

Hurricane Matthew Resilient Redevelopment Plan

Pamlico County



May 2017

Version 1.2

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Contents

Change Log	iii
Executive Summary	iv
1. Background	1-1
Summary of Hurricane Matthew Storm Damage	1-1
State / Legislative Response	1-1
Resilient Redevelopment Planning	1-2
Scope of the Plan	1-3
Local Participation and Public Engagement.....	1-3
Data, Assumptions, and Methodologies.....	1-4
2. County Profile	2-1
Demographic Profile	2-1
Population.....	2-1
Population Change (2000 to 2010).....	2-2
Age	2-2
Race and Ethnicity.....	2-2
Limited English Proficiency	2-3
Poverty.....	2-4
Low and Moderate Income Individuals	2-4
Median Household Income.....	2-4
Zero Car Households.....	2-5
Commuting: Travel Time to Work, Means of Transportation	2-5
Housing Profile.....	2-6
Economic / Business Profile.....	2-7
Labor Force	2-7
Major Employers.....	2-8
Economic Development.....	2-8
Infrastructure Profile	2-10
Transportation	2-10
Health.....	2-10
Education	2-11
Water	2-11
Power.....	2-11
Environmental Profile	2-11
Water Resources.....	2-12
Natural and Managed Areas	2-12

Biodiversity and Wildlife Habitat	2-13
Parks and Recreation	2-13
Administrative Profile	2-14
3. Storm Impact	3-1
Rainfall Summary	3-1
Riverine Flooding Summary	3-1
Coastal Flooding Summary	3-2
Housing Impacts.....	3-3
Economics / Business / Jobs	3-7
Infrastructure.....	3-7
Ecosystems / Environment	3-16
Agriculture	3-16
4. Strategies for Resilient Redevelopment.....	4-1
Housing Strategies	4-3
High Priority Housing Strategies	4-3
Economic Development Strategies.....	4-14
High Priority Economic Development Strategies.....	4-14
Infrastructure Strategies.....	4-18
High Priority Infrastructure Strategies.....	4-18
Medium Priority Infrastructure Strategies	4-74
Environmental, Ecosystem and Agricultural Strategies.....	4-84
Medium Priority Environmental Strategies	4-84
Summary.....	4-86

Change Log

Version	Date:	Summary of Changes:
1.1	6/15/17	Minor Revisions
1.2	8/25/17	Labor and Unemployment Data Updated

Executive Summary

In October 2016, Hurricane Matthew caused widespread destruction in the Caribbean and up the Eastern Seaboard of the United States. In North Carolina, at least 26 people lost their lives, and 100,000 homes, businesses, and government buildings sustained damage estimated at \$4.8 billion.¹ At the storm’s peak, 3,744 individuals fled to 109 shelters across the region. More than 800,000 households lost power and 635 roads were closed, including the major east-west and north-south corridors.

In December 2016, the North Carolina General Assembly established the North Carolina Resilient Redevelopment Planning (NCRRP) program as part of the 2016 Disaster Recovery Act (*Session Law 2016-124*). The purpose of the program is to provide a roadmap for community rebuilding and revitalization assistance for the communities that were damaged by the hurricane. The program empowers communities to prepare locally driven recovery plans to identify redevelopment strategies, innovative reconstruction projects, and other needed actions to allow each community not only to survive but also to thrive in an era when natural hazards are increasing in severity and frequency.

The NCRRP consists of planning and implementation phases and is managed through North Carolina Emergency Management.



Figure 1. NCRRP Counties

This document is a snapshot of the current needs of the County regarding holistic recovery and redevelopment. The plan will evolve as the county analyzes the risk to its assets, identifies needs and opportunities, determines the potential costs and benefits of projects, and prioritizes projects. As projects are more fully defined, the potential impact on neighboring communities and the region may lead to modifications.

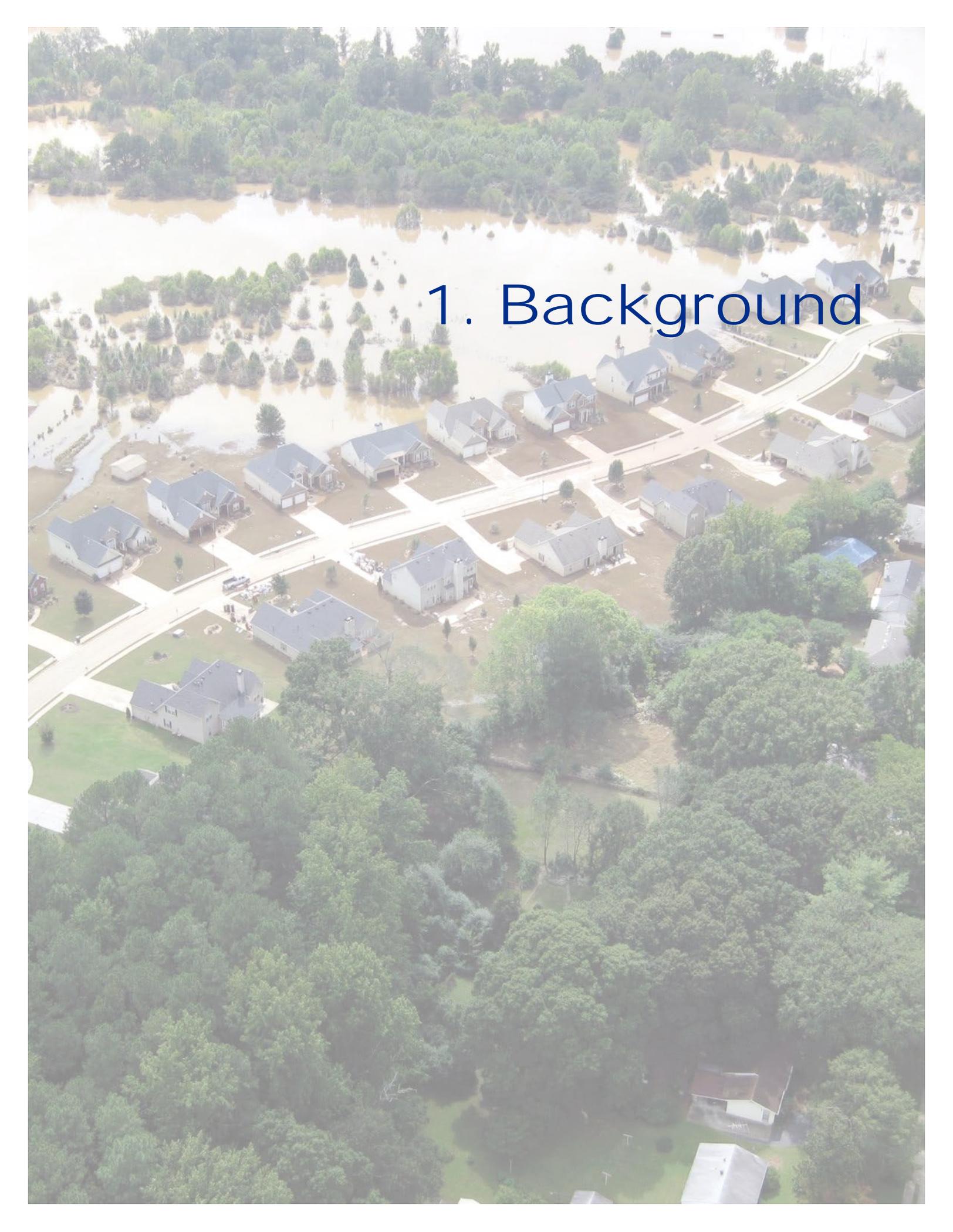
Implementation of the proposed projects and actions described in this plan is subject to applicable federal, state, and local laws and regulations. Proposed projects or actions may be eligible for state or federal funding, or could be accomplished with municipal, nonprofit, or private investments. However, inclusion of a project or action in this plan does not guarantee that it will be eligible for recovery funding.

¹ State of North Carolina Supplemental Request for Federal Assistance Hurricane Matthew Recovery, <https://governor-new.s3.amazonaws.com/s3fs-public/documents/files/Hurricane%20Matthew%20Relief--2017%20Federal%20Request%20%28002%29.pdf>.

After multiple public meetings, Pamlico County has identified 35 projects in four pillars: Housing, Infrastructure, Economic Development, and Environmental. Details of these projects can be found in Section IV of this plan.

Pillar	Project/Action Count
Housing	4
Economic Development	2
Infrastructure	28
Environment	1
Grand Total	35

Table 1. Pamlico County Summary of Projects by Pillar

An aerial photograph showing a residential neighborhood that has been severely flooded. The houses, which are mostly two-story structures with grey roofs, are surrounded by deep, brown floodwater. The water has inundated the yards and streets, leaving only the roofs and some trees visible above the surface. The surrounding area is densely wooded with green trees. The text "1. Background" is overlaid in the upper right quadrant of the image.

1. Background

1. Background

Summary of Hurricane Matthew Storm Damage

Hurricane Matthew was an extraordinarily severe and sustained event that brought record-level flooding to many areas in eastern North Carolina's coastal plain, sound, and coastal communities. Hurricane Matthew hit North Carolina on October 8, 2016, as a Category 1 storm. Communities were devastated by this slow-moving storm primarily by widespread rainfall. During a 36-hour period, up to 18 inches of heavy rainfall inundated areas in central and eastern North Carolina.

Riverine flooding began several days after Hurricane Matthew passed and lasted for more than 2 weeks. New rainfall records were set in 17 counties in the Tar, Cape Fear, Cashie, Lumber, and Neuse River watersheds. Entire towns were flooded as water levels throughout eastern North Carolina crested well beyond previously seen stages.

During the peak of the hurricane, 800,000 households lost power and 635 roads were closed, including a section of I-40 West in Johnston County that was closed for 7 days, and sections of I-95 North and South in Robeson and Cumberland Counties that were closed for 10 days.

Approximately 88,000 homes were damaged and 4,424 were completely destroyed. Losses totaled more than \$967 million, representing an economic loss as high as 68% of the damages, or \$659 million, not expected to be covered by insurance or FEMA assistance.

North Carolina Governor McCrory requested FEMA assistance on October 9, 2016, and FEMA subsequently declared a major disaster (DR-4285) for North Carolina on October 10, 2016, for 48 counties encompassing approximately 325 cities, towns, townships, and villages.

Preliminary estimates indicate more than 30,000 businesses suffered physical or economic damage, and 400,000 employees were affected as a result. Hurricane Matthew also had a significant impact on the agriculture and agribusiness economy in eastern North Carolina. The nearly 33,000 agricultural workers and 5,000 agricultural-support workers hit by the storm account for more than half of the state's agriculture and agriculture-support workforce.

Initial economic analysis of the impacts of crop and livestock losses caused by Hurricane Matthew estimated the loss of more than 1,200 jobs and roughly \$10 million in state and local income and sales tax revenue. 2.²

State / Legislative Response

North Carolina's response to Hurricane Matthew included 2,300 swift-water rescues using 79 boats and more than 90 air rescues. North Carolina also deployed over 1,000 National Guard and State Highway Patrol to assist with rescue and sheltering missions. There were 3,744 individuals transported to 109 shelters across central and eastern North Carolina during the storm's peak.

FEMA's disaster declaration made 50 counties eligible for FEMA assistance, 45 of which are eligible for Individual Assistance and Public Assistance and 5 of which are eligible for Public Assistance only.

² *Governors McCrory's Request for Federal Assistance for Hurricane Matthew Recovery, November 14, 2016*

- There were 81,832 individuals registered for FEMA/state assistance.
- Federal/state financial assistance in the amount of \$92.5 million was approved to help flood survivors recover.
- Small Business Administration (SBA) loans approved for individuals after Hurricane Matthew totaled \$65.6 million.
- SBA loans approved for businesses after Hurricane Matthew totaled \$23.2 million.

After the immediate response period, North Carolina Governor McCrory and the North Carolina General Assembly took the steps summarized below to obtain and allocate long-term funding for Hurricane Matthew.

November 1: The Hurricane Matthew Recovery Committee is established. Preliminary damage assessments are completed, and the State Emergency Response Task Force continues to administer programs and identify needs unmet by existing federal programs.

November 14: Governor McCrory formally submits North Carolina’s request for supplemental federal disaster assistance to the delegation as Congress returns to work.

Late November/Early December: Congress appropriates supplemental disaster assistance for North Carolina. After the supplemental federal disaster recovery assistance package is received, Governor McCrory submits a supplemental state disaster assistance package (House Bill 2) recommendations to the General Assembly and calls a special session. Governor McCrory then signs the Hurricane Matthew Recovery Act to fund disaster recovery efforts.

This supplemental federal assistance was to focus on housing, infrastructure, economic development, and the environment. These four pillars were to be funded through the following programs and agencies: The U.S. Department of Housing and Urban Development’s Community Development Block Grant–Disaster Recovery (CDBG-DR) program, Army Corps of Engineers Operations and Maintenance, the FEMA National Dam Safety Program, the Federal Highway Administration’s Emergency Highway Funding, and the U.S. Department of Agriculture’s Emergency Conservation and Watershed Protection programs.

Resilient Redevelopment Planning

The purpose of the NCRRP program is to provide a roadmap for communities in eastern North Carolina to rebuild and revitalize after being damaged by Hurricane Matthew. The program empowers communities to prepare locally driven, resilient redevelopment plans to identify redevelopment strategies, innovative reconstruction projects, and other actions to allow each community not only to survive, but also to thrive in an era when natural hazards are increasing in severity and frequency.

The NCRRP process employs a holistic approach to planning that includes four pillars: housing, infrastructure, economic development, and the environment. Redevelopment strategies and reconstruction projects for each of the four pillars is included in each plan.

The NCRRP process consists of planning and implementation phases and is managed through North Carolina Emergency Management (NCEM).

Scope of the Plan

This document is a snapshot of the County's current needs for achieving holistic recovery and redevelopment. The plan will evolve as the County analyzes the risk to its assets, identifies needs and opportunities, determines the potential costs and benefits of projects, and prioritizes the projects. As projects are more fully defined, the potential impact on neighboring communities and the region may lead to modifications.

Planning objectives are to (1) develop strategic, resilient redevelopment plans and actions, and (2) to define any unmet funding needed to implement such actions after taking into account other funding sources.

The resulting resilient redevelopment plans will be the foundation for any supplemental funding received through Congress, the North Carolina General Assembly, and other funding sources. These plans will also be the basis for the state's Recovery Action Plan, which is required by the U.S. Department of Housing and Urban Development before the state can expend funds received from the CDBG-DR program.

Local Participation and Public Engagement

Stakeholder engagement and public involvement was an essential component of the NCRRP initiative. Three robust rounds of discovery, analysis, collaboration, and interaction were held with each affected county. Each meeting had two components: an in-depth working session with county officials, subject matter experts, and planners from the affective counties and municipalities; and a public open house. The purpose of each meeting was as follows:

Meeting 1 – Initiated the planning process and validated the existing data pertaining to damage and impacts.

Meeting 2 – NCEM presented draft documentation of resilient redevelopment strategies and received feedback from community leaders and the public.

Meeting 3 – NCEM presented refined resilient redevelopment strategies based on feedback from Meeting 2 and received additional feedback for finalization of the plan.

Each of the 50 counties that were declared a major disaster by the President of the United States as a result of Hurricane Matthew under the Stafford Act (P.L. 93-288) participated in the resilience redevelopment planning process. Each municipality in those counties, as well as the five economic development regions that sustained damage from Hurricane Matthew, were also invited to participate.

The counties impacted by the storm cover the eastern half of North Carolina and occupy parts of the piedmont, sand hills, and coastal areas of the state. A map depicting Pamlico County and surrounding counties is shown below.

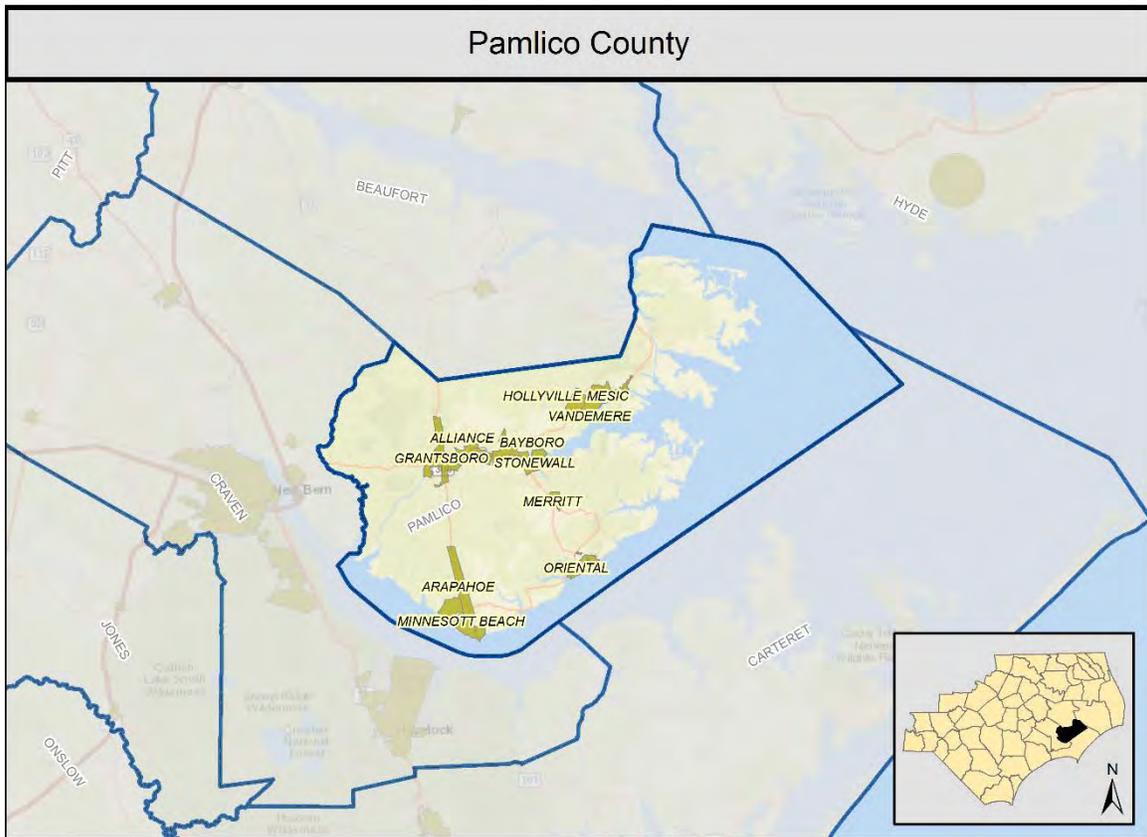
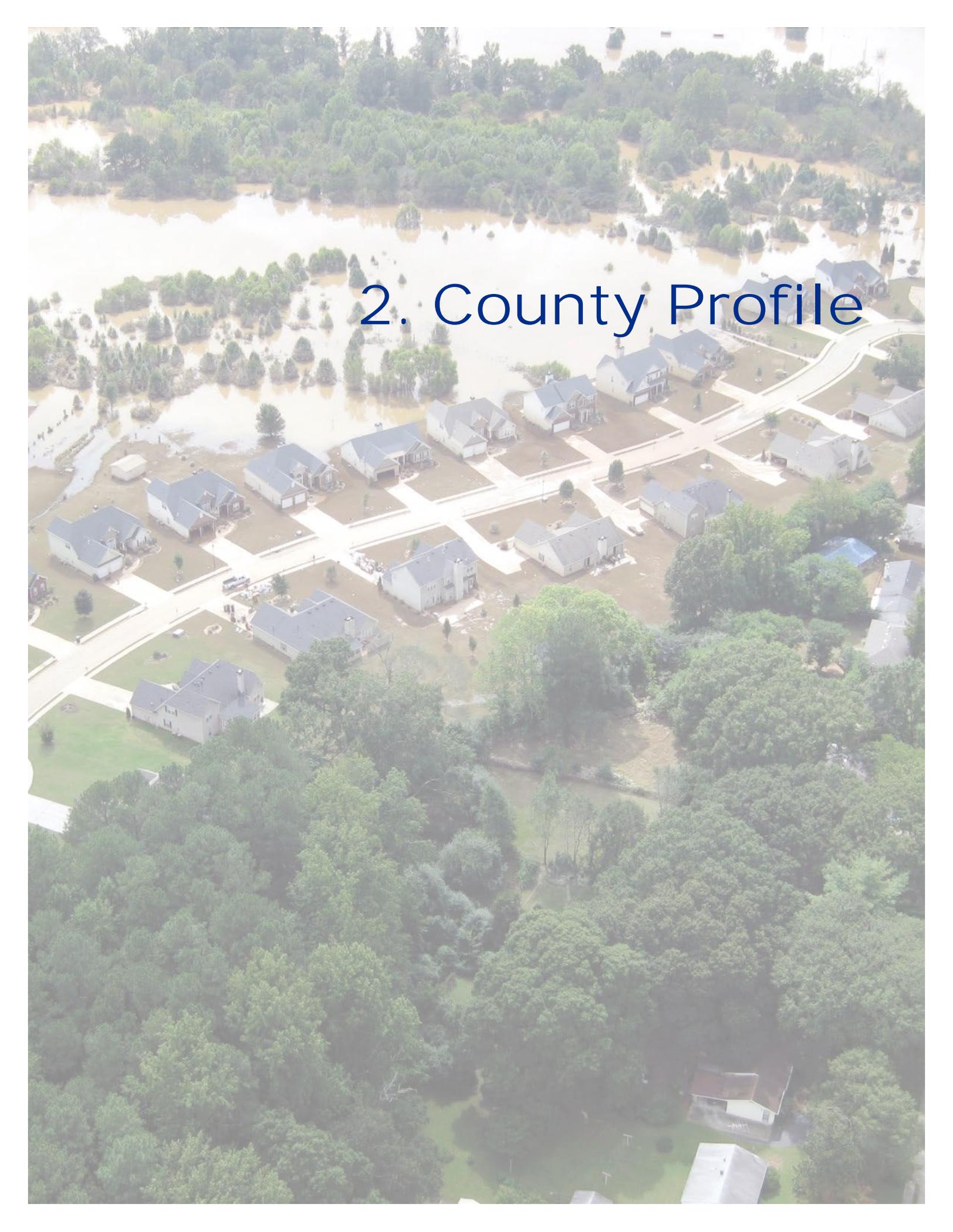


Figure 2. Pamlico County and Neighboring Counties

Data, Assumptions, and Methodologies

NCEM has assembled a wealth of data, resources, and technical expertise from state agencies, the private sector, and the University of North Carolina system to support the development of innovative best practice strategies.

Implementation of the proposed projects and actions described in this plan is subject to applicable federal, state, and local laws and regulations. Inclusion of a project or action in this plan does not guarantee that it will be eligible for recovery funding. However, proposed projects or actions may be eligible for state or federal funding or could be accomplished with municipal, nonprofit, or private investment.

An aerial photograph showing a residential neighborhood that has been severely flooded. The houses, which are mostly two-story structures with grey roofs, are surrounded by deep, brown water. The water has inundated the yards and streets, leaving only the roofs and some trees visible above the surface. The background shows a dense line of green trees, and the overall scene conveys a sense of significant environmental impact and property damage.

2. County Profile

2. County Profile

Pamlico County is a peninsula reaching out into the Pamlico Sound, formed from parts of Craven and Beaufort Counties in 1872 and 1874-75 respectively. The County includes the Cities of Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere and a few unincorporated areas. Its current population is 12,982. The City of Bayboro is the County seat. There are several critical wetlands and environmental resource areas within the County. Agriculture, forestry and fishing have been the cornerstones of the local economy, and small businesses are critical to the revenue stream. Pamlico County has historically been a rural community, and has experienced recent and significant growth pressure. Natural environment is predominant within the County. Towns lack tangible cores due to lack of developmental patterns. There are not many public gathering places (i.e. town squares), and residential and commercial development are loosely dispersed along major roadways connecting remote communities.

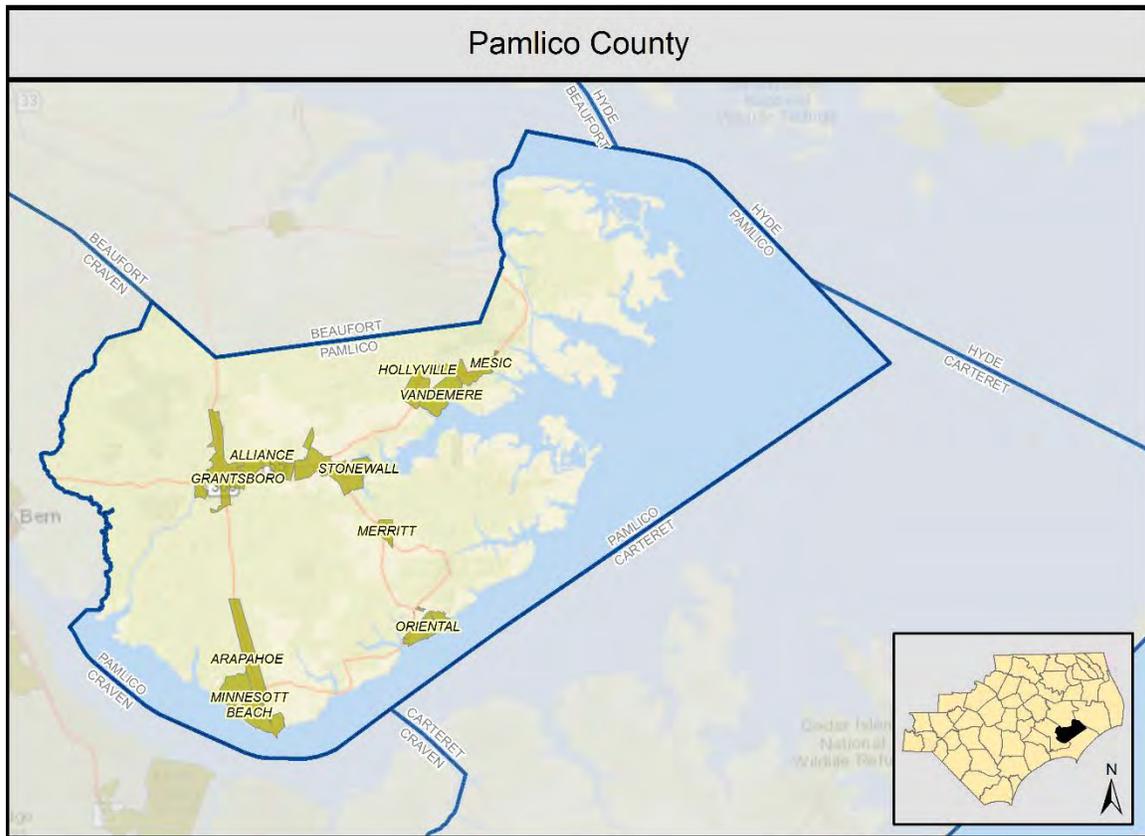


Figure 3. Pamlico Base Map

Demographic Profile

Demographics for Pamlico County and census-designated places within the county are summarized and compared to statewide averages in this profile. The demographic data is from the 2000 Census, 2010 Census, and 2011-2015 American Community Survey five-year estimates.

Population

Pamlico County has a population of 12,982. Town of Bayboro is the most populous place within Pamlico County with a population of 1,389 and Hobucken CDP is the least populous place with a population of 64.

There was a discrepancy in population estimate by the Census Bureau and the County. 2015 County Fire department survey indicates a population of over 15,000. A recent GIS estimate done in October, 2016 indicates a population of 17,000 excluding visitors. This discrepancy is believed to be due to a part of the County being included in New Bern (Craven County).³

Population Change (2000 to 2010)

The Pamlico County population marginally increased between the 2000 and 2010 census. In 2000 the population was 12,934 and in 2010 it was 13,144. The population increased by 210 people, or 1.6 percent. In comparison, North Carolina grew by 19 percent from 8,049,313 people in 2000 to 9,535,483 in 2010.⁴

Age

The median age in Pamlico County is 49.8, which is higher than that for North Carolina (41.6). Within Pamlico County, the Town of Minnesott Beach has the oldest median age, 63, and the Town of Stonewall has the youngest median age, 35.⁵

Race and Ethnicity

Pamlico County is mostly White (75.2 percent) and African American (19 percent) with other races constituting the remaining 5.8 percent. In comparison, North Carolina is 70 percent White, 22 percent African American, 1 percent American Indian and Alaska Native, 3 percent Asian, less than 1 percent (0.1%) Native Hawaiian/Pacific Islander, 3 percent Some Other Race, and 2 percent Two or More Races. Refer to the table below.⁶

Within Pamlico County, all Towns are predominantly White except the Towns of Bayboro, Mesic and Vandemere, which are majority African American. In the Town of Arapahoe, 7.4 percent of the population identifies as Some Other Race.

The Latino population in Pamlico County is 3.4 percent compared to 9 percent for North Carolina. The town of Stonewall has the largest Latino population (30.7 percent) while Hobucken CDP and the Town of Oriental do not have Latino populations according to the census data.

Geography	White	Black or African American	American Indian and Alaska Native Alone	Asian	Native Hawaiian/ Pacific Islander	Some Other Race	Two or More Races	Total Non-White
Alliance town	87.5%	11.9%	0.0%	0.0%	0.0%	0.0%	0.6%	12.5%
Arapahoe town	79.7%	11.6%	0.0%	0.0%	0.0%	7.4%	1.2%	20.3%
Bayboro town	35.6%	56.9%	0.6%	1.2%	0.0%	2.7%	3.0%	64.4%
Grantsboro town	68.6%	12.5%	0.0%	0.5%	12.4%	4.1%	1.8%	31.4%
Hobucken CDP	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mesic town	39.1%	58.1%	0.0%	0.0%	0.0%	0.9%	1.9%	60.9%
Minnesott Beach town	96.1%	2.3%	0.5%	0.5%	0.0%	0.0%	0.5%	3.9%

³ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B01001, "Sex by Age." Pamlico County Office of Economic Development.

⁴ Source: Minnesota Population Center. National Historical Geographic Information System: Version 11.0 [Database]. Minneapolis: University of Minnesota. 2016. <http://doi.org/10.18128/D050.V11.0>. Census 2000/Census 2010 Time Series Tables Geographically Standardized

⁵ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B01001, "Sex by Age."

⁶ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B02001, "Race" and Table B03002, "Hispanic or Latino Origin by Race."

Geography	White	Black or African American	American Indian and Alaska Native Alone	Asian	Native Hawaiian/ Pacific Islander	Some Other Race	Two or More Races	Total Non-White
Oriental town	87.9%	10.6%	0.0%	0.0%	0.0%	0.0%	1.5%	12.1%
Stonewall town	81.9%	10.7%	0.0%	0.5%	0.0%	0.0%	7.0%	18.1%
Vandemere town	27.3%	72.7%	0.0%	0.0%	0.0%	0.0%	0.0%	72.7%
Pamlico County	75.2%	19.0%	1.6%	0.3%	0.8%	1.2%	1.9%	24.8%
North Carolina	69.5%	21.5%	1.2%	2.5%	0.1%	3.0%	2.4%	30.5%

Table 2. Pamlico County Race and Ethnicity

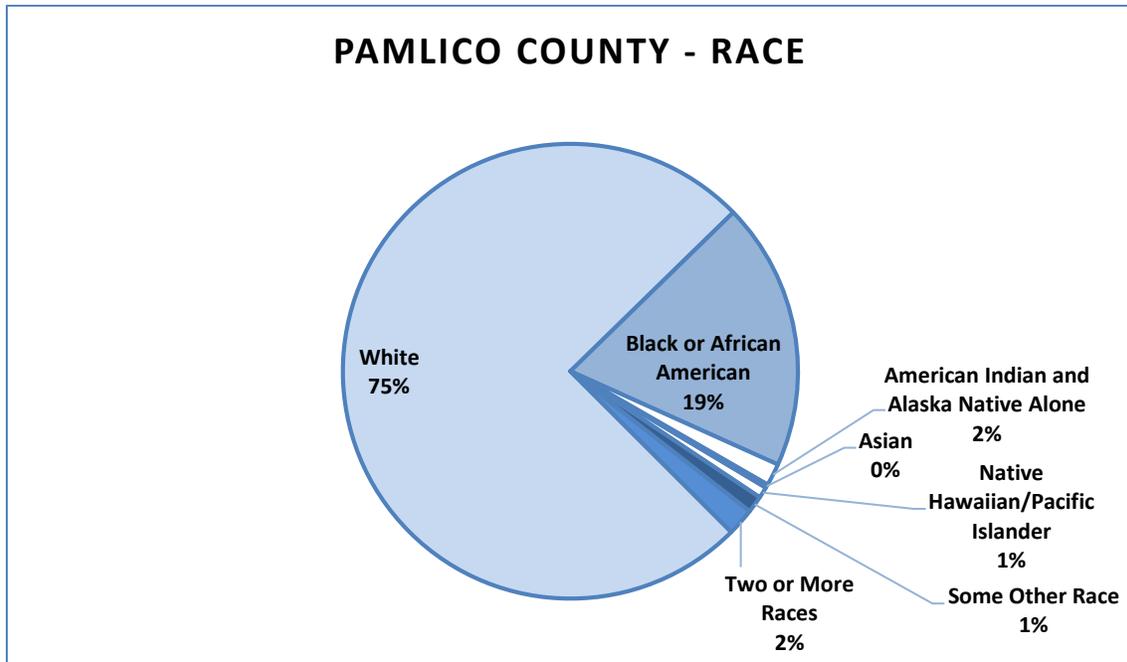


Figure 4. Pamlico County – Racial Distribution

Limited English Proficiency

Limited English Proficiency (LEP) is defined as populations 18 years or older that speak English less than very well. In Pamlico County, of the individuals identified as LEP, 1.3% speak Spanish, while 0.2% speak Indo-Euro languages and 0.2% speak Asian/Pacific languages. Similarly, the primary language group for LEP individuals in North Carolina is Spanish. Within Pamlico County, the towns of Arapahoe and Bayboro have the largest LEP population. The primary language group for LEP populations in Bayboro and Arapahoe is Spanish. In the town of Grantsboro, the primary language group is Asian/Pacific while the towns of Alliance, Hobucken, Oriental, Stonewall and Vandemere do not have a LEP population according to census data.⁷

⁷ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B16004, "Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over."

Poverty

In Pamlico County, 13.6 percent of the population is below the poverty level compared to 17 percent of the North Carolina population. 30.3 percent in Bayboro, 29.4 percent in Grantsboro, 23.7 percent in Mesic, 17 percent in Alliance, 16 percent in Stonewall, 8.4 percent in Arapahoe, 7.5 percent in Oriental, 7 percent in Vandemere, and 6 percent in Minnesott Beach are the percent below poverty level. Hobucken CDP does not have a population below poverty level according to the census data.⁸

Low and Moderate Income Individuals

In Pamlico County, 38 percent of the population is classified as low and moderate income (LMI) individuals based on the US Department of Housing and Urban Development's definition. In comparison, 39 percent of the North Carolina population is classified as LMI.⁹

Median Household Income

The median household income of the population 25 to 64 years old is \$46,762 in Pamlico County and \$53,000 in North Carolina. Minnesott Beach as the highest median household income for this age group, \$88,125; and the town of Bayboro has the lowest: \$38,878. Median household income data was not available for the towns of Mesic, Stonewall, Vandemere and Hobucken CDP.¹⁰

⁸ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table C17002, "Ratio of Income to Poverty Level in the Past 12 Months."

⁹ Source: US Department of Housing and Urban Development, Estimate of Low and Moderate Income Individuals, <https://www.hudexchange.info/programs/acs-low-mod-summary-data/acs-low-mod-summary-data-block-groups-places/>

¹⁰ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B19094, "Median Household Income in the Past 12 Months."

Zero Car Households

In Pamlico County, 5.3 percent of households do not have a vehicle available compared to 7 percent of North Carolina households. Within Pamlico County, the town of Vandemere has the highest percentage of households without access to a vehicle, 14.6 percent, while Hobucken CDP has the lowest percentage: 0 percent.¹¹

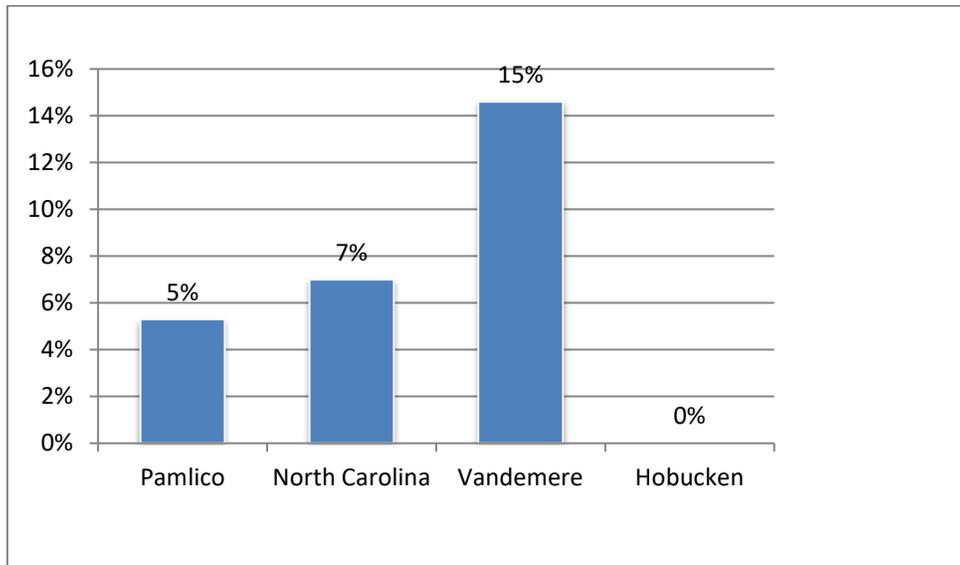


Figure 5. Zero Car Households by Percentage

Commuting: Travel Time to Work, Means of Transportation

The majority of Pamlico County residents commute alone to work by vehicle, 75.3 percent, which is similar to North Carolina average of 81percent. Within Pamlico County, the towns of Bayboro (81.6 percent) and Arapahoe (81.3 percent) have the largest percentage of commuters commuting alone, and Hobucken CDP has the least: 0 percent.

The town of Vandemere has the largest percentage of residents commuting by public transportation: 1.6 percent. In comparison, 1 percent of North Carolina commuters use public transportation. A greater percentage of Alliance (3.9 percent), Arapahoe (9.1 percent), Mesic (4.1 percent), and Oriental (8.5 percent) residents commute by walking, bike, or motorcycle than the North Carolina average of 2 percent.

The mean commute time to work for Pamlico County residents is 26.3 minutes. In comparison, the North Carolina mean commute time is 24.7 minutes. Within Pamlico County, Alliance has the shortest mean commute time at 18.3 minutes while Vandemere has the longest at 29.6 minutes.¹²

¹¹ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B25044, "Tenure by Vehicles Available."

¹² Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B08301, "Means of Transportation to Work" and Table GCT0801, "Mean Travel Time to Work of Workers 16 Years and Over Who Did Not Work at Home (Minutes)."

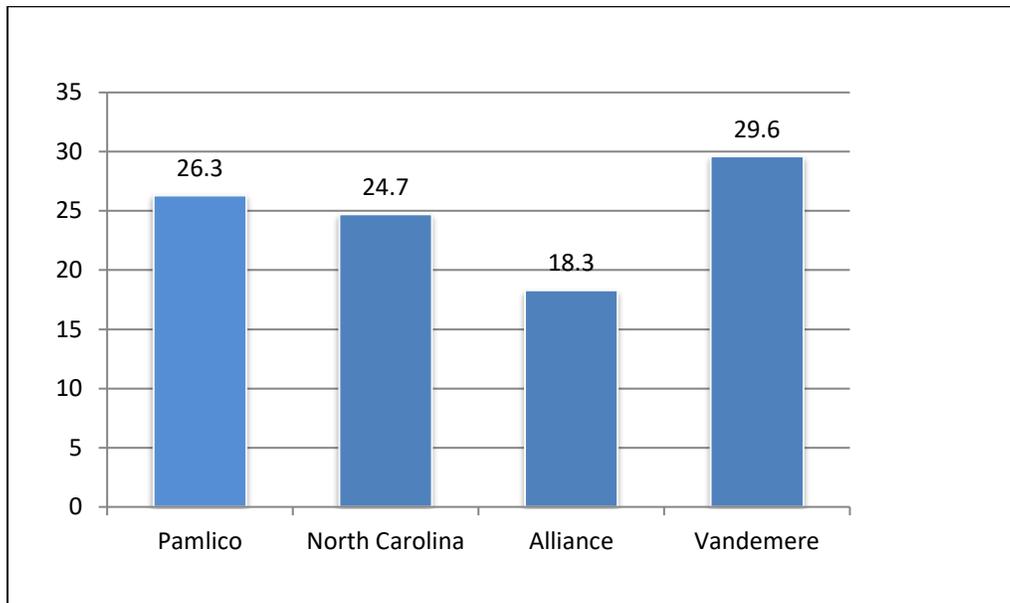


Figure 6. Mean Commute Time to Work in Minutes

Housing Profile

Pamlico County has 7,569 housing units, 67.1 percent of which are single-family homes, 5 percent multi-family units, and 27.9 percent manufactured housing.

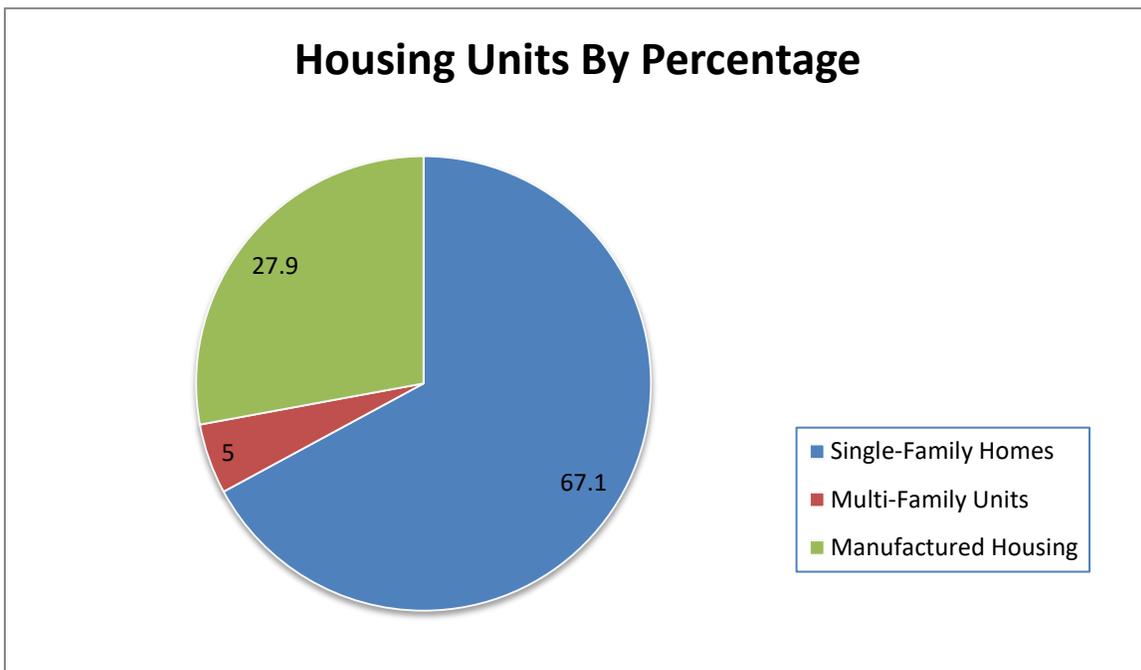


Figure 7. Housing Units By Percentage

In Pamlico County 30.8 percent of housing units are vacant, which is twice the rate for North Carolina (14percent). Within Pamlico County, Hobucken CDP has the largest percentage of vacant housing units, 85.7 percent, while the town of Alliance has the least: 7.5 percent.

Of the occupied housing units, 75.9 percent are owner-occupied compared to 65percent in North Carolina; 24.1 percent are renter-occupied compared to 35 percent in North Carolina.

The median housing value in Pamlico County \$150,800. In comparison, the median housing value in North Carolina is \$140,000. Within Pamlico County, the town of Oriental has the highest median housing value: \$282,800, and Vandemere has the lowest median housing value: \$67,500. Median housing value was not available for Hobucken CDP.

According to the National Housing Preservation Database, Pamlico County has 118 affordable housing units. Most of the affordable housing is located within Bayboro (68), 24 units in Alliance, 20 in unincorporated areas, and 6 in Grantsboro.¹³

Economic / Business Profile

Pamlico County is home to a diverse array of businesses including agriculture, forestry, fishing, hunting, retail trade, educational services, health care and social assistance, public administration, accommodation and food services, arts, entertainment and recreation, utilities, and construction. According to the US Census Bureau's Longitudinal-Employer Household Dynamics Program, the largest concentrations of jobs within Pamlico County are in the towns of Bayboro, Alliance, and Grantsboro along the NC Route 55 corridor; and in the towns of Arapahoe and Oriental.¹⁴

Labor Force

According to the local area unemployment statistics (LAUS) from the Labor and Economic Analysis Division (LEAD) for the unadjusted data for all periods in 2016, the civilian labor force population of Pamlico County is 5,404.¹⁵ Within Pamlico County, the town of Stonewall has the largest percentage of residents 16 years or over in the labor force, 68.9 percent, while the town of Bayboro has the smallest: 32.6 percent.

The civilian unemployment rate in Pamlico County is 5.3 percent. In comparison, the North Carolina civilian unemployment rate of 5.1 percent.¹⁵ Within Pamlico County, the town of Arapahoe and Hobucken CDP have the smallest civilian unemployment rate at 0 percent while the town of Stonewall has the largest: 17.3 percent.¹⁶

¹³ Sources: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B25002, "Occupancy Status"; Table B25003, "Tenure"; Table B25024 "Units in Structure"; Table B25077, "Median Value (Dollars)."

National Housing Preservation Database

¹⁴ Source: US Census Bureau Longitudinal-Employer Household Dynamics Program

¹⁵ Source: Civilian Population and Unemployment Rate - Labor and Economic Division (LEAD) of North Carolina Department of Commerce – Local Area Unemployment Statistics <http://d4.nccommerce.com/LausSelection.aspx>

¹⁶ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B23025, "Employment Status For The Population 16 Years And Over."

Major Employers

The top ten employers in Pamlico County¹⁷ represent the leisure and hospitality; educational and health services; public administration; trade, transportation and utilities, and are listed in order of total employees.

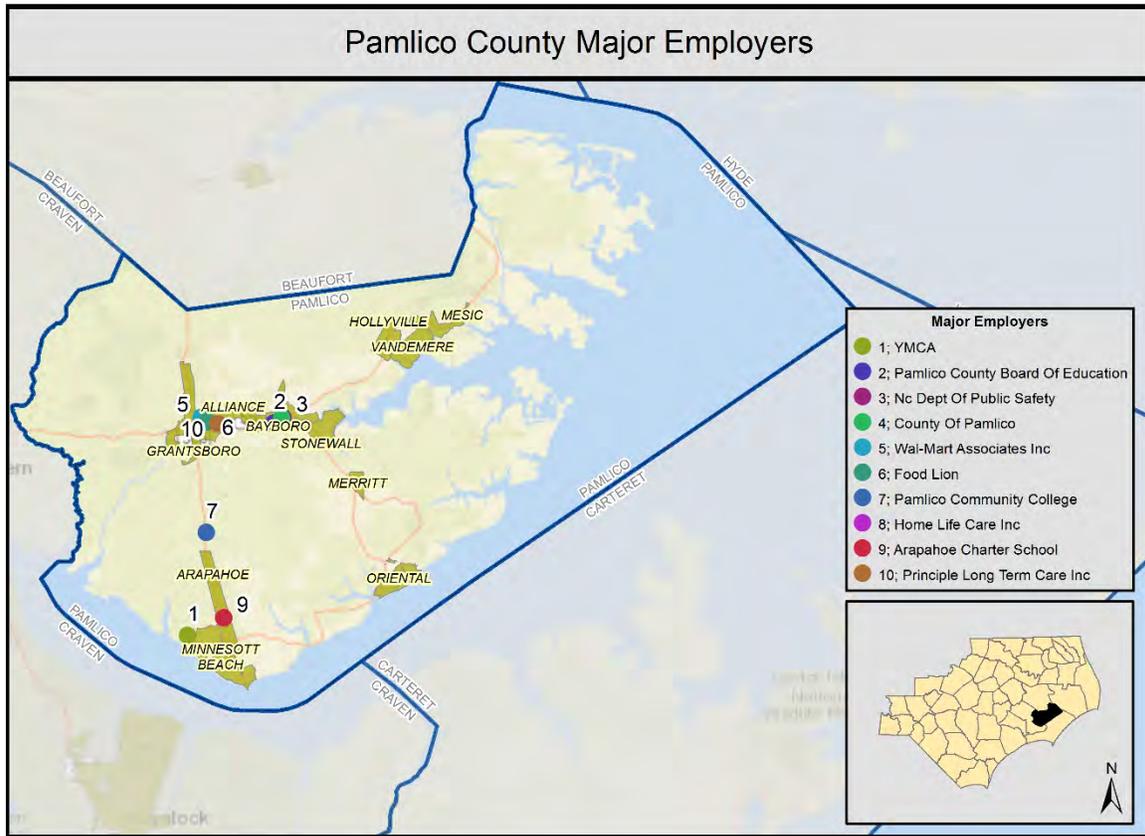


Figure 8. Major Employers by Number of Employees

Economic Development

The Pamlico County Office of Economic Development provides information and assistance in the areas of economic development, by seeking to strengthen the area's economy and encourage job creation. The Office aims to achieve this by improving business climate, promoting economic development via identified sustainable economic growth pathways, assisting entrepreneurial activities, tourism and other business opportunities, and providing a variety of economic development and other services and information to residents, visitors, developers and businesses interested in Pamlico County. The Office collaborates with the County Government, County Chamber of Commerce, Small Business Center, Pamlico Community College, NC Small Business and Technology Development Center, area agencies, volunteer groups, non-profits, citizens, plus regional and State partners to identify business capabilities and available strategic resources to achieve economic development goals for the benefit of our citizens and region.

Tourism, fishing, farming, and forestry are the economic activities in Pamlico County. The Office is trying to diversify economic development efforts by attracting new small businesses and varying sized compatible industries. This is in conjunction with creating an environment that is attractive to locals, retirees or new residents who need the amenities and jobs created by this diversification and is in keeping with protecting

¹⁷ Sources: NC Department of Commerce

Pamlico County’s heritage and economic goals. The Board’s economic development goals include increasing economic opportunities and improving the quality of life for Pamlico County citizens by wisely:

- Recruiting compatible businesses and high tech manufacturing
- Making full use of the county’s strategic geographical position on the center of the East Coast and directly across the Atlantic Ocean from Europe to increase national and international markets
- Assisting existing businesses to achieve sustainable growth
- Identifying existing and potential commercial sites
- Supporting entrepreneurship
- Assist in increasing attractions
- Assist in increasing tourism and residential development
- Working collaboratively to strengthen the business climate and promote the general economic development with sustainable growth
- Building on an already excellent boating reputation as a boating destination and seeking to increase marine trades industries and yacht manufacturing
- Capitalizing on miles of deep water access and towns on the Intracoastal Waterway

The Board has a forward-looking approach to benefit the citizens by partnering on local, regional, state, national and international levels in order to accomplish their goals and to provide available assistance to existing, new and potential industries.¹⁸

¹⁸ Sources: Pamlico County Office of Economic Development

Infrastructure Profile

Transportation, health, education, water, and power infrastructure are summarized for Pamlico County in the sections that follow.

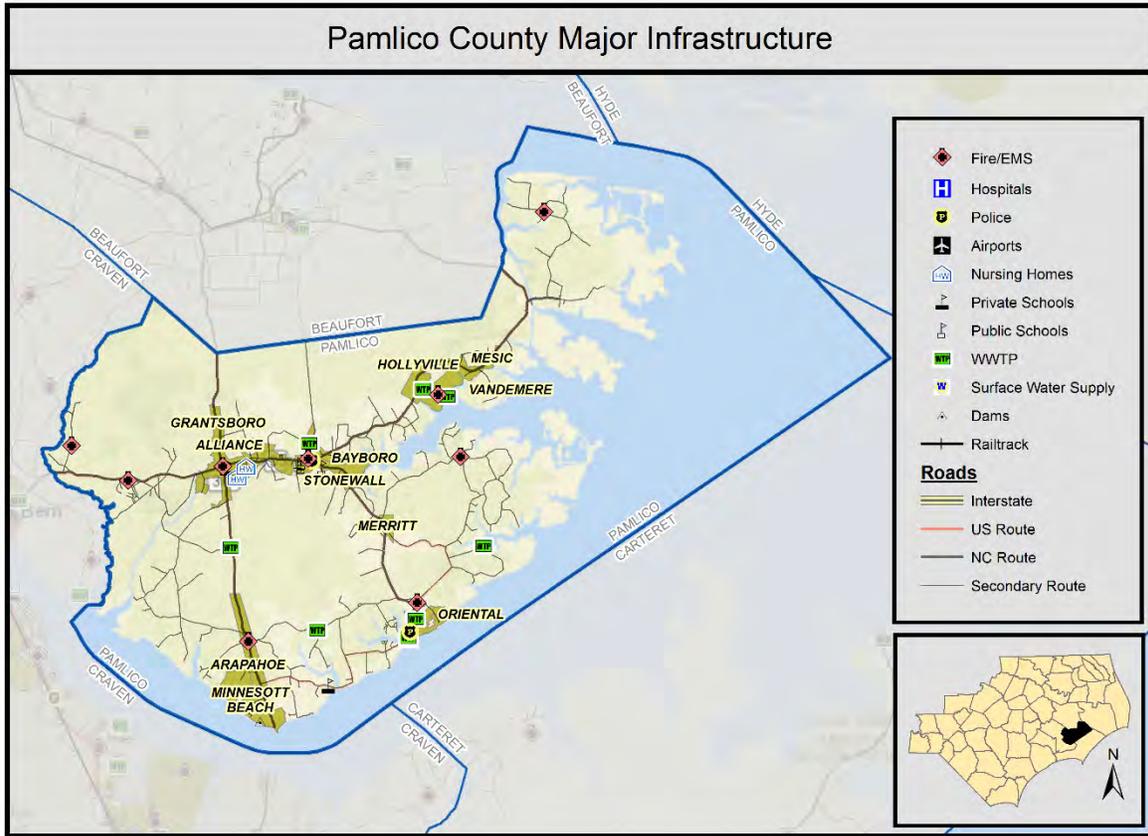


Figure 9. Pamlico County Major Infrastructure

Transportation

Pamlico County is connected to the region by two major roadways. NC Route 55 runs west to east from New Bern (Craven County) to the town of Bayboro, and then runs north to south to the town of Oriental. Route 306 runs north to south connecting the county to Aurora to the north and to Minnesott Beach to the south via Grantsboro and Arapahoe. To the west of Bayboro, Route 304 connects the towns of Vandemere, Mesic, Hobucken and Goose Creek Gameland, which forms the northwestern boundary of the County. Lowland area is served by interior arterial roads 1228, 1229 and 1231. Several interior arterial roadways connect the remote communities of the County to the major roadways. There is a ferry between Minnesott Beach and Cherry Point.

Health

Pamlico County Health Department does not have County hospitals, and below is the list of hospitals and health care facilities:

- Pine Haven Home Health Care Services, Inc.
- Holland Drive Home
- Britthaven of Pamlico
- Continuum Home Care of Pamlico

- TASC/CJP-Pamlico
- In Home Aide Care, Inc.
- The Gardens of Pamlico
- Hospice of Pamlico County Inc.
- Neuse Center for MH/DD/SAS
- Pamlico County Group Home

Education

Pamlico County Schools administers the following schools, all located in the town of Bayboro:

- Fred A. Anderson Elementary School
- Pamlico County Primary School
- Pamlico County Middle School
- Pamlico County High School

Arapahoe Charter School, Gateway Christian Academy in Reelsboro (private), and Pamlico Christian Academy in Grantsboro (private) are the other schools within the County.

Pamlico Community College is accredited by the Southern Association of Colleges and Schools, and has a main campus in Grantsboro; and a campus, cosmetology center, and career and small business centers in Bayboro.¹⁹

Water

The Pamlico County Water System (PCWS) provides clean, safe drinking water to the citizens of Pamlico County. Water is supplied via two newly built treatment facilities and the "Old Town of Bayboro" plant. Water supply source is from ground water pumped from the Castle Hayne aquifer. The water is then treated from five water treatment facilities in the Oriental Water Treatment Plant, and distributed county-wide to customers through approximately 300 plus miles of water distribution lines. PCWS has a finished water capacity is 0.275 MG and currently provides service to more than 6000 homes and businesses.

Sanitary sewer systems are predominantly septic within Pamlico County. It is important to note that the County has 688 connections, of which 109 have water service connections with septic systems.²⁰

Power

Pamlico County's electric needs are provided by Duke Energy and Tideland EMC. There are no solar farms located within Pamlico County.²¹

Environmental Profile

Water resources, natural areas, managed areas, biodiversity, wildlife habitat, and recreation are summarized for Pamlico County in the sections that follow.

¹⁹ Sources: NC One, Pamlico County Public Schools and Pamlico Community College

²⁰ Sources: NC Division of Water Resources, Local Water Supply Plans; Pamlico County Government Water Service

²¹ Source: US Department of Energy, US Energy Mapping System, Pamlico County Government.

Water Resources

The Neuse River forms the Southern and western boundaries of Pamlico County. Bay River and its tributaries, Trent Creek, Raccoon Creek, Beard Creek, Chapel Creek, Mason Creek, Moore Creek, Rice Creek, Ball Creek, Cab Creek, Smith Creek, Cedar Creek, Vandemere Creek, Polter Creek, Oyster Creek, Little Bear Creek, Riggs Creek; and the Intracoastal Waterway along with its tributaries, and multiple bays in the area form the complex riverine and estuarine environment in the County. There are multiple interior creeks that drain into the tributaries of the Bay River. Wetlands and timber plantations are present along Bay River, and the bays in the northern part of the County. The most common coastal wetland type in Pamlico County is non-riverine followed by estuarine wetlands.²²

Natural and Managed Areas

According to the NC Natural Heritage Program, there are no natural areas of exceptional value and several areas very high, high and general value Pamlico County. Pamlico Point Marshes and Impoundments, Live Oak Bay, Eastern Gum Swamp, and Jones Island are very high value areas; Bay City Low Pocosin, Hobucken Marshes, Suffolk Scarp Bogs, South Prong Natural Area, and Oyster Creek Pine Hammocks are high value areas; and South Minnesott Sand Ridge, Light Ground Pocosin Central Section, and Light Ground Pocosin Southeast Section are general value areas according to the NC National Heritage Program.

Managed areas are properties and easements where natural resource conservation is one of the current primary management goals, or are of conservation interest. The following are Federally-owned managed areas within Pamlico County:

- Wetland Reserve Program Easement
- Pamlico Point Bombing Range
- Marine Corps Air Station Cherry Point - Maw Point Marshes

The following are State-owned managed areas within Pamlico County:

- NC Clean Water Management Trust Fund Easement
- Conservation Reserve Enhancement Program Easement
- NC Agricultural Development and Farmland Preservation Trust Fund Easement
- NC Wildlife Resources Commission Easement
- Goose Creek Game Land
- Light Ground Pocosin Game Land
- NC Department of Transportation Mitigation Site

The following are private owned managed areas within Pamlico County:

- North Carolina Coastal Land Trust Easement
- North American Land Trust Easement
- Ducks Unlimited (Wetlands America Trust) Easement
- North Carolina Coastal Land Trust Preserve.

²² Source: NC Natural Heritage Program

Goose Creek Gameland, Lampe-Woodard Tract, boating, recreational and access areas in Bayboro, Oriental and Dawson Creek are wetland critical environmental resource areas within the County.²³

Biodiversity and Wildlife Habitat

The NC Natural Heritage Program produces a biodiversity and wildlife habitat assessment for the state. According to this assessment, Pamlico County is rich with biodiversity and habitat areas, with the highest ratings in the areas east of Mesic, areas east of Whortonsville, areas west of Arapahoe, and northwest of Grantsboro. These areas rank between a 7 and 10, with 10 being the highest possible score. Many other areas of the county rank 5 to 6, with some of the towns ranked between 1 and 5. Only a few, isolated areas of the county are unrated. Owned and managed by the NC Wildlife Resources Commission, Goose Creek Gameland is a series of waterfowl impoundments, each about 200 acres in size on a peninsula on the south side of the Pamlico River between Aurora and Hobucken in Beaufort and Pamlico counties.²⁴

Parks and Recreation

The Pamlico County Parks and Recreation Department maintains several parks and facilities in Pamlico County. A softball complex at Alliance Recreational Park has three ball fields, a picnic area, and a playground. Lou Mac Park in Oriental, which is approximately 0.5 acres, has a fishing pier, and a playground. A covered picnic shelter, and fishing pier are available at the Dawson Creek Bridge. John Himbry Waterfront Park in Bayboro has a picnic shelter, a playground, restrooms, and a water access for kayaks and canoes. Lupton Park in Oriental has a picnic shelter and a playground with swings. Newton Creek Park and Raccoon Creek Park in Bayboro have river access for small power boats, kayaks, and canoes. Raccoon Creek Park also has a picnic shelter and restrooms. Oriental Recreation Park in Oriental (behind the Southeast Pamlico Volunteer Fire Department) has a playground, athletic fields, and picnic shelter. Pamlico County also has a number of camp sites and campgrounds throughout the county.²⁵

²³ Source: NC Natural Heritage Program

²⁴ Source: NC Natural Heritage Program

²⁵ Sources: Pamlico County Parks and Recreation Department, Pamlico.com

Administrative Profile

The administrative capabilities of Pamlico County and the municipalities within the County are discussed in great detail within Section 6 of the *Pamlico Sound Regional Hazard Mitigation Plan* (2015). The assessment evaluates the capabilities of the County and municipalities to implement mitigation actions across the areas of planning and regulatory capabilities, administrative and technical capabilities, fiscal capabilities, and political capabilities. Many more details about the capabilities of Pamlico County and the municipalities can be found in that document.

In terms of administrative capabilities, the County has many of the staff and the necessary plans, policies and procedures in place that are found in communities with “high” capabilities. Pamlico County participates in the development of the current *Pamlico Sound Regional Hazard Mitigation Plan* in place. Pamlico County was studied as part of the *USEPA Smart Growth Implementation Assistance Program for Coastal Communities in 2008*. The County entered this process wishing to create a model that may be transferable to other communities. The County’s vision and transportation management plan (written in 2012) was seen as a model for successfully implementing smart growth objectives in the immediate region, throughout the state, and across the nation. Pamlico County has a flood damage prevention ordinance that was updated in 2015.

Pamlico County has emergency services and planning departments with the capacities to assist in hazard mitigation planning and disaster preparedness. Some of the other indicators of capability for the County include the following: Comprehensive Land Use Plan, Zoning Ordinance, Economic Development Division, and Floodplain Management Ordinance. These plans, policies, procedures coupled with a motivated vision for resilient growth will help ensure that new development in the County will be managed in a responsible manner and will take place in non-hazardous areas. Smaller communities and towns within Pamlico County may need assistance in the administration and implementation of projects due to their limited staff capacity.²⁶

²⁶ Sources: Pamlico County



3. Storm Impact

3. Storm Impact

Rainfall Summary

Hurricane Matthew officially made landfall as a Category 1 storm southeast of McClellanville, South Carolina early on October 8, 2016. The track and speed of the storm resulted in nearly two days of heavy precipitation over much of North Carolina that caused major flooding in parts of the eastern Piedmont and Coastal Plain. The storm produced widespread rainfall of 3-8 inches in the central regions of North Carolina and 8 to more than 15 inches in parts of eastern North Carolina. A number of locations received all-time record, one-day rainfall amounts. Many locations in the Coastal Plain of North Carolina had received above normal rainfall in the month of September leading to wet antecedent conditions prior to Hurricane Matthew. Total rainfall depth for Pamlico County is highlighted graphically in Figure 1.

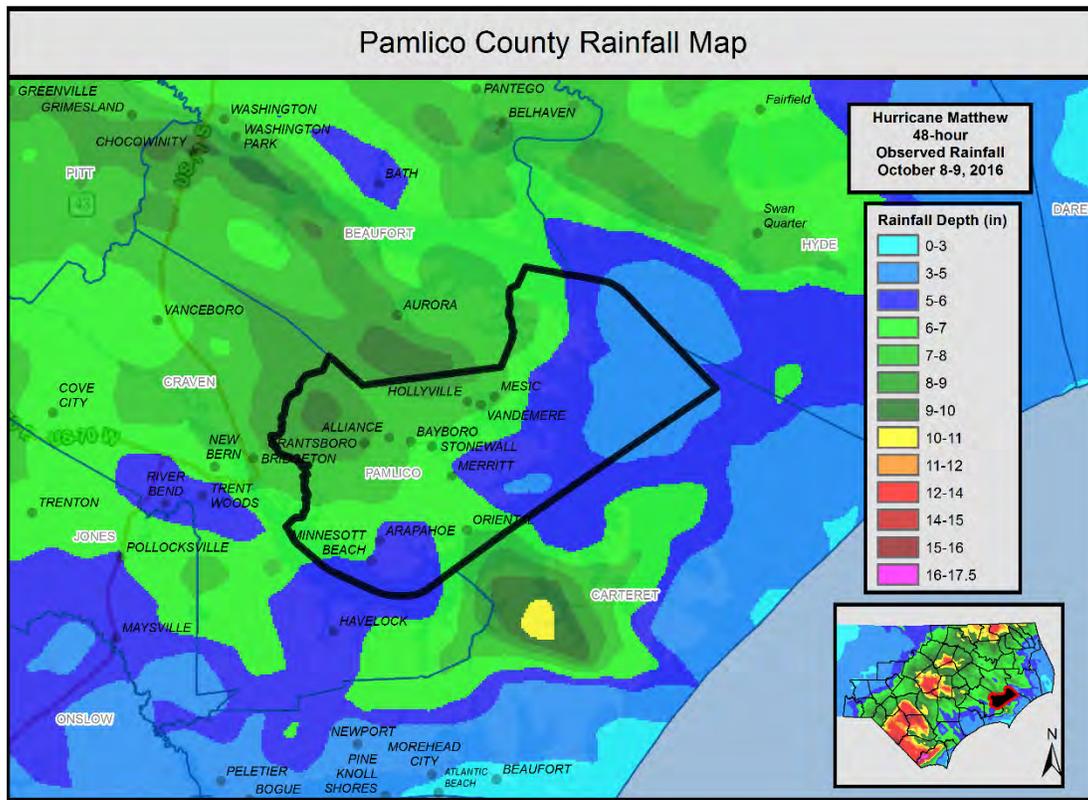


Figure 10. Hurricane Matthew 48-hour Observed Rainfall Depth.

Riverine Flooding Summary

Pamlico County is bordered to the south by the Neuse River, which originates near Durham and flows 275 miles to New Bern, and to the north by the Pamlico River, which is approximately 215 miles long and originates in Person County, North Carolina. The Bay River and its many tributaries, which are part of the Neuse River Basin, bisect the eastern part of the county. All of these rivers drain into Pamlico Sound. Pamlico County lies primarily in the Neuse River Basin, although a small portion in the north part of the county lies in the Tar-Pamlico River Basin. The drainage area for the Neuse River is approximately 5,630 square miles and lies entirely within the state of North Carolina. During intense and/or prolonged rain events significant quantities of runoff from the basins drain to the rivers. By the time the flows reach Pamlico County, they can be significantly greater than under “normal” conditions. The river gages on Swift Creek near the crossing with Route 43 (Weyerhaeuser Road)

and at Fort Barnwell within Craven County are the closest river gages to Pamlico County, and do not provide predictions of what the anticipated flood levels will be, making it difficult for officials to prepare for and warn citizens about potential riverine flooding. USGS documented stream gage data in the report “Preliminary Peak Stage and Streamflow Data at Selected Streamgaging Stations in North Carolina and South Carolina for Flooding Following Hurricane Matthew, October 2016”. Stream gage data from the USGS report for Pamlico County’s nearby gages is summarized in 3 below.

USGS Gage	County	River Name and Location	Drainage Area (sq mi)	Peak Matthew Elevation (ft)	Previous Record (ft)
0209205053	Craven	Swift Creek at HWY 43 NR Streets Ferry, NC	269.0	8.67	12.28
02091814	Craven	Neuse River Near Fort Barnwell, NC	3,900.0	20.51	22.75
02084472	Beaufort	Pamlico River At Washington, NN	3,200.0	5.18	7.53

Table 3. Stream gage flow data for Hurricane Matthew and previous records for gages near Pamlico County

Compared with other events that have struck Pamlico County such as Hurricane Irene in 2011, Hurricane Isabel in 2003, and Hurricane Floyd in 1999, Hurricane Matthew was a lesser event. Hurricane Matthew caused flooding of homes, roads, water pump stations, agricultural fields, and county-wide power outages that lasted for several days. There are many roads in the county that are the only means of egress for residents who live along them. Several of these roads flooded, isolating the residents. Approximately 140 homes were damaged by Hurricane Irene. Many of them have been repaired and elevated, but the ones that weren’t were further damaged by Matthew.

In general, various parts of the County have drainage issues. These include undersized and unmaintained manholes and drainage ditches, ponding due to topography, and low lying areas of roadways which isolate communities during a storm event; these make evacuation and rescue efforts difficult. Additionally, water and sewer infrastructure are undersized and unmaintained in several areas. Pamlico is a predominantly rural, agricultural county and the officials are trying to stabilize the population decline with efforts to attract more residents and businesses. The susceptibility of the existing infrastructure and several residential, commercial, and public buildings to storm-related damages is making this a continued challenge.

Coastal Flooding Summary

Coastal flooding is the primary type of flooding in Pamlico County. Wind-driven tidal surge inundates coastal areas and drives up the rivers and creeks throughout the county, overflowing their banks. Pamlico County experienced coastal flooding as well as beach and dune erosion due to Hurricane Matthew. Hurricane Matthew peak surge elevations were measured at several USGS and NOAA coastal/tidal gage stations during Hurricane Matthew. Station records were analyzed along the coast of Pamlico County to compare Hurricane Matthew to the FEMA flood recurrence intervals. Approximate recurrence interval was determined for each site and this information is summarized for Pamlico County in the table below.

Map ID	County	Site Description	Body of Water	Estimated Peak Surge (ft)	Estimated Recurrence Interval
47	Pamlico	R.E. Mayo Seafood	Sound	3.1	25
62	Pamlico	Neuse River at Oriental Town Pier	Sound	3.1	25
44	Pamlico	Minnesott Beach Ferry Terminal	Sound	2.8	25

Map ID	County	Site Description	Body of Water	Estimated Peak Surge (ft)	Estimated Recurrence Interval
56	Pamlico	River Dunes Marina	Sound	2.1	25

Table 4. Tidal gage data for Pamlico County for Hurricane Matthew

Hurricanes, tropical and extra-tropical events cause impacts to the County in the following categories:

- Flooding of homes and buildings in coastal and inland areas
- Isolation of residences and communities due to road closures caused by street flooding, and debris
- Wind damage & power outages
- Impacts to farm lands, storage facilities and equipment
- Salt water intrusion and associated timber loss
- Sediment and debris deposition in storm drains and at inlets undermining their conveyance capacity
- Access issues which limit the ability to provide disaster response, debris removal and repair services.

Housing Impacts

According to FEMA Individual Assistance claims as of March 30, 2017, there were no registrations for Individual Assistance in Pamlico County as a result of Hurricane Matthew. It should be noted that additional claims from Hurricane Matthew may still be pending, so this number may not reflect the final claims data from the event.

While there have been no Individual Assistance claims filed yet in Pamlico County, housing was impacted as a result of Hurricane Matthew; several homes were damaged but county officials report that the damages were covered by insurance. The bullets below summarize some of the major impacts to housing that were identified by local officials from Hurricane Matthew and other significant events like Hurricane Irene, from which the county is still recovering.

- **Homes Flooded from Hurricane Matthew and other significant storms:** Hurricane Matthew adversely impacted some homes by flooding. Matthew’s greatest impact on housing was on dwellings that were previously damaged by Hurricane Irene that were not repaired because the homeowners were not able to afford the required repairs. Matthew exacerbated the damages that these homes had previously sustained. A number of homes in Pamlico County and its towns have been abandoned, and while the county and town governments have the authority to demolish these homes, they do not have the funding to do so. Hurricane Matthew has further deteriorated the conditions of these already blighted homes.

- **Homes At-Risk of Future Flooding:** According to the Office of Economic Development, nearly 46% of the County population experienced significant losses including homes, family member homes, businesses, churches, community centers or all of the above due to Hurricane Irene. Approximately fifty homes have been elevated within the County since Hurricane Irene. More have been identified, and the County is trying to identify funding sources to elevate these as well. Figure 4 and Figure 5 show flooded residences in Pine Island and coastal areas in the City of Vandemere that were severely inundated during Hurricane Irene. Figure 6 shows a home abandoned during Irene and hasn't been repaired / disposed to date. Figure 7 shows a renovated home, which has not been elevated, though multiple homes in the vicinity have been elevated, indicating lack of funding.



Figure 13. Residential and roadway flooding in Pine Island during Irene, 2011



Figure 14. Coastal areas flooding and debris issues in the Town of Vandemere during Irene, 2011



Figure 15. Abandoned home along NC 304 on Goose Creek Island



Figure 16. Renovated home in the Town of Oriental.

Most private vehicles escaped damage from Hurricane Matthew. Owners were able to move their vehicles to higher ground, such as the Route 304 Bridge connecting Goose Creek Game Area to Hobucken, prior to the arrival of the storm. Homes along Swamp Road were flooded to depths between 1 to 4 feet. Due to the road closure, the area was inaccessible to provide emergency supplies. Frequent flooding is observed in the low income housing areas within the City of Mesic and Florence community, and the residents are not able to afford flood insurance. In the City of Vandemere, coastal areas bordered by Jones Road and Pennsylvania Avenue flood

frequently due to a combination of factors including tidal surge and deficient drainage infrastructure. Lowland area was subject to intense flooding during Irene, flooding 120 homes. At multiple locations within the County, propane tanks are not elevated or strapped down.

Economics / Business / Jobs

Although there were some impacts to the economy in Pamlico County from Hurricane Matthew, these were generally minor compared to some of the other impacts the county experienced. The bullets below summarize some of the impacts to the economy/businesses/jobs that were identified by local officials from the event.

- **Downtown Areas Impacted:** The county courthouse complex in the middle of the Town of Bayboro did not have direct impacts from Matthew, but became flooded during Hurricane Irene. Hard copies of records were lost, and the adjacent county jail lost power, which resulted in a food shortage and the potential need to relocate 108 inmates.
- **Identified Economic Development Zones:** There are several communities in the county that may not have had major impacts directly from Hurricane Matthew, but which have been impacted economically over the past several years as jobs and businesses have struggled. Particularly in Mesic, Vandemere, and Maribel, there have been difficulties attracting businesses and there has been a desire to improve growth and make these communities attractive to new businesses and commercial development.

The table below summarizes the Hurricane Mathew damage summary development.

S No	Employer Name	Damage Summary
1	YMCA	
2	Pamlico County Board of Education	
3	NC Department of Public Safety	
4	County of Pamlico	<ul style="list-style-type: none"> • During Mathew, the County Jail experienced power outages, resulting in a possible need to evacuate 108 inmates. Loss of power resulted in food shortage until help was received from the Governor's Office and Duke Power to prioritize for restoration. • County Wastewater Treatment Plant becomes inaccessible due to severe storm events due to flooding of the roadway leading to the plant. The plant is equipped with an emergency generator but access issues from flooding prohibit plant personnel from monitoring and refueling the generator.
5	Wal-Mart Associates Inc.	
6	Food Lion	
7	Pamlico Community College	
8	Home Life Care Inc.	
9	Arapahoe Charter School	
10	Principle Long Term Care Inc.	

Table 5. Top 10 Employer Damage Summary

Infrastructure

According to Public Assistance claims, which are often closely tied to infrastructure, as of March 30, 2017, Pamlico County did not have any claims as a result of Hurricane Matthew. It should be noted that additional

claims from Hurricane Matthew may still be pending, so this number may not reflect the final claims data from the event.

Pamlico County infrastructure was one of the greatest areas of concern in the wake of Hurricane Matthew as there were several types of infrastructure that were damaged in multiple locations. The bullets below summarize some of major impacts to infrastructure that were identified by local officials from the event.

- Dam Issues:** Pamlico County has two dams included in the State’s dam registry. The Indian Development Corporation dam is privately-owned and is listed as exempt. The Pamlico Regional Wastewater Dike is an impoundment dam owned and operated by the Bay River Metropolitan Sewer District. The Pamlico Regional Wastewater Dike is listed as having high hazard potential, which means that if it is breached, it could cause loss of life and/or damages to property in excess of \$200,000. As of its last inspection, its condition was found to be satisfactory.
- Road/Bridge Flooding:** Road and bridge overtopping are common occurrences in Pamlico County and impacted a number of different locations during Hurricane Matthew. Though the damage due to Matthew was not significant compared with some other counties in North Carolina, ongoing repair efforts in Pamlico County after Hurricane Irene were stalled by Hurricane Matthew. Damage to infrastructure and access issues caused significant challenges to residents as well as emergency response crews. Table 4 below summarizes specific infrastructure that is vulnerable to flooding. Figures 8, 9, 10, and 11 show the locations of the infrastructure impact areas discussed in the table.

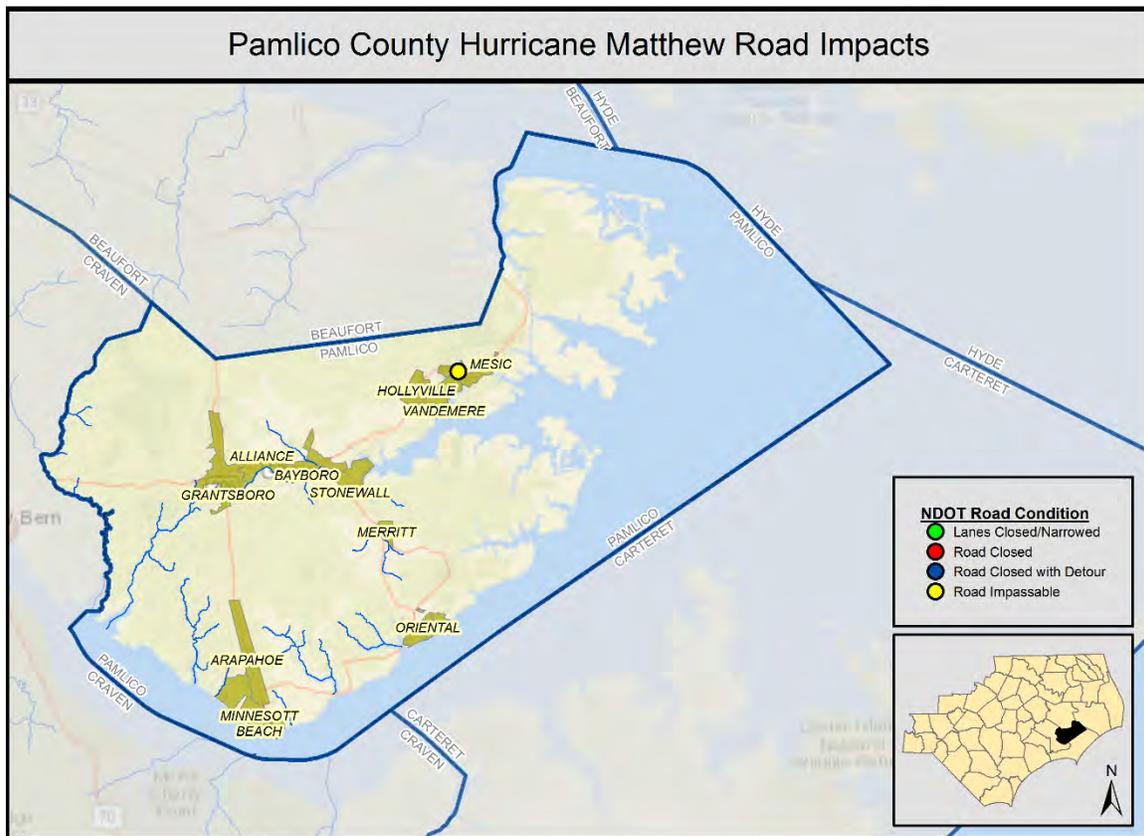


Figure 17. Impacted NCDOT Structure in Pamlico County

S No	Location	Damage Summary
1	Route 304	Due to the topography and roadway layout, this area gets flooded quickly during a storm event. Flood depths of 2'-9' were observed during Irene and 5' during Isabel. A proposed NCDOT project for widening and elevating the roadway wasn't funded.
2	Pamlico County Middle School	Significant flood damage occurred to the school when it flooded during Irene. Flood insurance was acquired subsequent to the storm.
3	County Courthouse Complex (Courthouse, Sheriff's office, Department of Social Services, County Jail, and document storage)	During Mathew, the facility experienced power outages, resulting in a possible need to evacuate 108 inmates. Loss of power resulted in food shortage until help was received from the Governor's Office and Duke Power to prioritize for restoration. The County Courthouse Complex, which includes the courthouse, Sheriff's office, Department of Social Services, and document storage, flooded during Irene. The facility did not have a generator. Documents stored in the basement and on the first floor were damaged due to flooding. County's document storage facility is located within FEMA's Special Flood Hazard Area.
4	3rd Street Bridge over Bay River (aka Bay City Bridge)	The bridge provides access to the State prison and experiences frequent flooding due to tidal action and storm events. During Irene, National Guard assisted in evacuation of the prison.
5	Callison Road Bridge and culvert	During flood events, the culvert near the Callison Road bridge becomes blocked, flooding the bridge and cutting off access to Route 55 is cut off, which in turn isolates housing and business facilities.
6	Kershaw Road Culverts	Culverts along Kershaw Road are not sufficient to handle the flow from significant rain events, resulting in road flooding. NC DOT recently replaced the culvert but did not upsize it. During Irene, roadway was blocked due to downed power lines and eight downed power poles. Residents had to evacuate through farmlands.
7	Janiero Road	Camping areas along Janiero Road and the vicinity are isolated due to three areas along the roadway that are vulnerable to flooding during storm events.
8	Orchard Creek Road	Segment of roadway experiences flooding during storm events. During Irene, National Guard assisted with disaster response efforts.
9	South Street	Undersized storm drains and catch basins along South Street result in significant flooding during storm events
10	Route 55 Corridor	Owing to road design, topography, and drainage layout, multiple culverts along Route 55, particularly near Reelsboro, do not drain adequately (volume as well as drain time), resulting in street flooding and risk of accidents due to hydroplaning.
11	Griggs Road, Vandemere	Cedar Creek experiences frequent flooding due to high tide in Bay River, causing inundation of Griggs Road and subsequently resulting in access issues.
12	Coastal Areas, Vandemere	Areas bordered by Jones Road and Pennsylvania Avenue are in the FEMA Special Flood Hazard Area and are subject to frequent flooding.
13	Griffin Road, Vandemere	High tide and storm-based high water surface elevations in Log Pond Creek result in flooding of Griffin Road, which causes flooding and access issues to the areas west of Griffin Road.
14	Lynches Beach Loop Road and Swan Point intersection	Gets flooded during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events. Flooding depth can be 3 feet or more and cuts off access to Swan Point Road.
15	Straight Road	Gets flooded during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events. This road provides access to many subdivisions.
16	Florence Road	Gets flooded during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events.
17	Pamlico Road	Gets flooded during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events.
18	Paradise Shores	Gets flooded during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events.
29	Meekins Road	Gets flooded during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events.
20	Upper Neck Road	Gets flooded during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events.
21	County Wastewater Treatment Plant	Plant becomes inaccessible due to severe storm events due to flooding of the roadway leading to the plant. The plant is equipped with an emergency generator but access issues from flooding prohibit plant personnel from monitoring and refueling the generator.
22	Stormwater ditches and canals (county-wide)	Numerous stormwater drainage ditches and canals are clogged due to lack of maintenance due to lack of funding. Ownership and maintenance responsibilities of certain ditches and canals within private property augments this challenge.

S No	Location	Damage Summary
23	Sanitary and storm sewers (county-wide)	Sanitary and storm sewers within the County require continuous operations of pump stations. During severe storm events, power outages coupled with access issues to the pump station facilities prohibit operation, monitoring and refueling operations.
24	Bayboro Courthouse	The County Courthouse Complex, which includes the courthouse, Sheriff’s office, Department of Social Services, and document storage, flooded during Irene. The facility did not have a generator. Documents stored in the basement and on the first floor were damaged due to flooding. County’s document storage facility is located within FEMA’s Special Flood Hazard Area.
25	County Department of Social Services	The County Courthouse Complex, which includes the courthouse, Sheriff’s office, Department of Social Services, and document storage, flooded during Irene. The facility did not have a generator. Documents stored in the basement and on the first floor were damaged due to flooding. County’s document storage facility is located within FEMA’s Special Flood Hazard Area.
26	Town Hall, Vandemere	Town Hall and County Fire stations received 8"-9" of rainfall during hurricane Irene.
27	Pamlico County Emergency Shelter (Community College)	During Hurricane Matthew, Pamlico Community College was open for 24 hours as the only public shelter in the county. The shelter’s on-site electrical generators do not have sufficient capacity and fuel storage to sustain a long-term disaster response. The County previously partnered with a local nursing home to temporarily accommodate individuals with special medical needs during severe storms. The nursing home recently notified the County that they will no longer be able to shelter these individuals. The County would like to upgrade the Community College shelter area to accommodate special needs individuals (including disabled access measures) and add shower facilities. The current generator capacity should be evaluated to determine its ability to meet the increased sheltering needs for both people and animals; if found insufficient, generator capacity should be increased.
28	Town Hall, Mesic	The town hall serves as a feeding site for the community during emergencies and gets flooded during extreme storm events. To accommodate demand, the facility requires the addition of a backup generator with additional backup energy source.

Table 6. Summary of infrastructure locations in Pamlico County prone to flooding

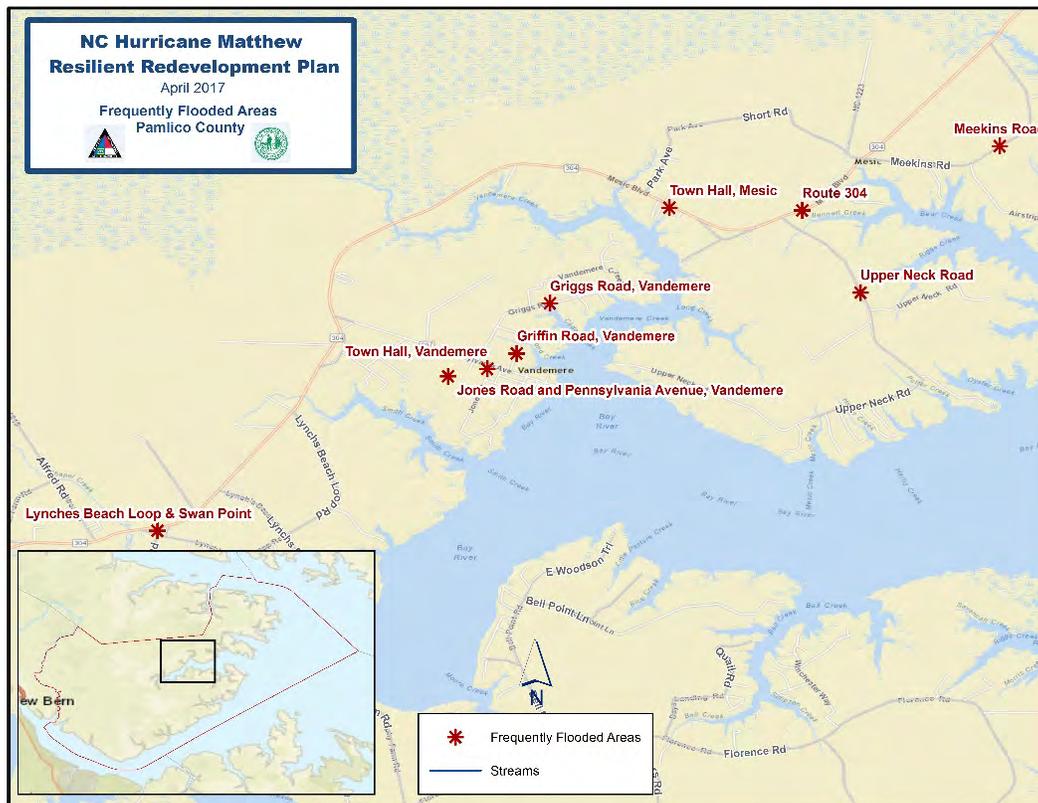


Figure 18. Infrastructure impact areas within Pamlico County



Figure 19. Infrastructure impact areas within Pamlico County.

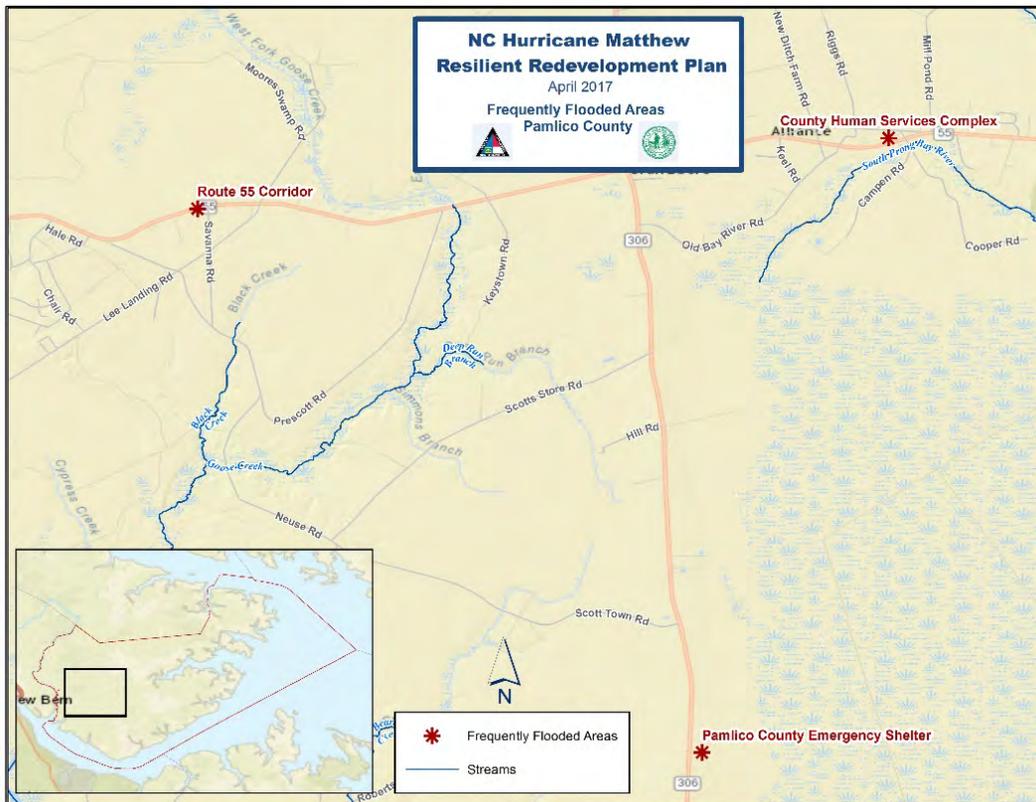


Figure 20. Infrastructure impact areas within Pamlico County

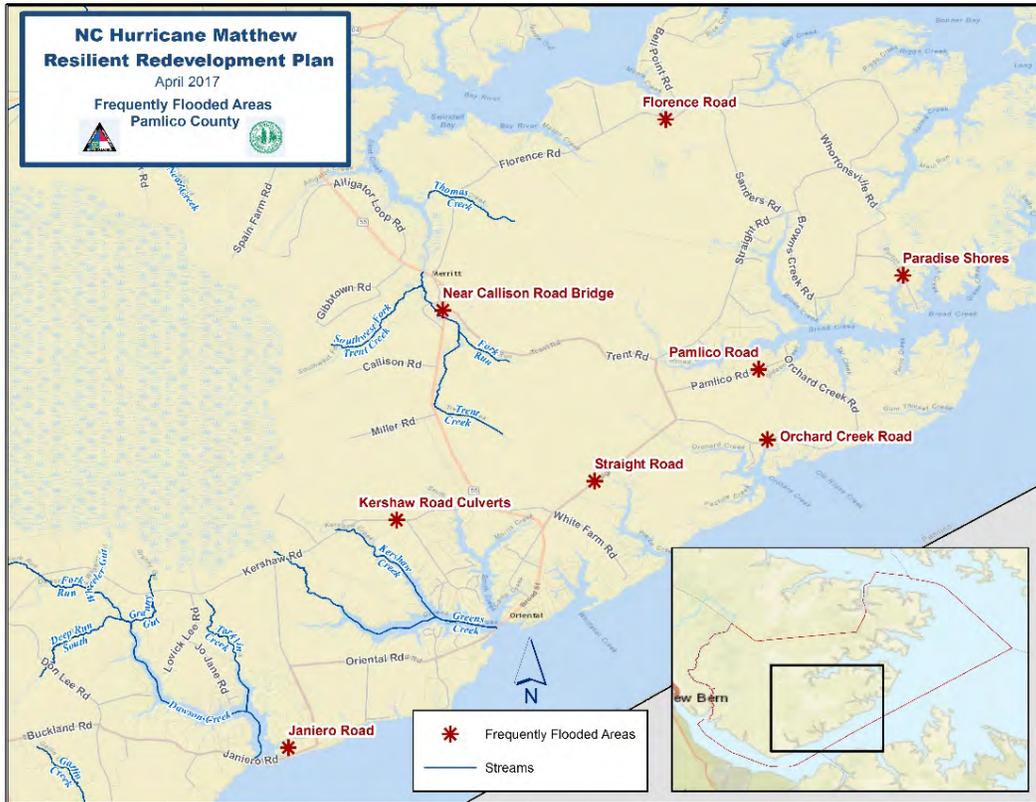


Figure 21. Infrastructure impact areas within Pamlico County

The table below summarizes the impacts to the Top 10 employers (listed in Section II) due to Hurricane Mathew.²⁷

S No	Employer Name	Damage Summary
1	Pamlico County Board of Education	Pamlico County Middle School: though there was not significant impact due to Hurricane Mathew, significant flood damage occurred to the school when it flooded during Irene.
2	NC Department of Public Safety	No damage due to Hurricane Mathew except access issues to employees and users to access the facility. Roof damage occurred at the State Prison facility during Hurricane Irene, which resulted in the need to evacuate inmates and staff.
3	Wal-Mart Associates Inc.	During Hurricane Mathew, though there was no flooding damage, the facility experienced power outage for 22 hours, due to which perishable merchandise was lost. Additionally, access issues to employees and users to access the facility were experienced.
4	County of Pamlico	County Courthouse Complex: The County Courthouse Complex, which includes the courthouse, Sheriff’s office, Department of Social Services, and document storage, flooded during Irene. The facility did not have a generator capable of supporting the entire facility’s needs during disasters. Documents stored in the basement and on the first floor were damaged due to flooding. County’s document storage facility is located within FEMA’s Special Flood Hazard Area. During Mathew, the County jail experienced power outages, resulting in a possible need to evacuate 108 inmates. Loss of power resulted in food shortage until help was received from the Governor’s Office and Duke Power to prioritize for restoration.
5	Pamlico Community College	During Hurricane Mathew, Pamlico Community College was open for 24 hours as the only public shelter in the county. The shelter’s on-site electrical generators do not have sufficient capacity and fuel storage to sustain a long-term disaster response. The County previously partnered with a local nursing home to temporarily accommodate individuals with special medical needs during severe storms. The nursing home recently notified the County that they will no longer be able to shelter these individuals.

²⁷ Source: NC Commerce, Labor and Economic Analysis Division, Top 25 Employers by NC County, 2015

S No	Employer Name	Damage Summary
6	Food Lion	During Hurricane Mathew, though there was no flooding damage, the facility experienced power outage for 22 hours, due to which perishable merchandise was lost. Additionally, access issues to employees and users to access the facility were experienced.
7	Home Life Care Inc.	No damage due to Hurricane Mathew except access issues to employees and users to access the facility.
8	Arapahoe Charter School	No damage due to Hurricane Mathew except access issues to employees and users to access the facility.
9	Principle Long Term Care Inc.	No damage / impact due to Hurricane
10	YMCA	No damage due to Hurricane Mathew except access issues to employees and users to access the facility.

Table 7. Summary of infrastructure locations in Pamlico County prone to flooding

- **Critical Issues:** The following are key critical issues faced by the County:
 - County was affected significantly during Irene, and rebuilding efforts were also undermined by Hurricane Matthew.
 - Roadway infrastructure is a continuing issue faced by the County. Flooding of low spots in major roadways isolates residences and communities prohibiting timely disaster assistance services.
 - Deficient drainage infrastructure – undersized storm sewers and manholes, and lack of maintenance due to insufficient resources has resulted in debris issues. Clogging of structures aggravates flooding issues during hurricanes, tropical and extra-tropical events.
 - Power outages and access issues delay repair operations by power companies.
 - Pump stations required for successful operation of the sanitary and storm sewer network frequently fail due to power outages and access issues.
 - Undersized water distribution system prohibits the efficacy of firefighting operations.

- **Critical Infrastructure:** The following are critical assets owned by the County and individual Cities and Towns:
 - County Government offices and Courthouse are located within a FEMA Special Flood Hazard Area, yet personnel need use these facilities during natural events to meet public needs.
 - County Health Department is located within a FEMA Special Flood Hazard Area, and has known issues with floor structures and ADA needs.
 - County Sheriff and jail need backup power and fuel systems for storms.
 - County Social Services building, Senior Center building and the Town of Alliance’s Town Hall get isolated during flooding events, though they don’t get flooded.
 - Pamlico Community College serves as the County hurricane shelter. This shelter needs to be retrofitted to be able to accommodate individuals with special medical needs, which likely will require upgrades to the building electrical systems and appropriate backup generators with redundant fuel supplies.
 - County Wastewater Treatment Plant can be difficult to access due to flooded roads following storm events, preventing operation, maintenance, and refueling of backup generators.

Figure 22, Figure 23, Figure 24, and Figure 25 show damage to county infrastructure during hurricanes and extreme storm events.



Figure 22. Inundated roadways and closures pose challenges to disaster response in Bayboro, NC (2015)



Figure 23. Nuisance flooding in coastal residential areas of Pamlico County (October, 2015)



Figure 24. Infrastructure damage - Hurricane Irene (2011)



Figure 25. Damage to wetlands and forested areas - Hurricane Irene (2011)

Ecosystems / Environment

Overall, environmental impacts in Pamlico County as a result of Hurricane Matthew were relatively minimal. Pamlico is a predominantly rural County with abundant natural resources including farmlands, wetlands and coastal resources. Lagoons inside the WWTPs in Oriental and Bayboro are vulnerable to flooding during severe storm events. However, there were some noteworthy incidents that may not have explicitly impacted the environment and ecosystems, but which brought to light some underlying issues related to maintenance of environmental features that the county faces recurrently.

Town of Maribel: Pumps within the treatment plant have failed during significant storm events such as Irene, resulting in mosquito vector issues. Salt water intrusion along Bay River, Smith Creek, Log Pond Creek, Cedar Creek, and Vandemere Creek has resulted in tree loss along the corridor from the Towns of Maribel to Mesic shown in Figure 26.



Figure 26. Saltwater intrusion areas (Maribel to Mesic) in Pamlico County

Agriculture

Farming, forestry and fishing have been identified as three major industries in the County. Major crops include corn, wheat, soybeans, potatoes, sorghum, and pasture/hay. Hurricanes Irene and Matthew and other severe storm events caused varying degrees of damage to farmlands, the level of damage greatly a function of the

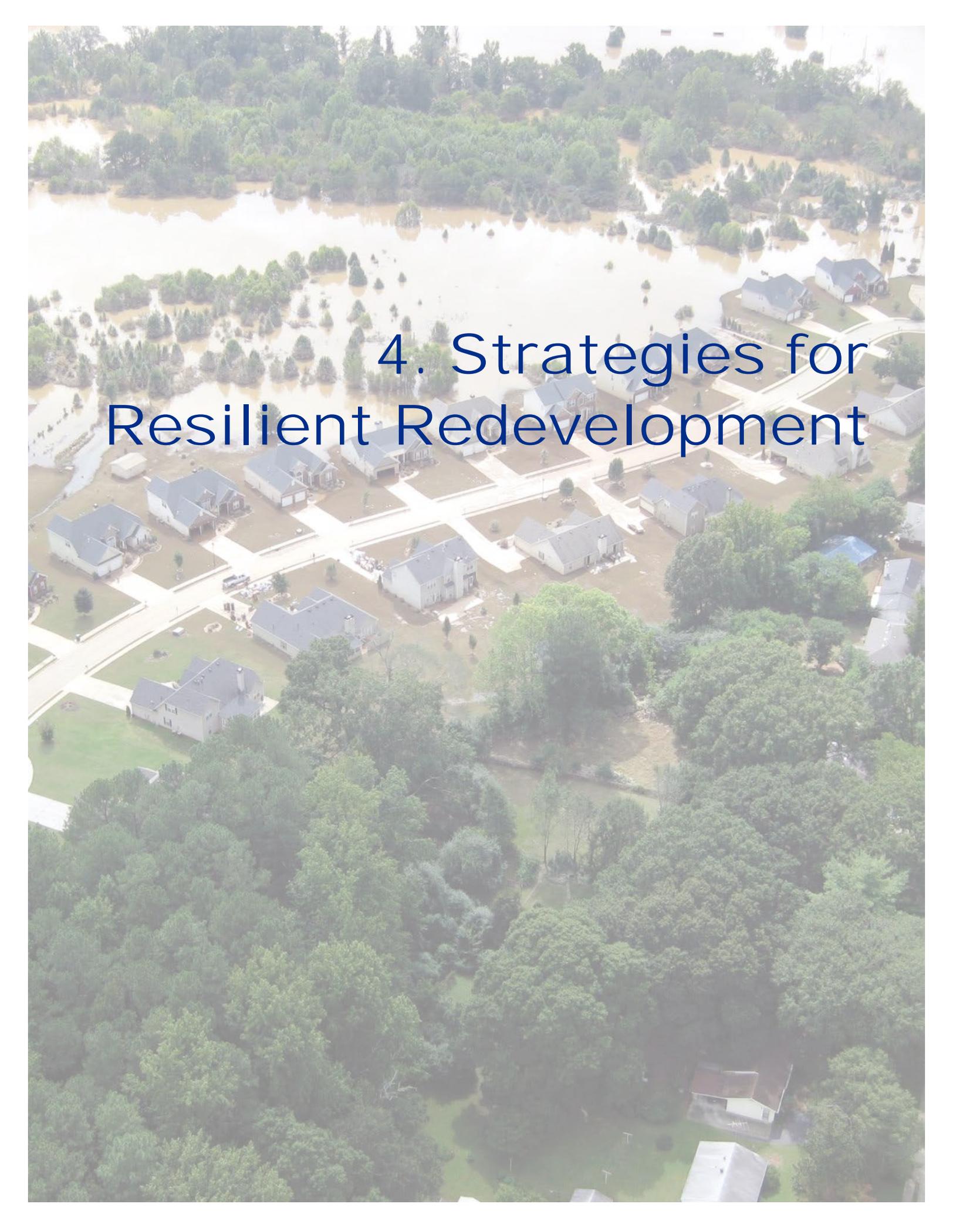
storm track, intensity of winds, and rainfall depths. Crop storage facilities were damaged and roadway flooding hampered access during both Hurricanes Irene and Matthew. Farmlands situated in low lying areas near the shoreline in the Towns of Hobucken, Lowland, Bayboro, Vandemere, Mesic, Merritt, Whortonsville, Pamlico, Florence, Oriental, and Arapahoe suffered flooding, which resulted in damage to crops, farm equipment, and storage facilities. Impact to agriculture due to salt water intrusion is limited to shoreline areas in the Towns of Lowland, Hobucken, Bayboro, Vandemere, Mesic, Merritt, Whortonsville, Pamlico, Florence, Oriental, and Arapahoe. Flood events also result in degradation of grain quality, delays in harvest, and infections to crops.

During significant storm events such as Matthew and Irene, high winds cause lodging (plant fall over) and breakage of crops. Lodged grains are more difficult to harvest and may degrade in quality. Premature breakage of crops can significantly reduce yield depending upon the severity, growth stage, and location of damage on the crop.

Potential hurricanes are a key limiting factor associated with crop planting dates. Any delay in planting results in harvest times closer to peak hurricane season, causing greater potential for yield loss. Hurricanes such as Matthew and Irene and intense storm events can cause delays in harvest, and erosion of ditches and unprotected areas within fields. This increases the likelihood of equipment creating ruts in fields requiring additional field work in the winter and spring before planting.

All farmlands in the Pamlico County require the use of drainage ditches to remove excess water during rain event, and help maintain moisture levels in field via water control structures. The greatest impacts to ditches from hurricanes and storm events are channel erosion and clogging of drains, culverts, tiles and control structures by soil and/or vegetation. Significant drain clogging resulted from Matthew when recently harvested corn stalks were washed into the ditches, resulting in flooding of the surrounding areas. Substantial damage to farming equipment and facilities has been observed during severe storm events in low lying agricultural areas near the shoreline, where farm equipment is typically left in a field. Lightning strikes may be a potential concern.

Impacts to fisheries due to flooding during hurricanes and storm events are two-fold. Firstly, fish ponds can overflow, resulting in overbank flooding, loss and potential death of fish species. Depending on the intensity of flooding and potential cross contamination, water quality of the ponds can significantly affected.

An aerial photograph showing a residential neighborhood that has been severely flooded. The houses, which are mostly two-story structures with grey roofs, are surrounded by deep, brown water. The water has inundated the yards and streets, leaving only the roofs and some trees visible above the surface. The surrounding area is densely wooded with green trees. The text "4. Strategies for Resilient Redevelopment" is overlaid in the center of the image in a blue, serif font.

4. Strategies for Resilient Redevelopment

4. Strategies for Resilient Redevelopment

This section provides details about the resilience and revitalization strategies and actions identified in Pamlico County. These actions were identified and refined during three public meetings with local officials and county residents held in March and April 2017. The actions are tied to impacts from Hurricane Matthew and organized by the pillars of housing, economic development, infrastructure and environment. In addition to the public meetings, frequent coordination calls with County officials and data gathered from state agencies and organizations were utilized to formulate the actions listed below.

Meeting 1 was designed to introduce the community and County points of contact to the Resilient Redevelopment Planning process and goals. This meeting allowed the planning team to capture areas within the county that were damaged during Hurricane Matthew and to hear what potential mitigation actions had already been considered. Draft resilience actions were then presented at Meeting 2 of the planning process. This was done to garner general buy-in on the draft actions from the County-level planning teams and residents. More details on the actions were collected between Meetings 2 and 3 through research and follow-up phone calls and emails with the primary points of contact. Meeting 3 provided the opportunity to collect and finalize details for the draft actions. Meeting 4, scheduled in early May 2017, allowed the county points of contact to rank the identified actions, group them into High, Medium, and Low Priorities, and to approve their inclusion in the plan.

Pillar	Project/Action Count
Housing	4
Economic Development	2
Infrastructure	28
Environment	1
Grand Total	35

Table 8. Pamlico County Summary of Projects by Pillar

The following table is ordered by the rankings and priorities provided by Pamlico County during Meetings 3 and 4 and subsequent coordination with the County:

Pillar	Action Name	Priority	Overall Ranking
Housing	Elevate Homes (County-wide)	High	1
Housing	Acquisition of Damaged Homes (County-wide)	High	2
Housing	Relocate Mobile Homes (County-wide)	High	3
Housing	Emergency Preparedness Guidebook	High	4
Infrastructure	Sherriff's Office / County Jail	High	5
Infrastructure	Pamlico County Middle School	High	6
Infrastructure	Pamlico County Emergency Shelter	High	7
Infrastructure	Route 304	High	8
Infrastructure	Near Callison Road Bridge	High	9
Infrastructure	3 rd Street Bridge over Bay River	High	10
Infrastructure	Florence Road	High	11
Infrastructure	Lynches beach Loop & Swan Point	High	12
Infrastructure	Griffin Road, Vandemere	High	13
Infrastructure	Pamlico Road	High	14

Pillar	Action Name	Priority	Overall Ranking
Infrastructure	Stormwater Ditches (County-wide)	High	15
Infrastructure	County Human Services Complex	High	16
Infrastructure	Town Hall, Vandemere	High	17
Infrastructure	County Courthouse	High	18
Infrastructure	Sanitary and Storm Sewers (County-wide)	High	19
Infrastructure	Town Hall, Mesic	High	20
Infrastructure	County Wastewater Treatment Plant	High	21
Economic Development	Ordinances for New Commercial Development	High	22
Economic Development	Relocate Business Development Corridor	High	23
Infrastructure	Kershaw Road Culverts	High	24
Infrastructure	Janiero Road	High	25
Infrastructure	Orchard Road Creek	High	26
Infrastructure	Route 55 Corridor	High	27
Infrastructure	Griggs Road, Vandemere	High	28
Infrastructure	Jones Road and Pennsylvania Avenue, Vandemere	High	29
Infrastructure	Paradise Shores	Medium	30
Infrastructure	Meekins Road	Medium	31
Infrastructure	South Street	Medium	32
Infrastructure	Straight Road	Medium	33
Infrastructure	Upper Neck Road	Medium	34
Environment	Crop Storage Facilities Retrofits	Medium	35

Table 9. Projects by Rank

On the following pages, we have organized the projects and actions by pillar. Within each pillar, the projects are grouped by county priority. Please note that maps are provided for all projects that have a specific location within the county. Projects without maps are county-wide projects that will benefit citizens throughout the county.

Housing Strategies

High Priority Housing Strategies

Pillar	Action Name	Priority	Overall Ranking
Housing	Elevate Homes (County-wide)	High	1
Housing	Acquisition of Damaged Homes (County-wide)	High	2
Housing	Relocate Mobile Homes (County-wide)	High	3
Housing	Emergency Preparedness Guidebook	High	4

Table 10. Pamlico High Priority Housing Summary

These four projects represent the housing strategies that Pamlico County indicated are the highest priority to address. Additional detail on the projects can be found below:

- Elevate Homes:** Properties located in the SFHA are in constant danger of repetitive flooding. Elevating properties to the Design Flood Elevation (DFE = Base Flood Elevation (BFE) + 2 ft) reduces the risk of flood damages occurring from the 100-year flood event. Elevate flood prone properties located within the County. Priority restoration (repair) properties (based on the level of exposure and access issues) will be identified through collaboration with the County Government. The County prefers to elevate homes whenever and wherever feasible. They have already elevated a number of homes through FEMA’s Hazard Mitigation Grant Program (HMGP) and have found this approach to be effective in protecting homes against flooding. The County is in the process of identifying others through a sequential process of prioritization to identify and secure funding for resilient rebuilding. It is important to ensure that all associated utilities, including air conditioning units, propane tanks, and other items, are elevated along with the housing itself. Additionally, propane tanks that cannot be elevated should be tied down to avoid floating away if ever inundated. Elevation of residential homes is an effective mitigation measure because it significantly reduces losses and displacement during low frequency flood events and protects the local tax base by allowing residents to continue to live in their current location.

The County is concerned with new State flood maps that fail to take into consideration flooding from Hurricane Irene and the levels shown are inadequate. Areas that are flood prone have been taken out of the flood zones. The County is considering adopting comprehensive mitigation strategies by requiring higher elevation of new homes in areas that saw flooding during Hurricane Irene.

31 - Elevate homes

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 1

Project Timeframe: Various (TBD)

Location: County-wide. Multiple properties located within the County.

Project Summary: Properties located in the SFHA are in constant danger of repetitive flooding. Elevating properties to the Design Flood Elevation (DFE = Base Flood Elevation (BFE) + 2 ft) reduces the risk of flood damages occurring from the 100-yr flood event. Elevate flood prone properties located within the County. Priority restoration (repair) properties (based on the level of exposure and access issues) will be identified through collaboration with the County Government. The County prefers to elevate homes whenever and wherever feasible. They have already elevated a number of homes through FEMA’s Hazard Mitigation Grant Program (HMGP) and have found this approach to be effective in protecting homes against flooding. The County has already identified and elevated few homes, and is in the process of identifying others through a sequential process of prioritization to identify and secure funding for resilient rebuilding. It is important to ensure that all associated utilities, including air conditioning units, propane tanks, and other items, are elevated along with the housing itself. Additionally, propane tanks that cannot be elevated should be tied down to avoid floating away if ever inundated.

The County is concerned with new State flood maps that fail to take into consideration flooding from Hurricane Irene and the levels shown are inadequate. Areas that are flood prone have been taken out of the flood zones. The County is considering adopting comprehensive mitigation strategies by requiring higher elevation of new homes in areas that saw flooding during Hurricane Irene.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Elevation of residential homes is an effective mitigation measure because it significantly reduces losses and displacement during low frequency flood events and protects the local tax base by allowing residents to continue to live in their current location.	N/A
Consistent with existing plans (describe points of intersection/departure)	Elevation of residential homes is an effective mitigation measure because it significantly reduces losses and displacement during low frequency flood events and protects the local tax base by allowing residents to continue to live in their current location.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Elevating properties to the Design Flood Elevation reduces the risk of flood damages occurring from the 100-yr flood event.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A

What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Acquisition of Damaged and Blighted Homes:** The County has a significant problem of abandoned and blighted housing in many low-to-moderate income areas. Severe flooding from hurricanes, including Irene and Matthew, has led to various properties throughout the county being abandoned by the owners and subsequently condemned. Acquiring damaged homes will be useful to redevelop the sites and / or convert them to open space and / or new resilient housing sites, and is an effective mitigation measure because it significantly reduces future risks, protects the local tax base by allowing the County to reuse / redevelop the land for future residents. FEMA Hazard Mitigation Grant Program (HMGP) funding is currently being considered for these activities. Community Development Block Grant (CDBG) funds may also be able to fund activities of this type, especially for those that are not found to be cost-effective or otherwise ineligible for HMGP funding.



Figure 27. Examples of Abandoned/Blighted Housing in Pamlico County

33 - Acquisition of Damaged Housing

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 2

Project Timeframe: Various (TBD)

Location: County-wide. Multiple properties located within the County.

Project Summary: The County has a significant problem of abandoned and blighted housing in many low-to-moderate income areas. Severe flooding from hurricanes, including Irene and Matthew, has led to various properties throughout the county being abandoned by the owners and subsequently condemned.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Acquisition of damaged homes is an effective mitigation measure because it significantly reduces future risks protects the local tax base by allowing the County to reuse / redevelop the land for future residents.	N/A
Consistent with existing plans (describe points of intersection/departure)	Acquiring damaged homes will be useful to redevelop the sites and / or convert them to open space and / or new resilient housing sites.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Acquisition of damaged homes will be useful for the creation of open space and / or resilient housing locations. The County is trying to attract residents and businesses and stabilize the population.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Less than 25%	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Relocate Mobile Homes:** Hurricane Matthew worsened damage to mobile homes in the county that sustained damage from previous storms. Multiple mobile homes in the County need to be relocated out of the floodplain as a cost-effective means of increasing community resilience. Issues regarding acquiring new property in flood resistant areas for the Mobile homes need to be considered. Most low to moderate income families cannot afford to acquire new property or to move their homes to more costly property. Pre-emptive retreat of this type of housing unit from the floodplain may prevent permanent displacement of Low and Moderate Income (LMI) residents in the future due to flood damage. This approach is consistent with the hazard mitigation plan.

34 - Relocate Mobile Homes

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 3

Project Timeframe: Various (TBD)

Location: County-wide. Multiple properties located within the County.

Project Summary: Hurricane Matthew worsened damage to mobile homes in the county that sustained damage from previous storms. Multiple mobile homes in the County need to be relocated out of the floodplain as a cost-effective means of increasing community resilience. Issues regarding acquiring new property in flood resistant areas for the Mobile homes need to be considered. Most low to moderate income families cannot afford to acquire new property or to move their homes to more costly property.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Pre-emptive retreat of this type of housing unit from the floodplain may prevent permanent displacement of Low and Moderate Income (LMI) residents in the future due to flood damage.	N/A
Consistent with existing plans (describe points of intersection/departure)	Pre-emptive retreat of this type of housing unit from the floodplain may prevent permanent displacement of Low and Moderate Income (LMI) residents in the future due to flood damage. This approach is consistent with the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Pre-emptive retreat of this type of housing unit from the floodplain may prevent permanent displacement of Low and Moderate Income (LMI) residents in the future due to flood damage. This approach also can reduce the number of emergency responses that emergency services personnel undertake during and after a natural hazard event.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Less than 25%	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$101K - \$250K	Agree

What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Emergency Preparedness Handbook:** During hurricanes such as Matthew and Irene, emergency services personnel had to respond to many more emergency calls than usual. Pamlico County, together with the Towns of Vandemere, Bayboro, Grantsboro, Alliance, Oriental, Mesic, Stonewall, Minnesott Beach, and Arapahoe, should prepare an emergency guidebook for distribution to all residents to educate them on what to do to remain self-sufficient for up to 72 hours after a natural hazard event. County prefers this guidebook to be available on the County and Chamber of Commerce websites as a download able pdf. The guidebook would be a good place to address tying down of propane tanks.

35 - Emergency Preparedness Guidebook

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 4

Project Timeframe: 12-24 months

Location: County-wide

Project Summary: During hurricanes such as Matthew and Irene, emergency services personnel had to respond to many more emergency calls than usual. Pamlico County, together with the Towns of Vandemere, Bayboro, Grantsboro, Alliance, Oriental, Mesic, Stonewall, Minnesott Beach, and Arapahoe, should prepare an emergency guidebook for distribution to all residents to educate them on what to do to remain self-sufficient for up to 72 hours after a natural hazard event. County prefers this guidebook to be available on the County and Chamber of Commerce websites as a download able pdf. The guidebook would be a good place to address tying down of propane tanks.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	This guidebook would explain to citizens best practices for remaining self-sufficient during the first 72 hours after a major natural hazard event.	N/A
Consistent with existing plans (describe points of intersection/departure)	This guidebook would explain to citizens best practices for remaining self-sufficient during the first 72 hours after a major natural hazard event. This approach supports the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	This guidebook would explain to citizens best practices for remaining self-sufficient during the first 72 hours after a major natural hazard event.	Agree
For how long will this solution be effective?	Less than 10 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	None	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$0- \$50K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree

Who will administer this project?	County	Agree
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Economic Development Strategies

High Priority Economic Development Strategies

Pillar	Action Name	Priority	Overall Ranking
Economic Development	Ordinances for New Commercial Development	High	22
Economic Development	Relocate Business Development Corridor	High	23

Table 11. Pamlico High Priority Economic Development Summary

These two projects represent the economic development strategies that Pamlico County indicated are the highest priority to address. Additional detail on the projects can be found below:

- Ordinances for New Commercial Development:** The County should establish and enforce building ordinances/standards that will increase resilience of new commercial development by elevating buildings, elevating contents, and enforcing freeboard requirements. The County is already doing this and will continue to try to make improvements. Economic Developer encourages new and existing businesses to build or modify to be more resilient to storm events. County also considers of placement of types of businesses and the impact of storms on business and community. Considering the goals of the County and the Pamlico County HMP, stringent building standards will increase resilience of new commercial development. This project will be in line with the County's goals of attracting businesses, whose survival depends on resilient establishment, minimal to no impacts, and preparedness during adverse flooding events.

37 - Ordinances for New Commercial Development

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 22

Project Timeframe: Various (TBD)

Location: County-wide

Project Summary: The County should establish and enforce building ordinances/standards that will increase resilience of new commercial development by elevating buildings, elevating contents, and enforcing freeboard requirements. The County is already doing this and will continue to try to make improvements. Economic Developer encourages new and existing businesses to build or modify to be more resilient to storm events. County also considers of placement of types of businesses and the impact of storms on business and community.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	This project will be in line with the County's goals of attracting businesses whose survival depends on resilient establishment minimal to no impacts and preparedness during adverse flooding events.	N/A
Consistent with existing plans (describe points of intersection/departure)	Considering the goals of the County and the Pamlico County HMP stringent building standards will increase resilience of new commercial development.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Considering the goals of the County and the Pamlico County HMP stringent building standards will increase resilience of new commercial development.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Between 51 and 75%	Agree
What impacts to the environment of the county will result from this project?	No Impact	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$0- \$50K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Between 26 and 50%	Agree
Who will administer this project?	County	Agree

- **Relocate Business Development Corridor:** The County should focus future development of and relocation of the existing business development corridor to outside of the 100- and 500-year floodplains. There are multiple high areas within the County (out of the SFHA) which could be considered for potential relocation during future discussions with the County. This project will help ensure resilience of business activity into the future as well as during minor coastal flooding events. Exceptions to this can be made for businesses that rely on access to the water. There are multiple high areas within the County (out of the SFHA) which could be considered for potential relocation during future discussions with the County. Since the county is trying to attract businesses to come to the County and survive, establishing a corridor at resilient locations is going to be very beneficial and in line with the County's development goals. Proposed locations should be identified through discussions with the County, therefore a map of proposed locations could not be included for this submittal.

36 - Relocate Business Development Corridor

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 23

Project Timeframe: 36-48 months

Location: County-wide

Project Summary: Focus future development of and relocation of the existing business development corridor to outside of the 100 and 500 year floodplains. There are multiple high areas within the County (out of the SFHA) which could be considered for potential relocation during future discussions with the County.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	This will help ensure resilience of business activity into the future as well as during minor coastal flooding events.	N/A
Consistent with existing plans (describe points of intersection/departure)	This will help ensure resilience of business activity into the future as well as during minor coastal flooding events. Exceptions to this can be made for businesses that rely on access to the water. There are multiple high areas within the County (out of the SFHA) which could be considered for potential relocation during future discussions with the County.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	This project will help ensure resilience of business activity into the future as well as during minor coastal flooding events.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Between 26 and 50%	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Less than 25%	Agree
Who will administer this project?	County	Agree

Infrastructure Strategies

High Priority Infrastructure Strategies

Pillar	Action Name	Priority	Overall Ranking
Infrastructure	Sherriff’s Office / County Jail	High	5
Infrastructure	Pamlico County Middle School	High	6
Infrastructure	Pamlico County Emergency Shelter	High	7
Infrastructure	Route 304	High	8
Infrastructure	Near Callison Road Bridge	High	9
Infrastructure	3 rd Street Bridge over Bay River	High	10
Infrastructure	Florence Road	High	11
Infrastructure	Lynches beach Loop & Swan Point	High	12
Infrastructure	Griffin Road, Vandemere	High	13
Infrastructure	Pamlico Road	High	14
Infrastructure	Stormwater Ditches (County-wide)	High	15
Infrastructure	County Human Services Complex	High	16
Infrastructure	Town Hall, Vandemere	High	17
Infrastructure	County Courthouse	High	18
Infrastructure	Sanitary and Storm Sewers (County-wide)	High	19
Infrastructure	Town Hall, Mesic	High	20
Infrastructure	County Wastewater Treatment Plant	High	21
Infrastructure	Kershaw Road Culverts	High	24
Infrastructure	Janiero Road	High	25
Infrastructure	Orchard Road Creek	High	26
Infrastructure	Route 55 Corridor	High	27
Infrastructure	Griggs Road, Vandemere	High	28
Infrastructure	Jones Road and Pennsylvania Avenue, Vandemere	High	29

Table 12. Pamlico High Priority Infrastructure Summary

These projects represent the infrastructure strategies that Pamlico County indicated are the highest priority to address. Additional detail can be found below:

- **Sherriff's Office / County Jail:** The facility experienced flooding during hurricanes Irene and Matthew, as well as frequent impacts from high tide events. The jail lost power during Hurricane Matthew, resulting in a food shortage and nearly necessitating the evacuation of 108 inmates. Loss of power resulted in food shortage until help was received from the Governor's Office and Duke Power to prioritize for restoration. The facility needs an emergency generator with backup power source to ensure uninterrupted power to refrigeration facilities. Adaptation strategies include elevating building systems (HVAC, lighting and electrical breakers/controls, radios and communications, water/wastewater, and foodstuffs), installing backup generators with fuel storage, and considering the installation and use of solar panels with backup batteries to support the generators. Making public facilities resilient is consistent with County goals and the hazard mitigation plan. Floodproofing utilities and adding a backup generator with alternate fuel source will enable the Sheriff's office to continue providing essential functions to the community before, during and after storm events. The project will provide a reliable backup power source to a critical facility during power outages, and make the facility more resilient and ensuring continued operations during severe storm events providing critical services to community.



Figure 28. County Jail / Sherriff's Office

04 - County Jail / Sherriff's Office

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 5

Project Timeframe: Within 1 year

Location: County Jail

Project Summary: The facility experienced flooding during hurricanes Irene and Matthew, as well as frequent impacts from high tide events. The jail lost power during Hurricane Matthew, resulting in a food shortage and nearly necessitating the evacuation of 108 inmates. The facility needs an emergency generator with backup power source to ensure uninterrupted power to refrigeration facilities. Adaptation strategies include elevating building systems (HVAC, lighting and electrical breakers/controls, radios and communications, water/wastewater, and foodstuffs), installing backup generators with fuel storage, and considering the installation and use of solar panels with backup batteries to support the generators.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	During Mathew the facility experienced power outages resulting in a possible need to evacuate 108 inmates. Loss of power resulted in food shortage until help was received from the Governor's Office and Duke Power to prioritize for restoration. This project will improve the resilience and continued operations of law and order services particularly critical during extreme storm events and hurricanes.	N/A
Consistent with existing plans (describe points of intersection/departure)	Making public facilities resilient is consistent with County goals and the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	The county will not need to evacuate prisoners during future power outage events.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree

What impacts to the environment of the county will result from this project?	None	N/A
What is the capability of the local government to administer this project?	High	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Pamlico County Middle School:** The school is located in or on the edge of the 100-year floodplain and is subject to inundation during flood events. Constructing berms around the facility and/or flood proofing can help reduce flooding risk and provide for continued operations during such events, providing critical services to citizens. Elevating essential building systems and records and providing offsite backup servers for school records are recommended. The County should also evaluate the possibility of constructing a new school facility outside of floodplain or converting the existing building to multi-story construction with open-space on the ground floor. The County indicated that HVAC, electrical systems, and essential building records have been elevated, and the building has been adapted to be as flood resilient as possible.

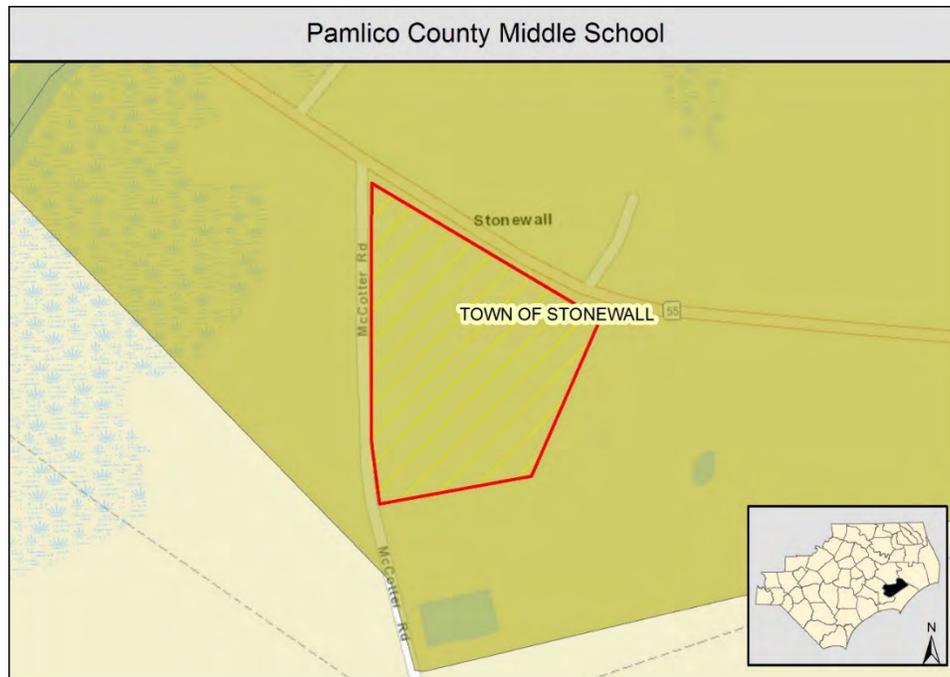


Figure 29. Pamlico County Middle School

03 - Pamlico County Middle School

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 6

Project Timeframe: 3 years

Location: 15526 NC-55, Bayboro, NC 28515

Project Summary: Pamlico County Middle School is located in or on the edge of the 100-year floodplain and is subject to inundation during flood events. Constructing berms around the facility and/or flood proofing can help reduce flooding risk and provide for continued operations during such events, providing critical services to citizens. Elevating essential building systems and records and providing offsite backup servers for school records are recommended. The County should also evaluate the possibility of constructing a new school facility outside of floodplain or converting the existing building to multi-story construction with open-space on the ground floor. The county indicated that essential building records have already been elevated, HVAC and electric have been raised, and the building has been adapted to be as flood resilient as possible.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	This project can help reduce flooding risk and provide for continued operations during such events providing critical services to citizens.	N/A
Consistent with existing plans (describe points of intersection/departure)	Making public facilities resilient is consistent with County goals and the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	None	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	None	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$501K - \$1M	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Between 51 and 75%	Agree
Who will administer this project?	County	Agree

- **Pamlico County Emergency Shelter (Community College):** During Hurricane Matthew, Pamlico Community College was open for 24 hours as the only public shelter in the county. The shelter’s on-site electrical generators do not have sufficient capacity and fuel storage to sustain a long-term disaster response. The County previously partnered with a local nursing home to temporarily accommodate individuals with special medical needs during severe storms. The nursing home recently notified the County that they will no longer be able to shelter these individuals. The County would like to upgrade the Community College shelter area to accommodate special needs individuals (including disabled access measures) and add shower facilities. The current generator capacity should be evaluated to determine its ability to meet the increased sheltering needs for both people and animals; if found insufficient, generator capacity should be increased. The local community college will have improved facilities to serve the community and will be able to operate for several days on generator power when power in the county goes out.

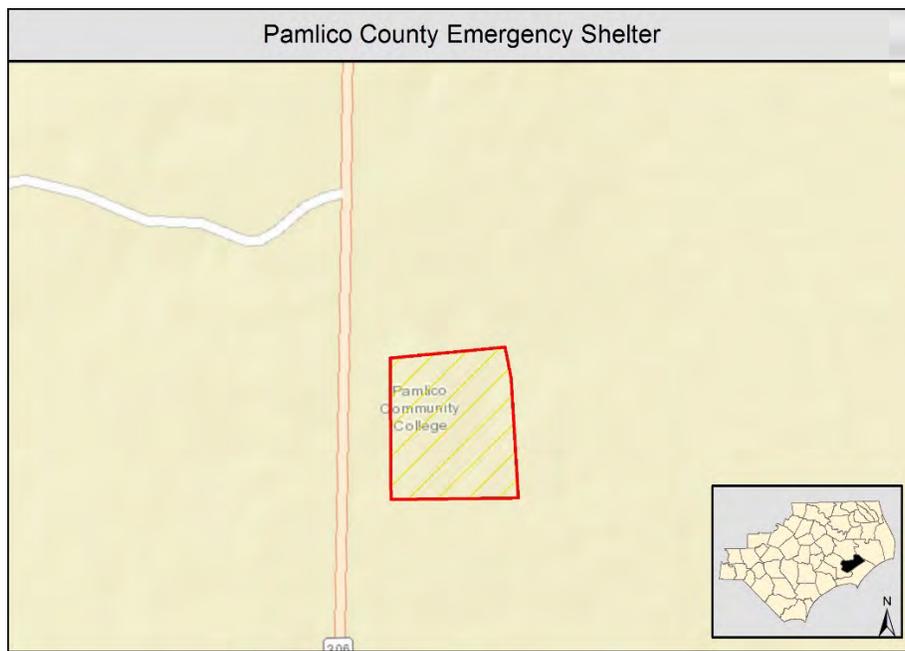


Figure 30. Pamlico County Emergency Shelter

29 - Pamlico County Emergency Shelter

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 7

Project Timeframe: 12-24 months

Location: 5049 NC-306, Grantsboro, NC 28529

Project Summary: During Hurricane Matthew, Pamlico Community College was open for 24 hours as the only public shelter in the county. The shelter’s on-site electrical generators do not have sufficient capacity and fuel storage to sustain a long-term disaster response. The County previously partnered with a local nursing home to temporarily accommodate individuals with special medical needs during severe storms. The nursing home recently notified the County that they will no longer be able to shelter these individuals. The County would like to upgrade the Community College shelter area to accommodate special needs individuals (including disabled access measures) and add shower facilities. The current generator capacity should be evaluated to determine its ability to meet the increased sheltering needs for both people and animals; if found insufficient, generator capacity should be increased. The County indicated that a new generator is needed for the college, and are currently leasing one for \$4,000 per month.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Individuals with special needs did not have a shelter to go to in the county and had to be evacuated outside the county in advance of the storm.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project is consistent with the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Providing a safe sheltering facility that can accommodate people with special needs will reduce the number of emergency response calls that the county's emergency services department receives decreasing the costs associated with these responses.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	None	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$501K - \$1M	Agree

What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Route 304:** Due to the topography and roadway layout, this area gets flooded quickly during a storm event. Flood depths of 2 to 9 feet were observed during Irene and 7 feet during Isabel. Mitigation strategies include elevating or rerouting the roadway to avoid 100-year floodplain. It would be difficult to reroute the roadway due to known wetland areas. Providing access to parts of the community currently isolated by storm-related flooding will allow residents to travel to work sooner after a flood and business suppliers to deliver their goods. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.

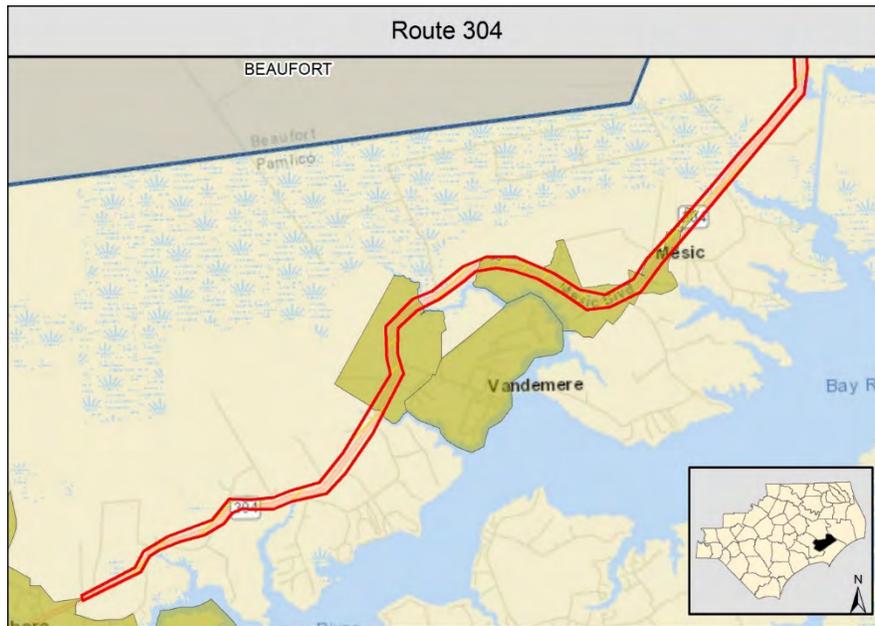


Figure 31. Route 304

02 - Route 304

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 8

Project Timeframe: 12-24 months

Location: Route 304

Project Summary: Due to the topography and roadway layout, this area gets flooded quickly during a storm event. Flood depths of 2'-9' were observed during Irene and 7' during Isabel. Elevate roadway or reroute to avoid 100-year floodplain. Elevate roadway or reroute to avoid 100-year floodplain. Road would be difficult to reroute due to known wetland areas.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Due to the topography and roadway layout this area gets flooded quickly during a storm event. Flood depths of 2'-8' were observed during Irene and 5' during Isabel.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project is consistent with the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Providing access to parts of the community currently isolated by storm-related flooding will allow residents to travel to work sooner after a flood and business suppliers to deliver their goods. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Unknown	Agree
Who will administer this project?	State	Agree

- **Near Callison Road Bridge:** During flood events including hurricanes Irene and Mathew, the bridge near Callison Road experiences flooding and access to Route 55 is cut off, isolating housing and business facilities. Mitigation strategies include elevating the bridge and approaches out of 500-year floodplain. Apart from elevating the bridge and approaches out of the flood plain, retrofitting the drainage to Trent Creek by enlarging the culverts and dredging the creek is also recommended. This project will elevate the bridge out of the floodplain, prevent the roadway from cutting off adjacent communities during flooding events, improve drainage capacity and alleviate other flooding related issues. Uninterrupted access to businesses resulting from the retrofit improvements suggested in this project will help stabilize and enhance the County's economy.

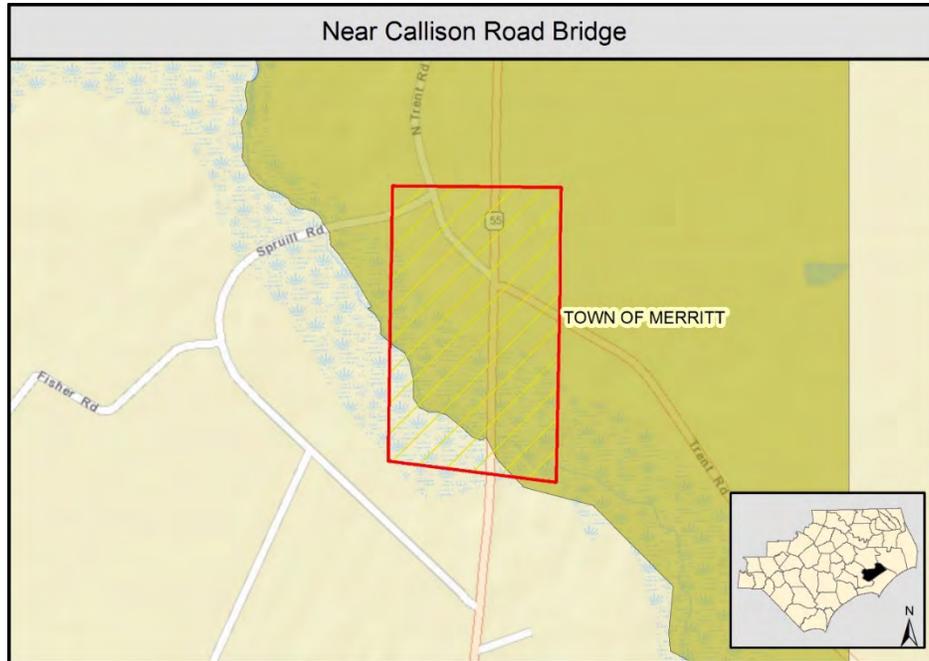


Figure 32. Near Callison Road Bridge

06 - Near Callison Road Bridge

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 9

Project Timeframe: 12-24 months

Location: Near Callison Road Bridge

Project Summary: Elevate bridge and approaches out of 500yr floodplain. Apart from elevating the bridge and approaches out of the flood plain, retrofit the drainage to Trent Creek by enlarging the culverts and dredging the creek.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	During flood events the bridge near Callison Road experiences flooding and access to Route 55 is cut off isolating housing and business facilities. This project will elevate the bridge out of the floodplain prevent the roadway from cutting off affected communities during flooding events improve drainage capacity and alleviate other flooding related issues	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will elevate the bridge out of the floodplain prevent the roadway from cutting off adjacent communities during flooding events improve drainage capacity and alleviate other flooding related issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Uninterrupted access to businesses resulting from the retrofit improvements suggested in this project will help stabilize and enhance the County's economy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **3rd Street Bridge over Bay River:** The bridge is the primary means of access to the state prison and floods during hurricane events such as Matthew, Irene, Isabelle and Dennis as well as wind tidal action from Northeasters. This project will provide access to the State prison, facilitating evacuation if/when it is needed. Elevate bridge and approaches out of 500-year floodplain.

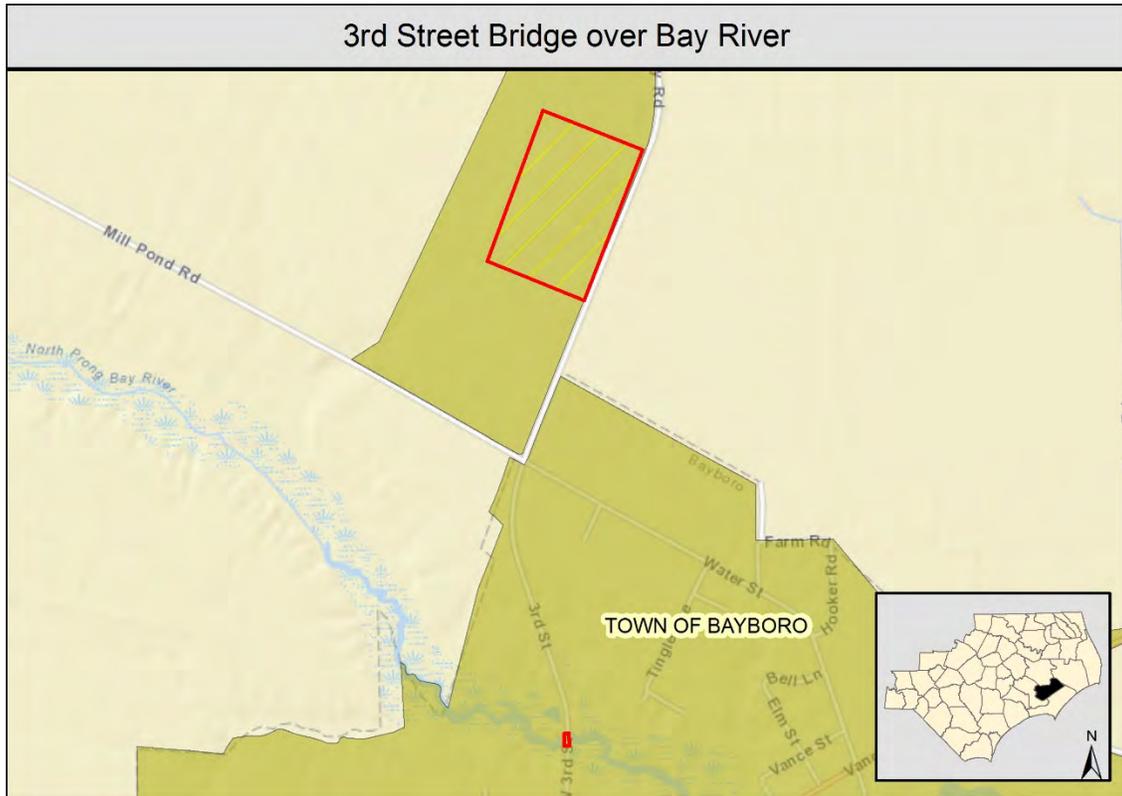


Figure 33. 3rd Street Bridge over Bay River

05 - 3rd Street Bridge over Bay River

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 10

Project Timeframe: 12-24 months

Location: 3rd Street Bridge over Bay River

Project Summary: The bridge is the primary means of access to the state prison and floods during hurricane events such as Matthew and Irene. Elevate bridge and approaches out of 500yr floodplain.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	The bridge provides access to the State prison and experiences frequent flooding due to tidal action and storm events. During Irene National Guard assisted in evacuation. This project will provide access to the State prison facilitating evacuation if/when it is needed.	N/A
Consistent with existing plans (describe points of intersection/departure)	Making public facilities resilient is consistent with County goals.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?		Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Florence Road:** Sections of the roadway get flooded during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events, cutting off access to parts of the community. Mitigation strategies include elevating the roadway out of the floodplain and/or upsize culverts to handle the flows. This project will prevent the roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues.

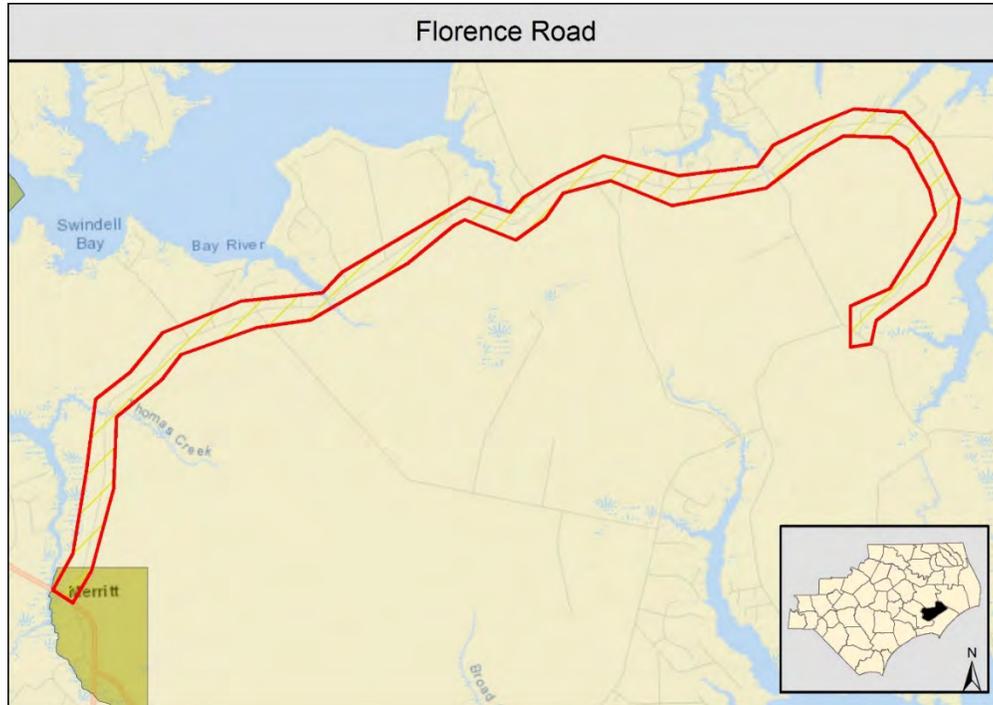


Figure 34. Florence Road

17 - Florence Road

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 11

Project Timeframe: 12-24 months

Location: Florence Road

Project Summary: Gets flooded during hurricanes like Mathew, Irene and even wind driven smaller intensity / higher frequency events, cutting off access to parts of the community. Elevate the roadway out of the floodplain and/or upsize culverts to handle the flows. This project will prevent the roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Gets flooded during hurricanes like Mathew Irene and even wind driven smaller intensity / higher frequency events.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will prevent the roadway from cutting off connected communities improve drainage capacity and alleviate flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Maintaining access to the community will allow residents to travel to work sooner after a flood event. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Lynches Beach Loop & Swan Point:** Intersection of these two roads flooded during hurricanes like Matthew, Dennis, Floyd, Isabelle, and Irene. Even floods with normal wind driven smaller intensity / higher frequency events such as Northeasters, cutting off access to part of the community. Mitigation strategies include elevating the roadway out of the floodplain and/or upsizing culverts to accommodate the flows to ensure / increase community access during and after any major storm event.

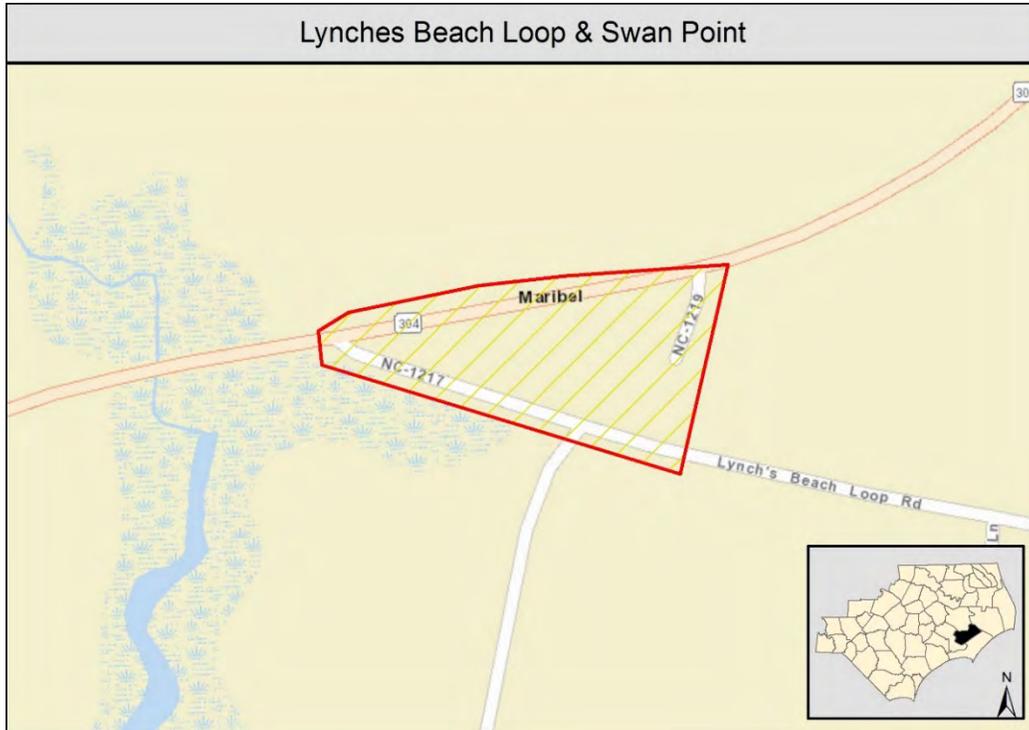


Figure 35. Lynches Beach Loop and Swan Point

15 - Lynches Beach Loop & Swan Point

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 12

Project Timeframe: 12-24 months

Location: Lynches Beach Loop & Swan Point

Project Summary: Intersection of these 2 roads flooded during hurricanes like Matthew, Dennis, Floyd, Isabelle, and Irene. Even floods with normal wind driven smaller intensity / higher frequency events such as Northeasters, cutting off access to part of the community. Proposed strategies include elevating the roadway out of the floodplain and/or upsize culverts to accommodate the flows. The County indicated that intersection needs to be elevated to increase community access during and after any major storm event.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Gets flooded during hurricanes like Mathew Irene and even wind driven smaller intensity / higher frequency events cutting off access to parts of the community.	N/A
Consistent with existing plans (describe points of intersection/departure)	Supports the hazard mitigation plan	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Providing access to the community will allow residents to travel to work sooner after a flood event.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?		Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Griffin Road, Vandemere:** High tide and Storm-based high water surface elevations in Log Pond Creek result in flooding of Griffin Road, which causes flooding and access issues to the area west of Griffin Road. Mitigation strategies include elevating or rerouting Griffin Road out of 500-year floodplain if feasible. It will be difficult to reroute Griffin Road due to known wetland areas in the vicinity. This project will prevent flooding impacts to the roadway, maintaining access to the connected communities, improving drainage capacity and alleviating flooding issues.

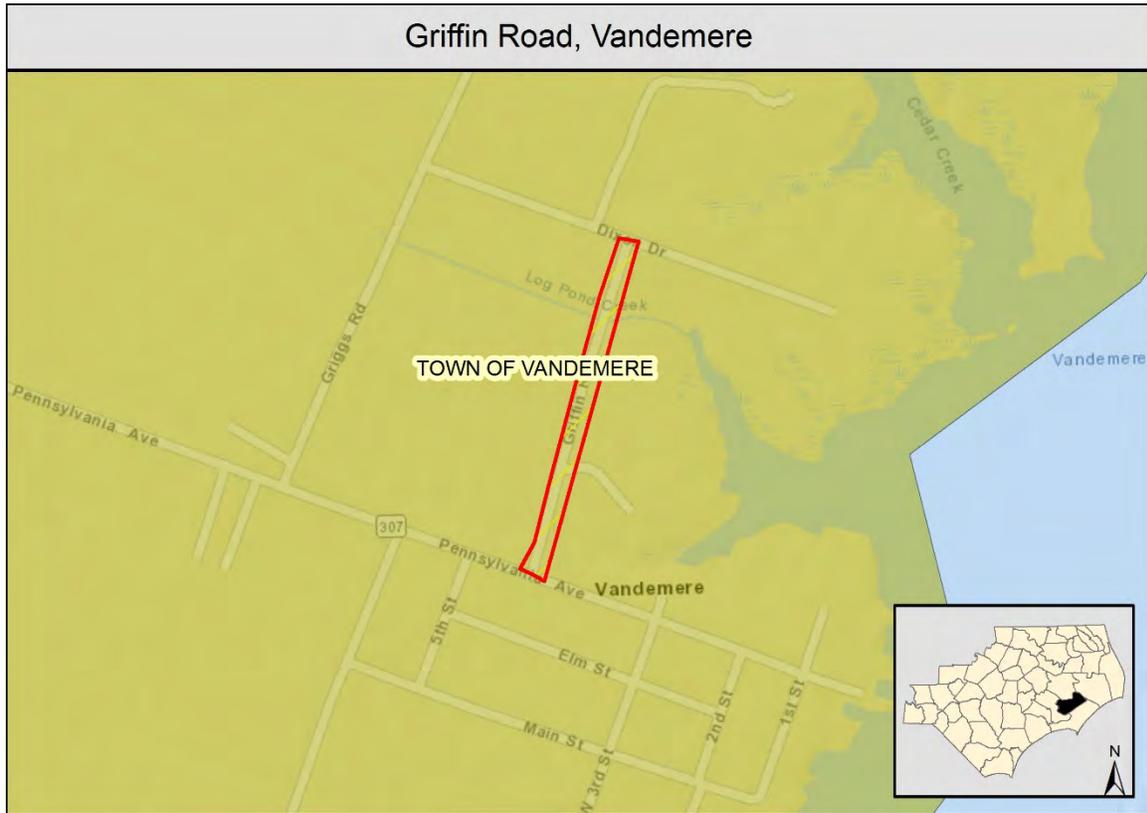


Figure 36. Griffins Road, Vandemere

14 - Griffin Road, Vandemere

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 13

Project Timeframe: 12-24 months

Location: Griffin Road, Vandemere

Project Summary: High tide and Storm-based high water surface elevations in Log Pond Creek result in flooding of Griffin Road, which causes flooding and access issues to the area west of Griffin Road. Elevate or reroute Griffin Road out of 500yr floodplain if feasible. This project will prevent flooding impacts to the roadway, maintaining access to the connected communities, improving drainage capacity and alleviating flooding issues. Proposed strategies include elevating or rerouting Griffin Road out of 500yr floodplain if feasible. The County indicated that it will be difficult to reroute Griffin Road due to known wetland areas in the vicinity.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	High tide and Storm-based high water surface elevations in Log Pond Creek result in flooding of Griffin Road which causes flooding and access issues to the area west of Griffin Road.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will prevent flooding impacts to the roadway maintaining access to the connected communities improving drainage capacity and alleviating flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$501K - \$1M	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Pamlico Road:** Pamlico road experienced flooding impacts during hurricanes Matthew, Irene and during wind driven smaller intensity / higher frequency events, causing access to the community to be cut off. Mitigation strategies include elevating the roadway out of the floodplain and/or upsizing culverts to accommodate the flows. This project will prevent flooding impacts to the roadway (maintaining road access to the community), improve drainage capacity and alleviate flooding issues.

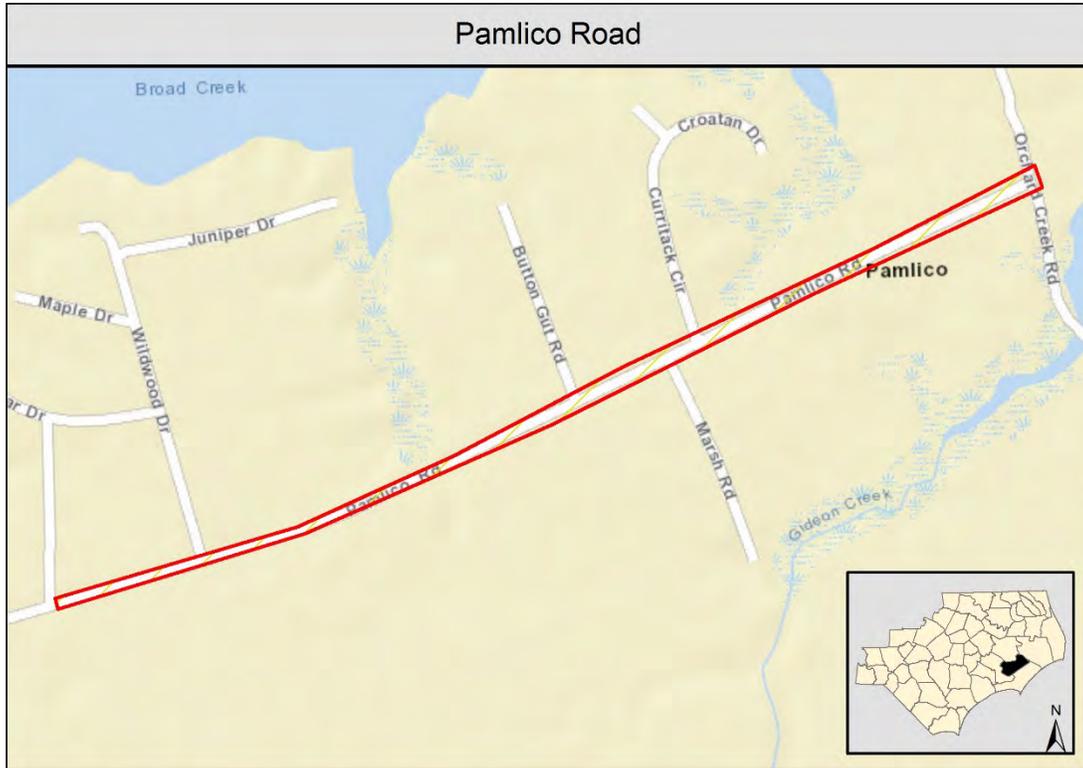


Figure 37. Pamlico Road

18 - Pamlico Road

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 14

Project Timeframe: 12-24 months

Location: Pamlico Road

Project Summary: Road experienced flooding impacts during hurricanes Matthew, Irene and during wind driven smaller intensity / higher frequency events, causing access to the community to be cut off. Elevate the roadway out of the floodplain and/or upsize culverts to accommodate the flows. This project will prevent flooding impacts to the roadway (maintaining road access to the community), improve drainage capacity and alleviate flooding issues.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Road experiences flooding impacts during hurricanes like Matthew Irene and even during wind driven smaller intensity / higher frequency events.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will prevent flooding impacts to the roadway (maintaining road access to the community) improve drainage capacity and alleviate flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Maintaining road access to the community will allow residents to resume traveling to work sooner after a flood event. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Stormwater Ditches (County-wide):** Numerous stormwater drainage ditches are clogged due to lack of maintenance as a result of a lack of available funding. During Irene and Matthew, floodwaters washed the debris from recently harvested crops and flooded communities into the drainage ditches and natural watersheds. Because the ditches and watersheds were/are clogged, overflows flooded local streets and properties. Ownership and maintenance responsibilities of certain ditches within private property augments this challenge. In Pamlico County and across the State, areas that are seeing an increase in flooding need clearing of congested natural watersheds of old storm debris. This would result in water moving out of areas more quickly and result in less long term flooding events. As a result of water not draining and becoming more contaminated, higher levels of heavily contaminated waters reach the estuaries, rivers, and sounds along the inner banks. If areas were properly drained the storm waters reaching the rivers and creeks would be less heavily contaminated and less hazardous to health and the environment. Addressing drainage issues across eastern North Carolina would reduce hazards from heavily contaminated waters and from mosquito borne illnesses. All drainage areas including natural watersheds need clearing to reduce flood events and the amount of time and impact of flooding events both in Pamlico County in in eastern North Carolina. Partly or blocked drainage and watersheds, both up and downstream, result in reduced rates of water flow leaving areas. This results in water backing up and flooding larger areas. This creates more heavily contaminated flood waters sitting in communities and eventually reaching watersheds, rivers and sounds. This has a very detrimental environmental impact on the health of communities, waterways and fisheries stocks. It also causes an increase in mosquito populations that spread vector diseases. Proposed mitigation strategies include developing and implementing a drainage ditch maintenance program, as well as acquiring all necessary equipment to support the program. This project will prevent / minimize flooding impacts to and from farmlands. This project will prevent / minimize flooding impacts at crucial locations within the County and support continued access to businesses and facilities during a storm event, which directly translates to economic benefits to the County.

23 - Stormwater ditches (county-wide)

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 15

Project Timeframe: 1-2 years

Location: Stormwater ditches (county-wide)

Project Summary: Numerous stormwater drainage ditches are clogged due to lack of maintenance due to lack of funding. During Irene, floodwaters washed the debris from recently harvested crops into the drainage ditches. Because the ditches were clogged, overflows flooded local streets and properties. Ownership and maintenance responsibilities of certain ditches within private property augments this challenge. Develop and implement a drainage ditch maintenance program. Acquire necessary equipment to support the program.

County comments / inputs: In Pamlico County and across the State, areas that are seeing an increase in flooding need clearing of congested natural watersheds of old storm debris. This would result in water moving out of areas more quickly and result in less long term flooding events. As a result of water not draining and becoming more contaminated, higher levels of heavily contaminated waters reach the estuaries, rivers, and sounds along the inner banks. If areas were properly drained the storm waters reaching the rivers and creeks would be less heavily contaminated and less hazardous to health and the environment.

Addressing drainage issues across eastern North Carolina would reduce hazards from heavily contaminated waters and from mosquito borne illnesses.

All drainage areas including natural watersheds need clearing to reduce flood events and the amount of time and impact of flooding events both in Pamlico County in in eastern North Carolina.

Partly or blocked drainage and watersheds, both up and downstream, result in reduced rates of water flow leaving areas. This results in water backing up and flooding larger areas. This creates more heavily contaminated flood waters sitting in communities and eventually reaching watersheds, rivers and sounds. This has a very detrimental environmental impact on the health of communities, waterways and fisheries stocks. It also causes an increase in mosquito populations that spread vector diseases.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Numerous stormwater drainage ditches are clogged due to lack of maintenance due to lack of funding. Ditches became further clogged during Matthew when debris from recently harvested crops washed into the ditches. Ownership and maintenance responsibilities of certain ditches within private property augments this challenge.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will support the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	This project will prevent / minimize flooding impacts at crucial locations within the County and support continued access to businesses and facilities during a storm event which directly translates to economic benefits to the County.	Agree
For how long will this solution be effective?	Less than 10 years	Agree
How effective is the risk reduction?	<50 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree

Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Between 51 and 75%	Agree
What impacts to the environment of the county will result from this project?	Maintaining the stormwater infrastructure will result in reducing adverse environmental impacts during high tide and severe flooding events.	N/A
What is the capability of the local government to administer this project?	Medium	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Between 26 and 50%	Agree
Who will administer this project?	County	Agree

- **County Human Services Complex:** The areas around the facility were flooded during hurricanes Irene and Matthew apart from high tide events. Adaptation strategies include elevating building systems (HVAC, lighting and electrical breakers/controls, radios and communications, water/wastewater, and foodstuffs), installing backup electricity storage and generation using generators with fuel storage, and considering the installation and use of solar panels with backup batteries to support the generators. It is also recommended that critical documents be elevated or relocated out of the FEMA Special Flood Hazard Area. Document storage and servers could be relocated to the Community College. Alternately, adding shelving and raising all documents above the base flood elevation at the current location will help mitigate against flood hazards, and electronic files could be backed up to public domain Cloud servers.

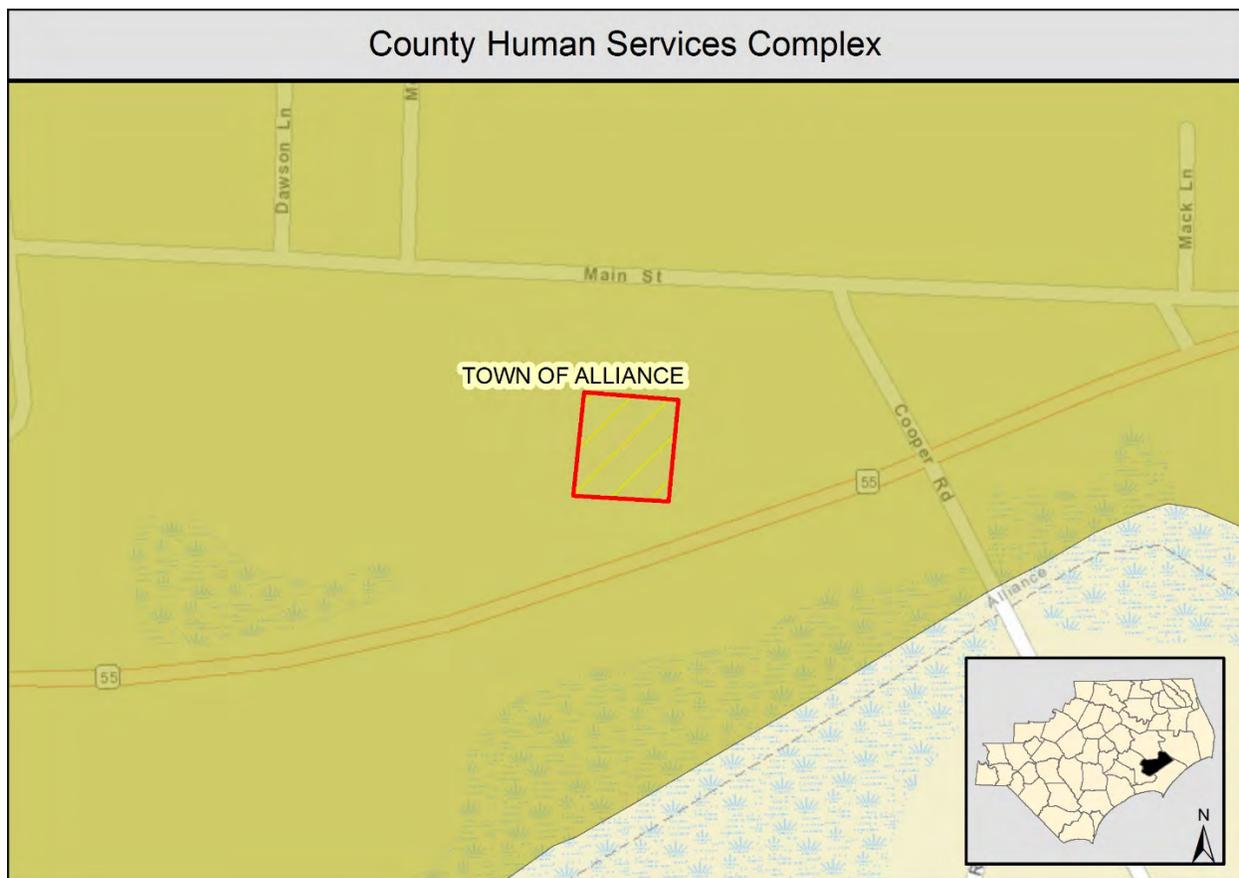


Figure 38. County Human Services Complex

27 - County Human Services Complex

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 16

Project Timeframe: 12-24 months

Location: 828 Alliance Main St, Bayboro, NC 28515

Project Summary: The facility got flooded during hurricanes Irene and Mathew apart from high tide events. Adaptation strategies include elevating building systems (HVAC, lighting and electrical breakers/controls, radios and communications, water/wastewater, and foodstuffs), installing backup electricity storage and generation using generators with fuel storage, and considering the installation and use of solar panels with backup batteries to support the generators. It is also recommended that critical documents be elevated or relocated out of the FEMA Special Flood Hazard Area. Document storage and servers could be relocated to the Community College. Alternately, adding shelving and raising all documents above the base flood elevation at the current location will help mitigate against flood hazards, and electronic files could be backed up to public domain Cloud servers.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	These infrastructure upgrade projects will be useful and productive efforts to improve the resilience and continued operations during extreme storm events and hurricanes.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project is consistent with the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Unknown	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	None	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Town Hall, Vandemere:** The facility flooded during hurricane Irene and was vulnerable during Matthew apart from high tide events. Adaptation strategies for the town hall include elevating building systems (HVAC, lighting and electrical breakers/controls, radios and communications, water/wastewater, and foodstuffs), installing backup electricity storage and generation using generators with fuel storage, and considering the installation and use of solar panels with backup batteries to support the generators. It is also recommended that the town’s document storage facility be elevated or relocated out of the FEMA Special Flood Hazard Area. Document storage and servers could be relocated. Alternately, adding shelving and raising all documents above the base flood elevation at the current location will help mitigate against flood hazards, and electronic files could be backed up to public domain Cloud servers.

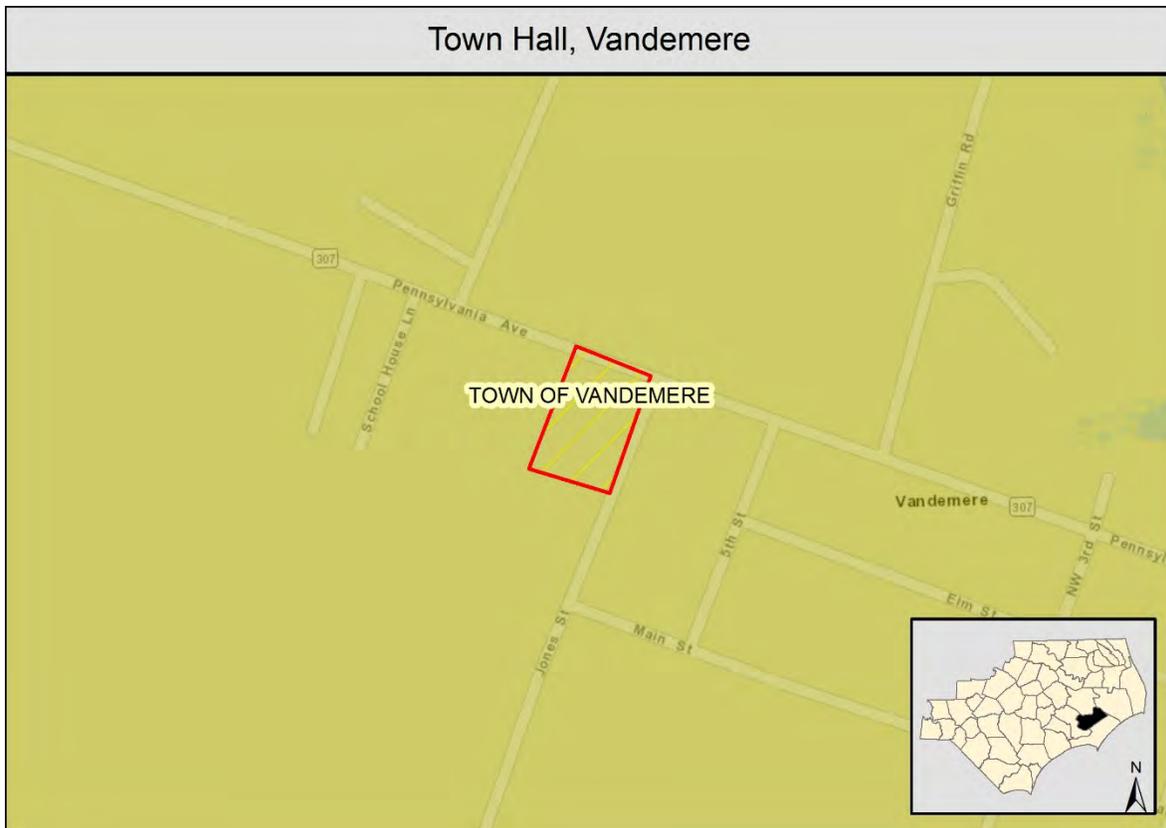


Figure 39. Town Hall, Vandemere

28 - Town Hall, Vandemere

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 17

Project Timeframe: 12-24 months

Location: 1042 Pennsylvania Ave, Vandemere, NC 28587

Project Summary: The facility got flooded during hurricanes Irene and Mathew apart from high tide events. Adaptation strategies for the town hall include elevating building systems (HVAC, lighting and electrical breakers/controls, radios and communications, water/wastewater, and foodstuffs), installing backup electricity storage and generation using generators with fuel storage, and considering the installation and use of solar panels with backup batteries to support the generators. It is also recommended that the town’s document storage facility be elevated or relocated out of the FEMA Special Flood Hazard Area. Document storage and servers could be relocated. Alternately, adding shelving and raising all documents above the base flood elevation at the current location will help mitigate against flood hazards, and electronic files could be backed up to public domain Cloud servers.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Town Hall and local fire station flood frequently and received 8-9 of rainfall during hurricane Irene. These infrastructure upgrade projects will be useful and productive efforts to improve the resilience and continued operations during extreme storm events and hurricanes.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project is consistent with the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Maintaining copies of critical records off-site and/or electronically will ensure that the town can continue to do business effectively and efficiently. In particular the project will ensure that tax records are maintained safely.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	None	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree

What is the level of public support for this project?	Low	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	Local	Agree

- County Courthouse:** The area beside the northeastern side of facility was flooded during hurricanes Irene and vulnerable during Matthew apart from high tide events. Adaptation strategies for the courthouse complex facilities include elevating building systems (HVAC, lighting and electrical breakers/controls, radios and communications, water/wastewater, and foodstuffs), installing backup electricity storage and generation using generators with fuel storage, and considering the installation and use of solar panels with backup batteries to support the generators. It is also recommended that the County’s document storage facility be elevated or relocated out of the FEMA Special Flood Hazard Area. Document storage and servers in the courthouse complex could be relocated to the Community College. Alternately, adding shelving and raising all documents above the base flood elevation at the current location will help mitigate against flood hazards, and electronic files could be backed up to public domain Cloud servers. The County should evaluate the feasibility of constructing a berm or bulkhead around the complex.

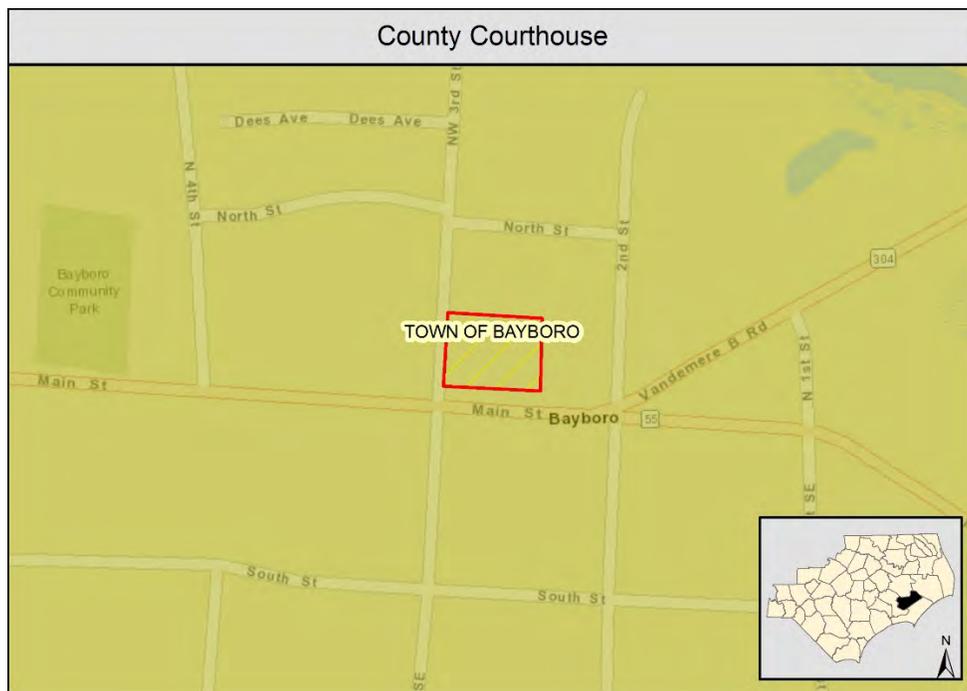


Figure 40. County Courthouse

25 - County Courthouse

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 18

Project Timeframe: 12-24 months

Location: 202 Main St, Bayboro, NC 28515

Project Summary: The facility got flooded during hurricanes Irene and Mathew apart from high tide events. Adaptation strategies for the courthouse complex facilities include elevating building systems (HVAC, lighting and electrical breakers/controls, radios and communications, water/wastewater, and foodstuffs), installing backup electricity storage and generation using generators with fuel storage, and considering the installation and use of solar panels with backup batteries to support the generators. It is also recommended that the County’s document storage facility be elevated or relocated out of the FEMA Special Flood Hazard Area. Document storage and servers in the courthouse complex could be relocated to the Community College. Alternately, adding shelving and raising all documents above the base flood elevation at the current location will help mitigate against flood hazards, and electronic files could be backed up to public domain Cloud servers. Evaluate the feasibility of constructing a berm or bulkhead around the complex. The County indicated that the document storage area now has raised shelving.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	This project would provide a source of backup power and alternate fuel (e.g. solar panel and battery) to allow the county government offices to function during power outages. It would also protect the building from future flood damages.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project is consistent with the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Protecting the courthouse complex will allow the county government to continue to perform essential functions such as emergency management and tax administration.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	None	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$501K - \$1M	Agree

What is the level of public support for this project?	Medium	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Sanitary and Storm Sewers (County-wide):** Sanitary and storm sewers within the County require continuous operations of pump stations. During severe storm events such as Matthew, power outages coupled with access issues to the pump station facilities prevented the operation, monitoring and refueling operations. Provision of backup generators and backup power sources for pump stations, and evaluation of the feasibility of installing solar panels and/or backup batteries for each station are recommended strategies.

24 - Sanitary and storm sewers (county-wide)

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 19

Project Timeframe: 1-2 years

Location: Sanitary and storm sewers (county-wide)

Project Summary: Sanitary and storm sewers within the County require continuous operations of pump stations. During severe storm events such as Matthew, power outages coupled with access issues to the pump station facilities prevented the operation, monitoring and refueling operations. Provision of backup generators and backup power sources for pump stations, and evaluation of the feasibility of installing solar panels and/or backup batteries for each station are recommended strategies.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Providing backup generators and backup power sources for pump stations throughout the county and evaluating the feasibility of installing solar panels and/or backup batteries for each station will ensure continued operation. These facilities were severely hampered during hurricanes Irene and Matthew.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project is consistent with the hazard mitigation plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	This project will enable pump stations for the county's storm water/sewer infrastructure to remain operational during power outages. Providing this critical infrastructure service allows for the continued operation of critical facilities such as manufacturing facilities businesses schools public buildings and hospitals.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	>6	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Ensuring continuous operation of the pump stations will result in reducing adverse environmental impacts during high tide and severe flooding events.	N/A
What is the capability of the local government to administer this project?	Unknown	Agree

What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Town Hall, Mesic:** The town hall serves as a feeding facility for the community during emergencies. To accommodate the additional demand, the facility requires a backup generator with a backup energy source (solar panel and/or backup battery), and new kitchen facilities.

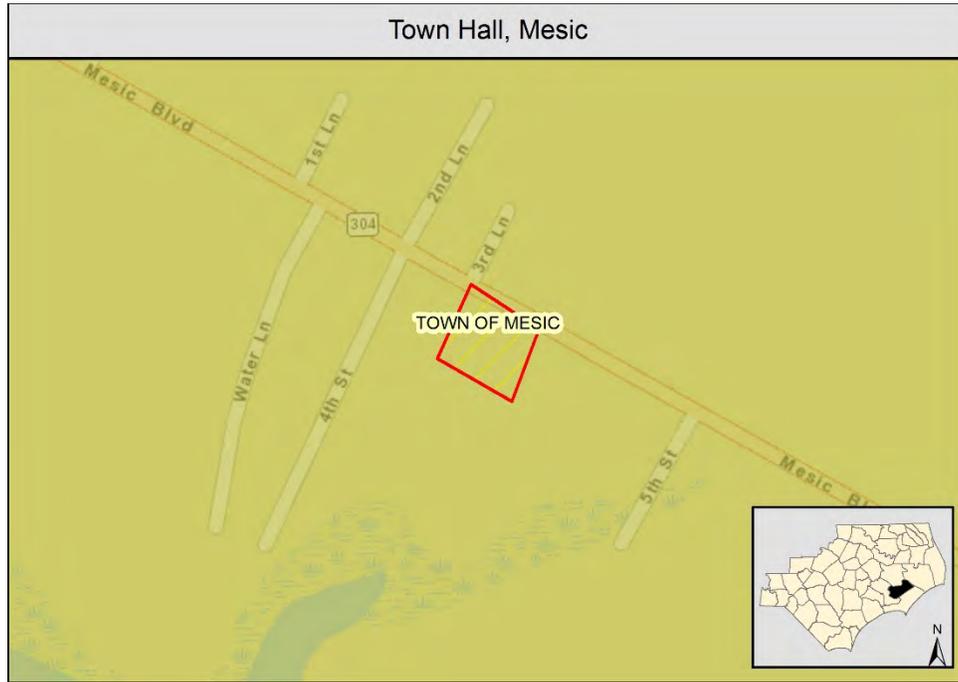


Figure 41. Town Hall, Mesic

30 - Town Hall, Mesic

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 20

Project Timeframe: 12-24 months

Location: 9312 NC-304, Bayboro, NC 28515

Project Summary: The town hall serves as a feeding facility for the community during emergencies. To accommodate the additional demand, the facility requires a backup generator with a backup energy source (solar panel and/or backup battery), and new kitchen facilities.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	The Town of Mesic has not been able to operate a fully-functioning feeding facility during hurricanes because it lacks the needed infrastructure and equipment.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project supports emergency management planning initiatives identified by the county.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Unknown	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	No Impact	Agree
What impacts to the environment of the county will result from this project?	None	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	Local	Agree

- **County Wastewater Treatment Plant:** Plant becomes inaccessible due to severe storm events due to flooding of the roadway leading to the plant. The plant is equipped with an emergency generator but access issues from flooding prevent plant personnel from monitoring and refueling the generator. Adaptation strategies for the wastewater treatment plant include installation of alternate power source for the backup generator, such as solar panels and/or backup battery. The plant should also be evaluated to determine if backflow preventers should be installed in discharge pipes and, if appropriate, install the valves.

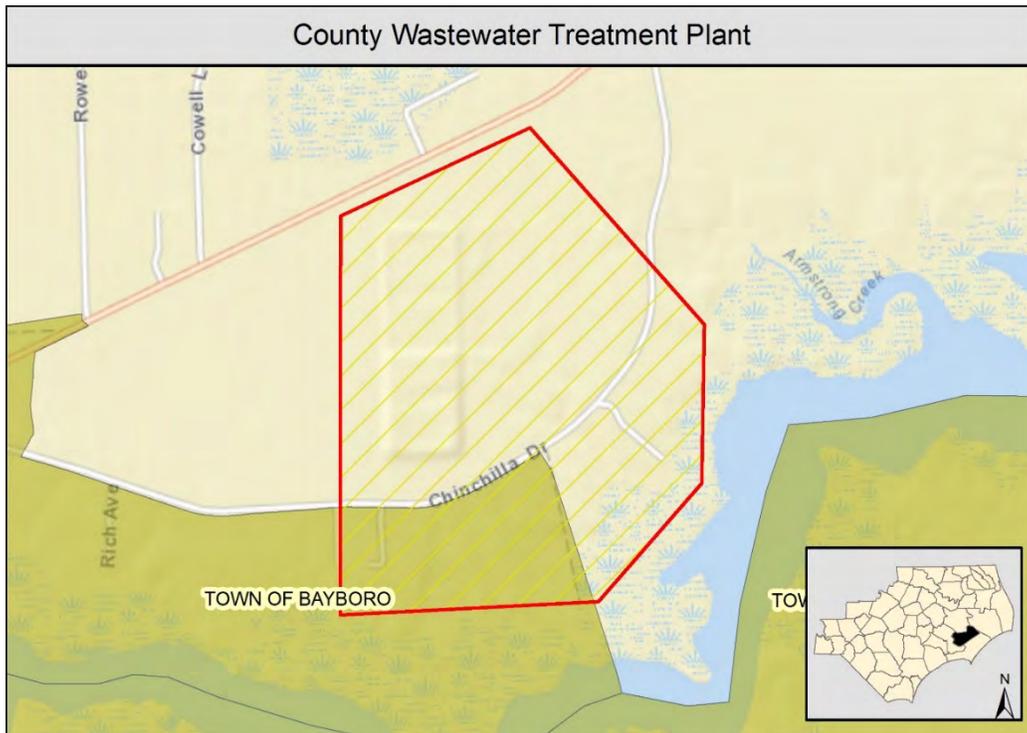


Figure 42. County Wastewater Treatment Plant

22 - County Wastewater Treatment Plant

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 21

Project Timeframe: 1-3 years

Location: County Wastewater Treatment Plant

Project Summary: Plant becomes inaccessible due to severe storm events due to flooding of the roadway leading to the plant. The plant is equipped with an emergency generator but access issues from flooding prevent plant personnel from monitoring and refueling the generator. Adaptation strategies for the wastewater treatment plant include installation of alternate power source for the backup generator, such as solar panels and/or backup battery. The plant should also be evaluated to determine if backflow preventers should be installed in discharge pipes and, if appropriate, install the valves. The County indicated that the plant is elevated, but the access to the Plant is not.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Plant becomes inaccessible due to severe storm events due to flooding of the roadway leading to the plant. The plant is equipped with an emergency generator but access issues from flooding prevent plant personnel from monitoring and refueling the generator.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will ensure continuous operation of the Plant mitigating and/or preventing flooding impacts.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	This project will ensure the continued operation of the wastewater treatment plant which is necessary for operation of critical facilities such as hospitals government centers and local businesses.	Agree
For how long will this solution be effective?	Less than 10 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	The project will ensure that the wastewater treatment plant continues to function when power outages occur minimizing the likelihood that untreated wastewater will be released.	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree

What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Kershaw Road Culverts:** Multiple culverts along Kershaw Road are not sufficient to handle the flow from significant rain events, resulting in road flooding. Mitigation strategies include increasing the culvert capacity and elevate roadway out of 500-year floodplain, or alternatively reroute road out of floodplain where possible. The County should identify restoration hotspots to determine proposed bridge and roadway elevations. Exact locations of the culverts should be identified through further discussions with the County and NCDOT. This project will be useful to prevent roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues. Uninterrupted access to businesses due to the suggested retrofits as part of this project will help stabilize and enhance the County's economy.

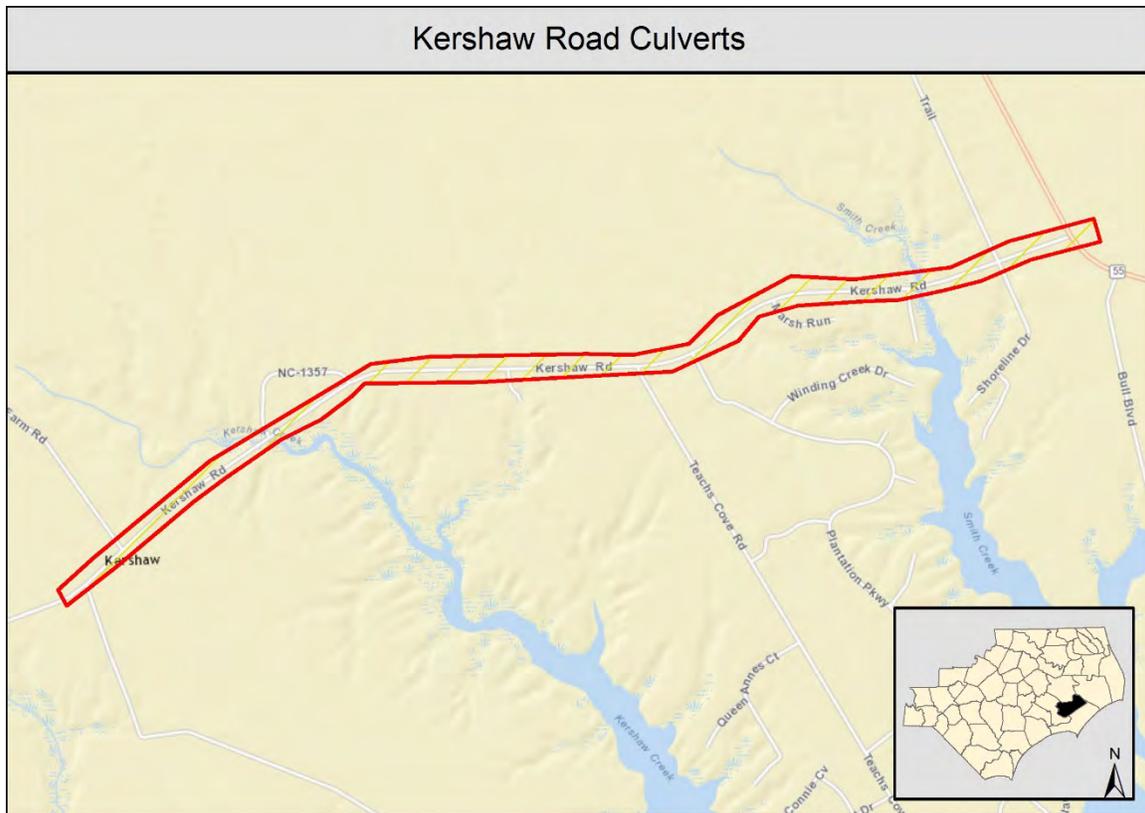


Figure 43. Kershaw Road Culverts

07 - Kershaw Road Culverts

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 24

Project Timeframe: 12-24 months

Location: Kershaw Road Culverts

Project Summary: Increase culvert capacity and elevate roadway out of 500yr floodplain, or alternatively reroute road out of floodplain where possible. Identify restoration hotspots to determine proposed bridge and roadway elevations. Exact locations of the culverts should be identified through further discussions with the County.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Culverts along Kershaw Road are not sufficient to handle the flow from significant rain events resulting in road flooding.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will be useful to prevent roadway from cutting off connected communities improve drainage capacity and alleviate flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Uninterrupted access to businesses due to the retrofits suggested in this project will help stabilize and enhance the County's economy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$501K - \$1M	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Janiero Road:** Camping areas along Janiero Road and the vicinity can become isolated due to three sections along the roadway that are vulnerable to flooding during storm events. Mitigation strategies include elevating roadway sections out of 100- and 500-year floodplains to provide access to camping and conference center facilities. This project will be useful to elevate the roadway out of the floodplain, prevent roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues. Uninterrupted access to businesses due to the retrofits suggested in this project will help stabilize and enhance the County's economy.



Figure 44. Janiero Road

08 - Janiero Road

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 25

Project Timeframe: 12-24 months

Location: Janiero Road

Project Summary: Elevate roadway out of 500yr floodplain to provide access to camping and conference center facilities.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Camping areas along Janiero Road and the vicinity are isolated due to three areas along the roadway that are vulnerable to flooding during storm events.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will be useful to prevent roadway from cutting off connected communities improve drainage capacity and alleviate flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Uninterrupted access to businesses due to the retrofits suggested in this project will help stabilize and enhance the County's economy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?		Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Orchard Road Creek:** Segments of this roadway experienced flooding during storm events including Hurricanes and Northeasters. The proposed project will elevate or re-route the roadway out of the floodplain, maintaining access to the affected communities, improving drainage capacity and alleviating flooding issues. This project is consistent with current local government efforts to improve the drainage and stormwater management capabilities of the whole County. Providing resilient access to the community will allow residents to travel to work sooner after a flood event. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.

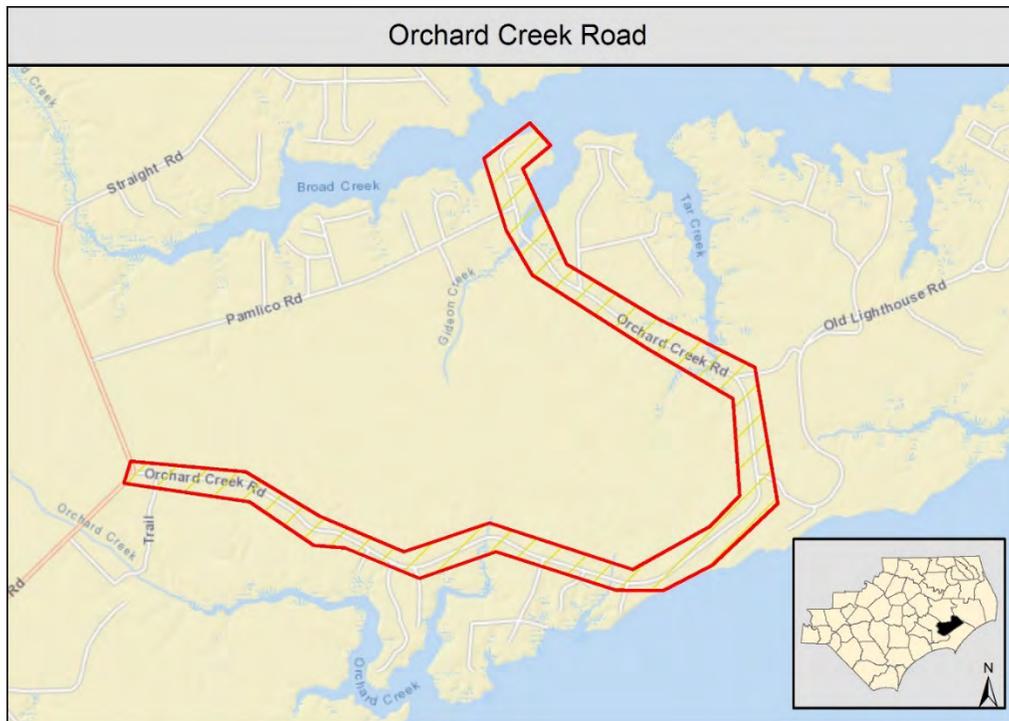


Figure 45. Orchard Creek Road

09 - Orchard Creek Road

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 26

Project Timeframe: 12-24 months

Location: Orchard Creek Road

Project Summary: Elevate or reroute roadway out of 500yr floodplain.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Segments of this roadway experience flooding during storm events. During Irene National Guard was need to assist in transporting/providing access in support of disaster response efforts.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project is consistent with current local government efforts to improve the drainage and stormwater management capabilities of the whole County.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Providing resilient access to the community will allow residents to travel to work sooner after a flood event. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Route 55 Corridor:** Approximately two miles of this roadway in the Reelsboro area is the site of numerous hydroplaning accidents and some fatalities. This section of road is part of the main hurricane evacuation route for the County. Mitigation strategies include re-grading the area of roadway to facilitate drainage and avoid ponding, analyzing and upgrading culverts to handle increased flooding and establishing signage to communicate risk of hydroplaning could also decrease the risks posed by standing water on the roadway.

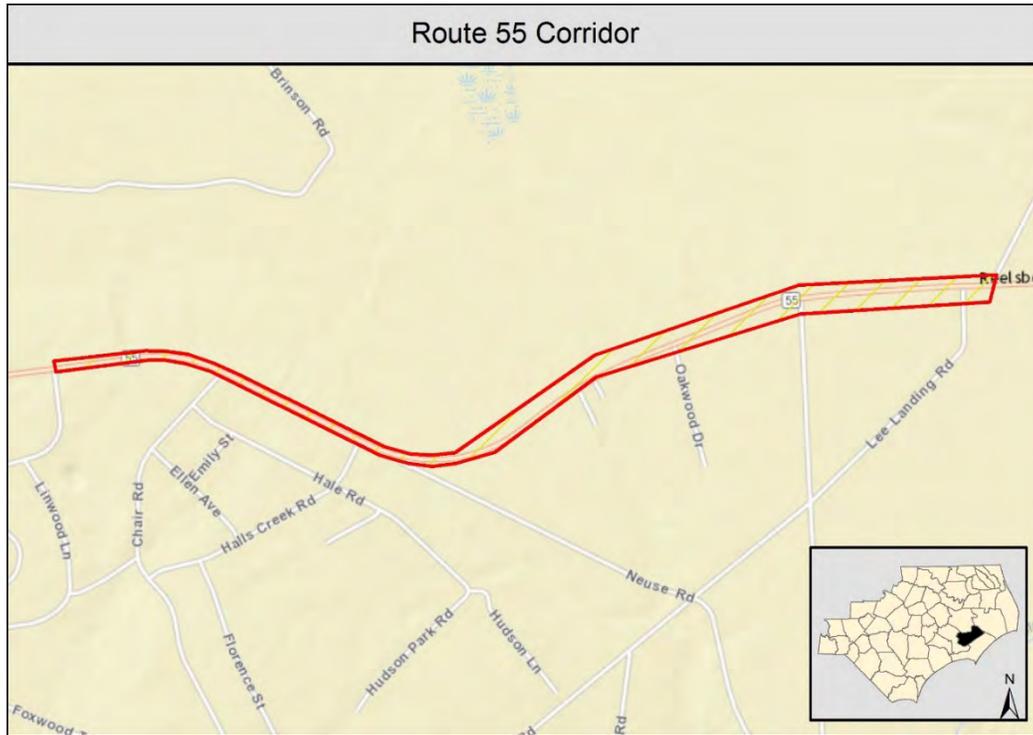


Figure 46. Route 55 Corridor

11 - Route 55 Corridor

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 27

Project Timeframe: 12-24 months

Location: Route 55 Corridor

Project Summary: Approximately 2 miles of this roadway is the site of numerous hydroplaning accidents. The roadway should be re-graded to facilitate drainage and avoid ponding. Analyzing and upgrading culverts to handle increased flooding and establishing signage to communicate risk of hydroplaning could also decrease the risks posed by standing water on the roadway. Elevate Route 55 Corridor out of 500yr floodplain and upgrade culverts to handle increased flooding.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Owing to topography and drainage layout multiple culverts along Route 55 particularly near Reelsboro do not drain adequately (volume as well as drain time) resulting in street flooding and risk of accidents due to hydroplaning.	N/A
Consistent with existing plans (describe points of intersection/departure)	These projects will be useful and productive efforts to improve the drainage and stormwater management capabilities of the whole County.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Route 55 is a major transportation corridor in the county. Providing a safe roadway is important for businesses to receive materials and ship out products and for residents to get to and from work. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	High	Agree

What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Griggs Road, Vandemere:** Vandemere and Cedar Creeks experience occasional flooding due to high tide wind tides from the Bay River, causing inundation of Griggs Road and subsequently resulting in access issues. Mitigation strategies include elevating and / or rerouting Griggs Road out of 500-year floodplain. It will be difficult to reroute Griggs Road due to known wetland areas in the vicinity. This project will prevent the roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues.

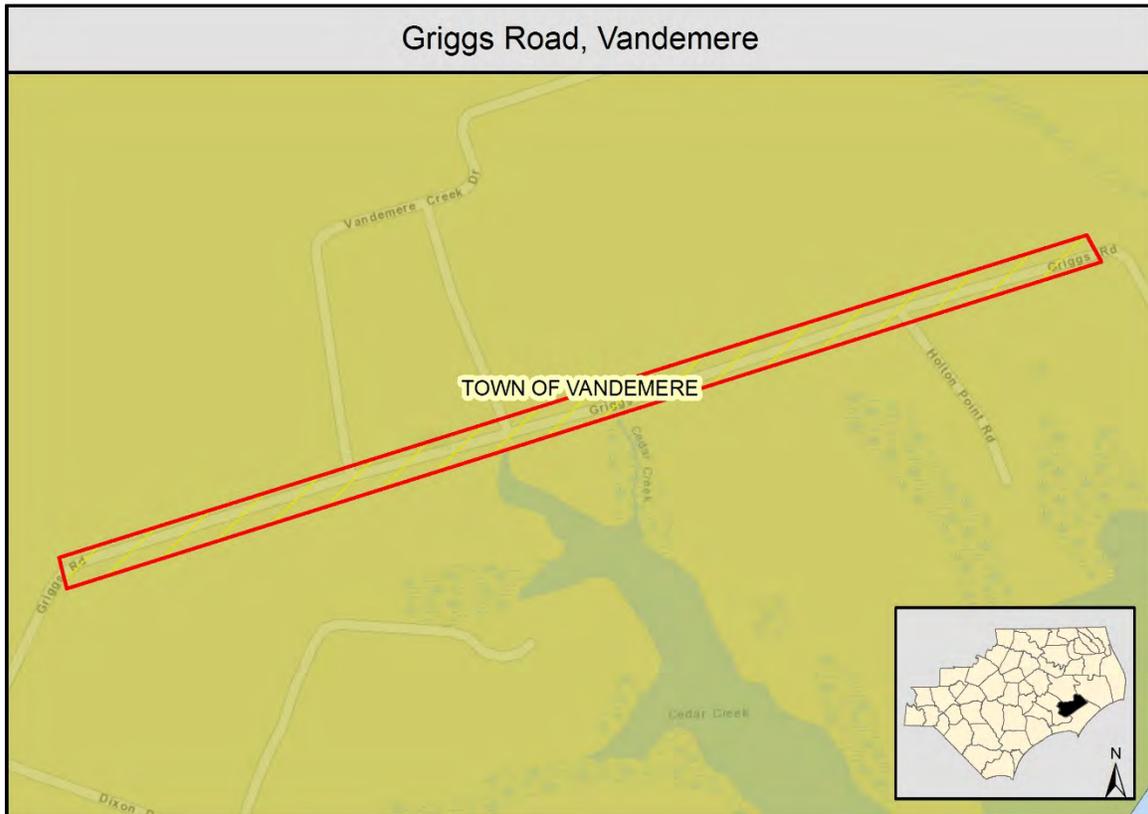


Figure 47. Griggs Road, Vandemere

12 - Griggs Road, Vandemere

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 28

Project Timeframe: 12-24 months

Location: Griggs Road, Vandemere

Project Summary: Vandemere and Cedar Creeks experience occasional flooding due to high tide wind tides from the Bay river, causing inundation of Griggs Road and subsequently resulting in access issues. Reroute and elevate Griggs Road out of 500yr floodplain. If deemed unfeasible, relocate isolated facilities. This project will prevent the roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues. Proposed strategies include rerouting and / or elevating Griggs Road out of 500yr floodplain. If deemed unfeasible, relocate isolated facilities. The County indicated that it will be difficult to reroute Griggs Road due to known wetland areas in the vicinity.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Cedar Creek experiences frequent flooding due to high tide from the Bay river causing inundation of Griggs Road and subsequently resulting in access issues.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will prevent the roadway from cutting off connected communities improve drainage capacity and alleviate flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Providing resilient access to the community will allow residents to travel to work sooner after a flood event. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree

What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Jones Road and Pennsylvania Avenue, Vandemere:** Areas bordered by Jones Road and Pennsylvania Avenue are in the FEMA Special Flood Hazard Area and are subject to frequent flooding. Mitigation strategies include elevating Jones Road and Pennsylvania Avenue out of FEMA Special Flood Hazard Area to ensure egress routes available when coastal flooding occurs. This project will be useful to prevent roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues.

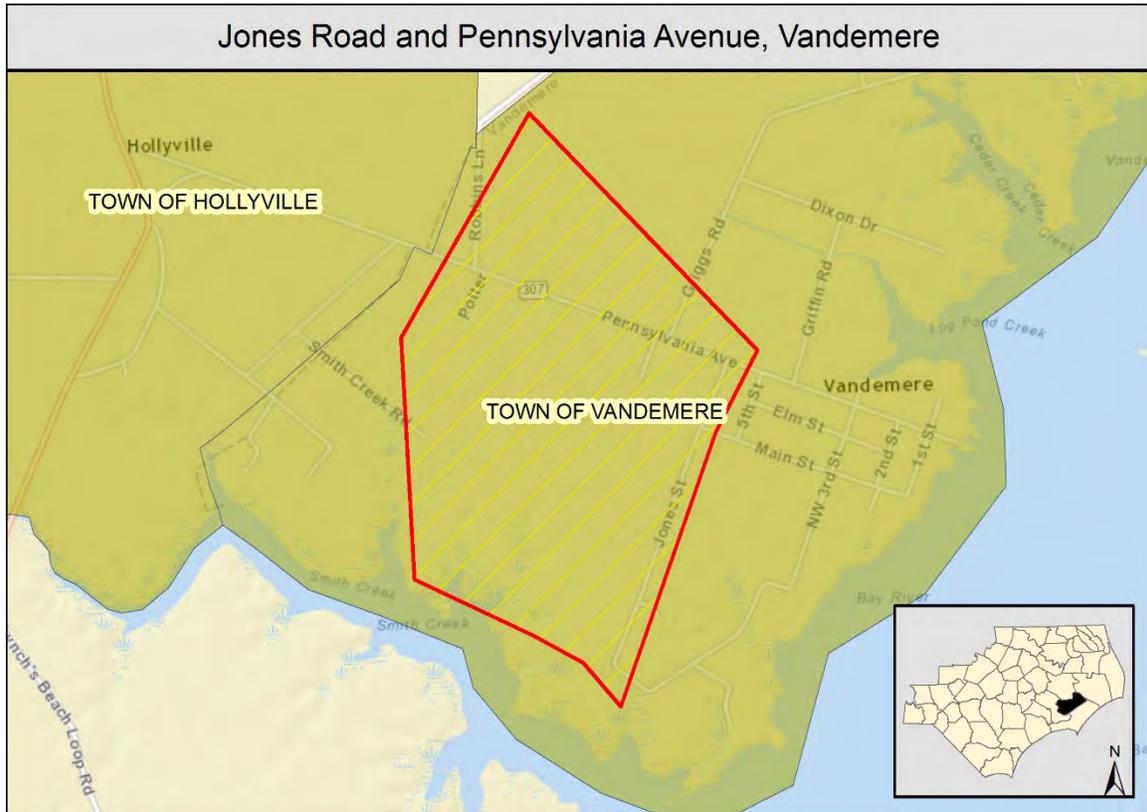


Figure 48. Jones Road and Pennsylvania Avenue, Vandemere

13 - Jones Road and Pennsylvania Avenue, Vandemere

County: Pamlico

Priority Grouping: High Priority

Priority Ranking: 29

Project Timeframe: 12-24 months

Location: Jones Road and Pennsylvania Avenue, Vandemere

Project Summary: Areas bordered by Jones Road and Pennsylvania Avenue are in the FEMA Special Flood Hazard Area and are subject to frequent flooding. Elevate Jones Road and Pennsylvania Avenue out of FEMA Special Flood Hazard Area to ensure egress routes available when coastal flooding occurs. Proposed strategies including elevating Jones Road and Pennsylvania Avenue out of FEMA Special Flood Hazard Area to ensure egress routes available when coastal flooding occurs. This project will be useful to prevent roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Areas bordered by Jones Road and Pennsylvania Avenue are in the FEMA Special Flood Hazard Area and are Subject to frequent flooding	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will be useful to prevent roadway from cutting off connected communities improve drainage capacity and alleviate flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Providing access to the community allows residents to travel to work sooner after a flood event. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?		Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

Medium Priority Infrastructure Strategies

Pillar	Action Name	Priority	Overall Ranking
Infrastructure	Paradise Shores	Medium	30
Infrastructure	Meekins Road	Medium	31
Infrastructure	South Street	Medium	32
Infrastructure	Straight Road	Medium	33
Infrastructure	Upper Neck Road	Medium	34

Table 13. Pamlico Medium Priority Infrastructure Summary

These projects represent the infrastructure strategies that Pamlico County indicated are of a medium priority to address. Additional details can be found below:

- Paradise Shores:** Floods during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events, cutting off access to the community. Mitigation strategies include elevating the roadway out of the floodplain and/or increasing culvert sizes to handle the flows. This project will be useful to prevent roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues.



Figure 49. Paradise Shores

19 - Paradise Shores

County: Pamlico

Priority Grouping: Medium Priority

Priority Ranking: 30

Project Timeframe: 12-24 months

Location: Paradise Shores

Project Summary: Gets flooded during hurricanes like Mathew, Irene and even wind driven smaller intensity / higher frequency events, cutting off access to the community. Elevate the roadway out of the floodplain and/or increase culvert sizes to handle the flows.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Gets flooded during hurricanes like Mathew Irene and even wind driven smaller intensity / higher frequency events.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will be useful to prevent roadway from cutting off connected communities improve drainage capacity and alleviate flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Providing access to the community will allow residents to travel to work sooner after a flood event. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Meekins Road:** Meekins Road floods during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events, cutting off access to the community. Mitigation strategies include elevating the roadway out of the floodplain and/or upsizing the culverts to handle the flows. This project will maintain access to affected connected communities during storm events, improving drainage capacity and alleviating flooding issues.

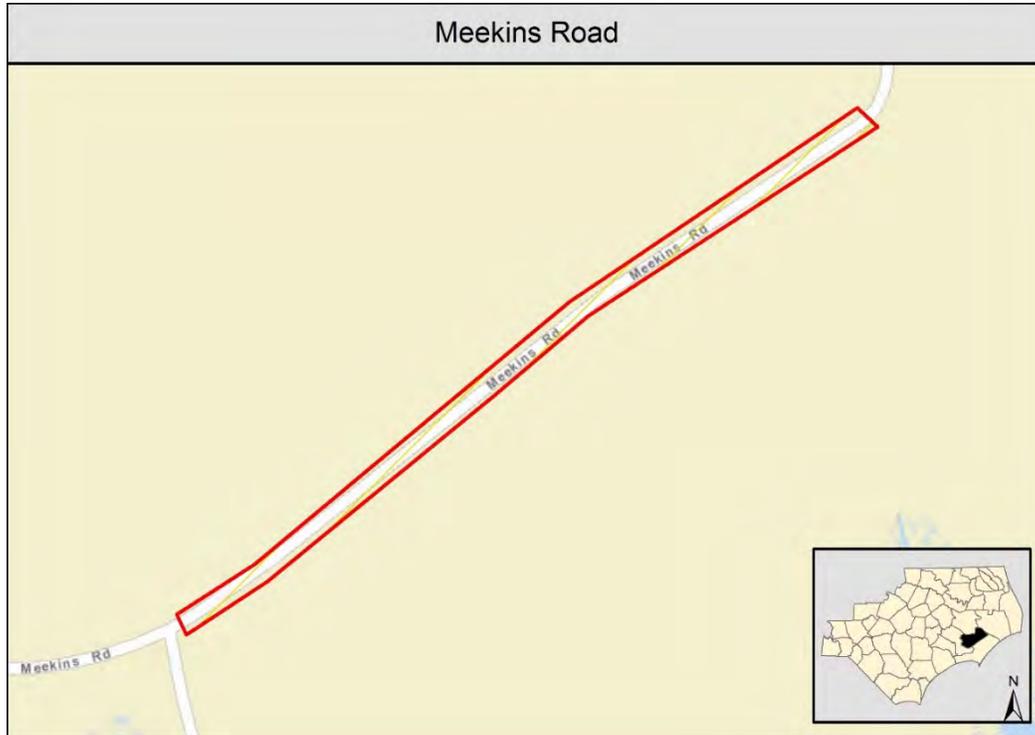


Figure 50. Meekins Road

20 - Meekins Road

County: Pamlico

Priority Grouping: Medium Priority

Priority Ranking: 31

Project Timeframe: 12-24 months

Location: Meekins Road

Project Summary: Meekins Road gets flooded during hurricanes like Mathew, Irene and even wind driven smaller intensity / higher frequency events, cutting off access to the community. Elevate the roadway out of the floodplain and/or upsize culverts to handle the flows.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Roadway floods during hurricanes like Matthew Irene and even wind driven smaller intensity / higher frequency events cutting off access to part of the community.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will maintain access to affected connected communities during storm events improving drainage capacity and alleviating flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Providing access to the community will allow residents to resume going to work more quickly. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **South Street:** Undersized storm drains and catch basins along South Street result in significant flooding during storm events. Mitigation strategies include elevating South Street out of the 500-year floodplain. Due to location, improving drainage is going to be very difficult if not impossible. This project will be useful to prevent roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues. Providing access to the community will allow residents to travel to work sooner after a flood event. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.

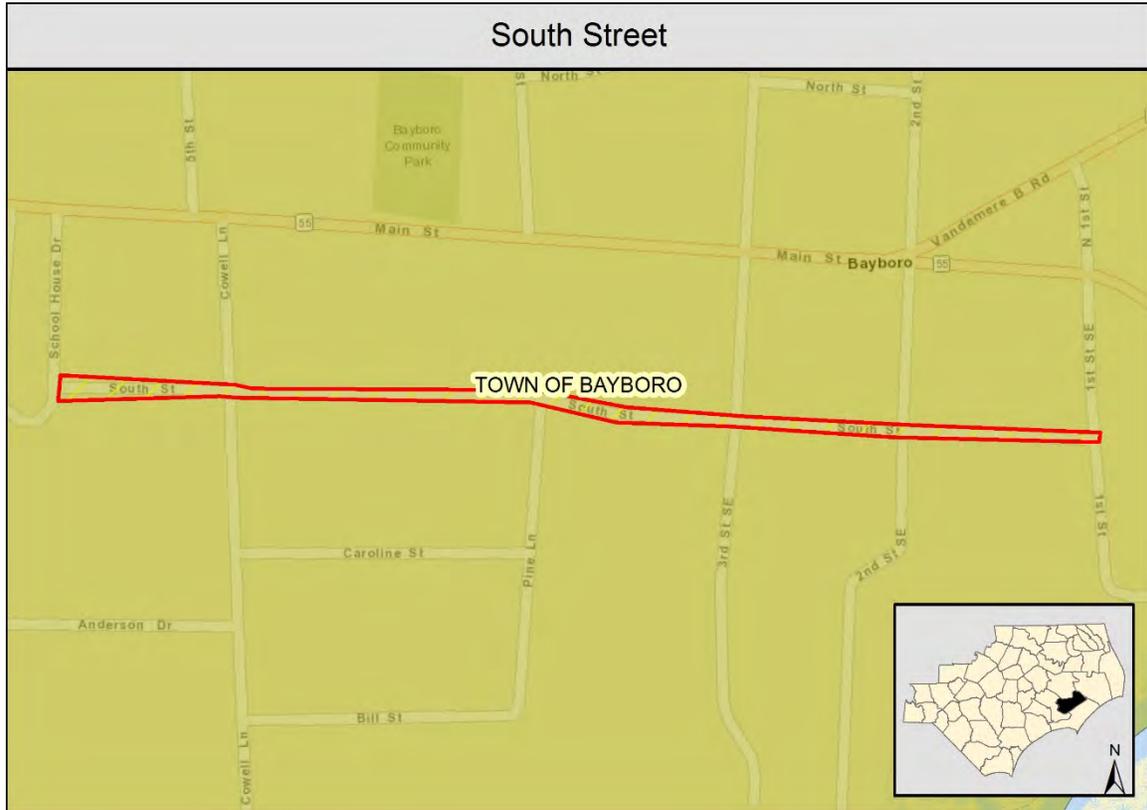


Figure 51. South Street

10 - South Street

County: Pamlico

Priority Grouping: Medium Priority

Priority Ranking: 32

Project Timeframe: 12-24 months

Location: South Street

Project Summary: Elevate South Street out of 500yr floodplain, due to location improving drainage is going to be very difficult if not impossible.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Undersized storm drains and catch basins along South Street result in significant flooding during storm events	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will be useful to prevent roadway from cutting off connected communities improve drainage capacity and alleviate flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Providing access to the community will allow residents to travel to work sooner after a flood event. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Straight Road:** Road experienced flood impacts during hurricanes like Matthew, Irene and also during wind driven smaller intensity / higher frequency events, cutting off access to part of the community. Mitigation strategies include elevating the road out of the floodplain and/or upsize culverts to accommodate the flows.

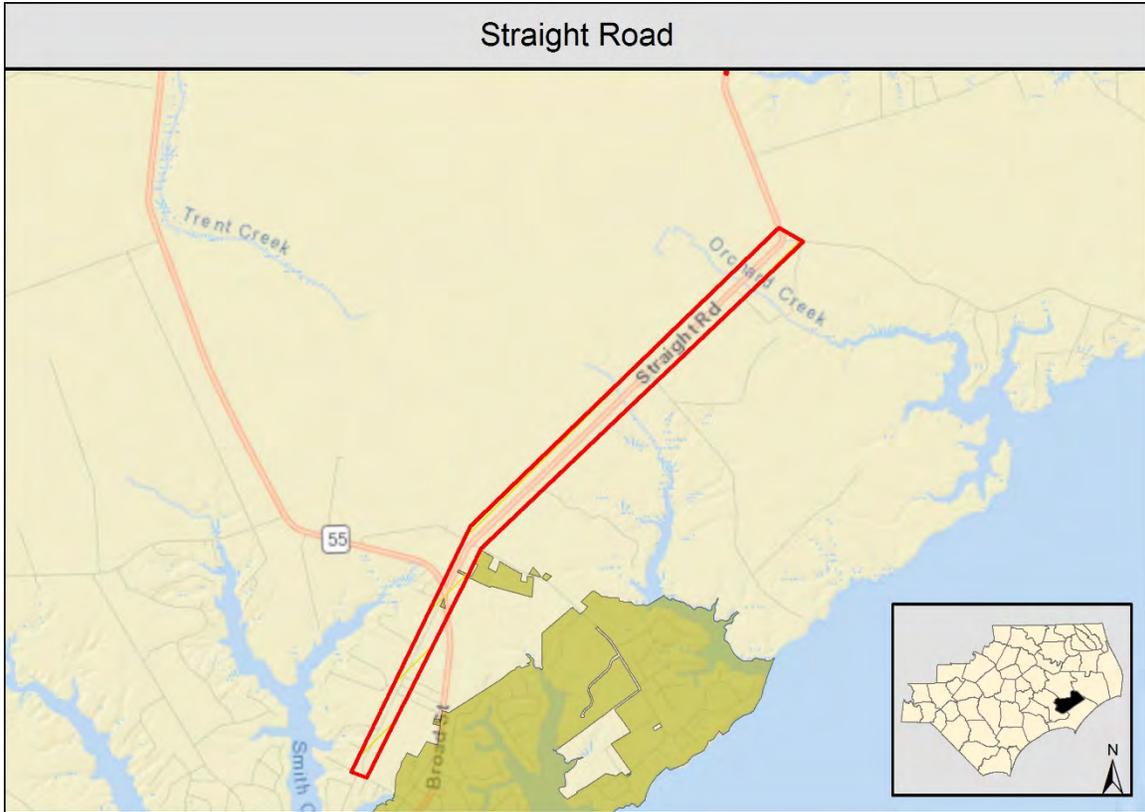


Figure 52. Straight Road

16 - Straight Road

County: Pamlico

Priority Grouping: Medium Priority

Priority Ranking: 33

Project Timeframe: 12-24 months

Location: Straight Road

Project Summary: Road experienced flood impacts during hurricanes like Matthew, Irene and also during wind driven smaller intensity / higher frequency events, cutting off access to part of the community. Elevate the road out of the floodplain and/or upsize culverts to accommodate the flows.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Roadway experiences flood impacts during hurricanes like Matthew Irene and during wind driven smaller intensity / higher frequency events.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will prevent flood impacts to the subject roadway maintaining access to the connected communities improving drainage capacity and alleviating flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Maintaining access to the community will allow residents to travel to work sooner after a flood event. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

- **Upper Neck Road:** Roadway floods during hurricanes like Matthew, Irene and even wind driven smaller intensity / higher frequency events, cutting off part of the community. The roadway needs to be elevated out of the floodplain and/or culvert sizes should be increased to handle the flows. This project will be useful to prevent roadway from cutting off connected communities, improve drainage capacity and alleviate flooding issues. Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.

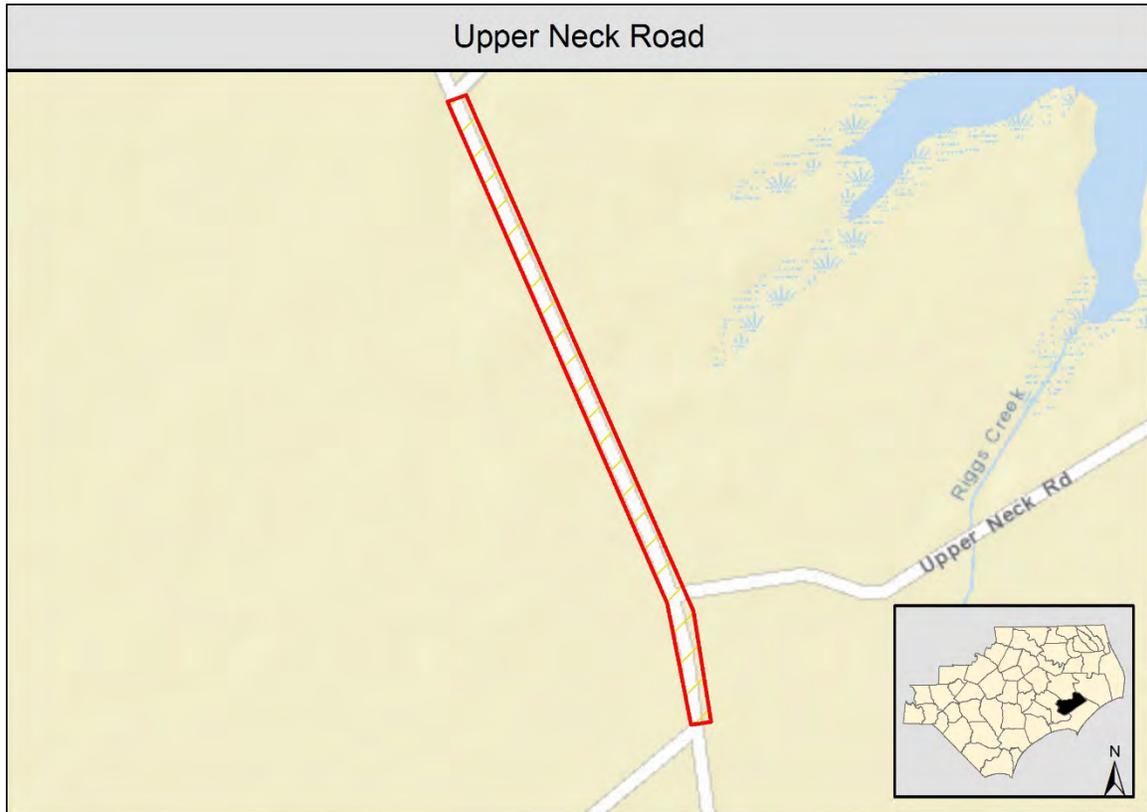


Figure 53. Upper Neck Road

21 - Upper Neck Road

County: Pamlico

Priority Grouping: Medium Priority

Priority Ranking: 34

Project Timeframe: 12-24 months

Location: Upper Neck Road

Project Summary: Gets flooded during hurricanes like Mathew, Irene and even wind driven smaller intensity / higher frequency events, cutting off part of the community. The roadway needs to be elevated out of the floodplain and/or culvert sizes should be increased to handle the flows.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Gets flooded during hurricanes like Matthew Irene and even wind driven smaller intensity / higher frequency events cutting off access to part of the community.	N/A
Consistent with existing plans (describe points of intersection/departure)	This project will be useful to prevent roadway from cutting off connected communities improve drainage capacity and alleviate flooding issues.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Proposed roadway improvements and/or new construction must be coordinated with this effort to improve efficiency and avoid redundancy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Unknown	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	State	Agree

Environmental, Ecosystem and Agricultural Strategies

Medium Priority Environmental Strategies

Pillar	Action Name	Priority	Overall Ranking
Environment	Crop Storage Facilities Retrofits	Medium	35

Table 14. Pamlico High Priority Environmental Summary

The County identified only one environmental strategy, which they indicated is of medium priority to address. Additional detail can be found below:

- Crop Storage Facilities Retrofits:** Crop storage and processing facilities, fish ponds, access roads, and related equipment on farms are subject to flooding during high tide and severe storm events including hurricanes Irene and Matthew. Mitigation strategies include elevating the facilities and related equipment out of the floodplain, which will greatly benefit the agricultural operations, avoiding losses by ensuring continued operations of the facilities. Uninterrupted farming operations directly translates to economic benefits in the predominantly agricultural County. This project will minimize the risk of farm produce and equipment being washed away during storm events, which is an environmental benefit, particularly to water quality of receiving streams including the Neuse River and multiple bays.

39 - Crop Storage Facilities Retrofits

County: Pamlico

Priority Grouping: Medium Priority

Priority Ranking: 35

Project Timeframe: Various (TBD)

Location: County-wide

Project Summary: Crop storage and processing facilities, fish ponds, access roads, and related equipment on farms are subject to flooding during high tide and severe storm events including hurricanes Irene and Matthew. The facilities and related equipment should be elevated out of the floodplain.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	This project will be useful to reduce / minimize losses to farmers improve resilience and continued operations during extreme storm events and hurricanes.	N/A
Consistent with existing plans (describe points of intersection/departure)	Pamlico Sound HMP emphasizes the need for revitalizing the agricultural operations and the proposed project directly relates to this goal.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	This project will help uninterrupted operations by farmers which directly translates to economic benefits in the predominantly agricultural County.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	50-100 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	High confidence	N/A
What impact will this action have on the local economy/tax base?	Between 51 and 75%	Agree
What impacts to the environment of the county will result from this project?	This project will minimize the risk of farm produce and equipment being washed away during storm events which is an environmental benefit particularly to water quality of receiving streams including the Neuse River and multiple bays.	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$51K - \$100K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Between 51 and 75%	Agree
Who will administer this project?	County	Agree

Summary

The draft resilience strategies and actions introduced in this section are further detailed in the Appendix. Implementation has already begun for some of these actions but for those that have not already been funded, the State of North Carolina will begin a process of prioritizing the actions and seeking to match a funding stream to each action. Those that are not matched with a funding source will be added to the State’s Unmet Needs Report. Funding for Unmet Needs will be sought through additional funding from Congress and from the North Carolina General Assembly. Any action that cannot be matched to a funding source should be incorporated into the County’s Hazard Mitigation Plan for consideration for future funding. It is important to seek to implement as many of these actions as feasible. Doing so will significantly contribute to helping improve the resiliency of North Carolina’s communities.