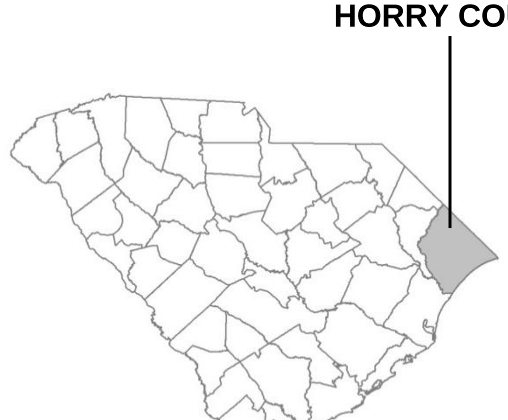
FLOOD INSURANCE STUDY

HORRY COUNTY, SOUTH CAROLINA
AND INCORPORATED AREAS

VOLUME 1 OF 4

HORRY COUNTY



Community Name	**Community Number**
ATLANTIC BEACH, TOWN OF	450222
AYNOR, TOWN OF*	450105
BRIARCLIFFE ACRES, TOWN OF	450232
CONWAY, CITY OF	450106
HORRY COUNTY (UNINCORPORATED AREAS)	450104
LORIS, CITY OF	450108
MYRTLE BEACH, CITY OF	450109
NORTH MYRTLE BEACH, CITY OF	450110
SURFSIDE BEACH, TOWN OF	450111

** NO SPECIAL FLOOD HAZARD AREAS IDENTIFIED*

REVISED:
DECEMBER 16, 2021

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
45051CV001B

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program (NFIP) have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. Please contact the Community Map repository for any additional data.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this FIS Report at any time. In addition, FEMA may revise part of the FIS Report by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS. Therefore, users should consult with community officials and check the Community Map Repository to obtain the most current FIS Report components.

Initial Countywide FIS Effective Date:	September 30, 1988
Revised Dates:	April 2, 1991 September 3, 1992 (Flood Insurance Rate Map only) June 15, 1994 August 23, 1999 September 17, 2003 December 16, 2021

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Flood Insurance Rate Map

FLOOD INSURANCE STUDY
HORRY COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This countywide Flood Insurance Study (FIS) revises and updates the previous countywide FIS/Flood Insurance Rate Map (FIRM) for the geographic area of Horry County, South Carolina, including: the Towns of Atlantic Beach, Aynor, Briarcliffe Acres, and Surfside Beach; the Cities of Conway, Loris, Myrtle Beach, and North Myrtle Beach; and the unincorporated areas of Horry County (hereinafter referred to collectively as Horry County).

The Town of Aynor has no identified Special Flood Hazard Areas (SFHA).

This FIS aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This FIS has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates. This information will also be used by Horry County to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP), and by local and regional planners to further promote sound land use and floodplain development. Minimum floodplain management requirements for participation in the NFIP are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the state (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this FIS are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The original September 30, 1988, countywide FIS was prepared to include incorporated communities within Horry County into a countywide FIS.

For the September 30, 1988, FIS, the hydrologic and hydraulic analyses were prepared by Tetra Tech, Inc., for the Federal Emergency Management Agency (FEMA), under Contract No. EMW-83-C-1180. This work was completed in February 1986.

For the April 2, 1991, revision, the hydraulic analysis was prepared by FEMA. This work was completed in October 1989.

For the June 15, 1994, revision, the hydrologic and hydraulic analyses for Waccamaw River were prepared by the Region IV office of FEMA, and Dewberry & Davis for FEMA. This work was completed in December 1992.

For the August 23, 1999, revision, the hydrologic and hydraulic analyses for Waccamaw River were prepared by Wilbur Smith Associates, Inc., for FEMA, under Contract No. EMW-93-C-4042. That work was completed in February 1995. The hydrologic and hydraulic analyses for Socastee Creek were performed by Braswell Engineering Inc., for FEMA, under Contract No. EMW-93-C-4147. This work was completed on August 27, 1996.

For the September 17, 2003, revision, the hydrologic and hydraulic analyses for Buck Creek, South Branch Pleasant Meadow Swamp, and a portion of Waccamaw River were prepared by Watershed Concepts, a Division of Hayes, Seay, Mattern & Mattern, Inc., for FEMA, under Contract No. (N/A). This work was completed on February 28, 2001.

For the December 16, 2021, countywide revision the hydrologic and hydraulic analyses were prepared by AECOM under contract to South Carolina Department of Natural Resources (SCDNR) for FEMA, under Contract No. EMA-2005-CA-5214. This work was completed in February 2012.

Base map information shown on the FIRM for Horry County was provided in digital format by Horry County, South Carolina.

The coordinate system used for producing this FIRM is NAD 1983 State Plane South Carolina FIPS 3900. Corner coordinates shown on the FIRM are in latitude and longitude referenced to the NAD 1983 State Plane South Carolina FIPS 3900, Lambert Conformal Conic projection, with geographic NAD 1983, Spheroid GRS 1980. Differences in the datum and spheroid used in the production of FIRMs for adjacent counties may result in slight positional differences in map features at the county boundaries. These differences do not affect the accuracy of information shown on the FIRM.

1.3 Coordination

An initial Consultation Coordination Officer’s (CCO) meeting is held with representatives from FEMA, the community, and the study contractor to explain the nature and purpose of a FIS, and to identify the streams to be studied by detailed methods. A final CCO meeting is held with representatives from FEMA, the community, and the study contractor to review the results of the study. The final CCO meeting is now referred to as a Preliminary DFIRM Community Coordination (PDCC) meeting.

For the September 30, 1988, FIS, an initial CCO meeting was held in April 1984, and a final CCO meeting was held on April 29, 1987. Both meetings were attended by representatives of the community, FEMA, and Tetra Tech, Inc..

For the August 23, 1999, revision, an initial CCO meeting was held on July 9, 1992, and a final CCO meeting was held on March 20, 1998. Both meetings were attended by representatives of the community, FEMA, and the study contractors.

For the September 17, 2003, revision, Horry County was notified by letter on May 18, 2002, that its FIS would be revised using analyses prepared by Watershed Concepts, a Division of Hayes, Seay, Mattern & Mattern, Inc..

For the December 16, 2021, countywide FIS revision, an initial CCO (Scoping) meeting was held on March 6, 2006, and attended by representatives of AECOM (previously Watershed Concepts, a Division of Hayes, Seay, Mattern & Mattern) (the study contractor), the Cities of Conway, and Myrtle Beach, the Towns of Briarcliffe Acres, and Surfside Beach, Horry County, and SCDNR. A PDCC meeting was held on March 2-3, 2016 to review the results of the study. The meeting was attended by AECOM (the study contractor), FEMA, and Horry County representatives.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic area of Horry County, South Carolina.

Historic Study Scopes

For the September 30, 1988, FIS, the following streams were studied by detailed methods: Altman Branch; Baiter Swamp; Bear Swamp; Bear Swamp Tributary; Collins Creek; Collins Creek Tributary; Crab Tree Swamp; Crab Tree Swamp Tributary; Crab Tree Swamp Tributary No. 1; Crab Tree Swamp Tributary No. 2; Crab Tree Swamp Tributary No. 3; Cross Swamp; Grier Swamp; Jenkins Swamp; Jenkins Swamp Tributary; Kingston Lake Swamp; Run of Plum Branch; Seventh Avenue Stream; Socastee Swamp; Waccamaw River; Waccamaw River Tributary 1; Waccamaw River Tributary 2; Waccamaw River Tributary 3; Waccamaw River Tributary 4; Waccamaw River Tributary 5; Waccamaw River Tributary 6; Willow Springs Branch; Withers Swash; Withers Swash Tributary 1; Withers Swash Tributary 2; and Withers Swash Tributary 3.

A detailed coastal flooding analysis was performed on the complete coastline of Horry County, South Carolina, where the flooding source is the Atlantic Ocean.

For the April 2, 1991, revision, additional flood-prone information which affects the southeastern portion of Horry County was added as a result of Hurricane Hugo.

For the June 15, 1994, revision, the Waccamaw River, from a point approximately 2 miles downstream of U.S. Route 501 to a point approximately 2 miles upstream of the confluence of Stanley Creek, was restudied by detailed methods.

For the August 23, 1999, revision, the Waccamaw River, from Lee's Landing to Star Bluff Ferry, and Socastee Creek, from its mouth to Pine Island Road, were restudied by detailed methods. This area is located in the northeast corner of Horry County near the City of Conway.

For the September 17, 2003, revision, the following streams were studied by approximate methods: Buck Creek, South Branch Pleasant Meadow Swamp, and Waccamaw River.

Also, corporate limits for the City of Loris were updated to reflect annexation and deannexation.

Current Study Scopes

For this revision streams were studied by limited detailed and detailed methods, these are listed in Table 1, and Table 2 respectively.

Table 1 – Flooding Sources Studied by Limited Detailed Methods

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Baiter Swamp	Approximately 0.6 miles upstream of Pitch Landing Road	Approximately 100 feet downstream of Pitch Landing Road	0.6
Bear Branch	Confluence with Simpson Creek	Approximately 1.1 miles upstream of Garden Spring Lane	3.5
Bellamy Branch	Confluence with Waccamaw River	Approximately 0.7 miles upstream of Worthams Cutoff Road	1.2
Big Branch	Confluence with Halfway Swamp	Approximately 0.7 miles upstream of Tranquil Road	1.3

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Big Branch	Confluence with Halfway Swamp	Approximately 0.7 miles upstream of Tranquil Road	1.3
Big Branch 2	Confluence with Buck Creek	Approximately 130 feet downstream of State Highway 905	0.7
Big Cedar Branch	Confluence with Buck Creek	Approximately 800 feet upstream of Coney Drive	0.7
Big Cypress Swamp	Confluence with Hunting Creek	Approximately 0.4 miles upstream of Cates Bay Highway	1.3
Big Jones Swamp	Confluence with Waccamaw River	Approximately 2.0 miles upstream of Old State Highway 90	7.2
Big Swamp [1]	Confluence with Chinners Swamp	Approximately 1.7 miles upstream of confluence of Schoolhouse Branch	4.9
Black Creek	Confluence with Little Pee Dee River	Approximately 1.4 miles upstream of M W Stroud Road	4.5
Black Creek Tributary 1	Confluence with Black Creek	Approximately 1,800 feet upstream of M W Stroud Road	2.1
Boggy Branch	Confluence with Lumber River	Approximately 700 feet upstream of Highway 76	3.7
Boggy Swamp	Confluence with Maple Swamp	Approximately 700 feet upstream of Boggy Road	0.8
Bradley Branch	Confluence with Great Pee Dee River	Confluence of Sheep Pen Branch	1.8
Breakfast Swamp	Confluence with Lake Swamp	Approximately 0.5 miles upstream of Barnhill Road	1.3
Brown Swamp	Confluence with Little Pee Dee River	Approximately 0.5 miles upstream of Enoch Road	12.5

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Brown Swamp 2	Confluence with Grier Swamp	Approximately 1,200 feet upstream of Oak Street Ext	2.7
Brunson Swamp	Confluence with Little Pee Dee River	Approximately 0.5 miles upstream of State Highway 319	11.0
Buck Creek	Confluence with Waccamaw River	Approximately 1,700 feet upstream of Country Trail	12.2
Buck Creek Tributary 2	Confluence with Buck Creek	Approximately 1.8 miles upstream of confluence with Buck Creek	1.8
Bug Swamp	Confluence with White Oak Swamp	Approximately 1,200 feet upstream of Kerl Road	4.8
Bull Creek [2]	Confluence with Waccamaw River	Divergence from Great Pee Dee River	9.7
Camp Swamp	Confluence with Buck Creek	Approximately 0.8 miles upstream of Old Buck Creek Road	1.5
Cane Bay	Confluence with Tilly Swamp	Approximately 1.2 miles upstream of confluence with Tilly Swamp	1.2
Cane Branch	Confluence with White Oak Swamp	Approximately 0.5 miles upstream of confluence with White Oak Swamp	0.5
Cartwheel Branch	Confluence with Cedar Creek	Approximately 0.4 miles upstream of Mill Pond Road	1.0
Cedar Creek	Confluence with Little Pee Dee River	Approximately 1,000 feet upstream of Duford Road	8.6
Cedar Creek Tributary 1	Confluence with Cedar Creek	Approximately 0.4 miles upstream of Cedar Drive	2.0
Chinners Swamp	Confluence with Brunson Swamp	Approximately 1.1 miles upstream of Edwards Road	13.3

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Chinners Swamp Tributary 1	Confluence with Chinners Swamp	Approximately 1.0 miles upstream of confluence with Chinners Swamp	1.0
Cowford Swamp	Confluence with Great Pee Dee River	Approximately 0.9 miles upstream of Mineral Springs Road	4.5
Cowpen Swamp	Confluence with Simpson Creek	Approximately 1,100 feet upstream of Circle Bay Drive	3.0
Crab Tree Swamp	At Dunn Shortcut Road	Approximately 0.4 miles upstream of Sioux Swamp Drive	0.9
Crab Tree Swamp Tributary	At 16th Avenue	Approximately 700 feet upstream of 16th Avenue	0.1
Crab Tree Swamp Tributary No. 1	At Church Street	Approximately 0.4 miles upstream of Church Street	0.4
Crab Tree Swamp Tributary No. 3	At Church Street	Approximately 310 feet upstream of Church Street	0.1
Cross Swamp	Approximately 1.4 miles upstream of Highway 501	Approximately 1.8 miles upstream of Highway 501	0.4
Dawsey Swamp	Confluence with Little Pee Dee River	Approximately 0.5 miles upstream of Carmichael Road	3.6
Deep Branch	Confluence with Buck Creek	Approximately 1.3 miles upstream of Old Buck Creek Road	1.7
Evans Branch	Confluence with Chinners Swamp	Approximately 410 feet upstream of Dog Bluff Road	2.5
Galivants Ferry	Confluence with Little Pee Dee River	Approximately 600 feet upstream of Eagle Road	2.0

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Gaskins Branch	Confluence with Pleasant Meadow Swamp	Approximately 140 feet downstream of Meeting Street	1.8
Great Pee Dee River [2]	Confluence of Bull Creek	Confluence of Little Pee Dee River	6.0
Grier Swamp	Approximately 120 feet downstream of confluence of Brown Swamp 2	Approximately 190 feet downstream of Bell Road	2.6
Grier Swamp Tributary 2	Confluence with Grier Swamp	Approximately 70 feet upstream of Hall Road	0.5
Halfway Swamp	Confluence with Waccamaw River	Approximately 360 feet upstream of Unnamed Road	2.0
Hellhole Swamp	Confluence with Bug Swamp	Approximately 420 feet upstream of Railroad	2.2
Honey Camp Branch	Confluence with Lake Swamp	Approximately 0.5 miles upstream of Black Creek Road	3.0
Hook Branch	Confluence with Gapway Swamp	Approximately 1.7 miles upstream of confluence with Gapway Swamp	1.7
Horse Pen Creek	Confluence with Kingston Lake Swamp	Approximately 0.5 miles upstream of Highway 472	1.3
Horse Savannah Swamp	Confluence with Big Jones Swamp	Approximately 0.5 miles upstream of Old Highway 90	0.9
Horsemint Trail	Confluence with Waccamaw River	Approximately 3.4 miles upstream of Old Reaves Ferry Road	4.3
Huggins Creek	Confluence with Mitchell Swamp	Approximately 800 feet upstream of Ward Road	2.7
Hunting Swap	Confluence with Little Pee Dee River	Confluence of Jenkins Swamp	6.6

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Iron Springs Branch	Confluence with Mitchell Swamp	Approximately 0.6 miles upstream of Fair Bluff Highway	3.4
Jenkins Swamp	Confluence with Hunting Swamp	Approximately 2.0 miles upstream of State Highway 134	3.4
Jenkins Swamp Tributary	Approximately 200 feet downstream of Cates Bay Highway	Approximately 1.2 miles upstream of Cates Bay Highway	1.6
Jet Branch	Confluence with Cedar Creek	Approximately 140 feet downstream of M W Stroud Road	1.1
Joiner Swamp	Confluence with Lake Swamp	Approximately 0.6 miles upstream of J H Martin Road	6.3
Jordan Creek	Confluence with Lumber River	Approximately 480 feet upstream of Alma Road	6.1
Juniper Swamp	At Horry County, South Carolina—Columbus County, North Carolina County / State Boundary	Approximately 1.3 miles upstream of State Highway 9	5.5
Kingston Lake	Confluence with Kingston Lake Swamp	Approximately 0.9 miles upstream of Southern Crest Drive	7.5
Kingston Lake Swamp	At State Highway 19	Confluence of Kingston Lake and Kingston Lake Swamp Tributary 8	2.5
Kingston Lake Swamp Tributary 1	Confluence with Kingston Lake Swamp	Approximately 0.5 miles upstream of Long Avenue Ext	1.1
Kingston Lake Swamp Tributary 6	Confluence with Kingston Lake Swamp	Approximately 1,700 feet upstream of State Highway 19	1.2

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Kingston Lake Swamp Tributary 8	Confluence with Kingston Lake Swamp	Approximately 1.1 miles upstream of confluence with Kingston Lake Swamp	1.1
Lake Swamp	Confluence with Little Pee Dee River	At confluence of Mitchell Swamp and Pleasant Meadow Swamp	14.0
Little Pee Dee River [2]	Confluence with Great Pee Dee River	0.5 miles downstream of Highway 378	13.1
Little Pee Dee River	0.5 miles downstream of Highway 378	Confluence of Lumber River	49.0
Long Branch Swamp	Confluence with Mitchell Swamp	Approximately 1,800 feet upstream of Billy MC Road	2.8
Long Branch Swamp Tributary 1	Confluence with Long Branch Swamp	Approximately 0.7 miles upstream of confluence with Long Branch Swamp	0.7
Loosing Swamp	Confluence with Lake Swamp	Approximately 1.9 miles upstream of Nichols Highway	7.4
Lumber River	Approximately 1.4 miles upstream of Railroad	At Horry County, South Carolina—Columbus County, North Carolina County / State Boundary	8.8
Maple Swamp	Confluence with Kingston Lake Swamp	Approximately 1,400 feet upstream of Seaboard Coast Line Railroad	7.2
Maple Swamp Tributary 1	Confluence with Maple Swamp	Approximately .07 miles upstream of confluence with Maple Swamp	0.7
Meetinghouse Branch	Confluence with Mill Swamp	Approximately 1,300 feet upstream of State Highway 90	1.6
Mill Branch	Confluence with Chinners Swamp	At Dogwood River	3.2

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Mill Branch Tributary 1	Confluence with Mill Branch	Approximately .07 miles upstream of confluence with Mill Branch	0.7
Mill Branch Tributary 2	Confluence with Mill Branch	Approximately 800 feet upstream of State Highway 129	0.8
Mill Branch 2	Confluence with Mitchell Swamp	Approximately 0.6 miles upstream of Mt Zion Road	1.9
Mill Branch 3	Confluence with Simpson Creek	Approximately 800 feet upstream of Farmer Road	2.3
Mills Swamp	Confluence with Waccamaw River	Approximately 1,100 feet upstream of State Highway 90	3.3
Mitchell Swamp	Confluence with Lake Swamp	Approximately 0.5 miles upstream of Fowler School Road	13.8
Oakley Swamp	Confluence with Crab Tree Swamp	Approximately 0.6 miles upstream of confluence with Crab Tree Swamp	0.6
Palmetto Swamp	Confluence with Little Pee Dee River	Approximately 0.5 miles upstream of Brunson Spring Road	8.8
Pawleys Swamp	Confluence with Sarah Branch	Approximately 0.8 miles upstream of Society Drive	2.3
Pawleys Swamp Tributary	Confluence with Pawleys Swamp	Approximately 0.4 miles upstream of confluence with Pawleys Swamp	0.4
Play Card Swamp	Confluence with Lake Swamp	Approximately 0.4 miles upstream of Whispering Hills Road	4.8
Play Card Swamp Tributary 1	Confluence with Play Card Swamp	Approximately 0.8 miles upstream of confluence with Play Card Swamp	0.8

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Pleasant Meadow Swamp	Confluence with Lake Swamp	At confluence of Gaskins Branch and South Branch Pleasant Meadow Swamp	7.9
Pleasant Meadow Swamp Tributary 3	Confluence with Pleasant Meadow Swamp	Approximately 800 feet upstream of Coats Road	1.0
Pleasant Meadow Swamp Tributary 7	Confluence with Pleasant Meadow Swamp	Approximately 300 feet upstream of Lake Drive	0.4
Pleasant Meadow Swamp Tributary 9	Confluence with Pleasant Meadow Swamp	Approximately 440 feet upstream of Circle Drive	0.3
Poplar Branch	Confluence with Cedar Creek	Approximately 0.4 miles upstream of Mill Pond Road	1.3
Poplar Swamp	Confluence with Maple Swamp	Approximately 1,100 feet upstream of J T Hucks Road	2.5
Prince Mill Swamp	Confluence with Lake Swamp	Approximately 0.6 miles upstream of Mill Pond Road	3.5
Ratan Branch	Confluence with Palmetto Swamp	Approximately 1.2 miles upstream of confluence with Palmetto Swamp	1.2
Reedy Branch	Confluence with Lake Swamp	Approximately 0.4 miles upstream of State Highway 917	2.6
Run of Plum Branch	Approximately 1,000 feet upstream of Medlen Parkway	Approximately 0.8 miles upstream of Medlen Parkway	0.6
Sarah Branch	Confluence with Little Pee Dee River	Approximately 0.7 miles upstream of Pauley Swamp Road	5.1
Schoolhouse Branch	Confluence with Big Swamp	Approximately 90 feet downstream of Pee Dee Road	0.6

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Schoolhouse Branch Tributary	Confluence with Schoolhouse Branch	Approximately 1.5 miles upstream of confluence with Schoolhouse Branch	1.5
Seventh Avenue Stream	Approximately 1,200 feet upstream of S. Highway 17	Approximately 140 feet upstream of David Street	0.2
Sheep Pen Branch	Confluence with Bradley Branch	Approximately 1.4 miles upstream of confluence with Bradley Branch	1.4
Sheepbridge Branch	Confluence with Buck Creek	Approximately 1.8 miles upstream of E State Highway 9	2.5
Sheepbridge Branch Tributary 1	Confluence with Sheepbridge Branch	Approximately 600 feet upstream of Old Loris Longs Road	0.5
Simpson Creek	Approximately 420 feet upstream of Hardee Road	Approximately 0.3 miles upstream of State Highway 66	6.2
Socastee Creek	At Seaboard Coast Line Railroad	Approximately 130 feet downstream of Carolina Forest Boulevard	1.7
Socastee Creek Tributary 1	Confluence with Socastee Creek	Approximately 0.6 miles upstream of confluence with Socastee Creek	0.6
South Branch Pleasant Meadow Swamp	Confluence with Pleasant Meadow Swamp	Approximately 360 feet upstream of Rogers Road	2.7
Spring Swamp	Confluence with Brunson Swamp	Approximately 0.7 miles upstream of E. Highway 501	6.0
Steritt Swamp	Confluence with Waccamaw River	Approximately 600 feet upstream of State Highway 90	3.5
Tilly Swamp	Confluence with Waccamaw River Tributary 9	Approximately 1.9 miles upstream of Highway 90	2.6

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Tod Swamp	Confluence with Simpson Creek	Approximately 430 feet upstream of Red Bluff Road	1.8
Tredwell Swamp	Confluence with Galivants Ferry	Approximately 1,800 feet upstream of Vaught Road	6.2
Unnamed Tributary 2	Confluence with Dawsey Swamp	Approximately 0.8 miles of confluence with Dawsey Swamp	0.8
Unnamed Tributary 3	Confluence with Big Jones Swamp	Approximately 1,700 feet upstream of confluence with Big Jones Swamp	0.3
Waccamaw River Tributary 1 (Downstream)	Confluence with Waccamaw River	Approximately 25 feet downstream of State Highway 544	3.7
Waccamaw River Tributary 1 (Upstream)	Approximately 0.6 miles upstream of Myrtle Ridge Drive	Approximately 0.7 miles upstream of Myrtle Ridge Drive	0.1
Waccamaw River Tributary 3 (Downstream)	Confluence with Waccamaw River	Approximately 50 feet downstream of Gary Lake Boulevard	1.6
Waccamaw River Tributary 3 (Upstream)	At State Highway 544	Approximately 280 feet upstream of Founders Drive	0.3
Waccamaw River Tributary 4	Approximately 0.9 miles upstream of confluence with Waccamaw River Tributary 3	Approximately 1.1 miles upstream of confluence with Waccamaw River Tributary 3	0.2
Waccamaw River Tributary 5	Confluence with Waccamaw River	Approximately 1.5 miles upstream of confluence with Waccamaw River	1.5
Waccamaw River Tributary 6	Confluence with Halfway Swamp	At Old Buckville Road	0.3
Waccamaw River Tributary 9	Confluence with Waccamaw River	Approximately 0.8 miles upstream of confluence of Tilly Swamp	2.5

Table 1 – Flooding Sources Studied by Limited Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
West Bear Branch	Confluence with Simpson Creek	Approximately 1.2 miles upstream of confluence with Simpson Creek	1.2
White Oak Swamp	Confluence with Kingston Lake Swamp	Approximately 0.6 miles upstream of Cane Branch Road	5.4
Willow Springs Branch	Approximately 0.9 miles upstream of confluence with Bear Swamp	Approximately 1.1 miles upstream of confluence with Bear Swamp	0.2

[1] – denotes stream is completely inundated by the Little Pee Dee River and its specific flood data has been removed from the FIS and the database
[2] – denotes stream is analyzed through 2D methods (see section 3.0 Engineering Methods for more information)

Table 2 – Flooding Sources Studied by Detailed Methods

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Intracoastal Waterway Tributary 6	Confluence with Intracoastal Waterway	Approximately 1,200 feet upstream of Meyers Avenue	3.9
Intracoastal Waterway Tributary 10	Confluence with Intracoastal Waterway	Approximately 410 feet upstream of Old Socastee Highway	0.3
Intracoastal Waterway Tributary 10-1	Confluence with Intracoastal Waterway Tributary 10	Approximately 90 feet downstream of Emmens Avenue	2.4
Intracoastal Waterway Tributary 10-2	Confluence with Intracoastal Waterway Tributary 10	Approximately 0.4 miles upstream of Tower Street	1.7
Intracoastal Waterway Tributary 11	Confluence with Intracoastal Waterway	Approximately 1.5 miles upstream of Old Socastee Highway	1.8
Midway Swash	Atlantic Ocean as S. Ocean Boulevard	Approximately 0.8 miles upstream of S. Kings Highway	1.4

Table 2 – Flooding Sources Studied by Detailed Methods – continued

Flooding Source	Downstream Limit	Upstream Limit	Length (miles)
Midway Swash Tributary	Confluence with Midway Swash	Approximately 470 feet upstream of S. Kings Highway	0.2
Unnamed Tributary 5	Atlantic Ocean at Creekside Drive	Approximately 70 feet downstream of Cactus Street	2.1

This revision also incorporates LOMRs issued by FEMA for the following projects:

Table 3 – Incorporated Letters of Map Revision (December 16, 2021)

Case Number	Flooding Sources	Community Name	Effective Date
03-04-305P	Collins Creek Tributary	Horry County	December 22, 2003
05-04-2815P	Withers Swash Tributary 1	City of Myrtle Beach	November 17, 2006
06-04-B138X	Waccamaw River	Horry County	March 30, 2006
06-04-B279P	Simpson Creek	Horry County	April 26, 2007
06-04-B603P	Waccamaw River	Horry County	March 30, 2006
06-04-C114P	Socastee Creek	Horry County	March 1, 2007
07-04-4404P	Crab Tree Swamp Run of Plum Branch	City of Conway; Horry County	January 24, 2008
07-04-5516P	Socastee Swamp	Horry County	January 24, 2008
18-04-3918P	Collins Creek	Horry County	June 11, 2019

A few flooding sources of previous studies and LOMRs have had stream names revised for better conformity throughout the county. These changes include the following:

Flooding Source Effective Name	Flooding Source New Name
Socastee Swamp	Socastee Creek

No areas have been studied by approximate methods in this revision.

Floodplain boundaries of streams that were previously studied by approximate, limited detailed, and detailed methods have been redelineated using more up-to-date topographic information.

Approximate analyses are used to study those areas having low development potential or minimal flood hazards.

The areas studied by limited detailed methods were selected with moderate priority given to all known flood hazard areas, and areas of projected development and proposed construction.

Limits of detailed studies are indicated on the Flood Profiles (Exhibit 1) and on the FIRM (Exhibit 3). The areas studied by detailed methods were selected with priority given to all known flood hazard areas, and areas of projected development and proposed construction.

The scope and methods of study were proposed to, and agreed upon by, FEMA, SCDNR, and Horry County.

2.2 Community Description

Horry County is located in the eastern coastal region of South Carolina. It is bordered by Brunswick and Columbus Counties, North Carolina on the north, Dillon and Marion Counties, South Carolina on the west, Georgetown County, South Carolina on the south, and the Atlantic Ocean on the east. Horry County is served by U.S. Routes 17, 76, 501, and 701, and State Routes 9, 33, 306, 905, and 917. The county is also served by the CSX Transportation railroad. The total land area within the county limits is 1,255 square miles. The City of Conway, in the west-central region, is the county seat. Little Pee Dee River Heritage Preserve is located on the western border with Marion County and also contains a Wildlife Management Area. Bucksport Wildlife Management Area is just south of Conway. A few miles east of Conway is the Lewis Ocean Bay Heritage Preserve. There is also the Waccamaw River Heritage Preserve further east and north, which extends to the North Carolina border. According to U.S. Census Bureau figures, the population has increased from 196,629 in 2000 to 269,291 in 2010, a 37.0% increase (Reference 1).

The topography of Horry County is generally flat with elevation ranging from sea level to 100 feet.

There are nine soil associations located in Horry County: the Cantey-Smithboro-Persanti Association is level uplands and depressions underlain with clayey sediments; the Goldsboro-Rains-Norfolk Association is level uplands underlain with loamy sediments; the Goldsboro-Chipley Association is level uplands underlain with loamy and sandy sediments; the Craven-Bladen Association is level uplands and depressions underlain with clayey sediments; the Yemassee-Wahee-Bladen Association is level uplands and depressions underlain with loamy and clayey sediments; the Lynn Haven-Leon-Rutledge Association is level uplands and depressions underlain with sandy sediments; the Johnston-Rutledge Association is level floodplains and depressions underlain with loamy sediments; the Capers-Bohicket Association is level tidal marshes underlain with clayey sediments; and the Fripp-Beach Association is level to sloping dunes and beaches underlain with sandy sediments (Reference 2). These soil associations are classified in SCS Groups A, B, C, and D (Reference 3).

The climate of Horry County is classified as temperate. With the exception of high heat and humidity experienced frequently during the summer months, temperate extremes are uncommon. The mean annual temperature is 63 degrees Fahrenheit (^{o}F). Average monthly temperatures range from 80^{o}F in the summer in July to 46^{o}F in the winter in January. Rainfall is considered moderate; the average annual precipitation for the region is 52 inches. The precipitation is fairly evenly distributed throughout the year, but approximately thirty-eight percent of the annual rainfall can be expected to occur during the months of July through September (Reference 4).

2.3 Principal Flood Problems

The dominant source of flooding in Horry County is wind-driven surge generated in the Atlantic Ocean by tropical storms and hurricanes. The surge propagates to the Intracoastal Waterway. High winds associated with tropical storms can also produce extremely high waves which create higher than normal surge. The wave action during a tidal flood can be much more damaging than the higher water level. Not all storms that pass close to the study area produce extremely high surge. Similarly, storms which produce flooding conditions in one area may not necessarily produce flooding conditions in other parts of the study area. Flooding from heavy rainfall occurs on lowland areas and streams including Altman Branch, Bear Swamp, Collins Creek, Crab Tree Swamp, Cross Swamp, Grier Swamp, Jenkins Swamp, Kingston Lake Swamp, Run of Plum Branch, Socastee Creek, Waccamaw River, Willow Springs Branch, and Withers Swash and their respective tributaries.

South Carolina experiences both hurricanes and tropical storms. Hurricanes are large with violent low-pressure systems which originate in the South Atlantic and migrate northward. The late summer and early fall months represent the hurricane season in coastal South Carolina. High wind velocities and torrential rains accompany hurricanes. The flooding from surge and precipitation along with substantial wind damage has produced severe floods. The following brief descriptions of several significant storms provide historical information to which coastal flood hazards and flood depths can be compared.

October 15, 1954 (Hurricane Hazel)

Hurricane Hazel entered the coast just north of Myrtle Beach, South Carolina, and was one of the most destructive hurricanes in terms of property damage. Hurricane winds hit the Atlantic Coast between Georgetown, South Carolina, and Cape Lookout, North Carolina, and storm tides devastated the immediate ocean front of this stretch of coast. Every fishing pier from Myrtle Beach to Cedar Island, North Carolina, a distance of 170 miles, was destroyed. High tides of 16.6 feet mean sea level (msl) were observed at Holden Beach Bridge and Calabash, North Carolina. The lowest recorded barometric pressure of 938 millibars (mb) was reported at Little River Inlet on the South Carolina-North Carolina border. At Cherry Grove Beach, 17-foot msl tides destroyed all front row houses and washed some second row houses from their foundations. At Tilghman Beach, Ocean Drive, Crescent Beach, Atlantic Beach, and Windy Hill, South Carolina, practically all front row houses were destroyed or damaged, with waves breaking at housetop heights along some of the beach front. At Myrtle Beach, high-water marks at Edgewater Apartments near 16th Avenue South indicated a tide height of 15.5 feet msl. The highest wind gust at Myrtle Beach Air Force Base was 106 mph. It is estimated that the effects of wind and water combined to badly damage or destroy about 80 percent of the beach front property in the Myrtle Beach area. At Surfside and Garden City, South Carolina, hundreds of houses were destroyed by tides in excess of 13 feet msl. On Pawleys Island, South Carolina, 75 percent of the houses on the beach were badly damaged and 10-foot waves covered the northern and southern ends of the island, as well as low-lying areas in the middle. At Georgetown, sections of the street were inundated. Folly Island, Sullivan's Island, and Isle of Palms suffered light property damage and slight beach erosion. Total property damage was estimated at $34 million in North Carolina and $27 million in South Carolina. After devastating the coast, Hurricane Hazel moved across North Carolina with diminishing winds, passing through Virginia and heading northward toward Lake Ontario and Canada (Reference 5).

August 10-17, 1955 (Hurricane Diane)

Hurricane Diane was first observed in the vicinity of the Leeward Island, Lesser Antilles, at about the time Hurricane Connie was off the coast of Georgia. Its course was very erratic until the 13th when it reestablished itself on a more normal west-northwest course reaching the North Carolina coast, with its eye passing close to Wilmington on the morning of the 17th. It then moved inland and continued northward into New England. This hurricane did not penetrate the South Carolina coast, but passed 150 miles and 50 miles offshore at Charleston and Myrtle Beach, respectively, during the early morning hours of the 17th. The lowest barometric pressure of 29.27 inches was recorded at Myrtle Beach at about 9:00 a.m. on the 17th, with winds from the northwest of about 25 mph and gusts up to 45 mph. The highest tide, averaging about 4 feet above normal, occurred at Surfside and Garden City on the 16th. Rain squalls commenced on the afternoon of the 16th and heavy rains were noted in the vicinity of Myrtle Beach and Little River, South Carolina. Hurricane damages to the beaches between Georgetown and Little River were estimated at $86,000. At Garden City and Surfside, the prospective sand dunes constructed subsequent to Hurricane Hazel were cut back several feet on their ocean slopes (Reference 5).

August 12, 1955 (Hurricane Connie)

Hurricane Connie passed inland on the North Carolina coast near Morehead City. The storm then progressed through the mid-Atlantic states into Michigan where it expired. The center of the storm did not penetrate the South Carolina coastline, passing offshore about 175 miles and 100 miles, from Charleston and Myrtle Beach, respectively, on the l1th. The lowest barometric pressure of 29.27 inches was recorded at Myrtle Beach on the 12th. Winds at Myrtle Beach reached a maximum velocity of only 29 mph with gusts up to 45 mph. The tides along the coast from Georgetown to the North Carolina state line were about four feet above normal. The property damage to the coastal section between Georgetown and North Carolina-South Carolina state line is estimated to have been $87,000. Damages at Surfside and Garden City beaches were of a minor nature, being confined to erosion of the beaches and of the artificial sand dunes dozed up following Hurricane Hazel (Reference 5).

September 24, 1958 (Hurricane Helene)

Hurricane Helene was centered about 500 miles southeast of the Bahamas. On the 26th at 3:00 p.m., it was centered about 160 miles southeast of Charleston, moving northwesterly at about 10-14 mph, with winds of 100 mph over a small area near the center. The hurricane bypassed the South Carolina coast by about 40 miles during the morning of the 27th; its center passing just southeast of the Cape Fear River, North Carolina, about noon. Near Myrtle Beach, the U.S. Weather Bureau recorded a low barometric pressure of 29.05 inches at 11:40 a.m. on the 27th with highest wind gusts of 85 mph from the northwest. Wind gusts reading from 70 to 95 mph were observed on an anemometer aboard a yacht moored at Briarc1iffe Yacht Basin. The highest wind velocity reading of 95 mph occurred at about 11:00 a.m. The total storm rainfall at Myrtle Beach was 2.06 inches. Damages at Surfside and Garden City are estimated to have totaled only about $3,000 (Reference 6).

September 11, 1960 (Hurricane Donna)

Hurricane Donna bypassed the South Carolina coast by about 50 miles and entered the North Carolina coast near Morehead City. Highest tides along the South Carolina coast during its passage were only about 2 feet above normal, with maximum winds of 40 mph having gusts up to 70 mph at Georgetown, South Carolina. Damages were confined mostly to upturned composition shingles of roofs, television antennas, and signs. During the passage of the storm, rainfall accumulation in the Horry County area amounted to 11 inches and the lowest barometric pressure of 28.50 inches was recorded at Ocean Drive Beach (Reference 6).

September 12-13, 1964 (Tropical Storm Dora)

Tropical storm Dora moved parallel to the South Carolina coast from 25 miles inland until she left the state by way of Horry, Marion, and Dillon Counties. Wind damage was relatively minor, but rainfall accumulation in the eastern part of the state ranged from three to over eight inches. Conway reported a 24-hour rainfall of 8.25 inches and Loris, also in Horry County, had a 24-hour rainfall of 5.20 inches (Reference 7).

September 11-13, 1984 (Hurricane Diana)

Hurricane Diana pounded the North Carolina southeastern coast and the upper South Carolina coast with torrential rains and tree-bending winds that threatened to push tides up to 12 feet above normal. Winds were clocked at 115 mph on Oak Island near Cape Fear, North Carolina, as the eye of the first Atlantic hurricane of the season was just off the coast, about 20 miles south-southeast of downtown Wilmington, North Carolina. At midnight on the 11th, the storm was drifting to the north at 5 mph. Diana's highest sustained winds were 135 mph and gales extended 125 miles in all directions.

The evening of the 11th, the hurricane threat to South Carolina eased, more than 9,000 persons evacuated to shelters in the Myrtle Beach area were permitted to return home. This is the first major hurricane that has threatened the east coast of the United States since 1960 (Reference 8).

September 12-25, 1989 (Hurricane Hugo)

Hurricane Hugo struck the Charleston, South Carolina, area at about midnight on September 22, 1989, near high tide. Hurricane Hugo was the most destructive hurricane (in dollar losses) to ever strike the continental U.S. coastline. High-water elevations (including wave setup and wave crest contributions) were 11 to 12 feet at the open coast from the Township of Folly Beach to the City of Myrtle Beach, South Carolina, with elevations up to 18 feet in bay areas in the vicinity of the maximum winds. Downtown Charleston experienced high-water elevations of approximately 9 feet.

2.4 Flood Protection Measures

A U.S. Army Corps of Engineers (USACE) flood control project, completed in 1966, included clearing and snagging in Kingston Lake Swamp below State Route 106 and channel improvements on Crab Tree Swamp from State Route 106 to Four Mile Swamp (Reference 9).

A notable non-structural flood protection measure is the Public Warning System for severe weather conditions operated by the National Oceanic and Atmospheric Administration (NOAA), through the National Weather Service (NWS) in cooperation with various state, county, and local officials. This system can provide some measure of flood protection by alerting coastal residents to take the necessary precautions in the event of a major storm event.

3.0 ENGINEERING METHODS

For the flooding sources studied by limited detailed and detailed methods in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, or being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 1-percent-annual-chance flood in any 50-year period is approximately 40 percent (4 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied affecting Horry County, including incorporated communities, and unincorporated areas.

For the FIS reports prior to August 23, 1999, regionalized regression equations developed by the U.S. Geological Survey (USGS) were used for deriving peak discharge-frequency relationships for each flooding source studied by detailed methods (Reference 10). The hydrologic calculations for the study are detailed in Tetra Tech, Inc.'s report (Reference 11).

For the August 23, 1999, revision, the Waccamaw River Basin was restudied using regionalized regression equations, developed by the USGS to obtain peak discharge-frequency relationships.

For the September 17, 2003, revision, no new peak discharge-frequency relationships were developed.

December 16, 2021 Countywide Analysis

For this report streams which were studied were divided into two classifications, limited detailed, and detailed, based on their method of study.

Peak flood discharges for the 1-percent-annual-chance storm event for all streams studied by limited detailed methods were determined using USGS regression analysis, except those noted as using 2D modeling techniques.

Peak flood discharges for the 10-, 2-, 1-, and 0.2-percent-annual-chance storm events for all streams studied by detailed methods were determined using USGS regression analysis. Due to their significant size, and the existence of USGS stream gage data, the flooding sources of Little Pee Dee River, Lumber River, and Waccamaw River had their regression analysis estimates adjusted through calibration to flood frequency analyses performed using guidelines described in Bulletin 17B (Reference 12).

USGS Regression Analysis:

Periodically the USGS conducts analytical studies to establish appropriate empirical equations for determining flow volumes in natural (rural) and developed (urban) areas. The USGS reports used for determining discharges in Horry County are: Water-Resources Investigations Report (WRIR) 02-4140, and Scientific Investigation Report (SIR) 2004-5030 (Reference 13 & 14). In WRIR 02-4140 four physiographic provinces are enumerated: Blue Ridge, Piedmont, Upper Coastal Plain, and Lower Coastal Plain. Horry County is encompassed entirely within the Lower Coastal Plain province, although major flooding sources, Little Pee Dee River, Lumber River, and Waccamaw River, have drainage from Upper Coastal Plain province outside the county.

The rural regression equations are designed to be used for drainage areas between 0.6 and 945 square miles. From WRIR 02-4140, the rural regression equations are given as:

Upper Coastal Plain

$$\mathbf{Q_{10\%} = 40.6 * DA^{(0.753)}}$$
$$\mathbf{Q_{2\%} = 60.1 * DA^{(0.755)}}$$
$$\mathbf{Q_{1\%} = 69.1 * DA^{(0.757)}}$$
$$\mathbf{Q_{0.2\%} = 92.1 * DA^{(0.761)}}$$

Lower Coastal Plain

$$\mathbf{Q_{10\%} = 136 * DA^{(0.646)}}$$
$$\mathbf{Q_{2\%} = 251 * DA^{(0.634)}}$$
$$\mathbf{Q_{1\%} = 312 * DA^{(0.631)}}$$
$$\mathbf{Q_{0.2\%} = 486 * DA^{(0.624)}}$$

where,

$Q_{10\%}$, $Q_{2\%}$, $Q_{1\%}$, $Q_{0.2\%}$ = flows for floods with percent chance of exceedance of 10 percent, 2 percent, 1 percent, and 0.2 percent respectively, in cubic feet per second (cfs),

and,

DA = drainage area (mi^2)

Three basin characteristics were used in developing urban regression equations: main channel length (L), Impervious Area (IA), and Basin Development Factor (BDF). An 'alternate' form of the urban equations were used in this analysis in order to preclude the need to attempt to estimate BDFs, which are recognized by the following SIR 2004-5030 (Reference 14) text:

"[…] *However, BDF is probably the most time-consuming characteristic to obtain because it requires a field visit to the basin of interest, whereas, L and IA can often be determined from maps or digital data.*"

Without specific site visits or extensive data regarding the relevant characteristics of the urban watersheds, BDFs for the various sub-basins would be impossible to accurately compute/estimate. Due to this excessive effort needed to estimate BDFs, they are considered the least significant variable, and 'alternate' equations were developed; these are listed below:

$$\mathbf{Q_{10\%} = 69.9 * L^{1.51} * 10^{0.0192 * IA}}$$
$$\mathbf{Q_{2\%} = 90.3 * L^{1.55} * 10^{0.0185 * IA}}$$
$$\mathbf{Q_{1\%} = 97.2 * L^{1.56} * 10^{0.0185 * IA}}$$
$$\mathbf{Q_{0.2\%} = 111 * L^{1.60} * 10^{0.0187 * IA}}$$

where,

L = main channel length (mi)
IA = impervious area (%)

The alternative USGS urban regression equations are designed for basins with a main channel length from 0.51 miles to 11.2 miles and impervious area from 10 to 40 percent.

Stream Gage Analysis:

When relevant USGS gage data is available it is common practice to perform flood frequency analyses with the intent to verify results of regional regression analyses. The log-Pearson Type III distribution method was employed in the flood frequency analysis of stream gages per guidelines described in Bulletin 17B (Reference 12). Where applicable the weighted skew values for flood frequency analyses were used as described in WRIR 02-4140 for South Carolina stream gages, and WRIR 01-4207 (Reference 15), for North Carolina stream gages. Table 4, "USGS Gages Used in Hydrologic Analyses," indicates the available USGS gage data in Horry County applicable to streams addressed in this study.

Table 4 – USGS Stream Gages used in Hydrologic Analyses

Gage ID	Flooding Source and Location	Computed Drainage Area ($mi.^2$)	Published Drainage Area ($mi.^2$)	Period of Record
02109500	Waccamaw River at Freeland, NC	680	680	1940 – 2006
02110500	Waccamaw River at Longs, SC	1,123	1,110	1951 – 2006
02132500	Little Pee Dee River near Dillon, SC	524	524	1940 – 2006
02134500	Lumber River at Boardman, NC	1,228	1,228	1929 – 2006
02135000	Little Pee Dee River at Galivants Ferry, SC	2,803	2,790	1942 – 2006

The calibrated regression analysis performed was approved by SCDNR for hydraulic modeling use for limited detailed, and detailed stream studies.

2D Modeling Techniques:

The following flooding sources within Horry County were analyzed using 2D modeling techniques; Bull Creek, Great Pee Dee River, and Little Pee Dee River from the confluence with Great Pee Dee River to a point 0.5 miles downstream of Highway 378.

The hydrology methods utilized for 2D modeling encompassed using the USACE Hydrologic Engineering Center – Hydrologic Modeling System (HEC-HMS) version 4.2 computer program (Reference 16 & 17) to process NOAA precipitation frequency data (Reference 18). 2D modeling also utilized streamflow gage data analyzed according to USGS Bulletin 17B guidelines (Reference 12).

2D modeling techniques were performed using USACE Hydrologic Engineering Center – River Analysis System (HEC-RAS) step-backwater computer program version 5.0.5, also called RAS5 (Reference 19, 20 & 21). Within RAS5 the HMS analysis precipitation data and USGS gage analysis data are both included as input parameters which are routed through the 2D computational mesh (work area boundary). The results create flow discharges along directional flooding source routes. These discharges are extracted/observed at select locations through elements called 2D connections. For Bull Creek, Great Pee Dee River, and Little Pee Dee River the 1-percent-annual-chance storm event flows are shown in Table 12, "Flood Hazard Data for Selected Streams".

A summary of the drainage area-peak discharge relationships for select streams studied by limited detailed methods, and all streams studied by detailed methods is shown in Table 5, "Summary of Discharges".

Table 5 – Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Altman Branch	At mouth	1.9	240	*	440	540	830
Altman Branch	Approximately 0.75 miles upstream of U.S. Route 378	0.9	155	*	290	365	550
Baiter Swamp	At Mouth	3.8	360	*	645	785	1,215
Bear Swamp	Approximately 1,500 feet downstream of U.S. Route 701	6.8	500	*	890	1,070	1,665
Bear Swamp Tributary	At Mouth	0.3	75	*	150	190	285
Collins Creek	At Mouth	12.6	720	*	1,250	1,500	2,330
Collins Creek	Approximately 1,500 feet upstream of confluence of Collins Creek Tributary	2.4	275	*	500	615	950
Collins Creek	Approximately 2,100 feet upstream of McDowell Shortcut Road	0.8	212	*	257	276	317
Collins Creek Tributary	Approximately 400 feet upstream of mouth	0.7	77	*	151	194	290
Collins Creek Tributary	Approximately 2,000 feet upstream of mouth	0.03	16	*	22	26	41
Crab Tree Swamp	At Mouth	18.2	885	*	1,525	1,805	2,840
Crab Tree Swamp	Approximately 5,500 feet upstream of confluence of Altman Branch	4.3	385	*	690	840	1,300
Crab Tree Swamp Tributary	At Mouth	*	200	*	330	440	550
Crab Tree Swamp Tributary No. 1	At Mouth	0.6	125	*	240	305	460
Crab Tree Swamp Tributary No. 2	At Mouth	0.4	95	*	185	240	360

Table 5 – Summary of Discharges – continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Crab Tree Swamp Tributary No. 3	At Mouth	0.6	120	*	230	290	440
Cross Swamp	At Mouth	5.0	420	*	755	910	1,415
Grier Swamp	At Mouth	21.1	965	*	1,655	1,950	3,075
Intracoastal Waterway Tributary 6	At Mouth	6.9	945	*	1,264	1,379	1,672
Intracoastal Waterway Tributary 6	Approximately 1,300 feet downstream of Palmetto Pointe Boulevard	5.8	483	*	767	949	1,460
Intracoastal Waterway Tributary 6	Immediately upstream of U.S. Highway 17 Bypass	3.4	302	*	549	680	1,050
Intracoastal Waterway Tributary 6	Approximately 1,300 feet downstream of Oxford Street	0.91	128	*	236	294	458
Intracoastal Waterway Tributary 6	Approximately 900 feet upstream of Thornbury Drive	0.45	82	*	152	190	297
Intracoastal Waterway Tributary 10	At Mouth	2.5	874	*	1,121	1,218	1,459
Intracoastal Waterway Tributary 10-1	At Mouth	1.9	759	*	969	1,051	1,254
Intracoastal Waterway Tributary 10-1	Approximately 900 feet downstream of Farrow Parkway	0.90	600	*	737	796	936
Intracoastal Waterway Tributary 10-2	At Mouth	0.41	212	*	265	285	330

Table 5 – Summary of Discharges – continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Intracoastal Waterway Tributary 11	At Mouth	1.5	650	*	825	894	1,061
Intracoastal Waterway Tributary 11	Approximately 550 feet downstream of an Airport Roadway	0.72	427	*	530	572	670
Intracoastal Waterway Tributary 11	Approximately 1,200 feet upstream of an Airport Roadway	0.12	313	*	362	387	442
Jenkins Swamp	Immediately downstream of confluence of Jenkins Swamp Tributary	2.6	285	*	520	640	980
Jenkins Swamp Tributary	At Mouth	0.8	145	*	275	345	525
Kingston Lake Swamp	At Mouth	135.2	2,840	*	4,605	5,230	8,430
Kingston Lake Swamp	At confluence of Maple Swamp	89.9	2,240	*	3,680	4,210	6,760
Midway Swash	At Mouth	1.5	668	*	848	919	1,092
Midway Swash	Approximately 350 feet downstream of Airport Roadway	0.81	417	*	531	574	677
Midway Swash	Approximately 900 feet upstream of Airport Roadway	0.20	224	*	277	299	345
Midway Swash Tributary	At Mouth	0.59	98	*	180	225	351
Run of Plum Branch	At Mouth	1.0	165	*	310	385	585
Seventh Avenue Stream	At Mouth	0.8	140	*	255	300	410

Table 5 – Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Seventh Avenue Stream	Immediately downstream of U.S. Route 17	0.4	100	*	175	195	220
Seventh Avenue Stream	Immediately upstream of U.S. Route 17	0.4	100	*	190	240	365
Simpson Creek	Upstream of State Highway 905	38.2	4,084	*	6,563	7,988	12,939
Socastee Creek	At Mouth	22.5	2,560	*	4,130	4,800	6,760
Socastee Creek	Upstream of tributary	20.5	2,550	*	4,100	4,770	6,710
Socastee Creek	Upstream of U.S. Route 501	16.8	2,460	*	3,970	4,590	6,430
Socastee Creek	Downstream of Cross Swamp	15.9	2,360	*	3,820	4,420	6,200
Socastee Creek	At CSX Transportation Railroad	10.3	1,420	*	2,330	2,730	3,860
Socastee Creek	At Carolina Forest Boulevard	7.26	489	*	882	1,090	1,674
Unnamed Tributary 5	At Mouth	2.4	1,131	*	1,434	1,557	1,869
Unnamed Tributary 5	Approximately 240 feet upstream of S Kings Highway	1.9	630	*	793	858	1,017
Unnamed Tributary 5	Approximately 360 feet downstream of Spruce Drive	1.0	417	*	524	566	665
Waccamaw River	Below Kingston Lake	1,438	*	*	*	22,310	*
Waccamaw River	Above Kingston Lake	1,303	*	*	*	20,050	*
Waccamaw River	At Dam Swamp	1,256	11,100	*	16,600	19,340	23,070
Waccamaw River	At Tilly Swamp	1,243	11,030	*	16,460	19,150	22,920
Waccamaw River	At Jones Swamp	1,218	10,920	*	16,200	18,790	22,620
Waccamaw River	At Simpson Creek	1,195	10,810	*	15,960	18,460	22,330
Waccamaw River	At Mill Swamp	1,149	10,570	*	15,570	17,790	21,750
Waccamaw River	At State Highway 9	1,110	12,500	*	19,000	22,000	29,400

Table 5 – Summary of Discharges – continued

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs) 10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Waccamaw River Tributary 1	At State Route 544	2.4	275	*	500	615	945
Waccamaw River Tributary 2	At mouth	0.2	70	*	135	175	260
Waccamaw River Tributary 3	At dirt road	3.0	315	*	570	695	1,075
Waccamaw River Tributary 3	Approximately 3,000 feet upstream of dirt road	0.5	115	*	220	280	422
Waccamaw River Tributary 4	At mouth	0.5	115	*	215	275	415
Waccamaw River Tributary 5	Approximately 2,000 feet downstream of Unnamed Road	0.5	115	*	220	280	420
Waccamaw River Tributary 6	Approximately 3,000 feet upstream of State Route 136	0.7	130	*	245	310	465
Willow Springs Branch	At mouth	0.8	140	*	265	335	505
Withers Swash	At mouth	4.1	490	*	810	985	1,425
Withers Swash	Immediately upstream of Wither Swash Tributary 3	1.3	270	*	465	565	810
Withers Swash Tributary 1	Approximately 400 feet downstream of 5th Avenue South	1.0	300	*	485	615	870
Withers Swash Tributary 1	At 9th Avenue South	0.9	270	*	445	560	790
Withers Swash Tributary 1	At 13th Avenue South	0.6	215	*	350	440	615
Withers Swash Tributary 2	At 3rd Avenue North	0.9	220	*	380	465	660
Withers Swash Tributary 2	At CSX Transportation Railroad	0.7	195	*	335	410	580

Table 5 – Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Withers Swash Tributary 3	Immediately downstream of State Route 84	0.4	125	*	225	270	385
Withers Swash Tributary 3	Immediately upstream of State Route 84	0.4	110	*	220	260	375

* Denotes data unavailable.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data Tables in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are encouraged to use the flood elevation data presented in this FIS report in conjunction with the data shown on the FIRM.

Locations of selected cross-sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross-section locations are also shown on the FIRM.

Flood Profiles were drawn showing computed water-surface elevations for floods of the selected recurrence intervals.

Along certain portions of streams, a profile base line is shown on the maps to represent channel distances as indicated on the Flood Profiles and Floodway Data Tables.

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For the previous FIS reports, water-surface elevations of floods of the selected recurrence intervals were computed using the USACE HEC-2 step-backwater computer program (Reference 22, 23, & 24). Starting water-surface elevations were calculated using normal depth calculations. Cross-sections for the backwater analyses were obtained from field surveys. Topographic maps were used to extend surveyed cross-sections (Reference 25).

For the August 23, 1999, revision, cross-sections for the backwater analyses were obtained from a digital terrain model created from aerial photography and periodic field soundings to determine river characteristics. Starting water-surface elevations for the selected recurrence intervals were determined by the slope/area method. New cross-section data was obtained at all bridge crossings and low-level weirs as well as other points along the stream to verify the excavated channel shape and invert dimensions.

Channel roughness factors (Manning's 'n') used in the hydraulic computations were chosen by engineering judgment and based on field observations, and aerial photographs of the stream and floodplain areas. Values were determined based on descriptions outlined in “Roughness Characteristics of Natural Channels” (Reference 26). Channel values used for streams studied by detailed methods ranged from 0.035 to 0.060, the overbank floodplain values ranged from 0.150 to 0.200.

December 16, 2021 Countywide Analysis

For this report streams which were studied were divided into two classifications, limited detailed, and detailed, based on their method of study. For limited detailed streams, a total of approximately 448 miles and 265 hydraulic structures were studied. For detailed streams, a total of approximately 14.0 miles and 42 hydraulic structures were studied. Hydraulic structures are defined as bridges, culverts or dams.

Hydraulic cross-section geometries were obtained from LiDAR data. Hydraulic structures were field surveyed to obtain elevation data and structural geometry.

Water-surface elevations (WSELs) along each stream segment for the 10-, 2-, 1-, and 0.2-percent-annual-chance exceedance discharges for both limited detailed and detailed methods were computed using the USACE Hydrologic Engineering Center – River Analysis System (HEC-RAS) step-backwater computer program version 3.1.3 (Reference 27), except those noted as using 2D modeling techniques.

If applicable, a tie-in water-surface elevation was used as the starting condition for various hydraulic models. Otherwise, model starting conditions were set to normal depth using starting slopes calculated from channel elevation values taken from the LiDAR data.

Manning’s n-values were estimated using community provided Digital Orthoimagery for both channel and overbank areas. Manning’s n-values for streams studied by limited detailed methods ranged from 0.040 to 0.060 for the channel and from 0.080 to 0.15 for the overbanks. Roughness coefficients used for streams studied by detailed methods are given in Table 6.

Table 6 – Summary of Roughness Coefficients

Flooding Source	Manning’s ‘n’ Channel	Manning’s ‘n’ Overbank
Intracoastal Waterway Tributary 6	0.040–0.045	0.070–0.140
Intracoastal Waterway Tributary 10	0.050	0.070–0.120
Intracoastal Waterway Tributary 10-1	0.040–0.050	0.090–0.150
Intracoastal Waterway Tributary 10-2	0.040–0.050	0.085–0.140

Table 6 – Summary of Roughness Coefficients – continued

Flooding Source	Manning's 'n' Channel	Manning's 'n' Overbank
Intracoastal Waterway Tributary 11	0.045	0.070–0.140
Midway Swash	0.035–0.040	0.070–0.140
Midway Swash Tributary	0.040–0.042	0.070–0.110
Unnamed Tributary 5	0.043	0.070–0.140

2D Modeling Techniques:

The following flooding sources within Horry County were analyzed using 2D modeling techniques; Bull Creek, Great Pee Dee River, and Little Pee Dee River from the confluence with Great Pee Dee River to a point 0.5 miles downstream of Highway 378.

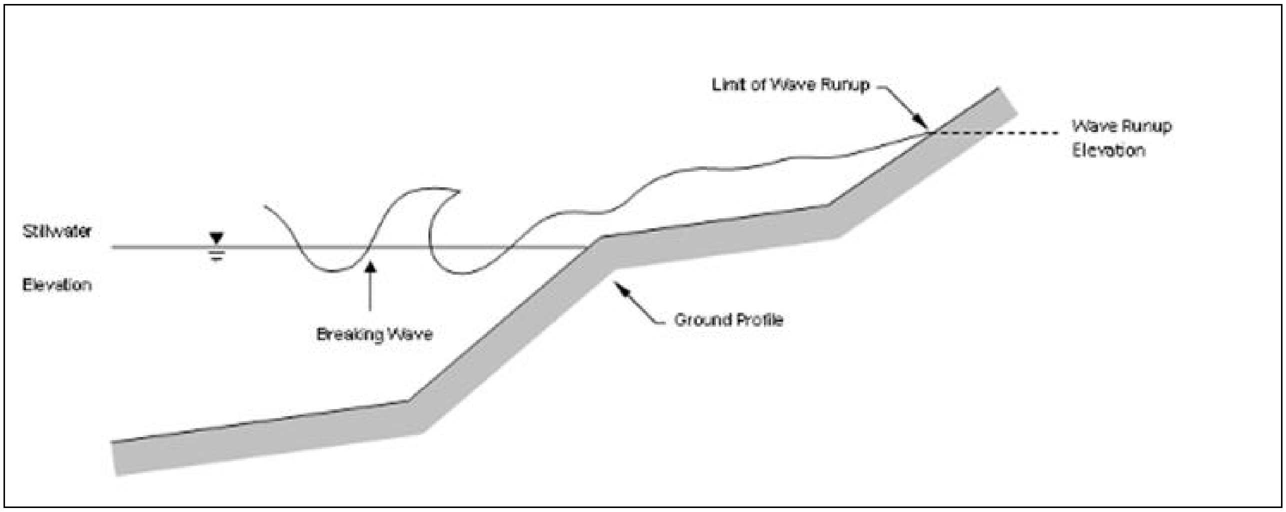
2D modeling techniques were performed using RAS5. Within RAS5 the 2D computational mesh utilizes an input terrain dataset (Reference 28) as well as rendering Manning's roughness coefficients "n" from the National Land Cover Dataset (NLCD) 2011 (Reference 29). The results create a gridded network of cells, each with WSEL values. For Bull Creek, Great Pee Dee River, and Little Pee Dee River the 1-percent-annual-chance storm event WSELs are shown in Table 12, "Flood Hazard Data for Selected Streams".

3.3 Coastal Analyses

For most areas along rivers, streams, and small lakes, base flood elevations (BFEs) and floodplain boundaries are based on the amount of water expected to enter the area during a 1-percent-annual-chance flood and the geometry of the floodplain. Floods in these areas are typically caused by storm events. However, for areas on or near ocean coasts, large rivers, or large bodies of water, BFE and floodplain boundaries may need to be based on additional components, including storm surges and waves. Communities on or near ocean coasts face flood hazards caused by offshore seismic events as well as storm events.

Coastal BFEs are calculated as the total stillwater elevation (stillwater elevation including storm surge plus wave setup) for the 1-percent-annual-storm plus the additional flood hazard from overland wave effects (storm-induced erosion, overland wave propagation, wave runup and wave overtopping).

Figure 1 – Wave Runup Transect Schematic



Where they apply, coastal BFEs are calculated along transects extending from offshore to the limit of coastal flooding onshore. Results of these analyses are accurate until local topography, vegetation, or development type and density within the community undergoes major changes.

Figure 2, "Coastal Transect Schematic," illustrates the relationship between the BFE, the 1-percent-annual-chance stillwater elevation, and the ground profile as well as the location of the Zone VE and Zone AE areas in an area without a Primary Frontal Dune (PFD) subject to overland wave propagation. This figure also illustrates energy dissipation and regeneration of a wave as it moves inland, as well as the Limit of Moderate Wave Action (LiMWA).

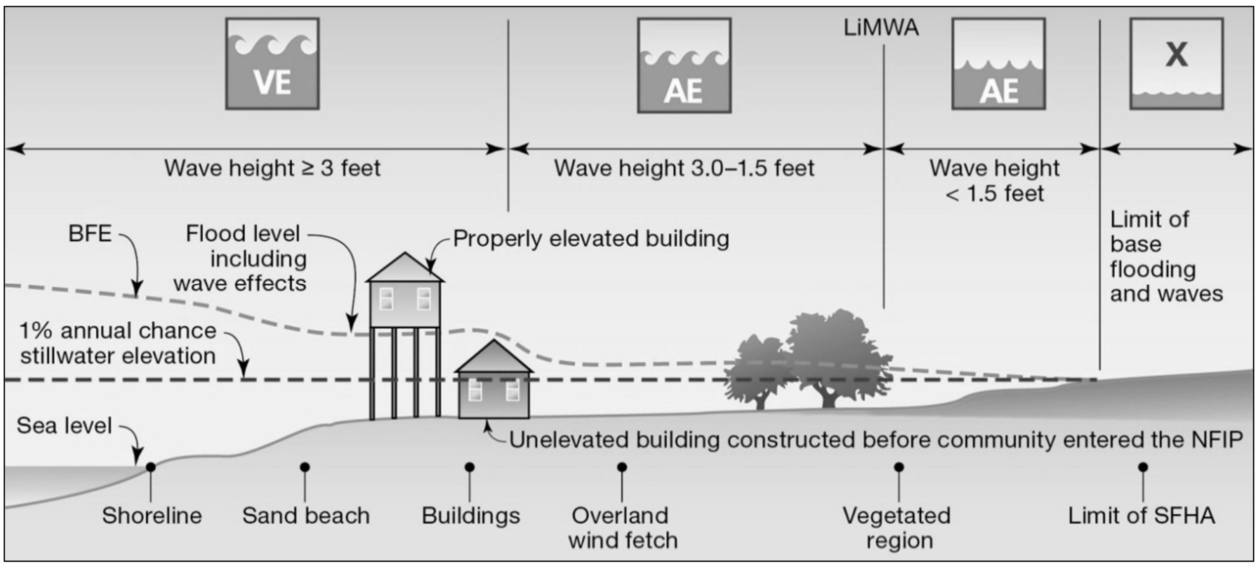
For areas subject to flooding directly from the Atlantic Ocean, flood estimates were derived by simulating a large number of storm events using a coupling of two-dimensional (2D) hydrodynamic and wave models (e.g., the ADCIRC – Advanced CIRCulation model and the SWAN – Simulating Waves Nearshore model).

Underwater depths and land heights for the unstructured model grid were obtained from USACE and NOAA bathymetric survey datasets, bathymetric Digital Elevation Models (DEMs), and numerous sources of high-resolution LiDAR data. Topographic data was supplemented with USGS DEMs where LiDAR data was not available.

From ADCIRC + SWAN modeling simulations, the Joint Probability Method with Optimal Sampling (JPM-OS), developed by Resio (Reference 30) and Toro et al. (Reference 31 & 32), was applied to compute Stillwater Elevations (SWELs), including both the storm surge as well as the wave setup component. This statistical analysis resulted in an updated storm surge analysis of the entire South Carolina coast for the low frequency (2-, 1-, and 0.2-percent-annual-chance) events. Within coastal counties surrounding Horry County, 1-percent-annual-chance SWELs ranged from approximately 8.5-feet to 11.5-feet, referenced to the North American Vertical Datum of 1988 (NAVD88). The 0.2-percent-annual-chance SWELs ranged from approximately 13.5-feet to 16.5-feet, referenced to the NAVD88. Stillwater elevations at the open coast were generally higher than those values moving inland towards the study area.

High frequency (the 50-, 20-, 10-, and 4-percent-annual-chance) events were computed using L-moments type regional frequency analyses. L-moments were used to fit parametric extreme value probability distributions to annual maximum water levels recorded at tide gages along the Atlantic Coast of North Carolina, South Carolina, Georgia, and Florida. Regional frequency relationships were developed to predict the high frequency SWELs for the entire South Carolina coast.

Figure 2 – Coastal Transect Schematic



The following subsections provide summaries of how each coastal process was considered for this FIS report. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation. Table 7 summarizes the methods and/or models used for the referenced coastal analyses.

Table 7 – Summary of Coastal Analyses

Flooding Source	Study Limits From	To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Atlantic Ocean	Entire coastline of Horry County	Entire coastline of Horry County	Storm Climatology Statistical Analysis	JPM-OS	04/01/2012
Atlantic Ocean	Entire coastline of Horry County	Entire coastline of Horry County	Storm Surge including Regional Wave Setup	ADCIRC + SWAN	11/01/2013
Atlantic Ocean	Entire coastline of Horry County	Entire coastline of Horry County	Stillwater Frequency Analyses	Regional Frequency Analysis	11/01/2013
Atlantic Ocean	Entire coastline of Horry County	Entire coastline of Horry County	Dune Erosion	FEMA's Erosion Assessment	11/14/2014
Atlantic Ocean	Entire coastline of Horry County	Entire coastline of Horry County	Overland Wave Propagation	WHAFIS	11/14/2014
Atlantic Ocean	Entire coastline of Horry County	Entire coastline of Horry County	Wave Runup	RUNUP2.0	11/14/2014

Stillwater Elevations

The stillwater elevations (i.e., storm surge plus wave setup) for the 1-percent-annual-chance event were determined for areas subject to coastal flooding. The models and methods that were used to determine storm surge and wave setup are listed in Table 7. The statistical analysis used to determine the 2-, 1-, and 0.2-percent-annual-chance SWEL was detailed earlier in Section 3.2. The stillwater elevation that was used for each transect in coastal analyses is shown in Table 9, "Coastal Transect Parameters".

Table 8 provides the gage name, gage identifier, managing agency, gage type, start date, end date, and statistical methodology applied to gages nearest to the study area that were used to determine the stillwater elevations. For areas between gages, stillwater elevations for selected recurrence intervals were estimated by interpolating between gages.

Table 8 – Tide Gage Analysis Specifics

Gage Name	Managing Agency of Tide Gage Record	Gage Type	Start Date	End Date	Statistical Methodology
Duck, NC - 8651370	NOAA	Tide	1977	Present	L-moments, Generalized Logistic

Table 8 – Tide Gage Analysis Specifics – continued

Gage Name	Managing Agency of Tide Gage Record	Gage Type	Start Date	End Date	Statistical Methodology
Oregon Inlet, NC - 8652587	NOAA	Tide	1974	Present	L-moments, Generalized Logistic
Cape Hatteras Pier, NC - 8654400	NOAA	Tide	1973	2003	L-moments, Generalized Logistic
Beaufort, NC - 8656483	NOAA	Tide	1964	Present	L-moments, Generalized Logistic
Wilmington, NC - 8658120	NOAA	Tide	1908	Present	L-moments, Generalized Logistic
Springmaid Pier, SC - 8662245	NOAA	Tide	1976	Present	L-moments, Generalized Logistic
Charleston, SC - 8665530	NOAA	Tide	1899	Present	L-moments, Generalized Logistic
Fort Pulaski, GA - 8670870	NOAA	Tide	1935	Present	L-moments, Generalized Logistic
Fernandina Beach, FL - 8720030	NOAA	Tide	1898	Present	L-moments, Generalized Logistic
Mayport Ferry Depot, FL - 8720220	NOAA	Tide	1928	2008	L-moments, Generalized Logistic

Wave Setup Analysis

Wave setup was computed during the storm surge modeling through the models listed in Table 7 and was included in the frequency analysis for the determination of the total stillwater elevations.

Starting Wave Conditions

The methodology for analyzing the effects of wave heights associated with coastal storm surge flooding is based on the ADCIRC+SWAN coupled model. Within this model, the SWAN component develops the spectral offshore and nearshore waves, which develop wave radiation stress gradients that produce wave-induced water level fluctuations near the coast. For each 2D model node, wave statistics were designated. SWAN modeling results of the significant wave height (H_{mo}) and peak wave period (T_p) were produced at each node contained in the ADCIRC grid based on a selection of wave conditions corresponding to modeled storms with the desired recurrence interval. These results provided valuable information on the wave conditions that can be expected to occur during the types of extreme storm events that would produce storm surge elevations with 1- and 0.2-percent-annual-chance probabilities of occurrence. The results from the JPM-OS ADCIRC + SWAN modeling were used to develop starting wave conditions for the transect-based wave hazard analyses.

Coastal Erosion

A single storm episode can cause extensive erosion in coastal areas. Storm-induced erosion was evaluated to determine the modification to existing topography that is expected to be associated with flooding events. For open coast transects where a distinguishable PFD could be identified, erosion was evaluated using the method listed in Table 7. FEMA-prescribed dune geometries were implemented in all cases where it was reasonable to do so, as outlined in Section D.2.9 of the FEMA Guidelines and Specifications (Reference 33 & 34). The dune erosion process was applied based on the cross-sectional area of the dune reservoir. Dune reservoirs with an area less than 540 sq-ft were removed, whereas dune reservoirs with an area greater than 540 sq-ft were modified with dune retreat.

Wave Hazard Analyses

Overland wave hazards were evaluated to determine the combined effects of ground elevation, vegetation, and physical features on overland wave propagation, in accordance with the "Wave Height Analysis for Flood Insurance Studies" (Reference 35). These analyses were performed at representative transects along all shorelines for which waves were expected to be present during the floods of the selected recurrence intervals. The results of these analyses were used to determine elevations for the 1-percent-annual-chance flood.

Transect locations were chosen with consideration given to the physical land characteristics as well as development type and density so that they would closely represent conditions in their locality. Additional consideration was given to changes in the total stillwater elevation. Transects were spaced close together in areas of complex topography and dense development or where total stillwater elevations varied. In areas having more uniform characteristics, transects were spaced at larger intervals. Transects shown in Figure 3, "Transect Location Map," are also depicted on the FIRM. Table 9 provides the location, stillwater elevations, and starting wave conditions for each transect evaluated for overland wave hazards. In this table, "starting" indicates the parameter values offshore of the transect

Wave Runup Analysis

Wave runup analyses were performed to determine the height and extent of runup beyond the limit of stillwater inundation for the 1-percent-annual-chance flood. Wave runup elevations were modeled using the model(s) listed in Table 7.

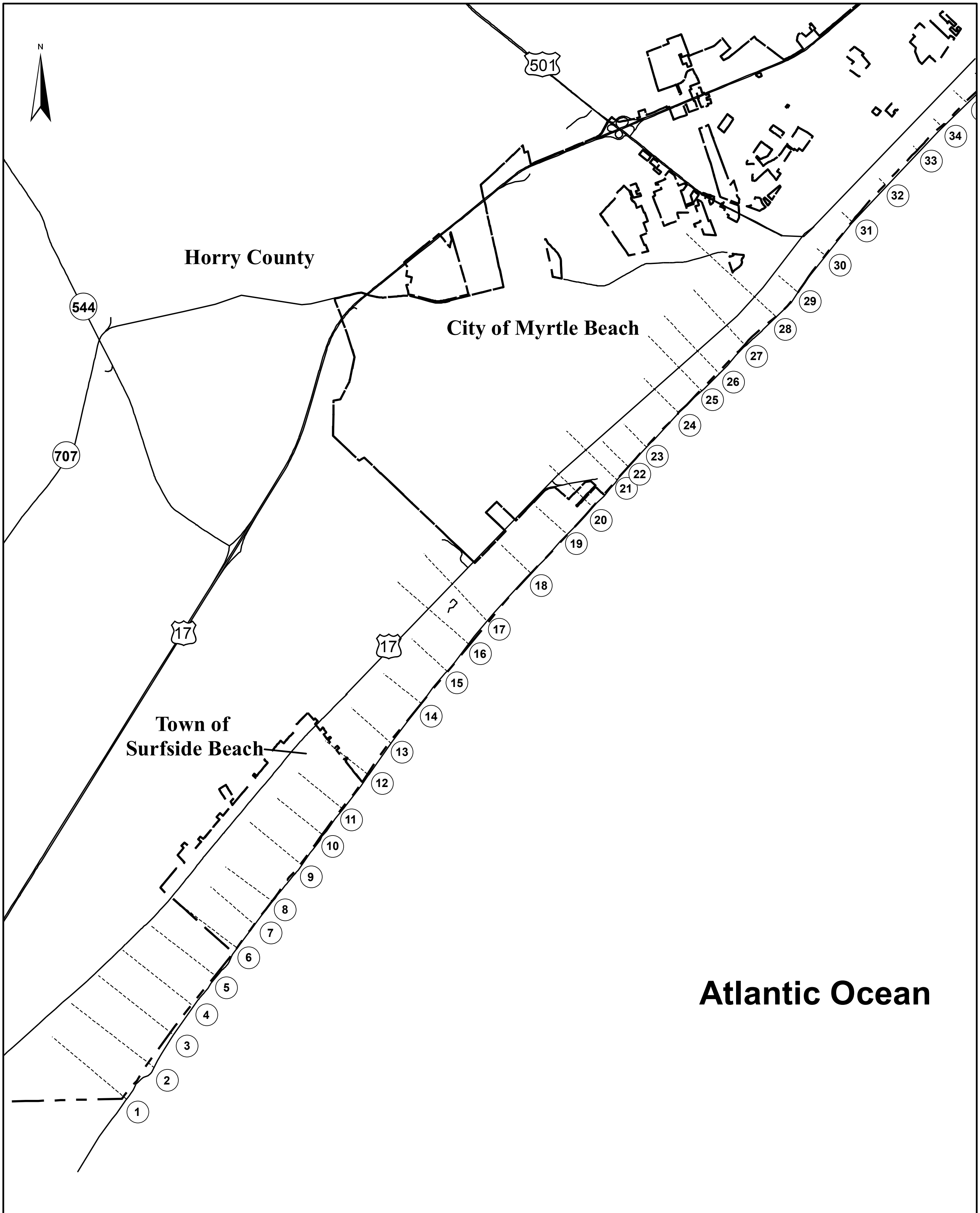


Figure 3

FEDERAL EMERGENCY MANAGMENT AGENCY
HORRY COUNTY, SOUTH CAROLINA

Approximate Scale
0 0.5 1 2 3 Miles

TRANSECT LOCATION MAP

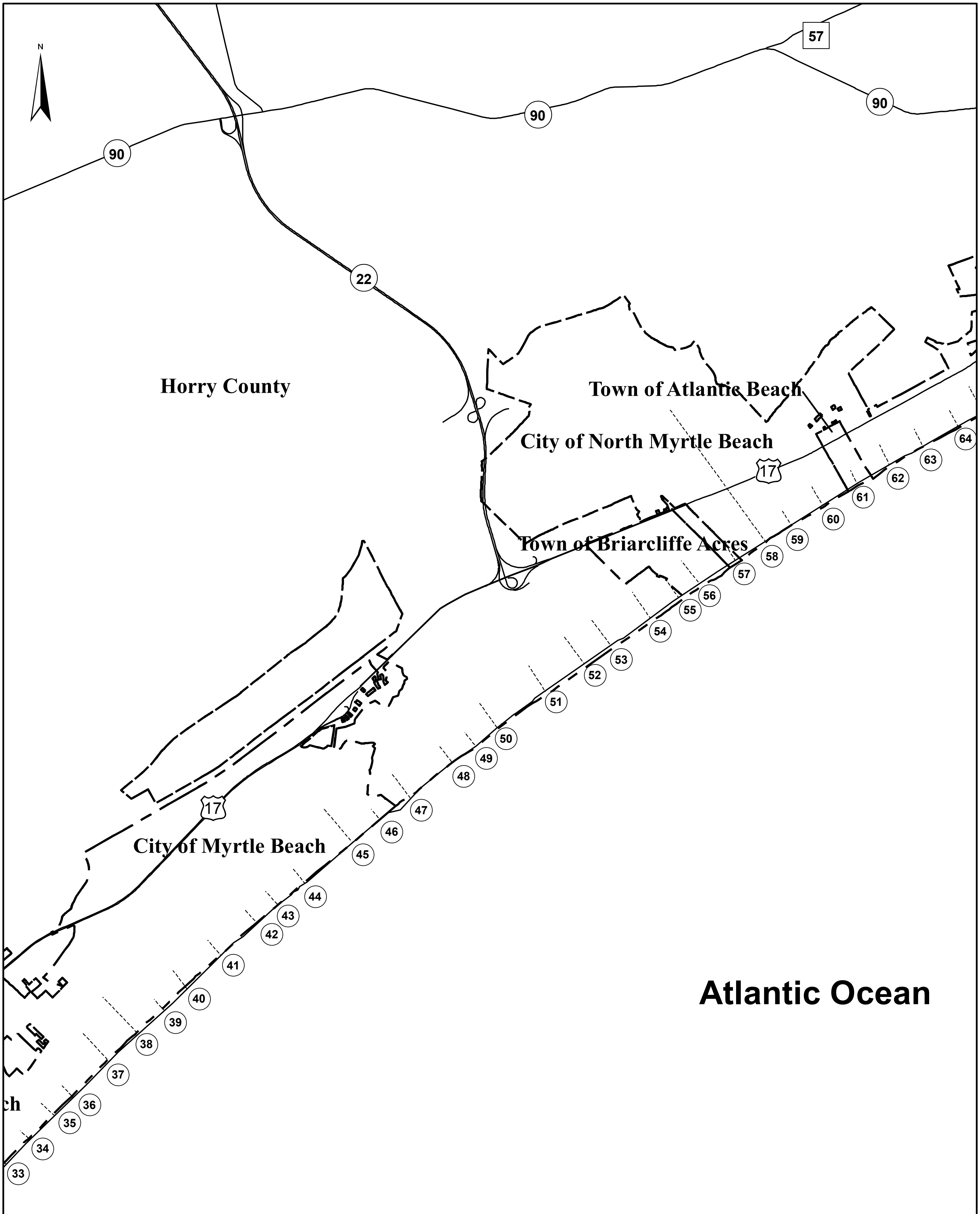


Figure 3

FEDERAL EMERGENCY MANAGMENT AGENCY
HORRY COUNTY, SOUTH CAROLINA

Approximate Scale
0 0.5 1 2 3 Miles

TRANSECT LOCATION MAP

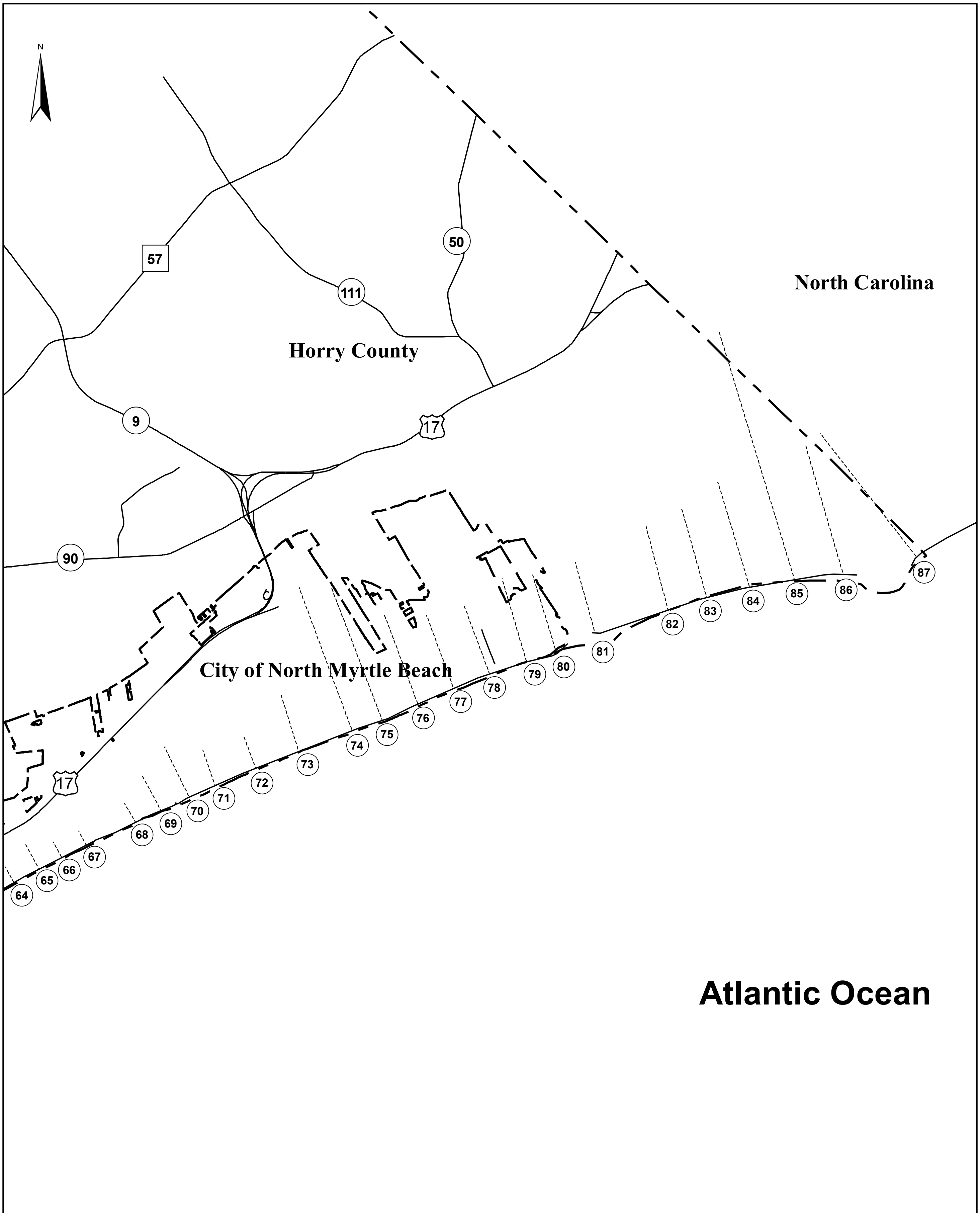


Figure 3

FEDERAL EMERGENCY MANAGMENT AGENCY
HORRY COUNTY, SOUTH CAROLINA

Approximate Scale
0 0.5 1 2 3 Miles

TRANSECT LOCATION MAP

Table 9 – Coastal Transect Parameters

Flood Source	Coastal Transect	Starting Wave Conditions for the 1%-Annual-Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10%-Annual-Chance	4%-Annual-Chance	2%-Annual-Chance	1%-Annual-Chance	0.2%-Annual-Chance
Atlantic Ocean	1	12.0	8.5	5.33 5.33 - 5.33	5.79 5.79 - 5.79	9.15 9.11 - 9.69	11.27 11.27 - 11.99	16.17 15.0 - 17.07
Atlantic Ocean	2	12.0	8.4	5.33 5.33 - 5.33	5.79 5.79 - 5.79	9.12 9.12 - 9.71	11.2 11.2 - 11.91	16.14 14.72 - 17.16
Atlantic Ocean	3	12.0	8.4	5.33 5.33 - 5.33	5.79 5.79 - 5.79	9.2 9.2 - 9.69	11.3 10.93 - 11.93	16.21 16.21 - 16.9
Atlantic Ocean	4	12.0	8.7	5.33 5.33 - 5.33	5.79 5.79 - 5.79	9.25 9.25 - 9.57	11.32 11.02 - 11.77	16.17 15.12 - 16.68
Atlantic Ocean	5	12.0	8.7	5.33 5.33 - 5.33	5.79 5.79 - 5.79	9.18 9.18 - 9.33	11.24 10.75 - 11.41	16.11 15.63 - 16.52
Atlantic Ocean	6	12.0	8.6	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.23 9.23 - 9.37	11.26 11.26 - 11.4	16.08 15.97 - 16.2
Atlantic Ocean	7	12.0	8.6	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.21 9.21 - 9.31	11.27 10.97 - 11.35	16.17 16.17 - 16.66
Atlantic Ocean	8	12.0	8.4	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.14 9.14 - 9.25	11.2 10.54 - 11.28	16.11 16.11 - 17.63
Atlantic Ocean	9	12.0	8.9	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.16 9.16 - 9.29	11.21 10.74 - 11.43	16.08 16.08 - 17.33
Atlantic Ocean	10	12.0	8.9	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.3 8.83 - 9.42	11.36 11.06 - 11.42	16.21 16.21 - 16.88
Atlantic Ocean	11	12.0	9.0	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.11 9.11 - 9.11	10.91 10.69 - 11.42	16.17 16.17 - 17.2
Atlantic Ocean	12	12.0	9.1	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.12 9.12 - 9.26	11.14 10.49 - 11.29	16.08 16.06 - 17.47
Atlantic Ocean	13	12.0	9.1	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.15 9.01 - 9.27	11.17 11.17 - 11.28	16.08 16.01 - 16.76

Table 9 – Coastal Transect Parameters – continued

Flood Source	Coastal Transect	Starting Wave Conditions for the 1%-Annual-Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10%-Annual-Chance	4%-Annual-Chance	2%-Annual-Chance	1%-Annual-Chance	0.2%-Annual-Chance
Atlantic Ocean	14	12.0	9.0	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.14 9.14 - 9.29	11.15 10.57 - 11.24	16.08 16.07 - 18.13
Atlantic Ocean	15	12.0	9.0	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.05 8.87 - 9.25	11.07 11.07 - 12.09	16.01 16.01- 17.26
Atlantic Ocean	16	12.0	9.1	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.16 9.16 - 9.33	11.16 10.54 - 11.32	16.04 16.04 - 16.97
Atlantic Ocean	17	12.0	9.2	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.19 9.19 - 9.32	11.2 9.89 - 11.3	16.08 16.08 - 17.13
Atlantic Ocean	18	12.0	9.4	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.1 9.1 - 9.17	11.11 9.26 - 11.16	15.94 15.84 - 16.5
Atlantic Ocean	19	12.0	9.4	5.32 5.32 - 5.32	5.78 5.78 - 5.78	9.1 9.1 - 9.16	11.09 11.09 - 11.15	15.98 15.97 - 16.03
Atlantic Ocean	20	12.0	9.5	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.97 8.97 - 9.04	10.95 10.95 - 10.99	15.78 15.1 - 17.55
Atlantic Ocean	21	12.0	9.6	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.93 8.93 - 9.0	10.92 10.92 - 10.98	15.81 15.81 - 16.73
Atlantic Ocean	22	12.0	9.6	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.89 8.89 - 8.94	10.86 10.86 - 10.91	15.72 15.36 - 15.77
Atlantic Ocean	23	12.0	9.3	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.89 8.89 - 8.94	11.27 11.27 - 11.37	16.17 15.4 - 16.32
Atlantic Ocean	24	12.0	9.3	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.94 8.94 - 9.01	10.94 10.94 - 11.0	15.81 15.8 - 15.88
Atlantic Ocean	25	12.0	9.5	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.92 8.92 - 9.01	10.9 10.9 - 10.99	15.72 15.72 - 15.83
Atlantic Ocean	26	12.0	9.3	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.92 8.92 - 9.03	10.88 10.88 - 11.0	15.72 15.71 - 15.83

Table 9 – Coastal Transect Parameters – continued

Flood Source	Coastal Transect	Starting Wave Conditions for the 1%-Annual-Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10%-Annual-Chance	4%-Annual-Chance	2%-Annual-Chance	1%-Annual-Chance	0.2%-Annual-Chance
Atlantic Ocean	27	12.0	9.6	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.92 8.92 - 9.03	10.53 10.23 - 11.13	15.72 15.72 - 16.11
Atlantic Ocean	28	12.0	9.2	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.78 8.78 – 8.78	10.37 10.18 - 11.14	15.52 15.52 - 16.08
Atlantic Ocean	29	12.0	9.1	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.91 8.91 - 8.96	10.89 10.89 - 10.93	15.72 15.72 - 15.79
Atlantic Ocean	30	12.0	9.5	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.88 8.88 - 8.96	10.84 10.84 - 10.94	15.72 15.71 - 15.81
Atlantic Ocean	31	12.0	9.0	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.91 8.91 - 8.97	10.89 10.89 - 10.94	15.72 15.72 - 15.79
Atlantic Ocean	32	12.0	9.2	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.87 8.87 - 8.97	10.84 10.84 - 10.95	15.65 15.65 - 15.75
Atlantic Ocean	33	12.0	9.1	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.85 8.85 - 8.99	10.82 10.82 - 10.93	15.58 15.58 - 15.74
Atlantic Ocean	34	12.0	9.2	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.85 8.85 - 8.97	10.81 10.81 - 10.94	15.58 15.58 - 15.73
Atlantic Ocean	35	12.0	9.2	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.81 8.81 - 8.94	10.78 10.78 - 10.89	15.55 15.54 - 15.67
Atlantic Ocean	36	12.0	9.4	5.32 5.32 - 5.32	5.78 5.78 - 5.78	8.8 8.8 - 8.94	10.76 10.76 - 10.88	15.52 15.51 - 15.65
Atlantic Ocean	37	12.0	9.4	5.31 5.31 - 5.31	5.78 5.78 - 5.78	8.81 8.81 - 8.94	10.77 10.77 - 10.89	15.49 15.48 - 15.6
Atlantic Ocean	38	12.0	9.2	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.7 8.7 - 8.78	10.64 10.64 - 10.97	15.42 15.36 - 15.72
Atlantic Ocean	39	12.0	9.2	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.81 8.81 - 8.95	10.77 10.77 - 10.9	15.49 15.48 - 15.62

Table 9 – Coastal Transect Parameters – continued

Flood Source	Coastal Transect	Starting Wave Conditions for the 1%-Annual-Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10%-Annual-Chance	4%-Annual-Chance	2%-Annual-Chance	1%-Annual-Chance	0.2%-Annual-Chance
Atlantic Ocean	40	12.0	9.8	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.77 8.77 - 8.9	10.72 10.72 - 10.85	15.39 15.39 - 15.52
Atlantic Ocean	41	12.0	10.5	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.81 8.81 - 8.86	10.75 10.75 - 10.79	15.42 15.41 - 15.45
Atlantic Ocean	42	12.0	10.0	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.76 8.76 - 8.93	10.71 10.71 - 10.89	15.39 14.93 - 15.58
Atlantic Ocean	43	12.0	10.4	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.74 8.74 - 8.86	10.69 10.69 - 10.8	15.35 15.34 - 15.46
Atlantic Ocean	44	12.0	10.3	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.7 8.7 - 8.82	10.65 10.65 - 10.75	15.29 15.28 - 15.42
Atlantic Ocean	45	12.0	10.0	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.72 8.72 - 8.85	10.67 8.57 - 10.87	15.32 15.31 - 16.3
Atlantic Ocean	46	12.0	9.9	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.72 8.72 - 8.9	10.66 10.63 - 10.76	15.26 15.26 - 15.51
Atlantic Ocean	47	12.0	9.2	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.63 8.63 - 8.66	10.48 10.48 - 10.68	15.09 15.09 - 15.67
Atlantic Ocean	48	12.0	9.1	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.63 8.63 - 8.66	10.49 10.49 - 10.73	15.06 15.06 - 15.74
Atlantic Ocean	49	12.0	9.0	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.65 8.65 - 8.82	10.59 10.59 - 10.76	15.12 15.12 - 15.49
Atlantic Ocean	50	12.0	9.2	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.65 8.65 - 8.78	10.61 10.61 - 10.7	15.09 14.66 - 15.22
Atlantic Ocean	51	12.0	9.1	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.61 7.9 - 8.68	10.54 10.51 - 10.61	15.03 15.03 - 15.86
Atlantic Ocean	52	12.0	9.8	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.62 8.2 - 8.79	10.53 10.39 - 10.92	14.99 14.99 - 15.68

Table 9 – Coastal Transect Parameters – continued

Flood Source	Coastal Transect	Starting Wave Conditions for the 1%-Annual-Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10%-Annual-Chance	4%-Annual-Chance	2%-Annual-Chance	1%-Annual-Chance	0.2%-Annual-Chance
Atlantic Ocean	53	12.0	9.5	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.89 8.66 - 9.26	10.86 10.57 - 11.3	14.99 14.98 - 15.75
Atlantic Ocean	54	12.0	9.7	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.6 8.6 - 9.17	10.53 10.53 - 11.1	14.99 14.65 - 15.47
Atlantic Ocean	55	12.0	10.7	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.62 8.62 - 9.17	10.54 10.54 - 11.09	14.96 14.96 - 15.53
Atlantic Ocean	56	12.0	10.7	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.62 8.42 - 8.89	10.53 10.53 - 10.98	14.99 14.98 - 15.83
Atlantic Ocean	57	12.0	10.8	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.52 8.52 - 8.99	10.44 10.44 - 11.19	14.86 14.86 - 15.63
Atlantic Ocean	58	12.0	11.1	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.51 7.29 - 8.64	10.42 8.95 - 10.93	14.8 13.73 - 15.43
Atlantic Ocean	59	12.0	11.2	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.49 8.49 - 8.58	10.39 10.39 - 10.47	14.73 13.58 - 14.82
Atlantic Ocean	60	12.0	11.3	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.5 8.5 - 8.6	10.42 10.42 - 10.51	14.8 14.8 - 15.13
Atlantic Ocean	61	12.0	11.4	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.49 8.49 - 8.55	10.37 10.37 - 10.44	14.7 14.7 - 14.79
Atlantic Ocean	62	12.0	11.3	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.44 8.44 - 8.52	10.32 10.32 - 10.39	14.67 14.66 - 14.76
Atlantic Ocean	63	12.0	11.7	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.41 8.41 - 8.51	10.29 10.29 - 10.39	14.6 14.6 - 14.75
Atlantic Ocean	64	12.0	11.5	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.41 8.41 - 8.5	10.28 10.28 - 10.36	14.57 14.57 - 14.66
Atlantic Ocean	65	12.0	11.6	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.4 8.4 - 8.51	10.28 10.28 - 10.38	14.6 14.59 - 14.87

Table 9 – Coastal Transect Parameters – continued

Flood Source	Coastal Transect	Starting Wave Conditions for the 1%-Annual-Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10%-Annual-Chance	4%-Annual-Chance	2%-Annual-Chance	1%-Annual-Chance	0.2%-Annual-Chance
Atlantic Ocean	66	12.0	12.1	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.39 8.39 - 8.48	10.27 10.18 - 10.32	14.53 14.53 - 15.02
Atlantic Ocean	67	12.0	12.2	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.34 8.34 - 8.43	10.2 10.2 - 10.27	14.47 14.37 - 14.5
Atlantic Ocean	68	12.0	12.1	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.29 8.29 - 8.39	10.16 9.94 - 10.24	14.44 14.43 - 15.37
Atlantic Ocean	69	12.0	12.2	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.27 8.27 - 8.35	10.12 9.12 - 10.17	14.37 14.37 - 15.42
Atlantic Ocean	70	12.0	12.3	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.29 8.28 - 8.39	10.15 9.41 - 10.26	14.37 14.37 - 15.51
Atlantic Ocean	71	12.0	12.3	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.28 7.83 - 8.39	10.14 10.14 - 10.39	14.37 14.37 - 15.22
Atlantic Ocean	72	12.0	12.5	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.28 7.92 - 8.38	10.12 10.12 - 10.67	14.3 14.3 - 15.08
Atlantic Ocean	73	12.0	12.5	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.25 8.18 - 8.33	10.08 10.08 - 11.09	14.24 14.23 - 15.55
Atlantic Ocean	74	12.0	12.2	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.25 8.0 - 8.55	10.08 9.79 - 11.1	14.24 14.22 - 15.58
Atlantic Ocean	75	12.0	12.4	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.22 7.8 - 8.61	10.07 10.07 - 10.97	14.21 14.21 - 15.42
Atlantic Ocean	76	12.0	12.6	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.26 8.26 - 8.63	10.08 10.08 - 10.89	14.24 14.23 - 15.32
Atlantic Ocean	77	12.0	12.9	5.31 5.31 - 5.31	5.77 5.77 - 5.77	8.26 8.26 - 9.08	10.1 10.1 - 11.16	14.24 14.24 - 15.45
Atlantic Ocean	78	12.0	12.4	5.31 5.3 - 5.31	5.77 5.76 - 5.77	8.21 8.21 - 8.74	10.04 10.04 - 10.83	14.14 14.14 - 14.98

Table 9 – Coastal Transect Parameters – continued

Flood Source	Coastal Transect	Starting Wave Conditions for the 1%-Annual-Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10%-Annual-Chance	4%-Annual-Chance	2%-Annual-Chance	1%-Annual-Chance	0.2%-Annual-Chance
Atlantic Ocean	79	12.0	12.4	5.31 5.3 - 5.31	5.77 5.76 - 5.77	8.16 8.1 - 8.93	9.99 9.99 - 10.9	14.07 14.07 - 15.17
Atlantic Ocean	80	12.0	12.5	5.31 5.3 - 5.31	5.77 5.76 - 5.77	8.13 8.0 - 8.88	9.93 9.93 - 10.73	13.94 13.51 - 14.99
Atlantic Ocean	81	12.0	12.9	5.31 5.3 - 5.31	5.77 5.76 - 5.77	8.31 8.31 - 8.67	10.15 10.15 - 10.54	14.24 13.63 - 14.82
Atlantic Ocean	82	12.0	13.1	5.3 5.3 - 5.3	5.76 5.76 - 5.76	8.12 8.12 - 9.34	9.93 9.93 - 10.89	14.01 14.01 - 15.95
Atlantic Ocean	83	12.0	13.1	5.3 5.3 - 5.3	5.76 5.76 - 5.76	8.1 8.07 - 11.22	9.92 9.92 - 10.55	13.94 13.94 - 15.84
Atlantic Ocean	84	12.0	13.1	5.3 5.3 - 5.3	5.76 5.76 - 5.76	8.04 8.04 - 8.71	9.83 9.74 - 10.65	13.81 13.81 - 15.04
Atlantic Ocean	85	12.0	13.1	5.3 5.3 - 5.3	5.76 5.76 - 5.76	7.97 7.85 - 9.82	9.74 8.76 - 12.48	13.65 13.64 - 16.92
Atlantic Ocean	86	12.0	13.1	5.3 5.3 - 5.3	5.76 5.76 - 5.76	7.96 7.96 - 9.42	9.69 9.69 - 11.65	13.45 13.45 - 15.94
Atlantic Ocean	87	12.0	12.9	5.3 5.3 - 5.3	5.76 5.76 - 5.76	8.84 8.84 - 9.17	10.94 10.94 - 12.09	15.06 15.06 - 16.47

3.4 Vertical Datum

All FIS reports and FIRM panels are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum in use for newly created or revised FIS reports and FIRM panels was the National Geodetic Vertical Datum of 1929 (NGVD29). With the finalization of the North American Vertical Datum of 1988 (NAVD88), many FIS reports and FIRM panels are being prepared using NAVD88 as the referenced vertical datum.

All flood elevations shown in this FIS report and on the FIRM are referenced to NAVD88. Structure and ground elevations in the community must, therefore, be referenced to NAVD88. In this current revision redelineated elevations from prior FIS reports were subjected to a vertical datum shift of -1.019 feet from NGVD29 to NAVD88 for Horry County. It is important to note that adjacent communities may be referenced to NGVD29. This may result in differences in BFEs across the corporate limits between the communities.

For more information regarding conversion between the NGVD29 and NAVD88, see the FEMA publication entitled Converting the National Flood Insurance Program to the North American Vertical Datum of 1988, (Reference 36), visit the National Geodetic Survey website at http://www.ngs.noaa.gov/, or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the archived project documentation associated with the FIS report and the FIRM panels for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description, and/or location information for benchmarks in the area, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their website at http://www.ngs.noaa.gov/.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local government to adopt sound floodplain management programs. To assist in this endeavor, each FIS provides 1-percent-annual-chance floodplain data, which may include a combination of the following: 10-, 2-, 1-, and 0.2-percent-annual-chance flood elevations; delineations of the 1-, and 0.2-percent-annual-chance floodplains; and 1-percent-annual-chance floodway. This information is presented on the FIRM and in many components of the FIS, including Flood Profiles, Floodway Data Tables, and Summary of Stillwater Elevations Tables. Users should reference the data presented in the FIS as well as additional information that may be available at the local community map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance flood has been adopted by FEMA as the base flood, also called the Special Flood Hazard Area (SFHA), for floodplain management purposes. The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the community.

The 1- and 0.2-percent-annual-chance floodplain boundaries are shown on the FIRM. On this map, the 1-percent-annual-chance floodplain boundaries correspond to the boundaries of the areas of special flood hazard (Zones A, AE, V, and VE), and the 0.2-percent-annual-chance floodplain boundaries correspond to the boundaries of areas of moderate flood hazard. In cases where the 1- and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundaries have been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the December 16, 2021, countywide FIS revision the streams studied by limited detailed methods have only the 1-percent-annual-chance floodplain boundaries delineated on the FIRM. Those streams studied by detailed methods have the 1- and 0.2-percent-annual-chance floodplain boundaries shown on the FIRM. The boundaries were interpolated from flood elevations determined at each cross-section using 50’ x 50’ grid cell DEM data, with contour interval of 4 feet (Reference 37).

The boundaries of streams that were previously studied by approximate, limited detailed, and detailed methods have been redelineated using more up-to-date topographic information.

Flood insurance zones and BFEs including the wave effects were identified on each transect based on the results from the onshore wave hazard analyses.

Between transects, elevations were interpolated using topographic maps, land-use and land-cover data, and knowledge of coastal flood processes to determine the aerial extent of flooding. Sources for topographic data are LiDAR at a 10 foot scale (Reference 38). Controlling features affecting the elevations were identified and considered in relation to their positions at a particular transect and their variation between transects.

Zone VE is subdivided into elevation zones and BFEs are provided on the FIRM.

The SFHA boundary indicates the limit of SFHAs shown on the FIRM as either "V" zones or "A" zones.

Certain areas along the open coast and other areas may have higher risk of experiencing structural damage caused by wave action and/or high-velocity water during the 1-percent-annual-chance flood. These areas are referred to as coastal high hazard zones. The coastal high hazard zone is depicted on the FIRM panels as Zone VE. The USACE has established the 3-foot breaking wave as the criterion for identifying the limit of coastal high hazard zones. The one exception to the 3-foot wave criteria is where a primary frontal dune exists. The limit of the open coast high hazard area must extend landward to the primary frontal dune location, even if the controlling wave height decreases below 3 feet. The delineation of the landward toe of the primary frontal dune is based on the methodologies described in the FEMA guidance (Reference 33 & 34). In Horry County, the primary frontal dune extends along the open coast shoreline, except for at the inlet openings. Zone AE is depicted on the FIRM where the delineated flood hazard includes wave heights less than three feet.

Laboratory tests and field investigations have shown that wave heights as little as 1.5 feet can cause damage to and failure of typical Zone AE building construction. Wood-frame, light gage steel, or masonry walls on shallow footings or slabs are subject to damage when exposed to waves less than 3 feet in height. Other flood hazards associated with coastal waves (floating debris, high velocity flow, erosion, and scour) can also damage Zone AE construction.

To help community officials and property owners recognize this increased potential for damage due to wave action in Zone AE areas, a LiMWA boundary may be shown on the FIRM as an informational layer to assist coastal communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The location of the LiMWA relative to Zone VE and Zone AE is shown in Figure 2.

FEMA does not impose floodplain management requirements or special insurance ratings based on Limit of Moderate Wave Action (LiMWA) delineations at this time. If the LiMWA is shown on the FIRM, it is being provided by FEMA as information only. For communities that do adopt Zone

VE building standards in the area defined by the LiMWA, additional Community Rating System (CRS) credits are available.

Table 10 indicates the coastal analyses used for floodplain mapping and the criteria used to determine the inland limit of the open-coast Zone VE and the SFHA boundary at each transect.

Table 10 – Summary of Coastal Transect Mapping Considerations

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
1		N/A	VE 14-15, 17 AE 12-13	Wave Height	SWEL
2		N/A	VE 14-15, 17 AE 12-14	Wave Height	SWEL
3		N/A	VE 14-15, 17 AE 11-14	Wave Height	SWEL
4		N/A	VE 15, 17 AE 11-14	Wave Height	SWEL
5		N/A	VE 14-15, 17 AE 11-13	Wave Height	SWEL
6	ü	N/A	VE 14-15, 17 AE 12	PFD	SWEL
7	ü	N/A	VE 13-15, 17 AE 11-12	PFD	SWEL
8	ü	N/A	VE 13-15, 17 AE 11-12	PFD	SWEL
9	ü	N/A	VE 13-15, 17 AE 11-13	PFD	SWEL
10	ü	N/A	VE 14-15, 17 AE 11-12	PFD	SWEL
11		N/A	VE 13-15, 17 AE 12-13	Wave Height	SWEL
12	ü	N/A	VE 13-15, 17 AE 11-12	PFD	SWEL
13	ü	N/A	VE 13, 15, 17 AE 11-13	PFD	SWEL
14	ü	N/A	VE 13-15, 17 AE 11-12	PFD	SWEL
15	ü	N/A	VE 13-15, 17 AE 12-14	PFD	SWEL
16	ü	N/A	VE 13, 15, 17 AE 11-13	PFD	SWEL
17	ü	N/A	VE 13, 15, 17 AE 10-13	PFD	SWEL

Table 10 – Summary of Coastal Transect Mapping Considerations – continued

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
18	ü	N/A	VE 13-15, 17 AE 9-13	PFD	SWEL
19	ü	N/A	VE 13, 15, 17 AE 12-13	PFD	SWEL
20	ü	N/A	VE 13, 15, 17 AE 11-12	PFD	SWEL
21	ü	N/A	VE 13-15, 17 AE 12	PFD	SWEL
22	ü	N/A	VE 13-15, 17 AE 11-12	PFD	SWEL
23	ü	N/A	VE 13-15, 17 AE 12-13	PFD	SWEL
24	ü	VE 14	VE 14-15, 17	Runup	Overtopping
25	ü	N/A	VE 13-15, 17 AE 11-12	PFD	SWEL
26	ü	N/A	VE 13-15, 17 AE 11-12	PFD	SWEL
27	ü	N/A	VE 13, 15-16 AE 10-11	PFD	SWEL
28	ü	N/A	VE 12, 14-16 AE 11	PFD	SWEL
29	ü	N/A	VE 13, 15, 17 AE 11-12	PFD	SWEL
30	ü	VE 13	VE 13, 15, 17 AE 13	PFD	SWEL
31	ü	N/A	VE 13, 15, 17 AE 11, 13	PFD	SWEL
32	ü	VE 14	VE 14-15, 17 AE 14	PFD	SWEL
33	ü	VE 14	VE 14-15, 17 AE 14	PFD	SWEL
34	ü	N/A	VE 13, 15, 17 AE 12	PFD	SWEL
35	ü	N/A	VE 13, 15, 17 AE 12	PFD	SWEL
36	ü	N/A	VE 13, 15, 17 AE 12	PFD	SWEL
37	ü	N/A	VE 13, 15, 17 AE 11-12	PFD	SWEL
38	ü	N/A	VE 13, 15-16 AE 11	PFD	SWEL

Table 10 – Summary of Coastal Transect Mapping Considerations – continued

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis Zone Designation and BFE (ft NAVD 88)	Wave Height Analysis Zone Designation and BFE (ft NAVD 88)	Zone VE Limit	SFHA Boundary
39	ü	N/A	VE 13, 15-16	Wave Height	SWEL
40	ü	N/A	VE 13, 15-16 AE 12	PFD	SWEL
41	ü	N/A	VE 13, 15-16 AE 11	PFD	SWEL
42	ü	N/A	VE 13, 15-16 AE 11	PFD	SWEL
43	ü	N/A	VE 13, 15-16 AE 11	PFD	SWEL
44	ü	N/A	VE 13, 15-16 AE 11	PFD	SWEL
45	ü	N/A	VE 13, 15-16 AE 9-12	Wave Height	SWEL
46	ü	N/A	VE 13, 15-16 AE 12	Wave Height	SWEL
47	ü	N/A	VE 13, 15-16 AE 11-13	PFD	SWEL
48	ü	N/A	VE 13, 15-16 AE 11	PFD	SWEL
49	ü	N/A	VE 13, 15-16 AE 11-12	PFD	SWEL
50	ü	N/A	VE 13, 15-16 AE 11	PFD	SWEL
51	ü	N/A	VE 13, 15-16 AE 11-12	Wave Height	SWEL
52	ü	N/A	VE 13, 15-16 AE 11-12	PFD	SWEL
53	ü	N/A	VE 13, 15-16 AE 12-13	PFD	SWEL
54	ü	N/A	VE 13, 15-16 AE 11-12	PFD	SWEL
55	ü	N/A	VE 13, 15-16 AE 12	PFD	SWEL
56	ü	N/A	VE 13, 15-16 AE 11-13	PFD	SWEL
57	ü	N/A	VE 13, 15-16 AE 11-12	PFD	SWEL
58	ü	N/A	VE 13, 15-16 AE 11-12	PFD	SWEL
59	ü	N/A	VE 13, 15-16 AE 10-11	PFD	SWEL

Table 10 – Summary of Coastal Transect Mapping Considerations – continued

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
60	ü	N/A	VE 13, 15-16 AE 11-12	PFD	SWEL
61	ü	N/A	VE 13, 15-16 AE 12	PFD	SWEL
62	ü	VE 13	VE 13, 15-16 AE 13	PFD	SWEL
63	ü	VE 13	VE 13, 15-16 AE 13	PFD	SWEL
64	ü	N/A	VE 12-13, 15-16 AE 11	PFD	SWEL
65	ü	N/A	VE 12-13, 15-16 AE 11	PFD	SWEL
66	ü	N/A	VE 12-13, 15-16 AE 11	PFD	SWEL
67	ü	N/A	VE 12-13, 15-16 AE 10-11	PFD	SWEL
68	ü	N/A	VE 12, 14-16 AE 10-11	PFD	SWEL
69	ü	N/A	VE 12, 14-16 AE 10-11	PFD	SWEL
70	ü	N/A	VE 12, 14-16 AE 10-11	PFD	SWEL
71	ü	N/A	VE 12, 14-16 AE 10-12	PFD	SWEL
72	ü	N/A	VE 12, 14, 16 AE 10-11	PFD	SWEL
73	ü	VE 12	VE 12, 14-16 AE 10-12	PFD	SWEL
74	ü	N/A	VE 12-16 AE 10-13	PFD	SWEL
75	ü	N/A	VE 12-16 AE 11-13	PFD	SWEL
76	ü	N/A	VE 12-16 AE 11-13	PFD	SWEL
77	ü	N/A	VE 12-16 AE 11-13	PFD	SWEL
78	ü	N/A	VE 12-15 AE 11-13	PFD	SWEL

Table 10 – Summary of Coastal Transect Mapping Considerations – continued

Coastal Transect	Primary Frontal Dune (PFD) Identified	Wave Runup Analysis	Wave Height Analysis	Zone VE Limit	SFHA Boundary
		Zone Designation and BFE (ft NAVD 88)	Zone Designation and BFE (ft NAVD 88)		
79	ü	N/A	VE 12-15 AE 11-13	PFD	SWEL
80	ü	N/A	VE 12-15 AE 10-12	PFD	Wave Height
81		N/A	VE 13-15	Wave Height	Wave Height
82	ü	N/A	VE 12-15 AE 10-12	PFD	SWEL
83	ü	N/A	VE 12-15 AE 10-12	PFD	SWEL
84	ü	N/A	VE 12-15 AE 10-13	PFD	SWEL
85	ü	N/A	VE 12-15 AE 9-13	PFD	SWEL
86	ü	N/A	VE 12-15 AE 11-13	PFD	SWEL
87	ü	N/A	VE 13-17 AE 12	PFD	SWEL

A LiMWA boundary has also been added in coastal areas subject to wave action for use by local communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. To simplify representation, the LiMWA was continued immediately landward of the VE/AE boundary in areas where wave runup elevations dominate. Similarly, in areas where the Zone VE designation is based on the presence of a primary frontal dune or wave overtopping, the LiMWA was delineated immediately landward of the Zone VE/AE boundary.

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent-annual-chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1-percent-annual-chance flood can be carried without substantial increases in flood heights. Minimum federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as a minimum standard that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal-conveyance reduction from each side of the floodplain. Floodway widths were computed at cross-sections. Between cross-sections, the floodway boundaries were interpolated. The results of the floodway computations for detailed studied streams are tabulated for selected cross-sections in Table 11, "Floodway Data". The computed floodway is shown on the FIRM. In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either too close together or collinear, only the floodway boundary is shown. Similarly, for limited detailed studied streams, BFE computations have been compiled in Table 12, "Flood Hazard Data for Selected Streams".

For the June 15, 1994, revision, the floodway for Waccamaw River was revised to reflect ineffective flow areas in the overbanks of the river.

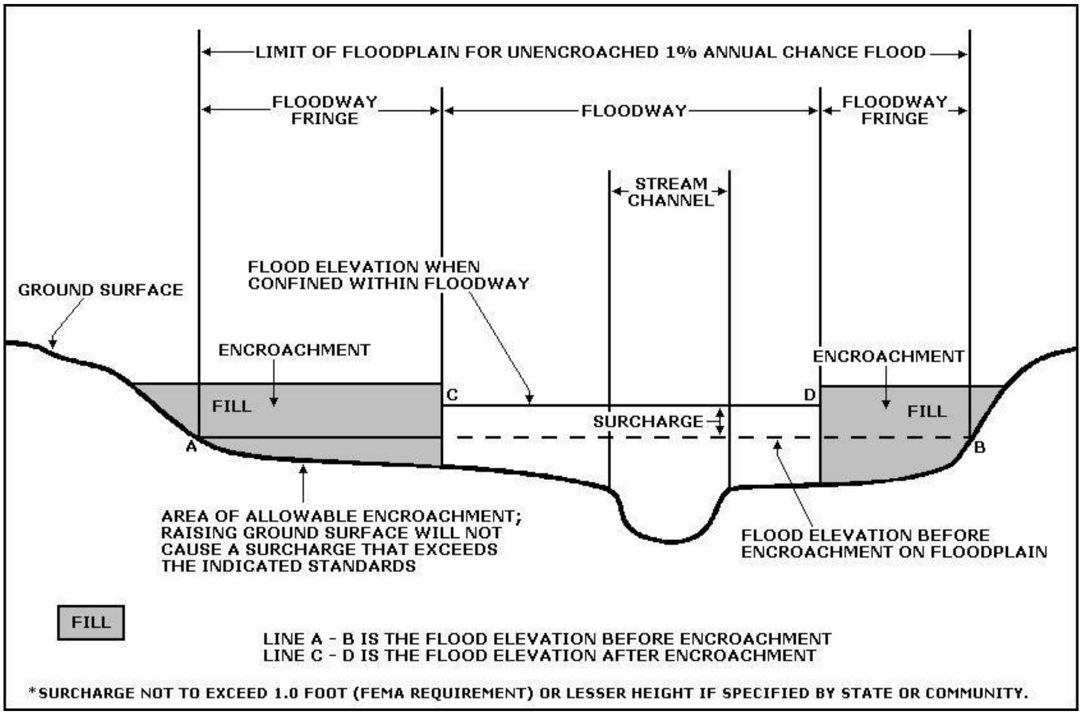
For the August 23, 1999, revision, the floodway for Waccamaw River included attempts to provide equal conveyance in delineating the floodway boundaries. However, certain topographic features, including high bank elevations and bluffs, often precluded equal conveyance in delineating the floodway.

Near the confluences of streams studied in detail, floodway computations are made without regard to flood elevations on the receiving water body. Therefore, "*Without Floodway*" elevations presented in Table 11, for certain downstream cross-sections of selected streams are lower than the regulatory flood elevations in that area, which must take into account the 1-percent-annual-chance flooding due to backwater from other sources.

Encroachment into areas subject to inundation by floodwaters having hazardous velocities aggravates the risk of flood damage, and heightens potential flood hazards by further increasing velocities. A listing of stream velocities at selected cross-sections is provided in Table 11. In order to reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside the floodway.

The area between the floodway and 1-percent-annual-chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 1-percent-annual-chance flood by more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 4.

Figure 4 – Floodway Schematic



LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	750	31	188	2.9	15.3	13.6[2]	14.6	1.0
B	2,380	26	163	3.3	17.0	17.0	17.7	0.7
C	2,760	187	894	0.6	21.1	21.1	21.7	0.6
D	4,734	251	877	0.4	21.5	21.5	22.2	0.7
E	6,824	139	394	0.9	23.1	23.1	24.0	0.9
F	8,484	74	261	1.4	26.2	26.2	27.2	1.0
G	9,830	54	187	2.0	30.2	30.2	31.0	0.8

[1] Feet above confluence with Crab Tree Swamp
[2] Elevation computed without consideration of backwater effects from Crab Tree Swamp

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

ALTMAN BRANCH

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0	270	866	1.2	12.6	4.7[2]	5.7	1.0
B	1,728	34	274	3.9	12.6	9.4[2]	10.4	1.0
C	3,885	300	1,430	0.7	12.6	12.0[2]	13.0	1.0
D	5,775	263	1,019	0.9	14.3	14.3	14.9	0.6
E	9,052	540	2,079	0.4	15.9	15.9	16.9	1.0
F	10,752	410	677	0.6	19.3	19.3	20.1	0.8
G	13,603	350	883	0.3	20.1	20.1	21.0	0.9

[1] Feet above limit of detailed study (limit of detailed study is approximately 1,800 feet downstream of U.S. Highway 701)
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River
Cross sections A-E are on Bear Swamp, cross sections F, G are on Baiter Swamp

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

BEAR SWAMP – BAITER SWAMP

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	550	70	38	5.1	12.6	12.3[2]	12.6	0.3
B	1,461	88	40	4.7	15.5	15.5	15.7	0.2

[1] Feet above confluence with Bear Swamp
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

BEAR SWAMP TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	2,300	101	644	2.3	9.9	0.2[2]	0.2	0.0
B	10,040	416	1,450	0.8	9.9	4.2[2]	4.8	0.6
C	14,540	293	1,449	0.8	9.9	7.1[2]	8.1	1.0
D	14,640	72	517	2.1	9.9	7.0[2]	8.0	1.0
E	14,885	48	404	2.7	9.9	7.3[2]	8.2	0.9
F	19,115	229	1,015	0.6	9.9	9.9	10.9	1.0
G	21,165	114	461	1.2	11.5	11.5	12.5	1.0
H	21,327	164	693	0.8	11.7	11.7	12.7	1.0
I	24,277	171	581	0.8	14.5	14.5	15.3	0.8
J	24,493	21	134	3.5	14.8	14.8	15.6	0.8
K	27,290	147	286	1.8	18.4	18.4	19.4	1.0
L	27,865	94	251	2.4	18.9	18.9	19.9	1.0

[1] Feet above the Horry–Georgetown County Boundary
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

COLLINS CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	400	22	60	3.2	9.9	8.7[2]	9.7	1.0
B	1,200	24	47	4.1	13.4	13.4	14.0	0.6
C	1,535	23	1,154	0.2	13.8	13.8	14.7	0.9
D	2,020	47	157	0.9	15.9	15.9	16.8	0.9
E	2,475	59	119	0.2	16.2	16.2	16.9	0.7

[1] Feet above confluence with Collins Creek
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

COLLINS CREEK TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,537	647	2,887	0.6	13.8	8.2[2]	9.2	1.0
B	5,405	190	1,184	1.5	13.8	9.0[2]	10.0	1.0
C	6,175	47	432	4.2	13.8	9.6[2]	10.5	0.9
D	9,512	309	1,378	1.3	13.8	12.8[2]	13.7	0.9
E	12,092	70	510	3.5	13.8	13.4[2]	14.4	1.0
F	12,372	300	1,641	1.1	14.6	14.6	15.6	1.0
G	18,702	336	1,080	1.2	15.9	15.9	16.9	1.0
H	21,865	59	359	2.3	17.6	17.6	18.6	1.0

[1] Feet above confluence with Kingston Lake Swamp
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

CRAB TREE SWAMP

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	2,060	31	159	2.8	13.8	13.8	14.8	1.0
B	2,957	21	101	4.4	16.4	16.4	17.2	0.8
C	3,871	27	140	2.0	19.9	19.9	20.8	0.9

[1] Feet above confluence with Crab Tree Swamp

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

CRAB TREE SWAMP TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,300	49	169	1.8	20.2	20.2	21.2	1.0
B	2,190	51	209	1.5	23.7	23.7	24.6	0.9

[1] Feet above confluence with Crab Tree Swamp

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

CRAB TREE SWAMP TRIBUTARY NO. 1

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	830	62	138	1.7	15.6	15.4[2]	16.4	1.0
B	1,430	33	70	3.4	19.8	19.8	20.4	0.6
C	3,446	68	173	1.0	24.8	24.8	25.7	0.9
D	3,702	142	784	0.2	28.2	28.2	29.2	1.0

[1] Feet above confluence with Crab Tree Swamp

[2] Elevation computed without consideration of backwater effects from Crab Tree Swamp

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

CRAB TREE SWAMP TRIBUTARY NO. 2

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,000	22	81	3.6	20.8	20.8	21.8	1.0
B	2,350	45	167	1.7	26.8	26.8	27.2	0.4
C	2,450	5	34	8.5	27.2	27.2	28.2	1.0

[1] Feet above confluence with Crab Tree Swamp

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

CRAB TREE SWAMP TRIBUTARY NO. 3

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	2,600	161	480	1.9	23.4	23.4	24.1	0.7
B	2,885	260	1,018	0.9	24.3	24.3	25.1	0.8
C	11,015	292	1,158	0.8	32.1	32.1	33.0	0.9

[1] Feet above confluence with Socastee Creek

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

CROSS SWAMP

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	3,221	393	2,185	0.9	13.8	9.9[2]	10.9	1.0
B	6,021	533	2,604	0.7	13.8	12.3[2]	13.2	0.9

[1] Feet above confluence with Kingston Lake Swamp
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

GRIER SWAMP

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	287	225	589	2.3	10.6	5.5[2]	5.9	0.4
B	1,030	300	1,230	1.1	10.6	6.6[2]	7.2	0.6
C	2,000	300	1,185	1.1	10.6	7.2[2]	7.7	0.5
D	2,999	300	1,241	1.0	10.6	7.9[2]	8.4	0.5
E	4,419	100	494	2.6	10.6	9.2[2]	9.6	0.4
F	5,200	210	1,146	1.1	10.6	10.3[2]	10.5	0.2
G	6,000	300	1,875	0.7	10.6	10.6	11.0	0.4
H	6,800	225	1,002	1.0	10.7	10.7	11.1	0.4
I	8,000	175	1,132	0.8	11.0	11.0	11.5	0.5
J	9,138	170	996	0.9	11.1	11.1	11.5	0.4
K	10,000	80	368	2.4	11.2	11.2	11.6	0.4
L	10,800	85	375	1.8	12.2	12.2	12.7	0.5
M	12,000	310	788	0.4	13.7	13.7	14.2	0.5
N	12,800	72	266	1.1	13.8	13.8	14.3	0.5
O	14,000	60	165	1.6	14.9	14.9	15.2	0.3
P	15,089	60	270	1.0	17.9	17.9	18.5	0.6
Q	15,979	100	362	0.7	18.2	18.2	18.8	0.6
R	17,069	65	240	0.8	18.4	18.4	19.0	0.6
S	17,869	210	741	0.3	20.6	20.6	21.3	0.7
T	19,069	50	233	0.5	20.6	20.6	21.3	0.7
U	20,263	40	146	0.8	22.4	22.4	22.7	0.3
V	20,557	40	135	0.9	22.5	22.5	22.8	0.3

[1] Feet above confluence with Intracoastal Waterway
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

INTRACOASTAL WATERWAY TRIBUTARY 6

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	199	70	361	3.4	10.1	6.8[2]	7.2	0.4
B	706	61	462	2.6	10.1	8.8[2]	8.9	0.1
C	1,283	220	684	1.8	13.0	13.0	14.0	1.0

[1] Feet above confluence with Intracoastal Waterway
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

INTRACOASTAL WATERWAY TRIBUTARY 10

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	2	220	713	1.7	13.3	13.3	14.2	0.9
B	500	65	443	2.4	13.6	13.6	14.4	0.8
C	1,250	72	433	2.4	14.0	14.0	14.6	0.6
D	2,500	75	461	2.3	14.7	14.7	15.2	0.5
E	3,427	118	465	2.3	15.2	15.2	15.7	0.5
F	4,250	100	538	1.6	15.7	15.7	16.2	0.5
G	5,250	73	391	2.0	16.2	16.2	16.6	0.4
H	6,500	75	637	1.3	16.4	16.4	16.8	0.4
I	7,575	125	924	0.9	18.0	18.0	18.2	0.2
J	8,687	65	496	1.6	18.0	18.0	18.3	0.3
K	10,313	315	2,495	0.3	19.1	19.1	19.3	0.2
L	11,458	396	2,698	0.2	22.4	19.1[2]	19.4	0.3
M	12,459	135	814	0.8	22.4	19.3[2]	19.4	0.1

[1] Feet above confluence with Intracoastal Waterway Tributary 10
[2] Elevation computed without consideration of flooding effects from Intracoastal Waterway Tributary 6

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

INTRACOASTAL WATERWAY TRIBUTARY 10-1

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	400	36	146	2.0	13.3	11.0[2]	11.1	0.1
B	1,440	25	77	3.7	13.3	11.9[2]	12.0	0.1
C	2,066	23	80	3.6	13.4	13.4	13.4	0.0
D	3,246	27	84	1.4	16.2	16.2	16.2	0.0
E	4,200	40	247	0.5	19.3	19.3	19.7	0.4
F	5,285	43	296	0.4	22.0	22.0	22.5	0.5
G	5,722	43	263	0.4	22.0	22.0	22.5	0.5

[1] Feet above confluence with Intracoastal Waterway Tributary 10

[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

INTRACOASTAL WATERWAY TRIBUTARY 10-2

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	279	77	395	2.3	9.9	6.2[2]	6.2	0.0
B	1,506	110	704	1.3	15.2	15.2	15.8	0.6
C	2,400	55	397	1.9	15.4	15.4	15.9	0.5
D	3,200	70	408	1.9	15.6	15.6	16.1	0.5
E	4,258	65	333	1.7	16.7	16.7	17.4	0.7
F	4,800	70	316	1.8	17.0	17.0	17.6	0.6
G	6,237	110	300	1.5	19.6	19.6	19.8	0.2
H	6,800	65	255	1.7	19.9	19.9	20.0	0.1
I	7,450	80	372	1.0	21.3	21.3	21.6	0.3
J	8,400	70	347	1.1	21.9	21.9	22.5	0.6
K	9,272	70	281	1.4	22.0	22.0	22.8	0.8

[1] Feet above confluence with Intracoastal Waterway
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

INTRACOASTAL WATERWAY TRIBUTARY 11

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	5,500	609	1,901	0.3	31.5	31.5	32.5	1.0
B	7,200	552	1,410	0.3	31.9	31.9	32.9	1.0
C	13,450	34	110	3.7	38.0	38.0	39.0	1.0

[1] Feet above confluence with Cedar Grove Branch

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

JENKINS SWAMP

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,500	77	194	1.8	35.8	35.8	36.8	1.0
B	2,300	136	310	1.1	37.8	37.8	38.7	0.9
C	2,430	69	262	1.3	39.9	39.9	40.7	0.8

[1] Feet above confluence with Jenkins Swamp

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

JENKINS SWAMP TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	300	226	2,651	2.0	13.8	5.5[2]	6.5	1.0
B	2,250	487	3,459	1.5	13.8	6.0[2]	7.0	1.0
C	3,650	806	5,625	0.9	13.8	6.2[2]	7.2	1.0
D	6,500	1,009	5,990	0.9	13.8	6.7[2]	7.7	1.0
E	8,500	1,218	8,258	0.6	13.8	7.1[2]	8.1	1.0
F	11,950	1,856	10,199	0.5	13.8	7.1[2]	8.1	1.0
G	14,950	105	1,043	4.6	13.8	8.3[2]	9.3	1.0
H	18,878	1,602	11,373	0.4	13.8	9.3[2]	10.2	0.9
I	26,678	1,080	3,672	1.2	13.8	12.5[2]	12.5	0.0
J	34,998	1,373	7,020	0.6	16.5	16.5	17.2	0.7
K	41,898	1,301	5,621	0.7	19.9	19.9	20.7	0.8
L	47,298	1,253	2,274	1.3	23.4	23.4	24.1	0.7

[1] Feet above confluence with Waccamaw River
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

KINGSTON LAKE SWAMP

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	26,390	2,645 / 4,125	N/A	N/A	53.4	53.4	54.4	1.0
B	35,310	2,494 / 5,000	N/A	N/A	54.3	54.3	55.2	0.9
C	36,850	2,144 / 5,000	N/A	N/A	54.5	54.5	55.4	0.9

[1] Feet above confluence with Little Pee Dee River
[2] Width within county / total width

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

LUMBER RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	3,481	220	1,145	0.5	16.9	16.9	17.8	0.9
B	4,400	100	517	1.1	17.1	17.1	18.0	0.9
C	4,886	50	258	2.2	17.5	17.5	18.1	0.6
D	5,419	50	309	1.0	17.9	17.9	18.5	0.6
E	6,006	140	748	0.4	19.3	19.3	20.0	0.7
F	7,000	82	221	1.4	19.4	19.4	20.1	0.7
G	7,348	60	218	0.8	19.4	19.4	20.2	0.8

[1] Feet above confluence with Atlantic Ocean

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

MIDWAY SWASH

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	113	50	119	1.9	11.0	7.6[2]	7.6	0.0
B	1,200	27	50	4.5	11.0	9.9[2]	9.9	0.0

[1] Feet above confluence with Midway Swash
[2] Elevation computed without consideration of backwater effects from Atlantic Ocean

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

MIDWAY SWASH TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	232	360	499	0.8	13.8	10.4[2]	10.4	-0.1
B	1,601	61	175	2.2	16.6	16.6	17.1	0.5
C	3,910	80	293	1.3	23.1	23.1	23.9	0.8
D	5,445	95	332	1.2	28.2	28.2	28.4	0.2
E	5,612	113	365	1.1	28.2	28.2	28.4	0.2
F	6,332	173	620	0.6	28.5	28.5	29.3	0.8

[1] Feet above confluence with Crab Tree Swamp
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

RUN OF PLUM BRANCH

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	800	132	369	0.8	–[2]	6.7[3]	7.7	1.0
B	1,840	39	122	2.5	–[2]	8.6[3]	9.4	0.8
C	2,800	66	203	1.1	9.7	9.7	10.5	0.8
D	3,712	296	1,919	0.1	15.6	15.6	16.6	1.0
E	4,512	68	228	1.1	16.3	16.3	17.2	0.9
F	4,982	72	219	1.1	17.3	17.3	18.1	0.8

[1] Feet above Hillside Drive
[2] Controlled by coastal flooding – see Flood Insurance Rate Map for regulatory base flood elevation
[3] Elevation computed without consideration of backwater effects from Atlantic Ocean

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

SEVENTH AVENUE STREAM

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	100	165	1,399	3.4	10.7	5.9[2]	6.7	0.8
B	750	250	1,265	3.8	10.7	6.4[2]	7.2	0.8
C	1,160	321	1,672	2.9	10.7	7.1[2]	7.7	0.6
D	1,450	329	1,577	3.0	10.7	7.5[2]	8.2	0.7
E	2,080	427	2,273	2.1	10.7	8.7[2]	9.5	0.8
F	2,430	404	2,122	2.3	10.7	9.2[2]	10.0	0.8
G	3,450	200	1,385	3.5	11.7	11.7	11.9	0.2
H	4,160	530	3,520	1.4	11.9	11.9	12.5	0.6
I	4,950	602	4,015	1.2	12.1	12.1	12.7	0.6
J	6,190	375	2,328	2.0	12.5	12.5	13.2	0.7
K	6,725	532	3,140	1.5	12.7	12.7	13.4	0.7
L	7,760	750	4,372	1.1	13.2	13.2	14.0	0.8
M	8,800	528	3,190	1.5	13.4	13.4	14.3	0.9
N	10,040	315	1,872	2.5	13.8	13.8	14.7	0.9
O	11,360	385	2,335	2.0	14.6	14.6	15.5	0.9
P	12,450	318	1,980	2.4	15.0	15.0	16.0	1.0
Q	13,570	211	1,260	3.8	15.4	15.4	16.4	1.0
R	14,725	400	2,267	2.1	16.3	16.3	17.3	1.0
S	15,295	415	2,466	1.9	16.8	16.8	17.8	1.0
T	16,014	110	723	6.6	18.5	18.5	19.1	0.6
U	16,720	240	1,756	2.6	20.1	20.1	20.2	0.1
V	17,713	100	1,117	4.1	21.5	21.5	22.4	0.9
W	23,513	302	2,311	1.2	23.2	23.2	24.1	0.9

[1] Feet above confluence with Intracoastal Waterway
[2] Elevation computed without consideration of backwater effects from Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

SOCASTEE CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AA	9,173	580	1,289	0.9	25.2	25.2	26.0	0.8
AB	10,939	530	1,235	0.9	27.0	27.0	27.6	0.6
AC	13,041	385	1,266	0.9	30.0	30.0	30.7	0.7
AD	15,608	175	616	1.8	32.6	32.6	33.5	0.9

[1] Feet above railroad

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

SOCASTEE CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	3,477	77	453	3.2	–[2]	9.2[3]	10.2	1.0
B	4,029	350	2,006	0.4	16.0	16.0	16.9	0.9
C	4,950	90	691	0.9	16.1	16.1	17.0	0.9
D	5,602	195	1,152	0.5	16.2	16.2	17.1	0.9
E	6,740	32	201	2.8	16.6	16.6	17.4	0.8
F	7,317	37	240	2.4	17.1	17.1	17.8	0.7
G	8,100	50	319	1.8	18.3	18.3	19.0	0.7
H	9,336	35	95	2.4	18.8	18.8	19.3	0.5
I	10,350	86	273	0.8	20.2	20.2	20.6	0.4
J	11,250	35	90	2.6	21.0	21.0	21.4	0.4

[1] Feet above confluence with Atlantic Ocean
[2] Controlled by coastal flooding – see Flood Insurance Rate Map for regulatory base flood elevation
[3] Elevation computed without consideration of backwater effects from Atlantic Ocean

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

UNNAMED TRIBUTARY 5

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	69,050	1,770	16,716	1.1	12.3	7.6[2]	8.4	0.8
B	71,960	2,310	17,966	1.1	12.4	7.9[2]	8.8	0.9
C	73,630	4,700	32,251	0.6	12.4	8.1[2]	9.0	0.9
D	78,380	800	8,760	2.2	12.6	8.6[2]	9.6	1.0
E	80,389	1,508	12,429	1.5	13.0	9.3[2]	10.2	0.9
F	83,489	1,825	14,953	1.3	13.3	10.0[2]	10.8	0.8
G	85,927	895	10,679	1.8	13.8	10.6[2]	11.4	0.8
H	87,607	2,774	25,268	0.7	13.8	11.0[2]	11.9	0.9
I	91,557	3,696	33,859	0.5	13.8	11.4[2]	12.2	0.8
J	98,157	2,500	29,960	0.6	13.8	11.8[2]	12.7	0.9
K	108,707	3,300	27,354	0.7	13.8	12.8[2]	13.6	0.8
L	130,607	7,500	80,892	0.2	14.2	14.2	15.2	1.0
M	140,647	4,125	29,091	0.7	14.4	14.4	15.4	1.0
N	173,378	5,320	46,157	0.4	14.9	14.9	15.9	1.0
O	175,925	3,486	27,255	0.7	15.0	15.0	15.9	0.9
P	181,722	5,512	44,722	0.4	15.2	15.2	16.2	1.0
Q	193,847	6,254	57,423	0.3	15.5	15.5	16.5	1.0
R	212,077	2,830	20,221	0.9	15.9	15.9	16.9	1.0
S	219,383	500	6,323	3.0	16.4	16.4	17.3	0.9
T	220,608	1,387	15,095	1.2	17.0	17.0	17.7	0.7
U	247,534	7,000	55,634	0.3	17.1	17.1	18.1	1.0
V	269,804	7,853	31,058	1.8	17.6	17.6	18.6	1.0
W	275,429	9,970	37,149	1.8	18.0	18.0	18.9	0.9

[1] Feet above confluence of Intracoastal Waterway
[2] Elevation computed without consideration of flooding controlled by Great Pee Dee River

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

WACCAMAW RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
X	281,317	10,124	43,413	1.8	18.4	18.4	19.3	0.9
Y	285,797	10,268	43,121	1.8	18.7	18.7	19.5	0.8
Z	290,353	10,532	45,996	1.8	19.0	19.0	19.8	0.8
AA	296,483	9,653	34,352	2.1	19.6	19.6	20.3	0.7
AB	303,303	7,085	29,953	2.3	20.4	20.4	21.1	0.7
AC	313,363	10,413	61,217	1.4	22.0	22.0	22.5	0.5
AD	318,874	11,393	60,448	1.5	22.3	22.3	22.9	0.6
AE	321,439	10,014	53,694	1.6	22.5	22.5	23.0	0.5
AF	328,329	8,776	47,266	1.8	23.1	23.1	23.6	0.5
AG	332,650	8,178	46,809	1.7	23.5	23.5	24.0	0.5
AH	338,069	7,831	49,173	1.6	23.9	23.9	24.5	0.6
AI	343,137	10,286	62,613	1.4	24.2	24.2	24.9	0.7
AJ	352,849	10,830	70,138	1.2	24.7	24.7	25.5	0.8

[1] Feet above confluence of Intracoastal Waterway

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

WACCAMAW RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0	95	332	1.8	22.7	22.7	23.5	0.8
B	1,061	86	459	1.0	28.1	28.1	29.1	1.0
C	1,302	99	664	0.7	28.2	28.2	29.2	1.0
D	4,352	34	91	3.5	36.0	36.0	36.9	0.9

[1] Feet above limit of detailed study (limit of detailed study is approximately 25 feet downstream of State Highway 544)

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

WACCAMAW RIVER TRIBUTARY 1

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	700	56	202	0.9	35.0	35.0	35.8	0.8
B	2,510	12	41	3.2	36.0	36.0	36.6	0.6

[1] Feet above confluence with Waccamaw River Tributary 1

TABLE 11

FEDERAL EMERGENCY MANAGEMENT AGENCY

HORRY COUNTY, SOUTH CAROLINA

AND INCORPORATED AREAS

FLOODWAY DATA

WACCAMAW RIVER TRIBUTARY 2