

DRAFT
HORRY COUNTY
ALL-HAZARDS
MITIGATION PLAN



EMERGENCY MANAGEMENT DEPARTMENT
2560 MAIN STREET, #4
CONWAY, SC 29526

DRAFT

HORRY COUNTY NATURAL HAZARDS MITIGATION PLAN

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1 PREREQUISITES

1.1 ADOPTION BY THE LOCAL GOVERNING BODY

On the recommendation of the Horry County Mitigation Task Force, the Horry County Public Safety Committee, and the Horry County Emergency Management Department, the Horry County Council passed a resolution to adopt this plan on Tuesday, June 7, 2005 as the official Mitigation Plan of Horry County.

A copy of the Resolution adopting the plan is located at the end of this plan.

3.2 MULTI-JURISDICTIONAL PLAN ADOPTION

Below is a chart of specific jurisdictions and special purpose districts represented in this plan. From this point forward the special purpose districts will be included when referring to the jurisdictions. The chart also summaries the jurisdictions that have formally adopted this plan as the official Hazard Mitigation plan.

Resolutions of Adoption		
Jurisdiction	Adopted	Date of Adoption
Horry County Council	YES	June 7, 2005
Bucksport Water System	YES	May 31, 2005
City of Conway	YES	June 13, 2005
City of Loris	YES	June 6, 2005
Grand Strand Water & Sewer	YES	June 27, 2005
Horry County School District	YES	August 15, 2005
Horry Electric Cooperative	YES	May 26, 2005
Horry Telephone Cooperative	YES	July 18, 2005
Little River Water & Sewerage	YES	June 21, 2005
Murrells Inlet – Garden City Fire District	YES	May 23, 2005
Town of Atlantic Beach	YES	July 19, 2005
Town of Aynor	YES	May 23, 2005
Town of Briarcliffe Acres	YES	June 20, 2005
Town of Surfside Beach	YES	June 28, 2005

Copies of the official resolutions signed by each jurisdiction adopting the plan are located at the end of this plan document titled Resolutions.

1.3 MULTI-JURISDICTIONAL PLANNING PARTICIPATION

Each jurisdiction mentioned above was involved in the planning process and formation of the plan. The City of Myrtle Beach and the City of North Myrtle Beach, also jurisdictions in Horry County, were not involved in the plan because they already have an approved Hazard Mitigation Plan. Every jurisdiction in Horry County; with the exception of the City of Myrtle Beach and the City of North Myrtle Beach, participated in the Horry County Mitigation Task Force.

The following chart documents the attendance record for each jurisdiction through out the planning process.

JURISDICTION	MEETINGS				
	March 8, 2005	March 23, 2005	April 8, 2005	April 25, 2005	May 9, 2005
Town of Atlantic Beach	X				
Town of Aynor	X	X	X	X	
Town of Briarcliff Acres	X	X	X	X	X
City of Conway	X	X		X	X
City of Loris		X	X	X	X
Town of Surfside Beach	X	X		X	X
Bucksport Water System	X	X		X	X
Grand Strand Water & Sewer	X	X			
Horry County School District			X	X	X
Horry Electric Cooperative	X	X	X		X
Horry Telephone Cooperative	X	X	X	X	X
Little River Water & Sewerage	X		X	X	X
Murrells Inlet/Garden City Fire District	X	X	X		X
Horry County Emergency Management	X	X	X	X	X
Horry County Engineering	X				
Horry County Fire/Rescue	X				
Horry County Flood Hazard Control	X	X	X	X	X
Horry County Human Resources & Risk Management			X		X
Horry County Maintenance	X		X		
Horry County Planning	X	X		X	X
Horry County Storm Water Management	X	X	X	X	X
Loris Hospital	X				

Each jurisdiction participated in the development of the Horry County Hazard Mitigation Plan. “Participation” is defined as any combination of at least two of the following activities:

- 3 Personal Meetings, as needed [P]
- 4 Telephone conversations [T]
- 5 Completing assigned projects for incorporation in the Plan [C]

The thirteen (13) jurisdiction’s level of participation in the development of the Plan is summarized in the Table below:

Jurisdiction	ACTIVITY		
	P	T	C
Town of Atlantic Beach		x	x
Town of Aynor		x	x
Town of Briarcliffe Acres		x	x
City of Conway		x	x
City of Loris	x	x	x
Town of Surfside Beach	x	x	x
Murrells Inlet – Garden City Fire District		x	x
Grand Strand Water & Sewer		x	x
Bucksport Water System	x	x	x
Horry County School District		x	x
Horry Electric Cooperative		x	x
Horry Telephone Cooperative		x	x
Little River Water & Sewerage	x	x	x

Participation from each jurisdiction occurred mainly through the Horry County Mitigation Task Force lead by the Horry County Emergency Management Department. The Task Force was made up of representatives from participating jurisdictions and county representatives. The Mitigation Task Force had oversight of each phase of the planning process, reviewed the risk assessment findings and mitigation strategy. The jurisdictions reviewed all information as researched by the Emergency Management staff for their communities prior to inclusion in the plan. The Mitigation Task Force was lead by the Horry County Emergency Planner, Mrs. Carissa Medeiros. The Emergency Management staff was responsible for establishing plan maintenance procedure and approves plan content.

2. THE PLANNING PROCESS

2.1 PRE-PLANNING HAZARD MITIGATION QUESTIONNAIRE

At the beginning of the planning process a questionnaire, included as [TAB 1] to this section, was distributed by mail to sixty-one (61) representatives from county, state, and federal agencies, local governments, non-profit organizations and academia for their input. The recipients of the questionnaire via mail were considered to be knowledgeable regarding hazards experienced in Horry County and the potential vulnerabilities of these hazards. Completion of the questionnaire was considered to be one form of participation in the planning process. This questionnaire asked the respondents to assess the hazards inherent to Horry County, assess the vulnerability created from hazards, rate/provide potential goals for the plan, rate/provide possible activities for the plan to address, and rate/provide criteria for prioritizing projects under the plan. A list of mail recipients of the questionnaire is provided as [TAB 2] to this section.

Responses were received from twenty-eight (28) of the recipients of the mail questionnaire (45.9%). The highest response rate was from the local jurisdictions and County Departments 52.9%, followed by private sectors, non-profit organizations, and academia at 43.75 %; ending with South Carolina Agencies and Federal Agencies at 42.8%. All the responses received were considered in the data analysis of the plan and during deliberations of the Mitigation Task Force meetings.

In the update to the plan, terrorism was considered as an all encompassing term referring to all types of terrorism; such as but not limited to: chemical, biological, radiological, nuclear, explosive, cyber, etc.

MITIGATION TASK FORCE	
NAME	REPRESENTING
Carissa Medeiros	Horry County Emergency Management
Alicia Bastian	Horry County Emergency Management
David Parry	Briarcliffe Acres
Glenn Cribb	Bucksport Water System
Darrell McDowell	City of Conway
Sabrina Morris	City of Conway
Rodney Hardee	City of Loris
Paul Whitten	Director of Public Safety
Tommy Lee	Horry County Engineering
Michael Shelley	Grand Strand Water & Sewer
Randell Webster	Director of Emergency Management
Brian VanAernem	Horry County Fire
Mike O’Dea	Horry County Flood Hazard Control
Gary Watson	Horry County Maintenance
Karen Godin	Horry County Planning
Sheila Burgoyne	Horry County School District
Darlyn B. Adams	Horry County School District
Tom Garigen	Horry County Storm Water
Linewood Vereen	Horry County HR / Risk Management
Sam Hucks	Horry Telephone Cooperative
Reed Cooper	Horry Electric Cooperative
Everett Compton	Little River Water & Sewerage
Wade Lewis	Little River Water & Sewerage
Ray Lloyd	Loris Hospital
Norman Knight	Murrells Inlet – Garden City Fire Dist.
Benny L. Webb	Town of Atlantic Beach
John N. Dawsey	Town of Aynor
Robert Packard	Town of Surfside Beach

Among the rankings terrorisms was ranked low as a serious threat to Horry County and participating jurisdictions. HazMat was also considered in the questionnaire, however, the risk associated with HazMat ranked higher among participants than terrorism.

2.2 THE HORRY COUNTY MITIGATION TASK FORCE

The Horry County Mitigation Task Force was established by the Horry County Emergency Management Department to enhance the planning process. The Task Force was lead by Mrs. Carissa Medeiros, Emergency Planner and assisted by Alicia Bastian, Project Assistant for Horry County Emergency Management.

The Task Force included representatives from each participating jurisdiction, interested special purpose districts, and county government department representatives. The Task Force consisted of twenty-five members displayed above.

Prior to the first Mitigation Task Force Meeting, an outline of the plan was formulated and hazards were identified through past occurrences in Horry County. With assistance from Mr. Matt Morey, GIS Analyst for Horry County, mapping of each jurisdiction with several hazard specific layers were established.

During the development of the Risk Assessment Horry County Emergency Management provided the Mitigation Task Force with historical and technical information to assist in hazard identification, profiling events, and the vulnerability assessment. In the initial Mitigation Meeting hazards that significantly affect Horry County were identified and agreed upon unanimously by the Mitigation Task Force.

Each jurisdiction was presented a multi-jurisdictional risk assessment and a map of their area with the existing flood zones, storm surge, and wildfire hazard areas. The jurisdictions filled out the risk assessment and reviewed the maps for accuracy and made corrections or additions as deemed appropriate.

Horry County Emergency Management staff put together the vulnerability assessment by researching past Emergency Management records; analyzing the data collected with the Hazard Mitigation Survey; and collecting data from the Horry County Comprehensive Plan. The charts were discussed and distributed to the Mitigation Task Force.

The Mitigation Strategy was created from the input of the Mitigation Task Force on the findings of the hazard profiles and vulnerability assessment of this plan. The Hazard Mitigation Goals were also discussed and agreed upon. Each jurisdiction presented at least one action they would like to implement based on their risk assessment findings. The criteria for the actions were discussed at length during a Mitigation Task Force Meeting. The actions were be ranked by the appropriate jurisdiction based on the cost-benefit review put forth by the Mitigation Task Force. A mitigation technique category was also assigned to the appropriate action.

The Mitigation Task Force developed a method to ensure that regular review and update of the Hazard Mitigation Plan occurs. Unanimously the Mitigation Task Force agreed to meet quarterly to monitor and evaluate the plan. The quarterly meeting will coincide with the Horry County Local Emergency Planning Committee (LEPC) meetings, which are publicized and open to the public. Meetings to update the plan will be held annually or post disaster. The yearly update meetings will be held separately from the LEPC.

Each of the Mitigation Task Force meetings were held in the M.L. Brown Public Safety Building located in Conway, South Carolina. Meeting documentation notes, minutes, maps, attendance records, and information reviewed has been documented for all meetings and has been filed at the Horry County Emergency Management Office.

Prior to updating the All Hazards Mitigation Plan, the LEPC was consulted on Monday, June 6, 2005. The elements addressed were which man made hazards to incorporate into the plan. Everyone agreed to the following list of hazards: HazMat, Terrorism (CBRNE), and cyber terrorism. Also addressed were critical facilities and the way in which to identify them throughout Horry County and participating jurisdictions. Critical facilities will be addressed through the plan in levels, which will be explained later in this plan.

2.3 OPEN PUBLIC INVOLVEMENT

The opportunity for public participation was provided in three ways. The Hazard Mitigation Survey was distributed to various private and public organizations as mentioned in section 2.2, the Local Emergency Planning Committee meetings were open to the public, and the Hazard Mitigation Plan Public Meeting held for the public to approve the draft plan.

The LEPC is an existing committee that forms partnerships with local industries and governments as a resource for enhancing all-hazard preparedness. All meetings are provided to the local media and advertised in the local newspaper and the county website. The LEPC was utilized to provide an update on the critical facilities throughout the county; approval of the Horry County Flood Mitigation Plan, which will be incorporated in this plan; approval of the identified hazards and drafts. Comments from the public and the committee were always encouraged and contact numbers for the plan were given.

A public hearing was held Friday, May 13, 2005 at the ML Brown Public Safety Building at 6:00 PM to give the public a chance to review the plan and recommend changes they may feel are appropriate prior to plan approval. Meeting notices were given to the local media, advertised in the local paper and the county website. Drafts of the plan were provided.

2.4 REVIEW AND INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS, TECHNICAL INFORMATION.

The Emergency Management Staff reviewed pertinent mitigation material, including current mitigation studies and reports. Emergency Management Staff also researched and reviewed relevant studies, reports, technical information along with GIS information obtained through local communities and State and Federal agencies. Information reviewed included information obtained from National Data sources and universities related to natural hazards. As appropriate, these materials were incorporated into the plan and were documented throughout. Currently, only two of our local jurisdictions, the City of Myrtle Beach and the City of North Myrtle Beach, have existing hazard mitigation plans. Both plans were reviewed and were incorporated as appropriate into this plan. Emergency Management Staff also reviewed current Horry County plans such as the Flood Mitigation Plan and incorporated pertinent information in the plan as necessary.

Inclusion of existing plans documents and technical information is documented throughout the plan as it was reviewed. Below is a table of the plans and ordinances that were reviewed.

Jurisdiction	Plan / Ordinance Reviewed
Federal Government DHHS (ATSDR)	Managing Hazardous Material Incidents Volume III
FEMA	Guidelines for HazMat / WMD Response, Planning and Prevention Training
	Guidelines for Public Sector Hazardous Materials Training
South Carolina Department of Public Safety and State Transport Police Division	Risk Management of Hazardous Materials Transportation in South Carolina: An Action Plan
Horry County	Emergency Operations Plan
	Horry County Local Comprehensive Beach Management Plan
	Field Response to HazMat Incidents (Work Safety Plan)
	Storm Water Management Plan
	Comprehensive Plan
	Hurricane Plan
	Flood Mitigation Plan
Town of Atlantic Beach	Comprehensive Plan
Town of Aynor	Flood Ordinances & Hurricane Plan
	Comprehensive Plan
Town of Briarcliffe Acres	Open Burning Ordinances
	Comprehensive Plan

Jurisdiction	Plan / Ordinance Reviewed
Town of Surfside Beach	Emergency Response Plan
	Hurricane Plan
	Comprehensive Plan
City of Conway	Storm Water Management Plan
	Storm Utility Ordinance
	Comprehensive Plan
City of Loris	Flood Damage Prevention Ordinance
	Drought Management Plan & Response Ordinance
City of Myrtle Beach	Hazard Mitigation Plan
	City Ordinances
	Comprehensive Plan
City of North Myrtle Beach	Hazard Mitigation Plan
	Comprehensive Plan
Bucksport Water System	Vulnerability Assessment
	Emergency Response Plan
Grand Strand Water & Sewer	Water System Standards & Specifications
Horry County School District	Comprehensive Emergency Plan
Horry Electric Cooperative	Emergency Response Plan
Horry Telephone Cooperative	Emergency Action Plan
	Spill Containment and Countermeasure Plan
Little River Water & Sewerage	Emergency Response Plan
Murrells Inlet – Garden City Fire District	Hurricane Plan & Emergency Response Plan

Local Governments are encouraged to incorporate the Hazard Mitigation Plan into their respective comprehensive plans, which are required to be updated every ten years, according to the State Statute. Additionally, local ordinances dealing with flood management, drainage, lot coverage, etc. should be amended to incorporate the recommendations contained in this Plan.

3. RISK ASSESSMENT

All Components of this Risk Assessment were developed using the best available data in the Horry County. During the Hazard Identification process, Emergency Management staff used GIS resources and FEMA Publication 386-2, *Understanding Your Risk, Section 1, Identify Hazards* to identify hazards that affect Horry County. Once the hazards were identified the Horry County Mitigation Task Force reviewed and discussed the information. In the identification process, hazards were evaluated through public participation in the LEPC quarterly meetings. Some information regarding hazards and their affects were created in addition to data collected by the Emergency Management staff. Staff researched local records of the Emergency Management office, local newspapers, local officials, public accounts, and community members.