' Sewer Lines – 17,023' Roads - 863' Bridges - 3 Dams - 1	\$145,440 \$2,553,450 \$163,107 \$14,000,000 \$14,000,000	N/A	Water Lines – 1,960' Sewer Lines – 20,650' Roads – 1,047' Dams - 4 Bridges - 1	\$176,430 \$3,097,525 \$197,861 \$16,983,043 \$16,983,043	N/A
Police Station	0	\$0	0	0	\$0	0
Fire Station	0	\$0	0	0	\$0	0
Hazard Materials	0	\$0	0	0	\$0	0
Government offices	1	\$239,218	3	1	\$290,189	4
Emergency Shelter	0	\$ 0	0	0	\$0	0
Public Housing	0	\$ 0	0	0	\$0	0
Subtotal	Buildings - 2 Infrastructure	\$2,100,004 \$30,861,997	0	Buildings - 2 Infrastructure	\$2,547,461 \$37,437,902	28?
TOTAL:	Buildings - 168 & Infrastructure	\$105,868,667	775	Buildings - 204 & Infrastructure	\$128,426,583	940

* Values and building counts from County GIS - January 2010
The methodology used in preparing this data is described in Appendix C.

MAP 16 TOWN OF HOPE MILLS ZONING

- Legend**
-  SPECIAL FLOOD HAZARD AREA
 -  MUNICIPAL BOUNDARY
 -  RR - RURAL RESIDENTIAL DISTRICT
 -  R15 - RESIDENTIAL DISTRICT
 -  PND - PLANNED NEIGHBORHOOD DISTRICT
 -  R10 - RESIDENTIAL DISTRICT
 -  R7.5 - RESIDENTIAL DISTRICT
 -  R6 - RESIDENTIAL DISTRICT
 -  R6A - RESIDENTIAL DISTRICT
 -  R5A - RESIDENTIAL DISTRICT
 -  R5 - RESIDENTIAL DISTRICT
 -  MXD - MIXED USE DISTRICT
 -  O&I(P) - OFFICE & INSTITUTIONAL
 -  C(P) - PLANNED COMMERCIAL
 -  C1(P) - PLANNED COMMERCIAL
 -  C3 - COMMERCIAL DISTRICT
 -  C1 - COMMERCIAL DISTRICT
 -  M(P) - PLANNED INDUSTRIAL
 -  M2 - INDUSTRIAL DISTRICT
 -  CD - CONSERVANCY DISTRICT

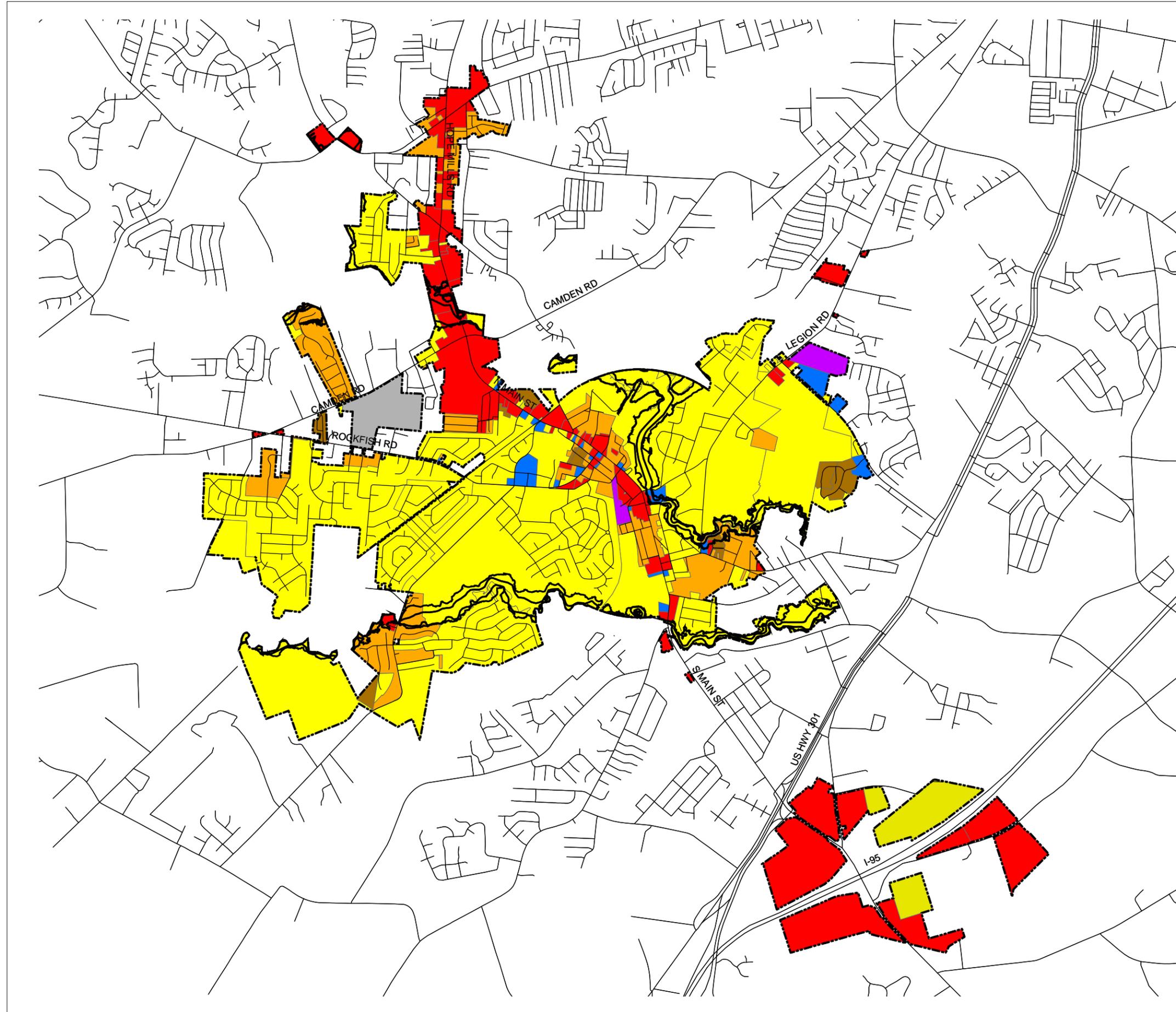
NOTE: ALL OF THE TOWN OF HOPE MILLS IS DESIGNATED FOR THE FOLLOWING HAZARDS: HURRICANES, TORNADOES, THUNDERSTORMS, DROUGHTS, SEVERE WINTER STORMS, EXTREME HEAT, WILDFIRES, AND EARTHQUAKES.

4

SCALE: NOT TO SCALE



Cumberland County
Multi-Jurisdictional
**HAZARD
MITIGATION
PLAN
UPDATE**



MAP 17
TOWN OF HOPE MILLS
LAND USE PLAN

Legend

- MUNICIPAL BOUNDARY
- URBAN AREA
- URBAN FRINGE AREA
- CONSERVATION AREA

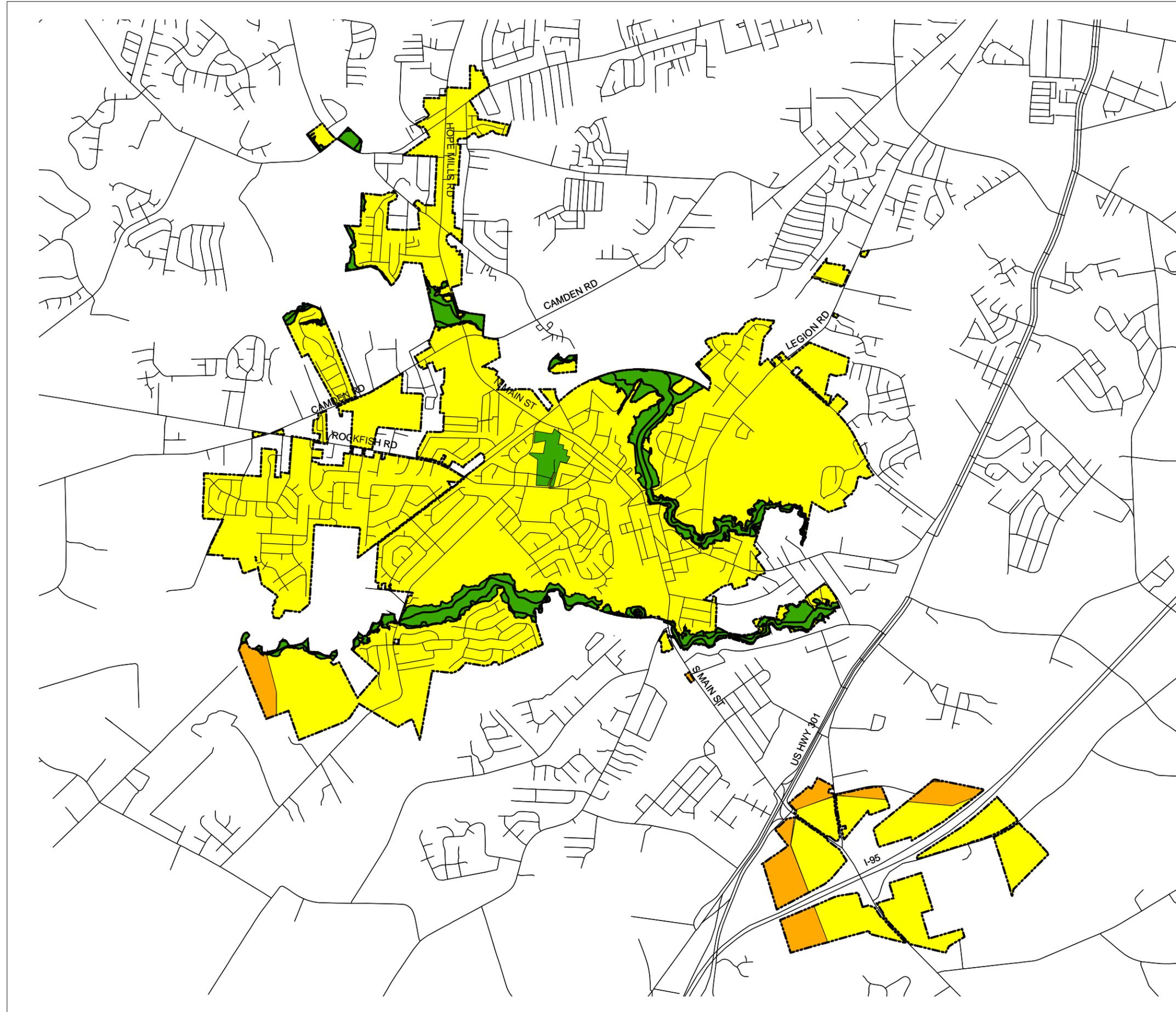
NOTE: ALL OF THE TOWN OF HOPE MILLS IS DESIGNATED FOR THE FOLLOWING HAZARDS: HURRICANES, TORNADOES, THUNDERSTORMS, DROUGHTS, SEVERE WINTER STORMS, EXTREME HEAT, WILDFIRES, AND EARTHQUAKES.

4

SCALE: NOT TO SCALE



Cumberland County
 Multi-Jurisdictional
HAZARD
MITIGATION
PLAN
 UPDATE



CAPABILITY ASSESSMENT

Local Departments, Agencies and Organizations

The Town of Hope Mills operates under the Council/Manager form of government employing 108 full-time and 40 part-time employees. A manager, assistant manager/Town Clerk and Deputy Clerk oversee the delivery of public services and the daily operations of the Town. Other departments include Finance, Human Resources, Building Inspections, Parks & Recreation, Public Works, Police and Fire, and Stormwater Administration. The Towns' water and sewer system and all appurtenances are owned and operated by the Public Works Commission owned by the City of Fayetteville. Other services, such as tax administration, emergency services, and health are provided by Cumberland County.

The Fire and Police Departments are located within the Municipal Complex, located central to the rest of the Town, thereby providing efficient response times. These departments are well trained and equipped to handle an array of challenges resulting from an emergency situation. Procedures have been initiated since Memorial Day 2003 to insure effective broad communications between the departments, town officials, and agencies and departments located outside of Hope Mills to provide the necessary assistance in time of crisis. These procedures include the establishment of an emergency communications center to include amateur radio operators that collect and process information to be disseminated to the emergency operations command group. The command group is able to be located at the most advantageous mobile location and is charged with situation assessment, resource allocation, and decision-making by the mayor, town manager, chief of police, fire chief, and others that may be involved.

Policy and Program Capability

Hope Mills Civil Emergencies Ordinance- The Hope Mills Civil Emergencies Ordinance sets forth the authority and responsibility of the Town in prevention of, preparation for, response to and recovery from natural or man-made disasters or hostile military or paramilitary action. This ordinance is directly relevant to hazard mitigation in that it defines roles and procedure to reduce the vulnerability of people and property, prepare for prompt and efficient rescue and coordinate cooperation among various other agencies and organizations on all government and non-government levels. Most of the actions in the original Mitigation Plan that require ordinance revisions or policy changes have been completed and/or adopted. The Cumberland County Planning Staff recently completed the rewriting and updating the Town of Hope Mills Zoning and Subdivision Ordinances. These ordinances comply with many of the mitigation actions that the Town Hope Mills Board of Commissioners has already endorsed. Those actions that have not been completed are more developer resistant and cost prohibitive. The Technical Committee will continue educating concerning mitigation and those actions with citizens, elected officials and development community. An inventory of these specific sections is included in **Table 20 - Hope Mills Inventory of Local Ordinances, Policies and Programs Relevant to Hazard Mitigation.**

Hope Mills Flood Damage Prevention Ordinance - The Town of Hope Mills Flood Damage Prevention Ordinance is based on findings of fact recognizing there are areas in and around Hope Mills that are prone to flooding, and that flood losses are caused by the cumulative effect of obstructions in floodplains and the occupancy in flood hazard areas by uses that are vulnerable. The Flood Damage Prevention Ordinance establishes special flood hazard areas through the Flood Insurance Study for the Town of Hope Mills commissioned through the Federal Emergency Management Agency, and accompanied by flood insurance rate maps and flood boundary and floodway maps and their subsequent revisions.

Hope Mills Subdivision Ordinance - The Town of Hope Mills Subdivision Ordinance contains several sections that are relevant to hazard mitigation. These sections address specific design standards that

mitigate hazards such as utility location, stormwater drainage, flooding, drainage way enforcement, and fire.

Hope Mills Zoning Ordinance - The Hope Mills Zoning Ordinance addresses hazard mitigation by providing standards for physical separation of structures and yard space.

National Flood Insurance Program and Community Rating System - The National Flood Insurance Program (NFIP) provides flood insurance to individuals in local jurisdictions that are members of the program. Membership in the Program is based upon the adoption and enforcement of floodplain management and development regulations. Compliance of the NFIP for the Town of Hope Mills is responsibility of the Hope Mills Inspections Department. They maintain the Hope Mills flood maps and Flood Damage Prevention Ordinance and issue Floodplain Development Permits for the Town in accordance with compliance of NFIP. An element of the NFIP is the Community Rating System (CRS), which adjusts flood insurance premiums relative to a local jurisdiction's investment in flood damage mitigation. Inclusion in the CRS involves submitting a local jurisdiction's floodplain management procedures for evaluation.

NCDOT Subdivision Roads Minimum Construction Standards - The North Carolina Department of Transportation has established minimum construction standards for new subdivision roads (to be dedicated as public or private). According to North Carolina General Statutes, all new subdivision roads connecting to the State system must obtain a construction permit from a Division of Highways District Engineer and must meet these construction standards. Standards relevant to hazard mitigation include: surface and subsurface drainage, bridges, roadway dams, and specifications for design and construction to accommodate emergency vehicles.

2030 Cumberland County Growth Vision Plan Policies, Actions, and Map

Cumberland County, along with all the municipalities in the County adopted this land use plan which serves as a guide for development. This Plan contains several recommendations relevant to hazard mitigation. The Plan recommends the provision of open space/environmental corridors along rivers and major water features, which reduces the amount of development within and adjacent to the floodplain and protects the natural riparian cover adjacent to these water features. Recommendations also include using environmental corridors as a network of greenways connecting recreation and school facilities with natural areas. The Plan recommends all development activity within the Special Flood Hazard Area be limited to low intensity uses. Development standards are also recommended to reduce the amount of impervious surfaces and to protect existing natural features. A general Land Use Plan Map was also adopted, which provides a guide for orderly growth and development. Hope Mills adopted the Plan on July 20, 2009.

Cumberland County Land Use Policies Plan

Hope Mills, along with all the municipalities in the Cumberland County and Cumberland County have developed and adopted a land use policies plan which serves as a guide for development. This Plan contains location criteria for development relevant to hazard mitigation by limiting the type and intensity of development within the Special Flood Hazard Area. Hope Mills adopted the Plan on July 20, 2009.

2000 International Building Code with North Carolina Amendments - This Code provides specific standards for plumbing, building, mechanical and electrical construction, mandated by the State of North Carolina. This Code is under the jurisdiction of the North Carolina Department of Insurance and is enforced locally by the Cumberland County Planning and Inspections Department and the Hope Mills Inspections Department.

Hope Mills Parks and Open Space Master Plan – This Plan outlines areas in the Town that efforts will be made to protect and preserve as well as provide future recreations and leisure activities for Town residents.

Hope Mills Stormwater Management Plan - The Stormwater Management Plan serves as a mechanism for managing stormwater runoff and drainage within the Town.

N.C. General Statutes 113A Article 4 Sedimentation Pollution control Act - This Act provides a mechanism to protect existing natural resources and the public health, safety and welfare through sedimentation and erosion control. The State of North Carolina administers permitting and enforcement measures for Cumberland County and the municipalities therein.

Cumberland County Emergency Operations Plan - Cumberland County prepared and adopted this Plan in order to reduce the vulnerability of people and property to a disaster and to provide an effective means of response in the event of a disaster. This Plan also includes an inventory of critical facilities (including the Town of Hope Mills) that would be impacted during a disaster. The Town of Hope Mills has also adopted this Plan.

Fayetteville Area Metropolitan Planning Organization - This Organization provides comprehensive transportation planning for the Metropolitan Planning Area in Cumberland County, including the Town of Hope Mills.

Mobility 2035 Long Range Transportation Plan - The Mobility 2035 Long Range Transportation Plan provides detailed planning and classifications for the road network within the Urban Planning Area (which includes Spring Lake) in order to provide adequate traffic movement and protect the public health, safety, and welfare. Classifications and design specifications are assigned to roads in order to ensure adequate right-of-way and design as transportation improvements are initiated.

Cape Fear River Assembly - The Cape Fear River Assembly has a membership of approximately 400 and a 34-member Board of Directors representing 29 counties within the Cape Fear River Basin. The purpose of the Assembly is to provide the highest quality of life for residents within the Cape Fear River Basin through proper management of the Cape Fear River, its tributaries and adjacent land uses. Little Rockfish Creek and Big Rockfish Creek, which are tributaries of the Cape Fear River, runs through the Town

Sustainable Sandhills - This initiative, comprised of members of communities within 6 counties bordering Fort Bragg and Camp Mackall and the Military, is working to provide a model for regional sustainability planning. Sustainability planning focuses on balancing preservation of natural resources, economic development strategies, development, and Military operations. Cumberland County is represented within this initiative.

Sandhills Area Land Trust - The Sandhills Area Land Trust is a non-profit organization working with citizens, developers, local government, and landowners to preserve the natural resources and environment within the Sandhills. This organization is working with Cumberland County, as well as 6 other counties, to accept donations of land, arranges leases to protect special land holdings and works to negotiate conservation easements.

Joint Compatible Land Use Study 2003 - The purpose of this Study is to provide policies and implementation measures to mitigate conflicts between urban development and Military operations at Fort BraggPope Air Force Base and Camp Mackall. Cumberland County is included within this Study.

Table 20 - Hope Mills Inventory of Local Ordinances, Policies and Programs Relevant to Hazard Mitigation

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENES S	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Hope Mills Civil Emergencies Ordinance 12/18/00	Section 30-1	To set forth the authority and responsibility of the Town in prevention of, preparation for, response to, and recovery from natural or man-made disasters or hostile military or paramilitary action.	HIGH	This ordinance reduces vulnerability of people and property, prepares for prompt and efficient rescue, and provides for cooperation and coordination with any and all outside officials, agencies and departments in time of emergency.	Advance preparation and training and coordinated efforts with related departments and agencies outside of Hope Mills.
Hope Mills Civil Emergencies Ordinance 12/18/00	Section 30-4	Establishes an emergency operations center headed by a command group charged with maintaining communications by all available means and situation assessment, resource management and decision-making.	HIGH	This ordinance insures the communications necessary in the event of power loss and the presence of elected and appointed officials to be available to make required decisions in time of emergency.	Enhance through more frequent training.
Hope Mills Flood Damage Prevention Ordinance 12/18/06	Section 42-58 & 59	Regulations designed to control and minimize the amount of floods, and to regulate the use of flood hazard areas.	HIGH	To prevent, or curtail, the adverse effects of flooding by regulating obstructions and occupancy in areas prone to flooding.	Establish a program for continued clearing of obstructions within all watercourses and drainage ways.
Hope Mills Flood Damage Prevention Ordinance 12/18/06	Section 42-131,132	Sets forth specific standards for new construction and existing structure improvements in or near special flood hazard areas.	HIGH	Reduces the risk of flood hazards to all development existing and proposed.	Restrict or prohibit construction in mapped flood-prone areas.
Hope Mills Subdivision Ordinance 10/19/09	Section 86A-101	To promote the eventual elimination of unsafe and unsanitary conditions arising from improper land subdivision and development.	HIGH	This ordinance ultimately promotes the public health, safety and general welfare.	Reduces the possibility of wetlands or watershed contamination from development.

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENES S	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Hope Mills Subdivision Ordinance 10/19/09	Section 86A-403(2)	To provide standards for lots located within areas of special flood hazard.	HIGH	This ordinance provides for multiple points of access in to and out of subdivisions.	Provides accessibility to residents in times of emergency.
Hope Mills Subdivision Ordinance 10/19/09	Section 86A-403(e)	To provide standards for street design needed to protect the public health, safety and welfare.	HIGH	This ordinance provides specific standards to protect from encroachment existing and future easements for utilities, including drainage ways.	Provides for underground utility installation and natural drainage to protect from flooding.
Hope Mills Subdivision Ordinance 10/19/09	Section 86A-406(1)	To provide the installation of public water and sewer systems.	HIGH	This ordinance provides the installation of public water and sewer systems for a healthier environment.	Reduces risk of contamination caused by flooding.
Hope Mills Subdivision Ordinance 10/19/09	Section 86A-403(g)	To provide standards for development on lots subject to flooding.	HIGH	This ordinance provides standards for lots that may be subject to flooding, and States requirements for development located along watercourses to prevent obstructions in watercourses and storm drainage systems.	Reduces the risk to real property, and reduces the costs to homeowners to properly insure their homes.
Hope Mills Subdivision Ordinance 10/19/09	Section 86A-404 (2)(a)	This ordinance sets standards and specification for all street design and required rights-of-way.	HIGH	This ordinance provides specific standards in street design to accommodate adequate movement of traffic and turn-around capabilities for public safety fire and rescue vehicles.	Permits public safety officials to adequately respond to emergencies in a timely manner.

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Hope Mills Subdivision Ordinance 10/19/09	Section 86A-407 (d)	This ordinance states the requirement to clear all drainage ways, supplemented by various other ordinances of the Town.	HIGH	This ordinance provides for the clearance of obstructions within all drainage ways, thereby allowing the free flow of natural streams and stormwater.	Reduces the possibility of flooding to adjoining properties and downstream areas.
Hope Mills Subdivision Ordinance 10/19/09	Section 86A-406 (2)(b)	This ordinance specifies the location, supply, maintenance and design criteria of fire hydrants.	HIGH	This ordinance insures the adequate location of fire hydrants to provide fire suppression services to the general public.	Enables fire officials to suppress structural fires in a more effective manner.
Hope Mills Subdivision Ordinance 10/19/09	Section 86A-406 (c)	This ordinance provides standards for the underground installation of all utilities within new development.	HIGH	This ordinance provides assurance that infrastructure services interruptions due to acts of man or nature are kept at a minimum.	Reduces the possibility of power outages that could affect dependant and vulnerable citizens.

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENES S	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Hope Mills Subdivision Ordinance 10/19/09	Section 86A-408	This ordinance provides for the acceptance of recreational and open space lands and specifies criteria for acceptance.	HIGH	This ordinance provides the Town a means to accept lands for active and passive recreation, and promotes the conservation of green and open spaces, insuring the immunity to development.	Provides for natural areas to absorb stormwater and reduces the risk of flooding.
Hope Mills Zoning Ordinance 10/20/08	Section 102A-101	This ordinance promotes the health and general welfare of the community through zoning standards.	HIGH	This ordinance encourages the most appropriate use of land by lessening congestion and overcrowding, utility and infrastructure placement, and the adequate provision of services to secure safety from fire, panic and other dangers.	
Hope Mills Zoning Ordinance 10/20/08	Section 102A-1202	This ordinance provides standards for adequate physical separation of buildings to protect the public health, safety and welfare.	HIGH	This ordinance permits the necessary separation of structures to better facilitate visibility and movement around them in the event of emergency. It also provides adequate light and air to surround the structures, and limits the height of buildings.	Reduces the risk of fire spreading to adjoining structures.
Hope Mills Zoning Ordinance 10/20/08	Section 102A-1201	This ordinance provides standards for lot size; frontage and setbacks which is intended to insure adequate light, ventilation, and access to dwellings and places of business in times of emergency.	HIGH	This ordinance standardizes by district the amount of land required for structure placement and setbacks required, to include additional area required for multiple-story buildings.	Reduces the risk of fire spreading to adjoining structures and allows proper fall zones for multi-story structures.

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENES S	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
National Flood Insurance Program 5/4/81		To provide flood insurance for individuals within jurisdictions having membership in the program. Membership is based upon having floodplain management and development regulations. Compliance to the NFIP is the responsibility of the Town of Spring Lake Inspections Department.	HIGH	Member	
NCDOT Subdivision Roads Minimum Construction Standards 7/1/85	Minimum Design and Construction Criteria Section	To provide standards for the design, construction and maintenance of subdivision roads in order to protect the public health, safety and welfare.	HIGH	This manual outlines specific design, construction and maintenance standards to mitigate potential flooding due to subdivision road construction.	Provides for necessary drainage to occur.
2030 Growth Vision Plan, Policies, and Actions 08/06/09	Pages 37-38	To protect the Special Flood Hazard Area. To reduce the amount of impervious surfaces.	MODERATE	The Plan recommends all development activities in the Special Flood Hazard Area be limited to low intensity uses such as open space, recreation, and adequately buffered agricultural activities.	

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Cumberland County Land Use Policies Plan 08/06/09	Page 28	To protect the Special Flood Hazard Area	MODERATE	The Plan recommends location criteria for development within the Special Flood Hazard Area	
Hope Mills Parks & Open Space Master Plan		To provide a long range Master Plan to guide parks and recreation growth	HIGH	This Plan provides recommendations for utilizing existing facilities, natural resources and open spaces in a manner that will protect sensitive areas, as well as provide a plan for acquisition of land for active and passive recreational facilities and pursuits.	
2000 International Building Code with N.C. Amendments		To provide specific construction standards to protect the public health, safety and welfare.	HIGH	This Code provides specific standards for plumbing, building, mechanical and electrical construction.	Reduces risk of loss to homes and businesses; reduces costs to insure structures.
N.C. General Statutes 113A, Article 4 Sedimentation & Pollution Control Act		To protect existing natural resources and the public health, safety and welfare.	HIGH	This Act provides a mechanism for sedimentation and erosion control including permitting and enforcement measures.	To provide actions to reduce the vulnerability to a disaster and expedite the recovery from a disaster in order to protect the public health, safety and welfare.

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENES S	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Cumberland County Emergency Operations Plan 2/22/02		To provide actions to reduce the vulnerability to a disaster and enhance the recovery from a disaster in order to protect the public health, safety, and welfare.	HIGH	This Plan provides actions to be taken to reduce the vulnerability of people and property to disaster, establishes an effective mechanism to respond in the event of a disaster and identifies critical facilities impacted during a disaster.	
Mobility 2035 Long Range Transportation Plan 04/22/09		To provide detailed planning for the road network within Cumberland County in order to protect the public health, safety, and welfare.	HIGH	This Plan provides technical details and classifications for collector streets, minor and major thoroughfares within the Urban Planning Area.	
Fayetteville Area Metropolitan Planning Organization		To provide comprehensive transportation planning for the Metropolitan Planning Area of Cumberland County in order to protect the public health, safety, and welfare.	HIGH	This Organization provides specific plans and technical support for all types of transportation planning, including road networks within the Metropolitan Planning Area.	
Sandhills Area Land Trust (SALT)		A non-profit organization working to preserve the natural beauty and environment of the Sandhills Region. Cumberland County is one of 7 counties working with SALT.	HIGH	This Organization works with citizens, developers, municipalities and landowners to retain the Region's unique environmental features and positively influence growth and development.	

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Sustainable Sandhills		To provide regional sustainability planning that preserves natural resources, enhances economic development and improves the quality of life for present and future generations.	HIGH	This Initiative, comprised of members of communities in 6 Counties bordering Fort Bragg and Camp Mackall and the Military, is working to provide a cooperative effort to provide a model for regional sustainability planning.	
Cape Fear River Assembly		To provide the highest quality of life within the Cape Fear River Basin.	HIGH	This Organization provides scientific study, economic analysis and education in order to make decisions regarding the proper management of the Cape Fear River, its tributaries and adjacent land uses.	
Joint Compatible Land Use Study 2003		To provide policies and implementation measures to mitigate conflicts between urban development and Military operations on a Regional basis.	MODERATE	This Study provides compatibility measures and land use policy recommendations that have not been adopted.	Adopt the Land Use Study.

Overall, the local ordinances, policies and programs relevant to hazard mitigation are highly effective in terms of hazard mitigation. The Town should provide advance preparation, training, and maintenance to further reduce vulnerability and enhance recovery from an event.

Review of these existing plans, policies, ordinances and programs has resulted in specific actions to create new ordinances (or revise existing ordinances) that would serve to reduce the hazard vulnerability of Hope Mills. Land use, transportation, utility, recreation and capital improvement plans are designed to provide orderly growth and development without endangering the public health, safety and welfare. Preparation, review and revisions of these types of plans are a continuous process. Goals, Actions and information contained within this Hazard Mitigation Plan will be reviewed and incorporated into the planning process. Additionally, the five-year review of the Hazard Mitigation Plan will include an examination of existing plans, policies, ordinances and programs as part of the Capability Assessment as well as Mitigation Strategies.

Legal Capability

Local governments in North Carolina have been authorized by the State legislature to carry out four broad governmental powers: Regulation, Acquisition, Taxation and Spending. As mentioned previously, the Town of Hope Mills relies upon Cumberland County for regulatory and taxation staffing functions. The following is a summary of North Carolina enabling legislation granting these broad governmental powers relevant to hazard mitigation.

Regulation

General Police Power

All local governments in North Carolina have been granted broad regulatory powers in their jurisdictions. North Carolina General Statutes [NCGS] bestow the general police power on local governments, 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 municipalities may include requirements for hazard mitigation in local ordinances. Municipalities 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 160A, Article 8 Delegation and Exercise of the General Police Power to Cities and Towns].

Building Codes and Building Inspection

Municipalities can 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, municipalities may adopt codes for their respective jurisdictions if approved by the State as providing “adequate 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 municipalities to carry out building inspections. NCGS Chapter 160A, Article 19, Part 5 empower municipalities 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

Through various land use regulatory powers, granted by the State, municipalities can 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, stormwater and watershed ordinances.

Zoning

Zoning is the most basic tool available to control the use of land. The North Carolina General Statutes 160A-381 give broad enabling authority for 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 “uses” 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.

Municipal governments 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 160A-382]. Districts may include general use districts; overlay districts, and special use districts or conditional use districts. Zoning ordinances consist of maps and written text.

Comprehensive or Master Planning

Within 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].

NCGS 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 Regulation

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 160A-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 filling or other measures, and they prohibit filling of floodway areas. Subdivision regulations require that subdivision plan be approved prior to the division of land. Subdivision regulation is limited in its ability to directly affect the type of use made of land or minimum specifications for structures.

Floodplain Regulation

The North Carolina legislature passed the “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, municipalities 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. The statute established minimum standards for local ordinances and provides for variances for prohibited uses such as:

(a) A flood hazard prevention ordinance adopted by a city pursuant to this part shall, at a minimum:

1. Meet the requirements for participation in the National Flood Insurance Program and of this section.
2. Prohibit new solid waste disposal facilities, hazardous waste management facilities, salvage yards, and chemical storage facilities in the 100-year floodplain except as noted in section (b) below.
3. Provide that a structure or tank for chemical or fuel storage incidental to a use that is allowed under this section or to the operation of a water treatment facility may be located in a 100-year floodplain only if the structure or tank is either elevated above base flood elevation or designed to be watertight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.

(b) A flood hazard prevention ordinance may include a procedure for granting variances for uses prohibited under G.S. 143-215.54.

(c) A municipality shall notify the Secretary of Crime Control and Public Safety of its intention to grant a variance at least 30 days prior to granting the variance. A variance may be granted upon finding that all of the following apply:

1. The use serves a critical need in the community.
2. No feasible location exists for the location of the use outside the 100-year floodplain.
3. The lowest floor of any structure is elevated above the base flood elevation or is designed to be watertight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.
4. The use complies with all other applicable laws and regulations.

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

Municipalities 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 municipalities to acquire property for public purpose by gift, grant, devise, bequest, exchange, purchase, lease or eminent domain [NCGS Chapter 160A Article 11].

Taxation

The power to levy taxes and special assessments has been delegated to municipalities by the North Carolina legislature [NCGS 160A Article 9]. This power allows municipalities to set preferential tax rates for areas unsuitable for development, such as wetlands, thereby discouraging development in hazardous areas. Local governments 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

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 municipal services over a specified period of time. Committing to a timetable for the extension of facilities and services, municipalities can effectively steer future growth and development and mitigate the impacts of natural hazards. The Town of Hope Mills does prepare an annual budget, which includes a Capital Improvement Plan.

Fiscal Capability

The North Carolina General Assembly has empowered municipalities to make expenditures in the public interest [NCGS 160A 475]. 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. Hope Mills does not have available funds to support special projects such as hazard mitigation activities. Hope Mills looks to the following sources for hazard mitigation funding:

Government Funding

Federal and State funds are available to local governments for the development and implementation of hazard mitigation plans. These sources are listed below.

Federal Funding

Hazard Mitigation Grant Program (HMGP) - This program 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.

Pre Disaster Mitigation Program Grants (PDM) - Pre Disaster Mitigation Program 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.

Flood Mitigation Assistance Programs - This program (FMAP) 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.

National Flood Insurance Program - Participation in this risk-sharing program requires jurisdictions to adopt and enforce floodplain management ordinances designed to reduce future losses.

Buy-Out Programs - Funding is available to buy back floodplains, relocate residents, and demolish structures in order to eliminate or reduce payouts for recurring flood damage.

Earthquake Hazard Reduction Grants - These funds are available to States having a moderate or high risk of seismic activity.

Community Development Block Grants - The Community Development Block Grant (CDBG) 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.

Small Business Administration (SBA) Pre-Disaster Mitigation Loan Program - The purpose of this program 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.

Ability to Pay - The North Carolina Department of Commerce 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 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 based on (1) population growth, (2) unemployment rate, and (3) 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 4 County.

Non-Government Funding

Another potential source of revenue for local mitigation efforts are the contribution of non-governmental organizations, 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

The Town of Hope Mills has limited resources for technical staff. The Town relies on the following technical sources:

State and Federal Technical Assistance

Agencies such as the Federal Emergency Management Agency (FEMA) and the North Carolina Division of Emergency Management (NCDÉM) 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 a CTS, the State will assume primary ownership and responsibility for Flood Insurance Rate Maps (FIRM) for all North Carolina communities. This project will include conducting flood hazard analysis and producing updated digital FIRM maps.

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. Additionally, the updated flood hazard data will provide 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 graphic 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 100-year floodplain 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 assists in planning for the mitigation of future disasters.

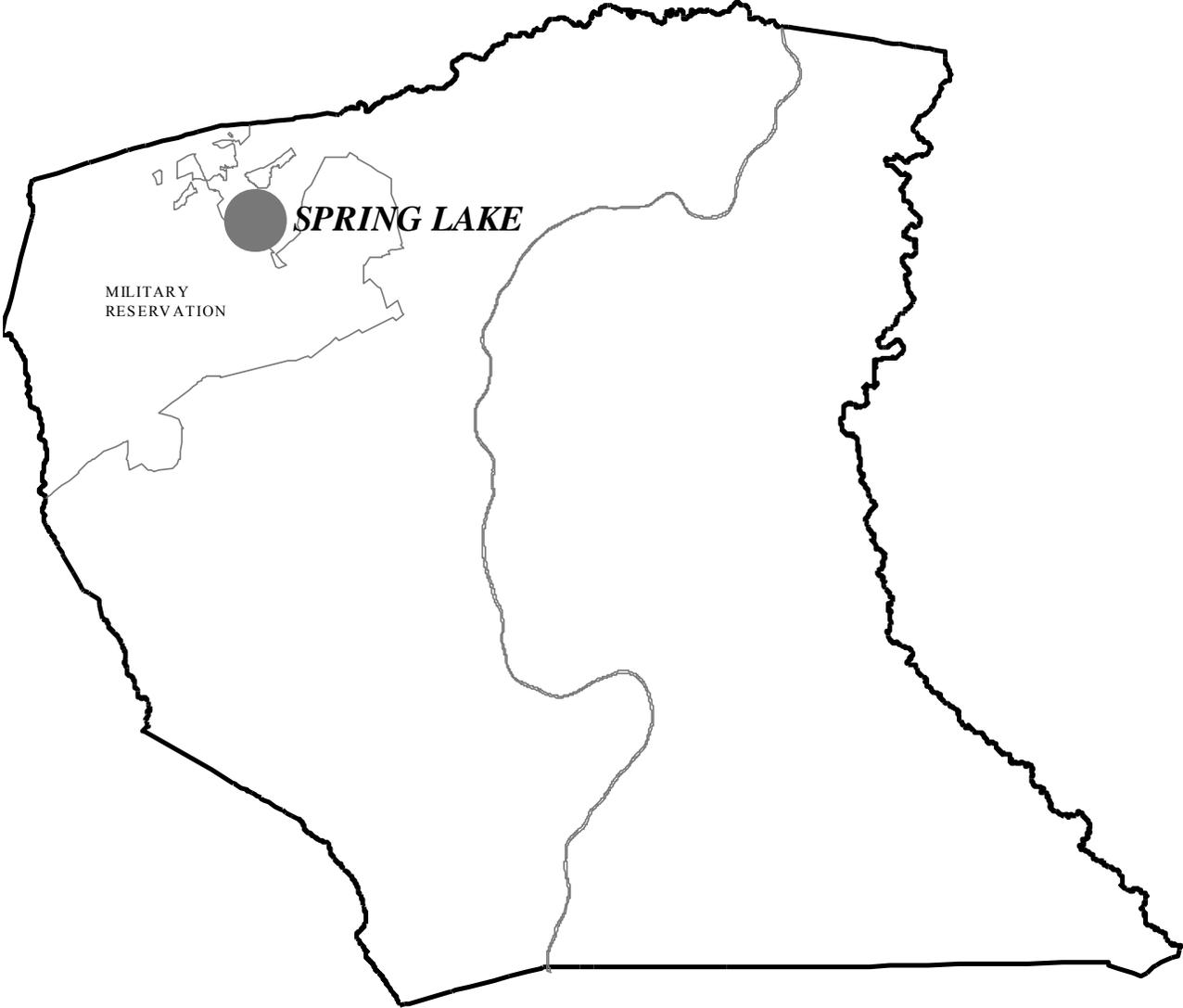
As previously mentioned in the Unincorporated Area Hazard Mitigation Plan Section entitled Local Departments, Agencies and Organizations, Hope Mills has access to a responsive and highly trained staff who are capable of implementing mitigation strategies, as well as educating the public about potential hazards and the process necessary to mitigate these hazards.

Political Capability

The Hope Mills Town Board of Commissioners is knowledgeable of the potential hazards faced by the Town, as well as past history of hazard events and recovery efforts. Additionally, the Cumberland County Joint Planning Board is aware of the importance of hazard mitigation planning and is serving as a coordinating agency for hazard mitigation throughout Cumberland County. These factors coupled with the knowledge, understanding, and commitment; the political climate is favorable for supporting hazard mitigation strategies.

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TOWN OF SPRING LAKE HAZARD MITIGATION PLAN



SPRING LAKE HAZARD MITIGATION PLAN

COMMUNITY PROFILE

The Town of Spring Lake, incorporated in 1951, is located in the northwestern portion of the County along the Little River and is bordered on the east, south, and west by the Military Reservation (Fort Bragg and Pope Air force Base). Consisting of approximately 23 square miles, the Town has an estimated 2009 population of 13,175 persons according to the North Carolina Office of Management and Budget. A portion of Fort Bragg Reservation and all of Pope Air Force Base are now a part of the Town of Spring Lake. This portion of the reservation and base is included in the square miles and population data only. Physically, the Town is situated in rolling terrain and is split into three sectors by N.C. Highway 87 and N.C. Highway 210. The Town is the fourth largest business area in the County (behind Downtown Fayetteville and Cross Creek Mall Area, and Hope Mills). Government and private industry are additional sources of employment. Additionally, the Military Reservation contributes significantly to Spring Lake's economic base. It has a Manger/Council form of government consisting of a mayor and five Aldermen. The Town Manager is the chief administrative officer charged with carrying out the policies of the Board. The Town's governmental structure contains 15 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 Spring Lake: 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. Spring Lake has experienced eight hurricanes, three powerful thunderstorms, six hailstorms, one drought, 15 winter storms, and one extreme heat event between January 1950 and June 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 Spring Lake will experience hurricanes, tornadoes, droughts, and severe winter storms. Flooding, wildfires, and earthquakes are possible. Tornadoes, flooding, flash floods, wildfires, and earthquakes have not been document within the Town. Detailed information on each hazard type and their profile are contained in Appendix A - Hazard Profile.

MITIGATION STRATEGIES

For purposes of this Mitigation Plan, the Town of Spring Lake 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 Town of Spring Lake.

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.

- 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: Review And Make Necessary Changes To Town Policies And Procedures Relevant To Hazard Mitigation.

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms, Winter Storms, Wildfires, Drought, Extreme Heat and Earthquakes)
Goals Addressed	1; 2
Document Reference, if applicable	All of the Spring Lake Policies, and Procedures
New, Continuation, Amendment	Deferred
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Reviewing existing policies and procedures relevant to hazard mitigation will provide a basis for amending these tools to be more effective in mitigating hazards, as well as providing an opportunity to propose additional policies and procedures needed to mitigate hazards.
Reduce Overall Vulnerability	Preventive measures will reduce the overall vulnerability.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Short-term and amended as needed
Person(s) or Department Responsible	Planning Department
Benchmark and Indicator Of Progress	At this time there have been no necessary changes needed to Town's Policies and Procedures relevant to Hazard Mitigation. The Town does have a policy in place regarding water usage during a drought.

ACTION 2: Review And Make Necessary Changes To The Town Zoning Ordinance Pertaining To Hazards And Hazard Mitigation Issues.

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Spring Lake Zoning Ordinance
New, Continuation, Amendment	Continuation
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Adoption of a Conservation District that would new restrict development within the 100-year flood elevation.
Reduce Overall Vulnerability	Reduce the vulnerability by restricting high impact uses within the CD boundaries.

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	Planning Department
Benchmark and Indicator Of Progress	Currently the Town of Spring Lake Zoning Ordinance is being rewritten to include the original ordinance and all amendments that have been adopted by the Town Board. The existing ordinance includes an amendment that created a Conservancy District (CD), but has not been applied to the Town's zoning map (Special Flood Hazard Area). CD zoning district is applied to the map only on a case by case bases or as opportunity presents itself.

ACTION 3: *Recommend Adoption of A Town Landscape Ordinance.*

Hazard Targeted	Flood; Extreme Heat
Goals Addressed	1; 2
Document Reference, if applicable	Town of Spring Lake Zoning Ordinance
New, Continuation, Amendment	Completed on October 24, 2005
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Provide more pervious area for natural drainage and provide reduction in extreme heat.
Reduce Overall Vulnerability	Adoption of a Landscape Ordinance will reduce the vulnerability to localized flooding and extreme heat.

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	Planning Department
Benchmark and Indicator Of Progress	The Town of Spring Lake adopted landscape requirements on October 24, 2005 for multi-family, manufactured home parks, and non-residential uses.

ACTION 4: Review and Make Necessary Changes to the Town Subdivision Ordinance. Recommend Requiring Additional Evacuation Routes from Subdivisions Prone To Hazards

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms and Wildfires)
Goals Addressed	1; 2
Document Reference, if applicable	Town of Spring Lake Subdivision Ordinance
New, Continuation, Amendment	Completed
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Will provide additional access for residents, public safety officials and emergency services to those developments located near a special hazard prone area.
Reduce Overall Vulnerability	Will allow access to and from prone areas, thus reducing the possibility of a life-threatening situation for residents, public safety officials and emergency services.

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	Planning Department
Benchmark and Indicator Of Progress	The Spring Lake Subdivision Ordinance requires an additional access for group developments. For subdivisions the Town Board adopted Appendix D of Fire Provisions of the NC Building Code that requires additional access for subdivisions based on the number of residential lots.

ACTION 5: Consider And Adopt A New Regulation In The Subdivision Ordinance Requiring Underground Utilities In New Developments, Excluding High Voltage Electrical Transmission Lines.

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms and Winter Storms)
Goals Addressed	1; 2
Document Reference, if applicable	Town of Spring Lake Subdivision Ordinance
New, Continuation, Amendment	Completed
Priority	High
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	Planning Department
Benchmark and Indicator Of Progress	Town of Spring Lake subdivision ordinance requires that -All developments have utilities placed underground where practical, except high voltage electrical lines."

ACTION 6: Review And Make Necessary Changes To The Town Stormwater Utility Ordinance. Enhance And Expand, The Cleaning And Improvements To Existing Streams And Drainageways.

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Town of Spring Lake Stormwater Utility Ordinance
New, Continuation, Amendment	Continuation
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Provide a mechanism to ensure the proper function of streams and drainageways, especially during a flood event.
Reduce Overall Vulnerability	Reduce the overall urban impact upon flood prone areas.

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	Planning and Water & Wastewater Resources Departments
Benchmark and Indicator Of Progress	The Town of Spring Lake revised its Stormwater Utility Ordinance (Phase I) to included Phase II Stormwater requirements. The Town inspects and cleans outfalls, culverts and open ditches within its town limits. The Town is currently proposing in its 2011-2012 Capital Improvements Plan to enclose and tile about 1,700 feet of open ditches.

ACTION 7: *Continue To Enforce The Flood Damage Prevention Ordinance And Periodically Review And Seek Out Improvements To This Ordinance As Needed To Meet The Town Goals.*

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Town of Spring Lake Flood Damage Prevention Ordinance
New, Continuation, Amendment	Continuation
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Prevention and restriction of development within flood prone areas.
Reduce Overall Vulnerability	Reduce vulnerability within flood prone areas.

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	Planning and Inspections Departments
Benchmark and Indicator Of Progress	Town of Spring Lake adopted a revised Flood Damage Prevention Ordinance and new FIRM maps on January 8, 2007 for the Town. The revised ordinance reduces the lowest floor elevation from 4 feet to 2 feet above base flood elevation.

ACTION 8: Review The Current Developments And Land Uses Within Spring Lake To Identify Potential Hazard Areas. Develop Accurate Maps Using New Flood Information From The State.

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Mapping and Land use
New, Continuation, Amendment	Continuation
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	By knowing the location and type of development, steps can be taken to reduce the impact of the hazard, as well as prevent the location of future development within a hazard prone area.
Reduce Overall Vulnerability	Accurate maps are critical to the implementation of various ordinances, plans, policies and programs. Additionally, this data will be available for future updates to the Hazard Mitigation Plan.

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	Planning, Inspections, and Water and Wastewater Resources Departments
Benchmark and Indicator Of Progress	With the new digital FIRM's adopted by the Town on January 8, 2007 a more accurate determination of flood prone areas are available. Currently the locations of the other hazard have not been mapped at this time due to personnel and resources.

ACTION 9: *Distribute Educational Materials Through Newsletters And Conduct Public Meetings In Conjunction With Other Agencies Such As The Public Media To Improve The Community Awareness Of Hazards And Hazard Mitigation*

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms, Winter Storms, Wildfires, Drought, Extreme Heat and Earthquakes)
Goals Addressed	1, 2 and 3
Document Reference, if applicable	Not applicable
New, Continuation, Amendment	Continuation
Priority	High
Funding	Needed

How the Action Will:

Mitigate the Hazard	Help educate citizens about the natural hazards and their effects, warning signs and what action to take to ensure their safety in the event of a natural hazard.
Reduce Overall Vulnerability	Minimize losses through the development of educational and outreach programs to inform the general public of the various hazards likely within the Town of Spring Lake's region.

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	Planning Department
Benchmark and Indicator Of Progress	Currently this action is being accomplished through all types of media (newspaper, radio, television, etc.). Also, educational materials are available through local, state, federal and media websites.

ACTION 10: *Develop A Multilingual Awareness Program About Hazards And Hazard Mitigation Within The Town Of Spring Lake's Region.*

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms, Winter Storms, Wildfires, Drought, Extreme Heat and Earthquakes)
Goals Addressed	1, 2, and 3
Document Reference, if applicable	Not applicable
New, Continuation, Amendment	Continuation
Priority	High
Funding	As Needed

How the Action Will:

Mitigate the Hazard	Help educate those individuals that are multilingual about the types of natural hazards and their effects, warning signs and what action to take to ensure their safety in the event of a natural hazard. Additionally, provide assistance to public safety officials to remove vulnerable populations from a life-threatening situation.
Reduce Overall Vulnerability	Minimize losses through the development of educational and outreach programs

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	Planning Department
Benchmark and Indicator Of Progress	Currently multilingual information concerning awareness about hazards is available through local, state and federal websites. Cumberland County Emergency Services website offers a link to multilingual information on the different hazards and preparation for those hazards. It is recommended that a link to this website be available on the Town of Spring Lake website for those residents of the Town.

IMPLEMENTATION

Plan implementation will start from the time that it is adopted. Each Town Department will be responsible for pursuing the development of policies, programs, ordinances, amendments, and regulations as they are assigned by the actions listed above. Planning staff will prepare these planning documents, ensuring that the goals, objectives and strategies of these documents will be consistent with the Hazard Mitigation Plan and would not increase the hazard vulnerability or decrease hazard capability of Spring Lake. The Cumberland County Joint Planning Board (also serving on the Cumberland County Hazard Mitigation Steering Committee) would receive all planning documents for review and approval. Their comments are forwarded to the Spring Lake Board of Aldermen for review and adoption. The public will have an opportunity to provide input at public hearings before these entities. It will be the responsibility of the Town Manager to ensure that these actions are carried out within the allocated time frame.

MONITORING, EVALUATING, AND REPORTING PROGRESS

Periodic monitoring and reporting of the Spring Lake Hazard Mitigation is required to ensure that the goals and objectives for the Town of Spring Lake are kept current and that local mitigation efforts are being carried out. The monitoring and reporting is to supplement the Plan within a five-year cycle. The Cumberland County Emergency Management Department will act as the contact and clearing house for relevant information.

The Plan shall be reviewed annually, unless a situation occurs making it necessary to review sooner (e.g. natural disasters, new FEMA maps—see Revisions and Updates). Spring Lake's Town Manager shall request that the Cumberland County Planning Staff complete this annual review. The review will be coordinated with The Cumberland County Emergency Management Department. The report will be sent to the Cumberland County Joint Planning Board for review and a recommendation forwarded to the Spring Lake Board of Aldermen. The public will be given the opportunity to provide input at public hearings before the Cumberland County Joint Planning Board and the Spring Lake Board of Aldermen.

The annual report will include the following:

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

The following questions will be helpful to Spring Lake in assessing their Hazard Mitigation Plan: (1) Do the goals and objectives address current and expected conditions; (2) Has the nature or magnitude of risks changed; (3) Are the current resources appropriate for implementing the Plan; (4) Are there implementation problems, such as technical, political, legal or coordination issues with other agencies/departments; (5) Have the outcomes occurred as expected; and (6) Did the agencies/departments and other partners participate in the Plan and planning process as proposed.

REVISIONS AND UPDATES

As updates occur, the date, reason and responsible party should be noted. Updates or revisions, which affect the Plan as a whole and impact any other jurisdiction(s), will require a presentation of findings and recommendation submitted to the jurisdiction(s) governing body for adoption.

At the end of every five-year cycle, the hazard mitigation taskforce will submit the hazard profile, vulnerability assessment and local capability assessment 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 then be forwarded to the Spring Lake Board of Alderman for review and adoption. The public will be given the opportunity to provide input at public hearings before the Cumberland County Joint Planning Board and the Spring Lake Board of Aldermen. Copies of any revision, amendment or update to the Plan must be filed with the Spring Lake Town Clerk and Cumberland County Emergency Services Department as an update to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update and will be available to the public for review.

Resolution

WHEREAS, the Town of Spring Lake desires to remain eligible for the State and Federal disaster relief funds in the event of a declared disaster in the Town; and

WHEREAS, the Spring Lake Board of Aldermen recognizes the value of having a Plan in place for identifying, prioritizing, and mitigating potential and real hazards that could affect the Town of Spring Lake; and

WHEREAS, the Cumberland County Joint Planning Board Staff have prepared a Spring Lake Hazard Mitigation Plan as part of 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 Spring Lake Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

NOW, THEREFORE, BE IT RESOLVED by the Spring Lake Board of Aldermen that it adopts the Spring Lake Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

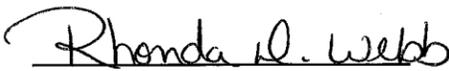
BE IT FURTHER RESOLVED that the Board of Aldermen resolve to annually review the Plan and make revisions to all sections regarding the Town in the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update when new data and information becomes available, as mitigation measures are achieved, and as mitigation strategies evolve; and

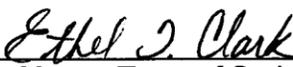
FURTHER, that the Town of Spring Lake may update and revise the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update as it relates to Spring Lake but does not affect any other jurisdiction. If any revision, update or amendment involves another jurisdiction, the updates and revisions must be approved by the governing body of the affected jurisdiction. Copies of any revision, amendment or update to the Plan by the Town of Spring Lake must be kept on file with their Clerk and 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 Spring Lake Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update, do not require additional action by the Spring Lake Board of Aldermen.

Adopted 12th day of September, 2011

Attest:


Town Clerk, Spring Lake


Mayor, Town of Spring Lake

VULNERABILITY ASSESSMENT

The assessment of the vulnerability of the population and facilities in the Spring Lake Hazard Mitigation Plan considered the type and location of development, the infrastructure, and public buildings. The entire Town has experienced some of the same hazards as the overall County : hurricanes, drought, hailstorms, thunderstorms, severe winter storms and extreme heat (see Identifying and Profiling Hazards and the Vulnerability Assessment for the overall County).The types of hazards and the areas they impact, relative to the Town of Spring Lake, are delineated in **Table A1 - Hazard Identification and Analysis** and **Table A2 - Summary of Hazard Vulnerability by Jurisdiction** located in Appendix A - Hazard Profile. The Technical Committee knew the Vulnerability Assessment required an extensive update due to annexations, incorporation of Town of Eastover, new construction, adoption of the new FIRM's and the 2010 re-evaluation of property and buildings.

Current Conditions

Information compiled for the Town of Spring Lake through GIS, tax records, existing studies, zoning and subdivision regulations, past records, and data from other Federal, State and local agencies shows vulnerable facilities and special populations. Current conditions of this development and facilities are shown in **Table 21 - Spring Lake Private Buildings Vulnerability Assessment**. Private development in the Town comprises 1,839 single-family dwellings valued at \$343,393,522 accommodating 4,847 persons; 258 multi-family buildings valued at \$245,845,528 accommodating 5,933 persons; 247 commercial structures valued at \$214,056,120 impacting 6,837 persons; industrial development consists of one structure valued at \$56,571; and 39 structures classified as other, valued at \$36,613,196 and impacting 150 persons. A summary of the private buildings subject to natural hazards in Spring Lake reveal that there are 2,374 structures with an approximate value of \$839,964,937 impacting 17,767 persons.

The critical facilities identified are listed in Appendix B – Critical Facilities Ranking. Critical facilities in the Town include infrastructure (such as streets, bridges, water and sewer lines, dams, etc.), a fire station, water tower, and government office as shown on **Map 18 - Spring Lake Critical Facilities Location**. The infrastructure data collected, as shown in **Table 22 - Spring Lake Public Buildings and Critical Facilities Data** reveals three sewage treatment plants valued at \$5,500,000 impacting 9 persons; one water tower valued at \$2,200,000; 10 schools valued at \$52,161,744 impacting 2,950 persons; nine government offices valued at \$17,199,092 impacting 180 persons; one emergency shelter valued at \$15,455,374 impacting 450 persons; approximately 341,460 linear feet of streets valued at \$64,535,940; 161,541 feet of water lines valued at \$14,538,690; 175,738 feet of sewer lines valued at \$26,360,700; five bridges with an estimated replacement cost of \$15,000,000; and five dams valued at \$6,800,000 within the Town of Spring Lake. In total, there are a total of 24 public and private buildings valued at \$92,516,210 and critical infrastructure facilities valed at \$127,235,330 impacting 3,589 persons subject to a natural hazard in Spring Lake. Detailed information regarding the ranking of critical facilities relevant to Spring Lake is provided in Appendix B.

Spring Lake has approximately 964 acres of land in the designated Special Flood Hazard Area. Data and a map showing the vulnerable facilities and structures are in **Table 23 - Spring Lake Private Buildings Flood Vulnerability Assessment**, **Table 24 - Spring Lake Public Buildings and Critical Facilities Flood Vulnerability Data**, and in **Map 19 - Spring Lake Facilities and Structures within the Special Flood Hazard Areas**. The Town participates in the National Flood Insurance Program. Presently, there are 39 private homes valued at \$4,836,877 impacting 103 persons; 54 multi-family structure valued at \$117,599,970 impacting 2,510 persons; four commercial structures valued at \$1,405,861 impacting 19 persons; and five other structures valued at \$125,038,142 impacting three persons. In total the number of private building in the Special Flood Hazard Area in Spring Lake consist of 102 buildings valued at \$125,038,142 impacting 2,635 persons.

Public buildings and critical facilities in Special Flood Hazard Areas include three sewage treatment facility valued at \$5,500,000 affecting nine persons; one government office valued at \$123,180; 6,514 linear feet of sewer lines valued at \$977,100; 1,219 linear feet of streets valued at \$230,391; 1,356 feet of water lines valued at \$122,040; four bridges valued at \$12,000,000; and four dams valued at \$6,600,000. There are a total of four buildings valued at \$5,623,180 and infrastructure valued at \$19,929,531 impacting nine persons of buildings and critical facilities within Special Flood Hazard Areas in Spring Lake

In summary, the data shows the number of private and public buildings and critical facilities in the Special Flood Hazard Area in Spring Lake are nine buildings and critical facilities valued at \$150,593,853 impacting 2,644 persons. Some buildings are included in the Flood Vulnerability Assessment, if the parcel of land the building is on intersects the Flood Area, even though these buildings are not within the Special Flood Hazard Area. The Town of Spring Lake has not had any repetitive loss structures.

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 75 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. This population data was obtained from the profile of General Demographic Characteristics of Spring Lake in the 2000 Census. 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 document with the new data.

Current Census data shows that the Town of Spring Lake has 98 persons over 75 years old and no institutionalized persons. Additionally, there are 1,344 persons with disabilities, 537 individuals with a language barrier, and 490 families are listed as below the poverty level. There are 386 households in the Town without a vehicle and 176 without telephone access. Approximately 766 mobile homes and 1,996 rental units are listed in the Town.

Development Trends and Projections

Development trends that may impact hazard mitigation include the direction of growth, current zoning and future land use. Spring Lake is bordered on the west, south, and north by the Military Reservation. It's only growth directions are to the northeast along the Lillington Highway (N.C. 210) and into Harnett County along N.C. Highway 87. The most recent development has been in this area with the exception of some infill development along Bragg Boulevard. Activities in the Town that may impact future development includes the Town's upgrading its dated water and sewer system; making improvement to its sewer treatment plant; tying into the Harnett County Water System, as an alternative source for water; the plans to extend sewer service into the Lillington Highway Corridor; an active Downtown Development Group; the anticipation of the relocation of through traffic off Bragg Boulevard through the Military Reservation onto Murchison Road and its widening to six lanes; BRAC which is relocating over 40,000 troops and their families, support personnel, civilian employees into the Region; and very renewed interest in Town beautification and minimum housing enforcement activities. These activities will enhance the attractiveness for development.

Spring Lake is a zoned community. The zoning districts include suburban density residential (two or less units per acre), low-density residential (greater than two units but less than six unit per acre), medium density residential (greater than six but less than 15 units per acre) and high density residential (greater

than 15 units per acre.), office and institutional, commercial, and manufacturing districts. As shown on **Map 20 - Spring Lake Zoning Map**. Statistics shows that approximately 1,929 acres are zoned residential. This residential zoning encompasses approximately 239 acres of suburban density residential (RR), 759 acres low density residential (PND, R10, R7.5 and R15), 902 acres of medium density residential (R6, R6A, and R5A), and 29 acres high density (R5). Non-residential zoning districts include 54 acres of office and institutional zoning (O&I), 467 acres of commercial zoning (CP, C3, C1, and CB), and 100 acres of manufacturing (M1, M1P and M2).

The proposed land use for Spring Lake is shown on **Map 21 - Spring Lake Land Use Plan Map**. This map indicates the community's vision for the future use of land. According to the Plan approximately 581 acres are designated as open space, recreation and environmental corridor, 681 acres for low density residential, 556 acres as medium density residential, 106 acres as high density residential, 81 acres of office & institutional, 62 acres of governmental, 300 acres of industrial, 414 acres of commercial, and 85 acres of downtown.

Projections for private buildings in Spring Lake in 2025 shows that there will be 2,219 single family dwellings, valued at \$416,561,935 impacting 5,880 persons; 313 multi-family units valued at \$298,228,948 impacting 7,197 persons; 300 commercial buildings valued at \$259,666,027 impacting 8,294 persons; one industrial structures valued at \$68,625; and 39 other structures valued at \$44,414,535 impacting 182 persons. In total, the number of private buildings in Spring Lake subject to a natural hazard in 2025 is projected to be 2,880 buildings with an estimated value of \$1,018,940,070 impacting 21,553 persons (See Appendix C-Methodology for projection method)

The number of projected number of private buildings in the Special Flood Hazard Areas in 2025 is 47 single family dwellings valued at \$5,867,492 impacting 125 persons; 66 multi-family structures valed at \$142,657,528 impacting 3,045 persons; five commercial buildings valued at \$1,705,414 impacting 23 persons; and six other structures valued at \$1,405,151 impacting four persons. In total, it is projected by 2025 there will be 124 private buildings valued at \$151,680,585 impacting 3,196 persons in designated Special Flood Hazard Areas.

The number of projected public buildings and critical facilities in Special Flood Hazard Areas include four sewage treatment facility valued at \$6,671,910 affecting 11 persons; one government office valued at \$153,066; 7,902 linear feet of sewer lines valued at \$1,185,295; 1,479 linear feet of streets valued at \$279,481; 1,645 feet of water lines valued at \$148,044; five bridges valued at \$14,556,894; and five dams valued at \$8,006,292. In 2025, it is projected to be a total of five buildings valued at \$6,824,976 and infrastructure valued at \$24,176,006 impacting 11 persons of buildings and critical facilities within Special Flood Hazard Areas in Spring Lake.

In summary, the projected number of private and public buildings and critical facilities in the Special Flood Hazard Area in Spring Lake in 2025 is 129 buildings and critical facilities valued at \$182,681,567 impacting 3,207 persons if no action is taken.

Table 21 - Spring Lake Private Buildings Vulnerability Assessment

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

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Private Buildings	* Current Value	Current Number of People	Projected Number of Private Buildings	Projected Value	Projected Number of People
Single-Family Residential	1,839	\$343,393,522	4,847	2,219	\$416,561,935	5,880
Multi-Family Residential	258	\$245,845,528	5,933	313	\$298,228,948	7,197
Commercial	247	\$214,056,120	6,837	300	\$259,666,027	8,294
Industrial	1	\$56,571	0	1	\$68,625	0
Other	39	\$36,613,196	150	47	\$44,414,535	182
Subtotal	2,374	\$839,964,937	17,767	2,880	\$1,018,940,070	21,553

* Values and building counts from County GIS - January 2010
The methodology used in preparing this data is described in Appendix C.

Table 22 - Spring Lake Public Buildings & Critical Facilities Vulnerability Assessment

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

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Public Buildings & Critical Facilities	* Current Value	Current Number of People	Projected Number of Public Buildings	Projected Value	Projected Number of People
Sewage Treatment Plants	3	\$5,500,000	9	4	\$6,671,910	11
Water Towers	1	\$2,200,000	0	1	\$2,668,764	22
Hospitals/Rest Homes	0	\$0	0	0	\$0	0
Schools	10	\$62,161,744	2,950	12	\$63,276,083	3,579
Infrastructure (roads, bridges, drainage, dams, and etc.)	Water Lines – 161,541' Sewer Lines 175,738' Streets – 341,460' Bridges - 5 Dams - 5	\$14,538,690 \$26,360,700 \$64,535,940 \$15,000,000 \$6,800,000	N/A	Water Lines – 195,961' Sewer Lines – 213,183' Roads – 414,216' Bridges - 6 Dams - 6	\$17,636,515 \$31,977,494 \$78,286,905 \$18,196,118 \$8,248,907	N/A
Police Stations	3	3	3	3	3	3
Fire Stations	3	3	3	3	3	3
Hazard Materials Facilities	0	\$0	0	0	\$0	0
Government offices	9	\$17,199,092	180	11	\$20,863,780	218
Emergency Shelters	1	\$15,455,374	450	1	\$18,748,521	546
Public Housing	0	\$0	0	0	\$0	0
Subtotal	Buildings - 24 Infrastructure	\$92,516,210 \$127,235,330	3,589	Buildings - 29 Infrastructure	\$112,229,058 \$154,345,938	4,354
TOTAL:	Buildings - 2,398 & Infrastructure	\$1,059,716,477	21,356	Buildings - 2,909 & Infrastructure	\$1,285,515,066	25,906

* Values and building counts from County GIS – January 2010
The methodology used in preparing this data is described in Appendix C.
3 Included in government offices

Table 23- Spring Lake Private Buildings Flood Vulnerability Assessment

Hazard Type(s): Flood

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Private Buildings	* Current Value	Current Number of People	Projected Number of Private Buildings	Projected Value	Projected Number of People
Single-Family Residential	39	\$4,836,877	103	47	\$5,867,492	125
Multi-Family Residential	54	\$117,599,970	2510	66	\$142,657,528	3,045
Commercial	4	\$1,405,861	19	5	\$1,705,414	23
Industrial	0	\$0	0	0	\$0	0
Other	5	\$1,195,434	3	6	\$1,405,151	4
Subtotal	102	\$125,038,142	2,635	124	\$151,680,585	3,196

* Values and building counts from County GIS - January 2010
The methodology used in preparing this data is described in Appendix C.

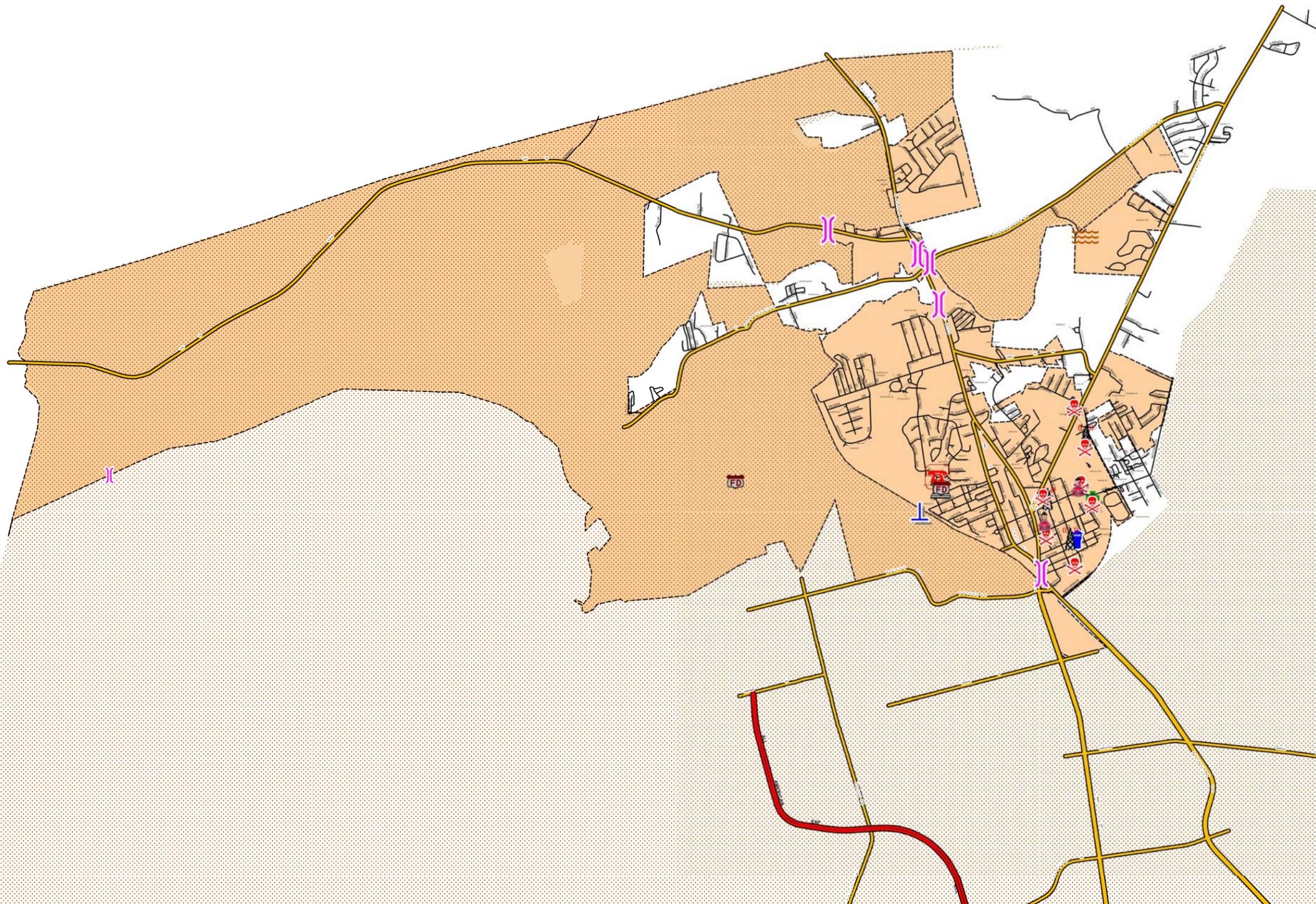
Table 24 - Spring Lake Public Buildings & Critical Facilities Flood Vulnerability Assessment

Hazard Type(s): Flood

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Public Buildings & Critical Facilities	* Current Value	Current Number of People	Projected Number of Public Buildings	Projected Value	Projected Number of People
Sewage Treatment Plants	3	\$5,500,000	9	4	\$6,671,910	11
Water Towers	0	\$0	0	0	\$0	0
Hospitals/Rest Homes	0	\$0	0	0	\$0	0
Schools	0	\$0	0	0	\$0	0
Infrastructure (roads, bridges, drainage, dams, etc.)	Water Line – 1,356' Sewer Lines – 6,514' Streets – 1,219' Bridges - 4 Dams - 4	\$122,040 \$977,100 \$230,391 \$12,000,000 \$6,600,000	N/A	Water Lines – 1,645' Sewer Lines – 7,902' Streets – 1,479' Bridges - 5 Dams - 5	\$148,044 \$1,185,295 \$279,481 \$14,556,894 \$8,006,292	N/A
Police Stations	0	\$0	0	0	\$0	0
Fire Stations	0	\$0	0	0	\$0	0
Hazard Materials Facilities	0	\$0	0	0	\$0	0
Government offices	1	\$123,180	0	1	\$153,066	0
Emergency Shelters	0	\$0	0	0	\$0	0
Public Housing	0	\$0	0	0	\$0	0
Subtotal	Buildings - 4 Infrastructure	\$5,623,180 \$19,929,531	9	Buildings - 5 Infrastructure	\$6,824,976 \$24,176,006	11
TOTAL:	Buildings - 9 & Infrastructure	\$150,593,853	2,644	Buildings - 129 & Infrastructure	\$182,681,567	3,207

* Values and building counts from County GIS - January 2010
The methodology used in preparing this data is described in Appendix C.

Town of Spring Lake Critical Facilities



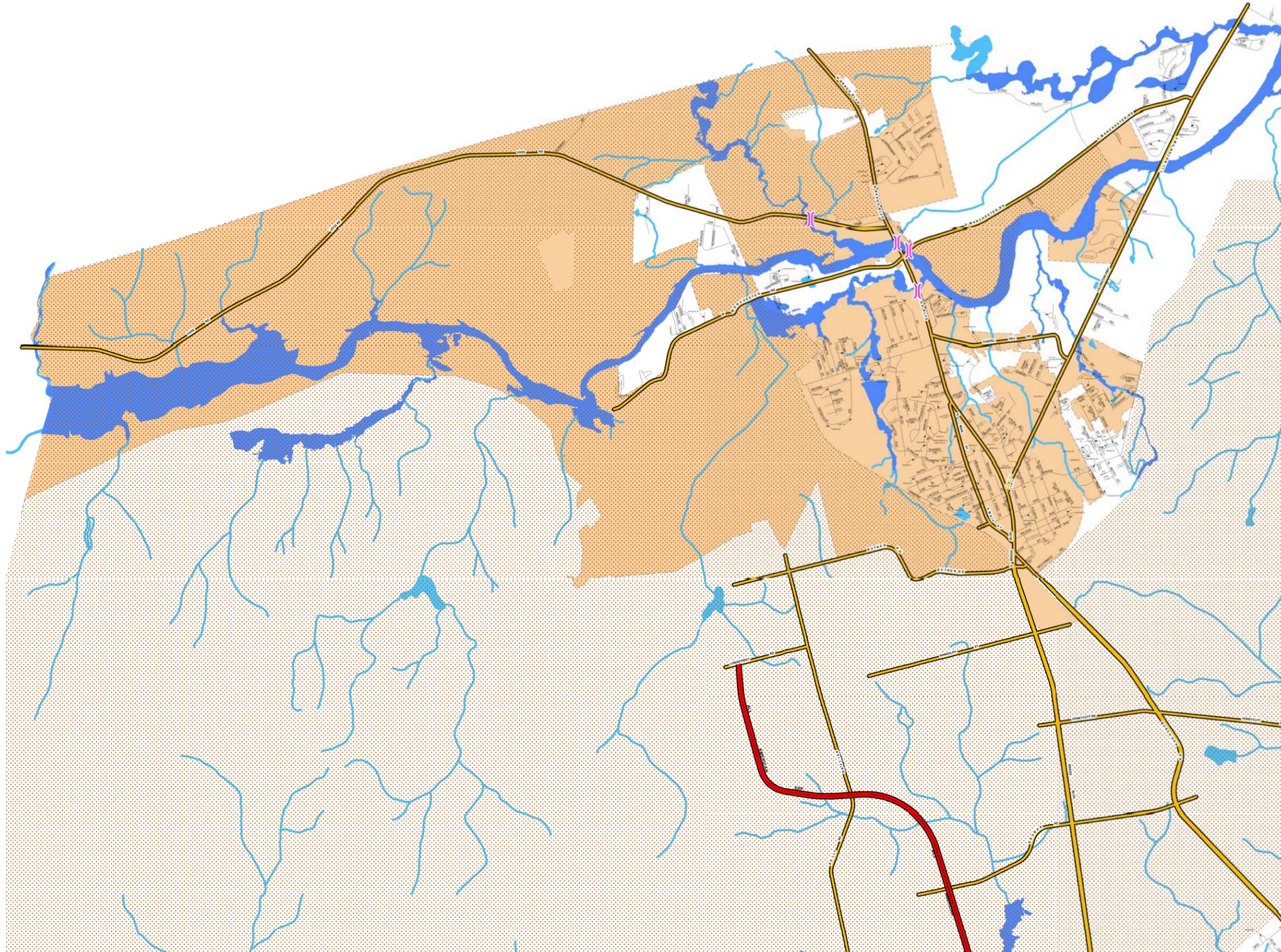
Legend

- Sewage Plant
- Hazardous Materials
- Communication Center
- Cell Tower
- Water Tower
- Bridge
- Emergency Shelter
- Fire Department
- Town Hall (Includes Police and Fire Station)
- Public School
- Municipal Boundary
- Streams-Rivers
- Lakes
- Dams



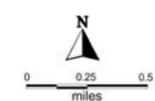
Town of Spring Lake Critical Facilities

Special Flood Hazard Area



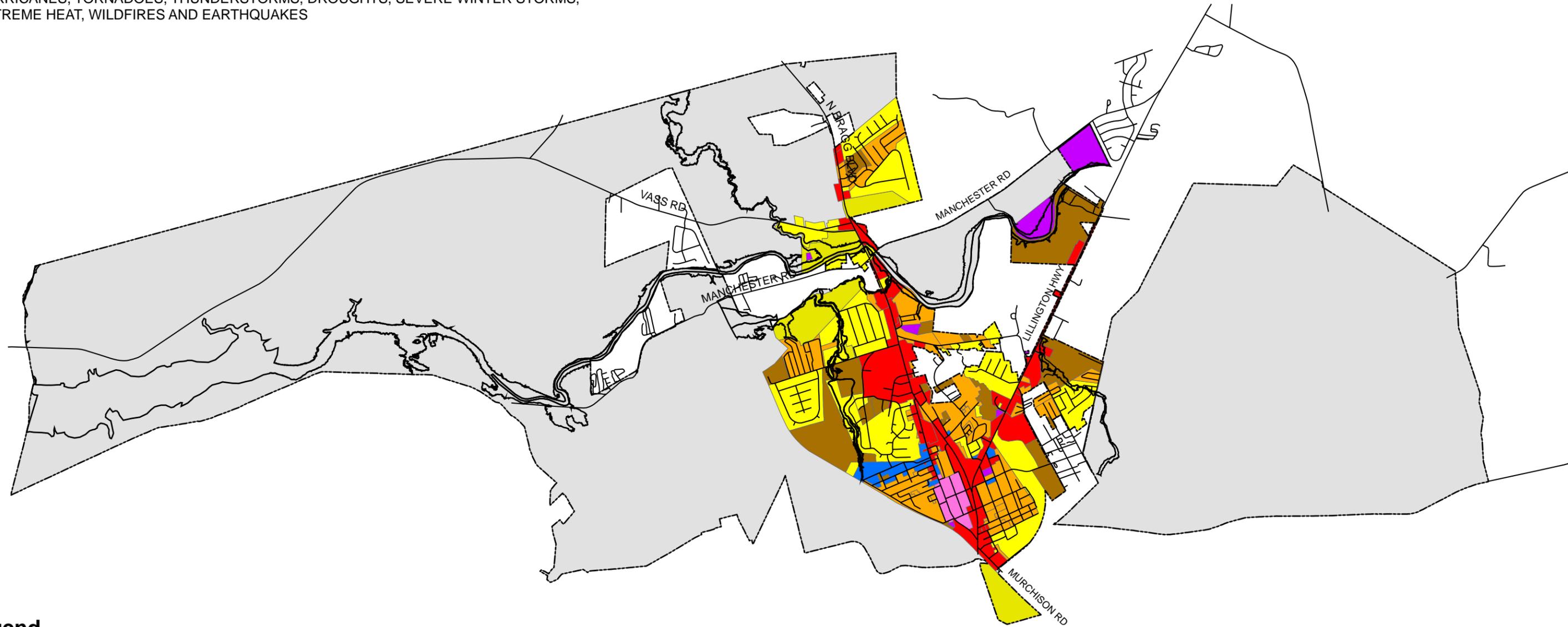
Legend

-  Sewage Plant
-  Bridge
-  Municipal Boundary
-  Streams-Rivers
-  Lakes
-  Special Flood Hazard Area



MAP 20
TOWN OF SPRING LAKE ZONING

NOTE: ALL OF THE TOWN OF SPRING LAKE IS DESIGNATED FOR THE FOLLOWING HAZARDS:
 HURRICANES, TORNADOES, THUNDERSTORMS, DROUGHTS, SEVERE WINTER STORMS,
 EXTREME HEAT, WILDFIRES AND EARTHQUAKES



Legend

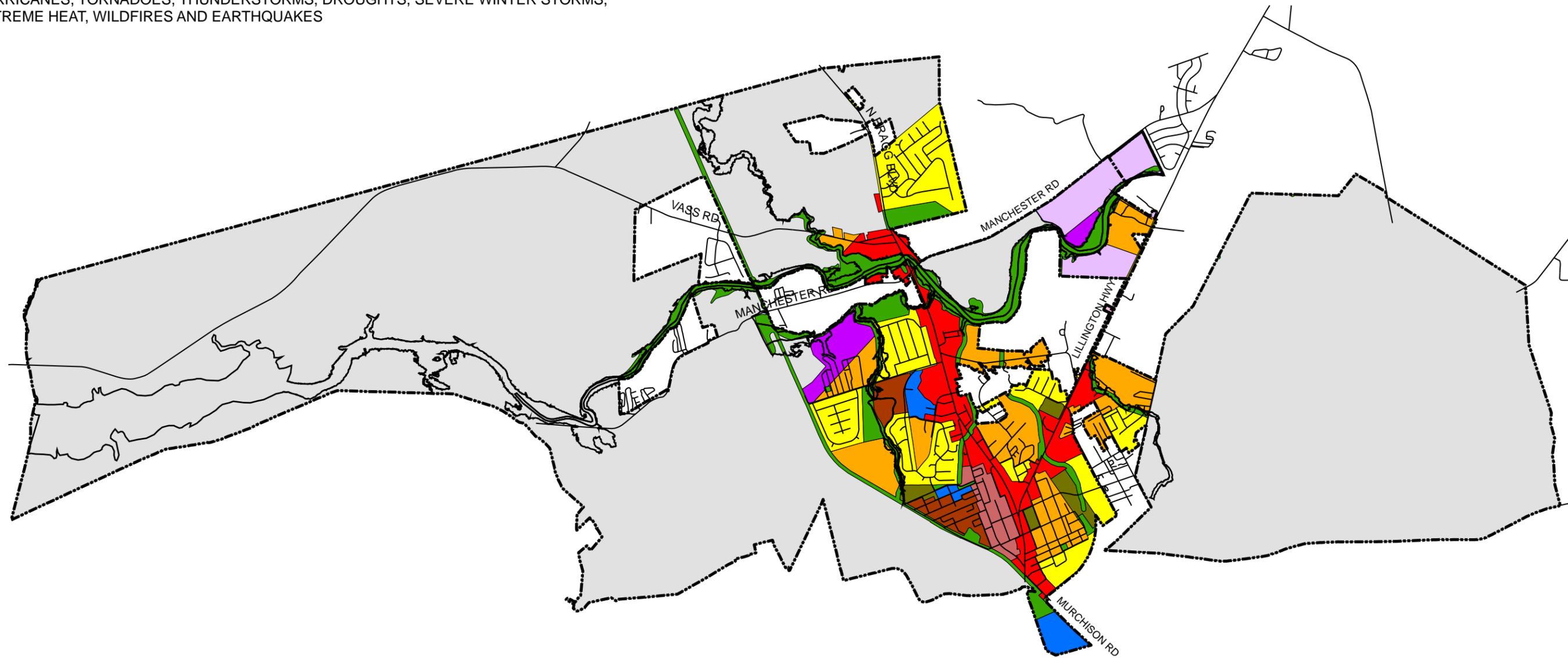
----- MUNICIPAL BOUNDARY	R6A - RESIDENTIAL DISTRICT	C1 - COMMERCIAL DISTRICT
SPECIAL FLOOD HAZARD AREA	R5 - RESIDENTIAL DISTRICT	CB - CENTRAL BUSINESS
RR - RURAL RESIDENTIAL	R5A - RESIDENTIAL DISTRICT	M(P) - PLANNED INDUSTRIAL
R15 - RESIDENTIAL DISTRICT	O&I - OFFICE & INSTITUTIONAL	M1(P) - PLANNED INDUSTRIAL
PND - RESIDENTIAL DISTRICT	C(P) - PLANNED COMMERCIAL	M2 - INDUSTRIAL DISTRICT
R10 - RESIDENTIAL DISTRICT	C2(P) - PLANNED COMMERCIAL	M1 - INDUSTRIAL DISTRICT
R7.5 - RESIDENTIAL DISTRICT	C1(P) - PLANNED COMMERCIAL	CD - CONSERVANCY DISTRICT
R6 - RESIDENTIAL DISTRICT	C3 - COMMERCIAL DISTRICT	MILITARY RESERVATION

●
 SCALE: NOT TO SCALE



MAP 21
TOWN OF SPRING LAKE LAND USE PLAN

NOTE: ALL OF THE TOWN OF SPRING LAKE IS DESIGNATED FOR THE FOLLOWING HAZARDS:
HURRICANES, TORNADOES, THUNDERSTORMS, DROUGHTS, SEVERE WINTER STORMS,
EXTREME HEAT, WILDFIRES AND EARTHQUAKES



Legend

- | | | |
|----------------------------|------------------------|------------------|
| ----- MUNICIPAL BOUNDARY | OFFICE & INSTITUTIONAL | HEAVY INDUSTRIAL |
| SPECIAL FLOOD HAZARD AREA | GOVERNMENTAL | LIGHT INDUSTRIAL |
| LOW DENSITY RESIDENTIAL | HEAVY COMMERCIAL | OPEN SPACE |
| MEDIUM DENSITY RESIDENTIAL | LIGHT COMMERCIAL | |
| HIGH DENSITY RESIDENTIAL | DOWNTOWN | |

●
SCALE: NOT TO SCALE



CAPABILITY ASSESSMENT

Local Departments, Agencies and Organizations

The Town of Spring Lake operates under the Manager/Council form of government, with a five-member Board of Aldermen and Mayor, all elected at-large. The Town Manager is hired by the Town Board and acts on the Board's behalf and is responsible for the administration and management of the Town services. The Town employs a Town Clerk and 105 employees. Following is a list of Town Departments and a brief synopsis of their scope.

Finance Department - The Finance Department is responsible for administering the Town's financial policies and procedures, maintaining the Town's financial condition, and consulting with the Town Manager and Department Heads on the administration of the Town's financial affairs. Responsibilities within this department consist of data processing, accounting, auditing, treasury, annual operating budgets, procurement, business license, computer network administration, and insurance and risk management services.

Fire Department - The primary mission of the Town of Spring Lake Fire Department is to provide the Town of Spring Lake with fire protection and emergency response services for the sick and injured. It also provides education to the public about public hazards, the dangers of fire, and assistance to improve the control of and elimination of these hazards. The Spring Lake Fire Department is dedicated to the safety, health and well being of the Spring Lake community.

Fleet Maintenance Department - The Fleet Maintenance Department provides the repair and preventive maintenance of the Town's vehicles and equipment, utilized by the Town's various departments in their daily missions to serve the citizens of Spring Lake.

Inspections Department - The Inspections Department provides inspections for the community, taking into account public safety, health, and general welfare, through administration and enforcement of the North Carolina State Building Codes and other related Town ordinances within the Town's jurisdiction.

Planning Department - The Town of Spring Lake is a member of Cumberland County Joint Planning Board and contracts its planning services to the Cumberland County planning & Inspections Department which is charged with the responsibility of administering the general planning ordinances, subdivision ordinances, zoning ordinances, and nuisance ordinances designed to protect the public health, safety and welfare, by maintaining quality growth within the Town.

Police Department - The Spring Lake Police Department mission is to provide a professional law enforcement agency that protects and safeguards lives and property, prevent crime and provide police service to every person within the Town of Spring Lake.

Recreation and Parks Department - It is the mission of the Spring Lake Recreation and Parks Department to provide the citizens within the Town of Spring Lake with an improved quality of life through successful implementation of planned leisure activities for children, adults, and senior adults. This department provides planning, construction and the daily operations and maintenance of the recreation facilities and parks.

Senior Enrichment Center - The Center's mission is to create an atmosphere that acknowledges the value of human life, individually and collectively, and affirms the dignity and self-worth of senior adults. This Department provides the daily operations of the senior facilities and activities.

Street Department - The mission of the Street Department is to provide street maintenance services; repairs include resurfacing, pothole repair and the repair of any asphalt cuts made by the Water Department in their maintenance of the water lines, cleaning and maintenance of the storm sewer system and the clearing of all rights-of-way in the Town.

Water & Wastewater Resources Department - The mission of the Water Wastewater Resources Department is to provide the Town of Spring Lake and its residents with maintenance and operation of the earthly services. Water services include the maintenance and operation of mains and laterals, which deliver safe and drinkable water that meets the standards of the Environmental Protection Agency (EPA) and the State of North Carolina. Wastewater services include the maintenance and operation of a collection system, treatment plant, the disposal of the treated effluent from the Plant, and the land applications of residuals removed during the treatment process, to meet the standards of the Environmental Protection Agency (EPA) and the State of North Carolina.

Stormwater Management Services - Provide planning and enforcement pertaining to stormwater issues within the Town.

Sanitation Department - This department provides pickup and disposal services for yard debris and the removal of bulk/brown goods and white goods placed at curbside by account holders in the Town.

The following services are contracted by other entities: electrical service is provided by Progress Energy (formerly CP&L), engineering services are contracted by individual projects, and container trash/garbage pickup services are provided by the Waste Management Company.

The following County Departments provide services to the Town residents: Cumberland County EMS and Fire Station #22 Spring Lake Volunteer Fire Department provide emergency services. Cumberland County Animal Control, Health, Mental Health, Social Services, provide public health and human services; Cumberland County Planning and Inspections provide planning services; and the County Tax Administration Department collects applicable taxes, fees and assessments for the Town. There are numerous State and Local Agencies and Organizations that provide services relevant to hazard mitigation for Spring Lake residents. A complete list was presented within the Cumberland County Capability Assessment above.

Policy and Program Capability

This section includes the identification and evaluation of existing ordinances, policies, and programs that are relevant to Spring Lake's vulnerability to natural hazards. This inventory consists of specific mitigation initiatives, their effectiveness and strategies to improve mitigation effectiveness. Most of the actions in the original Mitigation Plan that require ordinance revisions or policy changes have been completed and/or adopted. The Planning Staff is currently rewriting and updating the Spring Lake Zoning and Subdivision Ordinances. The original ordinances comply with many of the mitigation actions that the Town has already endorsed. Those actions that have not been completed are more developer resistance and cost prohibit. The Technical Committee will continue educating concerning mitigation and those actions with citizens, elected officials and development community. Additionally, this information is contained within **Table 25 - Spring Lake Inventory of Local Ordinances, Policies and Programs Relevant to Hazard Mitigation.**

Spring Lake Subdivision Ordinance - The Town of Spring Lake Subdivision Ordinance contains several sections that are relevant to hazard mitigation. These sections address specific design standards that mitigate hazards such as drainage, flooding and fire.

Spring Lake Zoning Ordinance - The Spring Lake Zoning Ordinance addresses hazard mitigation by providing standards for physical separation of structures and yard space.

Spring Lake Mobile Home Park Ordinance - This Ordinance prohibits the location of mobile home parks within floodplain areas and provides specific standards that address drainage, park design, and physical separation of the units.

Spring Lake Stormwater Utility Ordinance - The Spring Lake Stormwater Utility Ordinance provides specific regulations for stormwater management.

Cumberland County Water Supply Watershed Management and Protection Ordinance - The Water Supply Watershed Management and Protection Ordinance are designed to minimize the amount of stormwater runoff and to protect the public water quality within the Cape Fear River Watershed Area Class WS-IV and the Cross Creek Watershed Area Class WS-IV. In addition to portions of other parts of Cumberland County falling within the Watershed Areas, a portion of the Town of Spring Lake falls within the Watershed Area Class WS-IV. This Ordinance has been adopted by the Town.

Flood Damage Prevention Ordinance – Town of Spring Lake has developed and adopted a Flood Damage Prevention Ordinance designed to minimize the public and private losses due to flood conditions in specific areas and to protect the public health, safety and welfare. This ordinance establishes the requirements for elevation and flood proofing (non-residential) to base flood elevation and a development permit.

National Flood Insurance Program and Community Rating System - The National Flood Insurance Program (NFIP) provides flood insurance to individuals in local jurisdictions that are members of the program. Membership in the Program is based upon the adoption and enforcement of floodplain management and development regulations. Compliance of the NFIP for the Town of Spring Lake is the responsibility of the Spring Lake Inspections Department. They maintain the Spring Lake flood maps and Flood Damage Prevention Ordinance and issue Floodplain Development Permits for the Town in accordance with compliance of NFIP. An element of the NFIP is the Community Rating System (CRS), which adjusts flood insurance premiums relative to a local jurisdiction's investment in flood damage mitigation. Inclusion in the CRS involves submitting a local jurisdiction's floodplain management procedures for evaluation.

NCDOT Subdivision Roads Minimum Construction Standards - The North Carolina Department of Transportation has established minimum construction standards for new subdivision roads (to be dedicated as public or private). According to North Carolina General Statutes, all new subdivision roads connecting to the State system must obtain a construction permit from a Division of Highways District Engineer and must meet these construction standards. Standards relevant to hazard mitigation include: surface and subsurface drainage, bridges, roadway dams, and specifications for design and construction to accommodate emergency vehicles.

Minimum Design Standards Policy - The Town has developed minimum design standards for development that have some relevance to hazard mitigation.

2030 Cumberland County Growth Vision Plan Policies, Actions, and Map

Cumberland County, along with all the municipalities in the County adopted this land use plan which serves as a guide for development. This Plan contains several recommendations relevant to hazard mitigation. The Plan recommends the provision of open space/environmental corridors along rivers and major water features, which reduces the amount of development within and adjacent to the floodplain and protects the natural riparian cover adjacent to these water features. Recommendations also include using environmental corridors as a network of greenways connecting recreation and school facilities with natural areas. The Plan recommends all development activity within the Special Flood Hazard Area be