Hazard Mitigation Plan

2012

Dillon County, South Carolina

March 7, 2012 Revision

Addressing FEMA Requirements

Prepared by the Pee Dee Regional Council of Governments with the Assistance of the Dillon County Hazard Mitigation Planning Committee and the Dillon County Disaster Preparedness Agency

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SECTION 1.0 PLANNING PROCESS

1.1 Plan Introduction

This section of the Dillon County Hazard Mitigation Plan describes and documents the process used to develop the Plan. This includes how it was prepared and who was involved in the process, including participation by local governments. It also describes the time period in which the Plan was prepared, and who to contact to answer questions and make recommendation for future plan updates.

1.1.1 Disaster Mitigation Act of 2000

The first Dillon County Hazard Mitigation Plan was developed in 2004-2005 in response to the passage of the Disaster Mitigation Act of 2000 (DMA2K), and FEMA approved the Plan on April 18, 2007. On October 30, 2000, the DMA2K was signed into law by the U.S. Congress in an attempt to stem the losses from disasters, reduce future public and private expenditures, and to speed up response and recovery from disasters. This act (Public Law 106-390) amended the Robert T. Stafford Relief and Emergency Assistance Act. The following is a summary of the parts of DMA2K that pertain to local governments:

- The Act establishes a new requirement for local governments to prepare and update at least every five years a Hazard Mitigation Plan in order to be eligible for funding from FEMA (Federal Emergency Management Agency) through the Pre-Disaster Mitigation Assistance Program and Hazard Mitigation Grant Program.
- The Act establishes a requirement that natural hazards such as tornadoes, floods, and wildfires, need to be addressed in the risk assessment and vulnerability analysis parts of the Hazard Mitigation Plan.
- The Act authorizes up to seven percent of Hazard Mitigation Grant Program funds available to a state after a federal disaster to be used for development of state, local, and tribal organization All Hazard Mitigation Plans.
- The Act established November 1, 2004 as the date by which local governments and tribal organizations were to prepare and adopt their respective plans in order to be eligible for the FEMA Hazard Mitigation Grant Program and November 1, 2003 for the Pre-Disaster Mitigation Program.

As required by the Act, this current 2012 Plan was prepared in response to the DMA2K requirement that the plan be reviewed and revised within 5 years in order to continue to be eligible for mitigation grant funding.

1.1.2 Parts of the Plan

The Plan is divided into five sections to address FEMA requirements for a local mitigation plan. The five sections are:

- Section 1 – Planning Process
- Section 2 – Planning Area
- Section 3 – Risk Assessment
- Section 4 – Mitigation Strategy
- Section 5 – Plan Mitigation Process and Adoption

1.2 Planning Process

Dillon County Disaster Preparedness (DCDP) initiated the Hazard Mitigation planning process by attending the February 2-3, 2011 Hazard Mitigation Planning Workshop at the SC Emergency Management Division, Columbia, at which Region IV FEMA officials presented Mitigation Planning Workshop For Preparing and Reviewing Local Plans. A representative of the Pee Dee Regional Council of Governments (COG) also attended the workshop. Dillon County then entered into an agreement with COG for assistance with preparation of the Plan update. DCDP and COG staff worked closely together to engage the County's Hazard Mitigation Planning Committee and community members in the planning process.

1.2.1 Hazard Mitigation Planning Committee

The Dillon County Hazard Mitigation Planning Committee (HMPC) is comprised of 17 members, including representatives of various divisions of Dillon County government, medical services, law enforcement, fire protection services, emergency services, water and sewer services providers, municipal governments, hospital, and schools. Each of these members brings local knowledge from the different parts of the County in which they live, and collectively they serve on a variety of County Committees. The Committee was appointed by Dillon County Council with the assistance of the County Administrator and the Disaster Preparedness Agency Director.

TABLE 1-1 HAZARD MITIGATION PLANNING COMMITTEE
DILLON COUNTY

Committee Member	Representing
Moses Heyward	County Disaster Preparedness
Clay Young	County Administrator
Glenn Wagner	City of Dillon Administrator
Lisa Gray	County Council Clerk
Larry Jones	County Code Enforcement Officer
Sonny McRae	County E-911 Director
Nancy Brigman	Town of Latta Mayor
Don Lewis	Dillon City Police
Randy Grimsley	County EMS
Bobby Lee Thompson	Fire Services
Cliff Arnette	Law Enforcement
Henry Brunson	Town of Latta Fire Department
Robert Newton	SC Electric & Gas Manager
Robert T. Smith	Town of Lake View Mayor
Kris Lane	McLeod Hospital
Tony McNeil	County Economic Development Director
Eugene Paige	Human Service Consultant
Mindy Taylor	Progress Energy
Fitzgerald Lytch	School Board Member

Presentations were given to the HMPC throughout the Hazard Mitigation Plan update process. The dates of these meetings and mailing of materials, as well as a summary of what was included, are summarized below.

May 23, 2011 (mailing and meeting)

The Dillon County HMPC met at 10:00 a.m. at the Dillon County Disaster Preparedness office to begin the Hazard Mitigation Plan update process. A mailing was sent out to all members of the HMPC on May 12, 2011. COG staff met with the Committee and discussed the planning process, and also distributed sections from the 2005 plan on hazard events and vulnerabilities for review and comment by Committee members. Additionally, Committee members were provided copies of hazard events maps and data obtained by COG staff from the Hazard Vulnerability and Research Institute (HVRI). The information within the web-based service "was collected, compiled, and is distributed by the HVRI at the University of South Carolina." HVRI states that "the spatial information available on the website was derived from a variety of sources and great care was taken in all processing, analysis, and mapping of the data." The HMPC was requested to review and edit the critical facilities inventory for consideration at the next meeting that was scheduled for July 11, 2011. Staff also requested that Committee members provide at the next meeting any local information available on hazard events and losses. Additionally, staff distributed to Committee members a Community Survey on hazard events and requested the Committee's assistance in making the survey available to other key individuals throughout Dillon County.

July 11, 2011 (mailing and meeting)

The Dillon County HMPC met at 10:00 a.m. at the Dillon County Disaster Preparedness office. A meeting notice was mailed on July 1, 2011 to all Committee members. A meeting invitation also was mailed on July 5-6, 2011 to the American Red Cross, United Way, Pee Dee Baptist Association, SC Department of Natural Resources, US Department of Agriculture, and the Dillon Herald newspaper.

At the meeting, Committee members were again requested to submit by the next meeting updated critical facilities information as well as any available local hazard events information. The Committee reviewed and discussed hazard events frequencies and losses, and then ranked all hazards in order of priority. The ranking was accomplished by first grouping twelve (12) hazards into three categories: high, median and low priority. Once the Committee agreed on this grouping, then the hazards in each category were ranked by the Committee as a whole with 12 indicating the highest priority hazard (thunderstorm/lightning) and 1 indicating the lowest priority (earthquake).

The Committee was provided a copy of Dillon County Mitigation Actions taken from the 2007 Dillon County plan, as well as Mitigation Ideas pulled from FEMA guidance materials distributed at the February 2-3, 2011 Hazard Mitigation Planning Workshop at the SC Emergency Management Division, Columbia, SC. The Committee was requested to prepare updated mitigation actions for review and discussion at the next meeting.

The Committee agreed that the Disaster Preparedness Director and the COG staff should initiate individual meetings with the three mayors in Dillon County to stress the importance of municipal government participation in the Dillon County planning process.

August 8, 2011(mailing and meeting)

The Dillon County HMPC met at 10:00 a.m. at the Dillon County Disaster Preparedness office. A meeting notice was emailed August 3, 2011 to all Committee members with email addresses and a meeting reminder letter was mailed to Committee members without email addresses. The Committee discussed hazard mitigation actions contained in the 2007 Dillon County Hazard

Mitigation Plan, and discussed sample strategies prepared by FEMA and provided by Glenn Lane, Pee Dee Regional Council of Governments. Possible mitigation actions were discussed for each hazard to be addressed in the plan. It was agreed that Moses Heyward and Glenn Lane would prepare proposed mitigation actions for each hazard based on the Committee's discussion and for Committee review at the next meeting. Mr. Lane stated that a completed draft plan should be submitted to the SC Emergency Management Division's State Hazard Mitigation Planning Office around November 1, 2011.

The Committee agreed that a public hearing on the draft Dillon County Hazard Mitigation Plan should be scheduled for September 12, 2011 at 6:00 p.m. and the Dillon County Rural Fire Station #1. The hearing will be advertised through the local newspaper and other media.

September 12, 2011 (advertisement and public hearing)
Public notice on the September 12, 2011, 6:00 p.m. public hearing was released to the local newspaper and other media on the week of August 7, 2011. A meeting notice was emailed on August 11, 2011 to all Committee members with email addresses and a meeting reminder letter was mailed to the Committee members without email service. One member of the public attended the meeting along with several members of the Committee as well as staff. The planning process and schedule as well as the proposed plan were discussed by the staff. The community survey form was presented and distribution of it to other interested persons was encouraged.

October 3, 2011 (mailing and meeting)
The Dillon County HMPC met at 10:00 a.m. at the Dillon County Disaster Preparedness office. A meeting notice was emailed on September 28, 2011 to all Committee members with email addresses and a meeting reminder letter was mailed to Committee members without email addresses. The Committee reviewed, made edits, and approved recommended mitigation actions and projects. The Committee also discussed each proposed action under each hazard and collectively agreed on a priority of HIGH (should be accomplished within 1 year; MEDIUM (should be accomplished within 2 years); or LOW (should be accomplished within 3-5 years). The Committee also discussed the progress report for actions/projects contained in the initial 2007 plan. The Committee concluded by agreeing that the proposed plan should be submitted to the State Hazard Mitigation Planning Officer, SC Emergency Management Division, around the first of November for review and comment, after which the plan will be submitted for adoption by resolution to Dillon County Council and to the governing bodies of the municipalities of Dillon, Lake View, and Latta.

1.2.2 Involvement from Local Governments

Through public involvement as described in Section 1.2.5 and throughout this Plan, it has been made clear to all incorporated jurisdictions that their participation is of particular importance to the Plan, as they will each have to adopt the Plan at the end of the process in order to continue to be eligible for mitigation grant funding. All three (3) municipalities *in Dillon County* actively participated with *the* County in the planning process through membership on the HMPC, public meeting attendance, survey responses and/or comments on the draft plan. Additionally, during the week of July 18, 2011, individual meetings were arranged by the DCDP Director with each mayor or his representative to invite participation in the planning process. *As was the case with the initial Plan adopted in 2007, there is* full participation by all incorporated jurisdictions *in this Plan update as shown in Table1-2.*

1.2.3 Neighboring Community Involvement

A requirement of the planning process was to consult with neighboring communities. On July 5, 2011, a memorandum was mailed to neighboring counties Emergency Management Agencies by the Dillon County Emergency Management Director inviting participation in the Dillon County planning process. Also, a follow-up telephone call was placed to each of these neighboring counties (Marion County, Florence County, Horry County, and Robeson County, NC. Information was shared on the planning process and input was invited. No response was received from any of the counties listed.

1.2.4 Local and Regional Agency Involvement

An additional requirement of the planning process was to involve local and regional agencies, as well as private, public, and non-profit interests, in hazard mitigation planning activities. A meeting invitation was mailed on July 5-6, 2011 to the American Red Cross, United Way, Pee Dee Baptist Association, SC Department of Natural Resources, US Department of Agriculture, and the Dillon Herald newspaper. Contact by telephone calls and a letter were made on August 11, 2011 with the following agencies inviting participation in the planning process: SC Department of Natural Resources, Salvation Army, Red Cross, Dillon Chamber of Commerce, SC Highway Patrol, Tri-County Mental Health Center, Public Health Department, Perdue Farms, and County Library. No response was received from these agencies. The Pee Dee Regional Council of Governments provided direct assistance to Dillon County with the Hazard Mitigation Planning process.

1.2.5 Public Review Process

Public Meetings and Surveys

All municipalities were invited to attend a public meeting held on September 12, 2011 at the Dillon County Rural Fire Department, Dillon, SC. Town Administrators and/or Town Clerks were sent a letter inviting them to attend the meeting, and to distribute the meeting information among their boards, Committees, and community members. The meeting time was publicized in the Dillon Herald and was posted at County offices and at Town Halls. The meeting was attended by a total of 4 community representatives, including the safety officer from a private industry and several members of the HMPC.

At the public meeting a presentation was given detailing the steps in the planning process, the hazard analysis results to date, and next steps to be taken in the planning process. Maps and Plan example material were available for review at the meeting. Following the presentation, attendees were asked to fill out a survey about the importance of hazards and possible mitigation actions in their communities (see survey form in the Appendix).

To follow up with the municipalities that did not attend the public meeting, the County Emergency Management Director contacted the mayors, administrators and/or town clerks, providing them with a draft of the proposed plan, community survey forms, and inviting comments and input. No community surveys were returned. Hazard mitigation planning materials including community survey forms were widely distributed including at County Council meetings and other meetings of County departments, Town Halls, and public libraries.

News Releases

News releases were submitted to the local bi-weekly Dillon Herald paper, and to the Hometown TV Channel 8, and to WDSC Dillon radio station to inform Dillon County residents about the hazard mitigation planning process. The articles focused on Plan purposes, progress, and timelines.

Plan Review

The draft Dillon County Hazard Mitigation Plan was emailed to all municipal community contacts by the DCDP Director before the October 3, 2012 meeting of the HMPC and delivered to all municipality representatives following the meeting. Additional follow-ups were initiated by telephone and email. Comments on the draft Plan were accepted through the end of October 2011. Following review and comments by the SC Emergency Management Division Hazard Mitigation Planning staff and necessary plan revisions, a final public meeting was scheduled for March 27, 2012 by the DCDP Director for public comment. The conclusion of this meeting will result in a signed adoption resolution by Dillon County Council. Municipalities will then sign their adoption resolutions in public meetings. All resolutions will be signed by the end of April 2012. Copies of the adopting resolutions will be included in the Appendix.

1.2.6 Incorporated Technical Data

- Dillon County Comprehensive Plan
- Hazard Vulnerability and Research Institute, University of South Carolina
- US Census Bureau

Information from the Dillon County Comprehensive Plan was very helpful concerning the description and analysis of the planning area for this plan. The most recent edition of the Comprehensive Plan was researched for descriptive data and analysis. US Census Bureau population and housing data also were used in the planning area description.

The Hazards Vulnerability and Research Institute, University of South Carolina, was extremely helpful in providing data and maps for inclusion in this plan. Maps provided include hazard frequency for most hazards included in the plan, critical facilities locations, and social and place vulnerabilities. Data included the historical number of hazard events, average annual losses, as well as losses for each hazard event occurrence for most hazards addressed in the plan. There were a few hazards for which no maps and/or data were available from HVRI.

TABLE 1-2 PARTICIPATION OF MUNICIPALITIES

	Attended Meeting	Returned Survey	Provided Draft Plan Comments
City of Dillon	x	x	x
Town of Lake View	x		x
Town of Latta	x		x

SECTION 2.0 PLANNING AREA

The planning area for the Dillon County Hazard Mitigation Plan is the County and the County's three municipalities: City of Dillon, Town of Lake View, and Town of Latta.

This Section 2.0 of the plan provides demographic and geographic information for the County and its municipalities. This information acts as a base for development of hazard mitigation strategies presented in Section 4.0.

2.1 General Geography

Location

Dillon County was officially established in 1910, being carved from Marion County, in the Pee Dee area of the northeastern part of the State of South Carolina. The county has a total of 407 square miles according to the U.S. Census Bureau, of which 405 square miles is land and 2 square miles (0.42%) is water. Dillon County is the forty-second (42nd) largest of the state's forty-six (46) counties (see Figures 2-1 and 2-2).

Figure 2-1 General Location

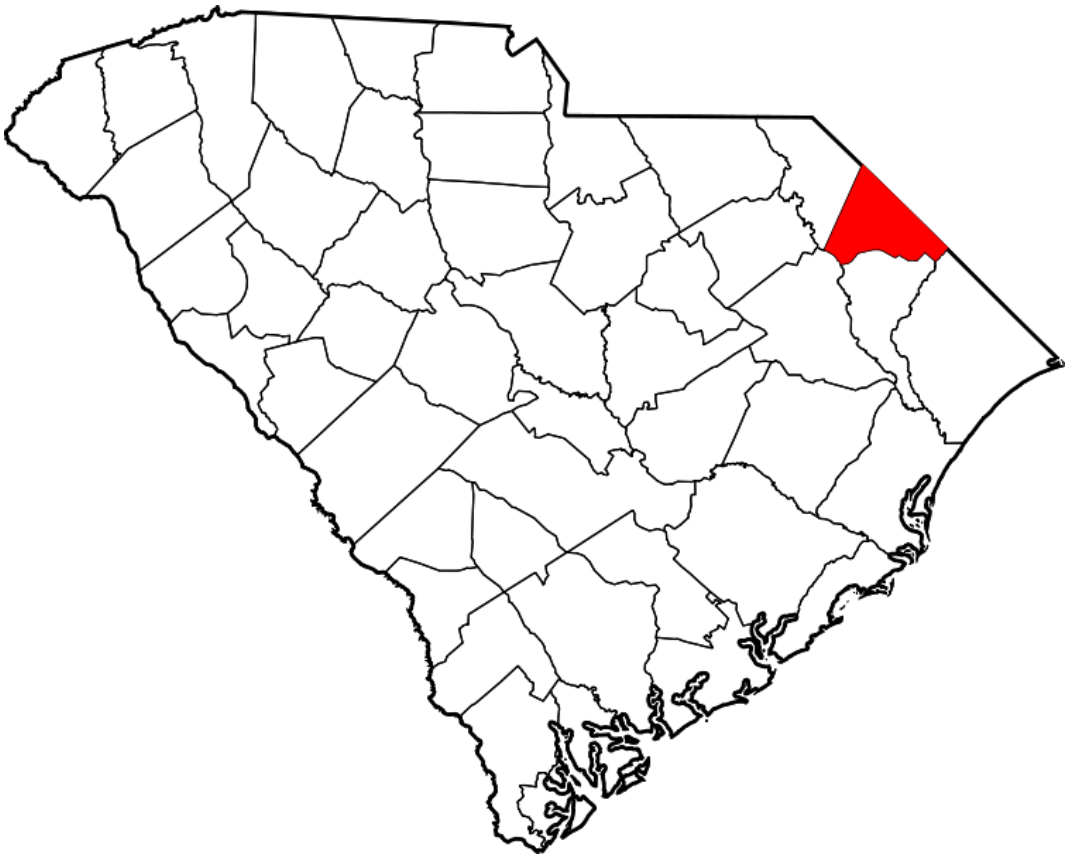
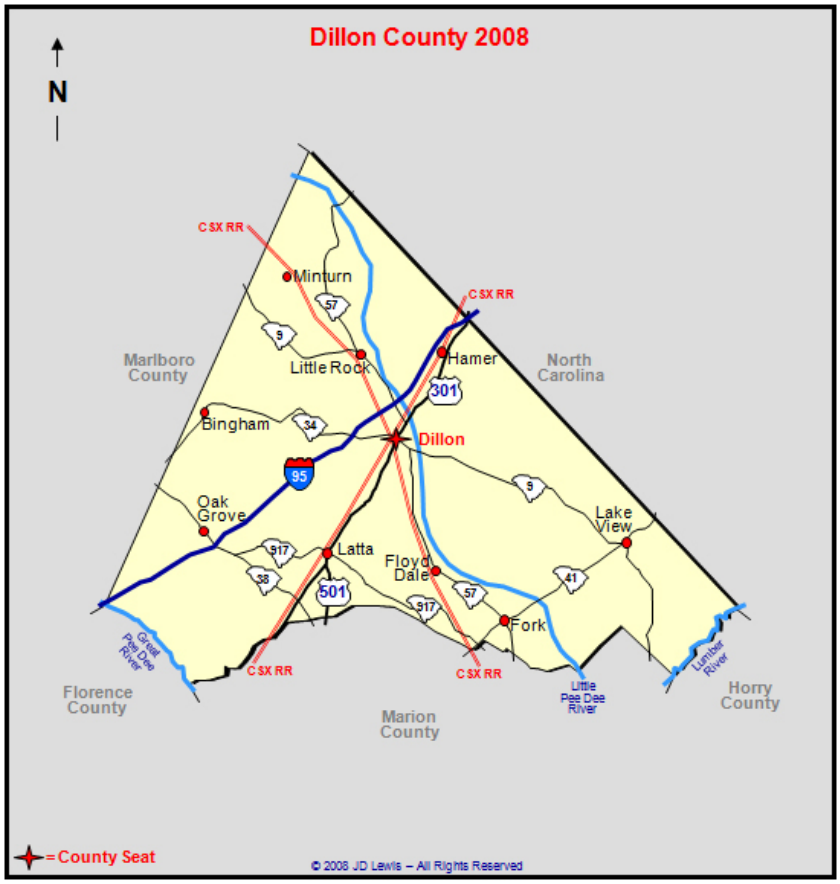


Figure 2-2 Population Centers – Dillon County



The City of Dillon is the county seat, and also has the highest population (6,319). The remainder of Dillon County consists of two (2) other incorporated municipalities (Lake View [789] and Latta [1,401]) as well as the unincorporated areas.

Within Dillon County, the total population is made up of the three municipalities and the unincorporated area. The distribution of this population is shown below in Table 2-.

TABLE 2-1 POPULATION DISTRIBUTION – DILLON COUNTY

Jurisdiction	1990 Population	2000 Population	2010 Population	2010 % of County
Dillon County Unincorporated Area	19,852	22,207	22,990	71.7%
City of Dillon	6,829	6,316	6,788	21.2%
Town of Lake View	868	789	807	2.5%
Town of Latta	1,565	1,410	1,477	4.6%
TOTAL	29,114	30,722	32,062	100.00%

The City of Dillon is shown to be the major urban area of the County with the largest proportion of the incorporated County population (about 21 percent). This population level is over four times larger than Latta, which is the second largest municipality in the County. The least populated municipality (Lake View) is only about three percent of the total County population.

The distribution of the County's 2000 population can also be shown by Census County Division (CCD). A CCD map accompanies this data. Census County Divisions are the next level of subdivision of data for counties. They are larger than census tracts and municipalities, and they include all of the information for both levels of data.

TABLE 2-2 CENSUS COUNTY DIVISION POPULATION DISTRIBUTION

Census County Division	2000 Population	% of County 2000	2010 Population	% of County 2010
Dillon	10,410	33.9	10,712	33.4
Hamer	5,367	17.4	6,017	18.8
Lake View	4,547	14.8	4,370	13.6
Latta	6,873	22.4	7,496	23.4
Little Rock	3,525	11.5	3,467	10.8
TOTAL	30,722	100	32,062	100

Topography

Dillon County is mostly a nearly level to gently sloping plain. Stronger slopes are adjacent to streams and drainage-ways. Drainage is generally good; however, there are many shallow, oval depressions, known as Carolina Bays, that lack natural surface outlets. They vary in size from a few acres to more than 1,500 acres.

Dillon County is made up of two broad physiographic areas: the Southern Coastal Plain and the Atlantic Coast Flatwoods. The soils in both areas are sedimentary. They were transported from other areas by the ocean or rivers and were deposited in their present position.

Most of the County is in the Southern Coastal Plain. A small area in the southeastern portion of the County adjacent to the Lumber River is in the Atlantic Coast Flatwoods. This area is nearly level and very poorly drained.

Topographic constraints appear to pose little deterrent to development. However, since the County is relatively flat, with only slight-to-moderate slope, hard rains often create flooding conditions, standing water, silting of creeks and streams, and health or safety hazards.

The Little Pee Dee River dissects the County in a north/south direction, the Great Pee Dee River serves as the southwestern boundary line, while the Lumber River provides a portion of the northeastern boundary.

Civil Divisions

There are three (3) municipalities in Dillon County, all of which participated in development of the initial Hazard Mitigation Plan and this update. These are the City of Dillon, Town of Lake View, and Town of Latta. These governmental units provide the basic structure of the decision-making framework. The County has a total surface area of 407 square miles, of which approximately 1.71 square miles are water.

2.2 General Land Use/Development Patterns

To assess potential hazard risk, it is important to inventory and examine the County's current land uses and patterns of development. This helps to identify areas that may be particularly vulnerable, as discussed in Section 3.0. The following information on land use cover for Dillon County was taken from the Dillon County Comprehensive Plan.

EXISTING LAND USE PATTERNS

Approximations of existing land use acreage in the County are provided in the accompanying table. The data were derived from a digital land cover map of the state which was prepared by the South Carolina Department of Natural Resources (SCDNR) in 1992.

The table indicates that land cover in Dillon County is divided into six broad categories: urban/built-up, agricultural, forest, wetland, barren lands, and water. More specific groupings are identified under these broad categories. A land cover map follows the table.

The land cover table indicates that forest and agricultural land coverage dominate the County, totaling over 254,000 acres of the 260,192 in the County (97.7 percent of the total). Only a small portion of the land in Dillon County -- less than 2 percent -- is developed. A great majority of this development lies in or adjacent to the City of Dillon and the Towns of Latta and Lake View. Other concentrations of development also exist in the Hamer and Little Rock areas. Elsewhere, the County remains predominantly rural.

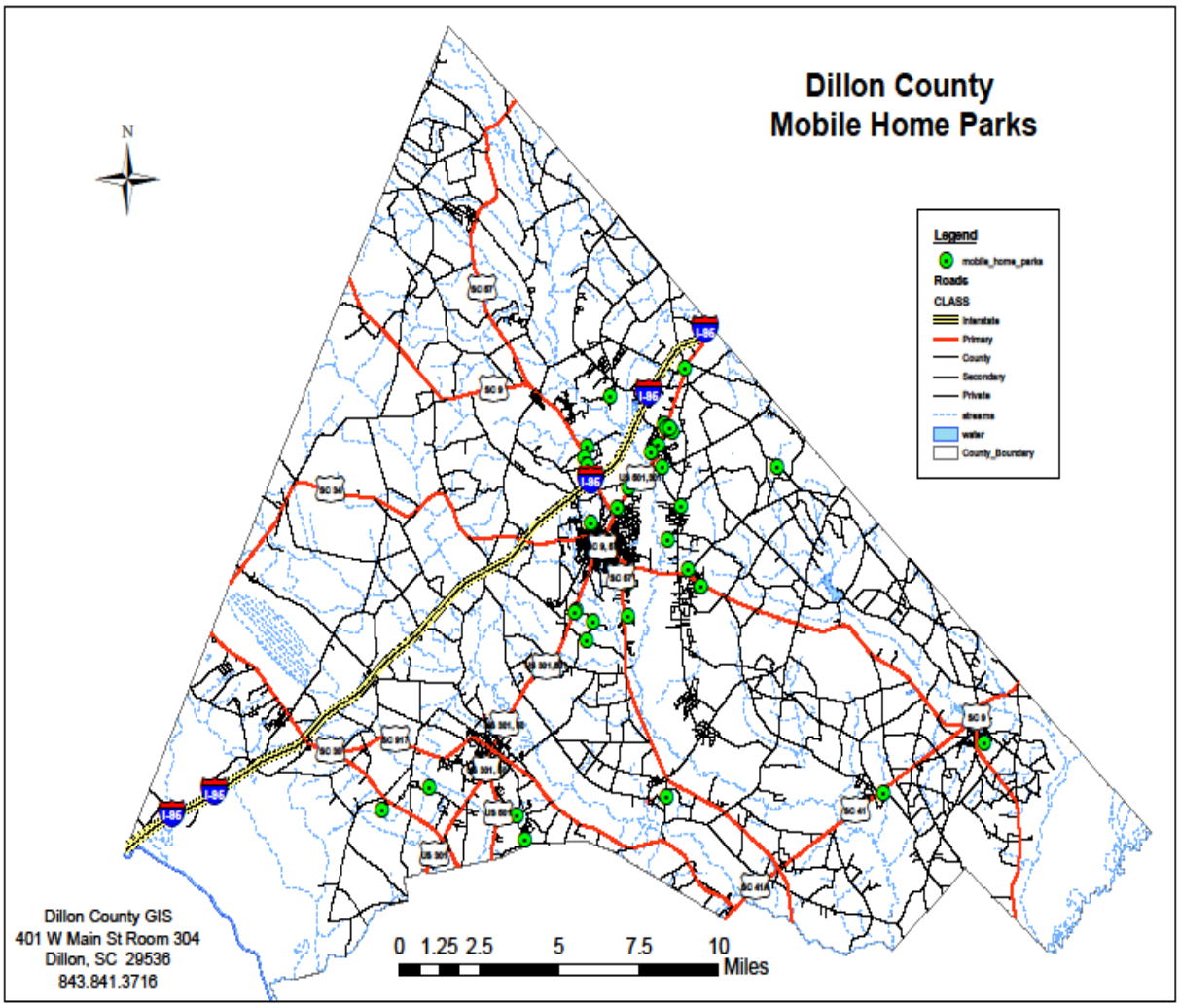
The following discussions review the major land use categories in the County.

2.2.1 Residential Land Use - Residential development is by far the largest non-agricultural use of land in the County. The largest concentrations of residential land are in the Dillon, Lake View, and Latta urban areas, in the municipalities and in surrounding subdivisions. Other concentrations are found in isolated rural neighborhoods (Riverdale, Little Rock, Hamer, Linkside, Mt. Calvary, Floydale, Fork, Bingham) and in strip residential activity along rural roads.

Land in single-family and multi-family residential development makes up about 1.4 percent of the total County land area. Residential concentrations are scattered throughout the County, but are primarily concentrated in and around the municipalities of Dillon, Lake View, and Latta, as well as the Town of Sellers that is situated on the border between Dillon County and Marion County.

Residential uses in unincorporated Dillon County are basically limited to conventional single family homes and mobile homes. In fact, a considerable portion of residential growth in the unincorporated area has consisted of mobile homes, both in individual locations and in mobile home parks. Well over 4,200 mobile homes exist in the County, a sizeable portion of the 12,679 housing units in 2000 (one in approximately six units). The American Community Survey (ACS) estimates the number of mobile homes in 2009 to have been 4,547. Most exist outside of municipal boundaries, where their location and setup are regulated by Dillon County. As of August 2011, there are 34 mobile home parks and 86 mobile home subdivisions in Dillon County. Figure 2-3 below shows mobile home parks in the County.

Figure 2-3 Dillon County Mobile Home Parks



From 92 percent of all housing in 1970, single family dwellings dropped to 59 percent of the total by 2000. Mobile homes grew the most, increasing by over 1,000 percent. Multi-family housing grew by 237 percent between 1970 and 2000 and declined by 34 percent between 1990 and 2000.

2.2.2 Commercial Land Uses – Commercial and industrial development makes up less than one percent of the total County land area. Similar to residential development, commercial and industrial development is concentrated primarily in the City of Dillon area. There are, however, commercial nodes in both Lake View and Latta, and around the Interstate 95 interchanges with S.C. 9 and S.C. 34 near Dillon, and at S.C. 38 in the Oak Grove community near the Town of Latta. Designated commercial/industrial parks are located at the I-95/S.C. 34 interchange and on S.C. 917 near the Town of Latta. A major commercial interest along the interstate at the State line is South of the Border, a travel center/amusement complex catering mostly to tourists.

Scattered small commercial development, usually country stores, convenience stores, and service stations are widespread throughout the unincorporated areas of the County. Most of this type development is at rural crossroads, serving principally neighboring residential areas.

2.2.3 Industrial Land Uses - Unlike commercial development, there are numerous industrial uses in the unincorporated area of the County. Most of the major industrial employers are located in or near the urban centers of Dillon and Latta. Many of these industries chose an urban setting for their facility, primarily because of water and sewer availability. There is little pattern to these scattered sites except gravitation to the interstate and U.S. highways and the availability of urban services. As stated above, designated commercial/industrial parks are located at the I-95/S.C. 34 interchange and on S.C. 917 near the Town of Latta.

2.2.4 Public/Semi-Public Land Uses - There are a variety of educational, religious, recreational and governmental buildings and uses in the County that constitute public or semi-public land uses. Most governmental offices are within municipal boundaries, but the rural fire stations, are examples of these uses in unincorporated areas.

There are a number of recreation facilities in the County (many within municipal limits), including the Little Pee Dee State Park, discussed in the recreation section of the Community Facilities Element.

2.2.5 Agricultural, Rural and Open Space Uses - The bulk of land in the County is rural in nature, either vacant, forested, or in agricultural production. This rural/agricultural character is prevalent in all areas. Even in the Dillon, Lake View and Latta urban fringe areas, some agricultural activity is underway. Cropland production continues in the urban fringe, adjacent to industry, commercial and residential activity.

Cropland is located throughout the County. Approximately 43.8 % of the land in the County is used for agriculture, which includes both crops and animal feedlots. According to the U.S. Census Bureau, there were over 197 farms in Dillon County in 2002.

TABLE 2-3
DILLON COUNTY LAND USE/ LAND COVER CLASSIFICATION

	Acreage	% Of Total Land Area
Urban or Built-up Land		
Residential	3,648	1.4
Commercial and Services	696	.27
Industrial	81	.03
Transportation, Communications and Services	39	.01
Other Urban or Built-up Land	147	.06
Agricultural Land		
Cropland and Pasture	113,946	43.8
Orchards, Groves, Vineyards, Nurseries, and Ornamental Horticultural Areas	36	.01
Forested Land		
Deciduous Forest Land	77,748	29.9
Evergreen Forest Land	1,879	.72
Mixed Forest Land	11,155	4.3
Water		
Streams and Canals	246	.09
Reservoirs	613	.24
Wetland		
Forested Wetland	49,382	19.0
Barren Land		
Strip Mines, Quarries, and Gravel Pits	181	.07
Transitional Areas	395	.15
TOTAL ACRES	**260,192**	

Source: S. C. Department of Natural Resources, 1992. (Classified in accordance with the Anderson Level I/II classification scheme)

2.3 Transportation

A variety of transportation modes serve Dillon County, from roadways and transit, to airports and railroads.

Roadways

Highways - Major highways serving Dillon County include routes such as Interstate 95, U.S. Highways 301 and 501, and S.C. Primary Highways 9, 34, 38, 41, 57, and 917. The primary link (U.S. 301 and 501) between the communities of Dillon and Latta, I-95, and S.C. 9 (through

Dillon) are all multi-lane facilities. Development tends to gravitate to such major arteries along the route or at controlled access points. In addition, I-95 is the major north-south highway along the eastern seaboard, bisecting the County from the Great Pee Dee River to the North Carolina state line. To the south, U.S. 301 links Dillon to Florence and U.S. 501 links Dillon to Myrtle Beach. To the north, both of these highways link Dillon to points in North Carolina. S.C. 9 also serves as a link to the beach in the east and to Bennettsville in the west.

These highways and numerous other roadways make up an extensive network of arterials, collectors, and local roads. Definitions of these terms are given below.

Major Arterials

- Interstates - The primary function of these roads is to carry large volumes of traffic with complete control of access and little or no land service. They are primarily intended for long trips.

- U.S. and S.C. Primary Highways - These arterials move large volumes of vehicular traffic to and from the expressway; interconnect principal traffic generators within urban areas and important rural roads; and facilitate the movement of through traffic.

Collector Streets

- S.C. Secondary Highways - These streets filter traffic to and from residential streets before their capacity is exceeded. They move traffic to and from arterials and local traffic generators such as shopping centers, schools, etc.

- As a secondary function, collector streets provide access to abutting property.

Local Residential Streets

- County and Private Roads - The sole function of a local residential street is to provide access to adjacent land. In most cases, local residential streets carry volumes of less than 1,000 per day.

The accompanying Table 2-4 provides the miles of each classification of road in Dillon County.

It is expected that the proposed Interstate 73 will be constructed through a portion of Dillon County within the next ten years. This project would create an interstate highway from Ohio to Myrtle Beach, South Carolina generally along the S.C. Highway 38 route in the County.

The transportation network in Dillon County consists of a variety of road types that serve the towns and the agricultural and rural areas. The County road network is essential to the safe movement of people and goods, and directly influences growth patterns and economic development throughout the County. The system includes a variety of road types, from multi-lane freeways to local gravel roads.

TABLE 2-4 ROADWAY MILES - DILLON COUNTY

ROADWAY TYPE	MILES
Interstates	23.4
U.S. Highways	20.0
S.C. Primary Highways	102.4
S.C. Secondary Highways	538.5
County-Maintained Roads	263.5
Private Roads	60.5
Total	**1,008.3**

Source: Pee Dee Regional Council of Governments, 2000.

Transit

Mass Transit - The Pee Dee Regional Transportation Authority (PDRTA), a private, not-for-profit agency, is the single provider of fixed route transit service in Dillon County. PDRTA provides public transportation services, transporting persons to jobs, medical facilities, etc. PDRTA was founded in 1974 and began operations in 1976 when the South Carolina General Assembly designated areas of the state as regional transportation centers. Dillon County was an original member along with Florence, Darlington, Marion, Marlboro, and Chesterfield Counties. Services in Williamsburg County were added later, and in 1976, Lancaster, Chester, and York Counties joined PDRTA, making it the largest regional transportation authority in the state.

PDRTA's main office is located in Florence. A satellite office in Dillon (located on Highway 301, North) is one of about six located around the authority's service area. Each is staffed with a transportation manager, coordinator, and dispatchers in addition to a fleet of radio-equipped vehicles to meet the needs of the Pee Dee Region including urban, fixed route, rural fixed route, commuter, intercity feeder, and human service transportation.

Airports

Airport - Dillon County operates a small general purpose airport facility west of the City of Dillon on Highway 9, West near I-95. The airport has a 3,000 x 60-foot runway, lighting, and a rotating beacon. Low lead fuel and auto gas are available at this facility. Also, small crop dusting airstrips are located near Latta at Minturn and at Little Rock.

The Florence Regional Airport, located in the City of Florence approximately 27 miles south of the City of Dillon, provides general aviation services and is fully equipped to receive large corporate jets, charter, and privately owned aircraft. Air charter, flight instruction, aircraft rental, as well as aviation line services such as refueling and transportation are some of the additional services available.

Railroads

Rail Service - Rail freight service is provided in Dillon County by the CSX Railroad. This rail line is a part of the main north-south CSX line that runs through Dillon and Latta along U.S. 301.

AMTRAK offers passenger rail service to the County with a stop at the depot on Main Street in Dillon.

2.4 Surface Water

Surface Water - The State of South Carolina contains all or parts of four major river basins: the Pee Dee, Santee, Ashley-Combahee-Edisto (ACE), and the Savannah. The Pee Dee River Basin which encompasses the northeastern section of South Carolina, has five sub-basins (Pee Dee River, Lynches River, Little Pee Dee River, Black River, and Waccamaw River).

Most of Dillon County is located in the Little Pee Dee River Sub-basin. A small portion of the County is located in the Pee Dee River Sub-basin. The Little Pee Dee River Sub-basin is located in the northeast portion of the Pee Dee region, sharing a common border with North Carolina and encompassing portions of four South Carolina counties (Dillon, Marion, Horry, and Marlboro). The sub-basin is approximately 1,100 square miles in area.

The Little Pee Dee River is the dominant hydrologic feature of the Little Pee Dee River Sub-basin, along with a major tributary, the Lumber River. Headwaters for both streams occur in the Sandhill region of North Carolina. Several small to moderately sized tributary streams (Buck Swamp, Bear Swamp, and Lake Swamp) drain the sub-basin. (See accompanying hydrology map.) Typical of many Coastal Plain streams, extensive swamplands are associated with much of the main stem river and tributary streams, resulting in meandering and often ill-defined stream channels.

The Great Pee Dee, Little Pee Dee, and Lumber Rivers are both assets and hindrances to development. As large physical features, they can be a major deterrent to development crossing their boundaries. They become natural edges to development, even where bridge access is provided. The floodplains of the rivers and their tributaries are also constraints to development in many internal portions of the County. They, too, become edges to development.

The rivers also represent a major recreational opportunity for the public and a tremendous supply of raw water that is attractive to industrial activity. The Little Pee Dee River in this area has been made a part of the State Scenic Rivers Program. The lower 14 miles of the River in Marion and Horry Counties have been designated as a Scenic River, and work is underway to designate an additional 38 miles.
The are three rivers in Dillon County. The Little Pee Dee River flows generally in a north/south direction. The Great Pee Dee River serves as the border of a portion of the southwest County line, and the Lumber River is a portion of the northeast boundary line. Open water constitutes approximately .33 percent of the total land area in the County. This includes lakes, ponds, streams, rivers, creeks, and any other open water.

Ground Water -The northwestern part of the Little Pee Dee River Sub-basin is underlain by approximately 500 feet of unconsolidated sediments and obtains much of its ground water supply from the Middendorf and Black Creek Aquifer Systems. The southeastern portion of the sub-basin is underlain by up to 1,500 feet of sediments. The Black Creek Aquifer system is used rather extensively in this area as the ground water supply for large capacity wells. The Middendorf Aquifer is rather deep and becoming increasingly mineralized.

2.5 Floodplains

Portions of the County abutting creeks, the Great Pee Dee, Little Pee Dee, and Lumber Rivers are subject to periodic flooding. Such areas are not suitable for most types of development. Hundreds of acres of land in Dillon County (particularly the areas abutting the rivers) are poorly drained, frequently flooded or subject to standing water over extended periods. For a more precise location of areas subject to flooding, refer to the Flood Insurance Rate Maps for Dillon County.

The National Flood Insurance Program (NFIP) uses a standard of the 100-year floodplain as the indicator for restrictive areas for development. Flooding not only presents problems in reconstruction costs but also health hazards by possible contamination of water supplies and resources. Only functions which are unharmed by flooding such as agriculture, forestry, recreation, institutional open space and open space for housing or those uses which are inseparable from floodplains such as ports and harbors, marinas, and water related/water using industries should be developed in these areas. Dillon County and all municipalities participate in the NFIP and regulate development within the floodplain. (See Flood hazard assessment in Section 3 of this Plan for more information.)

The primary value of floodplains is their role in natural flood control. Floodplains represent areas where excess water can be accommodated or stored in a flood event. If uninterrupted by development, the area shown on a map as floodplains should be able to handle the most severe flood, i.e. those that have a probability of occurring once every one hundred years. Because these areas are subject to potential flooding and/or intermittent wetness, they are not generally appropriate for development. Putting structures in the floodplain puts people and property at risk. It is in a community's best interest to preserve and protect the floodplain.

2.6 Wetlands

Wetlands consist of transitional areas between uplands and open water. Wetlands perform important ecological functions, such as flood water storage and water treatment. Additionally, they provide wildlife habitat and recreational opportunities. In Dillon County, many were drained for cropland through the creation of "w" ditches, which consist of a narrow, raised field with a ditch on either side. Many of these ditches still exist. In the 1970s, federal and state legislation were enacted that protected wetlands.

Wetlands in Dillon County are included in the .33 percent of surface water described in Section 2.2.8. Most wetlands that remain in the County are generally located adjacent to rivers, creeks, and floodplains. Many are forested wetlands, which include swamps and bogs.

2.7 Emergency Services and Facilities

Public emergency services are an important resource to hazard mitigation planning, because these services will have direct involvement in a hazard event.

All municipalities in Dillon County maintain their own police departments. The unincorporated areas rely on the Dillon County Sheriff's Department for law enforcement.

Fire and emergency response in Dillon County is offered through a patchwork of systems operated by the County, municipalities, and volunteers. The Dillon County Rural Fire Department as well as the Dillon Fire Department, Latta Fire Department, and the Lake View Fire Department provide fire protection services. The Dillon County Emergency Medical

Services provide emergency response services along with the Dillon Rescue Squad, Lake View Rescue Squad, and the Latta Rescue Squad. The bulk of the fire and EMS providers in the County are volunteers.

Dillon County has an Emergency Operations Plan (EOP) to coordinate these services. The EOP provides general steps of action and chain of command for the County and municipal emergency response personnel when responding to various disasters. The EOP is used to coordinate the County and local units of government during times of response and recovery, as well as providing a link between County and municipal plans.

2.8 Parks

Parks are susceptible to high winds, heavy precipitation, ice and surface water contamination due to a variety of hazards.

Dillon County has one county park operated by the SC Department of Parks, Recreation and Tourism that includes campgrounds, picnic sheds and facilities, and lake. The County also operates a multi-purpose recreation park in the City of Dillon. There are multi-purpose recreation parks scattered throughout the 3 incorporated jurisdictions in the planning area.

2.9 Critical Community Facilities

Community facilities are of particular importance in hazard mitigation planning for a number of reasons. These types of facilities can house large numbers of people and are also important to the day-to-day function of a community; therefore they are vulnerable to damages caused by hazards. Those same facilities may also be needed to provide shelter or medical care during a hazard event. Hospitals, for example, are needed to treat people who have been injured in a hazard event. Likewise, if a hospital were to be hit by a tornado, patients and staff would be in danger, and millions of dollars worth of medical equipment could be lost or damaged. Table A-3 listing critical community facilities in the County can be found in the Appendix. These facilities were identified by inventory and community input.

SECTION 3.0 RISK ASSESSMENT

3.1 Hazard Identification and Prioritization

A list of hazards that could potentially affect Dillon County was distributed on May 23, 2011 to the members of the Hazard Mitigation Planning Committee for review and comment by the Committee staff provided by the Pee Dee Regional Council of Governments. This information included hazard events and vulnerability information from the 2007 approved plan, as well as new maps and charts provided by the Hazards & Vulnerability Research Institute (HVRI), University of South Carolina School of Arts & Sciences. The South Carolina Hazard Mitigation Planning Officer, located at the SC Division of Emergency Management, recommended use of this data resource for the hazard mitigation planning update process. The list of hazards presented is as follows:

Drought
Earthquake
Flooding
Hailstorm
Hazardous Materials
Hurricane
Tornadoes
Thunderstorm/Lightning
Wildfire
Windstorm
Winter Storms (incl. ice on bridges)

Also, community surveys on hazard events experiences and mitigation recommendations were distributed to all Committee members on May 23, 2011 for completion and distribution to other key persons throughout the County and in each of the municipalities. The first question on the survey asked respondents to rank hazards on the following scale:

- High = likely to affect your community/past history of such events
- Medium = may affect your community/some history of such events
- Low = not likely to affect your community/limited history of such events

The HMPC met on July 11, 2011 and reviewed hazard events and vulnerability information obtained from the Hazard Vulnerability Research Institute, University of South Carolina. Included were average annual SHELDUS losses (1960 – 2009) for hazard events, and hazard frequency profile data for Dillon County (see Table A-1 and A-2, Appendix) The Committee then collectively grouped all hazards into the High, Medium, and Low categories as indicated on the Community Survey form. Following this exercise, the Committee discussed and collectively ranked the hazards in order of priority within each category, resulting in an overall ranking of hazards from 1 (highest priority) to 12 (lowest priority) for planning purposes as shown in Table 3-1 on the following page.

Table 3-1 HMPC Hazards Ranking Results

HAZARD	RANKING
Thunderstorms/Lightning	1
Drought/Heat	2
Wildfire	3
Winter Storms (incl. ice on bridges)	4
Tornadoes	5
Hurricane	6
Hailstorm	7
Windstorm	8
Hazardous Materials	9
Flooding	10
Earthquake	11

For the 3 municipalities, a total of 2 community surveys were returned. Surveys returned from residents of unincorporated areas of the County totaled 2. The Committee and staff reviewed these surveys and considered the comments as decisions were made throughout the planning process.

Tsunamis, landslides, and dam failure were not included in this Plan because they have a very low risk of occurrence, and/or it is not geographically feasible for these hazards to occur in Dillon County.

3.2 Vulnerable Structures/Facilities

Some specific vulnerabilities and estimated losses are documented in the following risk assessment, however, there are a number of structures and areas within Dillon County that are vulnerable to different types of hazards. Due to the large number of structures, a table listing these structures and facilities is included in the Appendix. Following are several maps obtained from HVRI showing the locations of selected critical community facilities in Dillon County.

Some facilities and systems in the community are very important to the health, safety and welfare of the community. Therefore, high priority is given to assessing their vulnerabilities to future disasters and proposing mitigation initiatives to address identified vulnerabilities. For purposes of this plan, jurisdictions have identified selected facilities as “critical”. Such facilities have been defined in this plan as those facilities that (1) should not lose operational status during a disaster, (2) should return to operational status within 24 hours following a disaster, or (3) should return to operational status within 72 hours following a disaster. Other definitions exist, including that of the State Hazard Mitigation Officer: (1) the facility should continue to operate during a hazard event, or (2) the facility should return to operational status within forty-eight [48] hours if it loses operational status during a hazard event. The adopted definition was included in the 2007 plan and was not changed for this update. This was provided to the Dillon County Disaster Preparedness (DCDP) Director and the Dillon County hazard mitigation planning committee (HMPC).

The listing of critical facilities and critical facilities vulnerability assessments that were included in the 2007 Dillon County Hazard Mitigation Plan were provided by the COG staff to the HMPC. The DCDP and HMPC were requested to edit the critical facilities information and to

update as needed the vulnerability assessments. Several additions and other edits were made in this database by the Committee and staff. The critical facilities tables in the Appendix were approved by the County's hazard mitigation planning committee.

The critical facilities vulnerability assessments were utilized by the HMPC to evaluate the need for proposing mitigation initiatives to address the defined vulnerabilities, if any, for inclusion in the Dillon County mitigation plan. Given the large numbers of facilities that should be assessed for their vulnerabilities, the HMPC has attempted to identify and assess those of most concern, such as critical facilities. As the planning process continues, the HMPC and staff will continue to add more facility vulnerability assessments to the database, and to consider those with highest vulnerabilities as warranting proposing of mitigation initiatives."

Following are a number of maps showing locations of selected critical facilities in Dillon County. The maps were obtained from the Hazards and Vulnerability Research Institute (HVRI), University of South Carolina School of Arts & Sciences, Columbia, South Carolina.

Figure 3-1

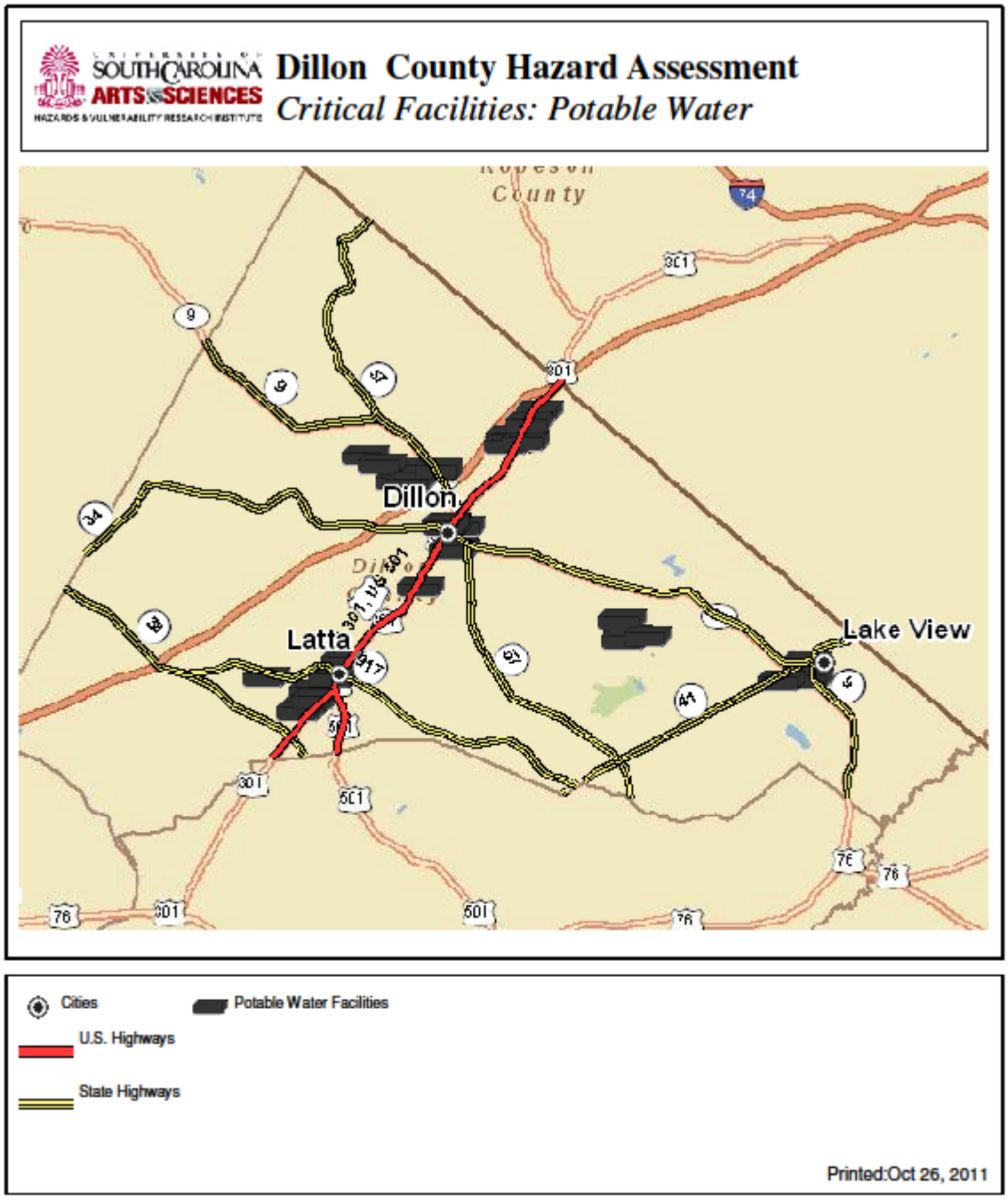

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Critical Facilities: Potable Water
Dillon
Latta
Lake View
Cities
Potable Water Facilities
U.S. Highways
State Highways
Printed:Oct 26, 2011

Figure 3-2

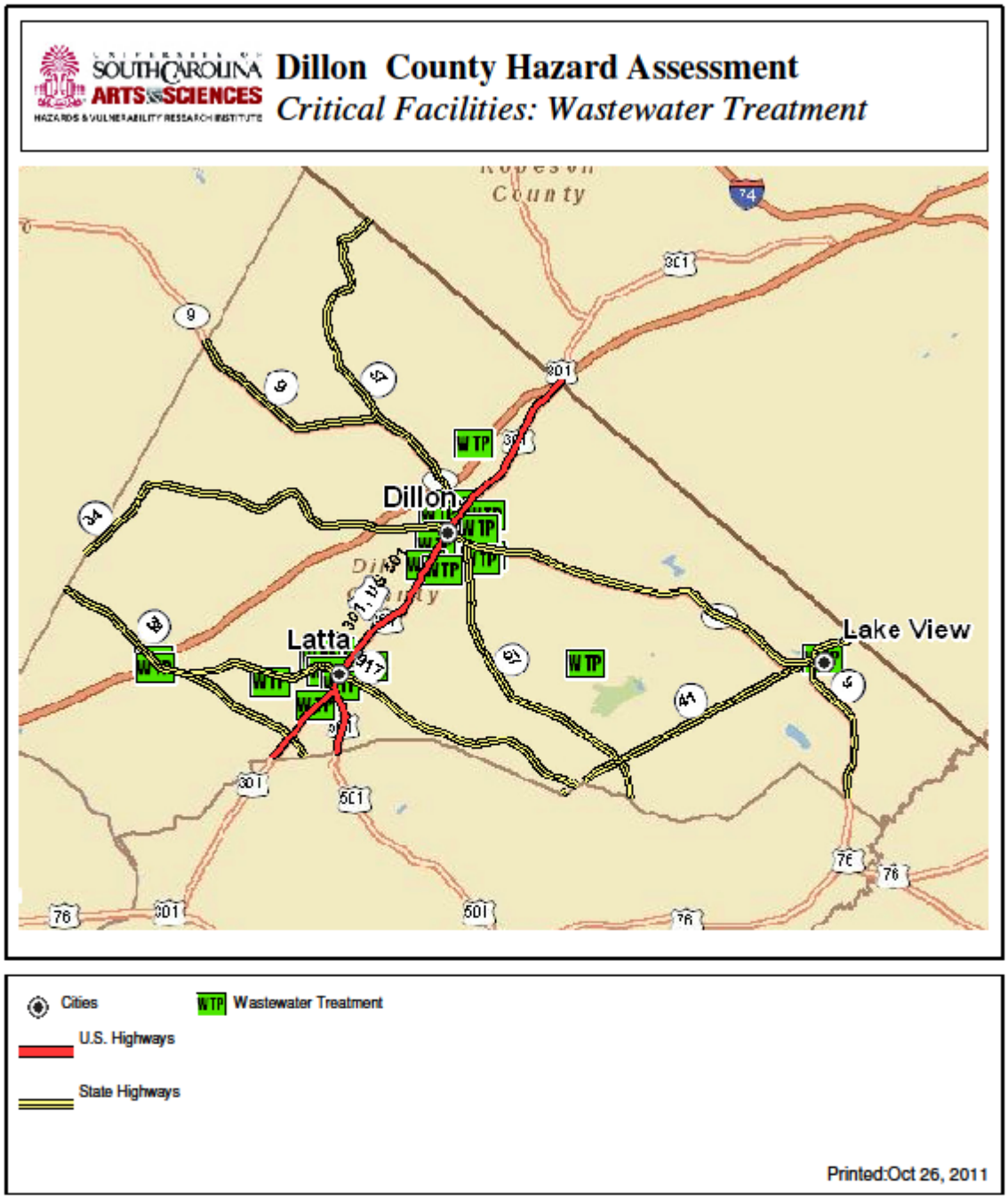

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Critical Facilities: Wastewater Treatment
Dillon
Latta
Lake View
WTP
Cities
Wastewater Treatment
U.S. Highways
State Highways
Printed:Oct 26, 2011

Figure 3-3

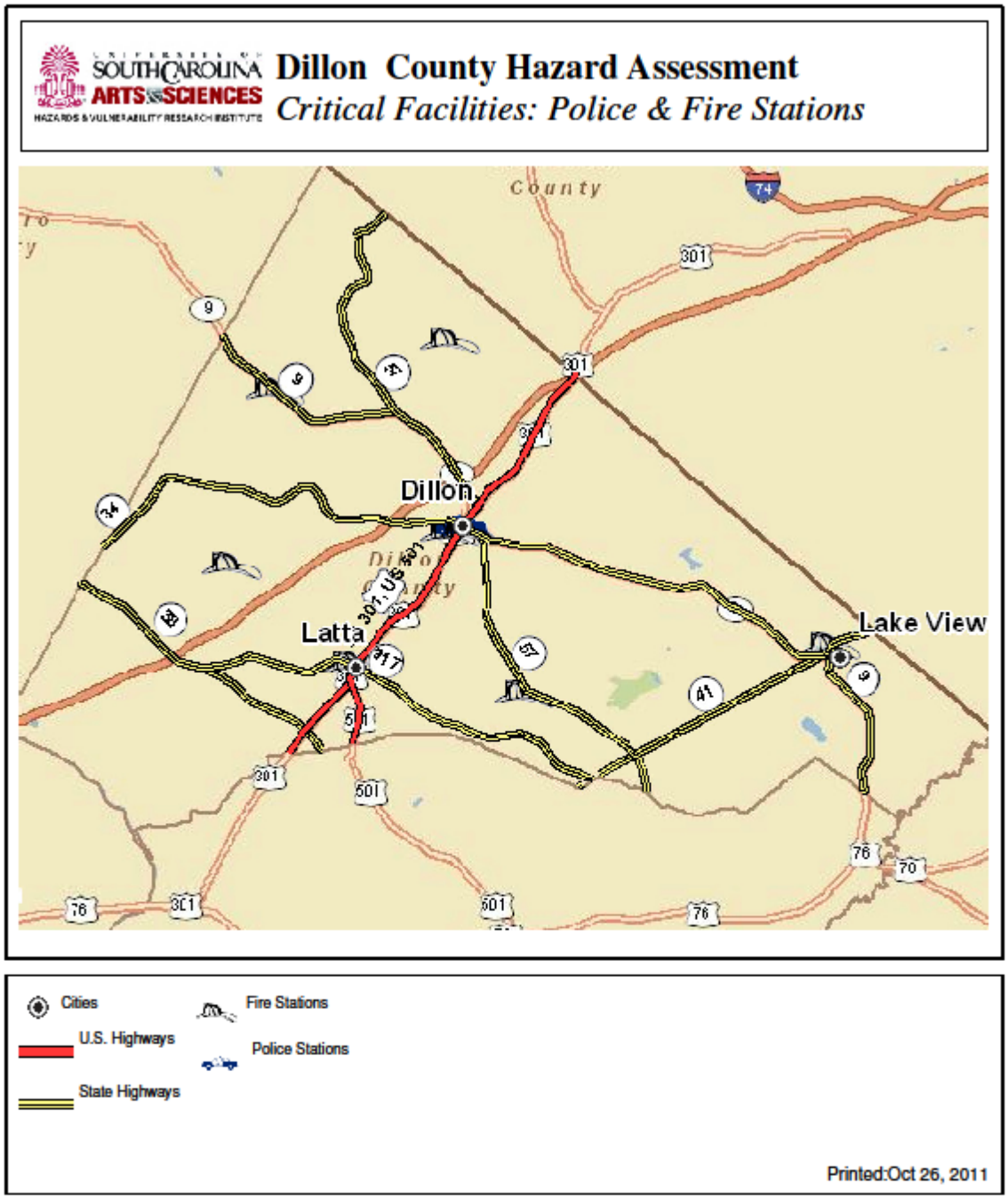

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Critical Facilities: Police & Fire Stations
Dillon
Latta
Lake View
301
501
74
76
70
Cities
U.S. Highways
State Highways
Fire Stations
Police Stations
Printed:Oct 26, 2011

Figure 3-4

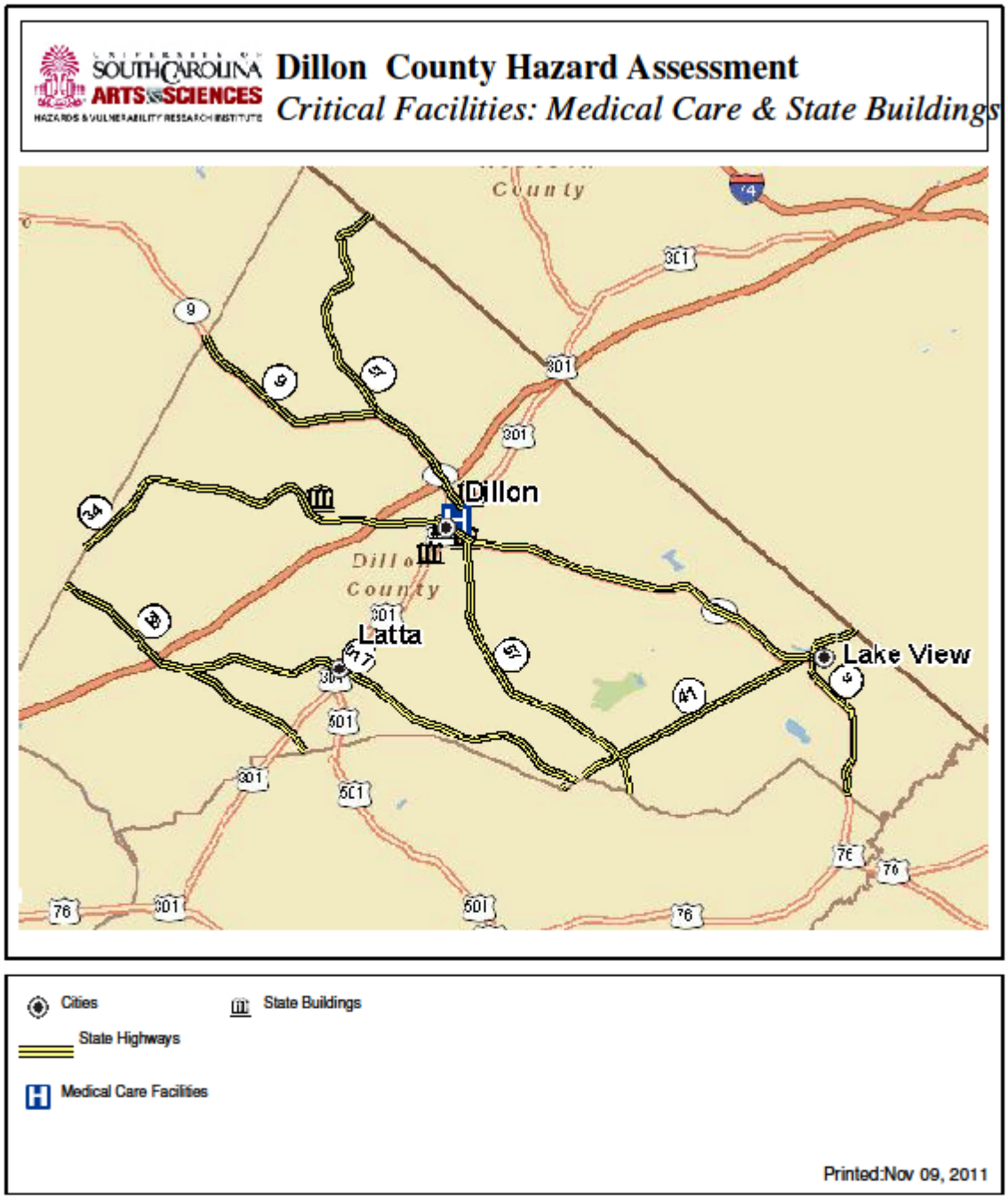

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Critical Facilities: Medical Care & State Buildings
Dillon
Latta
Lake View
Dillon County
Cities
State Buildings
State Highways
Medical Care Facilities
Printed:Nov 09, 2011

Figure 3-5

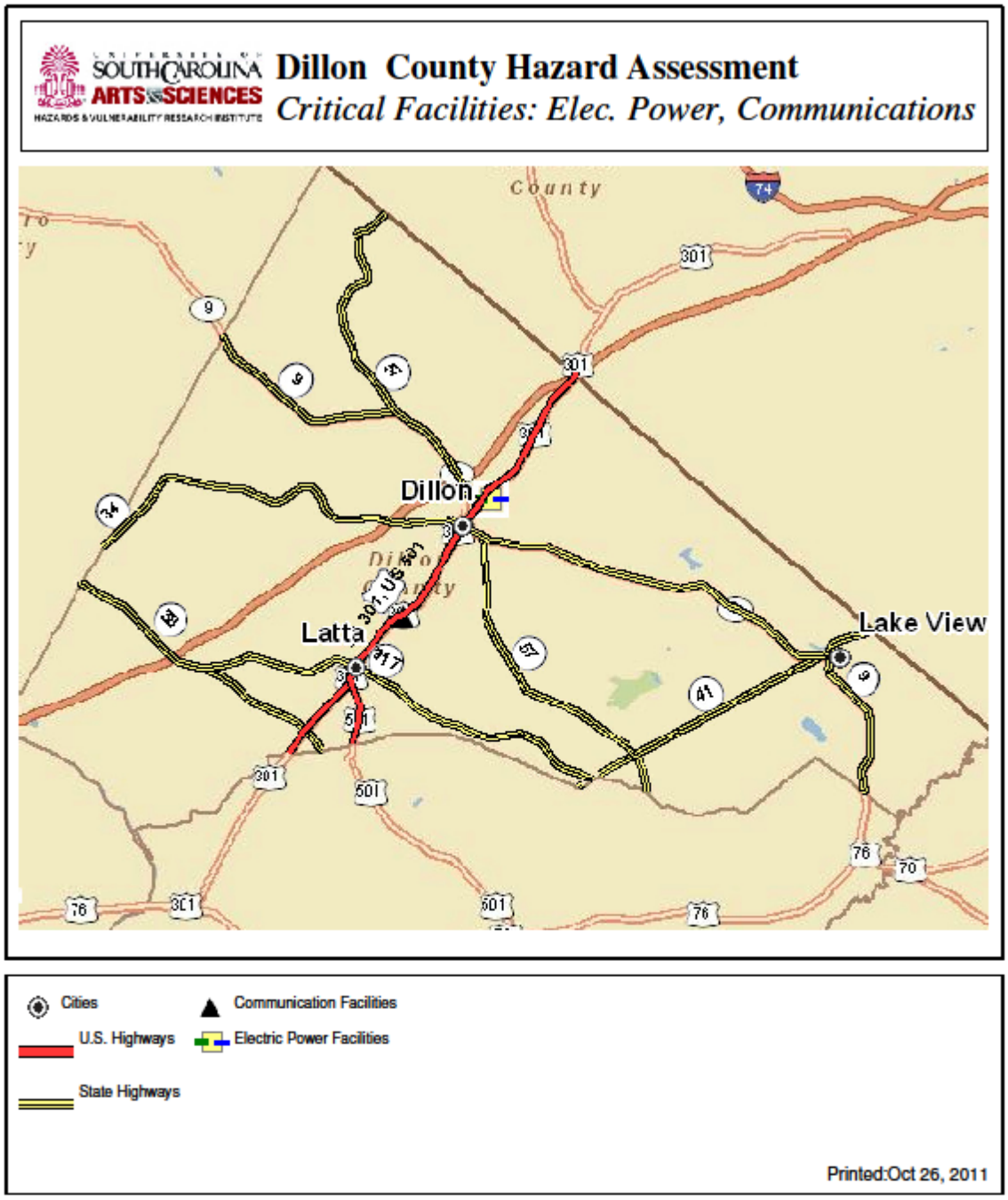

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Critical Facilities: Elec. Power, Communications
Dillon
Latta
Lake View
Cities
Communication Facilities
U.S. Highways
Electric Power Facilities
State Highways
Printed:Oct 26, 2011

Figure 3-6

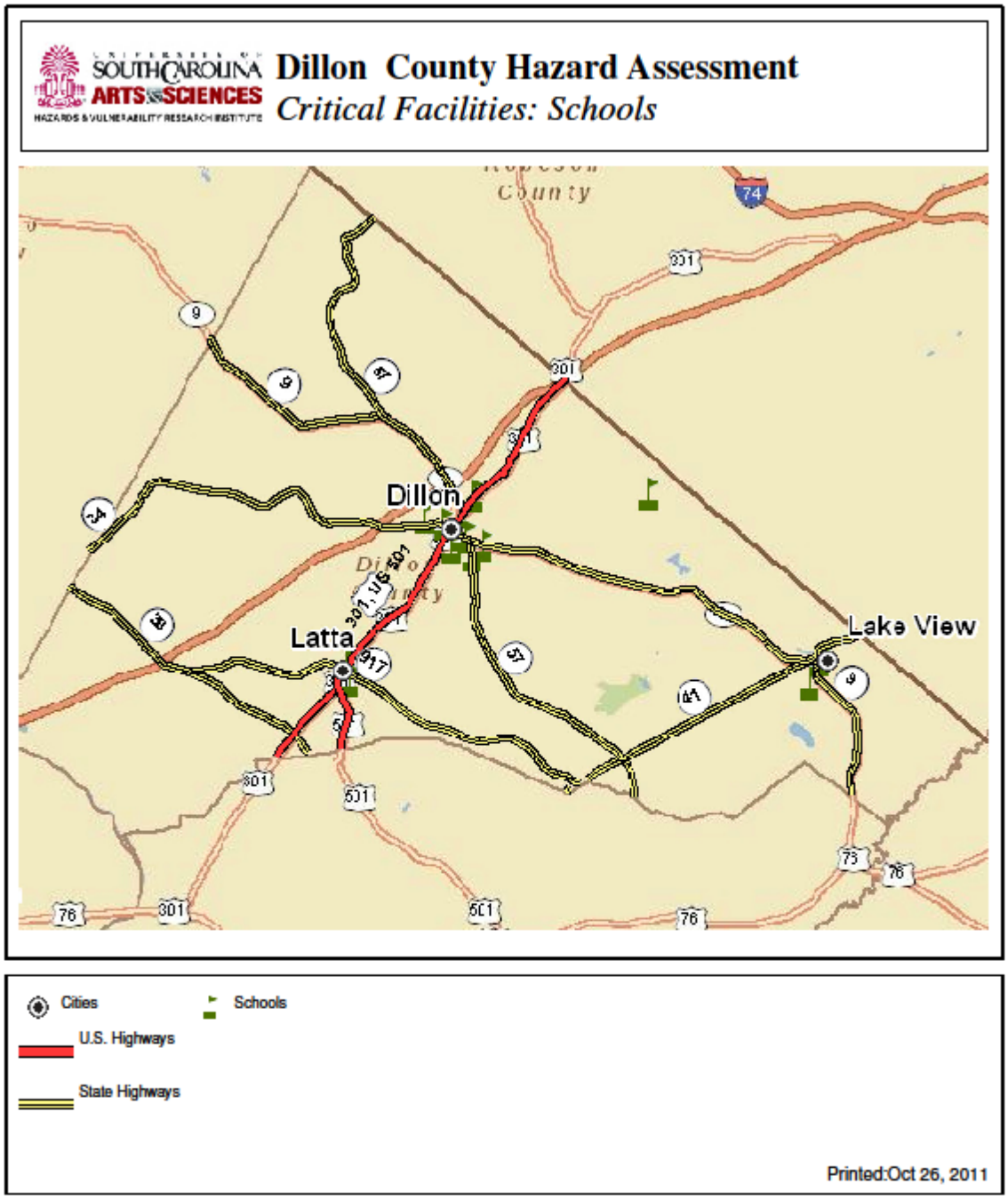

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Critical Facilities: Schools
Dillon
Latta
Lake View
Cities
Schools
U.S. Highways
State Highways
Printed:Oct 26, 2011

Figure 3-7

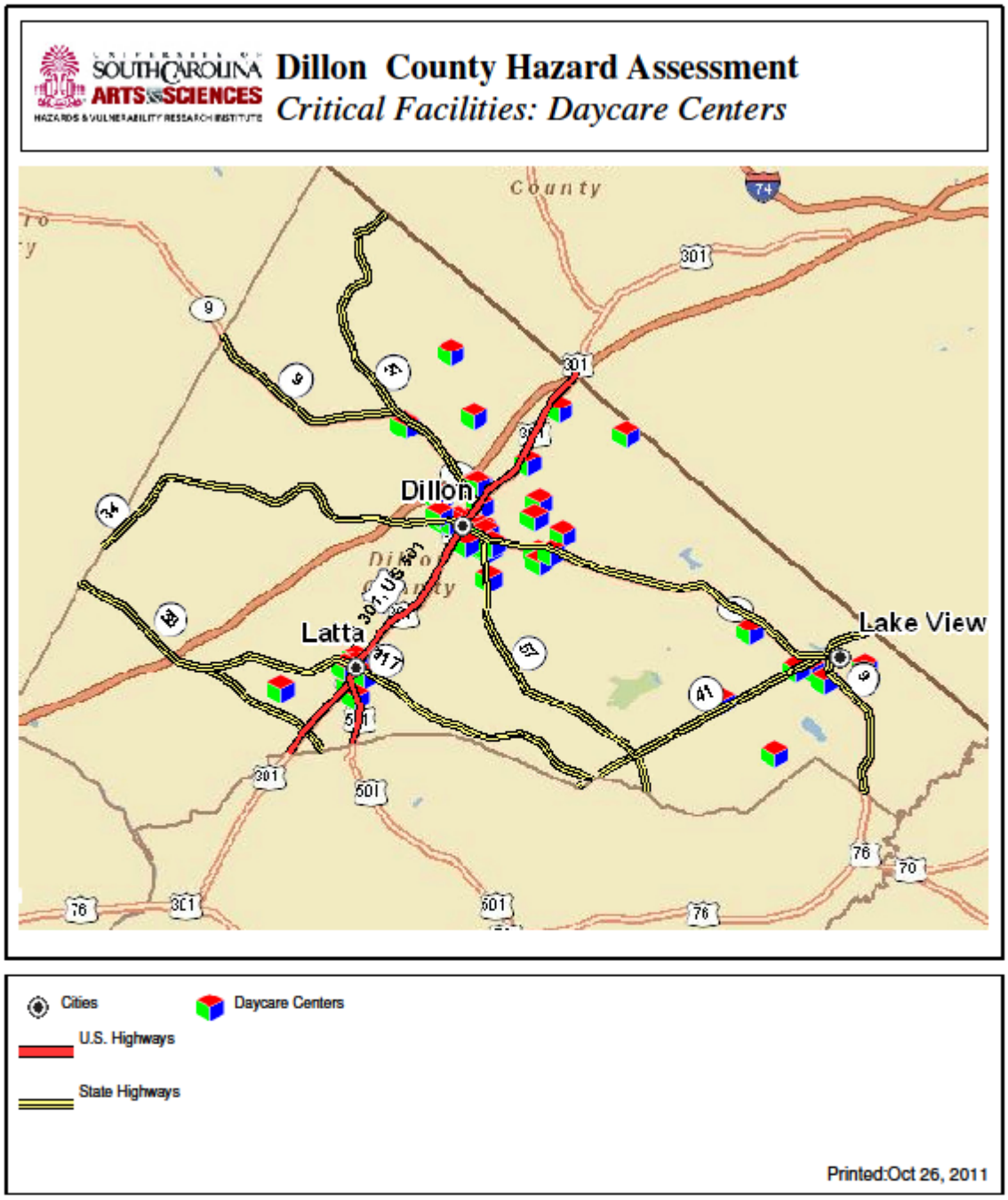
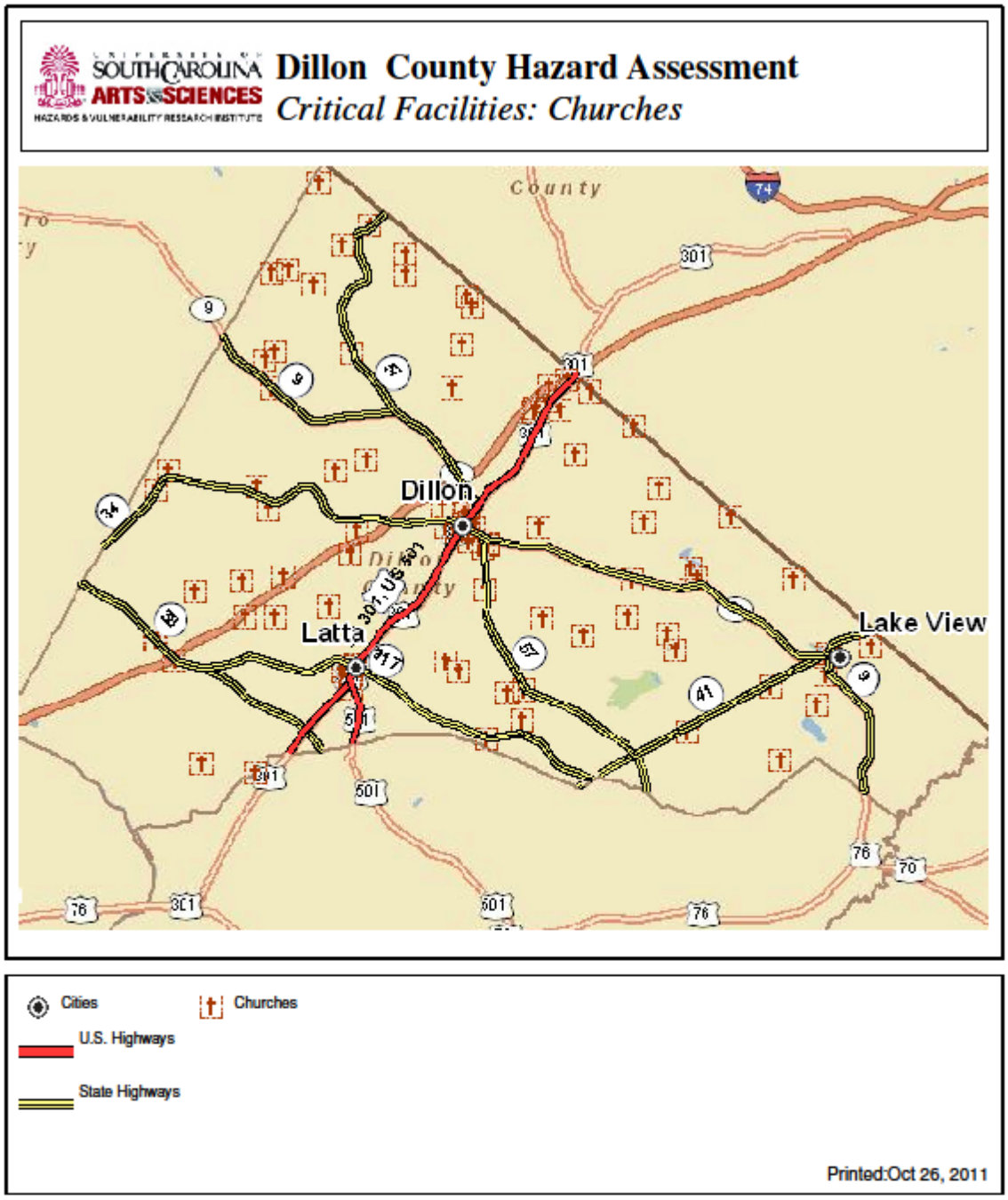

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Critical Facilities: Daycare Centers
Dillon
Latta
Lake View
Cities
Daycare Centers
U.S. Highways
State Highways
Printed:Oct 26, 2011

Figure 3-8


SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Critical Facilities: Churches
Dillon
Latta
Lake View
Cities
Churches
U.S. Highways
State Highways
Printed:Oct 26, 2011

3.3 Vulnerability and Risk Assessment by Hazard

3.3.1 Thunderstorms/Lightning

Hazard Analysis

According to FEMA, a thunderstorm is formed from a combination of moisture, rapidly rising warm air and a force capable of lifting air such as a warm and cold front, a sea breeze or a mountain. All thunderstorms contain lightning.

Lightning is an electrical discharge that results from the buildup of positive and negative charges within a thunderstorm. When the buildup becomes strong enough, lightning appears as a "bolt." This flash of light usually occurs within the clouds or between the clouds and the ground. A bolt of lightning reaches a temperature approaching 50,000 degrees Fahrenheit in a split second. The rapid heating and cooling of air near the lightning causes thunder. In the United States, approximately 75 to 100 Americans are hit and killed each year by lightning.

According to the NWS, a typical thunderstorm is 15 miles in diameter and lasts an average of 30 minutes. Thunderstorms may occur singly, in clusters or in lines. Thus, it is possible for several thunderstorms to affect one location in the course of a few hours. Some of the most severe weather occurs when a single thunderstorm affects one location for a more extended period of time. Thunderstorms can carry an arsenal of accompanying hazards. In addition to thunder and lightning, thunderstorm can include heavy rain, high winds, and hail. Hail is produced by many strong thunderstorms, and can be smaller than a pea or as large as a softball. Heavy rains in short periods of time or steady rain for longer periods of time can also result in flooding and flash flooding. Thunderstorms are also often the precursors for tornadoes. Tornadoes are discussed fully in Section 3.3.6.

Thunderstorms are common across the southeastern United States. In Dillon County, historically May through August is the peak of thunderstorm activity in a given year. Thunderstorms peak in the afternoon and evening, when convectional heating is at a maximum.

The magnitude of thunderstorms can vary widely. Accuweather.com Senior Meteorologist Henry Margusity developed a classification system for tornadoes using what he calls a "TS Scale" similar to the Enhanced Fujita scale used for classifying tornadoes and the Saffir-Simpson scale for hurricanes. The Margusity scale shown below consists of five categories of thunderstorms based on a combination of their rainfall rate, maximum wind gusts, hail size, peak tornado and storm impact.

TS1: WEAK No tornadoes, no hail, winds less than 25 mph, only a few lightning strikes total, rainfall rates 0.03-0.10 of an inch per hour, no damage.

TS2: MODERATE No tornadoes, no hail, winds 25-40 mph, 1-10 lightning strikes per five-minute interval, rainfall rates 0.10-0.25 of an inch per hour, little damage--mainly limited to breakage of small tree branches and movement of lawn furniture.

TS3: HEAVY EF0 tornado possible, hail 0.25-0.75 of an inch in diameter, winds 41-57 mph, 10-20 lightning strikes per five-minute interval, rainfall rates 0.25-0.55 of an inch per hour, minor damage to small branches and roofs, with street flooding and lightning-sparked house fires possible.

TS4: INTENSE EF1-EF2 tornado possible, hail 1.00-1.50 inches in diameter, winds 58-70 mph, 20-30 lightning strikes per five-minute interval, rainfall rates 0.55-1.25 inches per hour, moderate damage--wind damage to trees and buildings, possible tornado damage, hail dents in cars, damage to crops, power outages, and flooding along streams, creeks and roadways.

TS5: EXTREME EF3-EF5 tornado possible, hail larger than 1.50 inches in diameter, winds greater than 70 mph, more than 30 lightning strikes per five-minute interval, rainfall rates greater than 1.25 inches per hour, severe damage--significant, widespread damage to trees and property, flooding, hail damage to property and crops, EF3-EF5 tornado damage possibly devastating, and widespread power outages.

While a thunderstorm may have characteristics of multiple categories, it would be categorized according to its highest-ranking criterion. For example, if a thunderstorm produces a 57-mph wind gust but no hail, it would be classified as a TS3 rather than a TS2.

(Source: http://www.accuweather.com/en/weather-news/should-there-be-a-ranking-syst/48089)

History in Dillon County

According to the hazard frequency profile for Dillon County provided by the South Carolina Integrated Hazards Assessment Tool, Hazards and Vulnerability Research Institute, University of South Carolina, there have been a combined total of 102 thunderstorm and high wind events in Dillon County between 1960 and 2009 (see Table A-1 in the Appendix). These storms resulted in 0.003 fatalities, 0.017 injuries, $15,757 average annual SHELDUS* property damage losses, and $18,504 average annual SHELDUS crop damage losses, largely due to strong winds, heavy rain, and hail (see Table A-2 in the Appendix). Though recorded measurements are not readily available, members of the County's HMPC recall maximum wind gusts of approximately 60 MPH and maximum rainfall rates of approximately 1-2 inches per hour for previous thurnderstorm events. As shown in Table 3-2, the top 10 of 57 total events in the SHELDUS data base accounted for 100% of property damage and 100% of crop damage (2009 inflation adjusted losses).

* SHELDUS is a county-level data set for the U.S. for 18 different natural hazard events types such as thunderstorms, hurricanes, floods, wildfires, and tornados. For each event the database includes the beginning date, location (county and state), property losses, crop losses, injuries, and fatalities that affected each county. The data were derived from several existing national data sources such as National Climatic Data Center's monthly Storm Data publications and NGDC's Tsunami Event Database. SHELDUS 8.0 includes every loss causing and/or deadly event between 1960 through 1979 and from 1995 onward. Between 1980 and 1995, SHELDUS reflects only events that caused at least one fatality or more than $50,000 in property or crop damages. Often casualties and damage information are listed without sufficient spatial reference and are shown with decimal places on the tables. This results from the fatalities, injuries and dollar losses being divided by the number of counties affected by an event.

Lightning events were reported over the past 16 years. Average annual SHELDUS losses for lightning are $4,713 property damage and $2,724 crop damage as shown in Table 3-3. Fatalities averaged 0.030 annually and injuries averaged 0.008 annually. Average annual SHELDUS losses for Wind events were $64,367 property damage and $142,946 crop damage. Due to the large number of events, only those for which the NCDC reported damages are listed in the tables. This gives a general idea of magnitude and severity of thunderstorms/lightning/wind events resulting in damages in Dillon County.

Also shown is a HVRI provided map depicting Lightning Frequency 1960-2009 (Figure 3-9). A map of thunderstorm events is not available.

While the specific extent of lightning strikes in Dillon County is not available, it is interesting to note that the National Weather Service estimates there are over 25 million cloud to ground strokes in the United States every year with Florida receiving the most per year of any state. From 1996 to 2005, South Carolina averaged over 459,000 cloud-to-ground strokes per year. (Source: http://www.dnr.sc.gov/climate/sco/Education/facts/lightning.pdf)

Vulnerability Assessment

All areas of Dillon County are vulnerable to thunderstorms and lightning. As with other hazards, the municipalities and surrounding areas are the centers of higher population and can be regarded as particularly vulnerable because there is more of a threat to human safety and property damage.

Severe thunderstorms have most of the same impacts as tornadoes, but usually to a lesser degree. As with tornadoes, mobile homes are among the most vulnerable structures when considering potential thunderstorm damage, due to the nature of their construction. It is much easier for severe thunderstorms to damage a mobile home than standard houses and buildings. As stated previously, well over 2,200 mobile homes exist in the County, a sizeable portion of the 12,679 housing units in 2000 (over one in five units). According to the 2010 Census, there are 4,547 mobile homes in the County, making up about 35 percent of the housing stock. Most exist outside of municipal boundaries, where their location and setup are regulated by Dillon County.

Figure 2-3 in the previous Section 2 showed the location of mobile home parks in Dillon County as of 2011. (A map of mobile home subdivisions will be available in early 2012.) Mobile home parks are defined as consisting of one parcel of land on which multiple mobile homes are located on rental lots. Mobile home subdivisions are defined as multiple, contiguous individual parcels of land with a single mobile home per parcel. The map indicates a concentration of mobile home parks south of I-95 in the vicinity of the City of Dillon, with lesser concentrations in the vicinity of the towns of Latta and Lake View.

There are 34 mobile home parks and 86 mobile home subdivisions scattered throughout Dillon County. According to the 2010 Census, there are 4,547 mobile homes in the County, making up about 35 percent of the housing stock. The City of Dillon has the highest number of mobile homes followed by the Town of Lake View. The Town of Latta has the fewest number of mobile homes.

Campgrounds and park shelters are also very vulnerable to tornadoes, as people may be caught in severe conditions with little or no shelter. Campgrounds are also often surrounded by trees, which presents an increased level of danger to campers from felled trees or falling limbs. There are a total of 3 formal campsites with a total of 223 campsites in the planning area (South of the

Border, 3346 Hwy. 301 North, Hamer – 100 campsites; Bass Lake Campground, 1449 Bass Lake Pl, Dillon – 73 campsites; Pee Dee State Park, 1298 State Park Rd, Dillon – 50 campsites); these are more heavily occupied in the late spring to early fall months when weather is warmer and more conducive to camping, which consequently is also the period of peak thunderstorm activity.

Thunderstorm damage is often widespread and can affect numerous other resources. Other resources that may be affected by a tornado include:

- Community facilities – hospitals, schools, nursing homes
- Public service – police and fire departments, social service organizations/shelters
- Utilities – power lines, telephone lines, radio and cell towers, public water supplies and wastewater treatment
- Transportation – debris blocking routes, public transportation not available
- Residential – garages, trees, siding, windows, chimneys, roofs
- Commercial – signs, windows, siding, billboards, roofs, loss of business
- Agriculture – outbuildings, crops, livestock, equipment
- Recreation – parks, forested lands

Future Probability and Potential Dollar Losses

With 104 occurrences in the SHELDUS database over 59 years, thunderstorms/lightning collectively are the second most frequently occurring hazard event in Dillon County (Wildfire is first with 1410 events). County residents can expect on average about two severe thunderstorms in any given year.

Historical data from HVRI was used to estimate potential future dollar losses due to severe thunderstorms. Estimated damages from past thunderstorms in Dillon County ranged from $15,036 adjusted property damage to almost $410,526 adjusted property damage per reported loss event. Dillon County might expect average annual property and crop damages of approximately $34,000 from severe thunderstorms. As the table at the end of this section show, the annual chance of a thunderstorm loss event is 172.88%, and for lightning it is 12.50%.

TABLE 3-2 THUNDERSTORMS WITH REPORTED DAMAGES
DILLON COUNTY - 1960 - 2009

Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Crop Damage
7/22/1996	Severe Storm/Thunder Storm - Wind	0	0	$410,525.88	0
6/10/1982	Hail – Lightning – Severe Storm/Thunder Storm – Wind	0.20	0	$269,851.35	$269,851.35
7/23/1996	Severe Storm/Thunder Storm - Wind	1.00	0	$136,841.96	0
5/8/1984	Severe Storm/Thunder Storm - Wind	0	0	$103,999.83	0
6/9/1995	Severe Storm/Thunder Storm - Wind	0	0	$43,162.07	0
6/12/2007	Severe Storm/Thunder Storm - Wind	0	0	$20,799.97	0
1/9/1968	Severe Storm/Thunder Storm – Winter Weather	0	0	$95,589.13	$9.54
6/27/1971	Hail – Lightning – Severe Storm/Thunder Storm – Wind	0	0	$64,999.22	$64,999.22
7/22/2000	Severe Storm/Thunder Storm - Wind	0	0	$15,036.09	0
3/17/1983	Coastal Flooding - Severe Storm/Thunder Storm - Wind	0	0	$23,550.72	$2,355.07
Total (top 10)		1.20	0	$1,615,570.35	$1,893,944.09
Total (57 events)		2.06	2.14	$1,615,570.35	$1,893,944.09

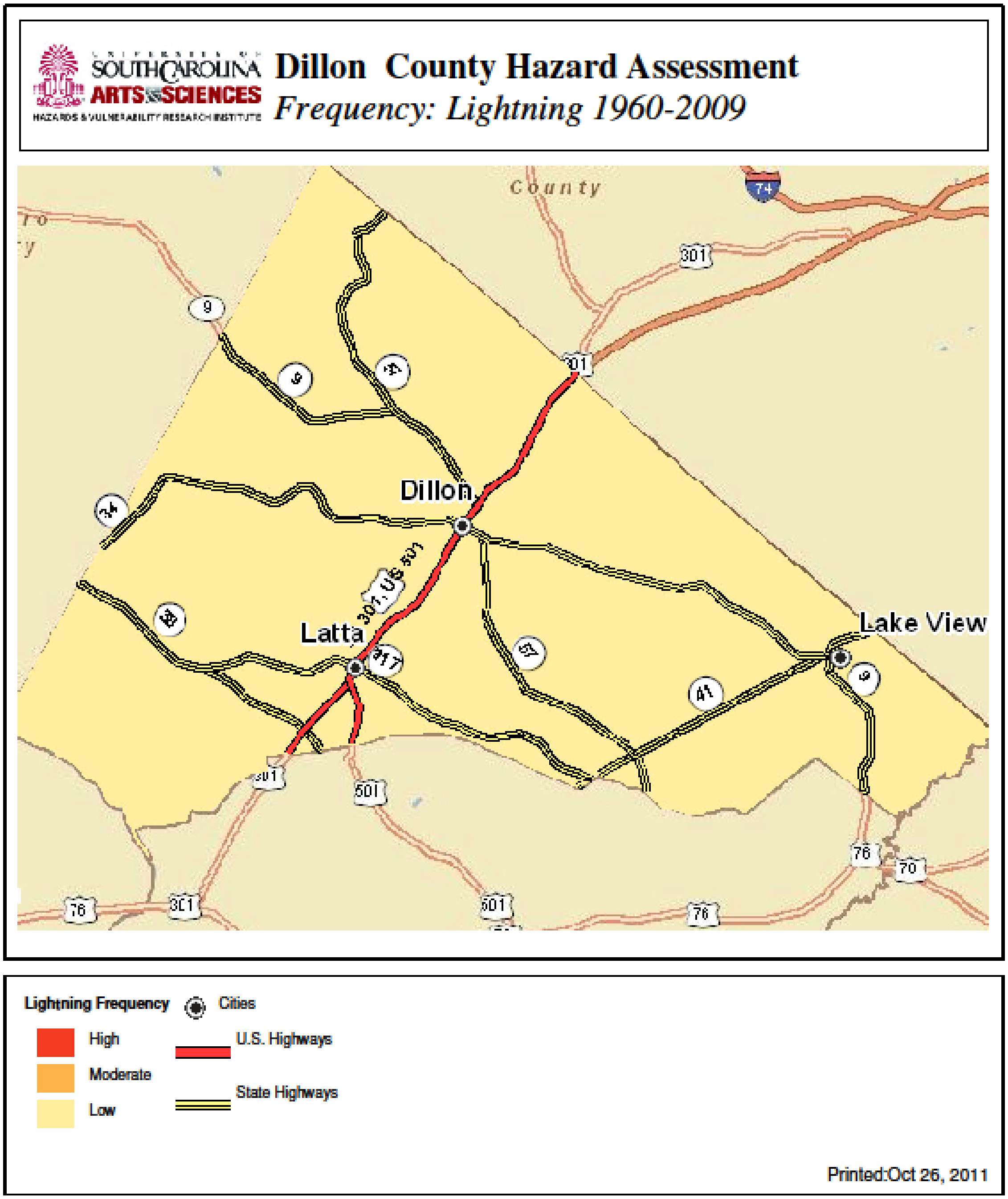
Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

Table 3-3 LIGHTNING/WIND EVENTS WITH REPORTED DAMAGES DILLON COUNTY – 1960 - 2009

Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Crop Damage
6/10/1982	Hail – Lightning-Severe Storm/Thunder Storm - Wind	0.20	0	$269,851.35	$269,851.35
7/25/1984	Lightning	0	0	$72,221.98	$0
6/27/71	Hail – Lightning-Severe Storm/Thunder Storm - Wind	0	0	$64,999.22	$64,999.22
8/23/1965	Lightning	0	0	$34,666.85	$0
6/29/1976	Lightning	0.06	0	$10,699.41	$10.71
8/2/1984	Hail-Lightning-Wind	0	0	$3,586.21	$0
7/4/1975	Lightning-Wind	0	0	$5,714.28	$5,7142.84
8/23/1983	Lightning-Wind	0	0	$3,095.22	$0
4/8/1974	Lightning-Wind	0	0	$6,018.50	$6.02
10/9/1976	Lightning-Wind	0	0	$5,349.70	$53.50
Total (top 10)		0.26	0	$535,777.38	$495,259.51
Total (39 events		1.08	2.00	$535,777.38	$495,259.51

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

Figure 3-9


SOUTH CAROLINA
ARTS SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Frequency: Lightning 1960-2009
County
74
301
9
34
38
57
41
Dillon
Latta
Lake View
301, US 501
917
501
76
70
Lightning Frequency
High
Moderate
Low
Cities
U.S. Highways
State Highways
Printed:Oct 26, 2011

3.3.2 Drought/Heat

Hazard Analysis

Many people consider droughts to be a rare event when in fact they are a normal and recurrent feature of the climate. Drought implies a lack of moisture for an extended period of time which in turn causes a deficit of moisture in the soil. This can mean different things for different areas. For areas which receive high amounts of precipitation, a condition of drought can develop more rapidly than in an area which does not receive high amounts of precipitation. Many problems can arise due to drought, including crop damage and water supply shortage. How severe a drought is depends mostly on the degree of the deficiency, the time period, and the size of the area affected. The timing is also a significant factor with the onset/duration of droughts. The primary season in which it occurs, delays in the beginning of the normal rainy time periods, and rain events occurring relative to the growth stage of crops are examples of this timing. Drought can occur anywhere in Dillon County, in both rural and municipal areas, and its severity can be extreme. Drought in the state typically occurs in the summer months, when weather is warmer.

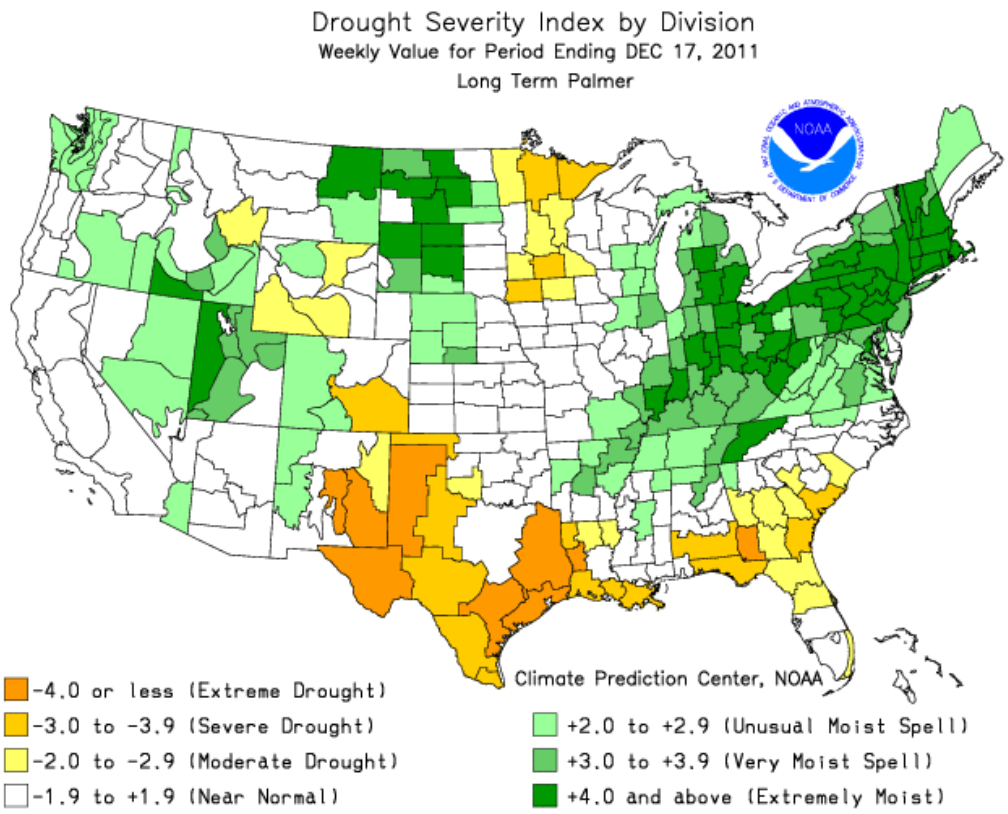
The Palmer Drought Severity Index was developed by Wayne Palmer in the 1960s and uses temperature and rainfall information in a formula to determine dryness. It has become the semi-official drought index. The Palmer Index is most effective in determining long term drought—a matter of several months—and is not as good with short-term forecasts (a matter of weeks). It uses a 0 as normal, and drought is shown in terms of minus numbers; for example, minus 2 is moderate drought, minus 3 is severe drought, and minus 4 is extreme drought as shown in Table 3-4. Figure 3-10 which follows depicts the Drought Severity Index for the United States as of December 17, 2011. The Pee Dee Region of South Carolina including Dillon County can be seen to be experiencing a Moderate drought.

TABLE 3-4 PALMER DROUGHT INDEX SEVERITY CLASSES FOR WET AND DRY PERIODS (Palmer, 1965)

Palmer Index	Class
4.0 or more	Extremely wet
3.0 to 3.99	Very wet
2.0 to 2.99	Moderately wet
1.0 to 1.99	Slightly wet
0.5 to 0.99	Incipient wet spell
0.49 to -0.49	Near normal
-0.5 to -0.99	Incipient dry spell
-1.0 to -1.99	Mild drought
-2.0 to -2.99	Moderate drought
-3.0 to -3.99	Severe drought
-4.0 or less	Extreme drought

Source: https://www.dnr.sc.gov/drought/index.php?pid=1

Figure 3-10 Drought Severity Index



Source:http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer/2011/12-17-2011.gif

History in Dillon County

Figure 3-11 depicts Drought Frequency 1950 – 2005, and indicates that Dillon County has a moderate drought frequency. Figures 3-12 and 3-13 present drought status for all counties in South Carolina for the years 2011 and 2008. At the time this Plan was prepared, Dillon County was in a Moderate drought status (Figure 3-12). In the recent past the County was in the midst of a prolonged Severe drought in 2008 as shown in Figure 3-13.

Actual drought events resulting in losses totaled 4 according to the HVRI database period 1960 – 2009 as shown in Table 3-5. The SHELDUS database shows average annual property damage of $165,909 and crop damage averaged annually $115,208 from drought events. No injuries or deaths were reported. (See Tables A-1 and A-2 in the Appendix.) Losses from drought-heat events were as follows: $161,564 average annual property damage, and $64,214 average annual crop damage (see Table 3-6). No injuries or deaths were reported. The SHELDUS database includes 7 Heat and Drought-Heat events resulting in property losses of $16,156,020 and crop losses of $4,584,874. Property damages ranged from $20 to $16,148,994 per event, and crop damage ranged from $0 to $2,355,065 per event.

The most widespread and disastrous drought in the history of South Carolina prevailed from February to the first two weeks of November of 1925. During this period, the rainfall deficit reached 18.23 inches. During the principal growing season months, when timely rains were most needed, the deficiency was 12.41 inches. Hydro-electric power was curtailed, livestock water became scarce, and deep wells failed.
(Source: Data.http://www.dnr.sc.gov/climate/sco/Publications/storms_of_centry.php)

A disastrous drought occurred in 1954, especially during the very hot summer months. The statewide mean annual precipitation of 32.96 inches holds the record for the driest year. Small streams went dry and crops were devastated. The National Weather Service reported that the 1954 crop was only ten percent of the ten year average production.
(Source Data.http://www.dnr.sc.gov/climate/sco/Publications/storms_of_centry.php)

Vulnerability Assessment

Water shortage can be more of an issue in municipal areas, where demand is higher for drinking water and public use. Crops and livestock are obviously a concern in more rural areas, however, water wells must be closely monitored in rural areas as well. According to the Dillon County Comprehensive Plan, approximately 70 percent of the land in the County is used for agriculture, which includes both crops and animal feedlots. Another 10 percent is used for specialty crops, such as soybeans. Cropland is located throughout the County.

Future Probability and Potential Dollar Losses

Based on drought/heat occurrences listed in the SHELDUS database for Dillon County from 1960 – 2009, a severe drought/heat event can be expected to occur every 14.75 years on average. The SC Integrated Hazards Assessment Tool indicates the annual chance of a drought loss event is 6.77% (online at http:webra.cas.sc.edu/ihat/frequency.aspx). A drought, however, can occur at anytime.

It is often difficult to come up with financial estimates of loss from drought conditions, due to the wide range of direct and indirect impacts that can result. Often damages are assessed in terms of crop damages or loss as shown in Table 3-5, but like for many hazards, these dollar figures do not always capture the true cost to the greater community in terms of economic, social, and environmental factors. Based on the 7 drought/heat events in the SHELDUS database for the period 1960 – 2009, Dillon County might expect property damages per event of $2,308,003 property damage and $654,982 crop damage. The reported average annual SHELDUS losses for 1960 – 2009 were $161,564 property damage and $64,214 crop damage.

Figure 3-11

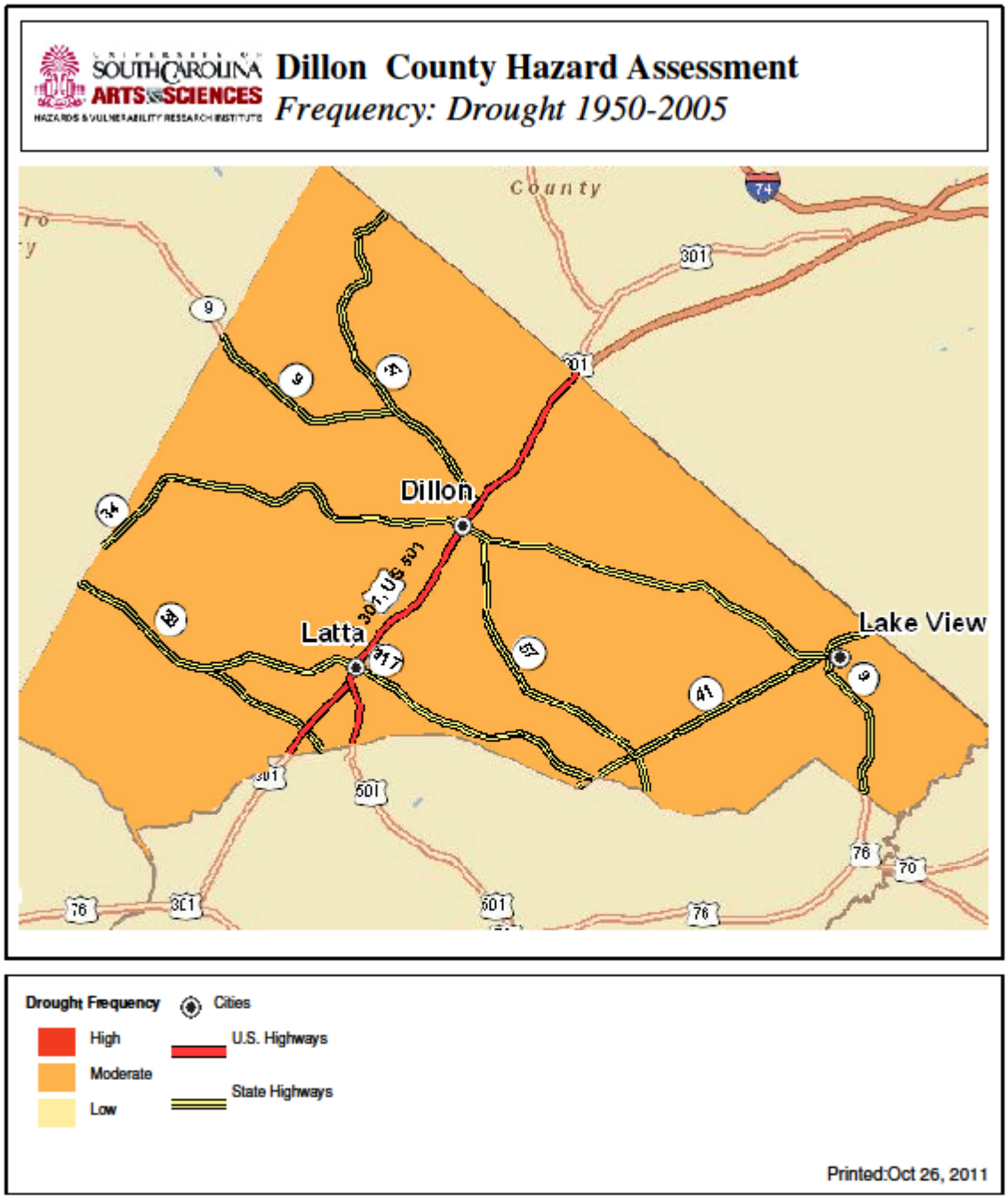

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Frequency: Drought 1950-2005
County
Dillon
Latta
Lake View
301
501
74
76
70
Drought Frequency
High
Moderate
Low
Cities
U.S. Highways
State Highways
Printed:Oct 26, 2011

Figure 3-12 – SC Drought Status 2011

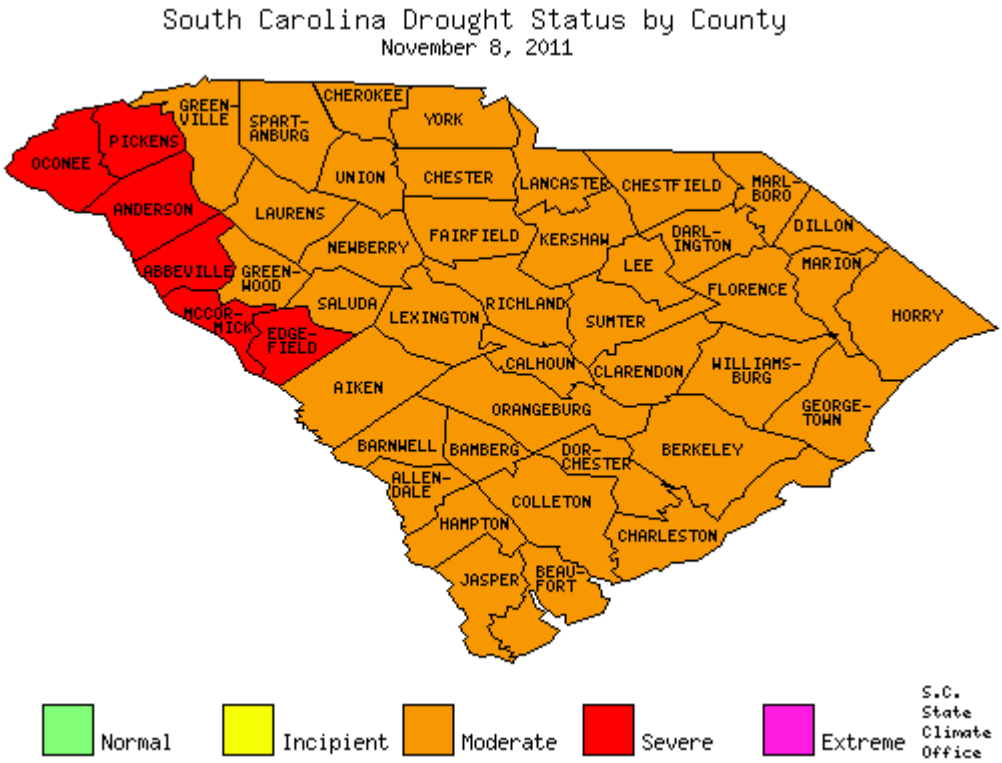
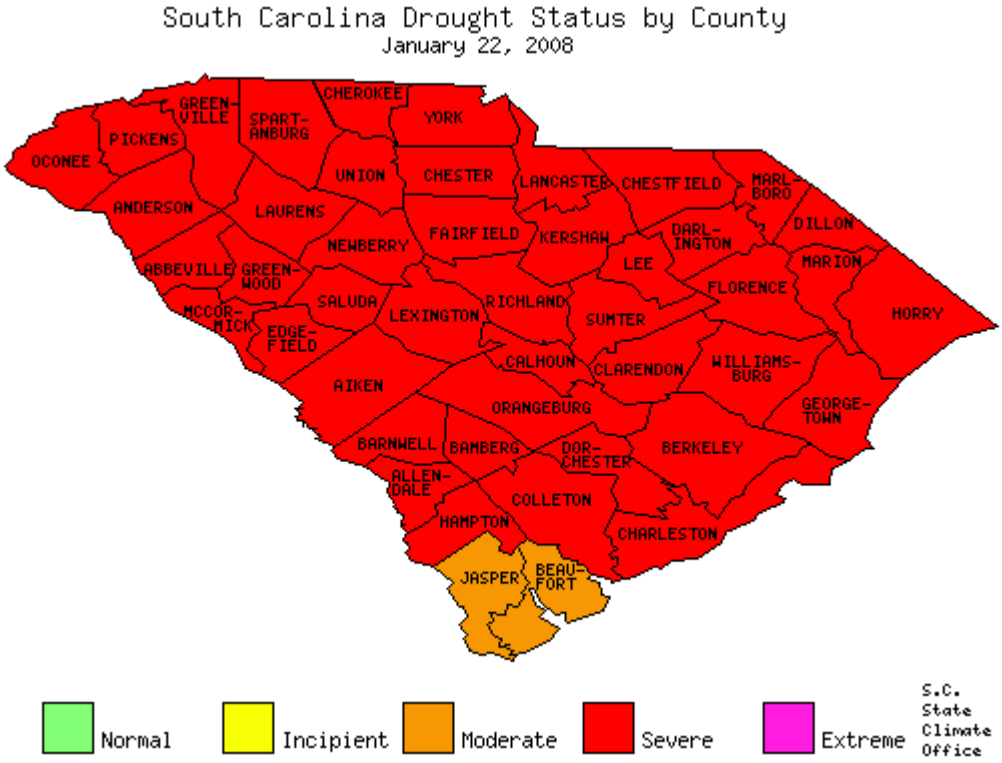


Figure 3-13 SC Drought Status 2008



Source: http://www.dnr.sc.gov/climate/sco/Drought/drought_current_info.php

TABLE 3-5 DROUGHT EVENTS WITH REPORTED DAMAGES
DILLON COUNTY – 1960 - 2009

Begin Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Property Damage
7/1/1993	Drought-Heat	0	0	$16,148,994.50	$0
7/1/1986	Drought	0	0	$213,287.65	$2,132,876.50
7/1/1977	Drought-Heat	0	0	$3,898.01	$389,799.71
6/1/1986	Drought	0	0	$2,132.88	$21,328.77
6/1/1988	Drought	0	0	$1,983.21	$19,832.09
6/1/1983	Drought-Heat	0	0	$2,355.07	$2,355,064.61
10/1/1978	Drought-Heat	0	0	$353.28	$3,532.65
7/1/1988	Drought	0	0	$198.33	$1,983.21
4/1/1978	Drought	0	0	$35.33	$3,532.65
2/1/1988	Drought	0	0	$19.83	$1,983.21
Total (top 10)		0	0	$16,373,258.09	$4,929,933.40
Total (14 events)		0	0	$16,373258.09	$7,134,610.62

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

TABLE 3-6 DROUGHT/HEAT EVENTS WITH REPORTED DAMAGES
DILLON COUNTY – 1960 - 2009

Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Crop Damage
7/1/1993	Drought/ Heat	0	0	$16,148,994.50	$0
7/1/1977	Drought/ Heat	0	0	$3,898.01	$389,799.71
6/1/1983	Drought/ Heat	0	0	$2,355.07	$2,355,064.61
10/1/1978	Drought/ Heat	0	0	$353.28	$3,532.65
2/1/1976	Heat	0	0	$418.69	$4,186.73
6/1/1993	Heat	0	0	$0	$1,614,899.45
6/1/1985	Heat	0	0	$0	$217,391.30
Total (7 events)		0	0	$16,156,019.55	$4,584,874.45

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

3.3.3 Wildfire

Hazard Analysis

A wildfire constitutes uncontrolled burning in brush, marshlands, grasslands, or fields. Wildfires are most likely to occur in the spring and early summer from March to July, with April being the most likely month for wildfires. The season length and peak months may vary greatly from year to year. Factors influencing season length or fire frequency can include land use, vegetation, and amount of combustible materials present. Weather conditions such as wind, low humidity and drought are also major factors contributors.

According to the SCDNR, most fires are started by humans, the most common cause being careless burning of debris. Natural fires caused by lightning only account for one percent of all forest fires and wildfires. Natural fires are health and essential to a forest ecosystem.

History in Dillon County

Figure 3-14 that follows depicts Wildfire Events 1997 – 2009 for Dillon County. It shows that wildfires have occurred in all areas of the County, with higher concentrations in the northwest area in the vicinity of S.C. 57 and in the central area along and east of U.S. 301, and in the area of U.S. 301/S.C. 9 and near S.C. 57. Figure 3-13 indicates that the County as a whole has a comparatively low frequency of wildfires, however several locations are shown with a high frequency of wildfires, with the largest area along S.C. 9 east of the Town of Lake View and also in the vicinity of S.C. 57 east and in the northeast area.

There were 1410 reported wildfire events in the 21 year database (1988 – 2009) obtained from the HVRI website (see Table A-1 in the Appendix). Average annual SHELDUS losses (1960 – 2009) from wildfires in Dillon County were $1852 property damage and $4,783 crop damage (see Table A-2 in the Appendix).

Three wildfire events appear in the SHELDUS database with 2009 adjusted total property damage of $92,606.98, and crop damage of $239,130 as shown in Table 3-7. Seventy-six percent ($70,650) of property damage is attributed to one wildfire occurring on March 3, 1966, and approximately ninety percent ($217,391) of crop damage is attributed to a single wildfire occurring on 3/1/1985. No fatalities were reported and injuries were reported as 0.04.

TABLE 3-7 WILDFIRE EVENTS WITH REPORTED DAMAGES
DILLON COUNTY – 1960 - 2009

Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Crop Damage
3/15/1966	Wildfire	0	0	$70,650.44	$0
3/1/1985	Wildfire	0	0	$21,739.14	$217,391.30
4/1/1985	Wildfire	0	0	$217.40	$21,739.20
Total 3 events)		0.04	0	$92,606.98	$239,130.50

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

Previously discussed were Dillon County Rural Fire Department records on brush fires for the years 2004 – 2011. A total of 2116 brush fires have occurred over the 7 year period.

The SC Forestry Commission maintains wildfire events data by county and fiscal year for years 1946 - 2011. FY 2010-2011 data shows 54 fires affecting 376.3 acres. Table 3-8 provides additional information on the extent of wildfires in Dillon County.

TABLE 3-8 WILDFIRE EXTENT 1946-2011 – DILLON COUNTY

	FY 10-11	FT 09-10	FY 08-09	5 Yr Av	10 Yr Av	20 Yr Av	50 Yr Av
Fires	54	33	23	56	57	60	88
Acres	376.3	252	34.1	297.0	402.8	342.7	345.0

http://www.state.sc.us/forest/firecoyr.pdf

According to local records shown in the following Table 3-9, Dillon County has experienced 1,447 forest fires in the period between 2004 and 2011, and 2,116 brush fires.

TABLE 3-9 FOREST AND BRUSH FIRES
DILLON COUNTY – 2004 – 2011

YEAR	FOREST FIRES	BRUSH FIRES
2004-2005	317	50
2005-2006	176	223
2006-2007	191	223
2007-2008	188	229
2008-2009	206	592
2009-2010	220	369
2010-2011	149	430
TOTAL	1,447	2,116

Source: Dillon County Rural Fire Department, Summary CAD Statistics

Vulnerability Assessment

Rural areas are often further from emergency services and are located in remote areas with poor access, which delays response times. Availability of water may also be an issue in some areas. Building in rural areas also have a greater likelihood of being surround by brush, forest, or other more combustible materials, which may make fire spread faster.

In addition to structural damage to physical property, fires are a serious risk to human health and safety. People become victims of extreme heat, smoke inhalation, severe burns, and death. Likewise, wildlife and livestock can also be susceptible to death and injury from fire. According to the United States Fire Administration (USFA) approximately 4,000 people die and 25,000 more are injured in fires each year in the United States.

Approximately 34.92% of the total land area of Dillon County is forested, which accounts for 90,782 acres (approximately 141.846 square miles of deciduous, evergreen and mixed forests (see Section 2.0 for land use/land cover). All areas of the County are vulnerable to fire. According to information obtained by DCDP from several fire chiefs, the following areas in Dillon County are considered especially vulnerable to fire due to tree plantation and other factors: Oak Grove community, Little Rock, and Pee Dee Church Rd; Latta area including

Bingham, Floydale community, Berry's Cross Road community, Floydale community, Town of Sellers area; Lake View area including Bear Swamp and Nichols area. Campgrounds are also a concern because of campfires. As previously stated, there are 3 campgrounds with 223 campsites in the County.

Future Probability and Potential Dollar Losses

According to historical data cited above, wildfires are fairly common occurrences in Dillon County, with an average of approximately 67 wildfires per year over 21 years. By this history, Dillon County can expect an average of about 67 fires to occur in a given future year. The annual percentage chance of a damaging wildfire is an extremely high (6,714.28%).

Much of a loss estimation depends on the area in which the fire takes place. If it occurs in a forest, it could cause thousands of dollars worth of damage to marketable timber. If it occurs in an area that is used only for passive recreation or preservation, it is more difficult to estimate the loss, as it would occur in terms of loss to wildlife or enjoyment opportunities. At some times a fire would be considered beneficial to a forest unit, because it would clear out excessive undergrowth and allow for healthier re-growth of vegetation.

Based on SHELDUS data provided by HVRI, a wildfire event in Dillon County could be expected to result in average losses of $92,606.98 property damage and $239,130 crop damage.

Figure 3-14

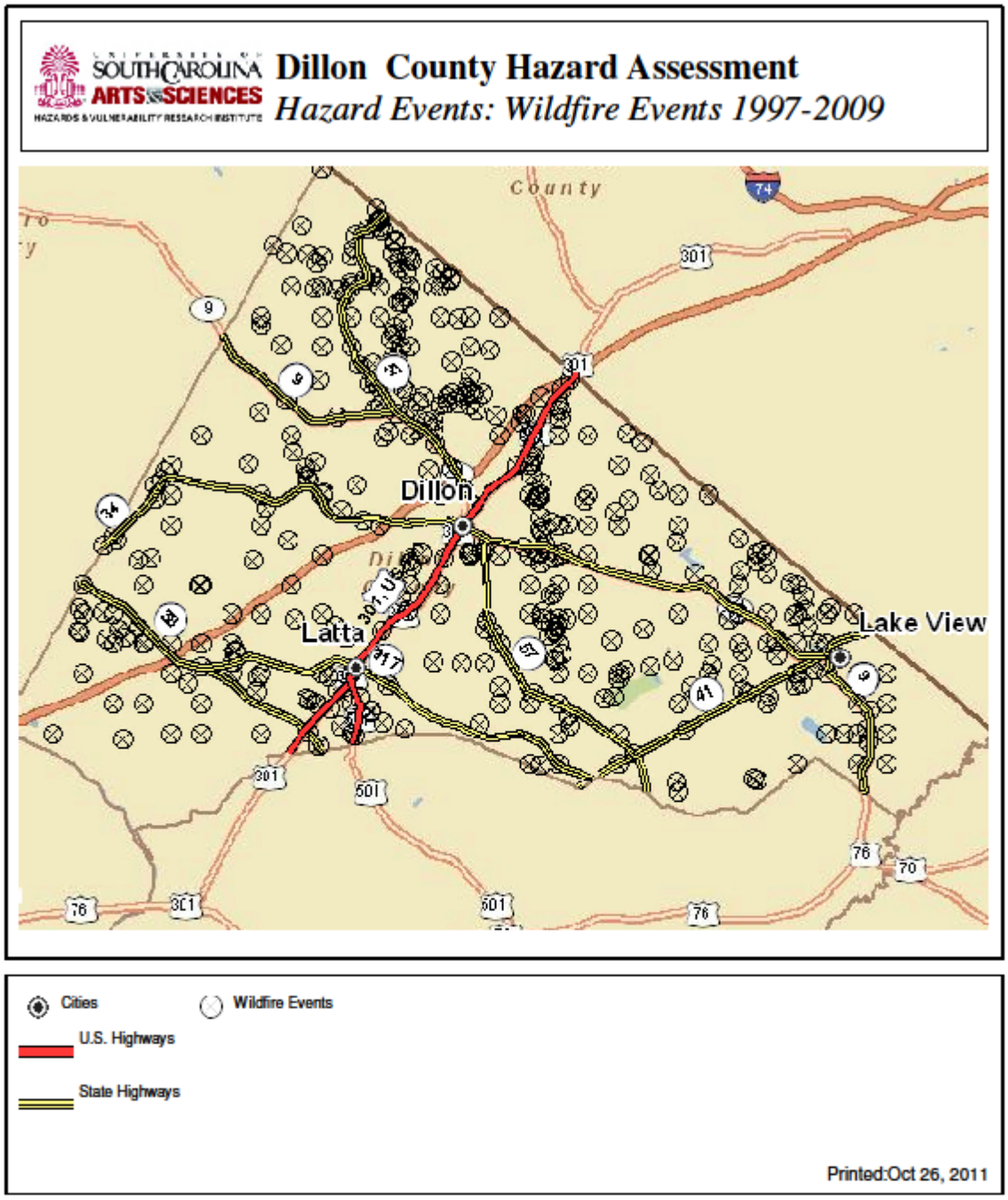
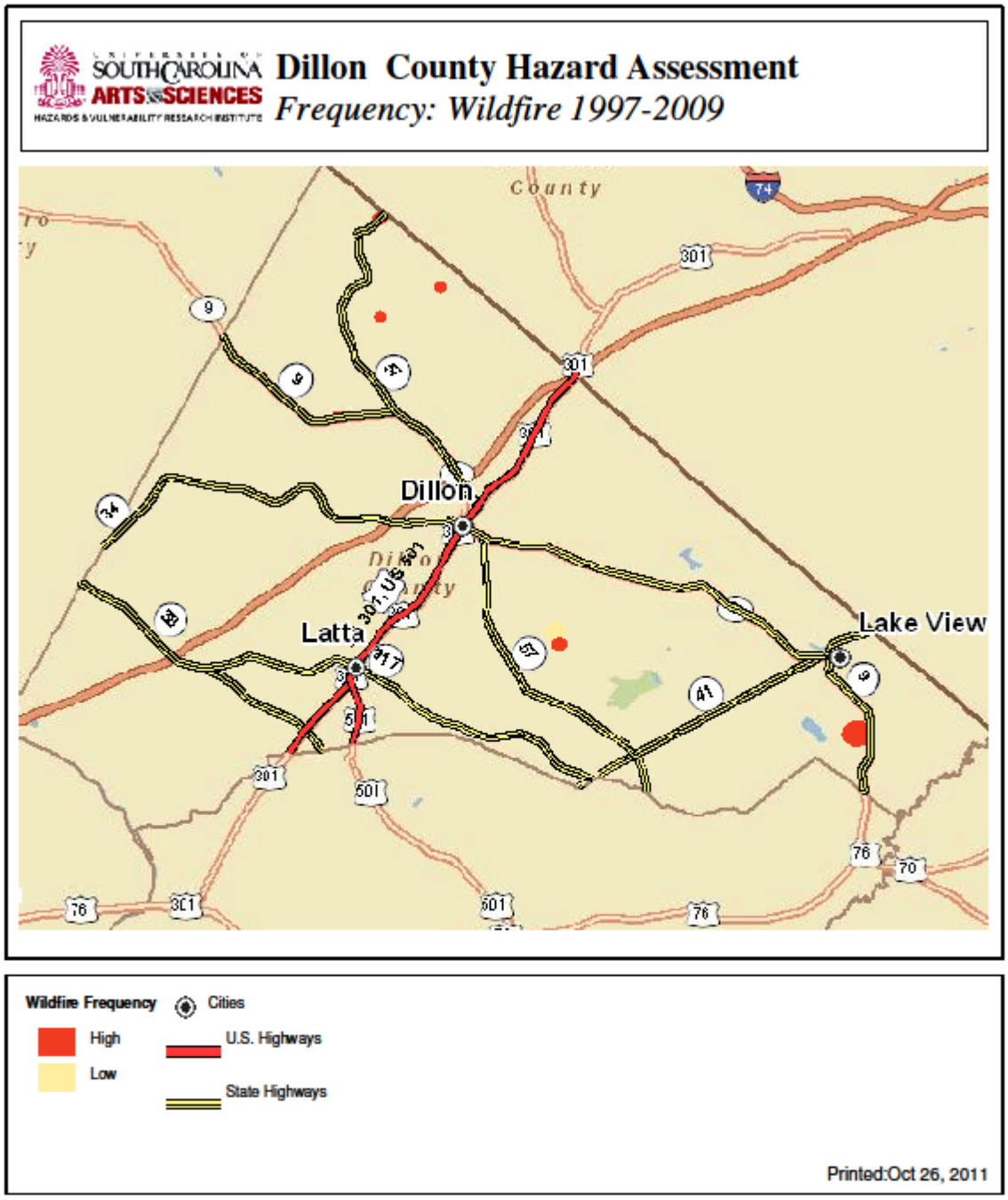

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Hazard Events: Wildfire Events 1997-2009
Dillon
Latta
Lake View
Cities
Wildfire Events
U.S. Highways
State Highways
Printed:Oct 26, 2011

Figure 3-15


SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Frequency: Wildfire 1997-2009
Dillon
Latta
Lake View
Wildfire Frequency
High
Low
Cities
U.S. Highways
State Highways
Printed:Oct 26, 2011

3.3.4 Winter Storm

Hazard Analysis

Winter storms can vary in size and strength and include heavy snowfall, freezing rain, sleet, ice, and/or blowing and drifting snow. Extremely cold temperatures accompanied by strong winds can result in severe wind chills that result in frostbite, hypothermia, and even death.

A heavy snowstorm is considered to be an event where four or more inches of snow fall in 12 hours or less. An ice storm is defined as an event with ice accumulations of a quarter inch or more in 12 hours or less. A blizzard is the extreme end of a winter storm. A blizzard is defined as an event with sustained or frequent wind gusts of over 35 miles per hour (mph), with failing or blowing snow causing visibilities near or less than a quarter-mile for three hours or more.

Heavy snow and ice storms are fairly infrequent in Dillon County. Blizzard-like conditions may occur during the occasional heavy snowstorms when strong winds cause blowing and drifting snow. This causes low visibility and can stand automobiles or confine people indoors in a very quick period of time.

The length of a winter storm can vary. Usually precipitation comes and goes within 12 hours, but it may be followed by a series of other events that could go on for days. The after-effects of a winter storm can affect a community for days or even weeks.

History in Dillon County

Figure 3-16 shows a low frequency for winter weather in Dillon County for the years 1960 – 2008. The hazards frequency data from the South Carolina Integrated Hazards Assessment Tool provided by the Hazards and Vulnerability Research Institute, University of South Carolina, indicates there were 11 severe winter storms in the database for the period 1960 – 2009. The average annual SHELDUS losses (1960 – 2009) from winter weather events with losses in Dillon County were $131,993 property damage (2009 inflation adjusted) and $307,814 adjusted crop damage. Average annual fatalities reported were 0.089 and injuries were reported as 0.060. (See Tables A-1 and A-2 in the Appendix.)

For the 65 winter weather events with reported damages listed in the SHELDUS database, total losses reported were: $6,734,265.87 property damage (2009 inflation adjusted) and $15,432,098.04 adjusted crop damage as shown in the following Table 3-10. For the top 10 events, property damages reported ranged from a low of $19,475.63 to a high of $3,787,755.10, and crop damages ranged from a low of $0 to a high of $7,428.54. The top 10 events accounted for 90.7% of total property damage but less than 1% of total crop damage.

One of the more severe storms in Dillon County, which resulted in blizzard conditions, occurred on March 17, 2004 and affected the County and surrounding area. This storm dropped 10 to 21 inches of snow over the southern and central sections of South Carolina, with 50 to 60 mph wind gusts causing white-out conditions in Dillon County.

Vulnerability Assessment

Winter storms are a serious health and safety risk to County residents. Heavy snow and ice accumulation can cause roofs and power lines to collapse. Downed power lines can cause widespread power outages, leaving businesses, critical facilities and residences without

electricity. Perhaps most importantly, it can also isolate people from assistance or services due to icy conditions and downed trees and power lines blocking roadways.

Power outages resulting in loss of heat is of particular concern. As mentioned, the most serious health risks associated with winter storms and extremely cold temperatures are frostbite, hypothermia, and sometimes death resulting from these conditions. Elderly people and children under the age of one year are most susceptible to the negative health effects of cold temperatures.

Winter storm damage is often widespread and can affect numerous other resources. Other resources that may be affected by a winter storm include:

- Community facilities – access to healthcare/emergency services, schools
- Public service – police and fire departments, social service organizations/shelters
- Utilities – power lines, telephone lines, radio and cell towers
- Transportation – icy roads, white-out conditions, public transit not available
- Residential – trees, roofs
- Commercial – roofs, temporary closure of business, deliveries
- Agriculture – outbuildings, crops, livestock, equipment

Winter storms usually cover the entire region, and there are no specific areas in Dillon County that would have more of a risk than other areas.

Future Probability and Potential Dollar Losses

It is difficult to estimate potential future losses for winter storms. Typically, costs are minor and widespread and include minor auto accidents and additional time for workers to remove snow. As a result, these costs are not usually compiled or even tracked. Winter storms, however, can be potentially disastrous, especially in the event of a major ice storm. Based on the SC Integrated Hazards Assessment Tool, HVRI, University of South Carolina, a severe winter storm with damages can be expected to occur approximately every 5.36 years, and the annual chance of such an event is 18.64%.

There are 65 winter weather events with damages in Dillon County in the SHELDUS database over 59 years (Table 3-10). This data indicates that county residents can expect approximately 1 severe winter storm resulting in property and crop losses per year. Historical data from HVRI was used to estimate potential future dollar losses due to winter weather events. For the top 10 events, property damages ranged from a low of $19,475.63 to a high of $3,787,755.10, and crop damages ranged from a low of $0 to a high of $28,322.28, as shown in Table 3-10. Based on the total 65 events in the SHELDUS losses database, a winter weather event could be expected to result in average losses of $107,164 in property damage and $244,960 in crop damage. This provides an indication of what damages could result from future winter weather events.

Figure 3-16

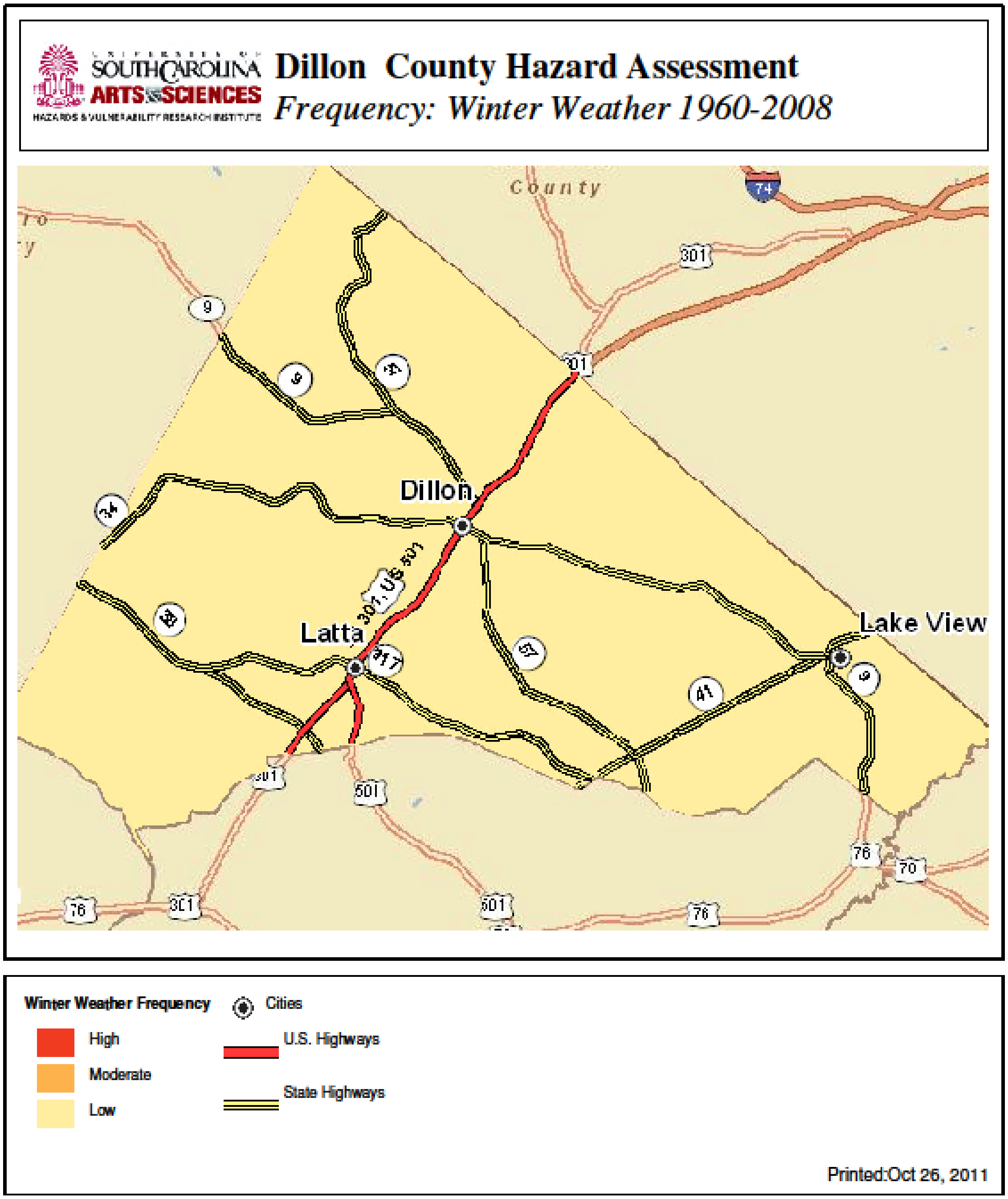

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Frequency: Winter Weather 1960-2008
County
Dillon
Latta
Lake View
301, US 501
Winter Weather Frequency
High
Moderate
Low
Cities
U.S. Highways
State Highways
Printed:Oct 26, 2011

TABLE 3-10 WINTER WEATHER EVENTS WITH REPORTED DAMAGES DILLON COUNTY - 1960 - 2009

Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Crop Damage
1/26/2004	Winter Weather	0	0	$3,787,755.10	$0
1/25/2004	Winter Weather	0	0	$1,142,857.14	$0
2/9/1973	Winter Weather	0	0.20	$538,310.47	$538.33
12/22/1989	Winter Weather	0.07	0.13	$188,406.80	$0
3/13/1993	Wind – Winter Weather	0.30	0	$74,285.37	$7,428.54
3/8/1989	Winter Weather	0	0	$86,667.13	$0
3/25/1971	Winter Weather	0.67	0.39	$144,442.72	$144.45
12/27/1992	Winter Weather	0	0	$28,322.28	$28,322.28
1/23/2003	Winter Weather	0	0	$19,475.63	$0
1/9/1968	Severe Storm/Thunder Storm – Winter Weather	0	0	$95,589.13	$9.54
Total (top 10)		1.04	0.72	$6,106,111.77	$36,443.14
Total (65 events)		3.15	4.43	$6,734,265.87	$15,432,098.04

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

3.3.5 Tornadoes

Hazard Analysis

According to FEMA, a tornado is defined as "a violently rotating column of air extending from a thunderstorm to the ground." (FEMA, 386-2, August 2001) Tornadoes can have wind speeds from 40 mph to over 300 mph, although a majority of tornadoes have wind speeds of 112 or less. Tornadoes can move forward at up to 70 mph, pause, slow down and change directions. Most have a narrow path of less than 100 yards wide and a few miles long. Damage paths, however, can be more than 1 mile wide and 50 miles long. Tornadoes present a hazard because debris hurled by strong winds can hit with enough force to penetrate walls.

Tornadoes are classified as F0 through F5, based on wind speed and damage levels using the Enhanced Fujita Tornado Scale as shown in the following table:

TABLE 3-11 ENHANCED FUJITA TORNADO SCALE

FUJITA SCALE			DERIVED EF SCALE		**OPERATIONAL EF SCALE**	
F Number	Fastest 1/4-mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	**EF Number**	**3 Second Gust (mph)**
0	40-72	45-78	0	65-85	**0**	**65-85**
1	73-112	79-117	1	86-109	**1**	**86-110**
2	113-157	118-161	2	110-137	**2**	**111-135**
3	158-207	162-209	3	138-167	**3**	**136-165**
4	208-260	210-261	4	168-199	**4**	**166-200**
5	261-318	262-317	5	200-234	**5**	**Over 200**

***** IMPORTANT NOTE ABOUT ENHANCED F-SCALE WINDS:** *The Enhanced F-scale still is a set of wind estimates (not measurements) based on damage.* Its uses three-second gusts estimated at the point of damage based on a judgment of 8 levels of damage to the 28 indicators listed below. These estimates vary with height and exposure. **Important**: The 3 second gust is not the same wind as in standard surface observations. Standard measurements are taken by weather stations in open exposures, using a directly measured, "one minute mile" speed.

TABLE 3-12 Enhanced F Scale Damage Indicators

NUMBER (Details Linked)	DAMAGE INDICATOR	ABBREVIATION
1	Small barns, farm outbuildings	SBO
2	One- or two-family residences	FR12
3	Single-wide mobile home (MHSW)	MHSW
4	Double-wide mobile home	MHDW
5	Apt, condo, townhouse (3 stories or less)	ACT
6	Motel	M
7	Masonry apt. or motel	MAM

8	Small retail bldg. (fast food)	SRB
9	Small professional (doctor office, branch bank)	SPB
10	Strip mall	SM
11	Large shopping mall	LSM
12	Large, isolated ("big box") retail bldg.	LIRB
13	Automobile showroom	ASR
14	Automotive service building	ASB
15	School - 1-story elementary (interior or exterior halls)	ES
16	School - jr. or sr. high school	JHSH
17	Low-rise (1-4 story) bldg.	LRB
18	Mid-rise (5-20 story) bldg.	MRB
19	High-rise (over 20 stories)	HRB
20	Institutional bldg. (hospital, govt. or university)	IB
21	Metal building system	MBS
22	Service station canopy	SSC
23	Warehouse (tilt-up walls or heavy timber)	WHB
24	Transmission line tower	TLT
25	Free-standing tower	FST
26	Free standing pole (light, flag, luminary)	FSP
27	Tree - hardwood	TH
28	Tree - softwood	TS

Source: http://www.spc.noaa.gov/faq/tornado/ef-scale.html

Late spring-early summer is the peak of tornado activity in the year. Most tornadoes in Dillon County have occurred in afternoon/early evening, though several have also occurred in the early morning hours. This indicates that tornadoes can strike at any time.

History in Dillon County

Figure 3-17 is a statewide map of tornado events obtained from the SC Climatology Office; Figure 3-18 and 3-19 are HVRI generated maps that depict Tornado Events 1955 – 2009 for Dillon County (Figure 3-18), and Tornado Frequency 1950 – 2009 (Figure 3-19). Several locations are shown with a high frequency of reported tornadoes (i.e. the area around and

between the City of Dillon and the Town of Latta, particularly on the west side of U.S. 301 between S.C. 34 and S.C. 38; and the extreme western portion of the county in the vicinities of S.C. 34 and S.C. 38). Figure 3-19 indicates that the area of the County west of U.S. 301 has a moderate tornado frequency and the balance of the County has a low frequency of this hazard.

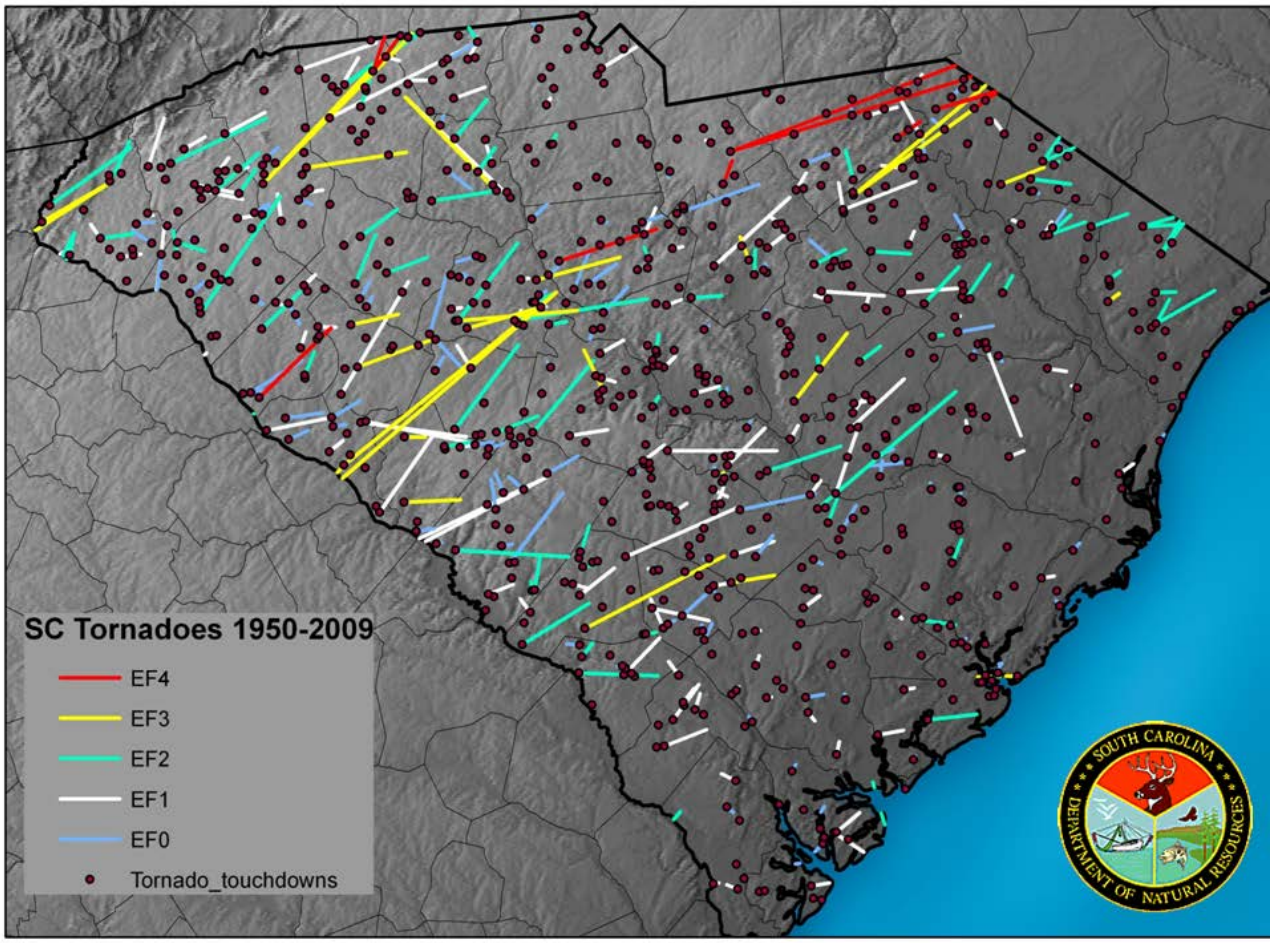
There were 14 reported tornado events in the 59 year database obtained from the HVRI website. Average annual SHELDUS losses (1960 – 2009) from tornadoes in Dillon County were $111,503 property damage and $9,533 crop damage. Average annual fatalities reported were 0.060 and injuries were reported as 0.780. (See Tables A-1 and A-2 in the Appendix.)

For the 8 tornado events listed in the SHELDUS database (Table 3-13), total losses were $6,037,364.83 property damage, $476,666.96 crop damage (2009 inflation adjusted), 39 injuries, and 3 fatalities. Property losses ranged from a low of $1,405.40 to a high of $3,466,685.16, and crop losses ranged from a low of $0 to a high of $346,668.52. Average losses per event were $754,671 adjusted 2009 property damage and $59,583 adjusted crop damage.

Tornado data from 1953 through 1999 indicates that on 5/20/1980, Dillon County experienced an F-3 tornado resulting in 26 injuries. (Source: 2007 Pee Dee Region Hazard Mitigation Plan)

The 1984 storm was the most deadly and damaging event in the region, with significant damage in the Bennettsville and McColl areas.

Figure 3-17 SC TORNADOES 1950-2009



Source: SC State Climotology Office, 2011, online at http://www.dnr.sc.gov/climate/sco/ClimateData/trndo_map.png

Figure 3-18

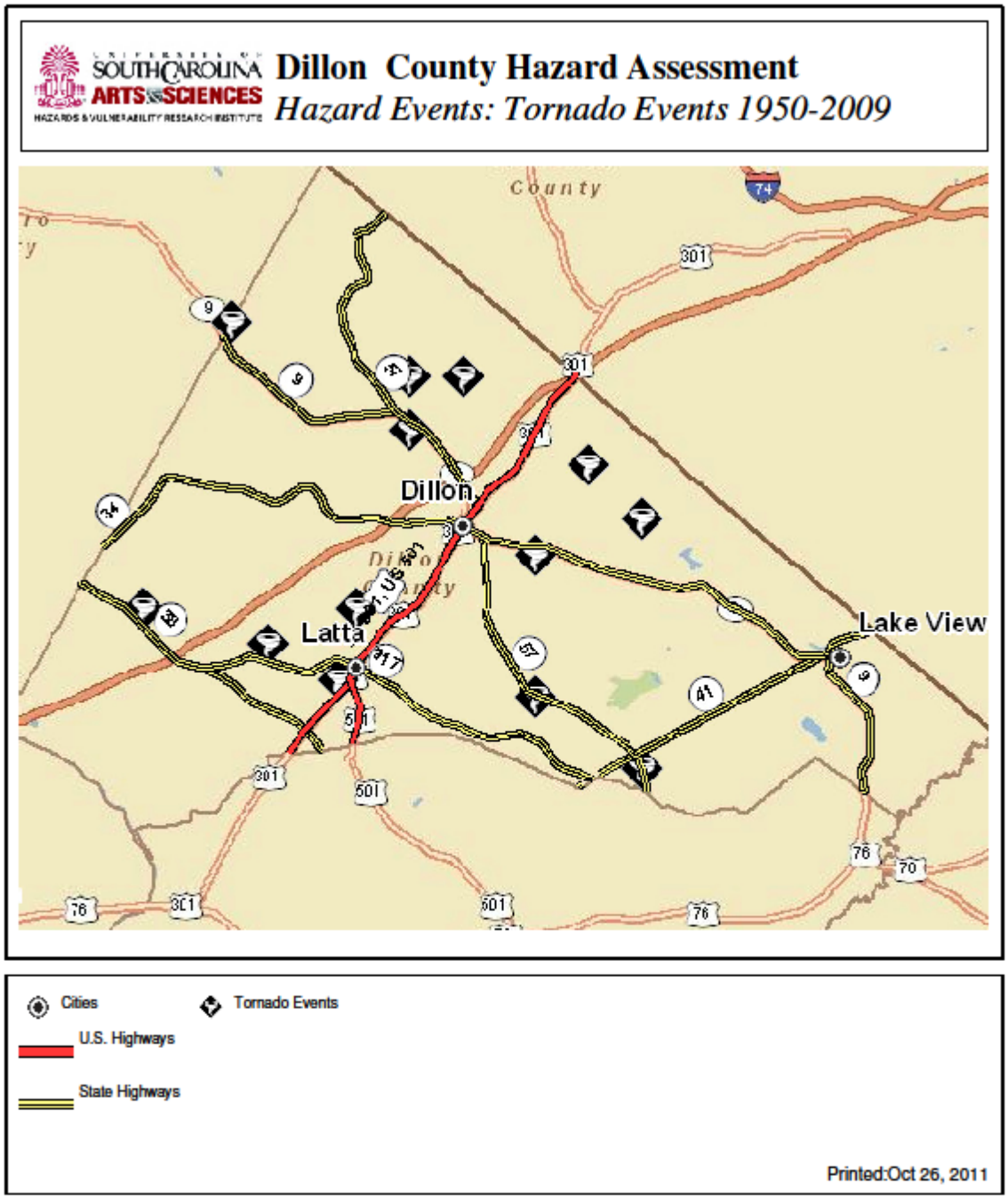
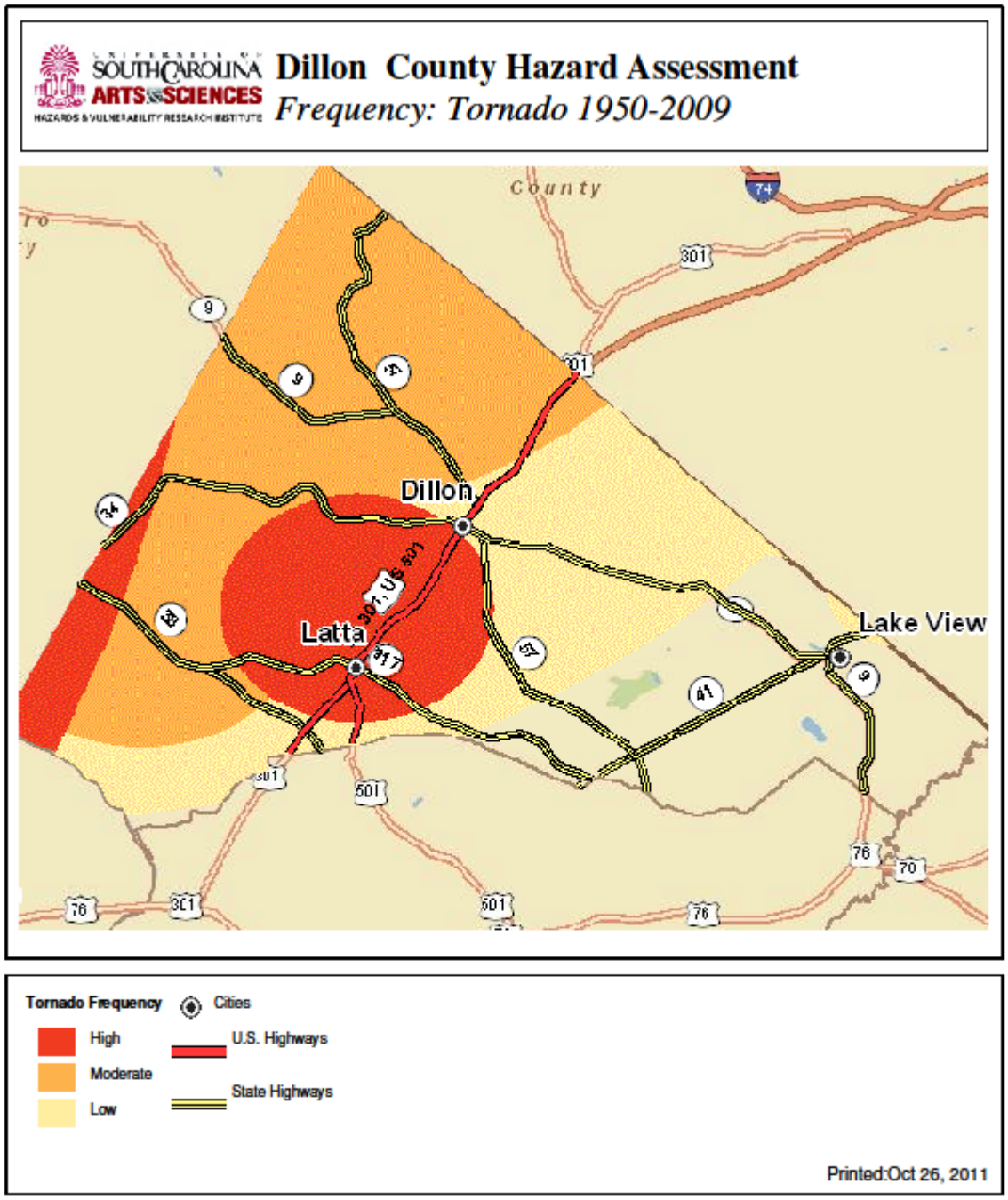

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Hazard Events: Tornado Events 1950-2009
Dillon
Latta
Lake View
301
501
74
76
70
Cities
Tornado Events
U.S. Highways
State Highways
Printed:Oct 26, 2011

Figure 3-19


SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Frequency: Tornado 1950-2009
County
Dillon
Latta
Lake View
301
501
74
76
70
Tornado Frequency
High
Moderate
Low
Cities
U.S. Highways
State Highways
Printed:Oct 26, 2011

The Table 3-14 indicates the relative density and therefore the relative risk of future tornados in Dillon County. It should be noted that probability is more subjective in this hazard than in others.

TABLE 3-13 TORNADO EVENTS WITH REPORTED DAMAGES
DILLON COUNTY - 1960 - 2009

Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Crop Damage
9/29/1963	Tornado	12	3	$3,466,685.16	$346,668.52
5/20/1980	Tornado	26	0	$1299984.40	$129,998.44
11/15/2008	Tornado	0	0	$325,000	$0
3/17/1965	Hail-Tornado-Wind	0	0	$693,337.03	$0
9/7/2004	Tornado	0	0	$114,285.71	$0
2/21/1989	Tornado	1	0	$86,667.13	$0
3/15/2008	Tornado	0	0	$50,000	$0
11/7/1995	Tornado	0	0	$1,405.40	$0
Total (8 events)		39	3	$6,037,364.83	$476,666.96

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

TABLE 3-14 TORNADO DENSITY – DILLON COUNTY

Jurisdiction/Community	Density of tornado activity
Dillon County (Unincorporated Area)	Moderate
Dillon City	Moderate-high
Lake View Town	Low
Latta Town	Moderate-high
Little Rock (Unincorporated)	Moderate-high

Source: 2007 Pee Dee Region Hazard Mitigation Plan.

According to the HVRI data, the last recorded tornado event in the County occurred on 11/15/2008. Property damage totaled $325,000. There were no reported injuries, fatalities, or crop damage.

Vulnerability Assessment

Dillon County is a primarily a rural county. All areas of Dillon County are vulnerable to tornadoes. The municipal areas, however, can be regarded as particularly vulnerable because they are denser and there is more of a threat to human safety and property damage.

Mobile homes are among the most vulnerable structures when considering potential tornado damage, due to the nature of their construction. It is much easier for a tornado to damage and destroy a mobile home than standard houses and buildings. The National Weather Service (NWS) reports that between 1985 and 1998, 40 percent of all tornado deaths in the nation

occurred in mobile homes, opposed to 29 percent in permanent homes, and 11 percent in vehicles.

As previously discussed in Section 3.1, there are multiple mobile homes parks and subdivisions throughout the southern portion of Dillon County, primarily south and east of the I-95 corridor. These properties are especially vulnerable to a tornado event due to construction standards for this housing category. The 2010 Census indicates there are 4,547 mobile homes in Dillon County representing approximately 35% of the housing stock. This is a significant increase since the 2000 Census which indicated approximately 2,200 mobile homes exist in the County, which was a sizeable portion of the 12,679 housing units in 2000 (one in approximately six units). Most exist outside of municipal boundaries, where their location and setup are regulated by Dillon County (inspections since mid-year 2000 and zoning ordinance adopted 2/28/2008).

Campgrounds and park shelters are also very vulnerable to tornadoes, as people may be caught in severe conditions with little or no shelter. Campgrounds are also often surrounded by trees, which presents an increased level of danger to campers from felled trees or falling limbs. There are a total of 3 campgrounds with 223 campsites in the planning area. Campgrounds are more heavily occupied in the late spring to early fall months when weather is warmer and more conducive to camping, which consequently is also the usual period of peak tornadic activity.

Tornadoes can also create localized low-pressure areas that can make a building explode. High winds may also cause downed power lines and trees which can result in loss of electricity or blocked transportation routes.

Tornado damage is often widespread and can affect numerous other resources. Other resources that may be affected by a tornado include:

- Community facilities – hospitals, schools, nursing homes
- Public service – police and fire departments, social service organizations/shelters
- Utilities – power lines, telephone lines, radio and cell towers
- Transportation – debris blocking routes, public transportation not available
- Residential – garages, trees, siding, windows, chimneys, roofs
- Commercial – signs, windows, siding, billboards, roofs, loss of business
- Agriculture – outbuildings, crops, livestock, equipment
- Recreation – parks, forested lands

Future Probability and Potential Dollar Losses

According to the HVRI information (see Table 1 in the Appendix), Dillon County experienced a total of 14 reported tornadoes between 1950 and 2009. With 14 occurrences over 59 years, the likelihood of a tornado hitting somewhere in Dillon County is 23.72% in any given year, and a damaging tornado is anticipated every 4.21 years. Yearly frequency, however, is unpredictable.

Historical data from the HVRI was used to estimate potential future dollar losses due to tornadoes. Estimated damages from past tornadoes in Dillon County range from and adjusted $1,405 to $3,466,685 property damage 2009 adjusted, and crop damages from $0 to $346,669. Based on the 8 tornado events resulting in damages listed in the SHELDUS database, average losses per event were $754,671 adjusted 2009 property damage and $59,583 2009 adjusted crop damage. These levels of loss or more can be expected from future damaging tornado events.

3.3.6 Hurricane/Tropical Storm

"A tropical cyclone is a warm core, non-frontal, low pressure system that develops over tropical or subtropical waters and has an organized cyclonic (counterclockwise) circulation. On the basis of the sustained (1-minute average) wind speed near the center of the storm, tropical cyclones are classified as: Tropical Depression, less than 34 knots (less than 39 miles per hour); Tropical Storms, 34 to 63 knot winds (39-73 miles per hour); or Hurricanes, with winds greater than 63 knots (greater than 73 miles per hour). Only tropical storms and hurricanes are assigned names.

Hazard Analysis

Dillon County is situated approximately 60 miles from the Grand Strand of South Carolina, and is adjacent to Horry County which does border the Atlantic Ocean. Dillon County, therefore, has a very special interest in hurricane activity along the South Carolina coast.

Hurricanes and tropical storms are irregular visitors to coastal South Carolina. In the period, 1901-2009, only 27 tropical cyclones have made landfall on the South Carolina coast. Of these, only eight were of Category 2 to Category 4 intensity. Since 1900, no Category 5 hurricanes have hit South Carolina. There have been two Category 4 hurricanes (Hazel, 1954, and Hugo, 1989) and two Category 3 hurricanes (September 17, 1945, and Gracie, 1959).The official Atlantic hurricane "season" begins June 1 and ends November 30 each year; however, the season can begin and has begun earlier and ended later.

Early season tropical cyclones generally form in the western Caribbean Sea and the Gulf of Mexico. By the end of June or in early July, the area of formation shifts eastward.

In late August, tropical cyclones form over a broad area of the eastern Atlantic, extending eastward to the area of the Cape Verde Islands off the coast of Africa. The period from about August 20 through about September 15 encompasses the maximum of these Cape Verde storms. Most Cape Verde storms cross-vast areas of the Atlantic Ocean before dissipating over the North Atlantic. Those, which do make landfall in the United States can be especially powerful.

By Mid-September, storm frequency begins to decline, the formative area retreats westward back to the Caribbean Sea and the Gulf of Mexico. Usually, by mid-November, tropical-cyclone occurrence in the North Atlantic has ceased.

The **Saffir-Simpson Hurricane Wind Scale** is a 1 to 5 categorization based on the hurricane's intensity at the indicated time. The scale – originally developed by wind engineer Herb Saffir and meteorologist Bob Simpson – has been an excellent tool for alerting the public about the possible impacts of various intensity hurricanes[1]. The scale provides examples of the type of damage and impacts in the United States associated with winds of the indicated intensity. In general, damage rises by about a factor of four for every category increase[2]. The maximum sustained surface wind speed (peak 1-minute wind at the standard meteorological observation height of 10 m [33 ft] over unobstructed exposure) associated with the cyclone is the determining factor in the scale. (Note that sustained winds can be stronger in hilly or mountainous terrain – such as the over the Appalachians or over much of Puerto Rico – compared with that experienced over flat terrain[3].) The historical examples provided in each of the categories correspond with the observed or estimated maximum wind speeds from the hurricane experienced at the location indicated. These do not necessarily correspond with the peak intensity reached by the system during its lifetime. It is also important to note that peak 1-minute winds in hurricane are believed to diminish by one category within a short distance, perhaps a kilometer [~ half a mile] of the coastline[4]. For example, Hurricane Wilma made landfall in 2005 in southwest Florida as a Category 3 hurricane. Even though this hurricane only took four hours

to traverse the peninsula, the winds experienced by most Miami-Dade, Broward, and Palm Beach County communities were Category 1 to Category 2 conditions. However, exceptions to this generalization are certainly possible.

The scale does not address the potential for other hurricane-related impacts, such as storm surge, rainfall-induced floods, and tornadoes. It should also be noted that these wind-caused damage general descriptions are to some degree dependent upon the local building codes in effect and how well and how long they have been enforced. For example, building codes enacted during the 2000s in Florida, North Carolina and South Carolina are likely to reduce the damage to newer structures from that described below. However, for a long time to come, the majority of the building stock in existence on the coast will not have been built to higher code. Hurricane wind damage is also very dependent upon other factors, such as duration of high winds, change of wind direction, and age of structures.

Earlier versions of this scale – known as the Saffir-Simpson Hurricane Scale – incorporated central pressure and storm surge as components of the categories. The central pressure was used during the 1970s and 1980s as a proxy for the winds as accurate wind speed intensity measurements from aircraft reconnaissance were not routinely available for hurricanes until 1990[5]. Storm surge was also quantified by category in the earliest published versions of the scale dating back to 1972[6]. However, hurricane size (extent of hurricane-force winds), local bathymetry (depth of near-shore waters), topography, the hurricane's forward speed and angle to the coast also affect the surge that is produced[7] [8]. For example, the very large Hurricane Ike (with hurricane force winds extending as much as 125 mi from the center) in 2008 made landfall in Texas as a Category 2 hurricane and had peak storm surge values of about 20 ft. In contrast, tiny Hurricane Charley (with hurricane force winds extending at most 25 mi from the center) struck Florida in 2004 as a Category 4 hurricane and produced a peak storm surge of only about 7 ft. These storm surge values were substantially outside of the ranges suggested in the original scale. Thus to help reduce public confusion about the impacts associated with the various hurricane categories as well as to provide a more scientifically defensible scale, the storm surge ranges, flooding impact and central pressure statements are being removed from the scale and only peak winds are employed in this revised version . the Saffir-Simpson Hurricane **Wind** Scale. (The impact statements below were derived from recommendations graciously provided by experts [Bruce Harper, Forrest Masters, Mark Powell, Tim Marshall, Tim Reinhold, and Peter Vickery] in hurricane boundary layer winds and hurricane wind engineering fields[9][10].)

http://www.nhc.noaa.gov/sshws.shtml

TABLE 3-15 Saffir-Simpson Hurricane Wind Scale Summary

Category	Winds (1 min sustained winds in mph and km/hr)	Summary	People, Livestock, and Pets	Mobile Homes	Frame Homes	Apartments, Shopping Centers, and Industrial Buildings	High-Rise Windows and Glass	Signage, Fences, and Canopies	Trees	Power and Water	Example
1	74-95 mph 64-82 kt 119-153 km/hr	*Very dangerous winds will produce some damage*	People, livestock, and pets struck by flying or falling debris could be injured or killed.	Older (mainly pre-1994 construction) mobile homes could be destroyed, especially if they are not anchored properly as they tend to shift or roll off their foundations. Newer mobile homes that are anchored properly can sustain damage involving the removal of shingle or metal roof coverings, and loss of vinyl siding, as well as damage to carports, sunrooms, or lanais.	Some poorly constructed frame homes can experience major damage, involving loss of the roof covering and damage to gable ends as well as the removal of porch coverings and awnings. Unprotected windows may break if struck by flying debris. Masonry chimneys can be toppled. Well-constructed frame homes could have damage to roof shingles, vinyl siding, soffit panels, and gutters. Failure of aluminum, screened-in, swimming pool enclosures can occur.	Some apartment building and shopping center roof coverings could be partially removed. Industrial buildings can lose roofing and siding especially from windward corners, rakes, and eaves. Failures to overhead doors and unprotected windows will be common.	Windows in high- rise buildings can be broken by flying debris. Falling and broken glass will pose a significant danger even after the storm.	There will be occasional damage to commercial signage, fences, and canopies.	Large branches of trees will snap and shallow rooted trees can be toppled.	Extensive damage to power lines and poles will likely result in power outages that could last a few to several days.	Hurricane Dolly (2008) is an example of a hurricane that brought Category 1 winds and impacts to South Padre Island, Texas.

Category	Winds (1 min sustained winds in mph and km/hr)	Summary	People, Livestock, and Pets	Mobile Homes	Frame Homes	Apartments, Shopping Centers, and Industrial Buildings	High-Rise Windows and Glass	Signage, Fences, and Canopies	Trees	Power and Water	Example
2	96-110 mph 83-95 kt 154-177 km/hr	*Extremely dangerous winds will cause extensive damage*	There is a substantial risk of injury or death to people, livestock, and pets due to flying and falling debris.	Older (mainly pre-1994 construction) mobile homes have a very high chance of being destroyed and the flying debris generated can shred nearby mobile homes. Newer mobile homes can also be destroyed.	Poorly constructed frame homes have a high chance of having their roof structures removed especially if they are not anchored properly. Unprotected windows will have a high probability of being broken by flying debris. Well-constructed frame homes could sustain major roof and siding damage. Failure of aluminum, screened-in, swimming pool enclosures will be common.	There will be a substantial percentage of roof and siding damage to apartment buildings and industrial buildings. Unreinforced masonry walls can collapse.	Windows in high-rise buildings can be broken by flying debris. Falling and broken glass will pose a significant danger even after the storm.	Commercial signage, fences, and canopies will be damaged and often destroyed.	Many shallowly rooted trees will be snapped or uprooted and block numerous roads.	Near-total power loss is expected with outages that could last from several days to weeks. Potable water could become scarce as filtration systems begin to fail.	Hurricane Frances (2004) is an example of a hurricane that brought Category 2 winds and impacts to coastal portions of Port St. Lucie, Florida with Category 1 conditions experienced elsewhere in the city.

Category	Winds (1 min sustained winds in mph and km/hr)	Summary	People, Livestock, and Pets	Mobile Homes	Frame Homes	Apartments, Shopping Centers, and Industrial Buildings	High-Rise Windows and Glass	Signage, Fences, and Canopies	Trees	Power and Water	Example
3	111-130 mph 96-113 kt 178-209 km/hr	*Devastating damage will occur*	There is a high risk of injury or death to people, livestock, and pets due to flying and falling debris.	Nearly all older (pre-1994) mobile homes will be destroyed. Most newer mobile homes will sustain severe damage with potential for complete roof failure and wall collapse.	Poorly constructed frame homes can be destroyed by the removal of the roof and exterior walls. Unprotected windows will be broken by flying debris. Well-built frame homes can experience major damage involving the removal of roof decking and gable ends.	There will be a high percentage of roof covering and siding damage to apartment buildings and industrial buildings. Isolated structural damage to wood or steel framing can occur. Complete failure of older metal buildings is possible, and older unreinforced masonry buildings can collapse.	Numerous windows will be blown out of high-rise buildings resulting in falling glass, which will pose a threat for days to weeks after the storm.	Most commercial signage, fences, and canopies will be destroyed.	Many trees will be snapped or uprooted, blocking numerous roads.	Electricity and water will be unavailable for several days to a few weeks after the storm passes.	Hurricane Ivan (2004) is an example of a hurricane that brought Category 3 winds and impacts to coastal portions of Gulf Shores, Alabama with Category 2 conditions experienced elsewhere in this city.

Category	Winds (1 min sustained winds in mph and km/hr)	Summary	People, Livestock, and Pets	Mobile Homes	Frame Homes	Apartments, Shopping Centers, and Industrial Buildings	High-Rise Windows and Glass	Signage, Fences, and Canopies	Trees	Power and Water	Example
4	131-155 mph 114-135 kt 210-249 km/hr	*Catastrophic damage will occur*	There is a very high risk of injury or death to people, livestock, and pets due to flying and falling debris.	Nearly all older (pre-1994) mobile homes will be destroyed. A high percentage of newer mobile homes also will be destroyed.	Poorly constructed homes can sustain complete collapse of all walls as well as the loss of the roof structure. Well-built homes also can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Extensive damage to roof coverings, windows, and doors will occur. Large amounts of windborne debris will be lofted into the air. Windborne debris damage will break most unprotected windows and penetrate some protected windows.	There will be a high percentage of structural damage to the top floors of apartment buildings. Steel frames in older industrial buildings can collapse. There will be a high percentage of collapse to older unreinforced masonry buildings.	Most windows will be blown out of high-rise buildings resulting in falling glass, which will pose a threat for days to weeks after the storm.	Nearly all commercial signage, fences, and canopies will be destroyed.	Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas.	Power outages will last for weeks to possibly months. Long-term water shortages will increase human suffering. Most of the area will be uninhabitable for weeks or months.	Hurricane Charley (2004) is an example of a hurricane that brought Category 4 winds and impacts to coastal portions of Punta Gorda, Florida with Category 3 conditions experienced elsewhere in the city.

Category	Winds (1 min sustained winds in mph and km/hr)	Summary	People, Livestock, and Pets	Mobile Homes	Frame Homes	Apartments, Shopping Centers, and Industrial Buildings	High-Rise Windows and Glass	Signage, Fences, and Canopies	Trees	Power and Water	Example
5	> 155 mph > 135 kt > 249 km/hr	*Catastrophic damage will occur*	People, livestock, and pets are at very high risk of injury or death from flying or falling debris, even if indoors in mobile homes or framed homes.	Almost complete destruction of all mobile homes will occur, regardless of age or construction.	A high percentage of frame homes will be destroyed, with total roof failure and wall collapse. Extensive damage to roof covers, windows, and doors will occur. Large amounts of windborne debris will be lofted into the air. Windborne debris damage will occur to nearly all unprotected windows and many protected windows.	Significant damage to wood roof commercial buildings will occur due to loss of roof sheathing. Complete collapse of many older metal buildings can occur. Most unreinforced masonry walls will fail which can lead to the collapse of the buildings. A high percentage of industrial buildings and low-rise apartment buildings will be destroyed.	Nearly all windows will be blown out of high-rise buildings resulting in falling glass, which will pose a threat for days to weeks after the storm.	Nearly all commercial signage, fences, and canopies will be destroyed.	Nearly all trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas.	Power outages will last for weeks to possibly months. Long-term water shortages will increase human suffering. Most of the area will be uninhabitable for weeks or months.	Hurricane Andrew (1992) is an example of a hurricane that brought Category 5 winds and impacts to coastal portions of Cutler Ridge, Florida with Category 4 conditions experienced elsewhere in south Miami-Dade County.

History in Dillon County

The HVRI generated maps which follow show Hurricane Winds 1955 – 2009 (Figure 3-20), Hurricane Tracks 1955 – 2009 (Figure 3-21), and Hurricane Frequency 1853 – 2009 (Figure 3-22) for Dillon County. The maps indicate that the entire County has been affected by hurricane force winds, and that the frequency of hurricanes is considered moderate for most of the County with the extreme northwest portion experiencing low frequency of hurricane events.

Hurricane Hazel (October 1954) is one of the most memorable storms in recent years. Hazel, a Category 4 storm, made landfall near Little River, S.C., with 106-miles per hour winds and 16.9 foot storm surge. One person was killed and damage was estimated at $27 million. Dillon County and surrounding counties suffered only minor damages, primarily to trees, but the rainfall from this storm was much welcomed and brought to an end a severe drought in the area.

Hurricane Hugo (September 1989) made landfall near Sullivan's Island near Charleston with 120 knot winds. It continued on a northwest track at 25-30 miles per hour and maintained hurricane force winds as far inland as Sumter. Hugo exited the State southwest of Charlotte, N.C., before sunrise on September 22. The hurricane caused 13 directly related deaths and 22 indirectly related deaths, and it injured several hundred people in South Carolina. Damage in the State was estimated to exceed $7 billion, including $2 billion in crop damage. The forests in 36 counties along the path of the storm sustained major damage. Dillon County had only minor damage, primarily to trees, from this storm.

Hurricane Gaston made landfall the morning of the August 29th, 2004 as a tropical storm in Charlestown County SC. The storm moved north, through Georgetown, Williamsburg, and Florence counties. Gaston weakened to a tropical depression that night as it moved into Marion County and the remnants moved to Dillon County the morning of the 30th. Rainfall was the main element of the storm. The winds associated with Gaston were not much of a factor, with the peak wind of 58 mph recorded at the Springmaid Pier in Myrtle Beach. Source: Hurricane Hazel, Hugo, and Gaston information obtained from SC Climatology Office online at http://www.dnr.sc.gov/climate/sco/Publications/storms_of_centry.php.

There were 6 hurricane events with damages reported in the Dillon County 158 year database provided by the HVRI website (see Table 1, Appendix). Average annual SHELDUS losses (1960 – 2009) from hurricanes in Dillon County were $188,166 property damage and $173,912 crop damage. There were no fatalities or injuries reported. Reported 2009 adjusted damages for individual hazard events ranged from $0 to $8,666,713 property damages and from $0 to $8,666,713 crop damage. Source: http://webra.cas.sc.edu/ihat/frequency.aspx and http://webra.cas.sc.edu/ihat/losses.aspx

The SHELDUS database (http://webra.cas.sc.edu/hvriapps/sheldus_setup/sheldus_results.aspx) includes 10 hurricane/tropical storm events for the period 1960 – 2009 as shown in the following Table 3-16. No injuries or fatalities were reported. Total losses (2009 inflation adjusted) were as follows: $9,408,275 property damage, and $8,695,594 crop damage.

The maps which follow show hurricane winds events for the years 1955 – 2009 (Figure 3-20), hurricane tracks (Figure 3-21), and hurricane frequency for the years 1853 – 2009 (Figure 3-22) for Dillon County. The graphics indicate that the entire County has experienced hurricane wind events. The maps show that nearly all Dillon County has experienced moderate hurricane frequency, and that the northeastern corner of the County has experienced a low frequency of hurricane events.

Figure 3-20

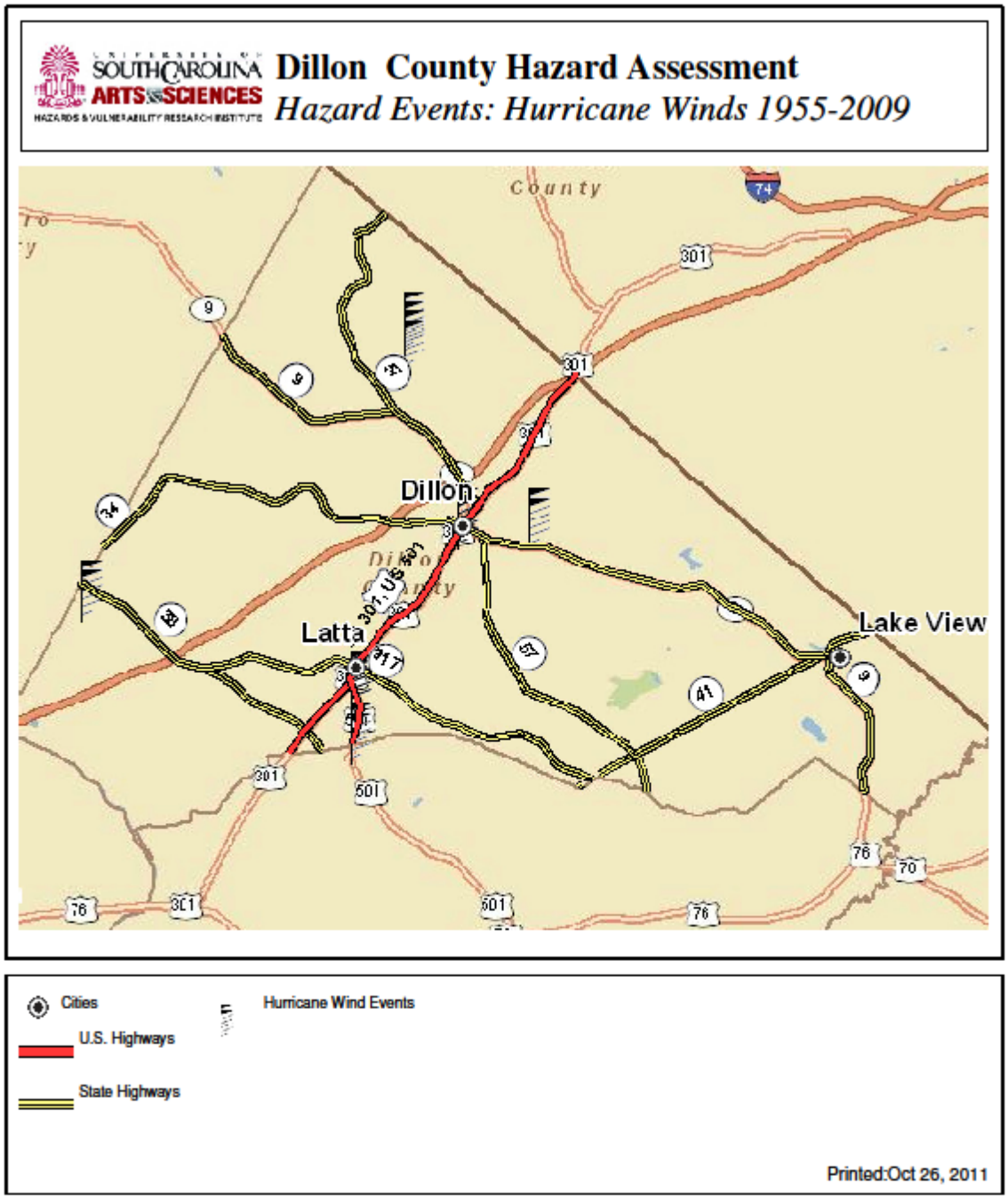

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Hazard Events: Hurricane Winds 1955-2009
Dillon
Latta
Lake View
301
501
74
76
70
Cities
Hurricane Wind Events
U.S. Highways
State Highways
Printed:Oct 26, 2011

Figure 3-21

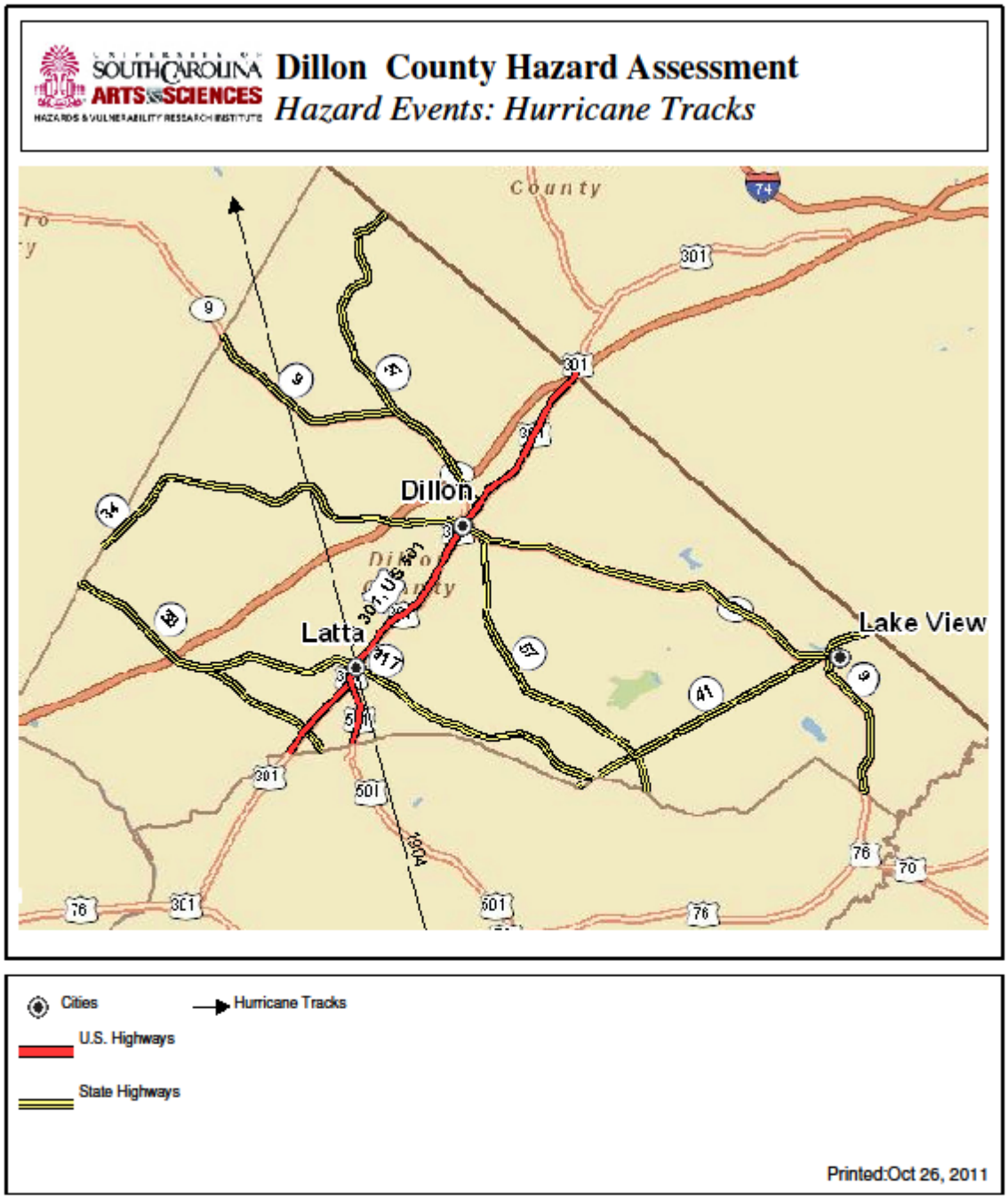

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Hazard Events: Hurricane Tracks
Dillon
Latta
Lake View
Cities
Hurricane Tracks
U.S. Highways
State Highways
Printed:Oct 26, 2011

Figure 3-22

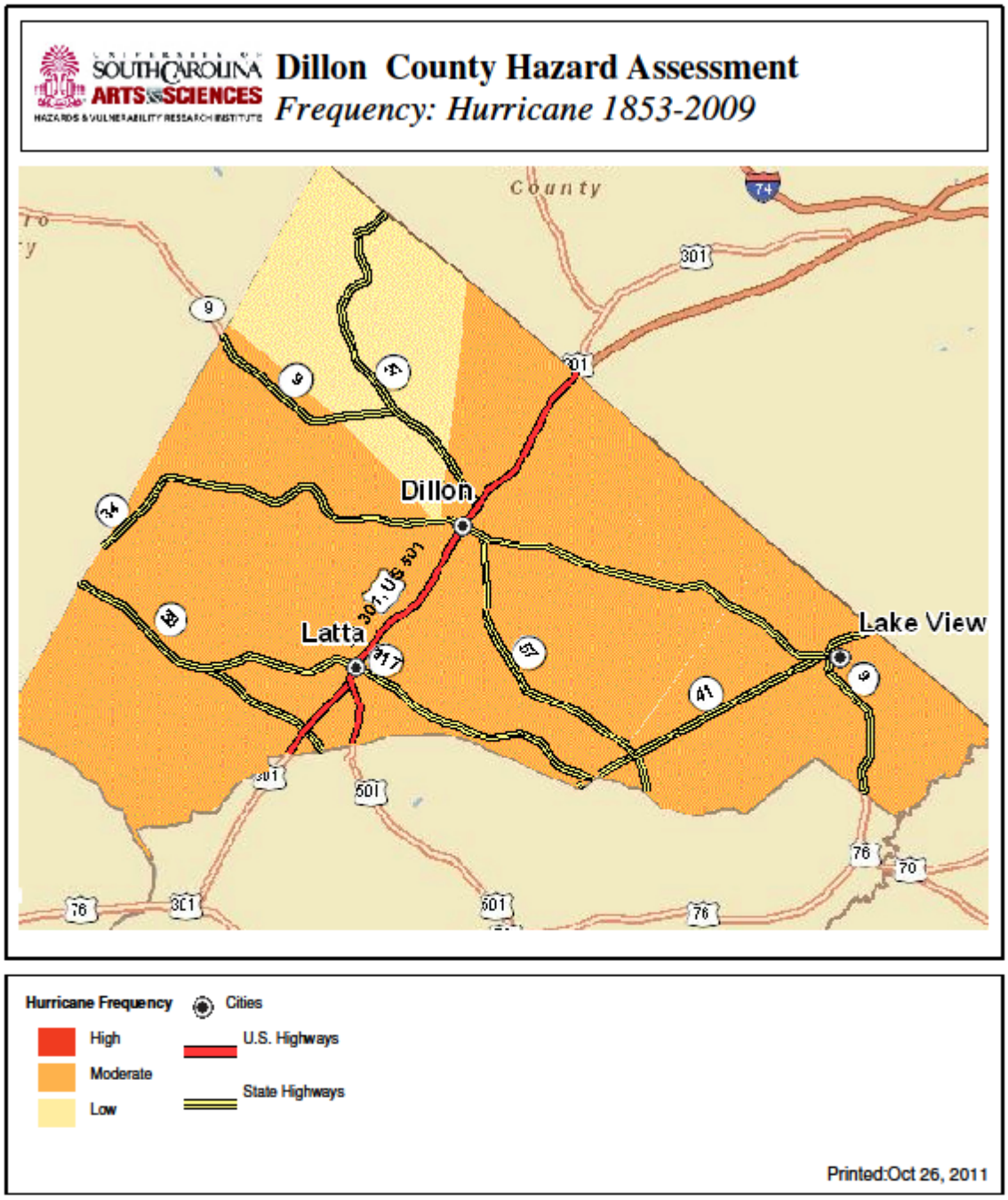

SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Frequency: Hurricane 1853-2009
County
Dillon
Latta
Lake View
301, US 301
Hurricane Frequency
High
Moderate
Low
Cities
U.S. Highways
State Highways
Printed:Oct 26, 2011

TABLE 3-16 HURRICANE EVENTS WITH REPORTED DAMAGES
DILLON COUNTY - 1960 - 2009

Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Crop Damage
9/22/1989	Hurricane/Tropical Storm	0	0	$8,666,712.89	$8,666,712.89
8/24/1995	Hurricane/Tropical Storm	0	0	$305,522.25	$3,055.22
8/15/1971	Hurricane/Tropical Storm	0	0	$371,424.11	$371.43
8/29/2004	Hurricane/Tropical Storm	0	0	$52,244.89	$0
8/28/1988	Hurricane/Tropical Storm	0	0	$2,850.86	$2,850.86
8/29/1964	Hurricane/Tropical Storm	0	0	$7,536.30	$7,536.30
6/20/1972	Hurricane/Tropical Storm	0	0	$565.23	$5,652.12
6/7/1968	Hurricane/Tropical Storm	0	0	$664.99	$66.50
9/12/1964	Hurricane/Tropical Storm	0	0	$753.66	$753.66
9/4/1987	Hurricane/Tropical Storm	0	0	$0	$8,594.97
Total (10 events)		0	0	$9,408,275.18	$8,695,593.95

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

Vulnerability Assessment

Dillon County is a primarily a rural county. All areas of Dillon County are considered equally vulnerable to hurricanes. The municipal areas, however, can be regarded as particularly vulnerable because they are denser and there is more of a threat to human safety and property damage.

As is the case with other hazards, mobile homes are among the most vulnerable structures when considering potential damage by hurricane winds, due to the nature of their construction. It is much easier for tropical storm or hurricane force winds to damage mobile homes than standard houses and buildings. As stated previously, well over 2,200 mobile homes existed in the County, 17.35% of all housing units in 2000. According to the 2010 Census, there are 4,547 mobile homes in the County, making up about 35 percent of the housing stock. Most mobile homes exist outside of municipal boundaries, where their location and setup are regulated by Dillon County (building code inspection initiated mid-year 2000, and zoning effective 2/28/2008).

Future Probability and Potential Dollar Losses

As stated above, Dillon County experienced 6 hurricanes resulting in damages between 1960 and 2009. Historical data from the HVRI was used to estimate potential future dollar losses due to hurricanes. Reported damages from past hurricane events in Dillon County range from a 2009 inflation adjusted $0 to $8,666,713 in property damage and from $0 to $8,666,713 in crop

damages. The annual percentage chance of a damaging hurricane is 3.79%, and a damaging hurricane can be expected to impact the county every 26.33 years. Based on SHELDUS losses for 10 damaging hurricanes, Dillon County might expect average damages of $1,810,387 per future hurricane event.

Hurricane Irene skirted the South Carolina coast in August 2011 and made landfall in nearby southeastern North Carolina as a category 2 storm. This storm reminds all emergency personnel and citizens of Dillon County that a hurricane could affect the area at any time during the annual Atlantic hurricane season. The preceding hurricane frequency map indicates that Dillon County is at moderate risk for a future hurricane event.

3.3.7 Hailstorm

Hazard Analysis

Hail is frozen droplets of water that are carried between colder and warmer elevations within a thunderstorm, with another layer of ice being added with each re-freeze until the frozen ball is so large it falls to earth. It is a costly result of severe thunderstorm activity in the United States.

Hail occurs infrequently, falling most often during spring thunderstorms from March through May. The incidence of hail varies from 1 to 1.5 hail days per year in the Midlands, Piedmont, and Foothills to 0.5 days per year in the Lowcountry (Coffey, 1988). Although hail can occur in every month during the year, May has the highest incidence with an average of more than 5 events per year. Typically, it occurs during the late afternoon and early evening between the hours of 3:00 p.m. and 8:00 p.m. (Knupp, 1992). (Source: S.C. Climatology Office online at http://www.dnr.sc.gov/climate/sco/ClimateData/cli_sc_climate.php#severe_wx)

The Tornado and Storm Research Organization or 'TORRO' is a privately supported research body, serving the national and international public interest. Founded in 1974, data-collection, research and co-ordination is undertaken by the Directors of TORRO, which is supported by some 300 to 400 observers, investigators and other contributors. Most supporters are British, with a smaller number from elsewhere in Europe and across the world. TORRO Staff are composed of professional and amateur meteorologists, with academic qualifications ranging from novices to doctorates: the only requirement is an interest in the subject area, enthusiasm and a desire to add to the body of scientific knowledge for the good of mankind. The core of TORRO's activity has been in data collection, site investigations and climatological research.

TORRO's Hail scale extends from H0 to H10 with its increments of intensity or damage potential related to hail size (distribution and maximum), texture, numbers, fall speed, speed of storm translation, and strength of the accompanying wind. The characteristic damage associated with each increment in Britain is listed in the table but may need to be modified for other countries to reflect differences in building materials and types; e.g. whether roofing tiles are predominantly slate, shingle or concrete.

An indication of equivalent hail kinetic energy ranges (in joules per square meter) has now been added to the first six increments on the scale, and this may be derived from radar reflectivities or from hail pads. The International Hailstorm Intensity Scale recognizes that hail size alone is insufficient to accurately categories the intensity and damage potential of a hailstorm, especially towards the lower end of the scale. For example, without additional information, an event in which hail of up to walnut size is reported (hail size code 3: hail diameter of 21-30 mm) would

be graded as a hailstorm with a minimum intensity of H2-3. Additional information, such as the ground wind speed or the nature of the damage the hail caused, would help to clarify the intensity of the event. For example, a fall of walnut-sized hail with little or no wind may scar fruit and sever the stems of crops but would not break vertical glass and so would be ranked H2-3. However, if accompanied by strong winds, the same hail may smash many windows in a house and dent the bodywork of a car, and so be graded an intensity as high as H5.

However, evidence indicates that maximum hailstone size is the most important parameter relating to structural damage, especially towards the more severe end of the scale. It must be noted that hailstone shapes are also an important feature, especially as the "effective" diameter of non-spheroidal specimens should ideally be an average of the co-ordinates. Spiked or jagged hail (see photographs on the TORRO web Gallery) can also increase some aspects of damage. The TORRO Hailstorm Intensity Scale (H0 to H10) in relation to typical damage and hail size codes are shown in the following Table 3-17.

TABLE 3-17 TORRO HAILSTORM INTENSITY SCALE

	Intensity Category	Typical Hail Diameter (mm)*	Probable Kinetic Energy, J-m^2	Typical Damage Impacts
H0	Hard Hail	5	0-20	No damage
H1	Potentially Damaging	5-**15**	>20	Slight general damage to plants, crops
H2	Significant	10-**20**	>100	Significant damage to fruit, crops, vegetation
H3	Severe	20-**30**	>300	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	25-**40**	>500	Widespread glass damage, vehicle bodywork damage
H5	Destructive	30-**50**	>800	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40-**60**		Bodywork of grounded aircraft dented, brick walls pitted
H7	Destructive	50-**75**		Severe roof damage, risk of serious injuries
H8	Destructive	60-**90**		(Severest recorded in the British Isles) Severe damage to aircraft bodywork
H9	Super Hailstorms	75-**100**		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	>100		Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

* Approximate range (typical maximum size in bold), since other factors (e.g. number and density of hailstones, hail fall speed and surface wind speeds) affect severity.
Source: http://www.torro.org.uk/site/hscale.php

History in Dillon County

The hazards frequency data from the South Carolina Integrated Hazards Assessment Tool provided by the Hazards and Vulnerability Research Institute, University of South Carolina, shows 53 hail events in Dillon County for a 59 year period (1950 – 2009). Average annual SHELDUS losses (1960 – 2009) from hailstorm in Dillon County were $7,381 property damage (2009 inflation adjusted) and $20,855 adjusted crop damage. Average annual fatalities reported were 0 and injuries were reported as 0.007. (See Tables 1 and 2 in the Appendix)

For the 39 hail events with reported damages listed in the SHELDUS database, total losses reported were: $1,148,835.03 property damage (2009 inflation adjusted) and $2,013,216.47 adjusted crop damage as shown in the following Table 3-13. For the top 10 events, property damages ranged from a low of $5,714.28 to a high of $693,337.03, and crop damages ranged from a low of $0 to a high of $912,275.14. The top 10 events accounted for 96.84% of total property damage and 35.16% of total crop damage. While recorded measurements of hail size are not readily available, members of the County's HMPC recall that most hail measures less than approximately one half inch or less in diameter, however, hail sizes of 2" – 3" have been witnessed in Dillon County.

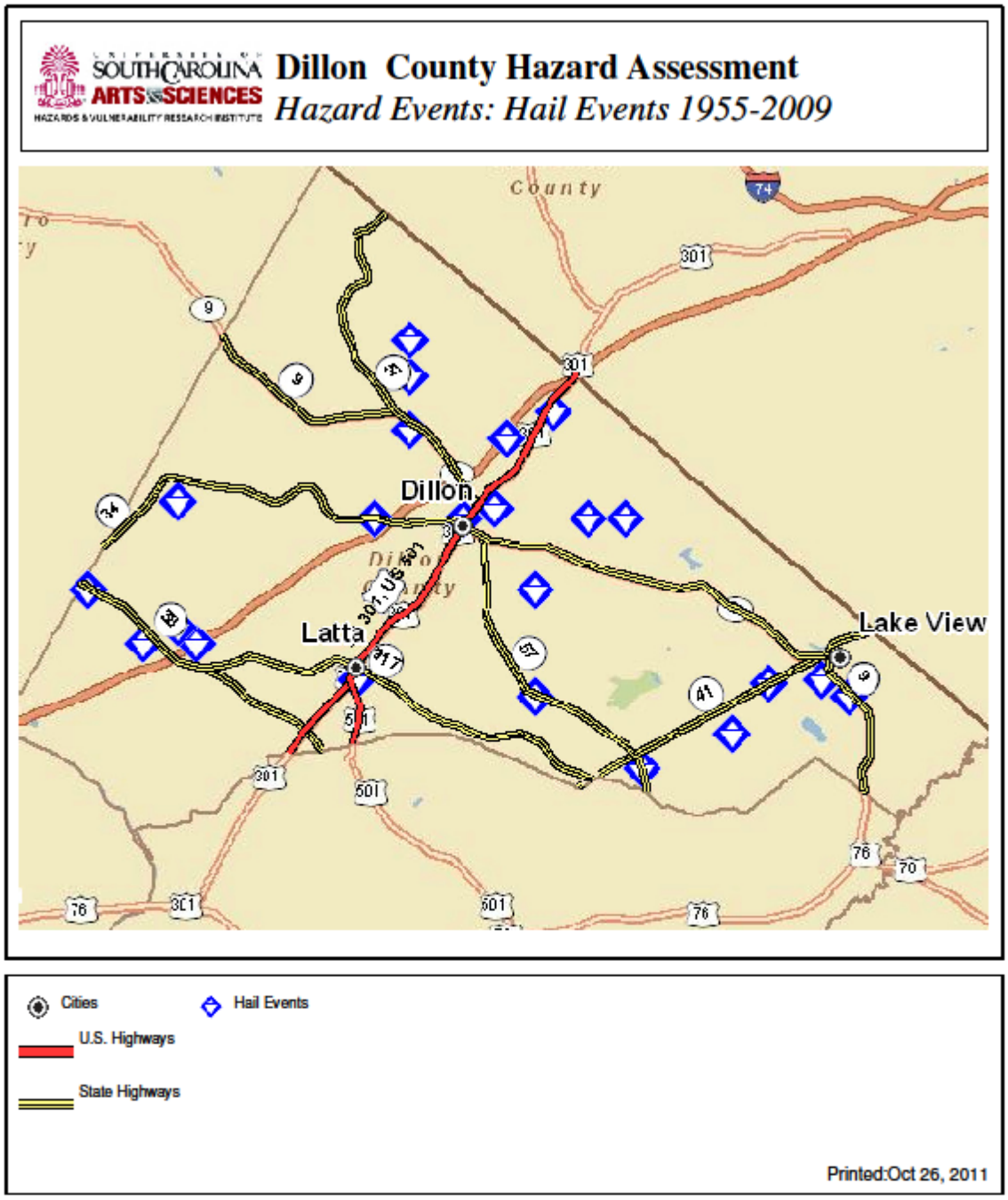
The following Figure 3-21 provided by HVRI shows hail events in Dillon County for the years 1955 – 2009. The map indicates that reported hailstorms were evenly distributed throughout the County.

TABLE 3-18 HAILSTORMS WITH REPORTED DAMAGES 1960 - 2009
DILLON COUNTY

Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Crop Damage
6/10/1982	Hail – Lightning Severe Storm/Thunder Storm - Wind	0.20	0	$269,851.35	$269,851.35
3/17/1965	Hail – Tornado - Wind	0	0	$693,337.03	$0
6/27/1971	Hail - Lightning Severe Storm/Thunder Storm - Wind	0	0	$64,999.22	$64,999.22
8/12/2004	Hail	0	0	$9,142.86	$0
6/2/1985	Hail - Wind	0	0	$14,285.72	$14,285.72
7/13/1988	Hail - Severe Storm/Thunder Storm	0	0	$9,122.72	912,275.14
6/15/1971	Hail – Severe Storm/Thunder Storm - Wind	0	0	$21,666.42	$21,666.42
7/17/1968	Hail – Wind	0	0	$15,294.26	$0
6/21/1970	Hail - Severe Storm/Thunder Storm - Wind	0.33	0	$9,122.94	$9,122.94
7/4/1975	Hail – Lightning – Wind	0	0	$5,714.28	$57,142.84
Total (top 10 events)		0.53	0	$1,112,536.80	$1,349,343.63
Total (39 events)		1.15	0	$1,148,835.03	$2,013,216.47

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

Figure 3-23


SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Hazard Events: Hail Events 1955-2009
Dillon
Latta
Lake View
Cities
Hail Events
U.S. Highways
State Highways
Printed:Oct 26, 2011

Vulnerability Assessment

All areas of Dillon County are vulnerable to hailstorms, which may also be associated with thunderstorms and lightning. As with other hazards, the municipalities and surrounding areas are the centers of higher population and can be regarded as particularly vulnerable because there is more of a threat to human safety and property damage.

Severe thunderstorms have most of the same impacts as tornadoes, but usually to a lesser degree. As with tornadoes, mobile homes are among the most vulnerable structures when considering potential hail damage, due to the nature of their construction. It is much easier for hailstorms to damage mobile homes than standard houses and buildings. According to the 2010 Census, there are 4,547 mobile homes in the County, making up about 35 percent of the housing stock. This is a nearly 100% increase from the 2000 Census data that indicated over 2,200 mobile homes exist in the County, a sizeable portion of the 12,679 housing units (over one in five units). Most exist outside of municipal boundaries, where their location and setup are virtually unregulated.

There are many mobile home parks and subdivisions scattered throughout the County as previously discussed. The Town of Lake View has the highest number of mobile homes followed by the City of Dillon and the Town of Latta.

Campgrounds and park shelters are also very vulnerable to hailstorm events, as people may be caught in severe conditions with little or no shelter. There are a total of 3 formal campgrounds with 223 campsites sites in Dillon County; these are more heavily occupied in the late spring to early fall months when weather is warmer and more conducive to camping, which consequently is also the period of peak hailstorm activity.

Future Probability and Potential Dollar Losses

There are 53 hail event occurrences in the SHELDUS database over 59 years. County residents can expect about one reportable hail event with losses in any given year. The annual chance of a hailstorm with losses occurring is 89.83%.

Historical data from HVRI was used to estimate potential future dollar losses due to hailstorm events. Estimated damages from past reported hailstorms with damages in Dillon County range from $5,714 to $693,337 in 2009 adjusted property damage and $0 to $9,123 adjusted crop damage per event.

3.3.8 Windstorm

Hazard Analysis

The National Oceanic and Atmospheric Administration (NOAA) provides the following wind definitions (source: http://www.nws.noaa.gov/glossary/index.php?letter=w):

Wind

> The horizontal motion of the air past a given point. Winds begin with differences in air pressures. Pressure that's higher at one place than another sets up a force pushing from the high toward the low pressure. The greater the difference in pressures, the stronger the force. The distance between the area of high pressure and the area of low pressure also determines how fast the moving air is accelerated. Meteorologists refer to the force that starts the wind flowing as the "pressure gradient force." High and low pressure are relative. There's no set number that divides high and low pressure. Wind is used to describe the prevailing direction from which the wind is blowing with the speed given usually in miles per hour or knots.

Wind Advisory

Sustained winds 25 to 39 mph and/or gusts to 57 mph. Issuance is normally site specific.

Wind Shear

The rate at which wind velocity changes from point to point in a given direction (as, vertically). The shear can be speed shear (where speed changes between the two points, but not direction), direction shear (where direction changes between the two points, but not speed) or a combination of the two.

Wind Shear Profile

The change in wind speed and/or direction usually in the vertical. The characteristics of the wind shear profile are of critical importance in determining the potential for and type of severe weather.

History in Dillon County

Strong winds are a common ingredient to most thunderstorms, tornados, hurricanes and other severe storm activity. The region is in FEMA Wind Zone Category III, which indicates winds up to 200 mph could be felt.

The following Table 3-19 shows historical data for windstorm events and damage from 1988 through 2000 for Dillon County and other counties in the Pee Dee area, as well as the noted probability of a severe windstorm event. These events are illustrated in Figure 3-24 which follows.

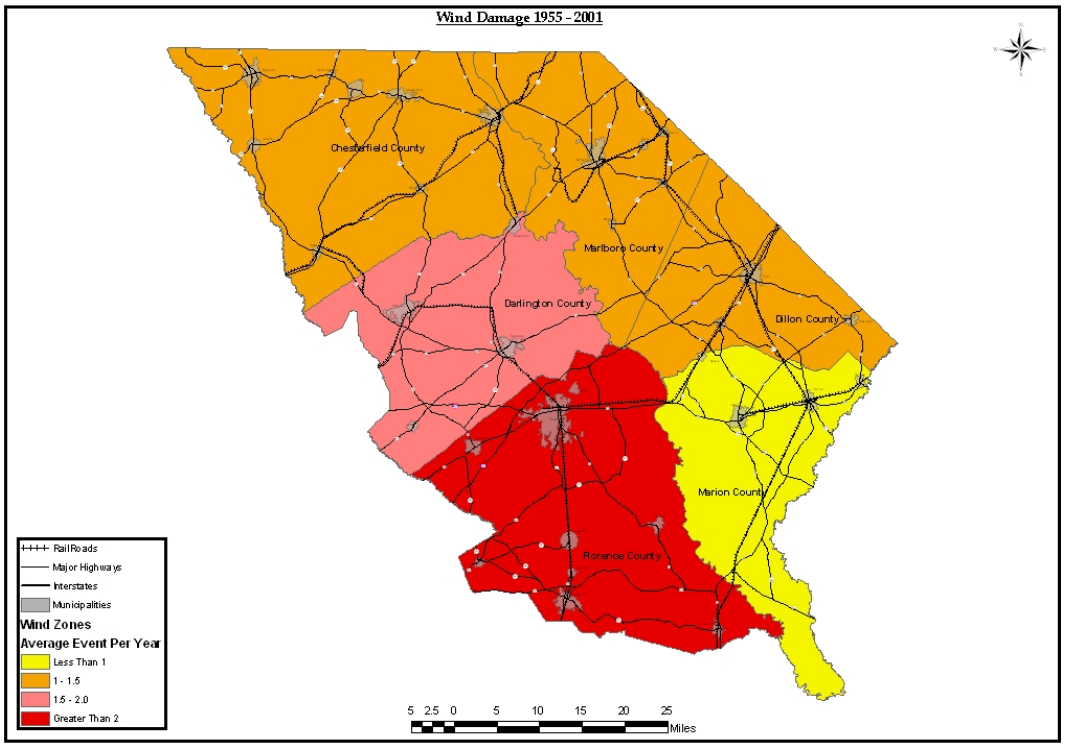
The hazards frequency data from the South Carolina Integrated Hazards Assessment Tool provided by the Hazards and Vulnerability Research Institute, University of South Carolina, does not indicate the number of wind events for the period 1960 – 2009.

TABLE 3-19 PEE DEE REGION WINDSTORM EVENTS
1988 - 2000

Jurisdiction:	Events '88–'00	Fatalities	Injuries	Property Damage	Crop Damage	Prob. %
Chesterfield Co	56	0	3	$ 158,000	$ 0	122%
Darlington Co.	80	0	4	$ 934,000	$ 0	174%
Dillon Co.	60	0	6	$2,143,000	$ 5,000,000	130%
Florence Co.	109	0	5	$ 595,000	$ 0	237%
Marion Co.	23	0	1	$ 13,100	$ 0	50%
Marlboro Co.	51	0	4	$ 807,000	$ 0	111%

Source: 2007 Pee Dee Region Hazard Mitigation Plan.

Figure 3-24 Wind Damage – Pee Dee Region By County – 1955 - 2001



Source: 2007 Pee Dee Region Hazard Mitigation Plan

A shown in Table A-2 in the Appendix, average annual SHELDUS losses (1960 – 2009) from windstorm in Dillon County were $64,367 property damage (2009 inflation adjusted) and $142,946 adjusted crop damage. Average annual fatalities reported were 0.003 and injuries were reported as 0.073.

According to the SHELDUS database, there have been a total of 92 wind events (most of which were in combination with other hazards including severe thunder storms, lightning, hail and tornadoes). For the 92 windstorm events with reported damages, total losses reported were: $4,533,283.20 property damage (2009 inflation adjusted), $7,705,418.39 adjusted crop damage, 5.38 injuries, and 0.13 fatalities as shown in the following Table 3-20. For the top 10 events, property damages ranged from a low of $42,162.07 to a high of $2,052,629.42, and crop damages ranged from a low of $0 to a high of $6,842,098.06. The top 10 events accounted for 88.1% of total property damage and 92.3% of total crop damage.

Vulnerability Assessment

All areas of Dillon County are vulnerable to windstorms, primarily in association with thunderstorms and lightning events. As with other hazards, the municipalities and surrounding areas are the centers of higher population and can be regarded as particularly vulnerable because there is more of a threat to human safety and property damage.

Wind events, similarly to severe thunderstorms, may have most of the same impacts as tornadoes, but usually to a much lesser degree. As with tornadoes, mobile homes are among the most vulnerable structures when considering potential wind damage, due to the nature of their

construction as stated previously. It is much easier for severe winds to damage a mobile home than standard houses and buildings. With over 2,200 mobile homes in Dillon County, which represents a sizeable portion of the 12,679 housing units in 2000 (over one in five units), the potential for major damages from wind events is great.

As discussed earlier, campgrounds and park shelters are also very vulnerable to severe winds, as people may be caught in severe conditions with little or no shelter. Campgrounds are also often surrounded by trees, which presents an increased level of danger to campers from felled trees or falling limbs. There are a total of 3 formal campgrounds with 223 campsites in Dillon County that are more heavily occupied in the late spring to early fall months when weather is more conducive to camping, which consequently is also the period of sudden weather changes including severe wind activity.

Future Probability and Potential Dollar Losses

There are 92 wind events with damages in Dillon County in the SHELDUS database over 59 years. County residents can expect 1 or 2 wind events with losses in any given year.

Historical data from HVRI was used to estimate potential future dollar losses due to windstorm events. Estimated damages from past reported wind events with damages in Dillon County range from a low of $42,162 to a high of $2,052,629 property damages (2009 inflation adjusted), and from a low of $0 to a high of $6,842,098 adjusted crop damage, as shown in Table 3-20. This provides an indication of what damages could result from future wind and wind related events.

TABLE 3-20 WINDSTORMS WITH REPORTED DAMAGES 1960 - 2009
DILLON COUNTY

Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Crop Damage
9/5/1996	Wind	1.00	0	$2,052,629.42	$6,842,098.06
7/22/1996	Severe Storm/Thunder Storm – Wind	0	0	$410,525.88	$0
6/10/1982	Hail – Lightning – Severe Storm/Thunder Storm – Wind	0.20	0	$269,851.35	$269,851.35
3/3/1999	Wind	0	0	$130,000.13	$0
7/23/1996	Severe Storm/Thunder Storm – Wind	1.00	0	$136,841.96	$0
3/17/1965	Hail – Tornado – Wind	0	0	$693,337.03	$0
3/13/1993	Wind – Winter Weather	0.30	0	$74,285.37	$0
5/8/1984	Severe Storm/Thunder Storm – Wind	0	0	$103,999.83	$0
6/9/1995	Severe Storm/Thunder Storm – Wind	0	0	$42,162.07	$0
2/1/1976	Wind	0.13	0	$80,245.47	$80.23
Total (top 10 events)		2.63	0	$3,993,878.51	$7,112,029.64
Total (92 events)		5.38	0.13	$4,533,283.20	$7,705,418.39

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

3.3.9 Hazardous Materials

Hazard Analysis

Chemicals are found everywhere. They purify drinking water, increase crop production, and simplify household chores. But chemicals also can be hazardous to humans or the environment if used or released improperly. Hazards can occur during production, storage, transportation, use, or disposal. You and your community are at risk if a chemical is used unsafely or released in harmful amounts into the environment where you live, work, or play.

Hazardous materials in various forms can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Many products containing hazardous

chemicals are used and stored in homes routinely. These products are also shipped daily on the nation's highways, railroads, waterways, and pipelines.

Chemical manufacturers are one source of hazardous materials, but there are many others, including service stations, hospitals, and hazardous materials waste sites.

Varying quantities of hazardous materials are manufactured, used, or stored at an estimated 4.5 million facilities in the United States--from major industrial plants to local dry cleaning establishments or gardening supply stores.

Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. These substances are most often released as a result of transportation accidents or because of chemical accidents in plants.

(The preceding hazard analysis was obtained online from the FEMA website at the following address: (http://www.fema.gov/hazard/hazmat/index.shtm).

History in Dillon County

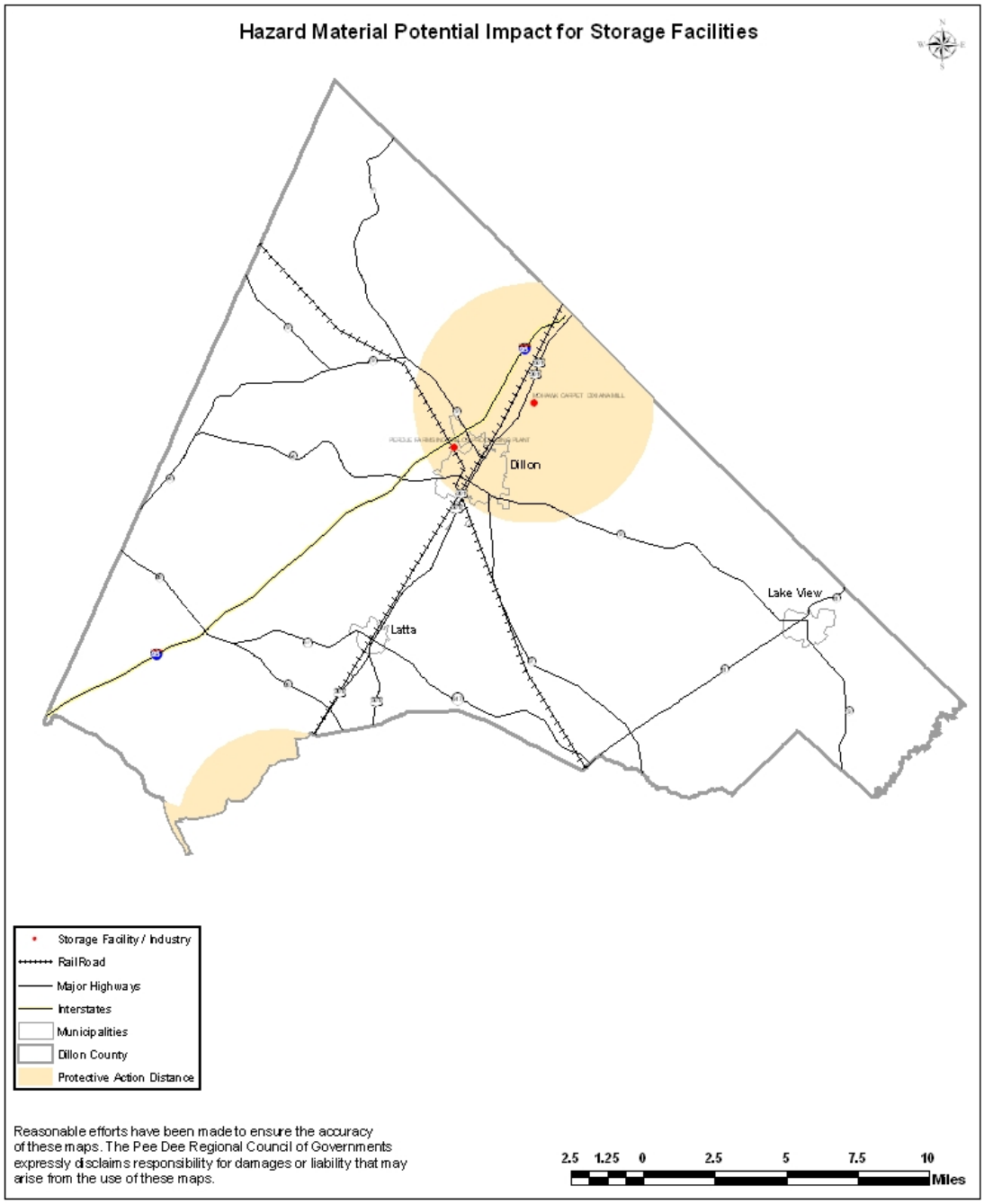
According to the South Carolina Integrated Hazards Assessment Tool provided by the Hazards and Vulnerability Research Institute, University of South Carolina, there have been 54 hazardous materials (Hazmat) events reported over a 22 year period (1987-2009) in Dillon County. These are considered to be primarily spills of hazardous materials and chemicals being transported through the county. These events include both fixed facility and transportation occurrences. These events resulted in 0 average annual fatalities and 0.007 average annual injuries. (See Tables A-1 and A-2 in the Appendix.). There is no other data available at this time concerning specific hazmat events.

Vulnerability Assessment

Hazardous Material Storage: First, the types of hazardous materials stored at (mostly) industrial facilities in Dillon County is illustrated on the following map that was included in the 2007 Pee Dee Region Hazard Mitigation Plan. The following Figure 3-25 shows materials storage sites and the "protective action distance", or potential impact area of a spill or release.

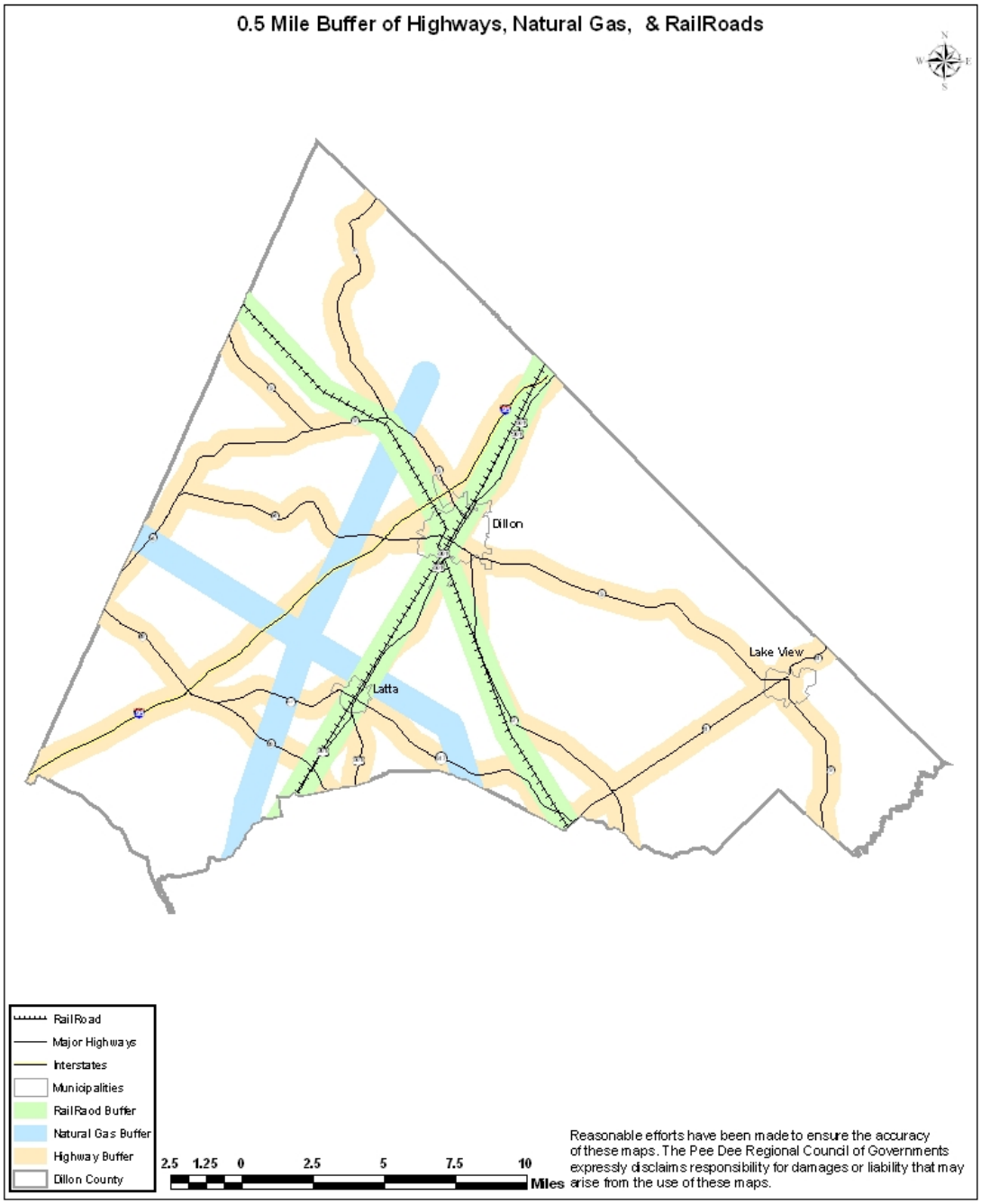
Hazardous Materials Transportation: Secondly, major highways, rail lines and natural gas transmission lines represent potential spill or release points or corridors for hazardous materials. On the accompanying pages are maps for Dillon County showing these transportation and transmission corridors (Figure 3-26) and a composite map of the first two factors is provided, showing vulnerability points (Figure 3-27).

Figure 3-25 – Hazard Material Storage Sites – Dillon County



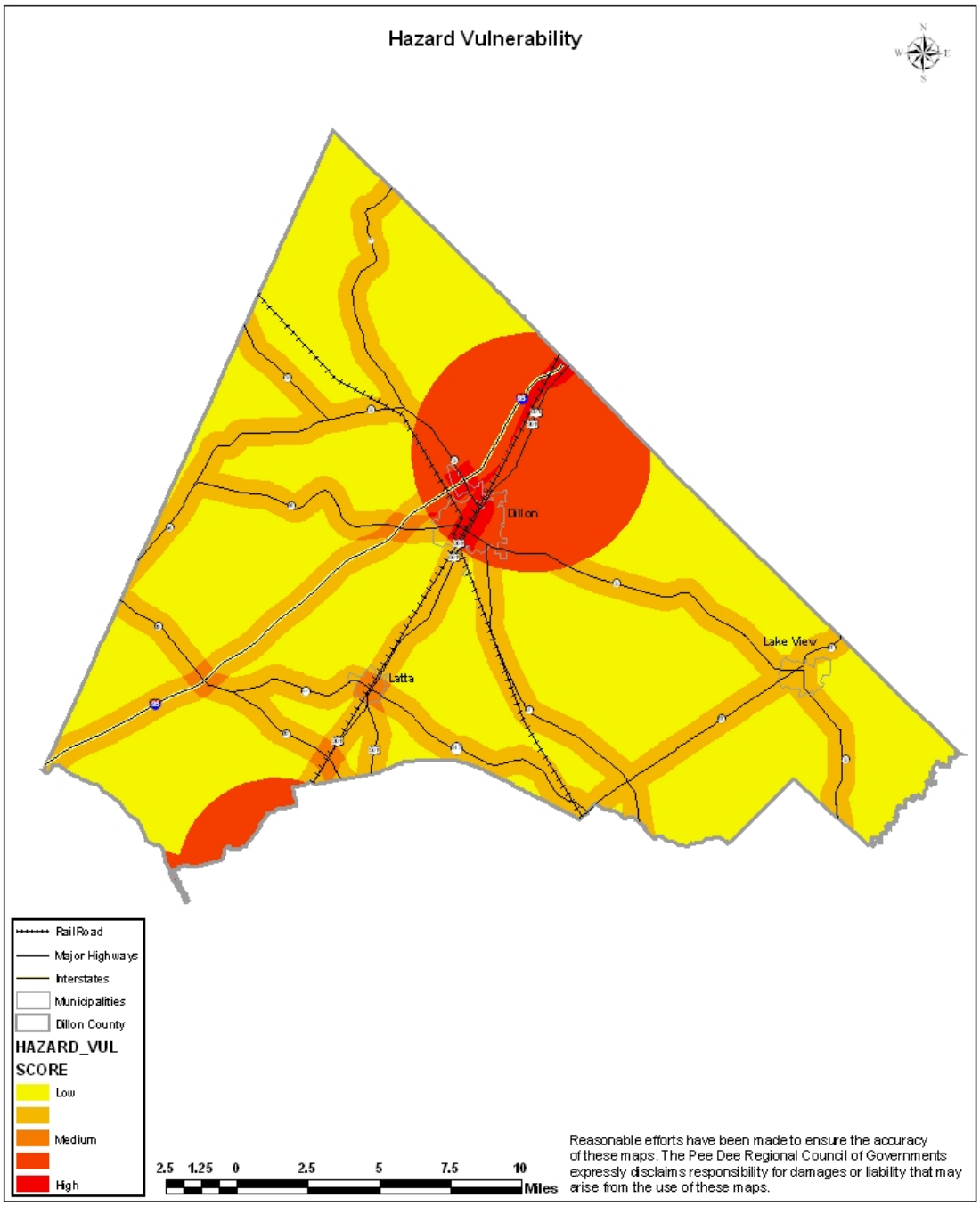
Source: 2007 Pee Dee Region Hazard Mitigation Plan

Figure 3-26 Transportation and Transmission Corridors – Dillon County



Source: 2007 Pee Dee Region Hazard Mitigation Plan

Figure 3-27 Hazard Material Vulnerability Points – Dillon County



Source: 2007 Pee Dee Region Hazard Mitigation Plan

Perdue Farms Inc. operates a chicken processing facility off S.C. 9 near the City of Dillon and I-95. The facility stores onsite and uses several hazmat chemicals that are reported annually to the SC Department of Health and Environmental Control and to the Dillon County Disaster Preparedness Agency.

Future Probability and Potential Dollar Losses

As previously stated, there have been 54 hazardous materials (Hazmat) events reported over a 22 year period (1987-2009) in Dillon County. These events include both fixed facility and transportation occurrences. The data shows a return period of 0.40 per year and 245.45% annual percentage chance of an event. Dillon County can anticipate approximately 2 -3 hazmit events per year. Data is not available for estimating the potential dollar losses for future events.

3.3.10 Flooding

Hazard Analysis

According to the National Flood Insurance Program (NFIP), a flood is defined as "a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from: overflow of inland or tidal waters; unusual and rapid accumulation or runoff of surface waters of any source; or a mudflow." A flash flood is more intense and usually results from intense storms dropping large amounts of rain within a brief period. Flash floods occur with little or no warning and can reach full peak in only a few minutes.

FEMA indicates that floods are the most common, and widespread of all natural disasters except for fire. Floods are the most deadly natural disaster in the United States. Floods can be slow or fast rising, but generally develop over a period of days. Most communities in the United States have experienced some kind of flooding. Communities particularly at risk are those located within the 100-year floodplain (see Figure 3-28), near water, or downstream from a dam. Flooding occurs after spring rains, heavy thunderstorms, or winter snow thaws.

In Dillon County, the typical causes of flooding are overflow of inland waters (rivers and streams) and runoff of surface waters. Tidal flow and mudflow are not recognized hazards in Dillon County or any municipality covered by this plan, nor is hurricane storm surge.

Due to the frequency of storms and the low and flat topography of much of the County, flooding is a common occurrence in several areas, particularly specific portions of the City of Dillon. Storm drainage system improvements are greatly needed to mitigate these events that cause property damage and make the roadways dangerous.

The 100-year flood elevation is a uniform standard for gauging flood-prone areas and for the need for flood insurance. It presumes the area so designated has a one percent chance of being inundated in any given year, but floods could strike any given property/area on a more frequent basis. Flood-prone areas have been mapped by FEMA using a complex series of county maps.

Sound floodplain management involves a series of programs designed to reduce flood-related damages. Programs such as the National Flood Insurance Program (NFIP), the Community Rating System (CRS) and the Flood Mitigation Assistance (FMA) program provide the framework to implement a successful floodplain management program. The NFIP contains specific regulatory measures that enable government officials to determine where and how growth occurs relative to flood hazards. In order for a county or municipality to join the NFIP, they must adopt a Local Flood Damage Prevention Ordinance. This document provides local governments with a powerful regulatory tool to reduce future flood-related losses. Another key service provided by the NFIP includes the mapping of identified flood hazard areas (see Figure 3-28). Flood Insurance Rate Maps and studies are used to assess flood hazard risk and set flood

insurance rates. The maps also provide an important means to educate residents, government officials and the business community about the likelihood of flooding in their community.[1] Figure 3-29 shows the Digital Flood Insurance Rate Map Index (DFIRM, 5-24-2011) for Dillon County. DFRIMS for the municipalities are not included due to the large number of maps.

Forty-three (43) counties and 162 municipalities in South Carolina participated in the National Flood Insurance Program as of 2005. (Source: SC Hazard Mitigation Plan 2005, SC Emergency Management Division). Dillon County is a participant in the NFIP. Dillon County Council adopted a Flood Damage Prevention Ordinance on September 27, 2006, and the ordinance was amended/updated November 11, 2007, February 27, 2008, and March 24, 2010. All municipalities participate in the NFIP, and adopted Flood Damage Prevention Ordinances on the following dates: City of Dillon, 9/14/2009; Town of Lake View, 9/16/2011; Town of Latta, 5/12/2011.

The primary goals of the CRS are to reduce flood losses, facilitate accurate insurance ratings, and promote the awareness of flood insurance. The CRS achieves these goals by encouraging communities to adopt regulations stricter than the minimal requirements of the NFIP. The CRS is an incentive-based program that encourages counties and municipalities to accept defined actions designed to reduce the impacts of future flooding. Each of the 18 activities, or measures, is assigned points. As points are accumulated and reach identified thresholds, communities can apply for a reduced CRS class. Class ratings, which run from 1 to 10, are tied to flood insurance premium reductions. Therefore, as class ratings get closer to 1, the percent reduction in flood insurance policies held in that community increases.
(Source: SC Hazard Mitigation Plan 2005, SC Emergency Management Division)

History in Dillon County

The hazards frequency data from the South Carolina Integrated Hazards Assessment Tool provided by the Hazards and Vulnerability Research Institute, University of South Carolina, indicates 6 flood events for a 59 year period (1950 – 2009). Average annual SHELDUS losses (1960 – 2009) from this hazard in Dillon County were $4,868 property damage (2009 inflation adjusted) and $9,787 adjusted crop damage. There are no fatalities or injuries reported. (See Tables 1 and 2 in the Appendix.)

For the 23 flood events with reported damages listed in the SHELDUS database, total losses reported were: $306,641.01 property damage (2009 inflation adjusted) and $682,418.02 adjusted crop damage as shown in the following Table 3-22. For the top 10 events, property damages ranged from a low of $3,586.21 to a high of $83,333.06, and crop damages ranged from a low of $0 to a high of $161,489.94. The top 10 of 22 events accounted for 88.46% of total property damage and 90.0% of total crop damage.

The City of Dillon is particularly prone to flash flooding in the area of U.S. 301 N and other areas following heavy rainfall events. The District Conservationist, U.S. Department of Agriculture, Natural Resources Conservation Service Dillon office, recently provided the following information to the DCDP Director. "*Back in the '60s legislation provided for the establishment of special conservation districts to aid in the prevention of erosion and other negative effects of extreme rainfall/wind situations. The approximate 10,000 acres of Maple Swamp took in a portion of the city of Dillon. When the Maple Swamp Conservation District*

was established, funding was provided to clean out ditches, establish vegetation to reduce erosion and generally improve the drainage. After the initial practices to improve drainage and reduce erosion was completed, people's interest in the area of concern diminished. As we all know, we have been in a period of drought for some time and have not had any significant amounts of rain to really upset people other than minor discomforts. When this interest died, the Maple Swamp Conservation district became a liability to this area and this is why our Dillon County Conservation board wanted to terminate this district and more about than in a minute. Maple Swamp Conservation District was eliminated because it was another step in a very cumbersome system in getting funds on the ground to restore the damage done to our natural resources by a major weather event. The city county has the easements necessary to come onto property to make the improvements necessary in this restoration process.

The data I gave you indicates that Maple Swamp can discharge about 4 inches of rain in a 24 hour period into the Little Pee River. Sediment and time has reduced the depth of Maple Swamp creek and the discharge area has been affected by the rail road bridge. Anytime we slow down movement of water, we reduce the amount of water being moved. This is the problem we are facing today. A prolonged period of rain will fill up the existing reservoirs of the creeks, ditches, etc within the swamp area. Once these areas are full and the river level rises, water will back up significantly within the city. I could only hazard a non engineering guess that a hurricane of 20 or more inches within a 24 hour period could leave hwy 301 in the down town portion of the city 4 or more feet underwater. Again this is only a guess and could be really wrong----either way!

(One concern about The Little Pee Dee is that its ability to spread out during heavy rainfall amounts is limited by many factors such as beaver dams, natural streams, etc restricted by culverts to allow passage to the river and about as many reasons as one can think of. We have a program that can restore some of the Little Pee Dee's natural flood plain but I have few takers.)

USDA-NRCS does little if anything to improve established areas. Our assistance comes after a disaster. Your agencies have the lead in planning for the care of people and restoring life to as much a standard of living as normal. Our Agency picks up in assisting with reestablishment of water movement such as cleaning debris from streams and ditches so additional flooding and erosion problems are minimal. After a hurricane, our streams and ditches will be full of trees and about anything one can imagine. To reduce additional damage from future rains, water movement will have to be restored and erosion control practices reworked such as tree plantings, etc.

When your first responders hit the streets, we will not be far behind in searching for areas that will need priority assistance in restoring the logistics necessary for travel and improved water flow. Your first responders will be able to help us in locating those areas that need work as a priority. We will not get in your way and understand there may be a significant time lag before we know those areas you consider a priority. Besides, it might be 2 or more weeks before any funding to our agency becomes available. In the meantime, we will be looking for contractors/subcontractors to bring in the necessary equipment to start the restoration process of our natural resources (water movement).

The one area that I emphasize that we will need is a place to temporarily put those trees, etc that come out of the ditches. In Dillon County, we could easily have several million cubic yards of debris. Where would this go? We would fill all of our landfills in less than a week and could easily have months of work here. I believe we need to have some type of plan to temporarily

store this debris until it could be cut up, hauled to mills, etc. I believe we will need at least 10 areas for holding pens for this debris scattered throughout the county.

Our job is not as important as the first responder as they are primarily concerned with preservation of life. However, our job will be to reduce the impact of a follow-up storm that might occur a short time later. The city and county utility departments will be taxed to their fullest just opening up logistic lines so emergency traffic can move about.

Hopefully this explains why I am interested in what you do and want you to know what our agency has the potential to do. As we build more houses, add more parking lots, and level additional ground, our flooding potential grows. If we have that major rain and we are in a normal rainfall pattern with our normal water table level, take a level and place it 1 foot above the railroad bed at Washington Street and run a radius anywhere you want and this will be the water level in Dillon."

Vulnerability Assessment

Dillon County is a medium-sized county with generally flat terrain. The southwestern and southeastern corners of the County are defined by moderately extensive floodplains associated with the Great Pee Dee and Lumber Rivers, respectively. Further, the Little Pee Dee River slices through the middle of the County (North to South) with a moderately wide floodplain, along with Reedy Creek as shown in Figure 3-30. Other floodplains are widespread and more narrow. Figure 3-28 presents the 100 Flood Zone for Dillon County. Additionally, specific flood-prone areas are shown in Table 3-21 that was included in the 2007 Dillon County Hazard Mitigation Plan.

TABLE 3-21 FLOOD PRONE AREAS - DILLON COUNTY

Jurisdiction/Community	Extent of Flood Prone Areas
Dillon County (Unincorporated Area)	Moderate – Scattered
Dillon City	Moderate – Western edge of the City
Lake View Town	Slight - Northern boundary of Town
Latta Town	NO DESIGNATED FLOOD-PRONE AREAS
Little Rock (Unincorp.)	NO DESIGNATED FLOOD-PRONE AREAS

Source: 2007 Pee Dee Region Hazard Mitigation Plan

A review of the current (5-24-2011) DFIRM maps for the County's municipalities provides more details on flood zones within the respective corporate boundaries. For the City of Dillon, Maple Swamp and its tributaries affect numerous streets and properties. Along the northwest city boundary, portions of Scotland Rand, the CSX railroad right-of-way and bridge are within Maple Swamp Zone AE. (base flood elevations determined). Along the southwest city boundary, Maple Swamp Zone AE includes portions of the CSX railroad right-of-way as well as portions of South 9th Street, South 11th Street, and Longstreet Road. A portion of Gravel Pit Point is including in Zone A of Maple Swamp Tributary. Smith Street is near the southeastern boundary of the City of Dillon and is partially within Zone AE of Maple Swamp tributary. Near the southern city boundary, East Woodle Drive is within Zone AE of Maple Swamp where is crosses Old Latta Highway (1st Avenue) and U.S. 501. Portions of the eastern city boundary are within Zone AE of the Little Pee Dee River. Affected are Hillside Drive 32nd Avenue, Jewell Drive, Graham Court, East Roosevelt Drive, Susan Court, and Ellen Lane.

The Town of Lake View DFIRM maps show that Bear Swamp flood zone affects several areas of the municipality. The northern municipal boundary is Bear Swamp Zone A (no base flood elevations determined) which includes Pages Millpond. Bear Swamp Zone AE includes 7th Avenue at Walnut Street and Cedar Street; 6th Avenue at Kemper Street; 5th Avenue at Kemper Street; 4th Avenue at Kemper Street and Main Street; 3rd Avenue at Kemper Street; and portions of 2nd Avenue and 1st Avenue. Bear Swamp Tributary 4 (Zone AE) is near the western town boundary, and S.C. 9 runs through it. Bear Swamp Creek Zone AE is crossed by 1st Avenue and 2nd Avenue near the eastern municipal boundary.

The Town of Latta DFIRM maps show that two tributaries of Reedy Creek are within the town boundaries. In the area of the northwest municipal boundary, Reedy Creek Tributary 2 (Zone AE) flows southwest to northeast and portions of Sims Street and Park Lane are within the zone. Reedy Creek Tributary 2 (Zone AE) flows east from Railroad Avenue and includes North Richardson Street at Bethea Street; Zelle Street; Bass Street; Munn Street at East Leitner Street; and a section of East Main Street.

As stated previously, the DFIRM maps for the municipalities are not included in this plan due to there large number. The maps, however, may be viewed online at FEMA.gov Map Services Center or in the DCDP office.

Flood waters can be extremely dangerous. The force of six inches of swiftly moving water can knock people off their feet, and cars can easily be swept away in just 2 feet of moving water. Flash flood waters move at very fast speeds and can tear out trees, damage buildings, and damage or obliterate bridges. Debris contained in flood waters can cause additional damage. Flooding can also cause a myriad of other problems. More applicable to Dillon County, storm drains and pipes can fill to the point of bursting, or flood water can infiltrate sanitary sewer or septic systems, causing backup of raw sewage into streets or flooded basements. Flood water can also cause shorts in electrical appliances or transmission wires, resulting in electrocution and possible death if not handled carefully. Flooding also runs over roadways, impeding traffic and cutting off access points, possibly stranding homeowners or persons already in automobiles.

Past flood events in Dillon County have caused property and roadway damage, and future damage is almost certain. The following resources can be impacted by flooding:

- Roadways – bridge and shoulder washouts, inundated roadways, debris
- Residential structures – flooded basements and first floors, water damage, damaged septic systems, shorted electric systems
- Agriculture – inundated cropland, loss of profit
- Commercial structures – water damage, shorted electric systems, loss of business

As stated previously, due to the frequency of storms and the low and flat topography of much of the County, flooding will continue to be a common occurrence in several areas, particularly specific portions of the City of Dillon. Storm drainage system improvements are greatly needed to mitigate these events that cause property damage and make the roadways dangerous.

As discussed in Section 2 of this Plan, the Little Pee Dee River flows through Dillon County from northeast to southeast. It starts off as a small, meandering blackwater river that runs southeast from the eastern part of neighboring Marlboro County, through Dillon County and neighboring Marion County. Near the Town of Nichols in eastern Marion County, the Little Pee

Dee is joined by the Great Pee Dee River which runs southwest from North Carolina but continues on as the Little Pee Dee. The Little Pee Dee runs into the Great Pee Dee River near the coast near Yauhannah, SC, about 20 miles upstream from where the Great Pee Dee enters Winyah Bay. The subbasin drains 974 square miles (623,000 ac) in South Carolina, a large percentage of this in Dillon County. The Little Pee Dee is one of the best remaining examples of a Coastal Plain blackwater river in South Carolina. According to the Resource Conservation Commission, US Department of Agriculture, there are no structures located within the Little Pee Dee Pee Dee River floodplain.
(Source:http://www.sc.nrcs.usda.gov/intranet/RWAProfileDeliverable08312007/Little%20Pee%20Dee.pdf)

The floodplain of the Little Pee Dee River forms a corridor three-quarter-miles (0.75 miles) wide along the entire length of the river (see Figure 3-30). The dominant land-cover types in this corridor are wetland forests and upland forests, and most of these forestlands appear to be managed for timber, wildlife, and recreational uses. Along most of its route, the Little Pee Dee River channel is isolated from high ground as it meanders through the floodplain forests. Human development along the river is generally concentrated in areas where the river channel meanders near high ground and where there is a nearby road for access. Recreational access sites and house sites are the typical human-development use seen along the river; and there are roughly 50 such sites in Dillon County. Roads, utility corridors, and public landings impact the character of the river; 11 highways, one railroad, eight power line crossings, and three publicly-owned boat landings are located on the river.

The Little Pee Dee River is free flowing (not dammed) and the natural, physical characteristics of the river appear to be unaltered by channelization projects. Average daily stream flow, measured on the river at Dillon, is about 577 cubic feet per second (cfs) and the stream flow can be expected to equal or exceed 155 cfs 90 percent of the time.

Source: http://www.dnr.sc.gov/water/envaff/img/LpdDillonEligStudy.pdf

FEMA, through the Federal Insurance Administration (FIA), defines a repetitive loss structure "when more than one flood insurance claim of at least $1,000 is made within a ten-year period since 1978." It is important for communities to address these structures, because they can negatively affect the Community Rating System (CRS) rating of the National Flood Insurance Program (NFIP). The HMPC is not aware of any NFIP insured repetitive loss structures in Dillon County.

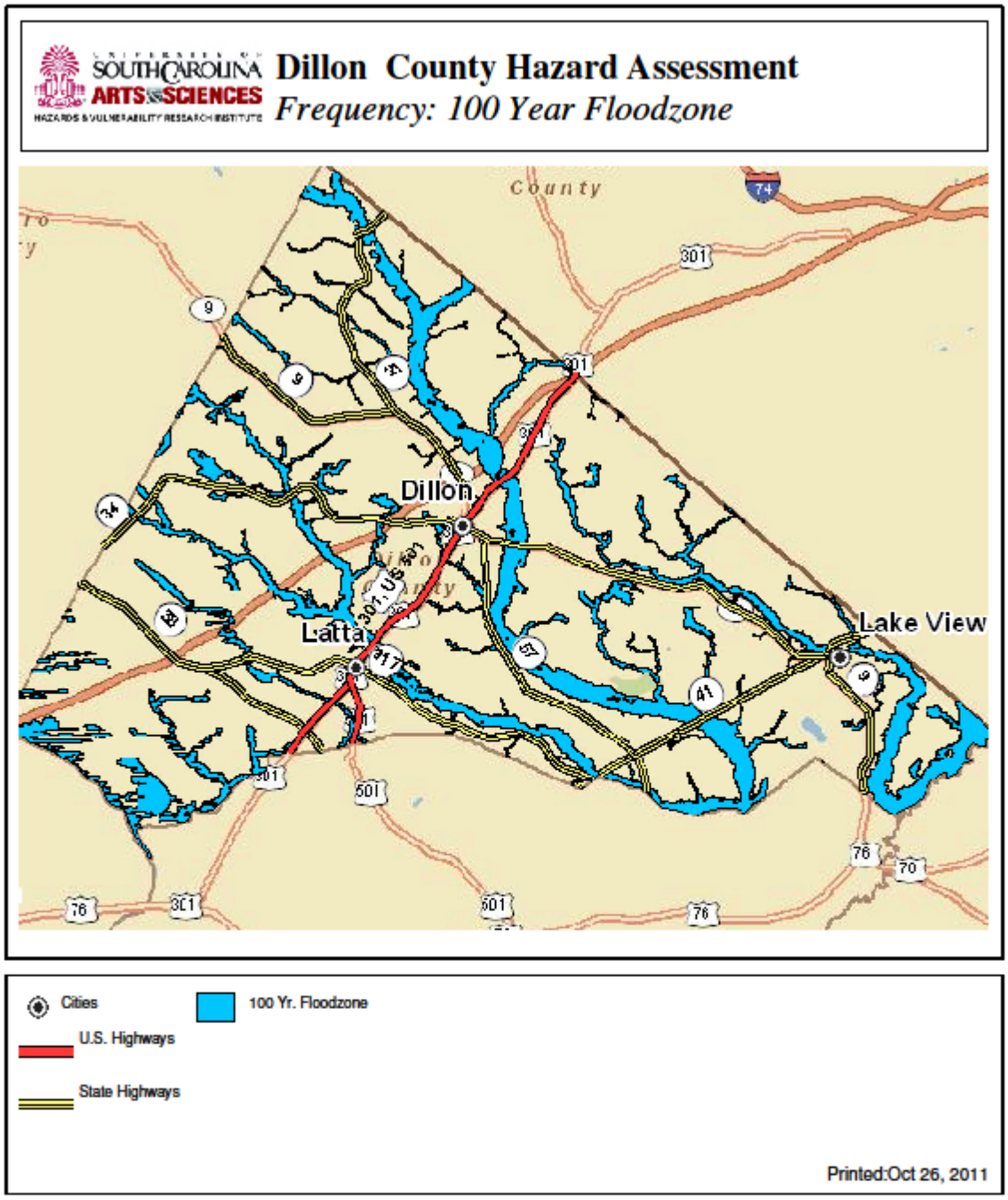
It is estimated that a flood can cause an average of 25 percent of a home's value in damage, and not usually the entire value. According to the Dillon County Building Code Manager, there have been no structures located in any flood zone in the County since adoption of the County Zoning Ordinance on 2/28/2008.

TABLE 3-22 FLOOD EVENTS WITH REPORTED DAMAGES 1960 - 2009
DILLON COUNTY

Begin Date	Hazard Type	Injuries	Fatalities	2009 Adjusted Property Damage	2009 Adjusted Crop Damage
3/1/1983	Flooding	0	0	$83,333.06	$83333.06
10/11/1990	Flooding	0	0	$22,307.99	$0
3/17/1983	Coastal – Flooding – Severe Storm/Thunder Storm - Wind	0	0	$23,550.72	$2,355.07
1/1/1993	Flooding	0	0	$16,149.00	$161,489.94
10/9/1976	Flooding	0	0	$41,867.23	$41,867.23
1/25/1978	Flooding-Wind	0	0	$35,326.37	$3.54
6/10/1966	Flooding-Severe Storm/Thunder Storm	0	0	$32,499.19	$324,991.88
2/15/1983	Flooding	0	0	$9,848.44	$98.47
8/2/1984	Flooding-Severe Storm/Thunder Storm	0	0	$3586.21	$0
12/6/1983	Flooding – Wind	0	0	$2,777.77	$27.78
Total (Top 10 events)		0	0	$271,245.98	$614,166.97
Total (23 events)		0.07	0	$306,641.01	$682,418.02

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

Figure 3-28


SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Frequency: 100 Year Floodzone
Dillon
Latta
Lake View
301
501
76
74
Cities
100 Yr. Floodzone
U.S. Highways
State Highways
Printed:Oct 26, 2011

Future Probability and Potential Dollar Losses

According to the SC Integrated Hazard Assessment Tool, HVRI, there are 6 flood events with damages in Dillon County in the SHELDUS database over 59 years. This indicates that flood events with damages can be expected to return every 9.83 years, and the chance of a damaging flood event is 10.16% annually. In the 100-year floodplain, there is a one percent chance of flooding per year.

Historical data from HVRI was used to estimate potential future dollar losses due to flood events. For the top 10 events shown in the previous Table 3-16, property damages ranged from a low of $3,586.21 to a high of $136,841.96, and crop damages ranged from a low of $0 to a high of $161,489.94. Based on total losses reported for the top 10 flood events, an "average" flood event might be expected to result in property damages of approximately $27,125 and crop damages of approximately $61,417. This provides some indication of what damages could result from future flood events.

Figure 3-29 DFIRM Map 1 0f 5

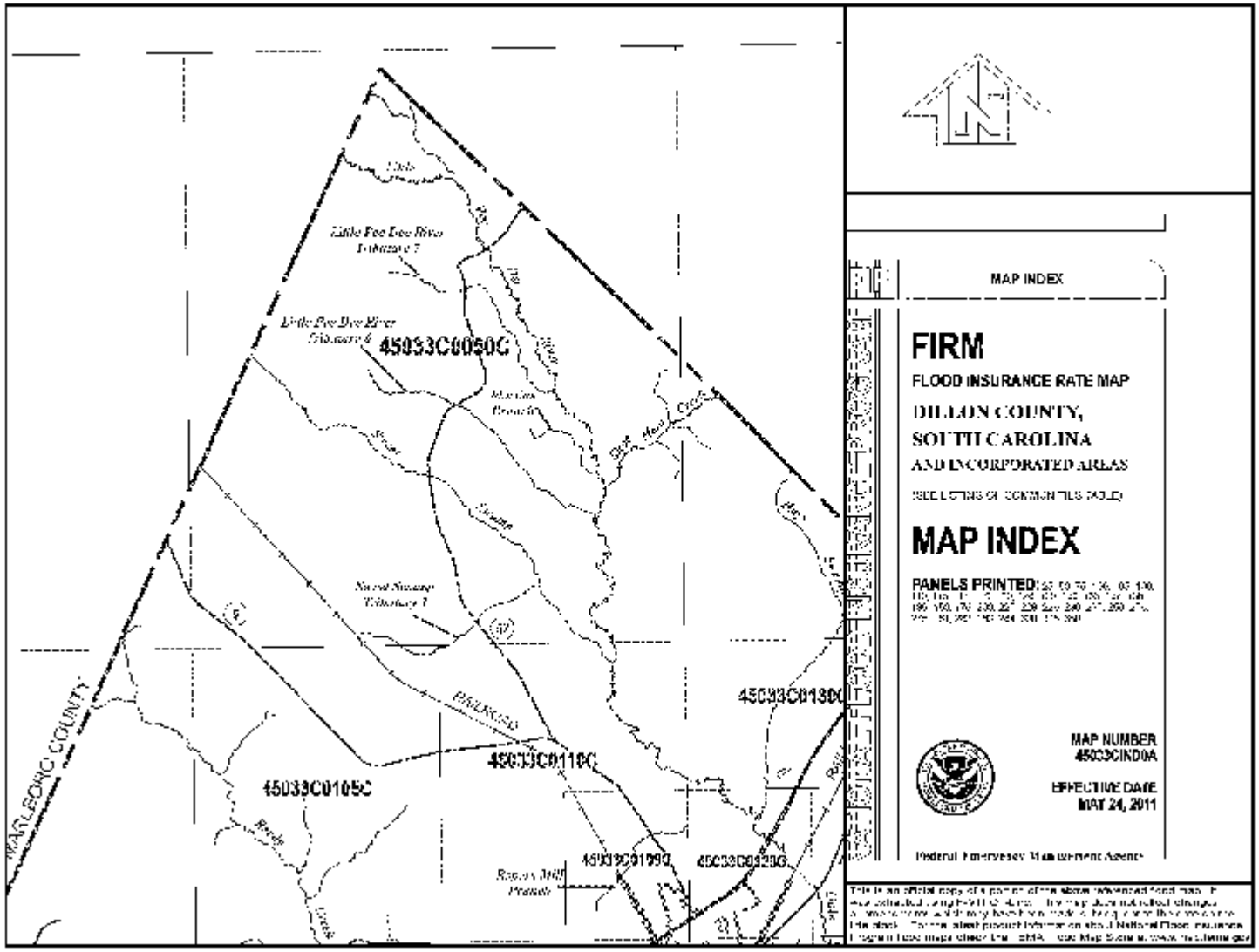


Figure 3-29 DFIRM Map 2 of 5

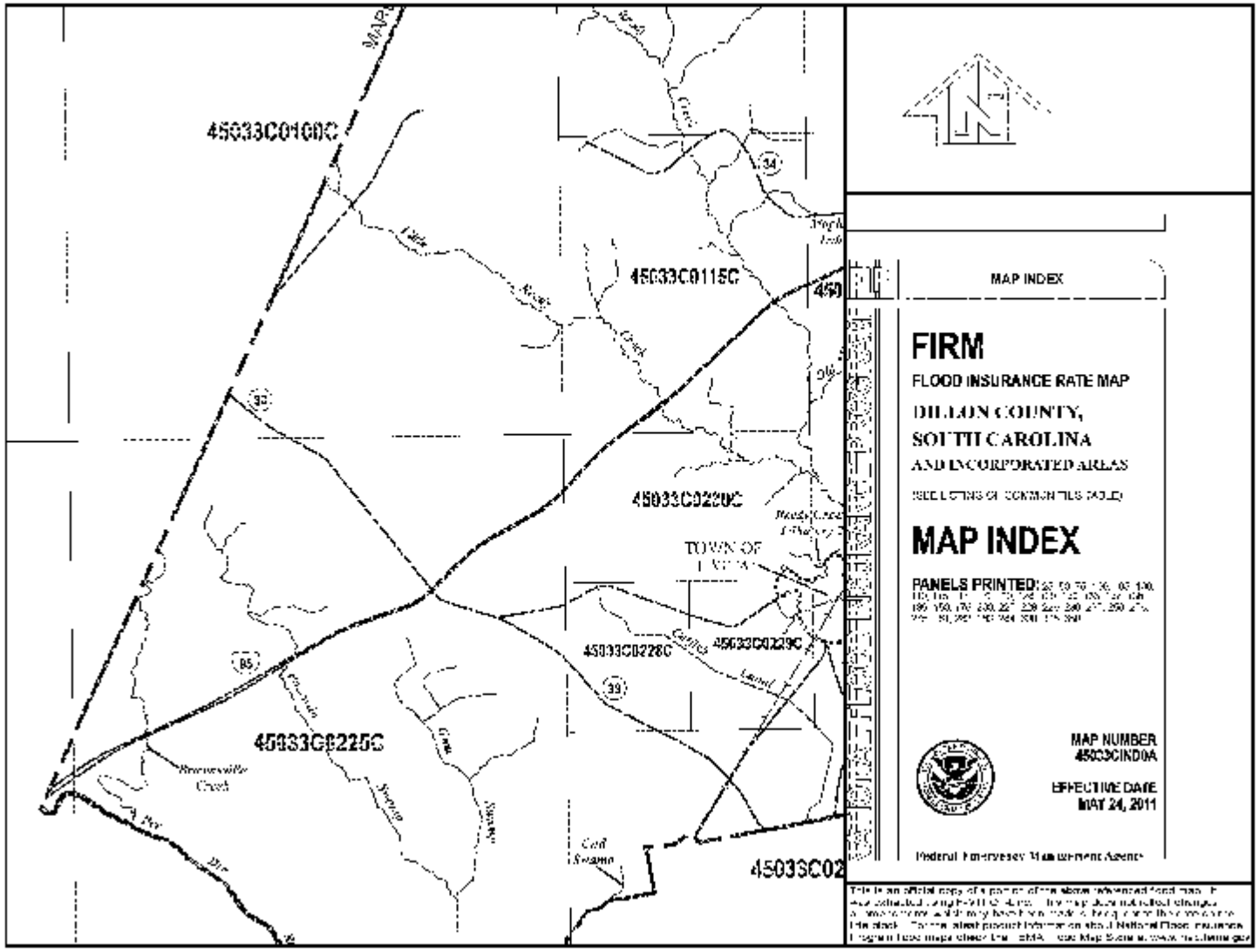


Figure 3-29 DFIRM Map 3 of 5

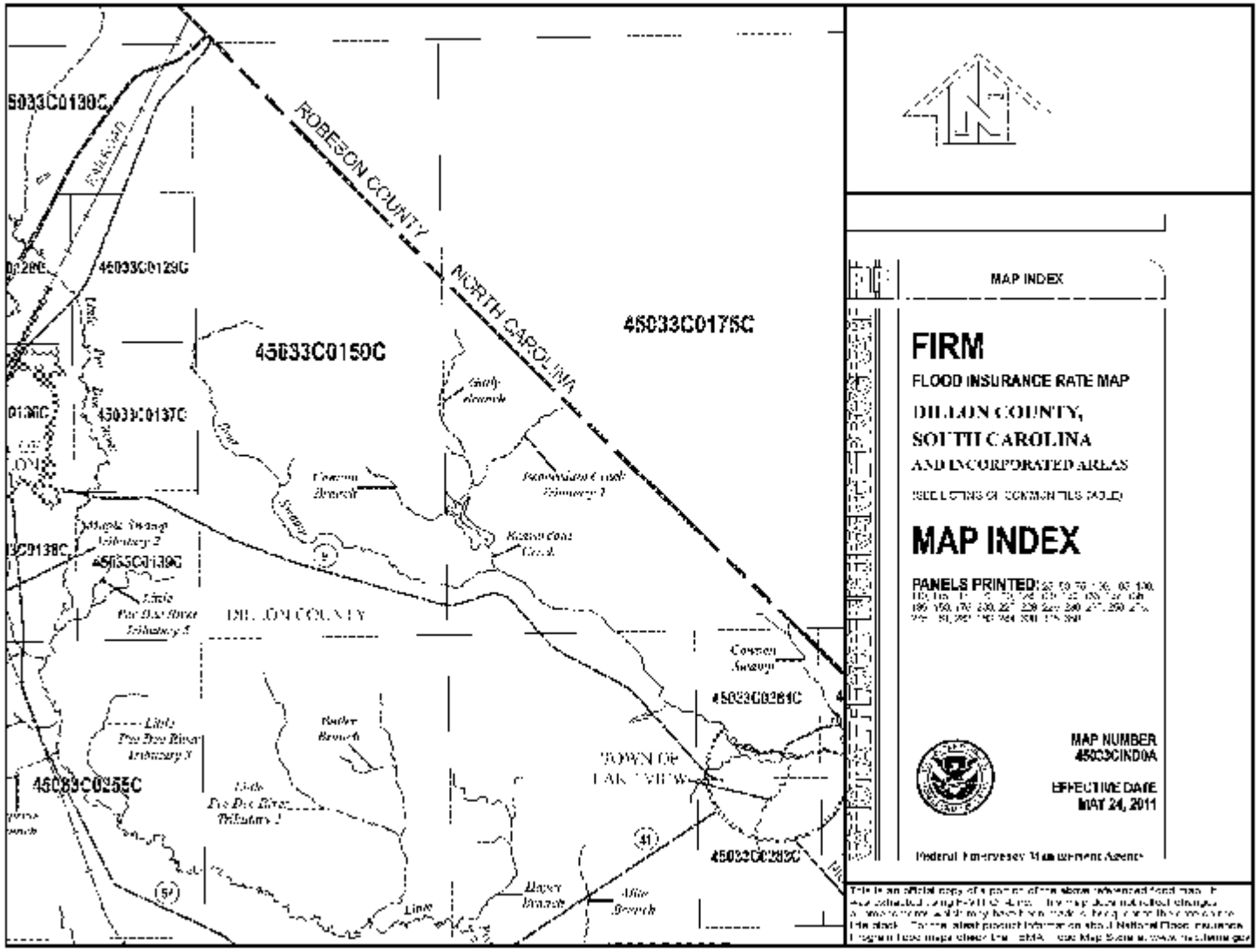


Figure 3-29 DFIRM Map 4 of 5

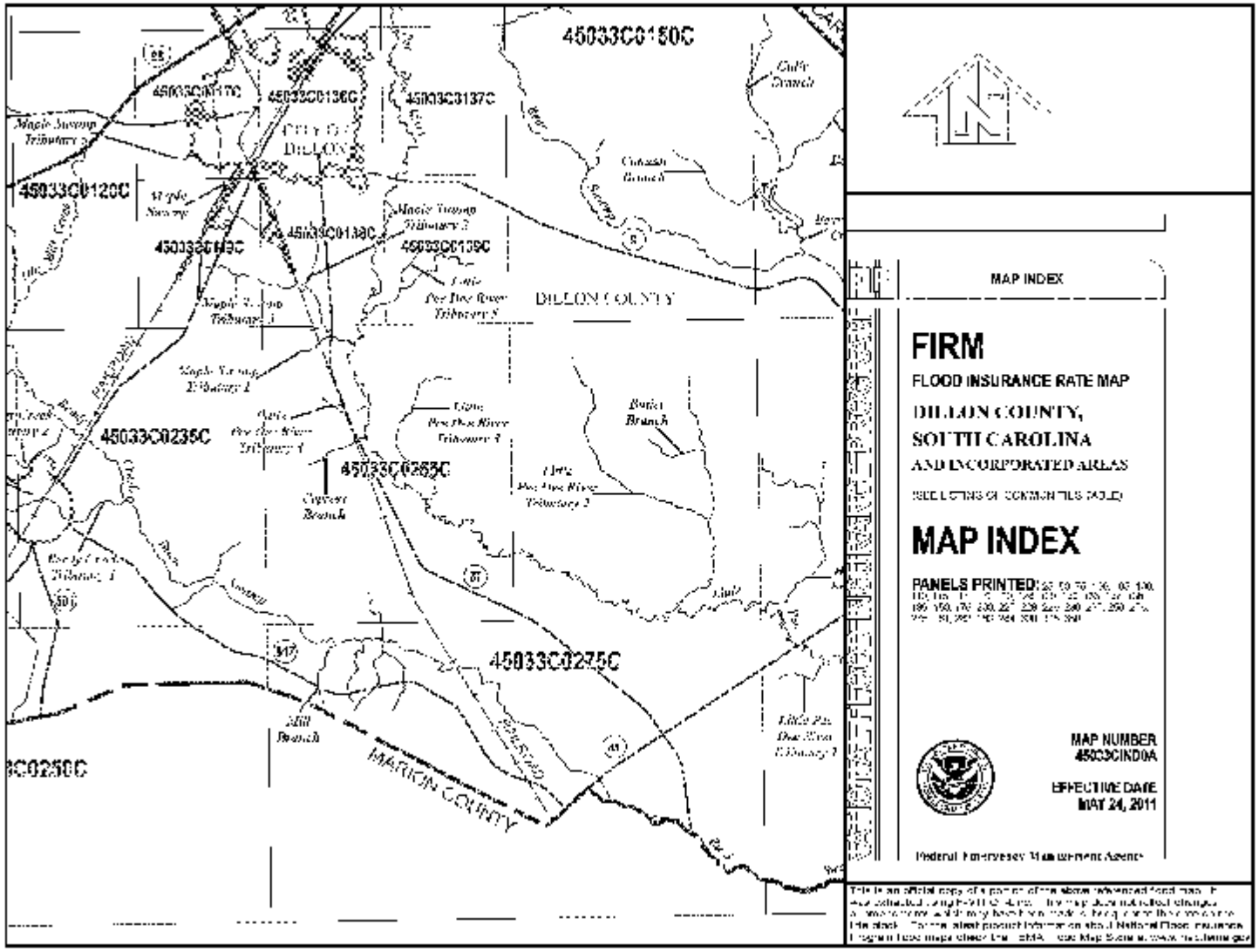


Figure 3-29 DFIRM Map 5 of 5

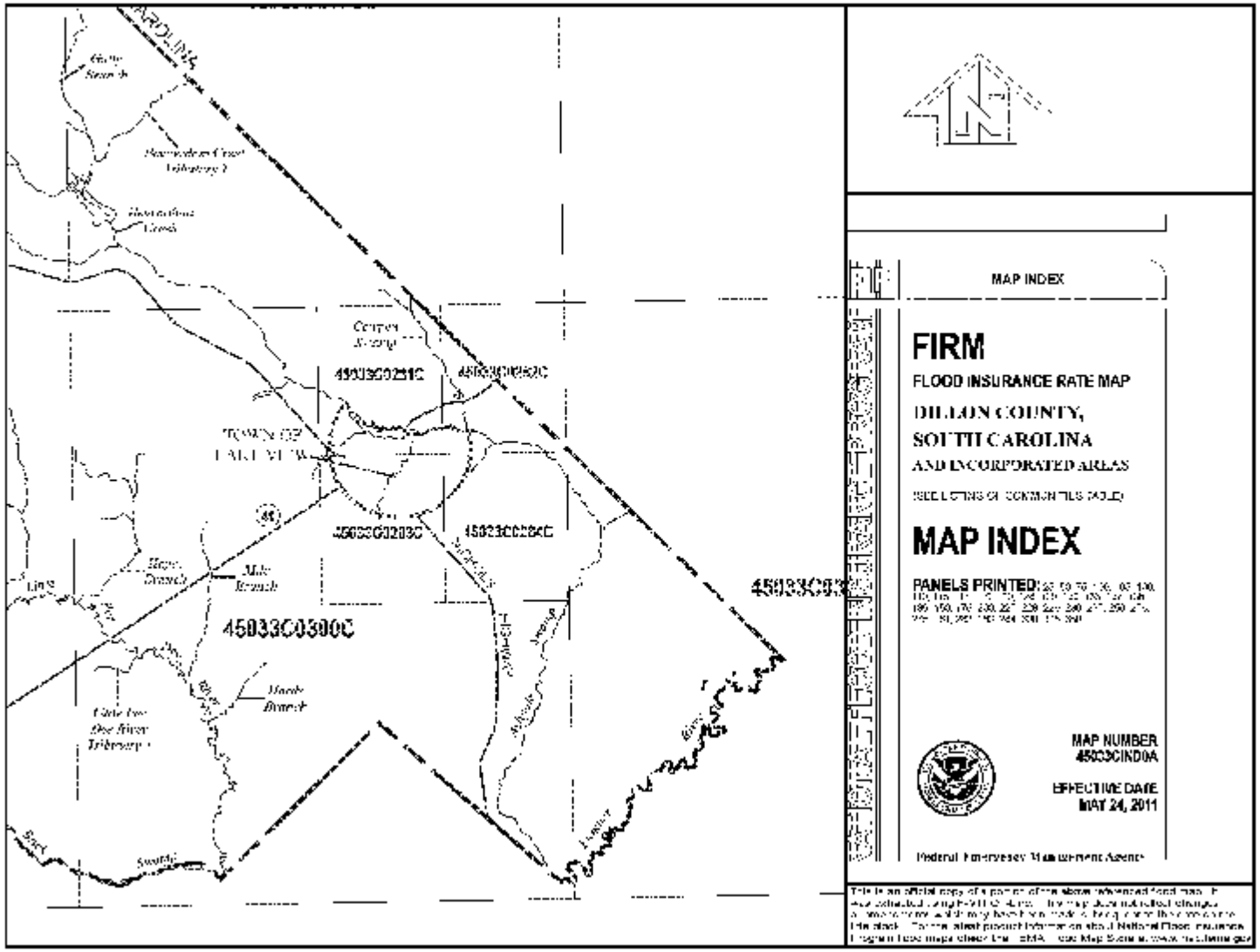
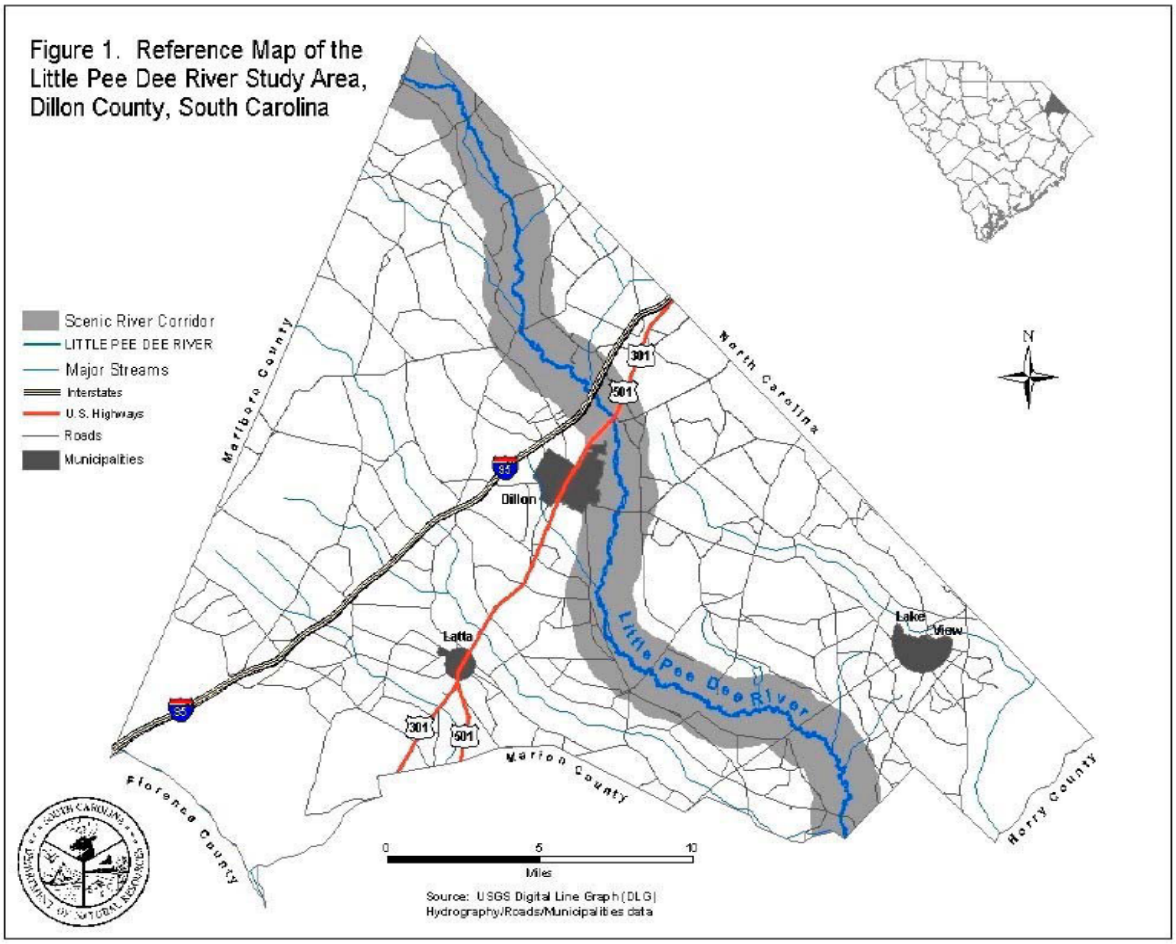


Figure 3-30 Little Pee Dee River Floodplain



Source: http://www.dnr.sc.gov/water/envaff/img/LpdDillonEligStudy.pdf

3.3.11 Earthquake

Hazard Analysis

The release of seismic energy resulting from a sudden slip on a fault or other sudden stress changes in the earth are commonly termed earthquakes due to the resulting ground shaking that occurs. Magnitude and intensity are both important, as is the location of the "epicenter" of the event. The following summary indicates conditions of and from various magnitude and intensity earthquakes, based on data from the USGS:

History in Dillon County

The hazards frequency data from the South Carolina Integrated Hazards Assessment Tool provided by the Hazards and Vulnerability Research Institute, University of South Carolina, indicates there were 0 earthquake events with reported damages listed in the 310 year database.

The HVRI map which follows shows earthquake frequency in Dillon County for the years 1698 – 2008 (Figure 3-31). It shows that the entire County has experienced a low frequency of earthquake activity. Data on specific earthquake events impacting Dillon County is not available. It is noteworthy that in August 2011 a 5.8 magnitude earthquake with the epicenter near Richmond, Virginia was felt in Dillon County, however, no damage was reported.

Seventy percent of earthquakes in South Carolina originate in the Middleton place-Summerville Seismic Zone, some 70-80 miles south of Dillon County. Due to the relative distance to an active seismic zone, activity has been historically low, with only three events noted between 1698 and 2001, all occurring after 1914 as follows:

Overall, vulnerability to earthquakes is very low or non-existent for the Pee Dee Region including Dillon County. (Source: 2007 Pee Dee Region Hazard Mitigation Plan)

TABLE 3-23 EARTHQUAKE MAGNITUDE, INTENSITY AND FREQUENCY DEFINED

Magnitude	Intensity	Description/Effects at Epicenter & Vicinity
1.0 – 3.0	I	Not felt except under favorable conditions
3.0 – 3.9	II-III	II- felt by few persons, mostly on upper stories III-felt noticeably by those indoors, especially upper levels
4.0 – 4.9	IV-V	IV-felt indoors by most, but outdoors by few V-felt by virtually everyone and unstable items are upset
5.0 – 5.9	VI-VII	VI-felt by all, with some heavy furniture moved VII-slight to moderate damage in ordinary buildings and considerable damage to poorly built/designed buildings.
6.0 – 6.9	VIII-IX	VIII-Considerable damage and some collapse to ordinary buildings and severe damage to poorly built structures. Even well designed structures sustain light damage IX-Damage considerable in well-designed structures and damage substantial to all others.
7.0 & higher	VIII & higher	X-some well-built wooden structures destroyed, with most others destroyed, rails bent XI-few masonry structures are left standing and bridges and rails destroyed XII-Destruction is total. Objects are thrown in the air

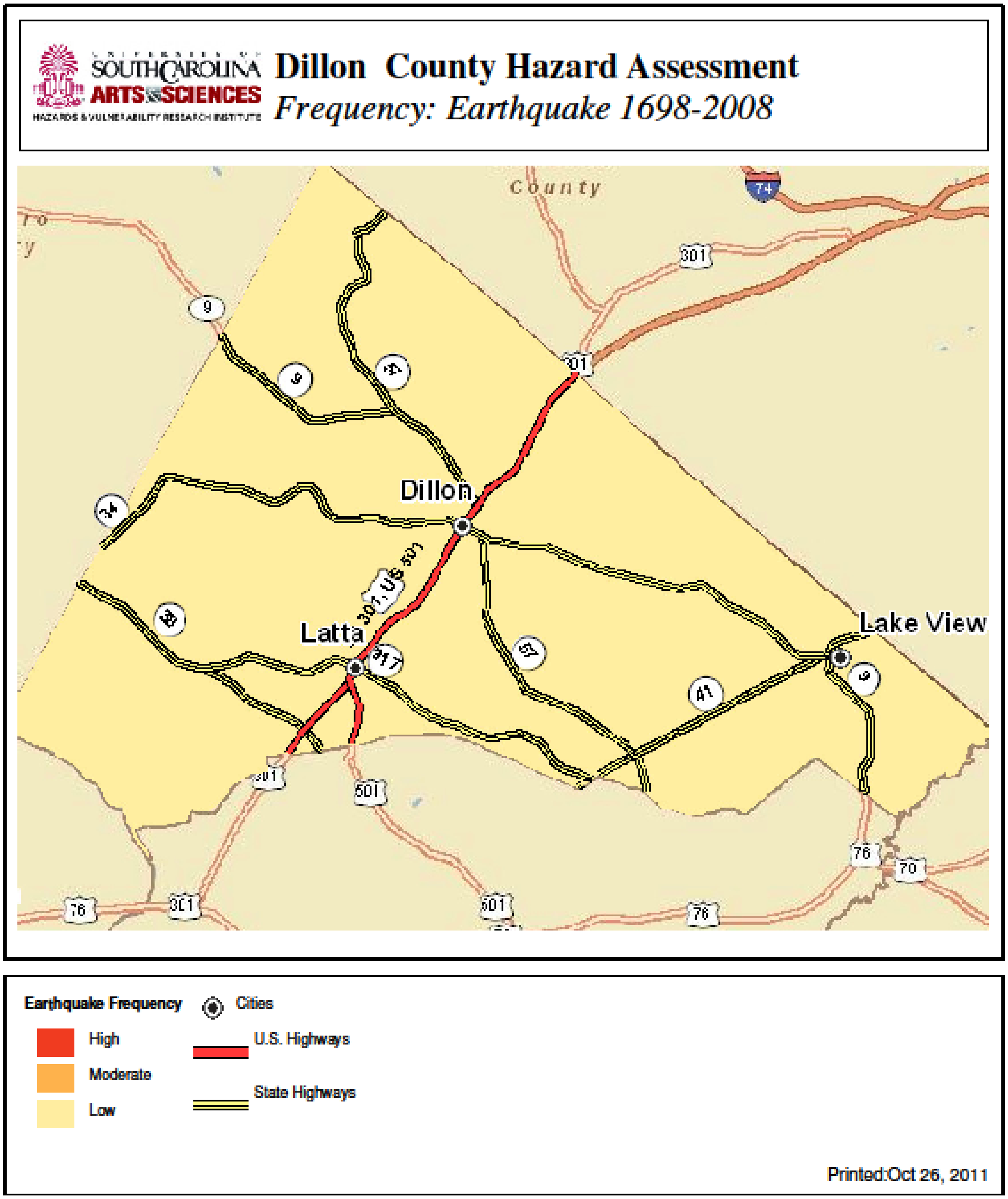
Source: 2007 Pee Dee Region Hazard Mitigation Plan

TABLE 3-24 EARTHQUAKE MAGNITUDE – PEE DEE REGION

County	Year	Magnitude	Location	Probability of Annual Event
Chesterfield	1914	3.3	Northwest of McBee	.001
Florence	1930	3.3	Northwest corner of Florence	.001
Chesterfield	1959	4.0	Northeast of McBee	.001

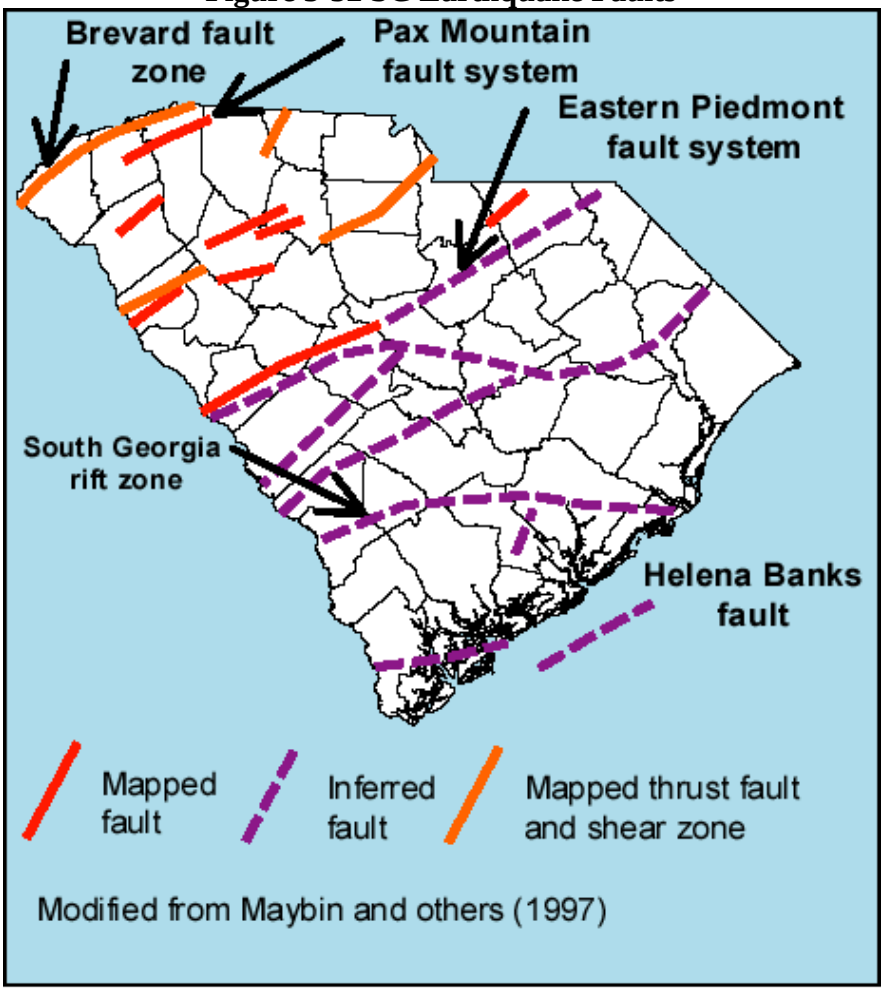
Source: 2007 Pee Dee Region Hazard Mitigation Plan

Figure 3-31


UNIVERSITY OF SOUTH CAROLINA
ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Frequency: Earthquake 1698-2008
County
74
301
9
Dillon
Latta
Lake View
301, US 501
917
57
41
501
76
70
Earthquake Frequency
High
Moderate
Low
Cities
U.S. Highways
State Highways
Printed:Oct 26, 2011

The following map (Figure 3-32) shows earthquake faults and related geologic structures (shear zones) and inferred faults in South Carolina based on geophysical interpretations.

Figure 3-32 SC Earthquake Faults



Map Source: http://www.dnr.sc.gov/geology/images/Fault_Map_Generalized.gif

Vulnerability Assessment

As the preceding HVRI map presents, Dillon County historical earthquake frequency is low. Overall, vulnerability to earthquakes is very low or non-existent for the Pee Dee Region including Dillon County. (Source: 2007 Pee Dee Region Hazard Mitigation Plan)

Future Probability and Potential Dollar Losses

With no earthquake events in the SHELDUS database covering 310 years, the SC Integrated Hazards Assessment Tool indicates a 0% annual chance of an earthquake event occurring in Dillon County. Data is not available to develop an estimate of potential dollar losses from an earthquake.

3.3.13 All Hazards

Hazard Analysis

The HVRI map on the following page (Figure 3-33) shows a compilation of All Hazards Frequency for Dillon County. The area between the municipalities of the City of Dillon and the

Town of Latta as well as the extreme southwestern corner of the County have a high frequency of historical hazard events with reported losses. The remainder of the County has had a moderate frequency of hazard events resulting in damages.

History in Dillon County

The SHELDUS database includes 232 hazard events for the period 1960 – 2009. As shown in Table 3-25 below, reported total losses were: $25,464,743.73 property damage (2009 inflation adjusted), $20,639,501.84 adjusted crop damage, 47.33 injuries, and 10.70 fatalities. For the top 10 events, property damages ranged from a low of $217,391.30 to a high of $10,869,565.22, and crop damages ranged from a low of $0 to a high of $5,000,000.00. The top 10 events accounted for 92.39% of total property damage, 48.95% of total crop damage, 82.40% of all injuries, and 29.79% of fatalities.

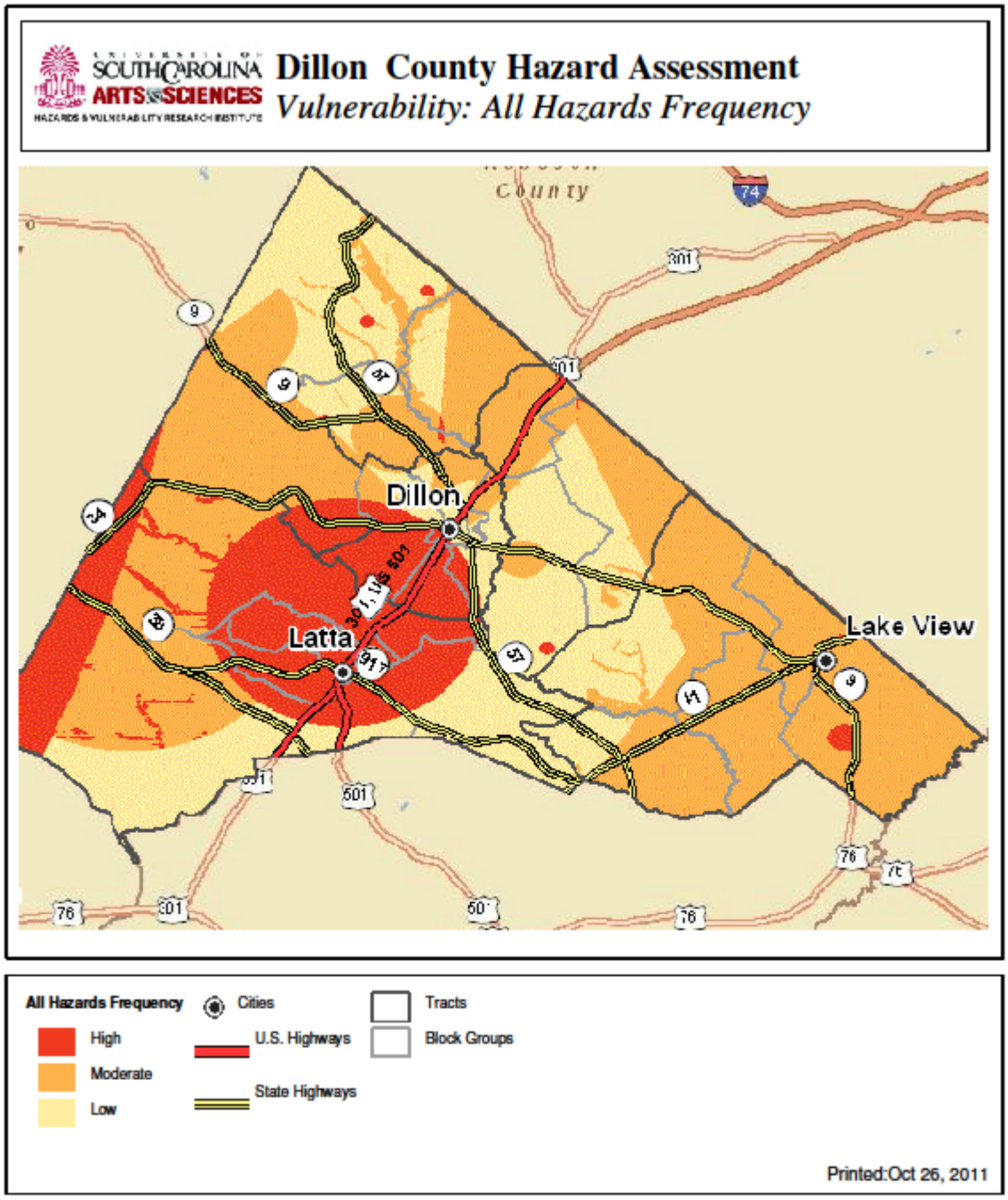
Table A-1 in the Appendix lists all hazards for Dillon County in the SHELDUS data base that are discussed in this section as well as other hazards not addressed in this plan, with individual hazard records on file for the past 16 years (lightning) to the past 310 years (earthquakes).

TABLE 3-25 ALL HAZARDS 1960 – 2009 – DILLON COUNTY

Date	Hazard Type	Injuries	Fatalities	2009 Inflation Adjusted Property Damage	2009 Inflation Adjusted Crop Damage
7/1/1993	Drought - Heat	0	0	$10,869,565.22	$0
9/22/1989	Hurricane/Tropical Storm	0	0	$5,000,000.00	$5,000,000.00
1/26/2004	Winter Weather	0	0	$3,314,285.71	$0
9/5/1996	Wind	1.00	0	$1,500,000.00	$5,000,000.00
1/25/2004	Winter Weather	0	0	$1,000,000.00	$0
9/29/1963	Tornado	12.00	3.00	$500,000.00	$50,000.00
5/20/1980	Tornado	26.00	0	$500,000.00	$50,000.00
11/15/2008	Tornado	0	0	$325,000.00	$0
7/22/1996	Severe Storm/Thunder Storm - Wind	0	0	$300,000.00	$0
8/24/1995	Hurricane/Tropical Storm	0	0	$217,391.30	$2,173.91
Top 10 Events		39.00	3.00	$23,526,242.23	$10,102,173.91
Total 232 events)		47.33	10.70	$25,464,743.73	$20,639,501.84

Source: Hazards & Vulnerability Research Institute (2010). The Spatial Hazard Events and Losses Database for the United States, Version 8.0 [Online Database]. Columbia, SC: University of South Carolina. Available from http://www.sheldus.org.

Figure 3-33


SOUTH CAROLINA ARTS & SCIENCES
HAZARDS & VULNERABILITY RESEARCH INSTITUTE
Dillon County Hazard Assessment
Vulnerability: All Hazards Frequency
Dillon
Latta
Lake View
All Hazards Frequency
High
Moderate
Low
Cities
U.S. Highways
State Highways
Tracts
Block Groups
Printed:Oct 26, 2011

Vulnerability Assessment

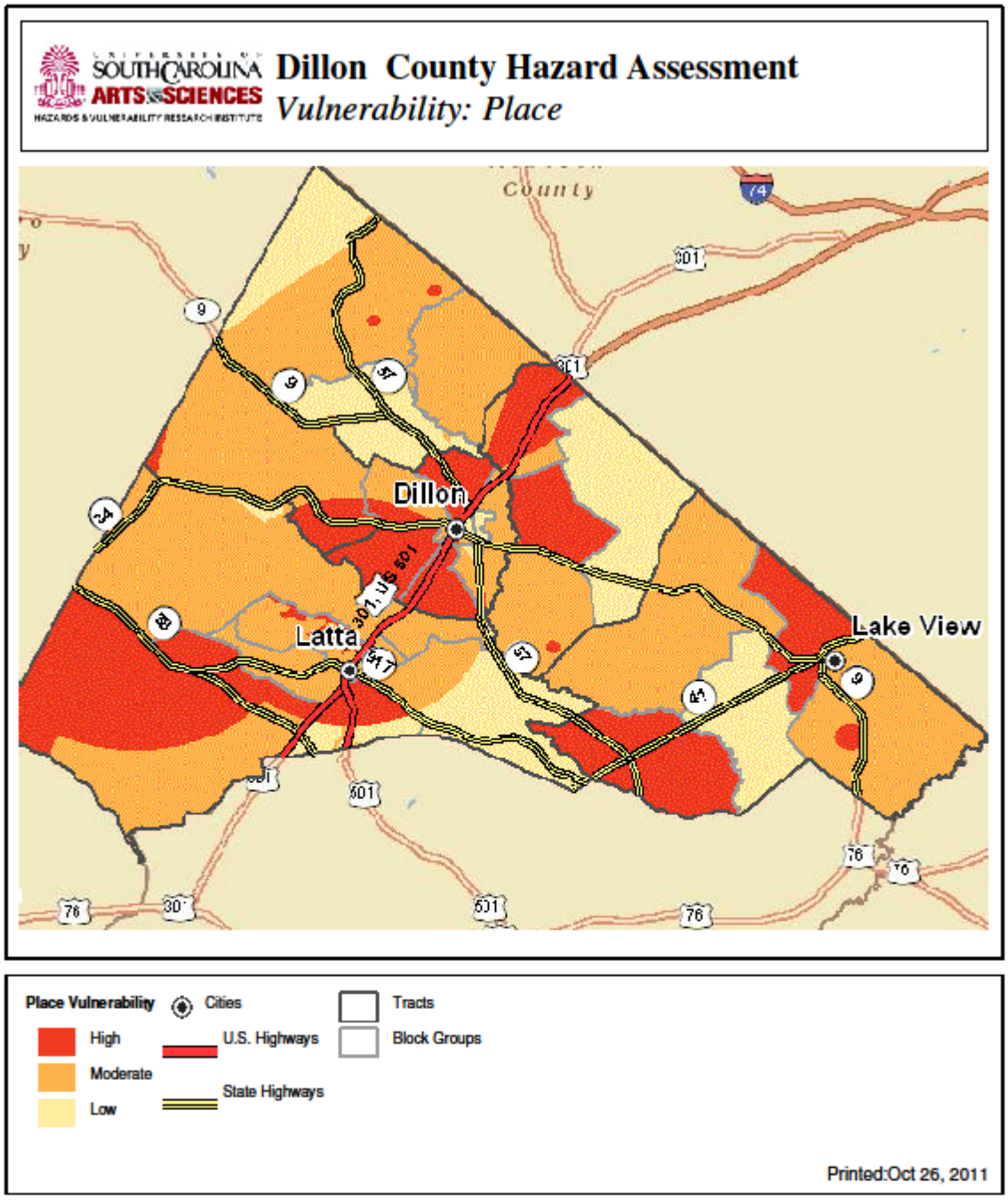
Shown on the HVRI map that follows (Figure 3-34) is Place Vulnerability regarding hazard event losses. Several portions of Dillon County have a high vulnerability, these being primarily areas of greatest population density or commercial establishments. These areas focus on the shear impact and dollar value of potential impacts. High density areas have the potential to have a greater number of persons and units impacted, including the increased susceptibility of mobile homes. Also, the higher value units are considered to be the units that represent greater risk to the community, not because the structures are less able to withstand damage or loss, but because damage to higher value structures usually equates to higher overall property damage and economic loss to the community. The high vulnerability areas in Dillon County are residential and commercial areas around the City of Dillon and along U.S. 301 to South of the Border, U.S. 301 south and S.C. 34 west outside the City of Dillon, areas southeast of the Town of Latta and along S.C. 38 west to the county line including the community of Oak Grove, an area on the western side of the Town of Lake View, and around the intersections of S.C. 57 and S.C. 41.

Social Vulnerability for Dillon County is depicted on Figure 3-35. The population groups mapped are those that would have greater difficulty preparing for, coping with and recovering from natural disasters. Women, children, the elderly, the poor and other high risk populations do not have as much ability or resources to survive or recover as well as other population groups. The map indicates high social vulnerability in the following portions of the county: northwest and northeast of the City of Dillon, west of the Town of Lake View, and in the vicinity of the intersection of S.C. 57 and S.C. 41.

Future Probability and Potential Dollar Losses

The preceding hazard event analyses in this section provide an estimate of the extent to which Dillon County will experience a number of hazard events with property and crop damages in the future. As a result of this plan, the planning process that produced it, and the efforts that will be made to implement the hazard mitigation strategies contained herein, however, it is anticipated that future losses will be impacted in a positive manner.

Figure 3-34


SOUTH CAROLINA ARTS & SCIENCES
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U.S. Highways
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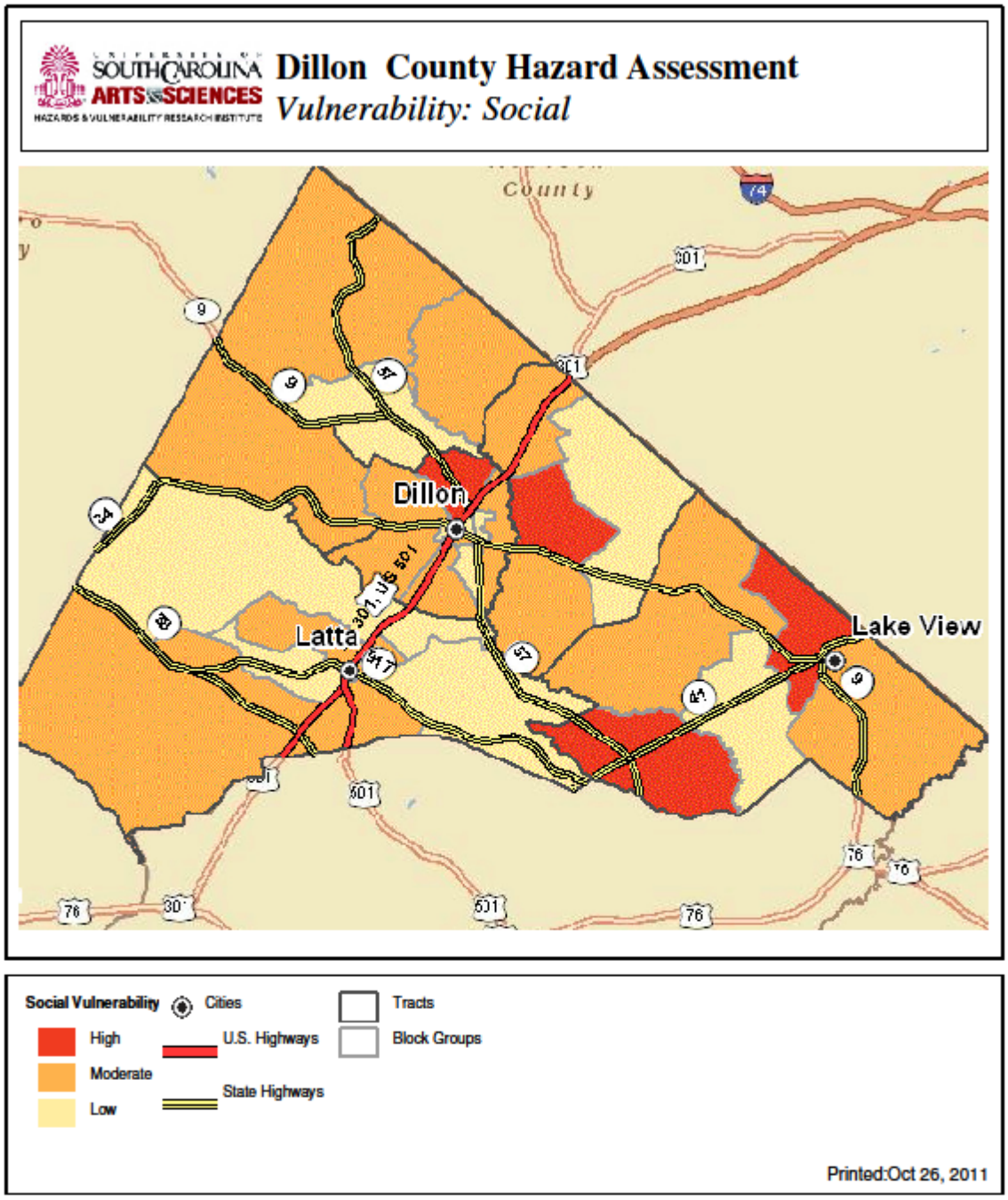
Tracts
Block Groups
Printed:Oct 26, 2011

Figure 3-35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SECTION 4.0 MITIGATION STRATEGY

According to FEMA, hazard mitigation refers to any sustained actions taken to reduce or eliminate the long-term risk to human life and property from hazardous conditions. This section of the Dillon County Hazard Mitigation Plan describes the mitigation goals and actions/projects by the County and its local units of government for each hazard assessed in Section 3.0. The intent of implementing these mitigation actions is to reduce or avoid long-term vulnerability to the identified hazards.

4.1 Progress Report on 2007 Mitigation Strategies

This section begins with a progress report on mitigation strategies and actions included in the 2007 plan. The Dillon County Hazard Mitigation Planning Committee (HMPC) has reviewed these strategies and has determined that some should be included in this plan update. Any strategies from the 2007 plan that are not included in this plan update have either been accomplished or the Committee has determined that they should not be included for other reasons such as lack of resources to adequately address the initiatives or their anticipated mitigation impact is less than other alternative actions that were chosen for this plan update.

TABLE 4-1 2007 MITIGATION STRATEGIES PROGRESS REPORT

Jurisdiction	Mitigation Actions	Status	Comments
Dillon County	Make provisions for installing emergency sewage tanks	Incomplete	Long term
	Install appropriate monitoring & warning systems	Incomplete	Long term
	Develop plan for relocating communication operations	Incomplete	Long term
	Develop alternate operational site	Incomplete	Long term
	Install generators	Incomplete	Long term
	Employee assistance & support	Incomplete	Long term
	Employee/community education	Complete	Short term
	Health & safety of special needs	Incomplete	Long term
	Post hazard community counseling	Incomplete	Long term
Dillon Co Ambulance Service	Install generators	Incomplete	Long term
	Install appropriate monitoring & warning systems	Incomplete	Long term
	Make provisions for installing emergency sewage tanks	Incomplete	Long term
	Develop alternate operational site	Complete	
Rural Fire Dept	Install generator	Incomplete	Long term
	Develop alternate operational site	Incomplete	Long term
	Install monitoring & warning systems	Incomplete	Long term
	Develop plan for relocation of communication operations	Incomplete	Long term

Jurisdiction	Mitigation Actions	Status	Comments
County Detention Center	Install generator	Complete	
	Make provisions for installing emergency sewage tanks	Incomplete	Long term
	Install monitoring & warning systems	Complete	
County E-911 & EOC	Install generator	Complete	
	Make provisions for installing emergency sewage tanks	Complete	
	Develop plan for relocation of communication operations	Complete	
	Install generator	Complete	
County Public Works	Install monitoring & warning systems	Incomplete	Long term
	Develop alternate operational site	Incomplete	Long term
	Make provisions for installing emergency sewage tanks	Incomplete	Long term
	Install generator	Complete	
County Sheriff's Dept	Develop plan for relocation of communication operations	Complete	
	Develop alternate operational site	Complete	
	Install monitoring & warning systems	Incomplete	Long term
	Install generator	Incomplete	Long term
	Make provisions for installing emergency sewage tanks	Incomplete	Long term
City of Dillon	Retrofit city facilities	Incomplete	Long term
	Maintain generator	Complete	Ongoing
	Alternate facilities & services	Incomplete	Long term
Dillon Fire Dept - W	Retrofit facilities	Incomplete	Long term
Dillon Public Works	Maintain generator	Complete	Ongoing
Dillon Water System – Well 1st & Jackson	Alternate facilities & services	Complete	
Dillon Water System – Well Hudson St	Alternate facilities & services	Complete	
Dillon Water System – Well Madison St	Alternate facilities & services	Complete	
Dillon Water System – Well # 9	Alternate facilities & services	Complete	

Jurisdiction	Mitigation Actions	Status	Comments
Dillon Water System – Well & Tank S.C. 34	Alternate facilities & services	Complete	
Dillon Water System	Auxiliary water storage & supply	Complete	Short term
City of Dillon WWTF	Dry chemical fire suppression	Incomplete	Long term
City of Dillon WWTF – Little Pee Dee	Alternate facilities	Incomplete	Long term
City of Dillon WWTF – Little Pee Dee	Retrofit Pee Dee WWTF	Complete	
City of Dillon WWTF – Little Pee Dee	Dry chemical fire suppression	Complete	
City of Dillon WWTF – Maple Swamp	Dry chemical fire suppression	Complete	
Town of Latta	Plan to restore services	Incomplete	Long term
	Alternative water supply	Complete	Short term
	Alternate location for essential services	Complete	Short term
	Counseling/support services for employees/community	Incomplete	Long term
	Community education	Complete	Short term
	Monitoring & warning systems	Complete	Short term
	Employee assistance plans	Incomplete	Long term
Town of Latta Water System – Well 917 W	Install generator	Complete	
Town of Latta Police Dept	Install monitoring & warning systems	Complete	
	Install generator	Complete	
Town of Latta WWTF – Academy St	Install generator	Complete	
	Install monitoring & warning systems	Complete	
Town of Latta WWTF – S.C. 38/I-95	Install monitoring & warning systems	Complete	
	Install generator	Complete	
Town of Latta WWTF – Willis/Munn	Install monitoring & warning systems	Complete	
	Install generator	Complete	
Latta Fire Dept	Install generator	Complete	
	Develop alternate operational site	Complete	
	Install monitoring & warning systems	Complete	
Jurisdiction	**Mitigation Actions**	**Status**	**Comments**
Town of Lake View	Maintain generator	Complete	Ongoing

Lake View Water System – Well 1	Maintain generator	Complete	Ongoing
Lake View Water System – Well 2	Maintain generator	Complete	Ongoing

4.2 Proposed Mitigation Strategies

Following are hazard mitigation goals and actions for each hazard addressed in Section 3 of this plan. The mitigation actions/projects were prioritized by the HMPC after a review and discussion on all proposed actions/projects. A cost-benefit review of each mitigation project will be conducted at the time of implementation. This list covers many hazards, but it does not preclude the event of other natural or manmade hazards that could occur in the County; and this list does not include every possible mitigation action or project for the hazards identified.

Each hazard listing is followed by a list of goals and possible mitigation actions or projects to achieve those goals. The mitigation actions are intended to be carried out by Dillon County and its respective municipalities as identified. The list of mitigation actions was compiled from a number of mitigation plans and reports, Dillon County Disaster Preparedness, local units of government including law enforcement/emergency personnel, survey results and suggestions from the public, and approved by the HMPC. An "All Hazards"" category is included to encompass those mitigation actions that can be implemented to reduce or avoid impact of all hazards. Duplication of some mitigation measures for several hazards is intentional to enhance usability of this portion of the plan.

Table 4-2 at the end of this section summarizes each mitigation action, parties responsible for its implementation, and approximates the cost or timeframe for each action. HIGH, MEDIUM or LOW priority was determined by the HMPC based on level of need, the availability of required resources (staff or funding), anticipated cost, and other factors. The HMPC discussed each proposed action and collectively agreed on the recommended priority. HIGH priority indicates the action should be accomplished within 1 year; MEDIUM priority indicates the action should be accomplished within 2 years; and LOW priority indicates that the action should be accomplished in 3 – 5 years. A cost/benefit analysis will be conducted at the time of implementation for initiatives requiring new financial resources.

4.2.1 Thunderstorms/Lightning

Goal: Minimize threat to people and limit property damage resulting from high winds, lightning, and heavy rains.

Goal: Protect county residents and visitors during and after winter storm events.

Possible Mitigation Actions and Participating Jurisdictions:

- Community outreach/education on thunderstorm/lightning dangers (County)
- Promote planting of windbreaks (County)
- Continue to administrator adopted building codes – improve structural ability to withstand high winds (County and all municipalities)
- Routine trimming of branches/vegetation near power lines and structures (County and all municipalities)

- Routine monitoring of power systems; implement backup power systems if they do no exist (County and all municipalities)
- Work with utility companies to implement buried power lines when and where feasible (County and all municipalities)

4.2.2 Drought/Heat

Goal: Minimize crop loss while maintaining water supplies during times of drought.

Possible Mitigation Actions and Participating Jurisdictions:
- Update/adopt Water Use Ordinances (County and all municipalities)
- Promote purchase of crop insurance. (County)

4.2.3 Wildfire

Goal: Protect the health and safety of county residents and visitors during fire events.

Goal: Reduce the number of human-caused fires in the County.

Goal: Reduce effects of property loss resulting from a wildfire event.

Goal: Maintain minimum distribution of power systems and transportation systems.

Possible Mitigation Actions and Participating Jurisdictions:
- Pursue additional fire training per NFA and ISO (County and all municipal and volunteer fire departments)
- Continue participation in the SC Forestry Commission Forest Fire Protection Grant Program and FEMA Fire Fighters Assistance Program (County, municipal and volunteer fire departments)
- Maintain a database of addresses and fire numbers and identification information for those not listed (County)
- Continue/enhance school and community education programs on fire prevention (County, Fire Departments)
- Allocate funding for new fire station in Latta area (County)
- Maintenance and separation of power lines, and quick notification/response to fallen power lines (County, all municipalities)
- Promote maintenance of property in or near wildfire prone areas to prevent or reduce the spread of fire. (County and all municipalities)
- Zoning ordinances should address buffer zones for structures to reduce damage potential (County and all municipalities)

4.2.4 Winter Storm

Goal: Protect health and safety of county residents and visitors during and after winter storm events.

Goal: Maintain minimum disruption to power systems and transportation systems.

Goal: Limit property damage resulting from high winds and heavy snow.

Possible Mitigation Actions and Participating Jurisdictions:

- Promote planting of windbreaks/living snow fences (County)
- Continue administering adopted building codes – improve structural ability to withstand high winds/snow load (County and all municipalities)
- Routine trimming of branches/vegetation near power lines and structures (County and all municipalities)
- Routine monitoring of power systems; implement backup power systems if they do not exist (County and all municipalities)
- Obtain better snow plowing equipment (County)
- Work with the South Carolina Department of Transportation (SCDOT) to manage ice on future bridges along US 301 (County, City of Dillon)
- Obtain new utility truck and brush truck (County and municipalities)
- Work with utility companies to implement buried power lines when and where feasible (County and all municipalities)

4.2.5 Tornado

Goal: Protect the health and safety of county residents and visitors during and after tornadic events.

Goal: Maintain minimum disruption to power systems and transportation systems.

Goal: Reduce effects of property loss resulting from high winds and heavy rains.

Possible Mitigation Actions and Participating Jurisdictions:

- Public education/CERT (County)
- Identify and inform the public of shelters (County)
- Identify areas with deficient safety shelters and prepare recommendations for improvements (County)
- Develop/revise as needed mobile home and manufactured home guidelines and ordinances to implement measures to help reduce risk of damage – tie downs, ground anchors, etc. (County and all municipalities)
- Routine trimming of branches/vegetation near power lines and structures (County and all municipalities)
- Ensure backup power systems are operational; implement backup power systems if they do not exist (County and all municipalities)
- Ensure backup power systems are fully operational for emergency shelter facilities in Town of Latta (County, Latta School District, Town of Latta)
- Recommend construction of concrete safe rooms or shelter areas in mobile home parks and vulnerable public areas (County and all municipalities)

4.2.6 Hurricane

Goal: Lessen the impact hurricanes have on people, property, and the environment.

Goal: Protect the health and safety of county residents and visitors during hurricane events.

Goal: Maintain minimum distribution of power systems and transportation systems.

Goal: Reduce effects of property loss resulting from hurricane events.

Possible Mitigation Actions and Participating Jurisdictions:

- Develop/review mobile home and manufactured home guidelines and ordinances to implement measures to help reduce risk of damage – tie downs, ground anchors, etc. (County and all municipalities)
- Continue to administer adopted building codes for provisions that are designed to minimize damages such as bracing, inter-locking shingles, shutters, flashing, and laminated glass in window panes (County and all municipalities)
- Routine trimming of branches/vegetation near power lines and structures (Power company, County, all municipalities)
- Ensure that existing backup power systems are operational (County and all municipalities)
- Implement portable backup power system for DCEP alternate site (County Library) as funding is available (County)
- Work with utility companies to implement buried power lines when and where feasible (County and all municipalities)
- Continue to promote use of hurricane guide and weather radios (County and all municipalities)
- Continue public education/CERT (County and all municipalities)

4.2.7 Hailstorm

Goal: Lessen the impact that hailstorms have on people, property, and the environment.

Goal: Protect the health and safety of county residents and visitors during and after hailstorm events.

Goal: Reduce effects of property loss resulting from a hailstorm event.

Possible Mitigation Actions and Participating Jurisdictions:

- Community education/CERT
- Review building codes for provisions that are designed to minimize damages such as shutters and laminated glass in window panes (County and all municipalities)
- Promote purchase and use of portable weather radios in critical facilities, homes, and businesses (County)
- Promote use of impact resistant architectural shingles for new construction and for roof replacement (County and all municipalities)

4.2.8 Windstorm

Goal: Protect the health and safety of county residents and visitors during and after windstorm events.

Goal: Maintain minimum disruption to power systems and transportation systems.

Goal: Reduce effects of property loss resulting from high winds.

Goal: Reduce effects of property loss resulting from windstorms.

Possible Mitigation Actions and Participating Jurisdictions:

- Identify and inform the public of shelters (County)
- Identify areas with deficient safety shelters and prepare recommendations for improvements (County)
- Develop/review mobile home and manufactured home guidelines and ordinances to implement measures to help reduce risk of damage – tie downs, ground anchors, etc. (County and all municipalities)
- Building codes should address upgrades to existing and new structures (County and all municipalities)
- Routine trimming of branches/vegetation near power lines and structures (SCDOT, County, all municipalities)
- Ensure existing backup power systems are operational (County and all municipalities)
- Implement portable backup power system for DCEP alternate site as funding is available (County)
- Work with utility companies to implement buried power lines when and where feasible (County and all municipalities)

4.2.9 Hazardous Materials

Goal: Lessen the impact that floods have on people, property, and the environment.

Goal: Protect the health and safety of county residents and visitors during and after flood events.

Goal: Maintain minimum disruption to power systems and transportation systems.

Goal: Reduce effects of property loss resulting from water damage.

Possible Mitigation Actions and Participating Jurisdictions:

- Maintain Local Emergency Planning Committee (LEPC) for developing/maintaining an emergency plan for chemical emergencies (spills, leaks, explosions, etc) (County)
- Maintain and provide continuing training for emergency response team (County)
- Promote public awareness and worker education per The Emergency Planning and Community Right-to-Know Act (EPCRA) (County, all municipalities)

4.2.10 Flooding

Goal: Lessen the impact that floods have on people, property, and the environment.

Goal: Protect the health and safety of county residents and visitors during and after flood events.

Goal: Maintain minimum disruption to power systems and transportation systems.

Goal: Reduce effects of property loss resulting from water damage.

Possible Mitigation Actions and Participating Jurisdictions:

- Clean ditches and culverts as needed
- Key improvements to roads to reduce flooding problems (County)
- Implement storm water detention basins to mitigate small area flooding (County and municipalities)
- Increase size of storm sewers as needed as funding is available (All municipalities)
- Promote purchase of flood insurance for properties in flood zones (County and all municipalities)

4.2.11 Earthquake

Goal: Lessen the impact that an earthquake might have on people, property, and the environment.

Goal: Protect the health and safety of county residents and visitors during and after an earthquake event.

Goal: Maintain minimum disruption to power systems and transportation systems.

Goal: Reduce effects of property loss resulting from an earthquake event.
Possible Mitigation Actions and Participating Jurisdictions:

- Further assess earthquake risk (Information gained from seismic hazard mapping can be used to assess risk. The first step is collection of geologic information on seismic sources, soil conditions, and related potential hazards. The second step is to prepare a map showing the approximate location of various hazards.) (DCEP, Dillon County GIS)
- Foster an awareness of earthquake mitigation activities in homes, schools and businesses. (County)
- Develop a technical assistance information program for homeowners and businesses teaching them how to strengthen their houses and business facilities (structural and non-structural improvements) to minimize damages from earthquake events. (County)
- Investigate model ordinances and procedures for use in reducing earthquake risk. (County and all municipalities)

4.2.12 All Hazards

Goal: Be as prepared as possible for future hazards.

Goal: Protect visitors and residents form all hazards.

Possible Mitigation Actions and Participating Jurisdictions:

- Obtain up-to-date portable radios that are compatible between all emergency response departments (Towns of Dillon, Latta, and Lake View)
- Tabletop training on a major disaster that would involve several communities
- Continue public warning systems and establish unique audible alerts for selected hazards (County and all municipalities)

- Reduce number of neighborhoods served by only one road (County and all municipalities)
- Rebuild the Little Pee Dee Bridge to provide better access and evacuation capabilities (Dillon County)
- Increase local law enforcement capabilities (County and all municipalities)
- Incident command training and practice (County and all municipalities)
- Promote use of portable weather radios (County and all municipalities)

TABLE 4-2 RECOMMENDED MITIGATION ACTIONS
DILLON COUNTY AND MUNICIPALITIES

Thunderstorms/Lightning	**Mitigation Actions**	**Project Cost**	**Responsible Party**	**Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)**
	Community outreach/public education	AB	DCEP	H
	Promote planting of windbreaks	AB	DCEP	L
	Continue to administer adopted building codes	AB	County, all municipalities	H
	Routine trimming of branches near power lines	AB	County and all municipalities -contact power co. as needed	H
	Maintenance/implementation of backup power systems	TBD	County, all municipalities	H
	Work w/ utility companies to implement buried power lines where feasible	AB	County, all municipalities	L
Drought	**Mitigation Actions**	**Project Cost**	**Responsible Party**	**Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)**
	Update/adopt water use ordinances	AB	County and municipalities' mayors	M
	Promote crop insurance	AB	DCEP, County	H

Wildfire	Mitigation Actions	Project Cost	Responsible Party	Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)
	Continue participation in SC Forestry Commission Fire Protection Grant Program and FEMA Fire Fighters Assistance Grant Program	TBD	County, municipal, and volunteer fire departments	H
	Continue/enhance school and community fire prevention education programs	AB	County and Fire Departments	H
	Allocate funding for new fire department in Latta area	TBD	County	M
	Maintenance and separation of power lines and quick notification/response to fallen power lines	AB	Power companies, County, all municipalities	H
	Promote property maintenance in wildfire prone areas	AB	County, all municipalities' mayors	H
	Zoning ordinances should address buffer zones for structures	AB	DCP&Z, County, all municipalities' mayors	M
Winter Storms	**Mitigation Actions**	**Project Cost**	**Responsible Party**	**Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)**
	Promote planting of windbreaks/living snow fences	TBD	DCEP	L
	Continue administering adopted building codes to enhance withstanding of high winds/snow load	AB	County, all municipalities	H
	Routine trimming of branches near power lines etc.	AB	Power company for County and all municipalities	H
	Routine maintenance and implementation of backup power systems	TBD	County, all municipalities' mayors	H
	Obtain better snow plowing equip	TBD	County and municipalities	M

	Work w/ SCDOT to enhance removal of ice on bridges along US 301	AB	County, City of Dillon	H
	Obtain new utility truck and brush truck	TBD	County and municipalities	M
	Work w/ utility companies to implement buried power lines where feasible	AB	County, all municipalities' mayors	H
Tornado	**Mitigation Actions**	**Project Cost**	**Responsible Party**	**Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)**
	Public education/CERT	AB	DCEP	H
	Identify and inform the public of shelters	AB	DCEP	H
	Identify areas with deficient safety shelters and prepare recommendations for improvements	AB	DCEP	M
	Develop/review mobile home & manufactured home guidelines/ordinances to reduce risk of damage	AB	County, all municipalities' mayors	H
	Routine trimming of branches near power lines etc.	AB	Power companies, County, all municipalities	H
	Routine maintenance/implementation of backup power systems	TBD	County, all municipalities' mayors	H
	Ensure backup power systems are fully operational for Latta emergency shelter	TBD	DCEP	H
	Recommend construction of concrete safe rooms or shelter areas in mobile home parks and vulnerable public areas	TBD	County, all municipalities' mayors	M

Hurricane	Mitigation Actions	Project Cost	Responsible Party	Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)
	Develop/review mobile home & manufactured home guidelines/ordinances to reduce risk of damage	AB	County, all municipalities' mayors	H
	Continue to administer adopted building codes to minimize damages	AB	County and all municipalities' mayors	H
	Routine trimming of branches near power lines etc.	AB	Power companies, County, all municipalities	H
	Implement portable backup power system for DCEP alternate site	TBD	DCEP, County	L
	Work w/ utility companies to implement buried power lines where feasible	AB	County, all municipalities' mayors	H
	Continue to promote use of hurricane guide and weather	TBD	DCEP	H
	Continue public education/CERT	AB	DCEP	H
Hailstorm	**Mitigation Actions**	**Project Cost**	**Responsible Party**	**Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)**
	Community education /CERT	AB	DCEP	H
	Promote purchase and use of weather radios in critical facilities, homes, and businesses	TBD	DCEP, County, all municipalities' mayors	H
	Promote use of impact resistant architectural shingles for new construction and for roof replacement	AB	County and municipal Building Code Enforcement	H

Windstorm	Mitigation Actions	Project Cost	Responsible Party	Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)
	Identify and inform the public of shelters	AB	DCEP	H
	Identify areas with deficient safety shelters and prepare recommendations for improvements	AB	DCEP	M
	Develop/review mobile home and manufactured home guidelines and ordinances to implement measures to help reduce risk of damage – tie downs, ground anchors, etc.	AB	County and municipal Building Code Enforcement, municipalities' mayors	H
	Building codes should address upgrades to existing and new structures	AB	County, all municipalities' mayors	H
	Routine trimming of branches/vegetation near power lines and structures	AB	SCDOT, County, all municipalities' mayors	H
	Ensure existing backup power systems are operational	AB	County and all municipalities' mayors	H
	Implement portable backup power system for DCEP alternate site as funding is available	TBD	County, DCEP	L
	Work with utility companies to implement buried power lines when and where feasible	AB	County and all municipalities' mayors	H
Hazardous Materials	**Mitigation Actions**	**Project Cost**	**Responsible Party**	**Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)**
	Maintain Local Emergency Planning Committee (PEPC)	AB	DCEP	H
	Maintain/continue training emergency response team	AB	DCEP	H
	Promote public awareness and worker education per EPCRA	AB	DCEP	H

Flooding	**Mitigation Actions**	**Project Cost**	**Responsible Party**	**Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)**
	Clear ditches and culverts as needed	TBD	SCDOT, County, all municipalities	L
	Key improvements to roads to mitigate flooding problems	TBD	Dillon County Transportation Committee	L
	Implement storm water detention basins to mitigate small area flooding	TBD by extent	DCP&Z, County, all municipalities' mayors	L
	Increase size of storm sewers as funding is available	TBD	All municipalities' mayors	L
	Promote flood insurance	AB	DCEP, municipalities' mayors	H
Earthquake	**Mitigation Actions**	**Project Cost**	**Responsible Party**	**Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)**
	Further assess risk from earthquake. (Information gained from seismic hazard mapping can be used to assess risk. The first step is collection of geologic information on seismic sources, soil conditions, and related potential hazards. The second step is to prepare a map showing the approximate locations of various hazards.)	TBD	DCEP, Dillon County GSI	H
	Earthquake education in homes, schools and businesses	TBD	DCEP	H

	Develop a technical assistance information program for homeowners and businesses on structural and non-structural improvements	TBD	DCEP	H
	Investigate model ordinances/procedures on reducing earthquake risk.	AB	County, all municipalities' mayors	M
Hazard	**Mitigation Actions**	**Project Cost**	**Responsible Party**	**Rank/Priority (H-M-L)* H (within 1 yr) M (within 2yrs) L (within 3-5 yrs)**
All	Obtain up-to-date portable radios	TBD	Mayors of all municipalities	M
All	Tabletop training on a major disaster that would involve several communities	TBD	DCEP	H
All	Continue public warning systems and establish unique audible alerts for selected hazards	TBD	DCEP, County	H
All	Reduce number of neighborhoods served by only one road	TBD	County, DCP&Z, all municipalities	L
All	Rebuild Little Pee Dee River bridge (U.S. 301 N) to provide better access and evacuation capabilities	TBD	SCDOT, County	H
All	Increase local law enforcement capabilities	TBD	County, all municipalities	M
All	Incident command training and practice	TBD	DCEP	H
All	Promote use of portable weather radios	TBD	DCEP, Mayors of all municipalities	M

TBD = To Be Determined
AB = Annual Budget
DCDP = Dillon County Disaster Preparedness
DCP&Z = Dillon County Planning & Zoning
*H = mitigation strategy/action should be accomplished within 1 yr
*M= mitigation strategy/action should be accomplished within 2 yrs
*L= mitigation strategy/action should be accomplished within 3-5 yrs

SECTION 5.0 PLAN MAINTENANCE AND ADOPTION PROCESS

This section of the Dillon County Hazard Mitigation Plan describes the Plan adoption, implementation, evaluation and maintenance.

5.1 Plan Evaluation and Maintenance

The first Dillon County Hazard Mitigation Plan was adopted in 2007. This current Plan is an update of the 2007 plan with considerable formatting changes designed to make the plan more user friendly. The Disaster Mitigation Act of 2000 (DMA2K) requires that the local plans be evaluated and updated at least every five years if the planning entity is to remain eligible for hazard mitigation grant assistance.

Planning is a constant and continuing process. This document will grow and adapt in order to stay current with growth and change in Dillon County. Dillon County Disaster Preparedness Agency (DCDPA) staff will collect incoming information to prepare for future Plan revisions. It is recommended that the County Hazard Mitigation Planning Committee (HMPC) meet and discuss Plan evaluation and revision annually from the month the Plan is adopted. Each participating municipality that has adopted the plan will also evaluate it and discuss updates at this time, prompted by a reminder from DCDPA Director. Each Town will report any updates to DCDPA. The Plan will be updated every five years to comply with DMA2K requirements.

A survey or public open house will also be conducted at least every five years to solicit comments from the general public. The public will be asked for thoughts on the progress of various projects, or the pertinence of plan information. New community assets or emerging vulnerabilities will be identified and added. DCDPA will keep all stakeholders and the public updated on the status of project progress. It is important to let people know of the things the Plan has accomplished, and that actions are actually being implemented.

5.2 Plan Implementation

Once the Plan has been approved, stakeholders will be informed and provided information on how to access the plan. The public will have easy access to the Plan via the County website and availability at local libraries, the offices of the DCDPA, and Town Halls.

During implementation of the actions laid forth in the Plan, DCDPA staff will act as the overseer. Staff will report progress or concerns to the HMPC. As developers of the plan, the DCDPA and HMPC will monitor its progress.

Along with monitoring the progress of the action projects, DCDPA staff will work with local jurisdictions and the HMPC to secure funding to implement the Plan. State and federal agencies, nonprofit organizations, and foundations are continually making grants available, though not as much so as prior to the recent economic recession. DCDPA will research grant opportunities to determine eligibility for the County and all local units of government.

When implementing the Plan, DCDPA staff will consider innovative ways to invite active participation from local non-profits, businesses, and citizens to implement the plan. These relationships will result in greater exposure for the plan and greater probability that actions will be implemented.

The role of department administrators, elected officials, local administrators and planning boards is to ensure that adopted mitigation actions from Section 4.0 and other plan information are considered for inclusion in their respective plans and budgeting decisions. The DCDPA Director will meet with County department heads and mayors of all municipalities to review the mitigation strategies and to encourage incorporation of the appropriate strategies and other information in the plan into other planning mechanisms. It is understood that projects may not be carried out as they are scheduled due to budget constraints. Nonetheless, since many of these actions and projects are considered an investment in safeguarding the health, safety, and property of the public, they should be carefully considered as priority projects. The use of fees, taxes, bonds and loans can also be considered if there is proper state enabling legislation, local authority and political drive.

5.3 Plan Coordination

This plan was developed with the assistance of individuals and organizations that collectively have comprehensive knowledge of hazard events in Dillon County. Their involvement on the Planning Committee will enhance plan coordination with their respective entities. These individuals will be familiar with the hazard mitigation initiatives, thus providing the opportunity for incorporation of recommended actions in their agency plans and budgets. As stated above, the DCDPA Director will coordinate with all County Department heads to promote incorporation of mitigation strategies and other Plan information (e.g. risk assessment) into various other planning mechanisms and budgets. The Director also will meet with all municipal Mayors to encourage incorporation of mitigation strategies and other plan information into municipal plans and budgets. Due to personnel changes and limited resources, this process was not formalized during the last five years. A concerted effort will be made by the DCDPA Director during the implementation phase of this updated Plan to formalize and document this process.

5.4 Plan Adoption

The adoption of the Dillon County Hazard Mitigation Plan lends itself to serve as a guiding document for all local government officials. It also certifies to program and grant managers from FEMA and the State's EMD (SC Emergency Management Division) that the recommendations in the plan have been properly considered and approved by the governing authorities and local citizens. It also helps to ensure the continuity of mitigation programs and policies over time because elected officials, staff, and other community decision-makers can refer to the document when making decisions that may affect the future of the community.

Once the plan has been completed, it is submitted to the State Hazard Mitigation Officer (SHMO) at SCEMD. The SHMO will determine if the plan meets requirements of DMA2K and other applicable requirements. Upon approval of the draft by SCEMD, the SHMO is responsible for sending the Plan to the FEMA Region office for review.

The plan must be formally adopted by Dillon County Council and by the governing bodies of all municipalities before being sent to FEMA. This adoption must be done by resolution. Municipalities that do not adopt the Plan cannot apply for mitigation grant funds unless they opt to prepare, adopt and submit their own plan. Resolutions of adoption are included in the Appendix.

Adoption of the plan gives the jurisdiction legal authority to enact ordinances, policies or programs to reduce hazard losses and implement other mitigation actions. Jurisdictions that adopt a Hazard Mitigation Plan qualify for pre-disaster mitigation grants and post-disaster hazard mitigation grants.

APPENDIX

Table A-1 Hazard Frequency Profile

Table A-2 Average Annual SHELDUS Losses (1960 – 2009)

Table A-3 Critical Facilities Identified

Table A-4 Detailed Report on Facility Vulnerability Assessments

Community Survey Form

Adoption Resolution

TABLE A-1 HAZARD FREQUENCY PROFILE – DILLON COUNTY

Hazard	Events	Years In Record	Return Period (yrs)	Annual % Chance
Avalanche	0	49	*	*
Civil Disorder	*	*	*	*
Dam Failure	*	*	*	*
Drought	4	59	14.75	6.77
Earthquake	0	310		0
Fire - wildfire hazard only	1410	21	0.01	6714.28
Flood	6	59	9.83	10.16
Fog	0	12	*	*
Funnel Cloud	0	16	*	*
Hail	53	59	1.11	89.83
Hazardous materials (Hazmat)—fixed facility and transportation	54	22	0.4	245.45
Hurricane/Tropical Storm	6	158	26.33	3.79
Landslide	0	49	*	*
Lightning	2	16	8	12.5
Nuclear Power Plants	0	16	*	*
Ocean & Lake Surf	1	16	16	6.25
Precipitation	1	15	15	6.66
Severe Winter Storm	11	59	5.36	18.64
Temperature Extremes	0	16	*	*
Terrorism	0	29	*	*
Thunderstorm & High Winds	102	59	0.57	172.88
Tornado	14	59	4.21	23.72
Transportation - motor vehicle	8304	10	0	83040

Source: University of South Carolina, Arts & Sciences, Hazards & Vulnerability Research Institute, 2011.

TABLE A-2 AVERAGE ANNUAL SHELDUS LOSSES 1960 – 2009
DILLON COUNTY

Hazard	Property Damage	Crop Damage	Fatalities	Injuries
Coastal	$118	$12	0	0
Drought	$165,909	$115,208	0	0
Flooding	$4,868	$9,787	0	0
Hail	$7,381	$20,855	0	0.007
Heat	$161,564	$64,214	0	0
Hurricane/Tropical Storm	$188,166	$173,912	0	0
Lightning	$4,713	$2,724	0.03	0.008
Severe Storm/Thunder Storm	$15,737	$18,504	0.033	0.017
Tornado	$111,503	$9,533	0.06	0.78
Wildfire	$1,852	$4,783	0	0.001
Wind	$64,367	$142,946	0.003	0.073
Winter Weather	$131,993	$307,814	0.089	0.06

Source: University of South Carolina, Arts & Sciences, Hazards & Vulnerability Institute, 2011.

TABLE A-3 CRITICAL FACILITIES IDENTIFIED – DILLON COUNTY

Jurisdiction Facility Name or Designation	Facility Operator	Facility	Street or Location	City	State	Zipcode	GIS Coordinates Latitude	 Longitude
Dillon County								
Avalon Academy	John Mew, Principal	School/Library	1529 Pleasant Hill Rd.	Dillon	SC	29536	34.46545	-79.25279
Bridge - Buck/Reedy	SCDOT	Key transportation/ evacuation route	U.S. Hwys. 301/501	Latta	SC	29565		
Bridge - Catfish Canal	SCDOT	Key transportation/ evacuation route	U.S. Hwy. 301	Latta	SC	29565		
Bridge - Great Pee Dee River	SCDOT	Key transportation/ evacuation route	I-95	Latta	SC	29565		
Bridge - Interstate 95	SCDOT	Key transportation/ evacuation route	S.C. Hwy. 38	Latta	SC	29565		
Bridge - Little Pee Dee River	SCDOT	Key transportation/ evacuation route	U.S. Hwy. 301/501	Dillon	SC	29536		
Bridge - Little Pee Dee River/I-95	SCDOT	Key transportation/ evacuation route	I-95	Dillon	SC	29536		
Bridge - Little Pee Dee River/S.C. 41	SCDOT	Key transportation/ evacuation route	S.C. Hwy. 41	Lake View	SC	29563		
Bridge - Little Pee Dee River/S.C. 57	SCDOT	Key transportation/ evacuation route	S.C. Hwy. 57	Dillon	SC	29536		
Bridge - S.C. Hwy. 57	SCDOT	Key transportation/ evacuation route	I-95	Dillon	SC	29536		
City of Dillon City Hall	Glen Wagner, City Manager	Government offices	401W. Main Street	Dillon	SC	29536	34.41851	-79.37621
City of Dillon Fire Dept - 8th Ave	Michael Goodwin, Chief	Emergency services center	209 S. 8th Ave	Dillon	SC	29536	34.41339	-79.36925

Facility Name or Designation	Facility Operator	Facility	Street or Location	City	State	Zipcode	GIS Coordinates Latitude	Longitude
City of Dillon Fire Dept - W Main St	Michael Goodwin, Chief	Emergency services center	1116 W Main St	Dillon	SC	29536	34.25638	-79.22904
City of Dillon Public	Glen Wagner	Public works facility	501 S 1st Ave	Dillon	SC	29536	34.41851	-79.37621
City of Dillon Water Tank - Hudson St	Hardy Jackson	Water system	408 S 20th Ave	Dillon	SC	29536	34.24515	-79.21852
City of Dillon Water Tank	Hardy Jackson Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.450016	-79.375847
City of Dillon Water Tank 10	Hardy Jackson	Water system	1029 Old Race Track Rd	Dillon	SC	29536	34.26974	-79.22512
City of Dillon Water Tank	Hardy Jackson Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.421872	-79.370023
City of Dillon Water Tank	Hardy Jackson Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.406554	-79.366654
City of Dillon Water Tank	Hardy Jackson Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.450742	-79.376219
City of Dillon Water Tank	Hardy Jackson, Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.420829	-79.369754
City of Dillon Water Tank	Hardy Jackson Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.407742	-79.365763
City of Dillon Water Tank	Hardy Jackson	Water system	109 W Jackson St	Dillon	SC	29536	34.25353	-79.22131
City of Dillon Water Tank	Hardy Jackson	Water system	1029 Old Race Track Rd	Dillon	SC	29536	34.26974	-79.22512
City of Dillon Water Well - 1st & Jackson	Hardy Jackson	Water system	109 W Jackson	Dillon	SC	29536	34.25353	-79.22131
City of Dillon Water Well - Hudson St	Hardy Jackson	Water system	408 S. 20th Ave	Dillon	SC	29536	34.24515	-79.21852
City of Dillon Water Well - Madison St	Hardy Jackson	Water system	701 E. Madison St	Dillon	SC	29536	34.25191	-79.2166
City of Dillon Water Well #9	Hardy Jackson	Water system	1029 Old Race Track Rd	Dillon	SC	29536	34.26974	-79.22512
City of Dillon Water Well & Tank - Hwy 34	Hardy Jackson	Water system	1100 Hwy 34 W	Dillon	SC	29565	34.25114	-79.23213
City of Dillon Water Well	Hardy Jackson Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.451682	-79.374849
City of Dillon Water Well	Hardy Jackson Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.419955	-79.370254
City of Dillon Water Well	Hardy Jackson Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.421081	-79.370715

Facility Name or Designation	Facility Operator	Facility	Street or Location	City	State	Zipcode	GIS Coordinates Latitude	Longitude
City of Dillon Water Well	Hardy Jackson Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.407166	-79.364713
City of Dillon Water Well	Hardy Jackson Water & Sewer Supt.	Water system	PO Box 431	Dillon	SC	29536	34.419896	-79.361616
Dillon Co Fire Station One	Bobby Thompson, Chief	Emergency services center	201 W. Howard St.	Dillon	SC	29536	34.41272	-79.37821
Dillon Co Fire Station – LV	Malcolm Rogers	Emergency services	2203 Hwy 41 S	Lake View	SC	29563		
Dillon Co Fire Station Four	Buddy Ray	Emergency services	1624 Gaddys Mill Rd	Hamer	SC	29547		
Dillon Co Fire Station Five	Danny Bethea	Emergency services	3234 Hwy 57 N	Dillon	SC	29536		
Dillon Co Fire Station Five Substation	Wayne Owens, Chief	Emergency services	4127 Hwy 9 W	Dillon	SC	29536	34.49425	-79.47893
Dillon Co Fire Station Nine	Larry Cox	Emergency services	1723 Hwy 38 W	Latta	SC	29565		
Dillon Adult Education Center	Brooksie Singleton, Director	School/Library	214 W. Main St.	Dillon	SC	29536	34.41746	-79.37195
Dillon Christian School	Brian Fitzgerald, Principal	School/Library	1325 Commerce Dr.	Dillon	SC	29536	34.44002	-79.36335
Dillon Co. Health Dept.	Caro Hodges , Melanie Graves	Medical/health care offices	201 W. Hampton St.	Dillon	SC	29536	34.41611	-79.37378
Dillon Community Residence	Kathy Allen, Residential Program Administrator	Assisted living facility/rehabilitation center	506 S. 14th Ave.	Dillon	SC	29536	34.409429	-79.368056
Dillon County	Clay Young, County Administrator	Government offices	109 S. Third Ave (PO Box 449)	Dillon	SC	29536	34.41788	-79.37506
Dillon County Adult Day Center	Mary L Johns	Other critical facility type	530 Radford Blvd.	Dillon	SC	29536	34.434811	-79.369438
Dillon County Ambulance Service	Randy Grimsley	Emergency services center	1415 E. Main St.	Dillon	SC	29536	34.243235	-79.212143
Dillon County Applied Technology Center	Jerry Strickland, Director	School/Library	1630 E. Main Street	Dillon	SC	29536	34.40635	-79.35098
Dillon County Commission on Alcohol	W. T. O'Connor, Executive Director	Medical/health care offices	204 Martin Luther King, Jr. Blvd.	Dillon	SC	29536	34.419612	-79.373627
Dillon County Detention Center	Johnny Sapps	Assisted living facility/rehabilitation center	1027 Old Latta Hwy	Dillon	SC	29536	34.409639	-79.380583
Dillon County E-911 & EOC	Clarence Sonny McRae Moses Heyward	Emergency operations center	205 W. Howard St.	Dillon	SC	29536	34.409639	-79.380583

Jurisdiction

Facility Name or Designation	Facility	Facility	Street or Location	City	State	Zipcode	GIS Coordinates Latitude	Longitude
Dillon County Public	Bennett Bethea	Public works facility	114 Hopkins Rd.	Dillon	SC	29536	34.406083	-79.333
Dillon County Sheriff	Major Hulon	Emergency services center	303 W. Hampton St.	Dillon	SC	29536	34.417528	-79.379028
Dillon Dialysis Center	Rosemary Locklear	Medical/health care offices	Hwy. 301 South	Dillon	SC	29536	34.40404	-79.378079
Dillon Healthcare, Inc.	Roxanne Hollingsworth, Administrator	Hospital/Nursing Home	413 Lakeside Court	Dillon	SC	29536	34.430946	-79.353682
Dillon High School	Lynda Cottingham	School/Library	1730 Hwy. 301 North	Dillon	SC	29536	34.43439	-79.35627
Dillon Home Health Services	Sherrie Moody, Unit Manager	Medical/health care offices	910 N. 2nd Ave.	Dillon	SC	29536	34.424402	-79.36599
District Technology Center (Maple Campus)	Paula Yohe, Director	School/Library	801 S. 9th Ave.	Dillon	SC	29536	34.41228	-79.38361
East Elementary School	Jayne Lee	School/Library	901 E. Harrison St.	Dillon	SC	29536	34.41367	-79.36354
Emergency Shelter - Latta Community Center	Nancy Brigman, Mayor (Town of Latta)	Emergency shelter	429 E. Academy St.	Latta	SC	29565	34.201428	79.252316
Emergency Shelter-Dillon High Sch (Mandatory)	Lynda Cottingham,	Emergency shelter	1328 N. 2nd Ave.	Dillon	SC	29536	34.434389	-79.35627
Emergency Shelter-Gordon Elem	Shawn Johnson,	Emergency shelter	201 Perry St.	Dillon	SC	29536	34.400769	-79.358142
Emergency Shelter-Lake View Elem (Reserve)	Kim Walsh	Emergency shelter	1311 Scott St.	Lake View	SC	29563	34.331026	-79.168043

Jurisdiction

Facility Name or Designation	Facility	Facility	Street or Location	City	State	Zipcode	GIS Coordinates Latitude	Longitude
Emergency Shelter-Lake View High (Mandatory)	Edison Arnette, Principal	Emergency shelter	P. O. Box 624	Lake View	SC	29563	34.343975	-79.163317
Emergency Shelter-Latta High Sch (Mandatory)	George Liebenrood	Emergency shelter	606 N. Richardson St.	Latta	SC	29565	34.342255	-79.426958
Emergency Shelter-Latta Middle Sch (Reserve)	George Liebenrood	Emergency shelter	602 N. Richardson St.	Latta	SC	29565	34.341099	-79.427838
Emergency Shelter-South Dillon Elem (Reserve)	Jayne Lee	Emergency shelter	900 Patriot St.	Dillon	SC	29536	34.40609	-79.369055
Emergency Shelter-St. Eugene Med Ctr (Spec Med)	Donald Sandoval, Administrator	Emergency shelter	301 E. Jackson St.	Dillon	SC	29536	34.42096	-79.36517
Emergency Shelter-Stewart Hgts Elem (Reserve)	Jayne Lee, Principal	Emergency shelter	1001 W. Calhoun	Dillon	SC	29536	34.424344	-79.38404
Floyd Dale Vol. Fire/Rescue (Burke Rd)	Ray McCormick, Chief	Emergency services center	2944 Burke Rd.	Dillon	SC	29536	34.32136	-79.33655
Floyd Dale Vol. Fire/Rescue (Lester Rd)	Oral C. Hulon, Chief	Emergency services center	2535 Lester Rd.	Dillon	SC	29536	34.32403	-79.3393
Gordon Elementary	Shawn Johnson	School/Library	926 Perry Drive	Dillon	SC	29536	34.40077	-79.35814
Haven Hospice of St. Eugene Community Hospital	Anne Baker, Director	Medical/health care offices	301 E. Jackson St.	Dillon	SC	29536	34.42082	-79.365491
J. V. Martin Jr. High	Rodney Cook, Principal	School/Library	301 Martin Luther King Blvd.	Dillon	SC	29536	34.42012	-79.37366
Julian Lane Community Training	Kathy Allen, Residential Program Administrator	Assisted living facility/rehabilitation center	600 Julian Lane	Dillon	SC	29536	34.426138	-79.359109
Lake View Elementary School	Kim Walsh Principal	School/Library	1311 Scott St.	Lake View	SC	29563	34.33103	-79.16804
Lake View Fire Dept	E.F. Home, Chief	Emergency services center	N. Main St.	Lakeview	SC	29563	34.34429	-79.16628
Lake View High School	Edison Arnette, Principal	School/Library	401 E. Third Ave. (PO Box 624)	Lake View	SC	29563	34.343975	-79.16317
Lake View Middle School	Kim Walsh, Principal	School/Library	1501 Scott St. (PO Box 744)	Lake View	SC	29563	34.32996	-79.16841

Jurisdiction

Facility Name or Designation	Facility Operator	Facility	Street or Location	City	State	Zipcode	GIS Coordinates Latitude	Longitude
Latta Drug Company	Bryant L. Brown, Owner	Critical community supplier	106 E. Main Street	Latta	SC	29565	34.201525	-79.255513
Latta Elementary School	Debra Morris Principal	School/Library	502 Willis Street	Latta	SC	29565	34.33168	-79.4269
Latta Fire Dept	Henry Brunson, Chief	Emergency services center	101 W. Bamberg St.	Latta	SC	29565	34.33873	-79.43265
Latta High School	George Liebenrood, Principal	School/Library	618 N. Richardson Street	Latta	SC	29565	34.342255	-79.426958
Latta Industrial Park Lift Pump Wastewater	Harold Snipes, Pub. Works	Waste water control facility	Hwy. 917, West	Latta	SC	29565	34.20151	-79.28149
Latta Middle School	George Liebenrood Principal	School/Library	602 N. Richardson Street	Latta	SC	29565	34.341099	-79.427838
Latta Rescue Squad	Charlie Jones, Chief	Emergency services center	107 Bamberg St.	Latta	SC	29565	34.202047	-79.255766
Linkside Community Training Home	Kathy Allen, Residential Program Administrator	Assisted living facility/rehabilitation center	226 Robson Ct.	Dillon	SC	29536	34.457794	-79.339175
McLeod Family Medicine Center	Debra Locklear	Medical/health care offices	3263 Hwy 301 South	Latta	SC	29565	34.203712	-79.25369
Oak Grove Volunteer Fire Dept	Larry Cox, Chief	Emergency services center	1723 Hwy 38 West	Latta	SC	29565	34.35275	-79.54421
Oakland Volunteer Fire Dept	Randy Berry, Chief	Emergency services center	2034 Oakland Rd.	Hamer	SC	29547	34.51655	-79.38079

Jurisdiction

Facility Name or Designation	Facility Operator	Facility	Street or Location	City	State	Zipcode	GIS Coordinates Latitude	Longitude
Perdue Farms, Inc. Dillon Processing Plant	Allen Johnson	Hazardous materials facility	2047 Hwy. 9, West	Dillon	SC	29536	34.43361	-79.38028
Price Flying Services	Lucille Price, Owner	Key transportation/ evacuation route	1085 Airport Rd.	Dillon	SC	29536	34.44823	-79.36666
Riverdale Residential Care Facility	David Offor, Administrator	Assisted living facility/rehabilitation center	412 Pee Dee Church Rd.	Dillon	SC	29536	34.391575	-79.327188
South Dillon Elementary	Jayne Lee, Principal	School/Library	900 Patriot St.	Dillon	SC	29536	34.40609	-79.369055
South Dillon Elementary School	Jayne Lee, Principal	School/Library	900 Patriot St.	Dillon	SC	29536	34.40609	-79.36906
Mcleod Dillon Hospital Skilled Medical Rehab	Debra Locklear, Administrator	Medical/health care offices	301 E. Jackson St.	Dillon	SC	29536	34.420809	-79.36549
St. Eugene Medical	Debra Locklear	Hospital/Nursing Home	301 East Jackson Street	Dillon	SC	29536	34.420798	-79.365403
Stewart Heights Elementary School	Jayne Lee, Principal	School/Library	1001 W. Calhoun Street	Dillon	SC	29536	34.42434	-79.38404
Sunny Acres Nursing Home	Tony Cook Administrator	Hospital/Nursing Home	1727 Buck Swamp Rd.	Fork	SC	29543	34.270331	-79.245008
Thorne Retirement Home	James Sanderson Administrator	Assisted living facility/rehabilitation center	702 W. 3rd Ave.	Lake View	SC	29563	34.34344	-79.17379
Town of Lake View Town Hall	Robert T. Smith, Mayor	Government offices	205 N. Main Street (PO Box 824)	Lake View	SC	29563	34.34429	-79.16628
Town of Lake View Water Tank 1	Larry. Simmons, Public Works Director	Water system	PO Box 824	Lake View	SC	29563	34.343228	-79.168678
Town of Lake View Water Tank 2	Larry. Simmons, Public Works Director	Water system	PO Box 824	Lake View	SC	29563	34.334423	-79.167155
Town of Lake View Water Well 1	Larry. Simmons, Public Works Director	Water system	PO Box 824	Lake View	SC	29563	34.343223	-79.168318
Town of Lake View Water Well 2	Larry. Simmons, Public Works Director	Water system	PO Box 824	Lake View	SC	29563	34.332737	-79.182891
Town of Latta Water Tank #1	Harold Snipes, Pub Works Director	Water system	214 S.E. Railroad Ave.	Latta	SC	29565	34.20162	-79.26013

Jurisdiction

Facility Name or Designation	Facility Operator	Facility	Street or Location	City	State	Zipcode	GIS Coordinates Latitude	Longitude
Town of Latta Water Tank #2	Harold Snipes, Pub. Works Director	Water system	100 Diversified Dr.	Latta	SC	29565	34.2063	-79.25702
Town of Latta Water Tank # 3	Harold Snipes, Pub. Works Director	Water system	107 NW Railroad Ave.	Latta	SC	29565	34.335395	-79.47141
Town of Latta Water Well	Vacant	Water system	Hwy 917 West	Latta	SC	29565	34.20151	-79.29149
Town of Latta/Police	Nancy Brigman, Mayor	Government offices	107 N.W. Railroad Ave.	Latta	SC	29565	34.20151	-79.25679
Tri County Mental Health	Janice Rozier, Director	Medical/health care offices	310 Commerce Dr.	Dillon	SC	29536	34.438826	-79.363692
Trico Water Well #5	Wilmer Arnette, Manager	Water system	PO Box 1476	Dillon	SC	29536	34.459124	-79.415372
Trico Water Well #6	Wilmer Arnette, Manager	Water system	4510 Hwy. 301, South	Latta	SC	29565	34.323191	-79.443803
Trico Water Well #7	Wilmer Arnette, Manager	Water system	4735 Hwy. 301, South	Latta	SC	29565	34.319873	-79.448301
Trico Water Well #8	Wilmer Arnette, Manager	Water system	1563 Wix Rd.	Dillon	SC	29536	34.444106	-79.390571
Trico Water Well #9	Wilmer Arnette, Manager	Water system	245 McCormick Rd.	Hamer	SC	29547	34.367692	-79.271803
Trico Water Tank #1	Wilmer Arnette, Manager	Water system	2645 Hwy. 301, North	Dillon	SC	29536	34.465929	-79.33994
Trico Water Tank #2	Wilmer Arnette, Manager	Water system	222 Black Branch Rd.	Dillon	SC	29536	34.385614	-79.384437
Trico Water Tank #3	Wilmer Arnette, Manager	Water system	609 Scotland Rd	Dillon	SC	29536	34.451344	-79.391072
Trico Water Tank #4	Wilmer Arnette, Manager	Water system	4510 Hwy 301 South	Latta	SC	29565	34.323191	-79.443803
Trico Water Tank #5	Wilmer Arnette, Manager	Water system	752 State Park Rd.	Dillon	SC	29536	34.356894	-79.270042
Trico Water Treatment Facility #1	Wilmer Arnette, Manager	Water system	2649 Hwy. 301, North	Dillon	SC	29536	34.470222	-79.33407
Trico Water Treatment Facility #2	Wilmer Arnette, Manager	Water system	222 Black Branch Rd.	Dillon	SC	29536	34.385614	-79.384437
Trico Water Treatment Facility #3	Wilmer Arnette, Manager	Water system	1563 Wix Rd.	Dillon	SC	29536	34.444758	-79.39716
Trico Water Treatment Facility #4	Wilmer Arnette, Manager	Water system	752 State Park Rd.	Dillon	SC	29536	34.358906	-79.268702
Trico Water Well #1	Wilmer Arnette, Manager	Water system	2645 Hwy. 301, North	Dillon	SC	29536	34.46754	-79.325675
Trico Water Well #10	Wilmer Arnette, Manager	Water system	2142 Wix Rd.	Dillon	SC	29536	34.463889	-79.425556
Trico Water Well #3	Wilmer Arnette, Manager	Water system	2149 Mt. Calvary Rd.	Dillon	SC	29536	34.478056	-79.3243382
Trico Water Well #4	Wilmer Arnette, Manager	Water system	448 Elkins Rd.	Hamer	SC	29547	34.48442	-79.318823
Trico Water Well #2	Wilmer Arnette, Manager	Water system	2617 Applejack Loop	Dillon	SC	29536	34.464319	-79.334959
Wastewater Treatment Facility - Dillon #2	Hardy Jackson	Waste water control facility	1700 E Main St	Dillon	SC	29565	34.2433	-79.20968

Jurisdiction

Facility Name or Designation	Facility	Facility	Street or Location	City	State	Zipcode	GIS Coordinates Latitude	Longitude
Wastewater Treatment Facility - Latta 301 S	Harold Snipes	Waste water control facility	Hwy 301 South	Latta	SC	29565	34.1927	-79.26498
Wastewater Treatment Facility-Dillon	Hardy Jackson	Waste water control facility	P O Drawer 431	Dillon	SC	29536	34.3429189	-79.2922873
Wastewater Treatment Facility-Lake View	Larry. Simmons	Waste water control facility	P O Box 824	Lake View	SC	29563	34.343228	-79.168678
Wastewater Treatment	Harold Snipes, Pub. Works	Waste water control	West off 518 Academy St. &	Latta	SC	29565	34.320852	-79.26051
Wastewater Treatment Facility-Latta-Exit 181	Harold Snipes	Waste water control facility	Hwy 38 & I-95 @ 181 mile marker	Latta	SC	29565	34.20653	-79.22313
Wastewater Treatment Facility-Latta-Willis&Mun	Harold Snipes	Waste water control facility	Willis & Munn	Latta	SC	29565	34.19845	-79.25765
Wastewater Treatment Facility-Little Pee Dee WTP	Hardy Jackson	Waste water control facility	P O Drawer 431	Dillon	SC	29536	34.4033754	-79.3481581
Wastewater Treatment Facility-Maple Swamp WTP	Hardy Jackson	Waste water control facility	P O Drawer 431	Dillon	SC	29536	34.3952033	-79.3723578
Wix Filtration Prods.	Paul Crawford	Hazardous materials facility	1422 Wix Rd.	Dillon	SC	29536	34.44583	-79.37917

TABLE A-4 DETAILED REPORT ON FACILITY VULNERABILITY ASSESSMENTS – DILLON COUNTY

Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problemcould occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

Jurisdiction: Dillon County

Bridge - Buck/Reedy Creek **U.S. Hwys. 301/501** **Latta**

2	1	0	0	0	1	0	1	0	1	0
1	0	2	2	0	0	0	1	0	0	
0	0	0	0	1	1	1	1	0	0	

Bridge - Catfish Canal **U.S. Hwy. 301** **Latta**

2	1	0	0	0	1	0	1	0	1	0
1	0	2	2	0	0	0	1	0	0	
0	0	0	0	1	1	1	1	0	0	

Bridge - Great Pee Dee River **I-95** **Latta**

2	1	0	0	0	2	0	1	0	1	0
1	0	2	2	0	0	0	1	0	0	
0	0	0	0	1	1	1	1	0	0	

*** Ranking explanation provided at the end of report**
This report shows only facilities which have been assessed

Vulnerability

	Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
	Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisi	
	Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	
Bridge - Interstate 95		**S.C. Hwy. 38**		**Latta**							
	2	1	0	0	0	2	0	1	0	1	0
	0	0	2	2	0	0	0	1	0	0	
	0	0	0	0	1	1	1	1	0	0	
Bridge - Little Pee Dee River		**U.S. Hwy. 301/501**		**Dillon**							
	2	1	0	0	2	0	1	0	1	0	0
	1	0	2	2	0	0	0	1	0	0	
	0	0	0	0	1	1	1	1	0	0	
Bridge - Little Pee Dee River/I-95		**I-95**		**Dillon**							
	2	1	0	0	0	2	0	1	0	1	0
	1	0	2	2	0	0	0	1	0	0	
	0	0	0	0	1	1	0	1	0	0	
Bridge - Little Pee Dee River/S.C. 41		**S.C. Hwy. 41**		**Lake View**							
	2	1	0	0	0	2	0	1	0	1	0
	1	0	2	2	0	0	0	1	0	0	
	0	0	0	0	1	1	1	1	0	0	
Bridge - Little Pee Dee River/S.C. 57		**S.C. Hwy. 57**		**Dillon**							
	2	1	0	0	0	2	0	1	0	1	0
	1	0	2	2	0	0	0	1	0	0	
	0	0	0	0	1	1	1	1	0	0	

*** Ranking explanation provided at the end of report**

Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	to Disease Outbreak	Vulnerable
Bridge - S.C. Hwy. 57		**I-95**		**Dillon**						
2	1	0	0	0	2	0	1	0	1	0
0	0	2	2	0	0	0	1	0	0	
0	0	0	0	1	1	1	1	0	0	
City of Dillon City Hall		**401 W. Main Street**		**Dillon**						
1	0	0	1	1	1	1	2	1	1	2
1	0	1	0	1	1	0	0	1	0	
0	0	2	1	3	1	0	2	0	0	
City of Dillon Fire Dept - 8th Ave		**209 S. 8th Ave**		**Dillon**						
1	0	0	1	1	1	1	1	0	1	1
0	0	1	0	1	1	0	0	2	0	
0	0	1	3	3	3	0	1	0	1	
City of Dillon Fire Dept - W Main St		**1116 W. Main St**		**Dillon**						
1	0	0	1	1	1	1	1	0	1	1
0	0	1	0	1	1	0	0	2	0	
0	0	1	3	3	3	0	1	0	1	
City of Dillon Public Works		**501 S. 1st Ave**		**Dillon**						
3	0	0	1	1	1	1	2	0	1	1
1	0	1	0	1	1	0	1	3	0	
0	0	3	1	3	2	0	2	0	1	

*** Ranking explanation provided at the end of report**

Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

City of Dillon Water Tank - Hudson St **408 S 20th Ave** **Dillon**

2	0	1	1	1	2	2	0	1	1	1
0	0	1	0	0	1	0	0	0	0	
0	0	1	1	2	3	0	1	0	2	

City of Dillon Water Tank 1 **PO Box 431** **Dillon**

2	0	0	1	1	1	2	2	0	1	1
0	0	1	0	0	1	0	0	0	0	
0	0	1	1	2	3	0	2	0	2	

City of Dillon Water Tank 10 **1029 Old Race track Rd** **Dillon**

2	0	0	1	1	1	2	2	0	1	1
0	0	1	0	0	1	0	0	0	0	
0	0	1	1	2	3	0	2	0	2	

City of Dillon Water Tank 2 **PO Box 431** **Dillon**

2	0	0	1	1	1	2	2	0	1	1
0	0	1	0	0	1	0	0	0	0	
0	0	1	1	2	3	0	2	0	2	

City of Dillon Water Tank 3 **PO Box 431** **Dillon**

2	0	0	1	1	1	2	2	0	1	1
0	0	1	0	0	1	0	0	0	0	
0	0	1	1	2	3	0	2	0	2	

*** Ranking explanation provided at the end of report**

Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	to Disease Outbreak	Vulnerable

City of Dillon Water Tank 4			**PO Box 431**	**Dillon**						
2	0	0	1	1	1	2	2	0	1	1
0	0	1	0	0	1	0	0	0	0	
0	0	1	1	2	3	0	2	0	2	
City of Dillon Water Tank 5			**PO Box 431**	**Dillon**						
2	0	0	1	1	1	2	2	0	1	1
0	0	1	0	0	1	0	0	0	0	
0	0	1	1	2	3	0	2	0	2	
City of Dillon Water Tank 6			**PO Box 431**	**Dillon**						
2	0	0	1	1	1	2	2	0	1	1
0	0	1	0	0	1	0	0	0	0	
0	0	1	1	2	3	0	2	0	2	
City of Dillon Water Tank 7			**109 W Jackson St**	**Dillon**						
2	0	0	1	1	1	2	2	0	1	1
0	0	1	0	0	1	0	0	0	0	
0	0	1	1	2	3	0	1	0	2	
City of Dillon Water Tank 9			**1029 Old Race Track Rd**	**Dillon**						
2	0	0	1	1	1	2	2	0	1	1
0	0	1	0	0	1	0	0	0	0	
0	0	1	1	2	3	0	2	0	2	

*** Ranking explanation provided at the end of report**

Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

City of Dillon Water Well - 1st & Jackson			**109 W Jackson**								
0	0	0	1	1	1	2	2	0	1	1	
0	0	1	0	0	1	0	0	0	0		
0	0	1	1	2	3	0	2	0	2		
City of Dillon Water Well - Hudson St			**408 S. 20th Ave**	**Dillon**							
0	0	0	1	1	1	2	2	0	1	1	
0	0	1	0	0	1	0	0	0	0		
0	0	1	1	2	3	0	1	0	2		
City of Dillon Water Well - Madison St			**701 E. Madison St**	**Dillon**							
0	0	0	1	1	1	2	2	0	1	1	
0	0	1	0	0	1	0	0	0	0		
0	0	1	1	2	3	0	1	0	2		
City of Dillon Water Well #9			**1029 Old Race Track Rd**	**Dillon**							
0	0	0	1	1	1	2	2	0	1	1	
0	0	1	0	0	1	0	0	0	0		
0	0	1	1	2	3	0	2	0	2		
City of Dillon Water Well & Tank - Hwy 34			**1100 Hwy 34 W**	**Dillon**							
0	1	0	1	1	1	2	2	0	1	1	
0	0	1	0	0	1	0	0	2	0		
0	1	1	1	2	3	0	2	0	0		

*** Ranking explanation provided at the end of report**

Vulnerability

	Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
	Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
	Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	to Disease Outbreak	Vulnerable
City of Dillon Water Well 1			**PO Box 431**		**Dillon**						
	0	0	0	1	1	1	2	2	0	1	1
	0	0	1	0	0	1	0	0	0	0	
	0	0	1	1	2	3	0	2	0	2	
City of Dillon Water Well 2			**PO Box 431**		**Dillon**						
	0	0	0	1	1	1	2	2	0	1	1
	0	0	1	0	0	1	0	0	0	0	
	0	0	1	1	2	3	0	2	0	2	
City of Dillon Water Well 3			**PO Box 431**		**Dillon**						
	0	0	0	1	1	1	2	2	0	1	1
	0	0	1	0	0	1	0	0	0	0	
	0	0	1	1	2	3	0	2	0	2	
City of Dillon Water Well 4			**PO Box 431**		**Dillon**						
	0	0	0	1	1	1	2	2	0	1	1
	0	0	1	0	0	1	0	0	0	0	
	0	0	1	1	2	3	0	2	0	2	
City of Dillon Water Well 5			**PO Box 431**		**Dillon**						
	0	0	0	1	1	1	2	2	0	1	1
	0	0	1	0	0	1	0	0	0	0	
	0	0	1	1	2	3	0	2	0	2	

*** Ranking explanation provided at the end of report**

Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	
Dillon Co Fire Station One		**201 W. Howard St.**		**Dillon**						
2	0	0	1	1	3	0	1	1	1	1
1	0	1	0	0	1	0	1	1	3	
0	0	3	3	3	3	0	1	0	2	
Dillon Co Fire Station – LV		**2203 Hwy 41 S**		**Lake View**						
2	0	0	1	1	3	0	1	1	1	1
2	0	1	0	0	1	0	1	1	3	
0	0	3	3	3	3	0	1	0	1	
Dillon Co Fire Station Four		**1624 Gaddys Mill Rd**		**Hamer**						
2	0	0	1	1	3	0	1	1	1	1
2	0	1	0	0	1	0	1	1	3	
0	0	3	3	3	3	0	1	0	1	
Dillon Co Fire Station Five		**3234 Hwy 57 N**		**Dillon**						
2	0	0	1	1	3	0	1	1	1	1
2	0	1	0	0	1	0	1	1	3	
0	0	3	3	3	3	0	1	0	1	
Dillon Co Fire Station Five Substation		**4127 Hwy 9 W**		**Dillon**						
2	0	0	1	1	3	0	1	1	1	1
2	0	1	0	0	1	0	1	1	3	
0	0	3	3	3	3	0	1	0	1	

*** Ranking explanation provided at the end of report**

Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder

Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	occur
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	to Disease Outbreak	Vulnerable
Dillon Co Fire Station – Latta		**101 W Bamberg St**		**Latta**						
2	0	0	1	1	3	0	1	1	1	1
2	0	1	0	0	1	0	1	1	3	
0	0	3	3	3	3	0	1	0	1	
Dillon Co Fire Station Nine		**1723 Hwy 38**		**Latta**						
2	0	0	1	1	3	0	1	1	1	1
2	0	1	0	0	1	0	1	1	3	
0	0	3	3	3	3	0	1	0	1	
Dillon Co. Health Dept.		**201 W. Hampton St.**		**Dillon**						
2	0	0	1	1	3	0	1	1	1	1
1	0	1	0	3	1	0	1	1	3	
0	0	3	1	3	3	0	1	0	2	
Dillon County		**109 S. Third Ave (PO Box 449)**		**Dillon**						
1	1	0	1	1	2	0	1	0	1	1
0	0	1	0	2	2	0	1	1	1	
0	0	2	2	0	1	0	1	0	2	
Dillon County Ambulance Service		**1415 E. Main St.**		**Dillon**						
3	0	0	1	1	3	0	1	1	1	1
1	0	1	0	0	1	0	1	1	3	
0	0	3	1	3	3	0	1	0	1	

*** Ranking explanation provided at the end of report**

Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

Dillon County Commission on Alcohol and Drug Abuse			**204 Martin Luther King, Jr. Blvd.**	**Dillon**						
2	1	0	1	1	1	0	1	0	1	1
0	0	1	2	2	0	0	1	1	0	
0	0	2	2	2	1	0	1	0	2	
Dillon County Detention Center			**1027 Old Latta Hwy**	**Dillon**						
2	0	0	1	0	3	0	1	1	1	1
1	0	1	0	3	1	0	1	1	3	
0	0	1	1	3	3	0	1	0	2	
Dillon County E-911 & EOC			**205 W. Howard St.**	**Dillon**						
2	0	0	1	3	3	0	1	1	1	1
1	0	1	0	3	1	0	1	1	3	
0	0	1	1	3	3	0	1	0	1	
Dillon County Public Works			**114 Hopkins Rd.**	**Dillon**						
3	0	0	1	1	3	0	0	1	1	1
1	0	1	0	0	0	0	1	1	3	
0	0	0	1	3	3	0	1	0	2	
Dillon County Sheriff			**303 W. Hampton St.**	**Dillon**						
1	0	0	1	1	3	0	1	1	1	1
1	0	1	0	1	1	0	1	1	3	
0	0	3	1	3	3	0	1	0	2	

*** Ranking explanation provided at the end of report**

Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to	History of	Vulnerable to Winter	Vulnerable to	Vulnerable to	Disruption would	Facility has	Subject to Major	Vulnerable to	Subject to	

Flooding	Damage	Storms	Roadway Blockage	Sewer System Outage	have Economic Impact	Historic Value	Urban or Wildland Fire	Hail Storm	Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	to Disease Outbreak	Vulnerable
Dillon Dialysis Center			**Hwy. 301 South**	**Dillon**						
0	0	3	1	3	3	0	1	0	1	1
2	0	0	1	1	3	0	1	1	1	
1	0	1	0	3	1	0	1	1	3	
Dillon Healthcare, Inc.			**413 Lakeside Court**	**Dillon**						
1	0	0	1	1	3	0	1	1	1	1
1	0	1	0	3	1	0	1	1	3	
0	0	3	0	3	3	0	1	0	1	
Emergency Shelter-Dillon High Sch (Mandatory)			**1328 N. 2nd Ave.**	**Dillon**						
1	0	0	1	1	3	0	1	1	1	1
1	0	1	0	3	0	0	1	1	2	
0	0	2	1	3	3	0	1	0	2	
Emergency Shelter-Gordon Elem (Reserve)			**201 Perry St.**	**Dillon**						
1	0	0	1	1	3	0	0	1	1	1
1	0	1	0	3	0	0	1	1	2	
0	0	2	1	3	3	0	1	0	2	
Emergency Shelter-Lake View Elem (Reserve)			**1311 Scott St.**	**Lake View**						
1	0	0	1	1	0	0	0	0	0	0
0	0	1	0	1	0	0	0	1	0	
0	0	3	0	0	0	0	0	0	0	

*** Ranking explanation provided at the end of report**

Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Outbreak	Vulnerable to Disease

Emergency Shelter-Lake View High (Mandatory) **P. O. Box 624** **Lake View**

1	0	0	1	1	0	0	0	0	0	0
0	0	1	0	1	0	0	0	1	0	
0	0	3	0	0	0	0	0	0	0	

Emergency Shelter-Latta High Sch (Mandatory) **606 N. Richardson St.** **Latta**

1	0	0	1	1	3	0	1	1	1	1
1	0	1	0	3	0	0	1	1	2	
0	0	2	1	3	3	0	1	0	2	

Emergency Shelter-Latta Middle Sch (Reserve) **602 N. Richardson St.** **Latta**

1	0	0	1	1	3	0	1	1	1	1
1	0	1	0	3	0	0	1	1	2	
0	0	2	1	3	3	0	1	0	2	

Emergency Shelter-South Dillon Elem (Reserve) **900 Patriot St.** **Dillon**

1	0	0	1	1	3	0	1	1	1	1
1	0	1	0	3	0	0	1	1	2	
0	0	2	1	3	3	0	1	0	2	

Emergency Shelter-St. Eugene Med Ctr (Spec Med) **301 E. Jackson St.** **Dillon**

2	0	0	1	3	3	0	1	1	1	1
1	0	1	0	3	1	0	1	1	3	
0	0	1	3	3	3	0	1	0	3	

*** Ranking explanation provided at the end of report**

Vulnerability

	Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
	Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
	Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	
Emergency Shelter-Stewart Hgts Elem (Reserve)		**1001 W. Calhoun**		**Dillon**							
	1	0	0	1	1	3	0	1	1	1	1
	1	0	1	0	3	0	0	1	1	2	
	0	0	2	1	3	3	0	1	0	2	
Floydale Vol. Fire/Rescue (Burke Rd)		**2944 Burke Rd.**		**Dillon**							
	2	0	0	1	1	3	0	1	1	1	1
	1	0	1	0	0	0	0	1	1	3	
	0	0	3	3	3	3	0	1	0	2	
FloydDale Vol. Fire/Rescue (Lester Rd)		**2535 Lester Rd.**		**Dillon**							
	2	0	0	1	1	3	0	1	1	1	1
	1	0	1	0	0	0	0	1	1	3	
	0	0	3	3	3	3	0	1	0	2	
Lake View Fire Dept		**203 N. Main St.**		**Lakeview**							
	2	0	0	1	3	2	0	1	0	1	1
	0	0	1	0	2	0	0	1	1	0	
	0	0	2	2	2	3	0	1	0	1	
Latta Rescue Squad		**107 Bamberg St.**		**Latta**							
	1	0	0	1	1	3	0	1	1	1	1
	3	0	1	0	0	1	0	1	1	3	
	0	0	3	1	3	3	0	1	0	2	

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Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

Manor House of Dillon — 2048 Cotton Gin Rd. — Minturn

1	0	0	1	1	3	0	1	1	1	1
1	0	1	0	3	1	0	1	1	3	
0	0	3	0	3	3	0	1	0	1	

Oak Grove Volunteer Fire Dept — 1723 Hwy 38 West — Latta

2	0	0	1	1	3	0	0	1	1	1
1	0	1	0	0	0	0	1	1	3	
0	0	3	3	3	3	0	1	0	2	

Oakland Volunteer Fire Dept — 2034 Oakland Rd. — Hamer

2	0	0	1	1	3	0	0	1	1	1
1	0	1	0	0	0	0	1	1	3	
0	0	3	3	3	3	0	1	0	2	

Riverdale Residential Care Facility — 412 Pee Dee Church Rd. — Dillon

1	0	0	1	1	3	0	0	1	1	1
1	0	1	0	3	1	0	1	1	3	
0	0	3	1	3	3	0	1	0	1	

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Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	
McLeod Medical Center-Dillon		**301 East Jackson Street**		**Dillon**						
2	0	0	1	3	3	0	1	1	1	1
1	0	1	0	3	1	0	1	1	3	
0	0	1	3	3	3	0	1	0	3	
Sunny Acres Nursing Home		**1727 Buck Swamp Rd.**		**Fork**						
1	0	0	1	1	3	0	0	1	1	1
1	0	1	0	3	1	0	1	1	3	
0	0	3	0	3	3	0	1	0	1	
Thorne Retirement Home		**702 W. 3rd Ave.**		**Lake View**						
1	0	0	1	1	3	0	1	1	1	1
1	0	1	0	3	1	0	1	1	3	
0	0	3	1	3	3	0	1	0	1	
Town of Lake View Town Hall		**205 N. Main Street (PO Box 824)**		**Lake View**						
1	0	0	1	1	0	0	0	0	0	0
0	3	1	0	1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	
Town of Lake View Water Tank 1		**PO Box 824**		**Lake View**						
1	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	

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Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

Town of Lake View Water Tank 2			**PO Box 824**		**Lake View**						
1	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	1	0	0	0	0	0		
0	0	0	0	0	0	0	0	0	0		
Town of Lake View Water Well 1			**PO Box 824**		**Lake View**						
2	0	0	1	0	2	0	1	1	1	0	
0	0	1	0	0	0	0	1	0	0		
0	0	2	2	2	2	0	1	0	2		
Town of Lake View Water Well 2			**PO Box 824**		**Lake View**						
2	0	0	1	0	2	0	1	1	1	0	
0	0	1	0	0	0	0	1	0	0		
0	0	2	2	2	2	0	1	0	2		
Town of Latta Water Tank #1			**214 S.E. Railroad Ave.**		**Latta**						
0	0	0	1	0	0	0	1	1	0	0	
0	0	1	0	0	1	0	1	1	0		
0	0	1	1	0	2	1	0	0	0		
Town of Latta Water Tank #2			**100 Diversified Dr.**		**Latta**						
0	0	0	1	0	0	0	1	1	0	0	
0	0	1	0	0	1	0	1	1	0		
0	0	1	1	0	2	1	0	0	0		

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Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

Town of Latta Water Well			**Hwy 917 West**		**Latta**						
2	0	0	1	0	2	0	1	1	1	0	
0	0	1	0	0	0	0	1	0	0		
0	0	2	2	2	2	0	1	0	2		
Town of Latta/Police			**107 N.W.Railroad Ave.**		**Latta**						
1	0	0	1	1	3	0	1	1	1	1	
1	0	1	0	1	1	0	1	1	3		
0	0	1	1	3	3	0	1	0	1		
Tri County Mental Health			**310 Commerce Dr.**		**Dillon**						
2	0	0	1	1	1	0	1	0	1	1	
0	0	1	2	2	0	0	1	1	0		
0	0	2	2	2	1	0	1	0	2		
Trico Water Well #5			**PO Box 1476**		**Dillon**						
0	0	0	2	0	0	0	1	1	0	0	
0	1	1	0	0	1	0	0	0	0		
0	0	1	1	0	2	1	0	0	0		
Trico Water Well #6			**4510 Hwy. 301, South**		**Latta**						
0	0	0	2	0	0	0	1	1	0	0	
0	1	1	0	0	1	0	0	0	0		
0	0	1	1	0	2	1	0	0	0		

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Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

Trico Water Well #7 **4735 Hwy. 301, South** **Latta**

0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

Trico Water Well #8 **1563 Wix Rd.** **Dillon**

0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

Trico Water Well #9 **245 McCormick Rd.** **Hamer**

0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

Trico Water Tank #1 **2645 Hwy. 301, North** **Dillon**

0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

Trico Water Tank #2 **222 Black Branch Rd.** **Dillon**

0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

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Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

Trico Water Tank #3			**609 Scotland Rd**	**Dillon**						
0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	
Trico Water Tank #4			**4510 Hwy 301 South**	**Latta**						
0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	
Trico Water Tank #5			**752 State Park Rd.**	**Dillon**						
0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	
Trico Water Treatment Facility #1			**2649 Hwy. 301, North**	**Dillon**						
0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	
Trico Water Treatment Facility #2			**222 Black Branch Rd.**	**Dillon**						
0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

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Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

Trico Water Treatment Facility #3 — 1563 Wix Rd. — Dillon

0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

Trico Water Treatment Facility #4 — 752 State Park Rd. — Dillon

0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

Trico Water Well #1 — 2645 Hwy. 301, North — Dillon

0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

Trico Water Well #10 — 2142 Wix Rd. — Dillon

0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

Trico Water Well #3 — 2149 Mt. Calvary Rd. — Dillon

0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	

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Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

Trico Water Well #4			**448 Elkins Rd.**	**Hamer**						
0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	
TricoWater Well #2			**2617 Applejack Loop**	**Dillon**						
0	0	0	2	0	0	0	1	1	0	0
0	1	1	0	0	1	0	0	0	0	
0	0	1	1	0	2	1	0	0	0	
Wastewater Treatment Facility - Dillon #2			**1700 E Main St**	**Dillon**						
2	0	0	1	1	1	3	2	0	1	1
1	0	1	0	3	1	0	0	1	0	
0	0	1	1	2	3	0	0	0	0	
Wastewater Treatment Facility - Latta 301 S			**Hwy 301 South**	**Latta**						
0	0	0	1	0	0	0	1	1	1	1
3	0	1	2	0	1	0	1	1	0	
0	0	2	1	0	2	1	0	0	2	
Wastewater Treatment Facility-Dillon			**P O Drawer 431**	**Dillon**						
2	0	0	1	1	1	3	2	0	1	1
1	0	1	0	3	1	0	0	1	0	
0	0	1	1	2	3	0	0	0	0	

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Vulnerability

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis	
Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak	

Wastewater Treatment Facility-Lake View WWTP		**P O Box 824**		**Lake View**						
2	0	0	1	1	1	3	2	0	1	1
1	0	1	0	3	1	0	0	1	0	
0	0	1	1	2	3	0	0	0	0	
Wastewater Treatment Facility-Latta-Academy St		**West off 518 Academy St. & Marion St.**		**Latta**						
0	0	0	1	0	0	0	1	1	1	1
3	0	1	2	0	1	0	1	1	0	
0	0	2	1	0	2	1	0	0	2	
Wastewater Treatment Facility-Latta-Exit 181		**Hwy 38 & I-95 @ 181 mile marker**		**Latta**						
0	0	0	1	0	0	0	1	1	1	1
3	0	1	2	0	1	0	1	1	0	
0	0	2	1	0	2	1	0	0	2	
Wastewater Treatment Facility-Latta-Willis&Munn		**Willis & Munn**		**Latta**						
0	0	0	1	0	0	0	1	1	1	1
3	0	1	2	0	1	0	1	1	0	
0	0	2	1	0	2	1	0	0	2	
Wastewater Treatment Facility-Little Pee Dee WTP		**P O Drawer 431**		**Dillon**						
2	0	0	1	1	1	3	2	0	1	1
1	0	1	0	3	1	0	0	1	0	
0	0	1	1	2	3	0	0	0	0	

*** Ranking explanation provided at the end of report**

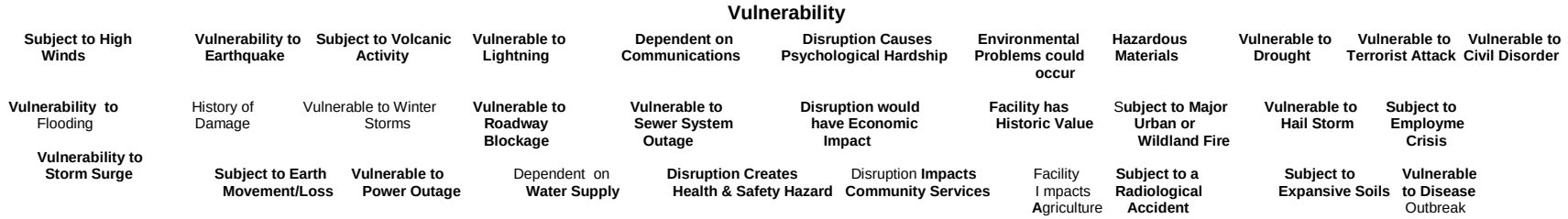
Vulnerability

Wastewater Treatment Facility-Maple Swamp WTP | **P O Drawer 431** | **Dillon**

Subject to High Winds	Vulnerability to Earthquake	Subject to Volcanic Activity	Vulnerable to Lightning	Dependent on Communications	Disruption Causes Psychological Hardship	Environmental Problems could occur	Hazardous Materials	Vulnerable to Drought	Vulnerable to Terrorist Attack	Vulnerable to Civil Disorder
2	0	0	1	1	1	3	2	0	1	1

Vulnerability to Flooding	History of Damage	Vulnerable to Winter Storms	Vulnerable to Roadway Blockage	Vulnerable to Sewer System Outage	Disruption would have Economic Impact	Facility has Historic Value	Subject to Major Urban or Wildland Fire	Vulnerable to Hail Storm	Subject to Employme Crisis
1	0	1	0	3	1	0	0	1	0

Vulnerability to Storm Surge	Subject to Earth Movement/Loss	Vulnerable to Power Outage	Dependent on Water Supply	Disruption Creates Health & Safety Hazard	Disruption Impacts Community Services	Facility I mpacts Agriculture	Subject to a Radiological Accident	Subject to Expansive Soils	Vulnerable to Disease Outbreak
0	0	1	1	2	3	0	0	0	0



Explanation of vulnerability ranking criteria:

Subject to High Wind
0 Facililty is not vulnerable due to construction type, roof configuration and wall opening size or protection, as well as the absence of nearby trees.
1 Wall opening size and lack of protection may cause window/door failure and/or there are a few adjacent trees; No external equipment (signs, canopy, antennae) are vulnerable to wind damage.
2 Wall opening size and lack of protection, roof configuration, and/or several large trees overhanging the structure make it vulnerable to wind damage; Nonessential external equipment is present
3 The facility can be expected to be damaged or destroyed in a high wind, because it is a mobile or fragile structure, or wall openings and can be expected to fail.

Vulnerability to Flooding:
0 The structure is known to not be located in a flood plain or flood prone area
1 The structure is in a flood plain or flood prone area but has no prior history of flood damage
2 The structure is in a flood plain or flood prone area and has experienced some limited flood damage in the past
3 The structure is in a flood plain or flood prone area and has experienced significant flood damage, or the property is a repetitive loss property under the National Flood Insurance Program.

Vulnerability to Surge:
0 The structure is known to not be located in a storm surge or tsunami inundation area
1 The structure is located in a storm surge area for a Category 4 or 5 hurricane, or is located at the edge of a designated tsunami risk zone
2 The structure is located in a storm surge zone for a Category 3 hurricane or is located just inside a designated tsunami risk zone, but has not experienced any prior damage from a surge or tsunami
3 The structure is located in a storm surge zone for a Category 1 or 2 hurricane, or is located well inside a designated tsunami risk zone, or has experienced prior damage from

Vulnerability to Earthquake
0 The facility is not located in an area considered to have any significant risk of earthquake
1 The facility is located in an area considered to be at low risk of an earthquake or has been constructed or retrofitted to comply with the community's current earthquake building codes
2 The facility is located in an area considered to be at moderate risk of an earthquake and has not been constructed or retrofitted to comply with the community's current earthquake building codes.
3 The facility is located in an area considered to be at high risk of an earthquake and has not been constructed or retrofitted to comply with the community's current earthquake

Disruption would have Economic Impact:
0 The facility has no significant financial or employment relationship to the community
1 The facility is a mid-sized employer and is one of many in the community, and the facility is only slightly responsible for direct and indirect revenue generated in the community
2 The facility is a large employer, providing jobs to 10% or more of the community's workforce, or is responsible for up to 25% of the direct and indirect revenue generated in the community
3 The facility provides more than 50% of the jobs in the community, or is responsible for nearly all of the direct and indirect revenue generated in the community

Disruption Impacts Community Services:
0 The facility does not provide any significant community service or products used by the community
1 The facility provides services or products frequently used by the community and disruption of operations would cause significant inconvenience to the public
2 The facility provides important services or products needed continually by the community and disruption of facility operations could cause potential health and safety impacts
3 The facility provides critically needed services or products on a daily basis and disruption of facility operations would cause health and safety impacts

Environmental Problems Result from Disruption:
0 Damage to the facility or disruption of operations would not have any significant impact on the natural environment
1 Damage to the facility or disruption of operations would release materials that would have short-term effect on the natural environment of adjacent areas
2 Damage or disruption of operations would release materials having a short-term effect on valuable environmental resources in adjacent areas or a long-term effect on the environment of adjacent areas.
3 Damage or disruption of operations would release materials having a long-term effect on valuable environmental resources in adjacent areas, or would cause irreparable harm to the adjacent environment

Facility has Historic Value:
0 The facility has no historic or cultural value
1 The facility may have historic or cultural value if investigated, or damages to the facility or its contents could be repaired without compromise to the facility's historic or cultural value
2 The facility is known to have historic or cultural value, or damages to the facility or its contents could not be repaired without some compromise to its historic or cultural value
3 The facility is officially listed as a state or federal historic or cultural site, or damages to the facility or its contents would irreparably harm the historic or cultural value of the facility

Vulnerability

Subject to High Winds | **Vulnerability to Earthquake** | **Subject to Volcanic Activity** | **Vulnerable to Lightning** | **Dependent on Communications** | **Disruption Causes Psychological Hardship** | **Environmental Problems could occur** | **Hazardous Materials** | **Vulnerable to Drought** | **Vulnerable to Terrorist Attack** | **Vulnerable to Civil Disorder**

Vulnerability to Flooding | History of Damage | Vulnerable to Winter Storms | **Vulnerable to Roadway Blockage** | **Vulnerable to Sewer System Outage** | **Disruption would have Economic Impact** | **Facility has Historic Value** | **Subject to Major Urban or Wildland Fire** | **Vulnerable to Hail Storm** | **Subject to Employme Crisis**

Vulnerability to Storm Surge | **Subject to Earth Movement/Loss** | **Vulnerable to Power Outage** | Dependent on **Water Supply** | **Disruption Creates Health & Safety Hazard** | Disruption **Impacts Community Services** | Facility I mpacts Agriculture | **Subject to a Radiological Accident** | **Subject to Expansive Soils** | **Vulnerable to Disease** Outbreak

History of Damage:
0 The facility has no history of damage from any type of disaster or major emergency.
1 The facility has experienced damage or loss of function costing less than $10,000 from a single disaster episode in the past.
2 The facility has experienced damage or loss of function costing more than $10,000 from a single disaster episode in the past
3 The facility has experienced more than one episode with total damage or loss of function costing more than $10,000, or is a repetitive loss property under the National Flood Insurance Program

Subject to Earth Movement/Loss:
0 The facility is located on a site not considered vulnerable to landslide, erosion or avalanche
1 The facility is located on a sloping or waterside site with soils considered moderately vulnerable to landslide or erosion, and/or is located near but not in an area predicted to be an avalanche runout zone
2 The facility is on a sloping or waterside site with soils conducive to landslide or erosion, and/or is in a potential avalanche runout zone. but, there is no history of structural damage from these hazards.
3 The facility is on a sloping or waterside site highly vulnerable to landslide or erosion, is

Subject to Volcanic Activity:
0 The facility is not located in or near an area with significant risk from volcanic activity
1 The facility is located in or near an area that could receive some volcanic ashfall, but has no structural features, equipment or operations considered vulnerable to volcanic ash

2 The facility is located in or close to an area where heavy ashfall or debris flow could occur.
3 The facility is located in an area known to have experienced heavy ashfall, debris flow or blast effects from past volcanic activity

Vulnerable to Winter Storms:
0 The facility would not suffer any damage or operational disruption from a winter storm
1 The facility could suffer some damage or minor operational disruption from a winter storm
2 The facility has suffered damages or significant operational disruption from past winter storms
3 The facility has suffered damages or significant operational disruption from past storms and such disruption has had serious economic or public health consequences in the

Facility Impacts Agriculture:
0 Damage to the facility or disruption to its operations would have no impact on agricultural activities in the community
1 Damage to the facility or disruption to its operations would cause agricultural activities in the community to be temporarily disrupted with a minor economic loss
2 Damage to the facility or disruption to its operations would cause agricultural activities in the community to be significantly disrupted and cause a significant economic loss
3 Damage to the facility or disruption to its operations would cause agricultural activities in the community to be disrupted for a full season or longer, and cause closure of other agricultural enterprises

Facility's Relationship to Hazardous Materials:
0 The facility is not considered to be a hazardous materials site, and is not located within 0.5 miles of a designated hazardous materials site, major highway, or railroad
1 The facility has potentially hazardous materials onsite below threshold reporting volumes, or is located within 0.25 miles of a designated hazardous materials site, major highway or railroad
2 The facility is designated as a hazardous materials site, or is located adjacent to a designated hazardous materials site, major highway or railroad
3 The facility is a hazardous materials site and has "extremely hazardous substances" present, or the facility has either caused or experienced a damaging hazardous materials

Subject to Major Urban or Wildland Fire:
0 The facility meets the community's current fire code, has adequate separation from surrounding structures, access is unrestricted, and it is not located in proximity to large, heavily vegetated areas
1 The facility meets the community's current fire code, and is not located in proximity to large, heavily vegetated areas, but access and/or separation from nearby structures increase the risk of facility loss from fire.
2 The facility does not meet the community's current fire code, is in or adjacent to large, heavily vegetated areas, and access limitations and/or separation from nearby structures is inadequate.
3 The facility does not meet the community's current fire code, is in or adjacent to large, heavily vegetated areas, and access limitations and separation from other structures make fire suppression difficult.

Vulnerability

Subject to High Winds | **Vulnerability to Earthquake** | **Subject to Volcanic Activity** | **Vulnerable to Lightning** | **Dependent on Communications** | **Disruption Causes Psychological Hardship** | **Environmental Problems could occur** | **Hazardous Materials** | **Vulnerable to Drought** | **Vulnerable to Terrorist Attack** | **Vulnerable to Civil Disorder**

Vulnerability to Flooding | History of Damage | Vulnerable to Winter Storms | **Vulnerable to Roadway Blockage** | **Vulnerable to Sewer System Outage** | **Disruption would have Economic Impact** | **Facility has Historic Value** | **Subject to Major Urban or Wildland Fire** | **Vulnerable to Hail Storm** | **Subject to Employme Crisis**

Vulnerability to Storm Surge | **Subject to Earth Movement/Loss** | **Vulnerable to Power Outage** | Dependent on **Water Supply** | **Disruption Creates Health & Safety Hazard** | Disruption **Impacts Community Services** | Facility I mpacts Agriculture | **Subject to a Radiological Accident** | **Subject to Expansive Soils** | **Vulnerable to Disease** Outbreak

Vulnerable to Power Outage:
damage from these hazards
0 The facility or its operations are not uniquely vulnerable to electricity or gas outage,

and other utilities would continue to function, or, the facility has an onsite generator and/or standby gas supply
1 The facility or its operations could be damaged by an electricity or gas outage, and onsite electric generator or standby gas supply can only support limited operations.
2 The facility or its operations are dependent on continuing electricity or gas supply, and damage or loss of function to the facility itself could occur.
3 The facility or its operations are dependent on continuing electricity or gas supply, and damage or loss of function would result in significant community economic losses or public health and safety risks.

Vulnerable to Lightning:
0 The facility is not uniquely vulnerable to lightning strike or has been equipped with lightning protection.
1 The position and/or height of the facility makes it somewhat vulnerable to lightning, but there is no history of damage or loss of operation from any past events
2 The position and/or height of the facility makes it clearly vulnerable to lightning strikes, and there is a history of structure and/or contents damage or loss of function from past events.
3 The position and/or height makes the facility clearly vulnerable to lightning strikes, and damages and loss of function from past events has caused significant economic or public safety consequences

Vulnerable to Roadway Blockage:
0 The facility is not vulnerable to roadway blockage due to multiple access/egress routes or has a protected single route without adjacent trees, power lines, or flood prone areas
1 The facility is somewhat vulnerable to roadway blockage due to a single route of access/egress that has some adjacent trees, power lines, or areas that flood in severe rainstorms.
2 There is a single access/egress route with many adjacent trees, power lines, or areas that flood in moderate rainstorms, or access blockage would stop operations causing significant facility economic losses
3 There is a single route of access/egress with numerous adjacent trees, power lines, or areas that flood routinely, or blockage would stop operations with significant community economic losses.

Dependent on Water Supply:
0 The facility can maintain operations without its normal water supply for at least 72 hours,
1 The facility would have to curtail operations somewhat without its normal water supply, with some limited economic consequences
2 The facility would have to stop operations without its normal water supply, with significant economic or potential health and safety consequences.
3 The facility must not lose its normal water supply or serious health and safety consequences will occur

:

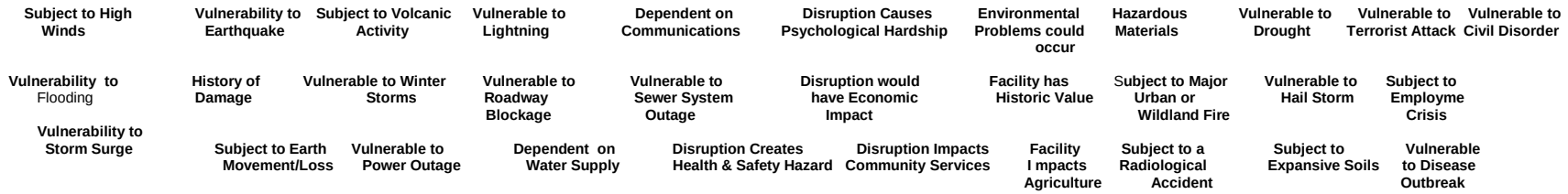
Subject to a Radiological Accident:
0 The facility is not located within 50 miles of a nuclear power plant and is not within 1 mile of an interstate highway or railroad
1 The facility is located between 10 and 50 miles of a nuclear power plant or is within 1 mile of an interstate highway or railroad
2 The facility is located between 2 and 10 miles from a nuclear power plant, or is within 0.5 miles of an interstate highway or railroad
3 The facility is located within 2 miles of a nuclear power plant or is adjacent to an interstate highway or railroad

Vulnerable to Drought:
0 The facility is served by a water supply that is known to be adequate under drought conditions
1 The facility is served by a water supply that is likely to fail under severe drought conditions
2 The facility is served by a water supply that is likely to fail under moderate drought conditions

Vulnerable to Hail Storm:
0 The construction of the facility has no surfaces or equipment that are likely to be damaged by large hail
1 The facility has equipment or surfaces that could be damaged by large hail, but operation of the facility would not be disrupted
2 The facility has equipment or surfaces that would be damaged by large hail, and operation of the facility may be disrupted
3 The facility has equipment or surfaces that would be damaged by large hail, and operation of the facility would be disrupted, or, prior hail storms have significantly damaged the facility and disrupted operations

Subject to Expansive Soils:
0 The facility is not located over geologic formations with any potential for subsidence and the site is in an area free of expansive soils.
1 The facility is over geologic formations with limited potential for subsidence or is in an area where expansive soils may be present, and there is no history in the area of damage from subsidence or expansive soils
2 The facility is over geologic formations known to have potential for subsidence or the site is likely to have expansive soils, but there is no history in the area of damage from subsidence or expansive soils
3 The facility is over geologic formations with known potential for subsidence or the site is known to have expansive soils and there is a history in the area of damage from subsidence or expansive soils

Vulnerability



Dependent on Communications:
0 Operation of this facility would not be significantly curtailed by a communications system failure

1 Communications system failure would require facility operations to be curtailed with a moderate economic loss to the facility
2 Communications system failure would require facility operations to stop with a significant economic loss to the facility
3 Communications system failure would require facility operations to stop with a significant economic loss to the community and/or would endanger public health and

Vulnerable to Sewer System Outage:
0 The facility can maintain operations without sewer service
1 The facility would have to curtail operations somewhat without sewer service, with some limited economic consequences
2 The facility would have to stop operations without sewer service, with significant economic consequences
3 The facility must not lose its sewer service or serious health and safety consequences will occur

Disruption Creates Health and Safety Hazards:
0 Disruption of facility operations has no effect on health and safety in the surrounding areas or the community
1 Disruption of facility operations has the potential to cause minor health and safety impact on adjacent populated areas but not the community as a whole
2 Disruption of facility operations would have a health and safety impact on adjacent populated areas or would have a moderate effect on the community as a whole
3 Disruption of facility operations immediately endangers adjacent populated areas or would have a substantial health and safety impact on the community as a whole

Disruption Causes Psychological Hardship:
0 Damage of the facility or disruption of facility operations would be largely unnoticed in normal community activities, and no psychological hardship would result
1 Damage of the facility or disruption of facility operations would prevent or significantly disrupt one or two valuable community activities and would be noticed occasionally by the public
2 Damage of the facility or disruption of facility operations would prevent or significantly disrupt several valuable community activities and would be noticed on a daily basis by the public
3 Damage of the facility or disruption of facility operations would prevent or disrupt numerous valuable community activities and would require significant changes in the daily life style of the public

Vulnerable to Terrorist Attack:
0 The facility is not considered to be a terrorist target and is not located in close proximity to a facility that is considered to be a terrorist target
1 The facility can be considered a possible target for a terrorist attack, or has a target vulnerability rating of between 1 and 6
2 The facility should be considered as a target for terrorist attack, or has a target vulnerability rating of between 6 and 9
3 The facility is considered to be at high risk for a terrorist attack, or has a target vulnerability rating of more than 10

Subject to Employment Crisis:
0 A strike or work stoppage at the facility is prohibited by law, or would not significantly affect its operations or cause significant financial impact in the community
1 A strike or work stoppage at the facility would require facility operations to be curtailed with a small financial impact on the community
2 A strike or work stoppage at the facility would require facility operations to be stopped with a moderate financial impact on the community
3 A strike or work stoppage at the facility would require facility operations to be stopped with a major financial impact on the community or would endanger

Vulnerable to Disease Outbreak:
0 Infestation or disease outbreak are not related in any way to the facility
1 Facility operations could contribute to the spread of an infestation or disease that originated elsewhere
2 The facility could be the source of an infestation or disease outbreak under unusual or unexpected conditions
3 The facility could be the source of an infestation or disease outbreak under normal operational circumstances

Vulnerable to Civil Disorder:
0 The facility is located in an area with no economic or political indicators of a potential for civil disorder and the area has never experienced an episode of civil disorder
1 The facility is located in an area with limited economic or political indicators of a potential for civil disorder, although the area has never experienced an episode of civil disorder
2 The facility is located in an area with widespread economic or political indicators of a potential for civil disorder, although the area has never experienced an episode of civil disorder

Community Survey
Dillon County Hazard Mitigation Plan

Municipality: _____
Name/Email Address:_____

1. Please rank the following hazards:
   High = likely to affect your community/past history of such events
   Medium = may affect your community/some history of such events
   Low = not likely to affect your community/limited history of such events

Hazard	**Ranking**		
Thunderstorms (incl. hail/lightning)	High	Medium	Low
Fires (forest and structural)	High	Medium	Low
Drought	High	Medium	Low
Wildfire	High	Medium	Low
Winter Storms (incl. ice on bridges)	High	Medium	Low
Tornadoes	High	Medium	Low
Hurricane	High	Medium	Low
Hailstorm	High	Medium	Low
Windstorm	High	Medium	Low
Hazardous Materials	High	Medium	Low
Flooding	High	Medium	Low
Earthquake	High	Medium	Low
Other (Specify)	High	Medium	Low
Other (Specify)	High	Medium	Low

2. Please indicate specific areas that were noticeably affected by natural disasters in your community in the past. Include notes on the types of problems experienced in each area.

   Roads

   Streets

   Culverts

   Bridges

   Water and sewer facilities and infrastructure

   Parks

   Public buildings/schools

   Mobile homes
   Residential (besides mobile homes)

   Businesses/churches

Crops

Historic structures

3. Please describe areas in your community that became isolated and/or inaccessible during or after a disaster (i.e. closure of certain roadways due to flooding).

4. What are some specific facilities or structures that you feel may be particularly vulnerable to natural disasters in the future? (i.e. a certain historic building in the floodplain, a place where large numbers of people are consistently gathered, etc.)

5. What procedures/equipment currently exist to respond to disasters?

6. What are some additional procedures/equipment that could be implemented to improve preparedness and response to disasters? Are any of these planned for the future?

7. What projects has your community completed to minimize risks of future natural hazards? (i.e. acquired structures in floodplains, constructed shelters, etc.)

8. What are some additional mitigation projects that need to be done, and what is the priority of doing them?

9. Is there anyone else we should follow up with that would provide assistance to hazard mitigation planning? (Please provide name and telephone number, if known)

10. Please feel free to comment on any other issue related to this plan.

Thank you.

RESOLUTION No. _____

A RESOLUTION ADOPTING THE
2012 DILLON COUNTY HAZARD MITIGATION PLAN

WHEREAS, the 2012 Dillon County Multi-Hazard Mitigation Plan has been prepared in accordance with FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, _____ (name of county or municipality), participated in the preparation of a multi-jurisdictional plan, 2012 Dillon County Multi-Hazard Mitigation Plan; and

WHEREAS, _____ (name of county or municipality) is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, _____ (name of county or municipality) has reviewed the Plan and affirms that the Plan updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by _____ (name of county or municipality) Council that _____ (name of county or municipality) adopts the 2012 Dillon County Hazard Mitigation Plan as this jurisdiction's Multi-Hazard Mitigation Plan, and resolves to execute the actions in the plan.

ADOPTED this ___ day of _____, 20__ at a duly called meeting of the _____ (name of county or municipality) Council.

_____ (name of county or municipality)
Dillon County, SC

_____
(signature) (Council Chairman or Mayor)