





**City of Simpsonville**  
**Multi-Hazard Mitigation Plan**

**TABLE OF CONTENTS**

Section 1	
Executive Summary.....	1.1
Planning Process.....	1.1
Mitigation Initiatives .....	1.2
Goals and Objectives.....	1.3
Summary .....	1.3
Section 2	
Introduction.....	2.1
Purpose .....	2.1
Section 3	
Introduction.....	3.1
Participating Organizations .....	3.1
The Disaster Mitigation Committee Organizational Structure .....	3.1
Disaster Mitigation Committee Contact Information .....	3.4
Section 4	
Introduction.....	4.1
The Disaster Mitigation Committee’s Operating Procedures .....	4.1
Benefits of the Planning Process .....	4.5
Section 5	
Introduction.....	5.1
Status of Plan Promulgation and Approval.....	5.1
Public Information and Participation.....	5.1
The Priority for Initiative Implementation .....	5.2
Effectiveness of Mitigation Initiatives.....	5.3
Summary .....	5.3
Section 6	
Introduction.....	6.1
Hazard Identification .....	6.1
Risk Estimation.....	6.9
The Vulnerability Assessment Process .....	6.13
Repetitive Loss Properties.....	6.13
Land Use Trends and Potential Vulnerability .....	6.13
Critical Facilities.....	6.14
Summary .....	6.14

Section 7	
Introduction.....	7.1
Goals and Objectives for the Mitigation Plan.....	7.1
Using a “Goal-based” Planning Process .....	7.3
Addressing Known Risks and Vulnerabilities .....	7.4
Modification to Other Policies, Plans and Programs.....	7.5
Plan Implementation and Plan Maintenance Procedures.....	7.5
Plan Implementation Responsibility and Schedules .....	7.5
Plan Maintenance and Monitoring of Plan Implementation.....	7.6
Current Planning Cycle Outline.....	7.8
Implementation through Existing Plans and Programs .....	7.8
Continued Public Involvement.....	7.8
The Next Planning Cycles.....	7.9
Section 8	
Introduction.....	8.1
Initiatives Incorporated into the Mitigation Plan .....	8.1
Priority Ranking for Proposed Mitigation Initiatives .....	8.3
Benefit-Cost Ratio.....	8.6
Initiatives by Hazard .....	8.7
Potential Funding Sources.....	8.9
Appendices	
Database of Hazard Events And SHELDUS database.....	Appendix A
Potential Funding Sources.....	Appendix B
Minutes from all meetings of the Disaster Mitigation Committee, communities and other civic organizations .....	Appendix C
Maps.....	Appendix D
Combined Tables for Mitigation Measures Evaluation and Prioritization .....	Appendix E

## Acronyms and Abbreviations

CERT.....	Community Emergency Response Training
CFR.....	Code of Federal Regulations
CISM.....	Critical Incidents Stress Management
CRS.....	Community Rating System
DMA 2000.....	Disaster Mitigation Act of 2000
DMC.....	Disaster Mitigation Committee
DNR.....	SC Department of Natural Resources
EMS.....	Emergency Management Services
EPA.....	U.S. Environmental Protection Agency
FEMA.....	Federal Emergency Management Agency
FHMP.....	Flood Hazard Mitigation Program
FIRM.....	Flood Insurance Rate Map
GIS.....	Geographic Information System
HAZUS.....	Hazards U.S.
HAZMAT.....	Hazardous Material
NFIP.....	National Flood Insurance Program
NOAA.....	National Oceanic and Atmospheric Administration
NRCS.....	Natural Resources Conservation Services
NWS.....	National Weather Service
SCEMD.....	South Carolina Emergency Management Division
SHELDUS.....	Spatial Hazard Events and Losses Database for United States
USACE.....	U.S. Army Corps of Engineers
USGS.....	U.S. Geological Survey



**City of Simpsonville**  
**Multi-Hazard Mitigation Plan**

**Section One**

**EXECUTIVE SUMMARY**

---

In order for the City of Simpsonville to take advantage of certain future hazard mitigation grant programs, the City is required to prepare a Disaster Mitigation plan. Funding to prepare such a plan was made available, in part, by a grant from the Federal Emergency Management Agency (FEMA) through a 2007 State-Local Pre-Disaster Mitigation Grant Agreement with the South Carolina Emergency Management Division (SCEMD). Woolpert was contracted by the City to assist in the planning process.

The City of Simpsonville is threatened by a number of natural hazards. These hazards endanger the health and safety of the population of the community, jeopardize its economic vitality, and imperil the quality of its environment. Because of the importance of avoiding or minimizing the vulnerabilities to these hazards, the public and private sector interests of the City of Simpsonville have joined together to create the City of Simpsonville Disaster Mitigation Committee (DMC) to undertake a comprehensive planning process that has culminated in the publication of this document: "The City of Simpsonville Multi-Hazard Mitigation Plan." This City of Simpsonville Multi-Hazard Mitigation Plan builds upon previous research, planning and analysis performed for The Greenville County Multi-jurisdictional Hazard Mitigation Plan (Revised 2009).

The revisions of this plan were placed under the direction of the Public Works Division of the City of Simpsonville, in particular Jay Crawford, Assistant Director of Public Works. All meetings were facilitated by Mr. Crawford, and portions of the meetings were conducted by the Consultant, Woolpert, represented by Harold Clarkson, P.E., Trevor Gauron, P.E. and Richard Washington, Jr. Key participants, organizations, and agencies involved in the development of this plan are the city agencies of Public Works, City Council, and Public Safety. A complete list of participants can be found in Section Three. The City of Simpsonville DMC has also actively engaged the community at large in the mitigation planning process, undertaking several efforts to solicit the community's opinions and recommendations regarding mitigation needs and the topics covered in the plan.

Planning Process

The agreement between the City and the DNR detailed the planning approach as follows:

- Meet the criteria described in the Disaster Mitigation Act of 2000 and for receiving credit under the Community Rating System program

- Address winter storms, drought/heat wave, wildfires, flooding, tornado/high winds, thunderstorms and earthquakes. Follow the ten (10) step Federal Emergency Management Agency (FEMA) planning process as outlined below.
  1. **Organize:** Create the DMC and develop a schedule for project completion.
  2. **Public Involvement:** Insure that the general public has an opportunity to provide input into the planning process.
  3. **Coordination:** Coordinate with appropriate individuals and organizations to insure adequate representation at various meetings.
  4. **Hazard Assessment:** Address the five hazards listed above including; review of existing plans, review of past events and claims data, and obtain input from committee members and the public.
  5. **Problem Assessment:** Review available information regarding the impact of hazards on public health and safety, infrastructure and property damage. Where possible, the impacts on property should be measured in dollar losses. Optional efforts included; utilizing HAZUS earthquake and flood/wind to determine expected extent of damages and performing a facilities inventory. (Due to limited resources, and at the discretion of the DMC, these options were not performed in this planning cycle.)
  6. **Goal Setting:** Establish goals and objectives for the plan.
  7. **Mitigation Activities:** Determine mitigation activities relative to the five hazards being considered and the unique characteristics of the City of Simpsonville. The following six basic mitigation strategies were to be considered; 1) Preventive measures, 2) Property protection, 3) Natural Resource Protection, 4) Emergency Services, 5) Structural projects, and 6) Public Information.
  8. **Draft Plan:** Prepare a draft plan containing a description of the planning process, the hazard assessment and problem analysis, the goals, and a summary of possible and appropriate measures. The draft plan is to reviewed and open to comment during a public meeting.
  9. **Final Plan:** The final plan will be prepared considering comments from the internal review and the public.
  10. **Implementation:** The plan should be adopted by City Council and the DMC should be available for reviewing and revising the plan from time to time.

To date, Tasks 1 – 7 have been completed and the draft plan is being prepared for review and approval. *A copy of the council resolution adopting this plan will be attached to indicate that Tasks 8 and 9 have completed.* Task 10 is an on-going activity.

### Mitigation Initiatives

In general, decisions regarding potential impacts of hazards and potential mitigation initiatives came from the DMC. Input was also solicited from a variety of other groups representing homeowners, business owners, emergency response organizations and industrial leaders. Ranking of initiatives was based on a point system and each initiative was scored by the DMC. The results can be found in Section 8 of this document.

A mechanism has also been established by the DMC to regularly update the plan. This process includes soliciting additional mitigation initiatives, evaluating response to recent disasters, and tracking the progress of those initiatives already reviewed and approved.



## Goals and Objectives

The DMC has established eight (8) goals in the Mitigation Plan. These goals revolved mainly around providing education to the public and government officials, improving communications and response activities and protecting structures. Specific objectives were established for each goal and as initiatives were approved, it was noted which objective would be met by that initiative.

## Summary

Disaster Mitigation Planning is not a one time project, but rather an on-going process. The City of Simpsonville started the process in 2009 and will continue to update the plan as scheduled to keep their plan updated and relevant. Obtaining a resolution from the City of Simpsonville Council and approval of the plan from the South Carolina Flood Mitigation Program will reaffirm the City's efforts to reduce damages and loss of life from future natural disasters.



**City of Simpsonville**  
**Multi-Hazard Mitigation Plan**  
**Section Two**  
**INTRODUCTION AND PURPOSE**

---

Introduction

The City of Simpsonville Disaster Mitigation Committee (DMC) has been established to make the population, neighborhoods, businesses and institutions of the community more resistant to the impacts of future disasters. The DMC has been undertaking a comprehensive, evaluation of the vulnerabilities of the community to future natural hazards in order to identify ways to make the communities of the planning area more resistant to their impacts. This document reports the results of that planning process.

Purpose

The City of Simpsonville Multi-Hazard Mitigation Plan and its underlying planning process are intended by the DMC to serve many purposes. These include the following:

*Provide a Methodical, Substantive Approach to Mitigation Planning*

The approach utilized by the City of Simpsonville DMC relies on a methodical process to identify vulnerabilities to future disasters and to propose the mitigation initiatives necessary to avoid or minimize those vulnerabilities. These include interviews, research, data collection, draft(s) and review(s) of plan, community involvement, work sessions, and implementation. Each step in the process builds upon the previous step, so that there is a high level of assurance that the mitigation initiatives proposed by the participants have a valid basis for both their justification and priority for implementation. One key purpose of this plan is to document that process and to present its results to the community.

*Enhance Public Awareness and Understanding*

The DMC is interested in finding ways to make the community as a whole more aware of the natural hazards that threaten the public health and safety, the economic vitality of businesses, and the operational capability of important facilities and institutions. The plan identifies the hazards threatening the City of Simpsonville and provides an assessment of the relative level of risk they pose. The plan also includes a number of proposals of ways to avoid or minimize those vulnerabilities. This information will be very helpful to individuals that wish to understand how the community could become safer from the impacts of future disasters.

The DMC and its member organizations, has and will continue to conduct a number of community outreach and public information programs. The purpose of

these is to engage the community as a whole in the local mitigation planning process, in order to shape the goals, priorities, and content of the plan, as well as to provide information and education to the public regarding ways to be more protected from the impacts of future disasters. The DMC has been, and will continue to be, active in communicating with the public and engaging interested members of the community in the planning process.

#### *Create a Decision Tool for Management*

The City of Simpsonville Multi-Hazard Mitigation Plan provides information needed by the managers and leaders of local government, business and industry, community associations, and other key institutions and organizations to take actions to address vulnerabilities to future disasters. It also provides proposals for specific projects and programs that are needed to eliminate or minimize the risks to specific hazards. The plan is based on the best available data, which although limited in many regards, provides a solid foundation for hazard planning and mitigation and future improvements.

These proposals, called “mitigation initiatives” in the plan, have been justified on the basis of their economic benefits using a uniform technical analysis. These initiatives have also been prioritized. This approach is intended to provide a decision tool for the management of participating organizations and agencies regarding why the proposed mitigation initiatives should be implemented, which should be implemented first, and the economic and public welfare benefits of doing so.

#### *Promote Compliance with State and Federal Program Requirements*

There are a number of state and federal grant programs, policies, and regulations that encourage or even mandate local government to develop and maintain a comprehensive hazard mitigation plan. This plan is specifically intended to assist the participating local governments to comply with these requirements, and to enable them to more fully and quickly respond to state and federal funding opportunities for mitigation-related projects. Because the plan defines, justifies, and prioritizes mitigation initiatives that have been formulated through a technically valid hazard analysis and vulnerability assessment process, the participating organizations are better prepared to more quickly and easily develop the necessary grant application materials for seeking state and federal funding.

#### *Enhance Local Policies for Hazard Mitigation Capability*

A component of the hazard mitigation planning process conducted by the City of Simpsonville DMC is the analysis of the existing policy, program, and regulatory basis for control of growth and development, as well as the functioning of key facilities and systems. This process involves cataloging the current mitigation-related policies of local government so that they can be compared against the hazards that threaten the jurisdiction and the relative risks these hazards pose to the community. When the risks posed to the community by a specific hazard are not adequately addressed in the community’s policy or regulatory framework, the potential impacts of future disasters can be even more severe. Therefore, the

planning process utilized by the DMC supports evaluation of the adequacy of the community's policies and programs in light of the level of risk posed by specific hazards. This evaluation supports and justifies efforts to propose enhancements in the policy basis for could or should be promulgated by the City to create a more disaster-resistant future for the community.

The following sections of the City of Simpsonville Multi-Hazard Mitigation Plan present the detailed information to support these purposes. The remainder of the plan describes the planning organization developed by the DMC, as well as its approach to managing the planning process. The plan provides a description of the mitigation-related characteristics of City of Simpsonville, such as its land uses and population growth trends, the mitigation-related policies already in-place, identified critical facilities present in the community, and if there are properties that have been repetitively damaged by past disasters. The plan then summarizes the results of the hazard identification and vulnerability assessment process, and addresses the adequacy of the current policy basis for hazard management by City of Simpsonville and participating organizations. The plan also documents the structural and non-structural mitigation initiatives to address the identified vulnerabilities. The plan further addresses the mitigation goals and objectives established by the DMC and the actions to be taken to maintain, expand and refine the City of Simpsonville Mitigation Plan and the planning process. Finally, the past and planned efforts of the DMC to engage the entire community in the mitigation planning process are documented.



## City of Simpsonville

### Multi-Hazard Mitigation Plan

#### Section Three

#### DISASTER MITIGATION COMMITTEE ORGANIZATION

---

##### Introduction

The City of Simpsonville's Disaster Mitigation Committee (DMC) is made up of a number of city agencies, community organizations, and institutions. This section discusses the organizational structure used to complete the planning process. Also provided is a summary of the current status of planning activities by the participants documenting the level of participation by the City's DMC.

On a regular basis, the DMC will meet to discuss this plan and refine as necessary its contents and direction. In these meetings, the committee will review mitigation activities that are on going or planned. This meeting will allow the members of the committee to continually reflect upon the mitigation plan and its appropriateness to each organization and agency's individual needs and expectations.

Any desired changes to the mitigation plan will be considered by the group and agreed upon. These changes will then be presented to the City Council for review. The Council can reject, accept, or ask for revisions to the proposed changes.

In addition, the DMC will schedule meetings with the public as necessary if changes to the mitigation plan occur. It is also a function of the mitigation committee to coordinate and exchange information with their respective agency or department.

##### Participating Organizations

A total of 13 public/private organizations are supporting the planning process. (It is intended that the number of participating organizations and groups will continue to grow in future planning cycles.) The agencies and organizations currently participating in the hazard mitigation planning process are listed on page 3.4.

##### The Disaster Mitigation Committee Organizational Structure

The DMC encourages participation by all interested agencies, organizations, and individuals. The organization is intended to represent a partnership between the public and private sector of the community, working together to create a disaster resistant community. The proposed mitigation initiatives developed by the DMC and listed in this plan, when implemented, are intended to make the entire community safer from the impacts of future disasters, for the benefit of every individual, neighborhood, business and institution.

The responsibilities and duties of the DMC are detailed in the operating procedures, which are provided in the next section. This section summarizes the roles of the different components of the DMC and describes the participation that has actually occurred during the planning period covered by this document.

The Committee represents key city organizations participating in the planning process, and is the group that makes the official decisions regarding the planning process. The Committee serves as the official liaison to their respective agency and the community. Most importantly for this document, however, is the DMC's role to approve proposed mitigation initiatives for incorporation into the plan, for determining the priorities for implementation of those initiatives, and for removing or terminating initiatives that are no longer desirable for implementation.

The DMC also coordinates the actual technical analyses and planning activities that are fundamental to development of this plan. These activities may include conducting the hazard identification and vulnerability assessment processes, as well as receiving and coordinating the mitigation initiatives proposed for incorporation into this plan. The coordinating process undertaken constitutes a "peer review" of the proposed mitigation initiatives submitted for incorporation into the plan. Through the peer review, each proposed initiative is to be reviewed for its consistency with the goals and objectives established for the planning process and its relationship to identified hazards and defined vulnerabilities to those hazards. The peer review incorporated into the City's planning process also strives to assure the following: Assumptions used by the organization to develop the proposal are reasonable; Proposal's would not conflict with or duplicate other proposed initiatives; Initiatives specifically addresses risk to a hazard(s); Proposals are feasible and consistent with known requirements; and that proposals, if implemented, would not cause harm or disruption to adjacent jurisdictions.

City agencies and local organizations are the key to accomplishing the planning process. The effort begins with developing a community profile of the City to document the basic characteristics of the community that are relevant to controlling the impacts of disasters. Then vulnerability assessments are conducted of key facilities, systems and neighborhoods to define how these may be vulnerable to the impacts of all types of disasters. Finally, the City uses the vulnerability assessments to formulate and characterize mitigation initiatives that they could implement if the resources to do so became available. Once these proposed initiatives are reviewed and coordinated, the DMC can then decide to formally approve them by vote in order to incorporate them into the Multi-Hazard Mitigation Plan. As soon as a proposed mitigation initiative is approved, it is sent to the City Council for their approval. Once accepted by the Council, it is considered to be officially a part of the Multi-Hazard Mitigation Plan, and expected to be implemented as soon as the resources and/or opportunity to do so becomes available.

The DMC is also responsible for coordinating the efforts to involve the community at large in the mitigation planning process, and to promote mitigation-related educational program in the community. More detailed information regarding the public information and community outreach activities involved in the development and implementation of this plan are provided in Section 5.



As of the publishing of this plan, the DMC has conducted three (4) meetings to gather information and solicit public input. A summary of these meetings is as follows:

- Start-Up Meeting January 26, 2009
  - Committee members introduced
  - Consultant introduced
  - Committee was introduced to the purpose and use of a Hazard Mitigation Plan.
  
- Follow-Up meeting February 17, 2009
  - A community-wide meeting was called to solicit ideas from Simpsonville residents.
  - Meeting was ended due to no attendance.
  
- Committee Meeting May 18, 2009
  - Review of New Initiative ideas
  - Discussion of the Ranking Criteria/Prioritization List
  - Prioritization of Initiatives
  
- Draft Review Public Meeting May 18, 2010
  - Public Meeting held to review draft mitigation plan prior to adoption
  - Items to be discussed included any possible revisions to draft; submittal to FEMA; City Council Approval
  - Announcements were made via internet, television and local newspaper, but yielded no attendance

The DMC has benefited from the assistance and support of its members. A listing the members and their committee affiliation is provided below. It is important to note that participation in the Committee is not limited in any manner, and all members of the community, whether representing the public or private sector, are welcome to participate. As described in Section 7, which discusses the maintenance and updating of the plan, the group intends to continue its efforts to engage more members of the community in the planning process.

<b>Name</b>	<b>Department</b>	<b>Email Address</b>
Jay Crawford*	Assist. Dir. of Public Works, City of Simpsonville	JCrawford@simpsonvillepublicworks.org
Steve Chamness	Hillcrest High School	Schamnes@greenville.k12.sc.us
David Dyrhaug	City of Simpsonville Planning	DDyrhaug@simpsonville.com
Jake Dickens*	Dickens & Company, Realtors	Jake@dickenscompany.com
Bob Getsy	Shawdowbox Framing	
Kevin Kastle	Home Depot	Kevin_Kastle@homedepot.com
Jess Major	City of Simpsonville Fire Dept.	Chief@simpsonvillefd.com
Charles Reese	City of Simpsonville Police Dept.	Chief@simpsonvillepd.com
Jeremy Ritchie*	Gray Engineering	JRitchie@grayengineering.com
Keith Russell	Hillcrest Middle School	KRussell@greenville.k12.sc.us
Gary Smith	S.C. House of Representatives	Smith@schouse.org
Tammy Bagwell	City Council, City of Simpsonville	Tammy@TammyBagwell.com
Joe Carter	Dir. of Public Works, City of Simpsonville	JCSimpsonville@aol.com
Johnny Sanders*	Inspector, City of Simpsonville	JSanders@simpsonvillepublicworks.org
Wesley Williams	City of Simpsonville Fire Dept.	AsstFireChief@simpsonvillefd.com
Russ Poole	Dickens & Company, Realtors	Russ@Dickenscompany.com
Colleen O'Neil	City of Simpsonville Police Dept.	AsstChief@simpsonvillepd.com
Al Spain*	City of Simpsonville Building Dept.	
Eddie Watson*	City of Simpsonville Fire Dept.	FireMarshal@simpsonvillefd.com
Adam Lezan*	City of Simpsonville Fire Dept.	DeputyFireMarshal@simpsonvillefd.com

Notes: \* Member present during Ranking process

**City of Simpsonville**  
**Multi-Hazard Mitigation Plan**  
**Section Four**  
**OPERATING PROCEDURES**

---

Introduction

This section of the City of Simpsonville Multi-Hazard Mitigation Plan describes the characteristics of the Disaster Mitigation Committee (DMC) and basic procedures for conducting the planning process.

The Disaster Mitigation Committee's Operating Procedures

These procedures involve both a technical approach to the planning and an organizational methodology for incorporating mitigation initiatives into the City of Simpsonville Multi-Hazard Mitigation Plan. The same planning process and technical approach was followed for the development of the Greenville County Multi-jurisdictional Hazard Mitigation Plan.

The planning process was started with the development of the DMC as an organization and obtaining participation from key organizations and institutions. The planning work conducted to update this document relies heavily on the expertise and authorities of the participating agencies and organizations, rather than on detailed scientific or engineering studies. The DMC is confident that because of their role in the community the best judgment of the participating individuals, and the use of readily available information, can achieve a level of detail in the analysis that is adequate for purposes of local mitigation planning. As the planning process described herein continues, more detailed and costly scientific studies of the mitigation needs of the community can be defined as initiatives for incorporation into the plan and implemented as resources become available to do so.

*Establishing the planning schedule*

The DMC initially established a planning schedule for development of this document in cooperation with the South Carolina Department of Natural Resources. At the outset of the planning period, the DMC defined the goals that the planning process is attempting to achieve, as well as the specific objectives within each goal that will help to focus the planning efforts. (The goals and objectives established by the City of Simpsonville DMC for this planning period, as well as the anticipated plan maintenance schedule, are described in Section 7 of this plan.)

Conducting the needed analyses and then formulating proposed mitigation initiatives to avoid or minimize known vulnerabilities of the community to future disasters is an enormous effort, and one that must take place over a long period of time. Therefore, for any one planning period, the goals and objectives set by the DMC are intended to help focus the effort of the participants, for example, by directing attention to certain types of facilities or planning areas, or by

emphasizing implementation of selected types of proposed mitigation initiatives. The approach used by the DMC is intended to use these priorities to continue, during each planning cycle, to assess more planning areas and facilities, to develop more proposed mitigation initiatives to address the results of those assessments, to strive to implement previously proposed mitigation initiatives, and to further engage the public and the community in the planning process.

#### *Hazard Identification and Risk Estimation*

The DMC identified hazards that threaten all or portions of the community. The DMC also used general information to estimate the relative risk of the various hazards as an additional method to focus their analysis and planning efforts. The DMC compared the likelihood or probability that a hazard will impact an area, as well as the consequences of that impact to public health and safety, property, the economy, and the environment. This comparison of the consequences of an event with its probability of occurrence is a measure of the risk posed by that hazard to the community. The DMC compares the estimated relative risks of the different hazards it has identified to highlight which hazards should be of greatest concern during the upcoming mitigation planning process.

Information resources regarding hazard identification and risk estimation, although limited, are available. The planners have attempted to incorporate consideration of hazard specific maps, including floodplain delineation maps, whenever applicable, and have attempted to avail themselves of GIS-based analyses of hazard areas and the locations of critical facilities, infrastructure components, and other properties located within the defined hazard areas. Section 6 in the plan gives the specific results and conclusions reached from this effort for the planning area as a whole including notation of the available reference materials utilized in the analysis.

Estimating the relative risk of different hazards is followed by an assessment of the types of physical or operational impacts potentially resulting from a hazard event. Two methods are available to the DMC to assess the communities' vulnerabilities to future disasters.

#### *Vulnerability Assessment*

The first avenue is a methodical, qualitative examination of the vulnerabilities of important facilities, systems and planning areas to the impacts of future disasters. For the participating organizations, this is done by the individuals most familiar with the facility, system or planning area through a guided, objective assessment process. The process ranks both the hazards to which the facility, system or planning area is most vulnerable, as well as the consequences to the community should it be disrupted or damaged by a disaster. This process typically results in identification of specific vulnerabilities that can be addressed by specific mitigation initiatives that could be proposed and incorporated into this plan. As an associated process, the DMC also reviews past experiences with disasters to see if those events highlighted the need for specific mitigation initiatives based on the type or location of damage they caused. Again, these experiences can result in the formulation and characterization of specific mitigation initiatives for incorporation into the plan.

The second avenue for assessment of community vulnerabilities involves comparison of the existing policy, program and regulatory framework to control growth, development and facility operations in a manner that minimizes vulnerability to future disasters. The DMC members can assess the existing codes, plans, and programs to compare City provisions and requirements against the hazards posing the greatest risk to the community. If indicated, the City of Simpsonville can then propose development of additional codes, plans or policies as mitigation initiatives for incorporation into the City of Simpsonville Multi-Hazard Mitigation Plan for future implementation when it is appropriate to do so.

Due to limited resources during this planning period, the DMC chose not to proceed with Method 1 - a critical facilities assessment. This type of detailed technical assessment is listed as a potential mitigation initiative and will be conducted as funds and resources come available.

#### *Developing Hazard Mitigation Initiatives*

This process enables the DMC participants to highlight the most significant vulnerabilities, again to assist in prioritizing specific hazard mitigation initiatives to eliminate or minimize those vulnerabilities. Once the highest priorities are defined, the DMC can identify specific mitigation initiatives for the plan that would eliminate or minimize those vulnerabilities.

The procedure used in this plan update involved describing the initiative, relating it to one of the goals and objectives established by the DMC, and justifying its implementation on the basis of its economic benefits and/or protection of public health and safety, as well as valuable or irreplaceable environmental or cultural resources. A simple “benefit to cost” ratio was established for each initiative to demonstrate that it would indeed be worthwhile to pursue when or if the resources to do so become available. A more detailed benefit to cost ratio will need to be prepared as funds become available to ensure that a proper ratio is met. Each proposed mitigation initiative was also “prioritized” for implementation in a consistent manner.

In characterizing a mitigation initiative for incorporation into the DMC’s plan, it is important to recognize that the level of analysis has been intentionally designed to be appropriate for this stage in the planning process. That is, it is the interest of the DMC to have a satisfactory level of confidence that a proposed mitigation initiative, when it is implemented, will be cost effective, feasible to implement, acceptable to the community, and technically effective in its purpose. To do this, the technical analyses conducted, including the development of a simple benefit to cost ratio for each proposal, have been based on a straightforward, streamlined approach, relying largely on the informed judgment of experienced local officials. The analyses, including the benefit to cost ratio, have not been specifically designed to meet the known or anticipated requirements of any specific state or federal funding agency, due largely to the fact that such requirements can vary with the agency and type of proposal. Therefore, at the point when the organization proposing the initiative is applying for funding from any state or federal agency, or from any other public or private funding source,

that organization will then address the specific informational or analytical requirements of the funding agency.

Each mitigation initiative proposed for incorporation into the plan update is formulated by the DMC for consideration by the City for future implementation.

#### *Developing the Local Mitigation Plan*

Once a proposed mitigation initiative has been developed, the information used to characterize the initiative is submitted to the DMC for review. At this point, an initiative is considered to be a “pending initiative” that is being processed for incorporation into the plan, when it then becomes an “approved initiative.”

On receipt of a pending initiative the DMC evaluates the merits of the proposal and the validity of the judgments and assumptions that went into its characterization, as well as considers its potential for conflict with other programs or interests. The DMC also assures that the proposal is consistent with the goals and objectives established for the planning period and confirms that it would not duplicate or harm a previously submitted proposal. If there is such a difficulty with a proposed initiative, it is returned to the submitting organization for revision or reconsideration.

Once an initiative has been reviewed, coordinated, and is satisfied regarding its merit, it is brought before the Committee, which votes to incorporate the proposed initiative into the strategy. Upon approval, the proposed initiative is then considered to be officially part of the mitigation plan.

The City of Simpsonville mitigation planning process first objectively prioritizes proposed mitigation initiatives using an objective, fixed set of criteria, but has the flexibility to adjust the implementation schedule of the initiatives to respond to unique or unanticipated conditions.

#### *Approval of the Current Edition of the Plan*

On a periodic basis, the City of Simpsonville Multi-Hazard Mitigation Plan is to be submitted to the City Council for review, modification if needed, and approval or adoption. To facilitate this action, Section 6 of this plan provides City information, hazard and vulnerability assessment, and proposed initiatives.

Following adoption or approval of the plan, the respective agencies and organizations will continue to implement the plan, to expand its scope, continue its analyses, and take other such continuing action to maintain the planning process. This includes action by the Committee to routinely incorporate proposed mitigation initiatives into the plan, without the necessity to also continuously solicit the formal approval of the plan by the City Council.

It is intended that the City of Simpsonville Multi-Hazard Mitigation Plan will be submitted to the City council approximately every five years for review and formal adoption or approval. This document is a draft plan that, pending finalization will be submitted for approval. Evidence of approval of this edition of the mitigation plan is provided in Section 5 of this plan. It is important to

emphasize that this document represents a “snapshot” of the planning process and is prepared as a current document for use by the planning group, the community, and state and federal authorities.

#### *Implementation of Approved Mitigation Initiatives*

Once incorporated into the City of Simpsonville Multi-Hazard Mitigation Plan, the agency or organization proposing the initiative becomes responsible for its implementation. This may mean developing a budget for the effort, or making application to state and federal agencies for financial support for implementation. This approach holds each department accountable for proper and timely implementation of the mitigation initiatives. The DMC is responsible for overall coordination of these efforts. The current status of implementation of mitigation initiatives incorporated into the plan is discussed in the next section.

In this plan implementation process, the DMC continues to monitor the implementation status of initiatives, to assign priorities for implementation and to take other such actions to support and coordinate implementation of initiatives by the involved organizations. In reality, it is the implementation of proposed initiatives, along with other actions by the organizations participating in the planning to maintain, refine and expand the technical analyses used in the planning, that constitutes the process to implement the mitigation plan.

#### Benefits of the Planning Process

It is important to emphasize that the procedure used by the DMC is based on the following important concepts:

- A multi-organizational planning group establishes specific goals and objectives to address the community’s vulnerabilities to all types of hazards.
- The planning procedure utilizes a logical process of hazard identification, risk evaluation and vulnerability assessment, as well as review of past disaster events, that is consistently applied by all participants through the use of common evaluation criteria.
- Mitigation initiatives are proposed for incorporation into the plan.
- The process encourages participants to propose specific mitigation initiatives that are feasible to implement and clearly directed at reducing specific vulnerabilities to future disasters.
- Proposed mitigation initiatives are characterized in a substantive manner, suitable for this level of planning, to assure their cost effectiveness and technical merit.
- All mitigation initiatives to be incorporated into the plan are prioritized in accord with ten objective, comprehensive criteria that are used by all participating departments.
- The plan is periodically reviewed and adopted to ensure that the mitigation actions taken by their organizations are consistent with each community’s larger vision and goals, as well as their overall unique needs and circumstances.





**City of Simpsonville**  
**Multi-Hazard Mitigation Plan**

**Section Five**

**PROGRESS IN PLAN IMPLEMENTATION**

---

Introduction

This section discusses the current status of implementation of the City of Simpsonville Multi-Hazard Mitigation Plan. There are several aspects of plan implementation that need to be addressed:

- The status of promulgation or formal adoption of the plan by the City Council,
- The activities of the Disaster Mitigation Committee (DMC) to engage the public and the community at large in the mitigation planning process
- The DMC's priorities for implementation of approved mitigation initiatives now incorporated into the plan, and
- A discussion of how recent disaster experience has illustrated the need for and success of the City of Simpsonville Multi-Hazard Mitigation Plan.

Status of Plan Promulgation and Approval

Promulgation and approval of the plan is a very important step in assuring its implementation. As was discussed in the previous section, the plan will be presented to the City of Simpsonville Council for approval and official acceptance as the Multi-Hazard Mitigation Plan.

As the City of Simpsonville DMC continues its planning efforts in the future, it is intended that additional updates of the mitigation plan will be published to provide both the participating organizations and the public current information regarding the mitigation planning process. Further, approximately once every five years, the DMC will again seek the approval of the plan by the City Council. This interval has been selected to provide a sufficient period for the DMC to have made significant progress in further data collection of events occurring in that time frame, technical analysis, implementation of currently proposed initiatives, and development of new proposals and to coincide with the review of the City's Community Rating System application. In this way, the plan can be kept up-to-date on a continuing basis by the DMC participants.

Public Information and Participation

The Simpsonville DMC, as well as individual participating agencies and organizations, has been active in attempting to engage the general public in the planning process. As detailed below, several public information activities have been undertaken to explain the mitigation planning process to the community and to solicit their input and involvement in

the planning process, as well as to provide mitigation awareness and educational information. The DMC welcomes public input to the planning process, and fosters public participation through the issuance of media releases, holding public meetings and hearings, etc.

Detailed below are past highlights of the process used to engage the general public in the mitigation planning process.

- Four meetings (see bulleted items below) with community organizations were held to discuss hazards mitigation planning. These meetings were selected to provide different perspectives on potential hazards and response activities. In addition, mitigation initiatives were solicited.
  1. A meeting was held in the City of Simpsonville Public Works building. The meetings solicited comments from the committee members concerning previous hazard events. The committee members then compiled a list of mitigation initiatives.
  2. A community meeting was organized to solicit ideas from residents of Simpsonville. The meeting was ended due to zero attendance.
  3. A third meeting was held with the DMC to rank the initiatives pitched from the initial meeting.
  4. A final meeting was called to review the draft plan, and to solicit any changes presented by the Community. Jay Crawford took it upon himself to properly advertise for this meeting, but it yielded no attendance.

The DMC will continue to solicit input from the community.

#### The Priority for Initiative Implementation

As a part of its future planning process, the City of Simpsonville DMC also will periodically review the proposed mitigation initiatives approved for incorporation into the plan to determine their priority for implementation during the next planning period. This assessment will encourage the Committee to focus on those initiatives designated as priority. However, because each participating organization has independent authority and responsibility for implementation of their proposed mitigation initiatives, the organizations retain the prerogative to act in their own interests, using their own priorities for mitigation initiative implementation.

In many ways, the priority for implementation assigned to proposed mitigation initiatives could be considered a suggestion or recommendation to the proposal sponsors to seek the resources for implementation. These resources may range from the normal budgeting process for the organization to seeking state or federal financial or technical support for implementation of the initiative.

### Effectiveness of Mitigation Initiatives

Of course, the true measure of progress in the implementation of mitigation initiatives is their success in saving lives, avoiding property damage and protecting valuable or irreplaceable resources in the community. As the mitigation initiatives that have been incorporated into the City of Simpsonville Multi-Hazard Mitigation Plan are implemented, there will be more opportunities to measure the “success” of the DMC’s mitigation efforts.

The best opportunity for measuring this success is to evaluate the community’s experience with actual disasters and to attempt to estimate the number of lives that were saved by the implemented initiatives or the value of the property protected from disaster-related damage.

In addition, however, recent disaster events can be very helpful in highlighting the mitigation needs of the community based on the type, location or magnitude of the impacts experienced. In turn, this can be a major factor in the future progress of implementation of the plan, as the DMC considers and acts on actual disaster experience by the community. Such recommendations can be referred to a “lead” agency with the intention that that organization will use the information to propose additional mitigation initiatives for incorporation into the plan.

Compiling data on the “success” of existing and/or completed mitigation initiatives should be an activity undertaken by the DMC members on an ongoing basis and is an integral component of the process used to implement and maintain the City of Simpsonville Multi-Hazard Mitigation Plan, which is more fully discussed in Section 7.

### Summary

The DMC recognizes that it will take a long period of time and implementation of many if not all of the proposed initiatives approved for this plan, to make City of Simpsonville a truly disaster-resistant community. However, the continuing dedication to the safety and welfare of the community shown by the participants in this planning process will make this ambitious goal possible.



**City of Simpsonville**  
**Multi-Hazard Mitigation Plan**

**Section Six**

**SUMMARY OF HAZARDS AND VULNERABILITIES**

Introduction

This section of the City of Simpsonville Multi-Hazard Mitigation Plan summarizes the results of the hazard identification and vulnerability assessment processes undertaken by the Disaster Mitigation Committee (DMC). The hazards identified by the Greenville County DMC are directly related to the County and its municipalities, including the City of Simpsonville, therefore, the content of pages 6.2 – 6.8 will be drafted directly from the Greenville County Multi-jurisdictional Hazard Mitigation Plan. The intent of this section is to provide a compilation of the information gathered and the judgments made about the hazards threatening the City of Simpsonville, and the potential vulnerability to those hazards. This information is then used for formulating mitigation actions and priorities.

In the following sections, the natural hazards that can pose a threat to the City of Simpsonville are discussed. Included is an evaluation of recent events of these hazards. This is followed by an estimation of the risk caused by each of these hazards. The evaluation of the risk is followed a section on vulnerability assessments of the City of Simpsonville and Repetitive Loss properties (Due to “Right to Privacy” restraints, detailed information on repetitive loss properties is not a part of the public portion of this document). Some information on land uses and critical facilities is also included.

It should be noted that the historical data on hazards in the City of Simpsonville is limited to knowledge that an event occurred. Very little information on the extent of damages in terms of areas affected and costs could be found. However, the organizers of this plan have used what information is available to evaluate the risk to various hazards. It is believed that through the diverse group of those involved, including the public, that all hazards have been identified and appropriately assessed in order to prepare the City of Simpsonville for future events.

The DMC has been tasked with gathering any new hazard data, as localized data becomes more available. This information is to be prepared and documented during post-disaster meetings used to maintain this plan.

Hazard Identification

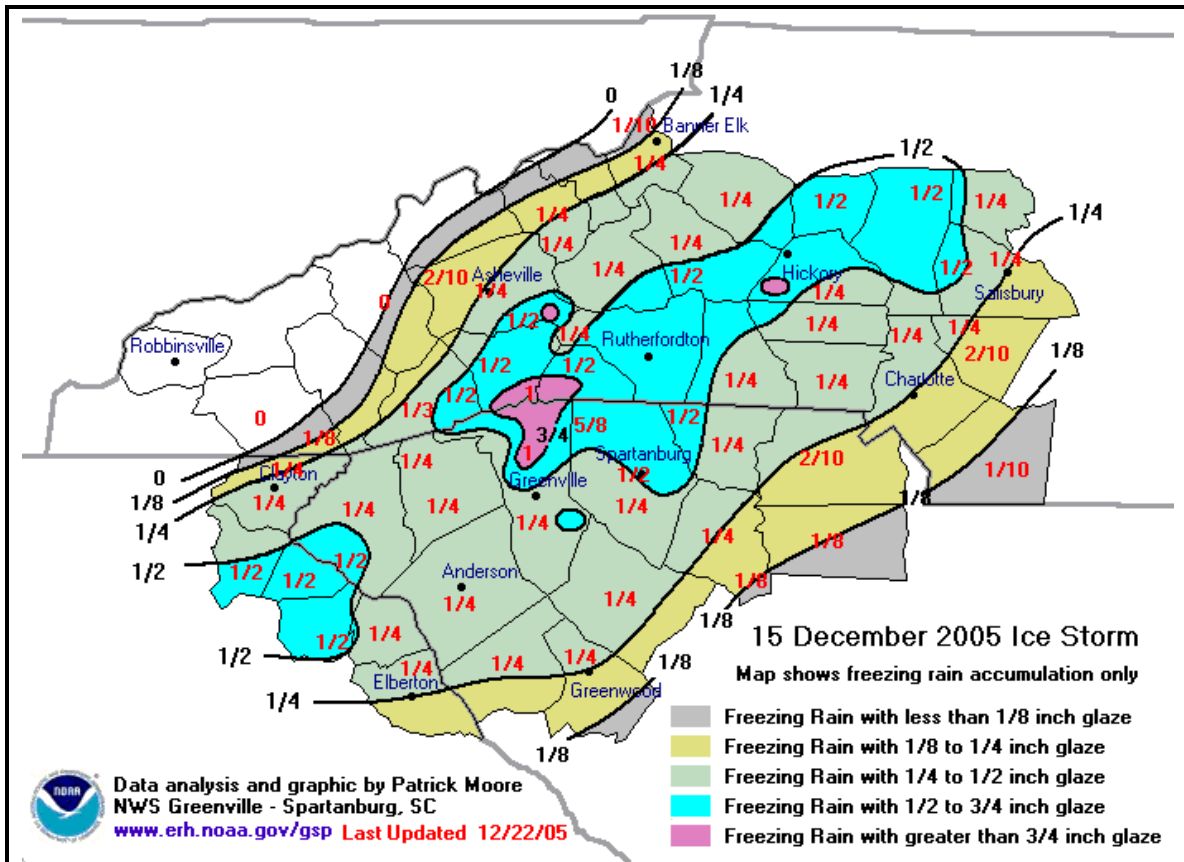
The following paragraphs contain information about the natural hazards that can affect the City of Simpsonville. These discussions are based on many different sources that have been collected. Some of the most beneficial of these sources are listed in the following table. However, the most informative sources have been interviews and meetings with the City of Simpsonville employees and residents.

No new hazards were identified during the Update process.

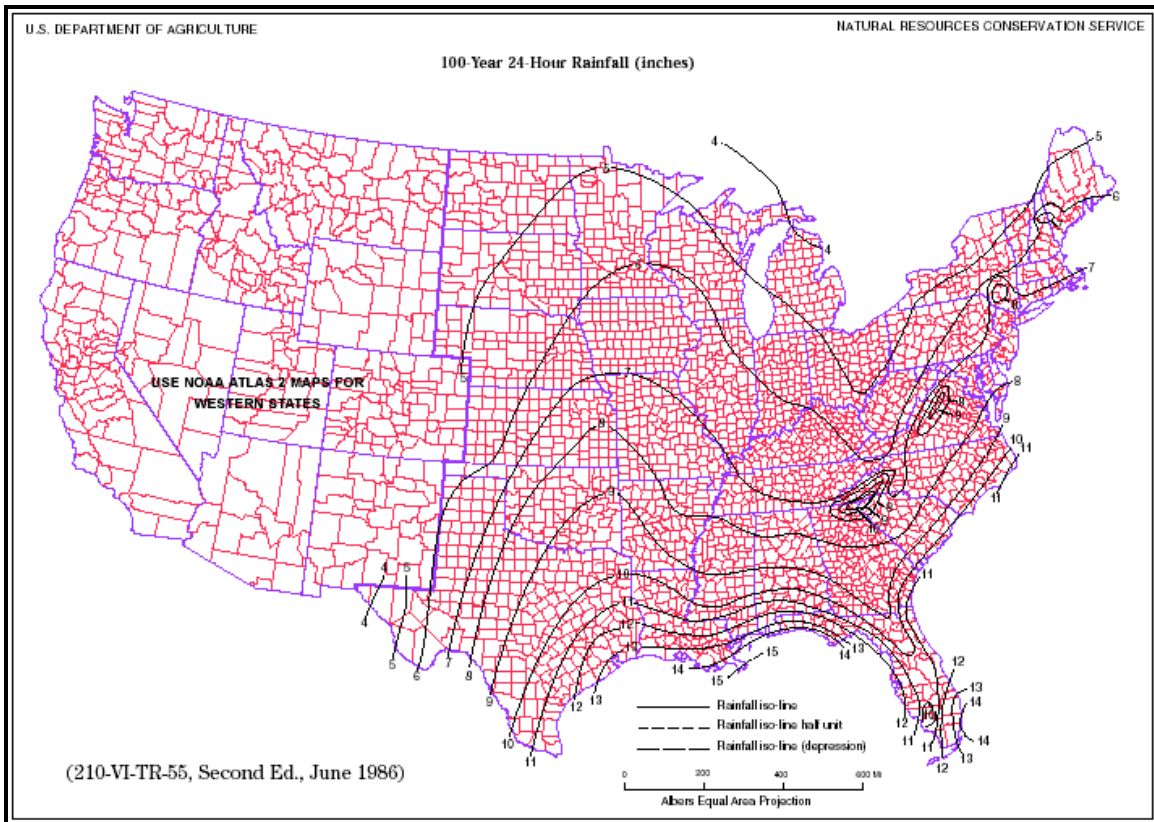
Item #	Source Title	Applicable Hazard(s)
1	SC State Hazard Mitigation Plan	All hazards
2	SC State Flood Mitigation Plan	Floods
3	Greenville County Emergency Operation Plan	All hazards
4	USC SHELDUS Data	All hazards
5	Greenville County Flooding Problem Areas	Floods
6	Greenville County Flood Insurance Studies	Floods
7	Greenville County Flood Control Ordinance	Floods
8	USGS Earthquake Hazards Program	Earthquake
9	USGS National Landslide hazards Program	Landslides
10	USC Hazards Research Laboratory	All hazards
11	2000 US Census Data	All hazards
12	FEMA's HAZUS Software	All hazards
13	Greenville County GIS information	All hazards
14	SC State Climatology Data	All hazards
15	State Tornado Data	Tornadoes/High Winds
16	Local/State Newspapers	All hazards
17	Greenville County FIRMs	Floods

**Winter Storms:** This type of hazard is commonly associated with precipitation in the form of ice or sleet and cold temperatures that cause major disruptions to many types of services and are dangerous to those without heat and/or water. Roads covered in ice or blocked by fallen trees prevent emergency services from reaching those in need. Overhead lines are commonly torn down by the fallen trees or weight of the ice on the lines, leaving homes and businesses without electricity and heat. In addition, water lines freeze and break from the cold temperatures and accumulated ice/snow on building roofs can cause structural failure. Direct and indirect costs associated with this hazard can be large and are often mitigated with federal and/or state funds.

**Occurrences between the Update Period:** This type of hazard is a common threat to all portions of Greenville County. Over the last decade there have been a number of winter storm events which have severely impacted the Greenville County area. Fortunately, after the 2004 submittal, Greenville has only faced two (2) documented winter storm events. The most recent occurred on April 8, 2007. A hard freeze dropped temperatures across the western Carolina's to the lower 20's. This resulted in an estimated \$1,000,000 lost in crops across the Upper Region of the state. On December 15, 2005, a damaging ice storm spread across the northwestern portion of the state. Ice as thick as three quarters of an inch accumulated on trees and power lines, causing a vast amount of damage and power outages. An estimated amount of property damage peaked at \$900,000.



**Floods:** This hazard is associated with large infrequent rainfall events or weak hurricanes or tropical storms that have moved inland. Flooding problems areas are commonly found in densely populated areas that have inadequate drainage systems or buildings located in flood prone areas. Flooding can also be associated with steeply sloped mountainous regions in the form of flash floods. These hazards are extremely dangerous due to the velocity of the moving water and debris. Greenville County has both of these situations: the northern portions are susceptible to flash flooding and the central urbanized core is dotted with problem areas due to buildings located in the floodplain. Waters in these areas could easily reach 25-yr flood heights. The lower sections of Greenville County also have flood prone areas as a result of the large volumes of runoff that have accumulated throughout the County. This hazard can therefore affect the entire County. In addition, Greenville County gets as much rain each year as nearly any part of the United States. Only several isolated regions in the northwest US get more. This is illustrated in the NOAA figure below.



Occurrences between the Update Period: Sixteen (16) Flooding events have been reported since the submittal of the previous Mitigation Plan. Four (4) of those events have reported considerable amounts of property damage. The most recent flooding event, causing damage, occurred on July 7, 2005. Tropical Storm Cindy provided a great amount of rainfall, which caused countywide flooding. The flooding first developed along the Reedy River and Brushy Creek downtown Greenville area. Simultaneously, Greer experienced urban flooding so severe, that residents from an apartment complex had to be rescued after Maple Creek topped over into their parking lot. Maple Creek also flooded several mobile homes and left other homes flooded with as much as six (6) feet of water. Residents in Mauldin also needed assistance leaving their homes. Gilder Creek flooded Holland Rd. in Simpsonville before noon. Over 25 roads were closed due to flooding and 6 were damaged. The County estimated property damages around \$300,000. Shortly after the submittal of the 2004 Mitigation Plan, Greenville was hit yet again by flooding. September 27, 2004, flooding developed quickly across the county. Several automobiles were stranded in water in the southeastern portion of the County. Gilder Creek flooded from Mauldin down to the Enoree River. Waters exceeded the top of a bridge at E. Georgia Rd. Property damage was estimated at \$20,000. After a tropical band associated with Hurricane Frances passed through on September 7, 2004, small creeks and streams rose rapidly causing flooding across the Upstate. The Reedy exceeded normal levels from Berea to downtown Greenville. That day alone, \$23,000 was reported in property damage. After flooding due to the heavy rainfall on the 7<sup>th</sup> abated, the Saluda River crested a second time on the morning of September 9, 2004. Heavy rainfall fell upstream and worked its way through the system, causing over \$100,000 in damages.



**Tornadoes/High Winds:** The high winds associated with tornadoes or microbursts can cause major disruptions, similar to the effects of winter storms; blocked roads, downed trees and damaged electricity lines. Tornadoes/high winds are commonly formed as part of larger thunderstorm systems or a spin offs from hurricanes. People living in mobile or manufactured housing represent a particular vulnerability. Greenville County, as a whole, is affected by tornadoes/high winds. However, weak tornadoes/high winds have occurred infrequently, but the potential always exists for a strong system to form. The impact of these events is expected to be much smaller in comparison to other hazards such as winter storms due to the concentrated nature of tornadoes/high winds and limited area of disruption. In addition, tornadoes/high winds often occur in milder periods of the year when the potential for extreme temperatures is low. The spring months have historically been the most active season for tornadoes/high winds and most of the damages and lives lost due to tornadoes/high winds have occurred during this time.

Several tornadoes/high winds have occurred in Greenville County's past, most of which are weak systems that do not cover a large area and last a couple of hours at most. There have been five rated tornadoes/high winds in the past 12 years according to the SHELDUS data. All have been rated an F0, the weakest rating on the Fujita scale. Greenville County has not encountered a tornado/high winds rated F4 or higher in 12 years. Although weak, some structure damage can be incurred. High winds have ripped roofs and shingles, blow down trees onto buildings and cars, and created flying projectiles that have caused several injuries and damaged homes and cars. Structures that meet basic building code requirements should be able to withstand most tornadoes/high winds in Greenville County. Efforts that enforce these codes will provide reduced risk to this hazard.

A map in Appendix D shows the location of Tornado/High wind touchdowns in the City of Simpsonville in the past 50 years.

**Occurrences between the Update Period:** There have been no reports of Tornado/high winds activity since the approval of the previous Mitigation Plan. However, several incidents have been recorded where wind levels have reached or exceeded 55 mph. The most recent event took place on February 10, 2008. Numerous trees were reported down after winds reached 55 mph. Gusty winds assisted drought conditions with numerous brush fires across the area. No estimate of damage was reported. On April 16, 2007, a brief yet intense high wind event took place in the Upstate. Winds reached 60 mph. Hundreds of trees fell on power lines resulting in a widespread power outage. Trees also fell on cars and homes, and even claimed the life of one (1) Walhalla resident. Total damages reached \$500,000, including damages assessed by Greenville County. A very similar, but not so aggressive event took place on April 2, 2005. Damages totaled \$35,000.

**Severe Storms/Thunderstorms:** This hazard forms at the convergence of cold and warm, moist air masses, producing strong winds, hail, lightning, intense rainfall, and tornadoes. These systems are commonly concentrated over a few square miles and have durations of several hours. Most occur in warmer months, but in the milder climates of the southeast, can form any time of the year. Damages from thunderstorms are the result of high winds and local flooding.

Greenville County is similar to most portions of the State and region when considering the threat potential of thunderstorms. The more common variety of thunderstorms begin late in the afternoon after ground surfaces have sufficiently warmed from intense summer heat and end normally within a hour or two. These hazards can occur at any location within the County. Most of the rain events in Greenville County occur as thunderstorms, which are characteristically high intensity, small depth events.

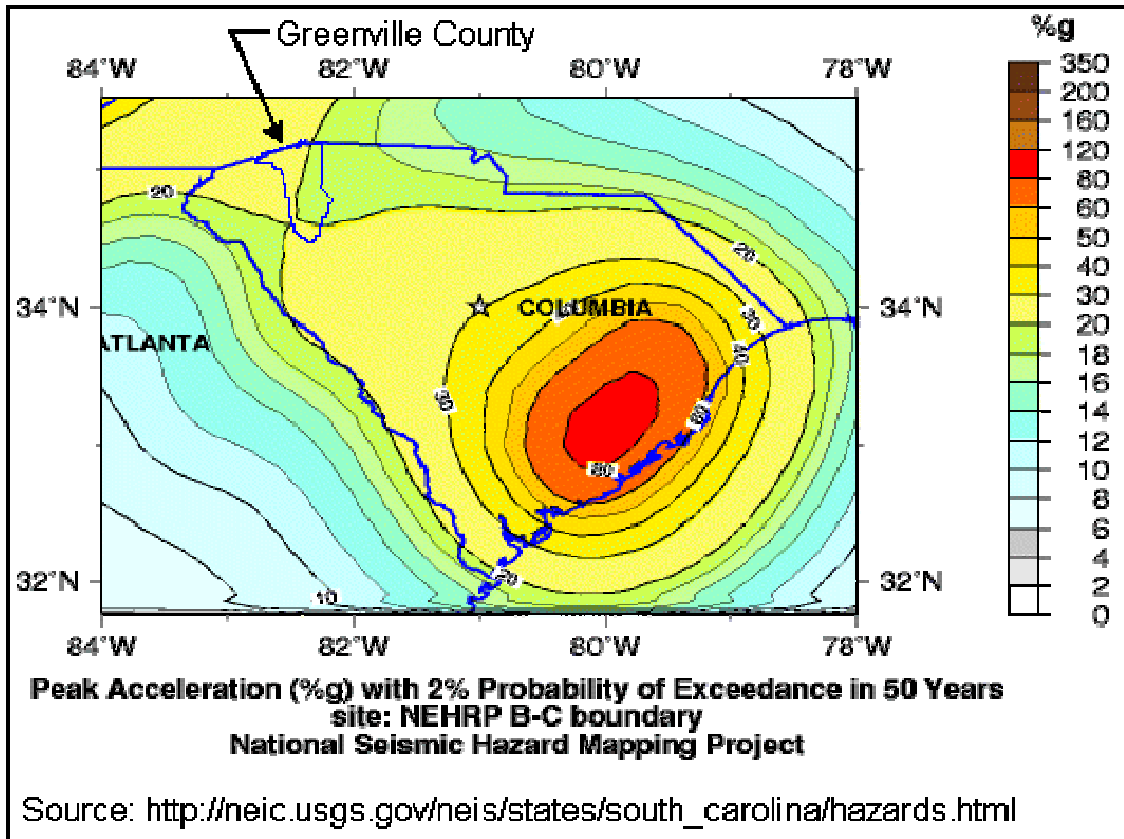
Occurrences between the Update Period: Greenville County has seen several Thunderstorm events following the previous Mitigation submittal. Only those with winds exceeding 55 mph were reported. The most recent event took place July 21, 2008. A microburst caused roof damage to a building on the campus of North Greenville College. The portion of the roof that was removed was tossed unto the roof of another building, adding to the damages. Widespread severe storms affected most of the Upstate accounting for over \$500,000 in damages. On June 30, 2008 in Fountain Inn, winds reached 55 mph resulting in a number of trees blown down, and shutters removed from houses. Damages reached \$3,000. On April 22, 2005, in parts of the county, winds reached 69 mph and claimed \$25,000 in damages.

Earthquakes: This hazard involved the sudden quick movement of large pieces of earth, believed to be caused by the slipping of tectonic plates past one another, releasing energy to surface layers. This sudden motion can cause major destruction to buildings, roads, dams, and other structures. In addition, underground utility lines can be ruptured.

Greenville County is located approximately 60 miles southeast of an epicenter located near Asheville, North Carolina. An epicenter is the estimated origin of the seismic waves that eventually reach the ground surface.

Although earthquakes have occurred in South Carolina in the recent past, most are of a magnitude that they are not noticed by anyone other than a seismologist. Most of the earthquakes that have recently occurred were located near the Charleston/Summerville area to the south. This is also the location of one of the worst earthquake in the written history of the eastern United States. Union County to the east has not experienced a significant earthquake in over 90 years. Due to the proximity of Greenville County to this designated epicenter, the County is considered to be at risk to this hazard. All areas of the County are equally susceptible to this hazard.

After review of the available data, it was determined that the impact of an earthquake in Greenville county is less than 2% which is considered a very small risk in magnitude and frequency as compared to other areas of the State and the United States. Scientists assume that Greenville County will not be affected by an earthquake above Level V intensity.



Occurrences between the Update Period: Although no significant earthquake has hit Greenville County, on December 7, 2007, residents were waken by a small tremble. The 3.1 magnitude earthquake centered about six (6) miles north of Columbus, N.C. shook a widespread area as far as Simpsonville, SC. No damages were reported.

**Wildfires:** Wildfires can be an extremely hazardous event, especially on urban fringes that are in close proximity to wooded areas. Wildfires are commonly more frequent during drought periods, but can occur at any time during any given year. According to the State Mitigation Plan, during the most recent drought period in South Carolina, the state experienced over 4,100 wildfires accounting for a loss of about of 27,000 acres per year, a significant increase from other time periods. According to the South Carolina Forestry Commission, Greenville County will average 40 fires, destroying 93.9 acres between the years 2007-2008. It also gives the 5-Year average of Greenville fires to be 50, with the potential of destroying around 179.4 acres. Either way, wildfires can cause widespread damage. All portions of Greenville County are susceptible to these hazards,

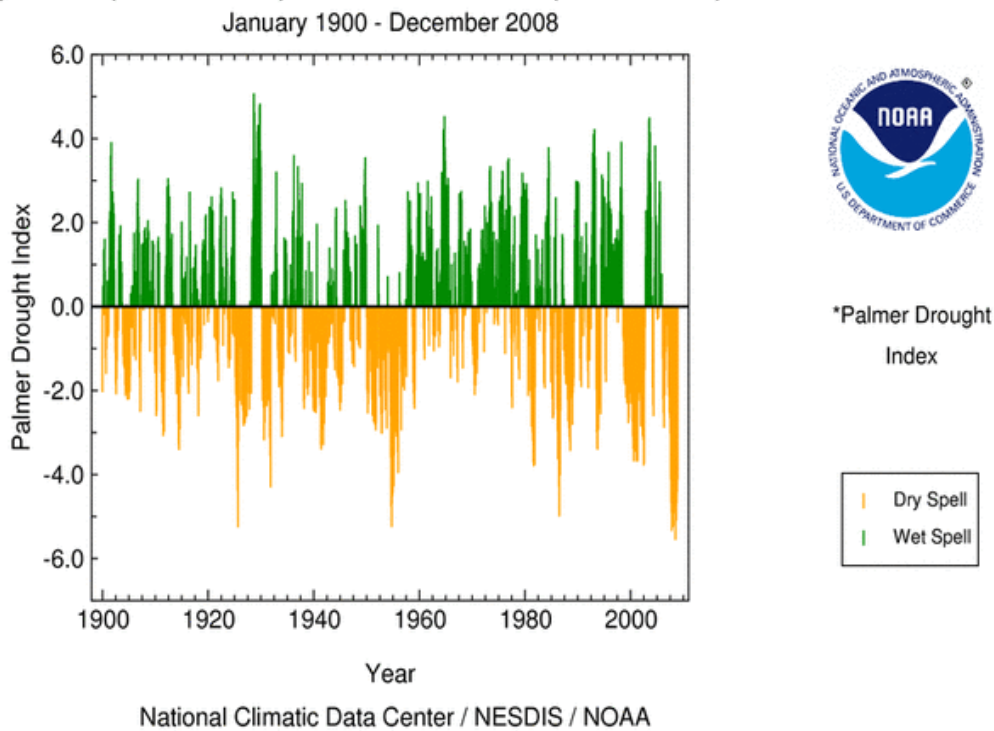
Occurrences between the Update Period: Although the County has not experienced a major wildfire, on February 26, 2009 a fire spread across 351 acres of Jones Gap State Park. To date, a damage assessment has not been completed.

**Drought/Heat Wave:** This hazard is characterized as an extended period of months, or years when a region notes a deficiency in its water supply, generally caused by a region receiving consistently below average precipitation.

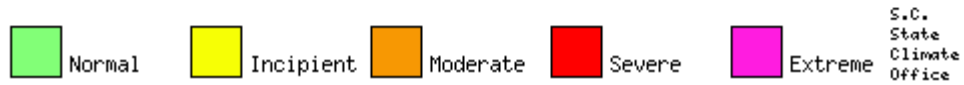
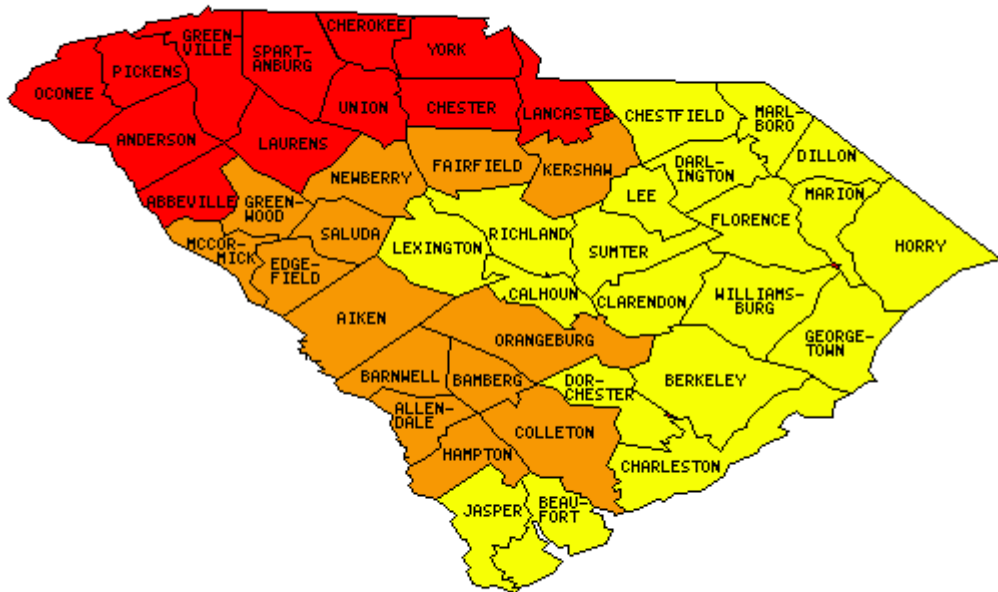
All portions of Greenville County are susceptible to this hazard. Simpsonville, as well as other areas in the County, has seen drought periods classified as high as “extreme” based on the South Carolina State Climatology Drought Status Table.

**Occurrences between the Update Period:** Since the implementation of the 2004 Plan, the County has endured 16 recorded accounts of drought/heat wave. During the period of 2007 and 2008 the City was designated, by the NOAA, a -5 Palmer Index rating which uses temperature and rainfall information to formulate dryness. (The Palmer Index ranges from -6 (extreme drought) to +6 (extreme moist)). However, the City has a supply of potential potable water reserves, and did not require any mandatory water use restrictions. Temperatures were as high as 97F. Collectively the County accounted for \$14,058,478 in drought damages in 2008.

### Upstate (Northwest) South Carolina (Division 2) PDI\*



South Carolina Drought Status by County  
April 16, 2008



Greenville County continues to work with the various water purveyors to extend potable water lines into the North and South areas of the County where potable water is primarily obtained from wells. Costs associated with this expansion are assisted by means of Federal, State and local grants, cost sharing and long term payment methods for those individuals receiving the service.

Information regarding the existing population and property at risk within these hazard zones has been obtained, where possible, from US census data, from the property appraisal records of Greenville County, aerial photographs, topographic maps, and similar information sources. Evaluations of the potential risk to valuable environmental resources in the impacted areas have been derived from review of available environmental inventories, maps of park lands, wildlife refuges, wetlands, potable water supplies, and other similar natural features. Information on the potential risk to the economic well being of the community, particularly regarding indirect economic costs of potential hazard events, has been derived from evaluating the number of businesses that may be affected by the event, the number of jobs involved, and the revenue these businesses return to the community.

It must be emphasized that in many cases, detailed information regarding the areas potentially impacted by a specific hazard, as well as its potential health and safety, property, environmental and economic impacts of that hazard, may not have been available. Further, it has not been the intent of the DMC, nor have funding resources been available, to conduct extensive new studies to obtain such information solely for the purposes of the development of this mitigation plan. Therefore, it has often been necessary to rely on the informed judgment of knowledgeable local officials to identify hazards and derive estimates of the risk each poses to the community. The DMC

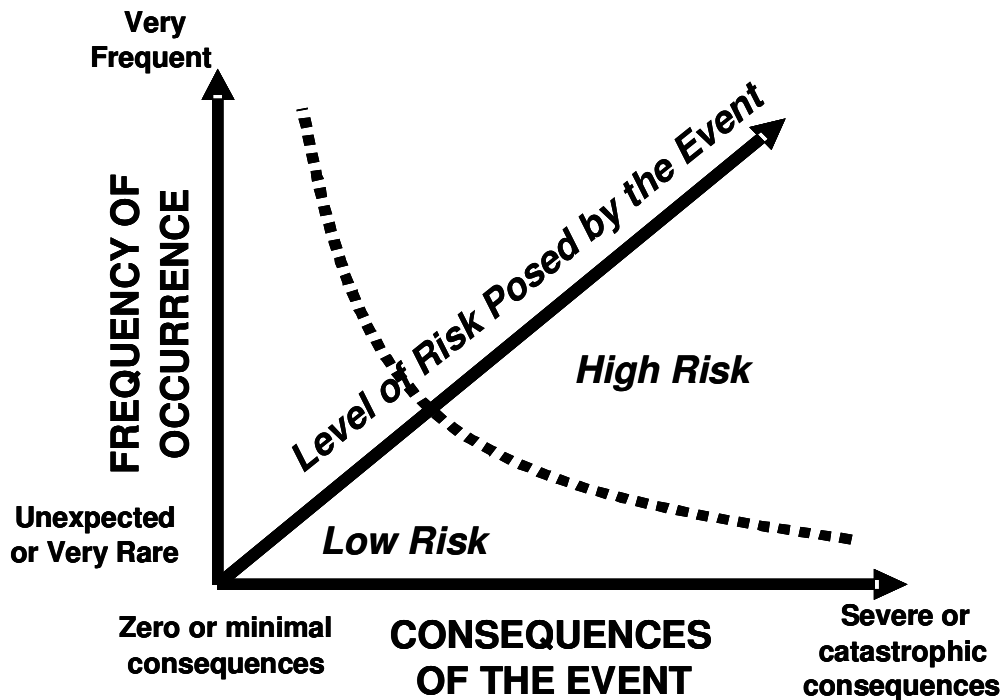
believes that their experience with their own communities, as well as their capabilities to derive reasonable estimates of the geographic area at risk and the potential impacts of the hazard, is adequate for the purposes of this planning effort. Where the absence of hazard and risk-related data has been deemed by the County to be a significant limitation on the effectiveness of this planning process, a proposed mitigation initiative to request funding to develop such data may be incorporated into the mitigation plan.

### Risk Estimation

As noted in Section 4, the technical planning process begins with hazard identification. In this process, representatives of the City of Simpsonville consider all of the natural hazards that are likely to threaten the community. When the hazard types are identified as relevant to, or of concern for, the City of Simpsonville, the participants can make an estimate of the risk each poses.

The estimate of risk is based on the judgment of the planners regarding the likely frequency of occurrence of the hazard event compared to its probable consequences. For purposes of this analysis, “risk” is defined as a relative measure of the probability that a hazard event will occur in comparison to the consequences or impacts of that event. That is, if a hazard event occurs frequently, and has very high consequences, then that hazard is considered to pose a very high risk to the affected communities. In comparison, if a hazard event is not expected to occur frequently, and even if it did, the consequences would be minimal, then that hazard is considered to pose a very low risk.

This relationship between frequency of occurrence and consequences of an event can be illustrated by the following graph:



This graph illustrates that some hazards can be defined as “low risk,” for they do not occur often enough and/or do not result in significant impacts even when they do. In comparison, other hazards may occur often enough and/or have sufficiently severe consequences when they do, that they must be considered “high risk.” Each of the hazards considered to be a threat to the City of Simpsonville can be assessed for its probability of occurrence and its likely consequences.

By considering the relative risk of the different hazards that threaten the City of Simpsonville, greater priority can be given to the “higher” risk hazards in order to most effectively utilize the time and resources available for the mitigation planning process. In this way, the planning approach used for the City of Simpsonville supports what can be termed “risk-based planning” because it facilitates the participants’ capabilities to focus on the highest risk hazards.

To do this, the DMC derives a “relative risk score” using a qualitative process in which planners’ record, on a numeric scale, the likely frequency of occurrence, the extent of the community that would be impacted, and the likely consequences in terms of public safety, property damage, economic impacts and harm to valuable environmental resources. The numeric total of the assessments of each of these is considered in this plan to constitute the “relative risk score.”

The same numeric criteria are used to classify the risk that a defined hazard poses to the City of Simpsonville. Use of common evaluation criteria enables the planning group as a whole to make comparisons of the relative risk of one hazard type in relation to another. As noted above, such comparisons can also be used to guide and prioritize the planning process by enabling planners to focus on the hazards with the highest assessed risk.

These common risk estimation numeric factors used by all participants in the planning are as follows:

<i>RISK FACTOR</i>	<i>EVALUATION CRITERION</i>	<i>ASSIGNED VALUE</i>
Area Impacted	No developed area impacted	0
	Less than 25% of developed area impacted	1
	Less than 50% of developed area impacted	2
	Less than 75% of developed area impacted	3
	Over 75% of developed area impacted	4
Probability of Occurrence	Unknown but rare occurrence	1
	Unknown but anticipate an occurrence	2
	100 years or less occurrence	3
	25 years or less occurrence	4
	Once a year or more occurrence	5
Health and Safety Consequences	No health or safety impact	0
	Few injuries/illnesses	1
	Few fatalities or many injuries/illnesses	2
	Numerous fatalities	3
Consequences to Property	No property damage	0
	Few properties destroyed or damaged	1
	Few destroyed – many damaged	2
	Few damaged – many destroyed	2
	Many properties damaged and destroyed	3
Consequences to Environmental Resources	Little or no environmental damage	0
	Resources damaged with short term recovery practical	1
	Resources damaged with long term recovery feasible	2
	Resources destroyed beyond recovery	3
Economic Consequences	No economic impact	0
	Low direct and / or low indirect costs	1
	Low direct and high indirect costs	2
	High direct and low indirect costs	2
	High direct and high indirect costs	3

A single, numeric value is selected from each of the five risk factors. The five values are then used to derive a total relative risk value for a particular hazard that is “weighted” for the probability of its occurrence.

The total relative risk for a particular hazard is calculated by adding the selected numeric values for each of the “*Impact Area*,” “*Health & Safety*,” “*Property*,” “*Environment*” and “*Economy*” and multiplying this total by the numeric value selected for the “*Probability of Occurrence*,” or, in other words, by using this formula:

$$\left[ \begin{array}{c} \text{Area} \\ \text{Impacted} \end{array} + \begin{array}{c} \text{Health and Safety} \\ \text{Consequences} \end{array} + \begin{array}{c} \text{Consequences to} \\ \text{Property} \end{array} + \begin{array}{c} \text{Consequences to} \\ \text{Environmental} \\ \text{Resources} \end{array} + \begin{array}{c} \text{Economic} \\ \text{Consequences} \end{array} \right] \times \text{Probability of} \\ \text{Occurrence} = \text{Relative} \\ \text{Risk}$$



The resulting numeric value for relative risk can vary from zero, meaning the identified hazard poses no estimated risk at all to the jurisdiction, up to a maximum of 80, which means that hazard poses a very substantial risk to the jurisdiction. The actual values selected for the City of Simpsonville are found below in section “Identified Hazards. “

The “weighting” of the relative risk value by the “Probability of Occurrence” factor provides local mitigation planners with a more realistic basis to prioritize their subsequent planning work. While a postulated hazard event could result in catastrophic damages to the City, perhaps it only has an extremely rare probability of occurrence. With this “weighted” approach, the actual risk from this hazard would have a low relative risk rating. In comparison, a hazard that occurs on a very frequent basis, say once every few years, but has lesser consequences, would result in a higher relative risk value due to its higher probability or frequency of occurrence. Therefore, local mitigation planners from the City of Simpsonville have prioritized their efforts to focus on these higher risk hazards as they complete their vulnerability assessments and propose mitigation initiatives to address those vulnerabilities.

Pursuant to the requirements of the Disaster Mitigation Act of 2000, the City of Simpsonville is required to evaluate a prescribed list of natural hazards. These hazards are: Earthquakes; Tsunamis; Coastal and Riverine Erosion; Landslides/Sinkholes; Hurricanes and Coastal Storms; Tornadoes/high winds; Floods; Wildfires; Dam/Levee Failure; Volcanic Activity; Drought/Heat Wave; and Winter Storms/Freezes. While many of these hazards are relevant to the City of Simpsonville, some are not due to the geographic location and characteristics of the planning area. In the planning process, each of these hazards has been assessed by the City of Simpsonville. If, under that planning process, a specific hazard is assessed, and the relative risk estimate for that hazard is determined to be zero (meaning the hazard actually poses no identifiable risk to the jurisdiction), then that hazard is not considered further in the planning process, in the subsequent assessments of vulnerability of the community to that hazard, or evaluation of the adequacy of city policies to manage the risks posed by that hazard. In deriving these estimates of risk for each hazard, the City of Simpsonville has utilized any available information regarding the geographic areas that may be impacted by each identified hazard, as well as population, infrastructure, and facilities within those impacted areas. This has included inventories of valuable environmental resources, as well as factors that are influential to the economic well being of the community. Examples of such existing information resources that have been accessed in this manner are listed in the following table. For much of the City, this information has been available in a geographic information system (GIS) database, or has been accessed from internet websites and existing GIS databases available from state and federal agencies.

Risk Evaluation: For the City of Simpsonville mitigation planning area, the complete results of hazard identification and risk estimation process are shown below. The table shows the relative risk posed by various hazard to the City of Simpsonville. The numeric criteria used for this analysis are defined above and at the bottom of each report, as well as in the text given above. In addition, the following paragraphs also provide some additional information regarding the natural hazards affecting the City of Simpsonville.

Hazard	Area of Impact	Probability of occurrence	Consequence of Occurrence				Risk Rating
			Health & Safety	Property	Environment	Economic	
Winter Storms	4	5	1	1	0	2	40
Flooding	1	3	1	1	1	2	18
High Winds/Tornado	1	4	1	1	0	1	16
Thunderstorms	2	5	0	0	0	1	15
Earthquakes	4	2	1	1	0	1	14
Wildfires	1	3	1	2	2	1	21
Drought/Heat Wave	3	4	1	0	1	1	33

The highest risk hazards throughout the planning area, in descending order based on the relative risk ratings, are: Winter Storms, Drought/Heat Wave, Wildfires, Floods, Tornadoes/High Winds, Thunderstorms, and Earthquakes. Tsunamis, Coastal and Riverine Erosion, Landslides/Sinkholes, Coastal Storms, Dam/Levee Failure, and Volcanic Activity are not shown in the above table for they have been designated as posing little risk to the City of Simpsonville by those representatives making the planning decisions. This is most closely related to the very low probability of occurrence for these hazards.

For the most part, the available data does not allow for a more technical evaluation of the hazards. Information gathered from discussions with City officials and residents provided much of basis for the evaluation of risk and vulnerability found in this plan. Efforts to improve these considerations will be discussed in sections describing mitigation activities.

The Vulnerability Assessment Process

The vulnerability assessment process for the DMC begins with profiling the basic, mitigation-related characteristics of the City. Very basic demographic, land use and infrastructure information was gathered for the City. The resulting information is presented below.

The Vulnerability Assessment Process, as described above, is still valid and on-going during the Update period.

The following table indicates the building valuation of properties that may be affected by all hazards identified in the plan.

<b>Class</b>	<b>No. of Properties</b>	<b>Building Valuation (\$)</b>
Residential	5,467	\$597,728,948
Commercial	345	\$243,945,724
Industrial	0	0
Critical Facilities	16	\$10,962,478

Repetitive Loss Properties: Another indication of the hazards threatening the City of Simpsonville, and the risk posed by those hazards, is to identify whether properties have been previously or repeatedly damaged by past disaster events. The properties, which may be buildings, roads, utilities, or similar construction, can be termed “repetitive loss properties.” Properties can fall into this classification based on repeated damages from any type of hazard. A specific category of repetitive loss properties is those that are insured under the National Flood Insurance Program, and have had repeated claims for flood loss damages. To date, the City does not contain any repetitive loss properties.

Land Use Trends and Potential Vulnerability: The DMC recognizes that the way in which land is utilized, especially land within known hazard-prone areas, is a key measure of community vulnerability, because some land uses, such as for residential or industrial development, can be more susceptible to disaster-related damages than others. Therefore, analysis of land use trends will be performed by the City of Simpsonville’s Planning Commission. The DMC recognizes that its efforts, particularly to identify the areas at risk from various hazards, is a key factor in guiding the careful use of land to minimize future vulnerabilities to disaster. When needed and desired, modifications to the plans, ordinances, codes and similar policies will be proposed as mitigation initiatives for incorporation into this plan.

At this point, the City continues to take measures to control development from an economic and vulnerability standpoint. Two of the better examples would be the adoption of the International Building Codes as amended by the State of South Carolina, and the Hillcrest High School new emergency evacuation route initiative.

To address new buildings and infrastructure, the City will continue to enforce the International Building Code Standards as well as require a downstream impact analysis for new development.

Critical Facilities: Many facilities and systems in the City are very important to the health, safety and welfare of the community, especially during disasters caused by natural hazards. Therefore, high priority is given to assessing their vulnerabilities to future disasters and proposing mitigation initiatives to address identified vulnerabilities. The DMC has created a detailed list of facilities. However, technical evaluations of each of these facilities has not been prepared due to the expensive and time consuming and was beyond the scope of this original report. Maps of the various critical facilities are provided in Appendix E.

## Summary

It must be emphasized that the fundamental reason for undertaking the hazard identification and vulnerability assessment process is to highlight vulnerabilities that need to be addressed by the development of proposed mitigation initiatives for incorporation into the City of Simpsonville hazard mitigation plan. In addition, this process has made it obvious to the DMC that more information is needed in order to provide thorough assessments. The committee has therefore created mitigation initiatives to address any current data shortcomings. This component of the mitigation planning process can be expected to be continued in future updates of the plan until all mitigation needs are addressed.

**City of Simpsonville**  
**Multi-Hazard Mitigation Plan**

**Section Seven**

**MITIGATION GOALS AND PLAN IMPLEMENTATION**

---

Introduction

This section of the City of Simpsonville Multi-Hazard Mitigation Plan describes the goals and objectives established by the Disaster Mitigation Committee (DMC), and the completed and anticipated actions for implementation and maintenance of this plan in an ongoing effort to achieve these goals.

Goals and Objectives for the Mitigation Plan

The City of Simpsonville DMC established a number of goals and objectives to guide its work. The goals and objectives helped to focus the efforts of the group in the mitigation planning effort to achieve an end result that matches the unique needs, capabilities and desires of the City of Simpsonville.

- 1) City government will have the capability to develop, maintain, and utilize hazard information**
  - a) Data and information needed for defining hazards, risk areas and vulnerabilities in the community will be obtained
  - b) The capability to effectively utilize available data and information related to mitigation planning and program development will be available
  - c) The effectiveness of mitigation initiatives implemented in the community will be measured and documented
  - d) There will be a program to derive mitigation “lessons learned” from each significant disaster event occurring in or near the community
  
- 2) The City will have the capability to initiate and sustain emergency response operations during and after a disaster**
  - a) Communications systems supporting emergency services operations will be retrofitted or relocated to provide for effective communication during times of disaster
  - b) Emergency services organizations will have the capability to detect emergency situations and promptly initiate emergency response operations
  - c) Local emergency services facilities will be assessed and City-owned service facilities will be retrofitted or relocated to withstand the structural impacts of disasters

- 3) **The continuity of City government operations will not be significantly disrupted by disasters**
  - a) Measures will be implemented to alert City personnel of impending disasters and corresponding action plans
  - b) Train key City employees in disaster response and operations
- 4) **The policies and regulations of City government will support effective hazard mitigation programming throughout the City**
  - a) City government will establish and enforce building and land development codes that are effective in addressing the hazards threatening the community
  - b) City government will protect high hazard natural areas from new or continuing development
  - c) Land use policies, plans and regulations will discourage or prohibit inappropriate location of structures or infrastructure components in areas of higher risk
  - d) Reconstruction and rehabilitation of structures and utilities in the City will incorporate appropriate hazard mitigation techniques
  - e) The City will participate fully in the National Flood Insurance Program
- 5) **Residents of the City will have homes, institutions, and places of employment that are less vulnerable to disasters**
  - a) The vulnerability to disasters of schools, libraries, museums, and other institutions important to the daily lives of the community will be minimized
- 6) **The economic vitality of the City will not be significantly threatened by a disaster**
  - a) City government emergency response and disaster recovery plans will appropriately consider the needs of key employers in the community
  - b) City government will encourage community businesses and industries to make their facilities and operations disaster resistant
  - c) City government will implement programs to address public perceptions of community condition and functioning in the aftermath of a disaster
- 7) **The availability and functioning of the City's infrastructure will not be significantly disrupted by a disaster**
  - a) City government will encourage hazard mitigation programming by private sector organizations owning or operating key community utilities
  - b) Routine maintenance of the community's infrastructure will be done to minimize the potential for system failure because of or during a disaster
  - c) Transportation facilities and systems serving the City will be constructed and/or retrofitted to minimize the potential for disruption during a disaster
- 8) **All members of the City will understand the hazards threatening local areas and the techniques to minimize vulnerability to those hazards**
  - a) All interested individuals will be encouraged to participate in hazard mitigation planning and training activities.
  - b) Education programs in risk communication and hazard mitigation will be established and implemented
  - c) Managers of public facilities will be knowledgeable in hazard mitigation

- techniques and the components of the City's mitigation plan
- d) Technical training in mitigation planning and programming will be given to appropriate local government employees
  - e) The owners and operators of businesses and industries in the City will be provided information on appropriate hazard mitigation techniques
  - f) The public living or working in defined hazard areas will be aware of that fact, understand their vulnerability and know appropriate mitigation techniques
  - g) The public will have facilitated access to information needed to understand their vulnerability to disasters and effective mitigation techniques

These goals selected by the DMC are related to the broad mitigation needs and capabilities of the communities involved, although some of the initiatives are focused on a specific hazard type or category. In general the City of Simpsonville mitigation goals and objectives are "multi-hazard" in scope and can be described as statements of the desired "mitigation-related capabilities" that will be present in the future as the goals are achieved.

Guidance to meet the goals of this mitigation plan will be provided by the State of South Carolina Emergency Management Division, pursuant to the State Mitigation Plan. The state does not provide a specific set of goals, however, guidance and coordination of hazard preparations and mitigation is available.

#### Using a "Goal-based" Planning Process

The goals established by the City of Simpsonville DMC are considered to be broad, general guidance that defines the long-term direction of the planning. As indicated in the list of goals and objectives above, each goal statement has one or more objectives that provide a more specific framework for actions to be taken by the DMC and its participants. The objectives define actions or results that can be placed into measurable terms by the DMC, and translated into specific assignments for implementation by the participants in the DMC and associated agencies and organizations.

The objectives selected by the DMC are intended to create a specific framework for guiding the development of proposed mitigation initiatives for incorporation into the plan. Whenever feasible, the planning participants have attempted to associate each proposed mitigation initiative with the objective statement the initiative is intended to achieve. By associating a mitigation initiative with a specific objective, the proposed initiative is also, of course, intended to help achieve the broader goal statement to which the objective corresponds. Proposing mitigation initiatives that are consistent with the selected objectives is a principal mechanism for the DMC participants to achieve the stated goals of the mitigation planning program.

To illustrate this point, the table below shows a list of the mitigation initiatives included in the 2008 plan Update and the objective statement which they are intended to help achieve. This enabled the City of Simpsonville DMC to identify which of the established objectives is to be addressed by the proposed initiative, if any. This allows the DMC to consider achievement of a specific objective under an established goal as it reviews a proposed initiative for incorporation into the plan, or as it assigns the initiative a priority or schedule for implementation. This approach creates a framework for "goal-based"

planning by the DMC, focusing the group's efforts on proposing and implementing mitigation initiatives intended to achieve the established mitigation goals. As the City of Simpsonville Hazard Mitigation Plan is reviewed and updated by the DMC, the goals and supporting objective statements are also reviewed to ensure they are still applicable to meeting the unique needs, interests and desires of the community.

2010 Initiative Description	Planning Goal(s) Targeted	Planning Objective Satisfied
<b>A. Prevention</b>		
Perform bridge/culvert inspections	1, 7	1a, 7b, 7c
Install monitoring stations for flood events	1	1a
<b>B. Public Education &amp; Awareness</b>		
Develop a spill and industrial accidents action plan	1, 8	1a, 8e-g
Improve communication between school district and parents	1, 8	1a-b, 8g
Develop alternatives to railroad scenario's	3, 8	3b, 8a-g
Enhance Hazards Education	3, 8	3b, 8a-g
<b>C. Natural Resources Protection</b>		
Address stream bank erosion control (Durbin Creek)	7	7b
<b>D. Emergency Services</b>		
Provide backup generators for critical facilities	2, 3	2a, 3a
Develop an early warning system	3	3a
Evaluate emergency routes for student pickup	1, 8	1a-b, 8g
Construct new evacuation routes for Hillcrest High School	1, 3, 6, 7, 8	1d, 3b, 6a-b, 7c, 8b
<b>E. Property Protection</b>		
Require a downstream Impact analysis for new development	4	4d
<b>F. Structural Projects</b>		

#### Addressing Known Risks and Vulnerabilities

The process of selecting initiatives to mitigate known threats to hazards began with a simple brainstorming exercise by the members of the DMC. Committee members also consulted personnel from within their respective agency or organization. The resulting list is part wish-list and part a reflection of the threats to the City of Simpsonville. It is difficult to remove from memory recent events and the damage that resulted. Therefore, this list is an indication of the problems that the City of Simpsonville needs to address, based on complaints, cost of repairs, and perceived future needs.



### Modification to Other Policies, Plans and Programs

It is the intention of the DMC to continue to improve the existing policy framework for the City of Simpsonville so that they will be able to more effectively manage the community's vulnerabilities to future disasters. An analysis of the current policy framework is included in Section 6 of this plan. Any shortfalls in the number of policies addressing identified higher risk hazards can be addressed by implementing non-structural initiatives intended to modify or enhance current plans, policies and programs. The proposed modifications to the listed policies and programs are additional documentation of the DMC's efforts to achieve its established goals and objectives.

### Plan Implementation and Plan Maintenance Procedures

This portion of Section 7 discusses the manner in which the City of Simpsonville Mitigation Plan will continue to be implemented and maintained over time. "Plan implementation" is considered as the implementation of the proposed mitigation initiatives now included in the plan. "Plan maintenance" is considered to be the process by which the City of Simpsonville DMC will continue to update, improve and expand the mitigation planning process. It also includes the technical analyses needed for the process to propose more mitigation initiatives for incorporation into the plan. "Plan maintenance" further includes the group's activities to monitor implementation of the plan, to evaluate the effectiveness of implemented mitigation initiatives, and to continually strive to engage the community in the planning process. The basic elements of the DMC's actions to implement and maintain the plan are also described in the DMC's operating procedures, given in Section 4 of the plan.

### Plan Implementation Responsibility and Schedules

As noted above, implementation of the City of Simpsonville Mitigation Plan is basically through implementation of the approved mitigation initiatives incorporated into the plan. As these initiatives are implemented over the years, the facilities, systems and neighborhoods of the participating jurisdictions will become less vulnerable to the impacts of future disasters, and the communities of the City of Simpsonville will become increasingly more disaster resistant.

Pursuant to the planning process, the individual agencies and organizations that have been assigned responsibility for the mitigation initiatives incorporated into the plan are responsible for their implementation when the resources or opportunity to do so become available. As a practical matter, in most cases, this means that the responsible agencies identify the most feasible funding source (e.g., a state or federal grant program, the agency's budgetary process, etc.), make application to the funding source or otherwise allocate funds, and, upon receipt of funding, take the necessary steps to actually implement the project, whatever that may entail (e.g., design, permitting and construction, etc.). In other cases, this may mean that, should a unique opportunity for implementation of an initiative arise, e.g., upon receipt of unexpected funds, immediately after a disaster event, etc., the agency can proceed with implementation of the initiative.

The DMC encourages representatives of the agencies and organizations responsible for a proposed initiative to associate it with one or more potential funding sources. The

purpose of this is to facilitate implementation of a proposed initiative by the sponsoring agency by indicating the starting point for seeking funding for implementation.

While the actual responsibility for implementation of a mitigation initiative lies with the responsible agency or department, the DMC as a cooperative organization has a substantial involvement in plan implementation and can assist with the coordinating and scheduling of the implementation of approved mitigation initiatives.

As a part of the planning process, on a periodic basis of every five years and immediate following any major disaster, approved mitigation initiatives included in the plan are re-evaluated as to their continuing value and the need for their implementation. The purpose of this re-evaluation is to assure that a proposed mitigation initiative remains a valuable component of the plan, and whether any unique or unanticipated conditions warrant extra efforts to implement the initiative.

#### Plan Maintenance and Monitoring of Plan Implementation

Mitigation planning is a dynamic process that must be continually adjusted to account for changes in the community and to further refine the information, judgments and proposals documented in the local mitigation plan. The process used by the City of Simpsonville DMC to maintain the plan consists primarily of four functions.

The first is to continue to expand and improve the mitigation plan by accomplishing additional technical analyses, such as vulnerability assessments and post-event analysis of disasters, etc. The second is to continue to expand participation in the planning process by implementing public information programs and by inviting expanded participation by the private sector. The third is to routinely monitor implementation of the initiatives in the plan until each is completed and in-place, and to assess their actual effectiveness following the next relevant disaster event. The fourth is to issue an updated plan document for use by the participating organizations, to inform the community, and when appropriate for submittal to state and federal agencies for approval pursuant to the Disaster Mitigation Act of 2000. This portion of Section 7 of the plan describes these four activities by the DMC to maintain the City of Simpsonville Mitigation Plan.

The technical analyses conducted by the City will be an ongoing effort to continually assess the hazards threatening the community, the vulnerabilities to those hazards, and program framework to control those vulnerabilities. When indicated, the technical analysis also includes formulating proposed mitigation initiatives to eliminate or minimize the identified vulnerabilities. The City has completed the vulnerability assessment based on the best available information. As this process continues and additional data is gathered the DMC will be better equipped to provide more detailed analyses. In the next planning cycles, the DMC will continue to assess the vulnerabilities of facilities and planning areas, emphasizing. Vulnerability assessments are fundamental to identifying needed mitigation initiatives to propose for incorporation into the plan, and as this process is continued, additional mitigation initiatives will be proposed for incorporation into the plan.

Another technical analysis important to maintenance of the plan is the expanded and refined evaluation of the policy and program framework of the City and the adequacy of this framework to control the vulnerabilities of the community.

The second type of activity to continue to maintain the City of Simpsonville Mitigation Plan will be to continue to expand participation in the DMC and the mitigation planning process. The current participants in the planning and the level of their participation are addressed in Section 3 of the plan. Gaining additional participation in the planning is also part of the public information and community outreach component of the plan. The planned public information activities are discussed in Section 5 and a report is given there entitled "Public Information Activity Report."

The third category of plan maintenance activities that will be undertaken by the City of Simpsonville DMC will be to monitor the implementation of mitigation initiatives. The DMC documents the efforts to fund the initiative, to conduct required studies, and to obtain any needed permits, as well as to estimate the time remaining to complete design, needed studies and purchasing or construction. When an initiative is completed, this fact is noted in the program as well. The current status of initiative implementation has been discussed in Section 5 of this plan, and the DMC will again update this section for the next publication of the plan.

As a part of monitoring the implementation of mitigation initiatives, following a disaster and as a part of the post-event analysis that the DMC will conduct, the effectiveness of completed mitigation initiatives, or any pre-existing mitigation initiatives, in reducing the human and economic impacts of the event can be estimated. As time passes and disaster events occur, this will enable the DMC to accumulate a database of "mitigation success stories" with regard to the value of the property losses avoided and the number of fatalities, injuries or illnesses prevented.

Monitoring of the effectiveness of plan implementation and maintenance also involves assessing the effectiveness of the mitigation goals and objectives established for the planning process. As noted above, the DMC established general goals and a number of specific objectives to guide the participants in the mitigation planning process, and these are given above. The DMC's attempts to address the established objectives, with the intent of achieving the associated mitigation goals for the community, is a key measure of the effectiveness of the continuing plan maintenance and plan implementation. The table in section 8, which was discussed above, documents the DMC's efforts to achieve the established goals and objectives through the implementation of associated proposed mitigation initiatives. As these initiatives are implemented, and monitored for their effectiveness in future disasters, the DMC will be able to determine the overall success of their mitigation planning effort. In future planning cycles, these goals will be reviewed and re-evaluated to ensure they are still relevant to the unique needs of the community and continue to address current and expected conditions.

The fourth category of plan maintenance activities is to actually incorporate the results of all technical analyses, including the development of new mitigation initiatives and to publish another updated edition of the City of Simpsonville Hazard Mitigation Plan. The DMC will continue to engage the public in the planning process, to expand direct participation in the planning, and to increase representation on the City of Simpsonville DMC itself. In order to complete this category of plan maintenance activity, the participants will use a planning cycle which is given in the next section.

### Current Planning Cycle Outline

Below lists the major aspects of the Planning Cycle beginning in 2010 and ending in 2015:

- The DMC will meet as necessary and after each major event
- Mitigation initiatives will be collected as they appear from various City organization, neighborhood groups, and businesses
- Adoption and implementation of new initiatives will be reviewed, ranked, and approved during the next planning cycle.

The planned date for release of the next edition of the City of Simpsonville Mitigation Plan Update is intended to be 2014. At that time, the entire planning process, along the new data that will have been collected, will be reviewed and altered as necessary. The process of approval by City Council will also be performed. At the time of this plan, it is the intention of the City to incorporate the next update into Greenville County's Multi-jurisdiction Multi-hazard Mitigation Plan.

### Implementation through Existing Plans and Programs

One of the methods to most effectively implement the City of Simpsonville Hazard Mitigation Plan is to propose and implement initiatives that will modify other community plans, policies, and programs. By including personnel from a variety of departments in the hazard mitigation planning process, concepts derived from the planning process will be spread throughout City departments such as; public works, stormwater management, GIS, and planning. Mitigation activities initiated by this plan will be incorporated into Simpsonville's Comprehensive plan, and vice versa.

### Continued Public Involvement

The DMC will continue efforts to develop and implement a year-round program to engage the community in the mitigation planning process and to provide them with mitigation-related information and education. These efforts will be to continually invite public comments and recommendations regarding the mitigation goals for the community, the priorities for the planning, and the unique needs of each community for mitigation-related public information.

Public information activities that have been completed or are planned by the organizations making up the City of Simpsonville DMC are listed in Section 5 of this plan. Each of these activities continues to engage the community in the planning process through the presentation of a specific topic or program related to or relevant for, hazard mitigation.

### The Next Planning Cycles

As given in this section, the City of Simpsonville DMC has established a schedule and procedure for both plan implementation and plan maintenance that is expected to be helpful in improving and expanding the mitigation planning process.

In addition to these activities for plan maintenance, the DMC will establish a recommended schedule for implementation of the proposed priority initiatives included in this edition of the plan. It is expected that the agencies and organizations that sponsored these initiatives for the plan will, during the next planning cycles, take advantage of timely opportunities and available resources to implement them on the desired schedule, if it is possible to do so.

The City of Simpsonville Hazard Mitigation Plan Update is a dynamic document, reflecting a continuing, and expanding planning process. The efforts of the DMC will continue into the future, striving to make all of the jurisdictions of the City of Simpsonville truly disaster resistant communities.



## City of Simpsonville

### Multi-Hazard Mitigation Plan

#### Section Eight

#### COMPILATION OF PROPOSED MITIGATION INITIATIVES

---

##### Introduction

This section of the City of Simpsonville Multi-Hazard Mitigation Plan contains the compilation of the proposed mitigation initiatives that have been formulated as the result of the planning efforts by the Disaster Mitigation Committee (DMC). These mitigation initiatives form the fundamental mechanism for the implementation of the local mitigation plan. That is, when the resources and opportunity to do so become available, the sponsoring organization implements an initiative to address the vulnerabilities of the facilities, systems and planning areas that have been identified through the mitigation planning process. After each successful implementation of an initiative, the benefited community will become that much more resistant to the impacts of future disasters.

##### Initiatives Incorporated into the Mitigation Plan

The compilation is based on a prioritization that was conducted by the DMC overseeing the development of the Hazard Mitigation Plan. The proposed initiatives discussed in this section are specific mitigation actions and projects being considered to reduce the effects of each hazard” pursuant to §201.6(c)(3)(ii) of the federal regulations.

As specified in the procedures given in Section 4 of the plan, each proposed mitigation initiative is subjected to a review and analysis by the DMC. The purpose of this review and analysis is to ensure that an initiative proposed by a participating organization or community group is based on an adequate level of technical analysis, that all needed information about the proposal is presented, that any assumptions utilized are reasonable and logical, that the proposal is consistent with the goals and objectives of the DMC, and that it is addressing identified vulnerabilities of the community or shortfalls in the communities’ mitigation policy framework. More specifically, the DMC’s review and analysis process is focused on ensuring the technical validity of the proposal, making a judgment whether the initiative would be technically effective and cost-beneficial, if it is duplicative or in conflict with other proposed initiatives, or if its implementation would have an adverse affect in another jurisdiction. If necessary, the proposal is returned to the sponsoring organization for revision.

When the DMC reaches a favorable judgment regarding the proposal, a recommendation is made that it be adopted for incorporation into the City of Simpsonville Hazard Mitigation Plan. The DMC can then review the proposal for any other concerns, such as its consistency with other community-based plans, programs, and political policies, and if appropriate, formally approve the proposal and its incorporation into the plan. In this way, each mitigation initiative is only incorporated into the plan after satisfactorily undergoing a “peer review” process considering both technical validity and policy compliance.

The following is a brief description of the initiatives that have been considered by the DMC for inclusion in the City of Simpsonville Multi-Hazard Mitigation Plan:

## A. Prevention

**Perform Bridge/Culvert Analysis:** During major rain events, several roads throughout the City tend to overtop. This mitigation activity will require a detailed analysis of each bridge/culvert on those roads to prioritize possible upgrades.

**Install Monitoring Stations for Flood Events:** In an attempt to collect more localized hazard data, the City proposes to install monitoring stations at designated locations to analyze the streams response to rainfall. This data will be used to collect data on weather events and to educate the public on hazard related issues.

## B. Public Education and Awareness

**Develop a Spill and Industrial Accidents Action Plan:** The City will ensure that industrial sites containing hazardous material have a Spill and Industrial Accidents Action Plan in place to provide the proper cleanup of hazardous waste in the event of a spill or emergency.

**Improve Communications between School District and Parents:** The City proposes to have a standard Communication procedure between the school district and parents to make parents more aware of the Districts actions during hazards.

**Develop Alternative's to Railroad Scenario's:** Railroad scenarios were discussed to ensure that Emergency Services can properly get to those in need. The purpose of this initiative is to re-evaluate routes taken to certain Communities and possibly propose alternative routes into those Communities in the event of a train crossing.

**Enhance hazards education:** In an attempt to educate residents on hazard damages and their role in hazard mitigation, the City proposes that information be distributed, via literature, to further promote hazard awareness.

## C. Natural Resources Protection

**Address Stream Bank Erosion Control (Durbin Creek):** The City is proposing to address stream bank erosion in the Durbin Creek watershed to assist with natural resources protection.

## D. Emergency Services

**Provide Backup Generators for Critical Facilities:** The City proposes to purchase new generators for Critical Facilities. These generators will be used in power outage situations so that City offices and emergency health facilities may function, as needed.



**Develop an Early Warning System:** Early warning systems were discussed for a number of applications including both natural and man-made disasters. The City is proposing to install sirens & loud speakers that will activate when tornado or other hazards are approaching City limits.

**Evaluate Emergency Routes for Student Pick-up:** As an effort to keep the students of Simpsonville safe, the City is proposing to evaluate emergency routes for parents to reach their children in the event of a natural or man-made hazard.

**Construct New Evacuation Routes for Hillcrest High School:** As an effort to keep the students of Hillcrest High School safe, the City is proposing to construct new evacuation routes to remove the students from campus in the event of a natural or man-made hazard.

## **E. Property Protection**

**Require a Downstream Impact Analysis for New Development:** In efforts to keep the City aware of new developments upstream, the City proposes that a Downstream Impact Analysis be performed before any new development is completed, considering flooding is a common issue once urbanization occurs.

## **F. Structural Projects**

No mitigation measures presented.

### Priority Status for Plan Inclusion and Implementation

One format for describing mitigation initiatives included in the plan lists the mitigation initiatives and their current status as “approved,” “pending,” or “completed”. An approved mitigation initiative is one that has been fully processed and approved for incorporation into the plan by the DMC, and as noted above. A pending initiative is one that has been proposed by a participant in the planning process, but as of the time of the preparation of this document, it had not been fully processed by the DMC. Of course, a completed mitigation initiative is one that has been implemented by the responsible agency or organization.

As shown in the section “Initiatives by Hazard” below, all initiatives have been approved.

### Priority Ranking for Proposed Mitigation Initiatives

This next section report, lists all of the mitigation initiatives currently in the City of Simpsonville’s Multi-Hazard Mitigation Plan, in the order of their priority scores. The priority scores are based on 9 separate prioritization criteria used by all of the planning participants to allow the DMC to compare various mitigation initiatives. The specific priority scores are based on a numeric classification system explained in the following table:

Priority Criterion	Numeric Score
<b>Strategy Effectiveness</b>	
No affect on Risk or Hazard	0
Affects several structures within the City	1
Affects many structures within the City	2
Affects most structures within the City	3
<b>Percentage of Population Benefited</b>	
Less than 10% benefited	0
10% to 50% benefited	1
51% to 75% benefited	2
Greater than 75% benefited	3
<b>Time to Implement</b>	
Cannot be implemented	0
Longer than one year	1
Within one year	2
Immediate	3
<b>Time to Impact</b>	
Cannot be implemented	0
Longer than one year	1
Within one year	2
Immediate	3
<b>Cost to City</b>	
Completely Unaffordable	0
Expensive, but manageable	1
Cost is easily managed	2
Little to no cost	3
<b>Cost to Others</b>	
Completely Unaffordable	0
Expensive, but manageable	1
Cost is easily managed	2
Little to no cost	3
<b>Funding Source</b>	
No known funding source available	0
Requires outside funding	1

<b>Requires budget consideration</b>	<b>2</b>
<b>Within existing City budget</b>	<b>3</b>
<b>Community Support</b>	
<b>Opposed by the entire community</b>	<b>0</b>
<b>Acceptable only to those affected by the project</b>	<b>1</b>
<b>Some community opposition</b>	<b>2</b>
<b>Acceptable community wide</b>	<b>3</b>
<b>Project Feasibility</b>	
<b>Not possible</b>	<b>0</b>
<b>Accomplished with extensive design and planning</b>	<b>1</b>
<b>Accomplished with some design and planning</b>	<b>2</b>
<b>Easily accomplished</b>	<b>3</b>

It is possible to see from this table that the minimum priority rank for a proposed initiative would be zero (0), while the maximum would be twenty-seven (27). The priority ranking given through application of the nine criteria in the above table will remain constant through time because of the inherent characteristics of the proposed initiative, unless those characteristics are also modified.

All of the initiatives are listed by the priority score assigned to each as a result of the common process to characterize and prioritize mitigation initiatives that is used by all participants in the planning process. This priority score is a long-term characterization value directly associated with each specific initiative based on its own merits at the time it was first proposed by the individual participant. The priority score is intended to serve as a guideline for the DMC regarding the relative desirability of implementation of a specific mitigation initiative in relation to the other proposed initiatives incorporated into the plan.

All initiatives are prioritized and evaluated in accordance with the consideration with the National Flood Insurance Program.

<b>Project Description</b>	<b>Strategy Effectiveness</b>	<b>Percent of Population Benefited</b>	<b>Time to Implement</b>	<b>Time to Impact</b>	<b>Cost to City</b>	<b>Cost to Others</b>	<b>Funding Source</b>	<b>Community Support</b>	<b>Project Feasibility</b>	<b>Point Total</b>	<b>Project Priority</b>
<b>A. Prevention</b>											
Perform bridge/culvert inspections	1.5	3	2	.5	.5	3	3	3	2	<b>18.5</b>	<b>5</b>
Install monitoring stations for flood events	1.5	1	1	1	1	1	1	1	2	<b>10.5</b>	<b>11</b>
<b>B. Public Education &amp; Awareness</b>											
Develop a spill and industrial accidents action plan	2	2	3	3	2	1.5	3	3	2	<b>21.5</b>	<b>3</b>
Improve communication between school district and parents	0	2	2.5	3	2	2	3	3	2	<b>19.5</b>	<b>4</b>
Develop alternatives to railroad scenario's	2	2	3	3	3	3	3	3	2	<b>24</b>	<b>1</b>
Enhance Hazards Education	3	3	2	3	2	2	2	3	2	<b>22</b>	<b>2</b>
<b>C. Natural Resources Protection</b>											
Address stream bank erosion control (Durbin Creek)	2	1	1	1.5	.5	.5	1.5	1	1	<b>10</b>	<b>12</b>
<b>D. Emergency Services</b>											
Provide backup generators for critical facilities	1	3	2	3	1	3	1	2	2	<b>18</b>	<b>8</b>
Develop an early warning system	0	3	1.5	3	1	3	1.5	2	1	<b>16</b>	<b>9</b>
Evaluate emergency routes for student pickup	0	1	2	1.5	3	3	3	3	2	<b>18.5</b>	<b>7</b>
Construct new evacuation routes for Hillcrest High School	0	1	1	2	1.5	2	2	2	1	<b>12.5</b>	<b>10</b>
<b>E. Property Protection</b>											
Require a downstream Impact analysis for new development	2	1	3	2	3	1.5	2	2	2	<b>18.5</b>	<b>6</b>
<b>F. Structural Projects</b>											

### Benefit-to-Cost Ratio

A key analytical measure commonly used in vulnerability assessments is the benefit to cost ratio, which expresses the estimated benefits, in dollars, in comparison to the estimated costs to implement and maintain the proposed mitigation initiative. For an initiative to be considered “cost effective,” the dollar value of the benefits derived needs to exceed the costs to implement and maintain the initiative, or, in other words, the benefit to cost ratio should be greater than 1.0. The process for calculating a benefit to cost ratio begins with estimating the direct and indirect costs of the “worst case” disaster scenario that the mitigation initiative is intended to address. If the initiative were to be implemented, these are the future costs that would be avoided, or, in other words, the “benefits” derived from implementing the initiative. Both direct costs of the disaster scenario are considered, such as structural damages, as well as indirect costs, such as lost wages. The total of the direct and indirect costs are then divided by the predicted

life of the initiative, in years. This then gives the dollar benefits of the project on an annual basis. The cost side of the benefit to cost ratio is estimated by determining the estimated cost to initially implement the proposal, such as initial construction cost for a “bricks and mortar” project, or the development costs for a training program. To this amount is then added any annual costs that implementation of the project would incur, such as annual operations and maintenance costs or annual implementation costs. Next, the approach then considers any “cost impact” of the proposal, or the costs that would be incurred by others in the City due to implementation of the initiative, such as the economic effect on new construction of adopting a more stringent building code. The cost impact figure is also annualized by the life of the project, and then any annual cost impact values, such as an annual user fee or tax, is added to give a total annual cost impact. Finally, by dividing the annual costs of the “benefits” of the proposal by the annual cost and cost impact necessary to implement the proposal, a benefit to cost ratio is estimated. A more sophisticated methodology for calculating a benefit to cost ratio is likely to be necessary at the time of actual implementation, applying to state or federal agencies for funding, or for the design and construction stage of development.

During the evaluation of all mitigation activities, a cost-benefit review was conducted to determine the suitability of all initiatives.

#### Initiatives by Hazard

This section of the plan describes the proposed initiatives included in the plan to address the hazards that have been identified as threatening the City of Simpsonville. The table below presents the mitigation initiatives that have been proposed to address the identified hazards posing the most risk to Simpsonville, as determined by the DMC. As described in Section 6 of this plan, the hazards are ranked based on risk from high to low as winter storms, wildfires, floods, thunderstorms, high winds, and earthquakes. This section is also another example of how the planning approach used by the City of Simpsonville has effectively used the hazard identification and risk estimation process to guide formulation of proposed initiatives.

<b>Initiative Description by Hazard</b>	<b>Secondary Hazard(s) Mitigated</b>
<b>A. Winter Storms</b>	
Develop a spill and industrial accidents action plan	D, E, G
Improve communication between school district and parents	All other natural Hazards
Develop alternatives to railroad scenario's	N/A
Provide backup generators for critical facilities	All other natural Hazards
Evaluate emergency routes for student pickup	All other natural Hazards
Construct new evacuation routes for Hillcrest High School	All other natural Hazards
<b>B. Drought/Heat Wave</b>	
Enhance Hazards Education	All other natural Hazards
<b>C. Wildfires</b>	
<b>D. Floods</b>	
Perform bridge/culvert inspections	A
Require a downstream Impact analysis for new development	N/A
Install monitoring stations for flood events	A
Address stream bank erosion control (Durbin Creek)	N/A
<b>E. Tornado/High Winds</b>	
Develop an early warning system	C
<b>F. Thunderstorms</b>	
<b>G. Earthquakes</b>	

<b>Initiative Description</b>	<b>Responsible Party</b>
<b>A. Prevention</b>	
Perform bridge/culvert inspections	USACE, City of Simpsonville, Grants
Install monitoring stations for flood events	NWS, City of Simpsonville
<b>B. Public Education &amp; Awareness</b>	
Enhance Hazards Education	City of Simpsonville
Develop a spill and industrial accidents action plan	City Codes Enforcement, Grants
Improve communication between school district and parents	City Codes Enforcement
Develop alternatives to railroad scenario's	City Emergency Management
<b>C. Natural Resources Protection</b>	
Address stream bank erosion control (Durbin Creek)	NRCS, City of Simpsonville, Grants
<b>D. Emergency Services</b>	
Provide backup generators for critical facilities	City of Simpsonville, Grants
Develop an early warning system	City Fire Department, Grants
Evaluate emergency routes for student pickup	City Emergency Management
Construct new evacuation routes for Hillcrest High School	City Emergency Management
<b>E. Property Protection</b>	
Require a downstream Impact analysis for new development	City of Simpsonville
<b>F. Structural Projects</b>	

## Potential Funding Sources

Each initiative incorporated in the City of Simpsonville Mitigation Plan has been ranked based on the ability to fund it, either within City budget or from outside funding sources. The DMC has consulted this list and developed a subset of the potential sources for the approved initiatives, shown in Appendix C. Then using this list, funding sources are assigned to initiatives by their respective “Primary Area”, as necessary, regarding the likely funding source. These designations are shown in the table below.

As of the current date on this plan, Simpsonville has not verified the true availability of all sources on this list. Some may no longer be available, while others may have come into existence since this list was developed. It is the expectation of the DMC that the agencies and organizations that sponsored a specific initiative would utilize the information given in this report to pursue funding opportunities to implement the initiative. Additional information regarding each of the potential funding sources listed in Appendix B, such as contact information, eligibility, etc., is available within the City’s database.

<b>Initiative Description</b>	<b>Funding Source Primary Area</b>
<b>A. Prevention</b>	
Perform bridge/culvert inspections	Storm Water, Flood Control Structures, Measures / Support Service Grants
Install monitoring stations for flood events	Storm Water, Flood Control Structures, Measures / Support Service Grants,
<b>B. Public Education &amp; Awareness</b>	
Enhance Hazards Education	Public Education Grants, City of Simpsonville
Develop a spill and industrial accidents action plan	Support Service Grants
Improve communication between school district and parents	Public Education Grants, City of Simpsonville
Develop alternatives to railroad scenario’s	Support Services Grants
<b>C. Natural Resources Protection</b>	
Address stream bank erosion control (Durbin Creek)	NRCS Matching / Flood Control Structures Grants
<b>D. Emergency Services</b>	
Provide backup generators for critical facilities	Communications Grants, City of Simpsonville
Develop an early warning system	Infrastructure Systems Grants
Evaluate emergency routes for student pickup	Communications / General Grants
Construct new evacuation routes for Hillcrest High School	Public Education, Infrastructure Systems Grants
<b>E. Property Protection</b>	
Require a downstream Impact analysis for new development	Storm Water, Flood Control Structures, Measures / Support Service Grants
<b>F. Structural Projects</b>	





**Appendix A – Database of Hazard Events from Events from the City of  
Simpsonville and SHELDUS Database**

## **City of Simpsonville**

### **Multi- Hazard Mitigation Plan**

#### **Appendix A - Recent Events**

An important indication of the hazards threatening the community is the actual occurrence of disaster events, and the level of impact they have on the community. Assessment of past disasters can also be very informative regarding the types, locations, or scope of mitigation initiatives that would be needed to prevent similar damages from future events of the same type. Data on recent events was collected from four sources, Greenville County, local newspapers, the National Climatic Data Center and the SHELDUS database. This list is provided in Appendix A.

The Disaster Mitigation Committee has assessed available data on past disaster events for the planning process. The DMC has begun provisions that will allow for the collection of various details regarding the costs of future disaster events to support the expansion of this plan, greater technical modeling of expected damages, and resulting actions.

The hazards identified by the Greenville County DMC are directly related to the County and its municipalities, including the City of Simpsonville, therefore, the content of the following Appendices will be drafted directly from the Greenville County Multi-jurisdictional Hazard Mitigation Plan.

The following list of recent events in Greenville County was obtained from several County employees during the data collection and interviewing process in the development of the GC Hazard Mitigation Plan.

### County-supplied recent event data

Event Name/Description	Primary Hazard
Winter Storm Event #2003-1	Severe Winter Storm
Hurricane Floyd	Flooding
Hurricane Fran	Flooding
Winter Storm Event #1996-1	Severe Winter Storm
Hurricane Opal	Flooding
Winter Storm Event #1993-1	Severe Winter Storm
Tropical Storm Jerry	Flooding
Hurricane Irene	Flooding
Flooding Event #2003-2	Flooding
Sandy Flat Earthquake #2	Earthquake
Winter Storm Event #2003-2	Severe Winter Storm
Winter Storm Event #2002-2	Severe Winter Storm
Winter Storm Event #2002-1	Severe Winter Storm
Tropical Storm Hanna	Flooding
Tropical Storm Helena	Flooding
Winter Storm Event #2000-1	Severe Winter Storm
Sandy Flat Earthquake #1	Earthquake
Flooding Event #2003-1	Flooding

Winter Storms

HAZARD BEGIN DATE	HAZARD END DATE	HAZARD TYPE	COUNTY	STATE	FIPS CODE	FATALITIES	INJURIES	PROPERTY DAMAGE	CROP DAMAGE	LOCATION	REMARKS
3/2/1960	3/2/1960	WINTER WEATHER	GREENVILLE	SC	45045	0.06	0	\$2,777.78	\$0.00	NORTHERN SOUTH CAROLINA	SNOW, ICE
3/9/1960	3/11/1960	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$1,428.57	\$0.00	NORTHERN AND CENTRAL SECTIONS OF SC	SNOW, SLEET, ICE
1/25/1961	1/26/1961	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$1,086.96	\$108.70	SOUTH CAROLINA	ICE STORM
12/31/1963	1/1/1964	WINTER WEATHER	GREENVILLE	SC	45045	0	0.57	\$10,869.57	\$1,086.96	SOUTH CAROLINA	ICE
1/26/1966	1/27/1966	WINTER WEATHER	GREENVILLE	SC	45045	0.03	0	\$14,285.71	\$0.00	CENTRAL AND NORTH SECTIONS OF STATE	ICE, SNOW
1/29/1966	1/30/1966	WINTER WEATHER	GREENVILLE	SC	45045	0.15	0	\$0.00	\$10,869.57	STATEWIDE	SEVERE COLD-ICE AND SNOE
1/9/1968	1/13/1968	SEVERE STORM/THUNDER STORM, WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$15,625.00	\$1.56	NORTHERN 2/3 OF STATE	RAIN, SLEET, SNOW, AND FREEZING RAIN
2/15/1969	2/17/1969	WINTER WEATHER	GREENVILLE	SC	45045	0.04	0	\$10,638.30	\$1,063,829.79	STATEWIDE	SNOW, SLEET AND FREEZING RAIN
3/25/1971	3/25/1971	WINTER WEATHER	GREENVILLE	SC	45045	0.39	0.67	\$27,777.78	\$27.78	NORTHERN HALF OF STATE	SNOW/STORM
12/3/1971	12/3/1971	SEVERE STORM/THUNDER STORM, WIND, WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$10,869.57	\$10,869.57	SOUTH CAROLINA	SNOW, SLEET, FREEZING RAIN, RAIN, WINDS
4/1/1972	4/30/1972	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$56,818.18	STATE	COLD SPELL
1/7/1973	1/8/1973	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$10,869.57	\$108,695.65	STATEWIDE	SNOW & ICE
2/9/1973	2/10/1973	WINTER WEATHER	GREENVILLE	SC	45045	0.2	0	\$108,695.65	\$108.70	STATEWIDE	SNOW/STORM
4/11/1973	4/12/1973	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$27,777.78	NORTHWEST & NORTHERN SC	FROST & FREEZE
3/18/1974	3/18/1974	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$833.33	NORTHWESTERN SC	FREEZE
10/3/1974	10/4/1974	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$1,282.05	\$0.00	WESTERN, NORTHERN, CENTRAL SC	FROST, FREEZE
2/3/1975	2/3/1975	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$2,777.78	\$277.78	NORTHWEST AND NORTH	ICE STORM
3/2/1975	3/2/1975	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$1,086.96	STATEWIDE	LOW TEMPERATURES
2/6/1979	2/6/1979	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$166,666.67	\$166.67		SNOW, SLEET, ICE
2/17/1979	2/18/1979	WINTER WEATHER	GREENVILLE	SC	45045	0.04	0	\$10,869.57	\$108.70		SNOW, SLEET, FREEZING RAIN
2/5/1980	2/6/1980	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$10,869.57	\$108.70		SNOW/STORM
2/9/1980	2/9/1980	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$8,333.33	\$83.33		SNOW/STORM
3/1/1980	3/2/1980	SEVERE STORM/THUNDER STORM, WINTER WEATHER	GREENVILLE	SC	45045	0.02	0	\$1,086.96	\$1,086.96		SNOW, FREEZING RAIN, DRIZZLE AND SLEET
12/31/1981	12/31/1981	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$8,333.33	\$0.00		FREEZING RAIN, SLEET
1/12/1982	1/12/1982	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$1,786.00	\$176.00	ALL BUT COASTAL PLAIN	SNOW/SLEET/FREEZING RAIN
2/26/1982	2/26/1982	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$1,087.00	\$0.00	STATEWIDE	SNOW/SLEET/GLAZE
3/27/1982	3/27/1982	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$108,696.00	STATEWIDE	EXTREME COLD
4/7/1982	4/7/1982	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$1,250,000.00	STATEWIDE, EXCEPT SOUTHERN	FROST/FREEZE
1/21/1983	1/21/1983	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$1,086.96	\$10.87	STATEWIDE	FREEZING RAIN, SLEET, SNOW
2/5/1983	2/5/1983	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$8,333.33	\$0.00	NORTHWESTERN SC	SNOW, FREEZING RAIN
4/17/1983	4/17/1983	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$1,086,956.52	STATEWIDE	EXTREME COLD
12/25/1983	12/25/1983	WINTER WEATHER	GREENVILLE	SC	45045	0.59	0	\$10,869.57	\$10,869.57	STATEWIDE	EXTREME COLD
12/30/1983	12/30/1983	WINTER WEATHER	GREENVILLE	SC	45045	0.04	0	\$1,086.96	\$108.70	STATEWIDE	EXTREME COLD
1/13/1984	1/13/1984	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$1,785.71	\$178.57		FREEZING RAIN/GLAZE
1/20/1985	1/24/1985	WINTER WEATHER	GREENVILLE	SC	45045	0.33	0	\$10,869.57	\$1,086.96		EXTREME COLD/SNOW
2/11/1985	2/12/1985	HAIL, SEVERE STORM/THUNDER STORM, WIND, WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$1,086.96	\$1.09		WIND/SNOW/HAIL/THUNDERSTORMS
3/19/1985	3/19/1985	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$1,086.96		FROST/FREEZE
4/10/1985	4/10/1985	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$83,333.33		EXTREME COLD
1/27/1986	1/28/1986	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$1,086.96	\$10.87		COLD
3/22/1986	3/23/1986	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$1,086.96		COLD
4/23/1986	4/24/1986	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$1,086.96		FROST, FREEZE
1/25/1987	1/25/1987	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$8,333.33	\$83.33		ICE STORM
2/16/1987	2/16/1987	WINTER WEATHER	GREENVILLE	SC	45045	0.06	0	\$2,777.78	\$277.78		ICE STORM
4/1/1987	4/1/1987	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$1,250.00		FREEZE
1/7/1988	1/11/1988	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$10,869.57	\$0.00	STATEWIDE	SNOW, ICE/SLEET
2/17/1989	2/17/1989	SEVERE STORM/THUNDER STORM, WINTER WEATHER	GREENVILLE	SC	45045	0.02	0	\$10,869.57	\$0.00		SEVERE STORM-ICE/SLEET
2/17/1989	2/17/1989	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$83,333.33	\$0.00	ZONES 1 AND 2	ICE STORM
2/23/1989	2/23/1989	SEVERE STORM/THUNDER STORM, WINTER WEATHER	GREENVILLE	SC	45045	0.07	0	\$1,086.96	\$0.00		SEVERE STORM-SNOW
2/23/1989	2/23/1989	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$1,086.96	\$0.00	STATEWIDE	HEAVY SNOW
4/12/1989	4/12/1989	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$2,631.58	\$0.00	NORTHWEST SC (ZONES 1 THRU 4)	FREEZE
5/8/1989	5/8/1989	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$4,166.67	NORTHWEST SC (ZONES 1-3)	FROST
12/22/1989	12/22/1989	WINTER WEATHER	GREENVILLE	SC	45045	0.15	0.09	\$10,869.57	\$0.00		EXTREME COLD
12/22/1989	12/22/1989	WINTER WEATHER	GREENVILLE	SC	45045	2	0	\$14,285.71	\$0.00	ZONES 1THRU 6	EXTREME COLD
12/22/1989	12/22/1989	WINTER WEATHER	GREENVILLE	SC	45045	0.13	0.07	\$108,695.65	\$0.00		EXTREME COLD
3/21/1990	3/21/1990	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$108,695.65		EXTREME COLD
12/10/1992	12/10/1992	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$16,667.00	\$0.00		ICE STORM
12/27/1992	12/28/1992	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$18,519.00	\$18,519.00		ICE STORM
2/11/1994	2/11/1994	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$263,157.89	\$0.00	NORTHWEST, NORTH & NO	ICE STORM
1/6/1995	1/6/1995	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$11,111.11	\$0.00		FREEZING RAIN
1/7/1996	1/7/1996	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$5,555.00	\$0.00		WINTER STORM
1/7/1996	1/7/1996	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$5,555.00	\$0.00		WINTER STORM
3/8/1996	3/8/1996	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$0.00	\$1,333,330.00	GREENVILLE	EXTREME COLD
1/9/1997	1/9/1997	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$40,000.00	\$0.00		ICE STORM
1/2/1999	1/3/1999	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$2,002,000.00	\$0.00		ICE STORM
12/4/2002	12/4/2002	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$9,090,909.09	\$0.00		
2/26/2004	2/26/2004	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$237,500.00	\$0.00		
12/15/2005	12/15/2005	WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$300,000.00	\$0.00		FROST, FREEZE

## Drought/Heat Wave

HAZARD BEGIN DATE	HAZARD END DATE	HAZARD TYPE	COUNTY	STATE	FIPS CODE	FATALITIES	INJURIES	PROPERTY DAMAGE	CROP DAMAGE	LOCATION	REMARKS
7/1/1993	7/31/1993	Drought - Heat	Greenville	SC	45045	0	0	10869565.2	0		Drought, Hot Weather
7/1/1986	7/31/1986	Drought	Greenville	SC	45045	0	0	108695.65	1086956.52		Drought
7/1/1977	7/31/1977	Drought - Heat	Greenville	SC	45045	0	0	1086.96	108695.65		Drought, Heat
6/1/1988	6/30/1988	Drought	Greenville	SC	45045	0	0	1086.96	10869.57		Drought
6/1/1983	6/1/1983	Drought - Heat	Greenville	SC	45045	0	0	1086.96	1086956.52		Heat, Drought
6/1/1986	6/30/1986	Drought	Greenville	SC	45045	0	0	1086.96	10869.57		Drought
10/1/1978	10/31/1978	Drought - Heat	Greenville	SC	45045	0	0	108.7	1086.96		Drought, Dry Weather
7/1/1988	7/31/1988	Drought	Greenville	SC	45045	0	0	108.7	1086.96		Drought
4/1/1978	4/13/1978	Drought	Greenville	SC	45045	0	0	10.87	1086.96		Drought
2/1/1988	2/28/1988	Drought	Greenville	SC	45045	0	0	10.87	1086.96		Drought
8/1/1988	8/31/1988	Drought	Greenville	SC	45045	0	0	1.39	1388.89		Drought
6/1/1984	6/20/1984	Drought	Greenville	SC	45045	0	0	0	1086.96		Drought
5/1/1986	5/31/1986	Drought	Greenville	SC	45045	0	0	0	10869.57		Drought
5/1/1994	5/31/1994	Drought	Greenville	SC	45045	0	0	0	1086956.52		DROUGHT
5/1/1995	5/31/1995	Drought	Greenville	SC	45045	0	0	0	434782.61		DROUGHT

## Wildfires

HAZARD BEGIN DATE	HAZARD END DATE	HAZARD TYPE	COUNTY	STATE	FIPS CODE	FATALITIES	INJURIES	PROPERTY DAMAGE	CROP DAMAGE	LOCATION	REMARKS
4/1/1985	4/30/1985	WILDFIRE	GREENVILLE	SC	45045	0.02	0.04	\$108.70	\$10,869.57		FIRE
3/15/1966	3/31/1966	WILDFIRE	GREENVILLE	SC	45045	0	0	\$10,869.57	\$0.00	STATEWIDE	FOREST FIRES
3/1/1985	3/21/1985	WILDFIRE	GREENVILLE	SC	45045	0	0	\$10,869.57	\$108,695.65		FIRE

**Flooding**

HAZARD BEGIN DATE	HAZARD END DATE	HAZARD TYPE	COUNTY	STATE	FIPS CODE	FATALITIES	INJURIES	PROPERTY DAMAGE	CROP DAMAGE	LOCATION	REMARKS
3/1/1966	3/5/1966	FLOODING	GREENVILLE	SC	45045	0	0	\$1,086.96	\$1,086.96	STATEWIDE	FLOODING
2/3/1973	2/3/1973	FLOODING	GREENVILLE	SC	45045	0	0	\$1,086.96	\$1.09	STATEWIDE	FLOODING
3/12/1975	3/12/1975	FLOODING, SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$1,086.96	\$108.70	STATEWIDE	HEAVY RAINS, FLOODING
9/18/1975	9/18/1975	FLOODING, LIGHTNING, SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0.5	1.5	\$250,000.00	\$2,500.00	GREENVILLE CO	HEAVY RAINS AND FLASH FLOODING, LIGHTNING
5/28/1976	5/29/1976	FLOODING	GREENVILLE	SC	45045	0.67	2.33	\$166,666.67	\$1,666.67		FLASH FLOOD
10/7/1976	10/7/1976	FLOODING, SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$50,000.00	\$500.00	GREENVILLE	HEAVY RAINS, FLASH FLOODING
10/8/1976	10/9/1976	FLOODING, SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0.33	\$83,333.33	\$8,333.33		HEAVY RAINS, FLASH FLOODING
10/9/1976	10/19/1976	FLOODING	GREENVILLE	SC	45045	0	0	\$10,869.57	\$10,869.57		FLOOD
11/5/1977	11/6/1977	FLOODING, SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$25,000.00	\$0.00		HEAVY RAIN, FLASH FLOOD
1/25/1978	1/26/1978	FLOODING, WIND	GREENVILLE	SC	45045	0	0	\$10,869.57	\$1.09		WIND, FLASH FLOOD
1/26/1978	1/31/1978	FLOODING	GREENVILLE	SC	45045	0	0	\$1,086.96	\$0.00		FLOOD
8/6/1978	8/7/1978	FLOODING, SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$125,000.00	\$1,250.00		HEAVY RAIN, FLOOD
3/23/1979	3/23/1979	FLOODING, SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	1.33	\$16,666.67	\$0.00		WIND, RAIN, FLOODING
6/2/1979	6/2/1979	FLOODING, SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$50,000.00	\$500.00		RAIN, FLOODING
3/15/1980	3/31/1980	FLOODING	GREENVILLE	SC	45045	0	0	\$1,086.96	\$1,086.96		FLOOD
8/8/1980	8/8/1980	FLOODING, WIND	GREENVILLE	SC	45045	0	0	\$1,086.96	\$108.70		WIND, FLOOD
3/17/1983	3/17/1983	COASTAL, FLOODING, SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0.07	0	\$10,869.57	\$1,086.96	STATEWIDE	WIND, RAIN, FLOODING, BEACH EROSION
12/6/1983	12/6/1983	FLOODING, WIND	GREENVILLE	SC	45045	0	0	\$1,282.05	\$12.82	WESTERN, NORTHERN & CENTRAL	FLOOD, WIND
2/27/1984	2/27/1984	FLOODING, SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$1,086.96	\$10.87		RAIN/WIND/FLOOD
7/12/1984	7/12/1984	FLOODING, LIGHTNING, WIND	GREENVILLE	SC	45045	0	2	\$50,000.00	\$0.00	GREER	LIGHTNING/WIND/FLOOD
7/26/1984	7/26/1984	FLOODING, SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0.07	\$1,086.96	\$10.87		WIND/RAIN/FLOOD
8/16/1985	8/18/1985	FLOODING, SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$6,250.00	\$6,250.00		FLOOD/RAIN
3/17/1990	3/17/1990	FLOODING	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00	GREENVILLE VIC.	FLOOD
10/11/1990	10/11/1990	FLOODING	GREENVILLE	SC	45045	0	0	\$10,869.57	\$0.00		FLOOD
7/30/1991	7/30/1991	FLOODING	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00	GREENVILLE	FLASH FLOOD
7/28/1994	7/28/1994	FLOODING	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00	GREENVILLE COUNTY	
8/17/1994	8/17/1994	FLOODING	GREENVILLE	SC	45045	0	0	\$500,000.00	\$5,000,000.00	GREENVILLE COUNTY	
8/26/1995	8/26/1995	FLOODING	GREENVILLE	SC	45045	1	5	\$5,000,000.00	\$0.00	GREENVILLE COUNTY	
8/27/1995	8/27/1995	FLOODING	GREENVILLE	SC	45045	0	0	\$2,000,000.00	\$0.00	GREENVILLE COUNTY	
8/27/1995	8/27/1995	FLOODING	GREENVILLE	SC	45045	0	0	\$500,000.00	\$0.00	GREENVILLE COUNTY	
1/7/1998	1/7/1998	FLOODING	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00	GREENVILLE	
6/30/2002	6/30/2002	FLOODING	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00		
3/20/2003	3/20/2003	FLOODING	GREENVILLE	SC	45045	0	0	\$1,000,000.00	\$0.00		
8/7/2003	8/7/2003	FLOODING	GREENVILLE	SC	45045	0	0	\$10,000.00	\$0.00		
7/29/2004	7/29/2004	FLOODING	GREENVILLE	SC	45045	0	0	\$3,500,000.00	\$0.00		
9/7/2004	9/7/2004	FLOODING	GREENVILLE	SC	45045	0	0	\$15,000.00	\$0.00		
9/7/2004	9/7/2004	FLOODING	GREENVILLE	SC	45045	0	0	\$8,000.00	\$0.00		
9/9/2004	9/9/2004	FLOODING	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00		
9/27/2004	9/27/2004	FLOODING	GREENVILLE	SC	45045	0	0	\$20,000.00	\$0.00		
7/7/2005	7/7/2005	FLOODING	GREENVILLE	SC	45045	0	0	\$300,000.00	\$0.00		

**Tornado/High Winds**

HAZARD BEGIN DATE	HAZARD END DATE	HAZARD TYPE	COUNTY	STATE	FIPS CODE	FATALITIES	INJURIES	PROPERTY DAMAGE	CROP DAMAGE	LOCATION	REMARKS
6/21/1964	6/21/1964	TORNADO	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00		TORNADO
5/2/1967	5/2/1967	TORNADO	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00		TORNADO
7/12/1967	7/12/1967	TORNADO	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00		TORNADO
5/27/1973	5/27/1973	TORNADO	GREENVILLE	SC	45045	0	15.33	\$166,666.67	\$16,666.67		TORNADO
3/23/1979	3/23/1979	TORNADO	GREENVILLE	SC	45045	0	2	\$5,000,000.00	\$0.00		TORNADO
2/10/1990	2/10/1990	TORNADO	GREENVILLE	SC	45045	0	0	\$500,000.00	\$0.00		TORNADO
10/5/1995	10/5/1995	TORNADO	GREENVILLE	SC	45045	0	0	\$75,000.00	\$0.00		TORNADO
11/11/2002	11/11/2002	TORNADO	GREENVILLE	SC	45045	0	0	\$250,000.00	\$0.00		
11/11/2002	11/11/2002	TORNADO	GREENVILLE	SC	45045	0	0	\$2,000.00	\$0.00		
3/13/1993	3/13/1993	WIND	GREENVILLE	SC	45045	0	0	55555.56	\$ 55,555.56		High Winds
2/23/2003	2/23/2003	WIND	GREENVILLE	SC	45045	2	0	50000	0		
3/28/1984	3/28/1984	WIND	GREENVILLE	SC	45045	0	0	50000	50000		Hail/Wind
11/11/1995	11/11/1995	WIND	GREENVILLE	SC	45045	0	0	35714.29	0		HIGH WINDS
3/8/1995	3/8/1995	WIND	GREENVILLE	SC	45045	0	0	13000	0		HIGH WINDS
7/10/1980	7/10/1980	WIND	GREENVILLE	SC	45045	0.2	0	12500	1250		wind, lightning
4/2/2005	4/2/2005	WIND	GREENVILLE	SC	45045	0	0	11666.66	0		HIGH WIND
3/7/2004	3/7/2004	WIND	GREENVILLE	SC	45045	0	0	10909.09	0		
2/3/1998	2/3/1998	WIND	GREENVILLE	SC	45045	0	0	10000	0		HIGH WIND
6/2/1985	6/2/1985	WIND	GREENVILLE	SC	45045	0	0	8333.33	8333.33		Hail/Wind
4/3/1974	4/3/1974	WIND	GREENVILLE	SC	45045	0.5	0	8333.33	833.33		HAIL, WIND
9/16/2004	9/17/2004	WIND	GREENVILLE	SC	45045	0	0	7500	0		High Wind
9/7/2004	9/7/2004	WIND	GREENVILLE	SC	45045	0	0	5000	0		High Wind
5/13/1997	5/13/1997	WIND	GREENVILLE	SC	45045	6	0	3000	0		GUSTY WINDS
7/28/1968	7/28/1968	WIND	GREENVILLE	SC	45045	0	0	2500	0		Windstorm
4/15/2008	4/15/2008	WIND	GREENVILLE	SC	45045	0	0	2000	0		Dust Devil
3/7/2004	3/7/2004	WIND	GREENVILLE	SC	45045	0	0	2000	0		
3/22/1968	3/22/1968	WIND	GREENVILLE	SC	45045	0	0	1666.67	0		Windstorm
3/2/1972	3/2/1972	WIND	GREENVILLE	SC	45045	0	0	1666.67	0		Wind
8/23/1983	8/23/1983	WIND	GREENVILLE	SC	45045	0	0	1428.57	0		Wind, Lightning
4/8/1974	4/8/1974	WIND	GREENVILLE	SC	45045	0	0	1388.89	1.39		WIND, ELECTRICAL
12/6/1983	12/6/1983	WIND	GREENVILLE	SC	45045	0	0	1282.05	12.82		Flood, Wind
2/25/1980	2/25/1980	WIND	GREENVILLE	SC	45045	0	0.04	1087	0		windstorm
8/8/1980	8/8/1980	WIND	GREENVILLE	SC	45045	0	0	1086.96	108.7		wind, flood
6/7/1985	6/7/1985	WIND	GREENVILLE	SC	45045	0	0	1086.96	108.7		Hail/Wind
7/14/1977	7/14/1977	WIND	GREENVILLE	SC	45045	0	0	1086.96	10.87		Wind, Lightning
3/16/1981	3/16/1981	WIND	GREENVILLE	SC	45045	0	0	1086.96	1.09		High Winds
1/3/1989	1/3/1989	WIND	GREENVILLE	SC	45045	0	0	1086.96	1.09		HIGH WIND
3/21/1974	3/21/1974	WIND	GREENVILLE	SC	45045	0.15	0	1086.96	108.7		HIGH WINDS
7/25/1983	7/25/1983	WIND	GREENVILLE	SC	45045	0	0	1086.96	10.87		Wind, Lightning
5/15/1975	5/15/1975	WIND	GREENVILLE	SC	45045	0	0	1086.96	10.87		Wind, Lightning
3/24/1975	3/24/1975	WIND	GREENVILLE	SC	45045	0.3	0	1086.96	10.87		Wind, Lightning, Hail
7/3/2006	7/3/2006	WIND	GREENVILLE	SC	45045	0	0	1000	0		Strong Wind
3/10/2002	3/10/2002	WIND	GREENVILLE	SC	45045	0	0	1000	0		
6/5/1975	6/5/1975	WIND	GREENVILLE	SC	45045	0	0	384.62	38.46		Wind, hail
11/20/1974	11/20/1974	WIND	GREENVILLE	SC	45045	0	0	238.1	0		Wind
1/18/1996	1/18/1996	WIND	GREENVILLE	SC	45045	0	0	166.67	0		HIGH WIND
11/21/1973	11/21/1973	WIND	GREENVILLE	SC	45045	0	0	147.06	0		Windstorm
2/18/1960	2/18/1960	WIND	GREENVILLE	SC	45045	0	0	142.86	0		WINDSTORMS, HAIL
11/23/1961	11/23/1961	WIND	GREENVILLE	SC	45045	0	0	108.7	0		Windstorm
1/20/1964	1/20/1964	WIND	GREENVILLE	SC	45045	0.02	0	108.7	0		Windstorm
2/25/1961	2/25/1961	WIND	GREENVILLE	SC	45045	0	0	108.7	0		High Winds
12/31/1975	12/31/1975	WIND	GREENVILLE	SC	45045	0	0	108.7	0		Strong winds
3/30/1974	3/30/1974	WIND	GREENVILLE	SC	45045	0	0	0	38.46		High winds and hail
5/16/1963	5/16/1963	WIND	GREENVILLE	SC	45045	0	0	0	2777.78		



Severe Storms/Thunderstorms

HAZARD BEGIN DATE	HAZARD END DATE	HAZARD TYPE	COUNTY	STATE	FIPS CODE	FATALITIES	INJURIES	PROPERTY DAMAGE	CROP DAMAGE	LOCATION	REMARKS
6/20/1961	6/21/1961	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$16,666.67	\$16,666.67	NORTHERN PARTS OF OCONEE, PICKENS, AND GREENVILLE COUNTIES	HEAVY RAIN
3/5/1963	3/6/1963	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0.17	0	\$8,333.33	\$0.00	UPSTATE SC	RAINSTORM
3/12/1963	3/13/1963	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$8,333.33	\$0.00	UPSTATE SC	RAINSTORM
4/6/1964	4/8/1964	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$83,333.33	\$83,333.33	NORTHWESTERN SOUTH CAROLINA	HEAVY RAINS
10/4/1964	10/6/1964	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0.02	0	\$10,869.57	\$10,869.57	STATEWIDE	RAINSTORM
10/15/1964	10/16/1964	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$0.00	\$1,086.96	STATEWIDE	RAINSTORM
8/20/1967	8/25/1967	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$10,869.57	\$108.70	GREENVILLE	RAIN
1/9/1968	1/13/1968	SEVERE STORM/THUNDER STORM, WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$15,625.00	\$1.56	NORTHERN 2/3 OF STATE	RAIN, SLEET, SNOW, AND FREEZING RAIN
9/19/1969	9/19/1969	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00	GREENVILLE	RAINSTORM
9/19/1970	9/19/1970	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00	GREENVILLE COUNTY	THUNDERSTORM, HIGH WINDS
12/3/1971	12/3/1971	SEVERE STORM/THUNDER STORM, WIND, WINTER WEATHER	GREENVILLE	SC	45045	0	0	\$10,869.57	\$10,869.57	SOUTH CAROLINA	SNOW, SLEET, FREEZING RAIN, RAIN, WINDS
3/1/1980	3/2/1980	SEVERE STORM/THUNDER STORM, WINTER WEATHER	GREENVILLE	SC	45045	0.02	0	\$1,086.96	\$1,086.96		SNOW, FREEZING RAIN, DRIZZLE AND SLEET
12/3/1983	12/3/1983	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$1,923.08	\$192.31	WESTERN & CENTRAL	WIND, HEAVY RAIN
7/16/1988	7/16/1988	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$50,000.00	\$50.00	TIGERVILLE	SEVERE STORM-WIND
2/17/1989	2/17/1989	SEVERE STORM/THUNDER STORM, WINTER WEATHER	GREENVILLE	SC	45045	0.02	0	\$10,869.57	\$0.00		SEVERE STORM-ICE/SLEET
2/23/1989	2/23/1989	SEVERE STORM/THUNDER STORM, WINTER WEATHER	GREENVILLE	SC	45045	0.07	0	\$1,086.96	\$0.00		SEVERE STORM-SNOW
6/5/1989	6/5/1989	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00	TAYLORS	TSTM WIND
6/5/1989	6/5/1989	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00	GREER	TSTM WIND
4/10/1990	4/10/1990	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	4	\$50,000.00	\$0.00	GREER	SEVERE STORM-WIND
7/1/1990	7/1/1990	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$50,000.00	\$50,000.00		SEVERE STORM-WIND
6/9/1992	6/9/1992	SEVERE STORM/THUNDER STORM	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00	GREENVILLE	HEAVY RAIN
7/21/1992	7/21/1992	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$50,000.00	\$0.00	GREENVILLE D	THUNDERSTORM WINDS
7/6/1999	7/6/1999	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$10,000.00	\$0.00		
8/1/1999	8/1/1999	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$65,000.00	\$0.00		
7/22/2000	7/22/2000	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$130,000.00	\$0.00		
6/30/2002	6/30/2002	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$10,000.00	\$0.00		
7/1/2002	7/1/2002	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$10,000.00	\$0.00		
8/18/2002	8/18/2002	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$25,000.00	\$0.00		
8/16/2003	8/16/2003	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$300,000.00	\$0.00		
7/5/2004	7/5/2004	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$150,000.00	\$0.00		
4/22/2005	4/22/2005	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$25,000.00	\$0.00		
6/25/2007	6/25/2007	SEVERE STORM/THUNDER STORM, WIND	GREENVILLE	SC	45045	0	0	\$10,000.00	\$0.00		

## Earthquake

HAZARD BEGIN DATE	HAZARD END DATE	HAZARD TYPE	COUNTY	STATE	FIPS CODE	FATALITIES	INJURIES	PROPERTY DAMAGE	CROP DAMAGE	LOCATION	REMARKS
Post 1990		Earthquake	Greenville	SC	45045	0	0			Sandy Flats #1	
Post 1990		Earthquake	Greenville	SC	45045	0	0			Sandy Flats #2	

## **Appendix B – Potential Funding Sources**

## Greenville County Multi-jurisdictional Hazard Mitigation Plan

### Funding Report by Primary Area

#### **Primary Funding Area: Agricultural Assistance**

*Program:* **Conservation Reserve**

*Agency:* Farm Service Agency, USDA

*Agency Type:* Federal

*Description:* To protect the nation's long-term capability to produce food and fiber; to reduce soil erosion and sedimentation, improve water quality, and create a better habitat for wildlife. Created to encourage farmers to convert highly erodible cropland or other environmentally sensitive acreages, CRP promotes vegetative cover, such as cool season or native grasses, wildlife plantings, or trees. Landowners receive an annual rental payment for the term of the multi-year contract, \$50,000 per accepted application per fiscal year.

*Matching Requirement:* 50      *Phone:* 202-720-1872      *Webpage:* [www.fsa.usda.gov/dafp/cepd](http://www.fsa.usda.gov/dafp/cepd)

*Program:* **Emergency Conservation**

*Agency:* Farm Service Agency, USDA

*Agency Type:* Federal

*Description:* Provides emergency funding to rehabilitate farmland damaged by wind erosion, floods, hurricanes, or other natural disasters, and for carrying out emergency water conservation measures during periods of severe drought. During severe drought, ECP also provides emergency water assistance — both for livestock and for existing irrigation systems for orchards and vineyards. ECP may be made available in areas without regard to a Presidential or Secretarial emergency disaster designation.

*Matching Requirement:* 0      *Phone:* 202-720-7807      *Webpage:* [www.fsa.usda.gov/pas/disaster](http://www.fsa.usda.gov/pas/disaster)

*Program:* **Emergency Haying and Grazing Assistance**

*Agency:* Farm Service Agency, USDA

*Agency Type:* Federal

*Description:* Emergency haying and grazing of certain Conservation Reserve Program acreage may be made available in areas suffering from weather-related natural disaster. Requests for assistance may be initiated by FSA county committees. The State committee then makes a recommendation to the Deputy Administrator for Farm Programs.

*Matching Requirement:* 0      *Phone:* by state      *Webpage:* [www.fsa.usda.gov/pas/disaster](http://www.fsa.usda.gov/pas/disaster)

*Program:* **Emergency Loan Assistance**

*Agency:* Farm Service Agency, Loan Making Division, USDA

*Agency Type:* Federal

*Description:* FSA provides low-interest loan assistance to eligible farmers to help cover production and physical losses in counties declared as disaster areas by the President or designated by the Secretary of Agriculture. The FSA Administrator may also authorize loan assistance to cover physical losses only. The loan limit is up to 80 percent of actual production loss (i.e., the value of lost crops, milk etc.), or 100 percent of the actual physical loss, with a maximum indebtedness under this program of \$500,000. Loans for crop, livestock, and non-real-estate losses are normally repaid in 1 to 7 years depending upon the loan purpose, repayment ability, and collateral available as loan security. In special circumstances, terms of up to 20 years may be authorized. Loans for physical losses to real estate must normally be repaid within 30 years. In unusual circumstances, repayment may be extended over a maximum of 40 years.

*Matching Requirement:* 0      *Phone:* 202-720-7807      *Webpage:* [www.fsa.usda.gov/pas/disaster/emloan](http://www.fsa.usda.gov/pas/disaster/emloan)

*Program:* **Environmental Quality Incentives Program**

*Agency:* Natural Resources Conservation Service, USDA

*Agency Type:* Federal

*Description:* Provides a single, voluntary conservation program for farmers and ranchers to address significant natural resource needs and objectives. Nationally, it provides technical, financial, and educational

assistance, half of it targeted to livestock-related natural resource concerns and the other half to more general conservation priorities

*Matching Requirement:* 25      *Phone:* 202-720-1873      *Webpage:* [www.epa.gov/owow/watershed/wacade](http://www.epa.gov/owow/watershed/wacade)

*Program:*      **Farmland Protection**

*Agency:* Natural Resource Conservation Service, USDA      *Agency Type:* Federal

*Description:* To purchase conservation easements or other interests on lands to limit conversion to non-agricultural uses of farmland with prime, unique, or other productive soils.

*Matching Requirement:* 50      *Phone:* 202-690-0639      *Webpage:* [www.info.usda.gov/nrcs/fpcp/fpp.htm](http://www.info.usda.gov/nrcs/fpcp/fpp.htm)

*Program:*      **National Disaster Assistance Program**

*Agency:* Farm Service Agency, Emergency Conservation Program; Non- Insured Assistance Program Division, USDA      *Agency Type:* Federal

*Description:* Provides emergency food assistance to supply eligible livestock and low-interest loans to farmers and rural people for housing, production and physical losses, restoring damaged land and control of disease. The program is used in the event feed sources such as grazing, foraging, and feed crops have been lost due to some natural disaster. A number of eligibility requirements apply as well as some use restrictions.

*Matching Requirement:* 0      *Phone:* 202-720-2791      *Webpage:* [www.usda.gov](http://www.usda.gov)

*Program:*      **Noninsured Crop Disaster Assistance Program**

*Agency:* Farm Service Agency, USDA      *Agency Type:* Federal

*Description:* Provides financial assistance to eligible producers affected by natural disasters. This federally-funded program covers non-insurable crop losses and planting prevented by disasters in cases where the expected unit production of the crop is reduced by more than 50 percent; or prevented the farmer from planting more than 35 percent of the intended crop acreage

*Matching Requirement:* 0      *Phone:* 202-720-7807      *Webpage:* [www.fsa.usda.gov/pas/disaster/default](http://www.fsa.usda.gov/pas/disaster/default).

*Program:*      **Pesticide Environmental Stewardship Grants**

*Agency:* Office of Prevention, Pesticides, and Toxic Substances, EPA      *Agency Type:* Federal

*Description:* Forms voluntary partnerships with pesticide users to reduce the risks from pesticides in agricultural and non-agricultural settings, and implement pollution prevention measures.

*Matching Requirement:* 0      *Phone:* 703-308-7035      *Webpage:* [www.epa.gov/owow/watershed/wacade](http://www.epa.gov/owow/watershed/wacade)

*Program:*      **Plant and Animal Disease, Pest Control, and Animal Care**

*Agency:* Animal and Plant Health Inspection Service, Dept. of Agriculture      *Agency Type:* Federal

*Description:* To protect U.S. agriculture from economically injurious plant and animal diseases and pests, ensure the safety and potency of veterinary biologic, and ensure the humane treatment of animals. Recipients share some project or program costs.

*Matching Requirement:* 0      *Phone:* 301-734-8792.      *Webpage:* [www.aphis.usda.gov](http://www.aphis.usda.gov)

*Program:*      **Soil and Water Conservation**

*Agency:* Natural Resource Conservation Service, USDA      *Agency Type:* Federal

*Description:* To help people conserve, improve, and sustain the natural resources and environment, it provides cost share and incentive payments to farmers and ranchers to voluntarily address threats to soil, water, and related natural resources, including grazing land, wetlands, and wildlife habitat. There will be a five to ten year contract period.

*Matching Requirement:* 25      *Phone:* 202-720-7730      *Webpage:* [www.nrcs.usda.gov/NRCSProg.html](http://www.nrcs.usda.gov/NRCSProg.html)

## **Primary Funding Area: Communications**

*Program:* **Public Telecommunications Facilities: Planning and Construction**

*Agency:* Public Telecommunications Facilities Program, Office of Telecommunications and Information Applications/NTIA, DOC *Agency Type:* Federal

*Description:* Assists in the planning, acquisition, installation and modernization of public telecommunications facilities, through planning grants and matching construction grants, in order to: a) extend delivery of public telecommunications services to as many citizens of the United States and territories as possible by the most efficient and economical means, including the use of broadcast and non-broadcast technologies; b) increase public telecommunications services and facilities available to, operated by and owned by minorities and women; and c) strengthen the capability of existing public television and radio stations to provide public telecommunications service to the public.

*Matching Requirement:* 0 *Phone:* 202-482-5802. *Webpage:* [aspe.os.dhhs.gov/cfda/p11550.htm](http://aspe.os.dhhs.gov/cfda/p11550.htm)

## **Primary Funding Area: Emergency Response Equipment**

*Program:* **Assistance to Firefighters**

*Agency:* USFA, FEMA *Agency Type:* Federal

*Description:* Funding to enhance local and tribal nation fire department capabilities to protect the health and safety of the public, and of firefighting personnel facing fire and fire-related hazards. Categories include training, wellness/fitness programs, fire fighting vehicles, fire fighting equipment, personal protective equipment, and fire prevention programs.

*Matching Requirement:* 0 *Phone:* 866- 274-0960 *Webpage:* [www.usfa.fema.gov/grants](http://www.usfa.fema.gov/grants)

*Program:* **Fire Management**

*Agency:* Fish and Wildlife Service, DOI *Agency Type:* Federal

*Description:* Technical assistance to governments and sharing of federal fire-fighting resources with other governmental entities for prevention, use, suppression.

*Matching Requirement:* 0 *Phone:* 202-205-1657 *Webpage:* [www.fs.fed.us/fire/fire\\_new/manageme](http://www.fs.fed.us/fire/fire_new/manageme)

*Program:* **State Domestic Preparedness Equipment Support**

*Agency:* Office of Justice Programs, DOJ *Agency Type:* Federal

*Description:* To plan for and execute a comprehensive threat and needs assessment, to develop a 3-year plan to enhance first responder capabilities, and to provide for equipment purchases and the provision of specialized training.

*Matching Requirement:* 0 *Phone:* 202-305-9887 *Webpage:* [aspe.os.dhhs.gov/cfda/p16007.htm#i37](http://aspe.os.dhhs.gov/cfda/p16007.htm#i37)

*Program:* **Wildland Urban Interface Community and Rural Fire Assistance**

*Agency:* Bureau of Land Management, DOI *Agency Type:* Federal

*Description:* To assist communities at risk from catastrophic wildland fires by providing assistance to provide community programs that develop local capability including; assessment and planning, mitigation activities, and community and homeowner education and action; plan and implement hazardous fuels reduction activities, including the training, monitoring or maintenance associated with such hazardous fuels reduction activities, on federal land, or on adjacent nonfederal land for activities that mitigate the threat of catastrophic fire to communities and natural resources in high risk areas; enhance local and small business employment opportunities for rural communities; enhance the knowledge and fire protection capability of rural fire districts by providing assistance in education and training, protective clothing and equipment purchase, and mitigation methods on a cost share basis.

*Matching Requirement:* 0 *Phone:* 208-387-5150 *Webpage:* [aspe.os.dhhs.gov/CFDA/p15228.htm](http://aspe.os.dhhs.gov/CFDA/p15228.htm)

## **Primary Funding Area: General**

**Program:** Community Development Block Grants/Economic Development Initiative

**Agency:** Community Planning and Development, HUD **Agency Type:** Federal

**Description:** To help public entities eligible under the Section 108 Loan Guarantee program carry out economic development projects authorized by Section 108(a) of the Housing and Community Development Act of 1974, as amended. Grant assistance must enhance the security of loans guaranteed under the Section 108 program or improve the viability of projects financed with loans guaranteed under the Section 108 program. In addition, this program will make competitive economic development grants in conjunction with Section 108 loan guarantees for qualified Brownfields projects.

**Matching Requirement:** 0 **Phone:** 202-708-1871 **Webpage:** [aspe.os.dhhs.gov/cfda/p14246.htm#i37](http://aspe.os.dhhs.gov/cfda/p14246.htm#i37)

**Program:** Community Outreach Partnership Center Program

**Agency:** Office of Policy Development and Research, Grant **Agency Type:** Federal

**Description:** This program funds partnerships among institutions of higher education and communities to solve urban problems through research, outreach and exchange of information.

**Matching Requirement:** 0 **Phone:** 202-708-1537 **Webpage:** [aspe.os.dhhs.gov/cfda/p14511.htm](http://aspe.os.dhhs.gov/cfda/p14511.htm)

**Program:** Disaster Assistance for Older Americans

**Agency:** Administration on Aging, DHHS **Agency Type:** Federal

**Description:** Grants given to the state agency on aging to improve disaster services to individuals over age 60 and their families. Services offered can include advocacy and outreach programs, cleanup services, meals programs, case management, senior day care, and other services that may be required due to the situation.

**Matching Requirement:** 0 **Phone:** 800-677-1116 **Webpage:** [www.aoa.dhhs.gov/](http://www.aoa.dhhs.gov/)

**Program:** Emergency Federal Law Enforcement Assistance

**Agency:** Office of Justice Programs, DOJ **Agency Type:** Federal

**Description:** Provides necessary assistance to a State government in order to provide an adequate response to an uncommon situation which requires law enforcement, which is or threatens to become of serious or epidemic proportions, and with respect to which State and local resources are inadequate to protect the lives and property of citizens, or to enforce the criminal law.

**Matching Requirement:** 0 **Phone:** 202-616-3458 **Webpage:** [aspe.os.dhhs.gov/cfda/p16577.htm#i37](http://aspe.os.dhhs.gov/cfda/p16577.htm#i37)

**Program:** Emergency Management Institute (EMI)\_Resident Educational Program

**Agency:** EMI, FEMA **Agency Type:** Federal

**Description:** To improve emergency management practices among State, local and tribal government managers, and Federal officials as well, in response to emergencies and disasters.

**Matching Requirement:** 0 **Phone:** 301-447-1000 **Webpage:** [aspe.os.dhhs.gov/cfda/p83530.htm](http://aspe.os.dhhs.gov/cfda/p83530.htm)

**Program:** Emergency Watershed Protection (EWP)

**Agency:** USDA-NRCS **Agency Type:** Federal

**Description:** Program objective is to assist sponsors and individuals in implementing emergency measures to relieve imminent hazards to life and property created by a natural disaster. Activities include providing financial and technical assistance to remove debris from streams, protect destabilized streambanks, establish cover on critically eroding lands, repairing conservation practices, and the purchase of flood plain easements. The program is designed for installation of recovery measures.

**Matching Requirement:** 25 **Phone:** (864) 467-2755 **Webpage:** [nrms.usda.gov/programs/ewp/](http://nrms.usda.gov/programs/ewp/)

*Program:* **Environmental Protection Consolidated Grants-Program Support**  
*Agency:* Grants Administration Division, EPA *Agency Type:* Federal  
*Description:* The program allows for the consolidation of two or more pollution control programs into one single program. The total amount of funding is only equal to the actual amounts of the grants being consolidated.  
*Matching Requirement:* 0 *Phone:* 202-564-5325 *Webpage:* [www.epa.gov/](http://www.epa.gov/)

*Program:* **Physical Disaster Loans**  
*Agency:* Office of Disaster Assistance, SBA *Agency Type:* Federal  
*Description:* Two types of loans available include Home Disaster Loans and Business Disaster Loans. These are loans available to cover uninsured losses suffered in declared physically damaging disasters. Applicants must show an ability to repay the loan.  
*Matching Requirement:* 0 *Phone:* 800-827-5722 *Webpage:* [www.sba.gov/disaster/loans.html](http://www.sba.gov/disaster/loans.html)

*Program:* **Reimbursement for Firefighting on Federal Property**  
*Agency:* US Fire Administration, FEMA *Agency Type:* Federal  
*Description:* To provide that each fire service organization which engages in firefighting operations on Federal property may be reimbursed for their direct expenses and direct losses (those losses and expenses that are not considered normal operating expenses) incurred in firefighting.  
*Matching Requirement:* 0 *Phone:* 301-447-1358 *Webpage:* [aspe.os.dhhs.gov/cfda/p83007.htm#i37](http://aspe.os.dhhs.gov/cfda/p83007.htm#i37)

*Program:* **Technology Development for Environmental Management**  
*Agency:* Office of Science and Technology, Office of Environmental Management, DOE *Agency Type:* Federal  
*Description:* OST works with the Environmental Management (EM) customer programs to develop new or improved technology systems to reduce risks to the environment and to the public, reduce overall cleanup costs, and furnish cleanup methods that did not previously exist in order to satisfy applicable Federal, State, local laws, and regulations.  
*Matching Requirement:* 0 *Phone:* 301-903-7425 *Webpage:* [aspe.os.dhhs.gov/cfda/p81104.htm](http://aspe.os.dhhs.gov/cfda/p81104.htm)

### **Primary Funding Area: Infrastructure Systems**

*Program:* **Airport Improvement Program**  
*Agency:* Federal Aviation Administration, DOT *Agency Type:* Federal  
*Description:* To assist sponsors, owners, or operators of public-use airports in the development of a nationwide system of airports adequate to meet the needs of civil aeronautics.  
*Matching Requirement:* 0 *Phone:* 202- 267-3831 *Webpage:* [aspe.os.dhhs.gov/cfda/p20106.htm](http://aspe.os.dhhs.gov/cfda/p20106.htm)

*Program:* **Bridge Alteration**  
*Agency:* U. S. Coast Guard, DOT *Agency Type:* Federal  
*Description:* To accomplish alteration of obstructive bridges to render navigation through or under it reasonably free, easy, and unobstructed for the benefit of navigation. In accordance with the Coast Guard Authorization Act of 1996, permanent authority exists in 49 U.S.C. 104(e) to transfer funds from the Federal-Aid Highways discretionary bridge program to the Coast Guard to finance alteration of Truman-Hobbs obstructive highway bridges.  
*Matching Requirement:* 0 *Phone:* 202-267-1977 *Webpage:* [aspe.os.dhhs.gov/cfda/p20007.htm](http://aspe.os.dhhs.gov/cfda/p20007.htm)



**Program: Capitalization Grants for Drinking Water State Revolving Funds**

**Agency:** Office of Ground Water and Drinking Water, EPA **Agency Type:** Federal

**Description:** Grant money is provided to the state which loans money to local governments and water authorities. The loan money is to be used to improve drinking water supply. The loan money is then repaid back into this revolving fund, to allow other parties to borrow this money for similar projects.

**Matching Requirement:** 20 **Phone:** 800-426-4791 **Webpage:** [www.epa.gov/SAFEWATER/INDEX.ht](http://www.epa.gov/SAFEWATER/INDEX.ht)

**Program: Community Development Block Grants/Entitlement Grants**

**Agency:** Community Planning and Development, HUD **Agency Type:** Federal

**Description:** To develop viable urban communities, by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for persons of low and moderate income. Can include acquisition of real property, relocation and demolition, rehabilitation of residential and nonresidential structures, provision of public facilities and improvements, such as water and sewer facilities which require reviews by the State single point of contact or a Regional Planning Agency in accordance with Executive Order 12372, streets, and neighborhood centers. In addition, CDBG funds may be used to pay for public services within certain limits.

**Matching Requirement:** 0 **Phone:** 202-708-1577 **Webpage:** [aspe.os.dhhs.gov/cfda/p14218.htm](http://aspe.os.dhhs.gov/cfda/p14218.htm)

**Program: Community Development Block Grants/State's**

**Agency:** Community Planning and Development, HUD **Agency Type:** Federal

**Description:** To develop viable urban communities by providing decent housing, a suitable living environment, and expanding economic opportunities, principally for persons of low and moderate income. States must distribute the funds to units of general local government in non-entitlement areas.

**Matching Requirement:** 0 **Phone:** 202-708-1322 **Webpage:** [aspe.os.dhhs.gov/cfda/p14228.htm](http://aspe.os.dhhs.gov/cfda/p14228.htm)

**Program: Drought Contingency Water**

**Agency:** U.S. Army Corps of Engineers **Agency Type:** Federal

**Description:** May be used only for water supply vulnerability revealed by droughts. Water can be provided only if surplus water is available in a Corps reservoir. Where the governor of a state has declared a state of emergency due to drought, Corps project managers may approve withdrawals from 50 acre-feet of storage or less. This water can be made available for domestic and industrial uses but not for crop irrigation.

**Matching Requirement:** 0 **Phone:** 703-428-9055 **Webpage:** [www.fsa.usda.gov/drought/finalreport/fi](http://www.fsa.usda.gov/drought/finalreport/fi)

**Program: Economic Development: Technical Assistance**

**Agency:** Economic Development Administration, DOC **Agency Type:** Federal

**Description:** Promotes economic development and alleviate under-employment and unemployment in distressed areas, EDA operates a technical assistance program. The program provides funds to: (1) enlist the resources of designated university centers in promoting economic development; (2) support innovative economic development projects; (3) disseminate information and studies of economic development issues of national significance; and (4) finance feasibility studies and other projects leading to local economic development.

**Matching Requirement:** 0 **Phone:** 202- 482-4085 **Webpage:** [aspe.os.dhhs.gov/cfda/p11303.htm](http://aspe.os.dhhs.gov/cfda/p11303.htm)

**Program: Emergency Community Water Assistance Grants**

**Agency:** Water and Waste Rural Utilities Service, USDA **Agency Type:** Federal

**Description:** Assists rural communities that have had a significant decline in quantity or quality of drinking water. Grants can be made in rural areas and cities or towns with a population not in excess of 10,000, of modest income, and modest construction projects, and a median household income of 100 percent of a State's non-metropolitan median household income. Grants may be made for 100 percent of project costs. The maximum grant is \$500,000 when a significant decline in quantity or quality of water occurred within two years, or \$75,000 to make emergency repairs and replacement of facilities on existing systems.

**Matching Requirement:** 0 **Phone:** 202-690-2670 **Webpage:** [www.usda.gov/rus/water/programs.htm](http://www.usda.gov/rus/water/programs.htm)

*Program:* **Emergency Relief**

*Agency:* Federal Highway Administration

*Agency Type:* Federal

*Description:* Provides planning and design assistance to state governments to repair roads which were built with Federal funds, replace or rehabilitate bridges, and other transportation purposes as a result of natural disasters or catastrophic failures. For Interstate highways, the Federal share is 90 percent. For all other highways, the Federal share is 80 percent. Emergency repair work to restore essential travel, minimize the extent of damage, or protect the remaining facilities, accomplished in the first 180 days after the disaster occurs, may be reimbursed at 100 percent Federal share.

*Matching Requirement:* -100      *Phone:* 202-366-4655      *Webpage:* [www.fhwa.dot.gov/](http://www.fhwa.dot.gov/)

*Program:* **Emergency Well Construction and Water Transport**

*Agency:* U.S. Army Corps of Engineers

*Agency Type:* Federal

*Description:* The cost of transporting water is provided by the Corps, but the cost of purchasing and storing water is the nonfederal sponsor's responsibility. Federal costs associated with well construction must be repaid. This is a program of last resort. The law requires that all other reasonable means must be exhausted before the Corps has authority to help. Corps assistance is supplemental to state and local efforts. Long-term solutions to water supply problems are the responsibility of state and local interests.

*Matching Requirement:* 0      *Phone:* 703-428-9055      *Webpage:* [www.fsa.usda.gov/drought/finalreport/fi](http://www.fsa.usda.gov/drought/finalreport/fi)

*Program:* **Farm Labor Housing Loans and Grants**

*Agency:* USDA

*Agency Type:* Federal

*Description:* To make loans to provide decent, safe, and sanitary housing for domestic farm labor in areas where needed and provide grants where there is a pressing need for such facilities in an area for farm laborers and there is reasonable doubt that housing can be provided without the grant assistance.

*Matching Requirement:* 10      *Phone:* 202-720-1604      *Webpage:* [www.rurdev.usda.gov/mo/factflh.htm](http://www.rurdev.usda.gov/mo/factflh.htm)

*Program:* **Grants-in-Aid for Railroad Safety: State Participation**

*Agency:* Federal Railroad Administration

*Agency Type:* Federal

*Description:* Promotes safety in all areas of railroad operations; reduce railroad related accidents and casualties; and to reduce damage to property caused by accidents involving any carrier of hazardous materials by providing State participation in the enforcement and promotion of safety practices.

*Matching Requirement:* 50      *Phone:* 202-493-6300      *Webpage:* [aspe.os.dhhs.gov/cfda/p20303.htm](http://aspe.os.dhhs.gov/cfda/p20303.htm)

*Program:* **Highway Planning and Construction**

*Agency:* Federal Highway Administration, DOT

*Agency Type:* Federal

*Description:* To assist State transportation agencies in the planning and development of an integrated, interconnected transportation system important to interstate commerce and travel by constructing and rehabilitating the National Highway System, including the Interstate System; and for transportation improvements to all public roads except those functionally classified as local; to provide aid for the repair of Federal-aid roads following disasters; to foster safe highway design; to replace or rehabilitate deficient or obsolete bridges; and to provide for other special purposes.

*Matching Requirement:* 0      *Phone:* 202-366-4853      *Webpage:* [aspe.os.dhhs.gov/cfda/p20205.htm](http://aspe.os.dhhs.gov/cfda/p20205.htm)

*Program:* **HOME Investment Partnerships Program**

*Agency:* Community Planning and Development, HUD

*Agency Type:* Federal

*Description:* (1) To expand the supply of affordable housing, particularly rental housing, for low and very low income Americans; (2) to strengthen the abilities of State and local governments to design and implement strategies for achieving adequate supplies of decent, affordable housing; (3) to provide both financial and technical assistance to participating jurisdictions, including the development of model programs for developing affordable low income housing; and (4) to extend and strengthen partnerships among all levels of government and the private sector, including for-profit and nonprofit organizations, in the production and operation of affordable housing.

*Matching Requirement:* 0      *Phone:* 202-708-2470      *Webpage:* [aspe.os.dhhs.gov/cfda/p14239.htm](http://aspe.os.dhhs.gov/cfda/p14239.htm)

*Program:*      **National Dam Safety**

*Agency:* Mitigation Directorate, FEMA      *Agency Type:* Federal

*Description:* Establishment and maintenance of effective State programs intended to ensure dam safety, to protect human life and property, and to improve State dam safety programs.

*Matching Requirement:* 0      *Phone:* 202-646-2704      *Webpage:* [aspe.os.dhhs.gov/cfda/p83550.htm#i37](http://aspe.os.dhhs.gov/cfda/p83550.htm#i37)

*Program:*      **Pollution Control Loans**

*Agency:* Small Business Administration      *Agency Type:* Federal

*Description:* Intended to provide loan guarantees to eligible small businesses for the financing of the planning, design, or installation of pollution control facilities. These facilities must prevent, reduce, abate, or control any form of pollution, including recycling.

*Matching Requirement:* 0      *Phone:* 800-U-ASK-      *Webpage:* [www.epa.gov/owow/watershed/wacade](http://www.epa.gov/owow/watershed/wacade)

*Program:*      **Resource Conservation and Development Loans**

*Agency:* Water and Waste Rural Utilities Service, USDA      *Agency Type:* Federal

*Description:* Provides loan assistance to local agencies in authorized Resources Conservation and Development areas. Loan funds may be used for water based recreation facilities, soil and water development, conservation, control and use facilities, community water storage facilities, and necessary equipment to implement the above. A loan to a single RC&D area cannot exceed \$500,000.

*Matching Requirement:* 0      *Phone:* 202-690-2670      *Webpage:*

*Program:*      **Rural Housing and Economic Development**

*Agency:* Community Planning and Development , HUD      *Agency Type:* Federal

*Description:* To expand the supply of affordable housing and access to economic opportunities in rural areas.

*Matching Requirement:* 0      *Phone:* 202-708-2290      *Webpage:* [aspe.os.dhhs.gov/cfda/p14250.htm](http://aspe.os.dhhs.gov/cfda/p14250.htm)

*Program:*      **Rural Rental Housing Loans**

*Agency:* USDA      *Agency Type:* Federal

*Description:* Loans may be made for housing in communities of up to 10,000 people and under certain conditions, towns and cities between 10,000 and 20,000 people. Loans are approved by the RD State Director and do not require a disaster declaration by the President or Secretary of Agriculture.

*Matching Requirement:* 0      *Phone:* 202- 720-1604      *Webpage:* [www.rurdev.usda.gov/rhs/ProgramBrie](http://www.rurdev.usda.gov/rhs/ProgramBrie)

*Program:*      **State and Community Highway Safety**

*Agency:* Office of Highway Safety, Federal Highway Administration      *Agency Type:* Federal

*Description:* Provides a coordinated national highway safety program to reduce traffic accidents, deaths, injuries, and property damage.

*Matching Requirement:* 20      *Phone:* 202-366-6902      *Webpage:* [aspe.os.dhhs.gov/cfda/p20600.htm#i37](http://aspe.os.dhhs.gov/cfda/p20600.htm#i37)

*Program:*      **Superfund Technical Assistance Grants for Citizen Groups at Priority Sites**

*Agency:* Office of Emergency and Remedial Response, EPA      *Agency Type:* Federal

*Description:* Provides resources under CERCLA, Section 117(e) for community groups to hire technical advisors who can assist them in interpreting technical information concerning the assessment of potential hazards and the selection and design of appropriate remedies at sites eligible for cleanup under the Superfund program.

*Matching Requirement:* 0      *Phone:* 703-603-8889      *Webpage:* [aspe.os.dhhs.gov/cfda/p66806.htm](http://aspe.os.dhhs.gov/cfda/p66806.htm)

*Program:* **Water Conservation Field Services**

*Agency:* Department of the Interior

*Agency Type:* Federal

*Description:* Provides assistance to agriculture, municipalities, states, tribes, water conservation districts, water conservancy districts, irrigation associations, any entity that is using Reclamation Project water, and others.

*Matching Requirement:* 0      *Phone:* 303-445-2945      *Webpage:* [www.fsa.usda.gov/drought/finalreport/fi](http://www.fsa.usda.gov/drought/finalreport/fi)

*Program:* **Water Quality Cooperative Agreements**

*Agency:* Office of Wastewater Management, EPA

*Agency Type:* Federal

*Description:* To assist States, Indian Tribes, interstate agencies, and other public or nonprofit organizations in developing, implementing, and demonstrating innovative approaches relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution. This includes watershed approaches for combined sewer overflow, sanitary sewer overflows, and storm water discharge problems, pretreatment and sludge (biosolids) program activities, and alternative ways to measure the effectiveness of point source programs.

*Matching Requirement:* 0      *Phone:* 202-564-0672      *Webpage:* [aspe.os.dhhs.gov/cfda/p66463.htm](http://aspe.os.dhhs.gov/cfda/p66463.htm)

### **Primary Funding Area: New Public Buildings**

*Program:* **Disaster Recovery Initiative**

*Agency:* Office of Community Planning and Development, HUD

*Agency Type:* Federal

*Description:* For recovery from major disasters declared by the President. Each supplemental appropriations statute specifies the disasters or time period of disaster declarations for which funding is available. Can be used for rehabilitating residential and commercial buildings; homeownership assistance; building new replacement housing; code enforcement; acquiring, constructing or reconstructing public facilities and improvements, including streets, neighborhood centers, and water and sewer facilities; assistance to disaster-affected businesses for carrying out economic development activities to create and retain jobs; buying flood prone properties and making other mitigation efforts to protect damaged properties from, and reduce the cost of, future disaster damage; and making relocation payments to displaced people and businesses, and other activities. Funds may also be used for emergency response activities, such as debris removal, clearance, and demolition not funded by other federal disaster assistance and extraordinary increases in the level of public services for disaster victims.

*Matching Requirement:* 25      *Phone:* 202-708-1112      *Webpage:* [www.hud.gov](http://www.hud.gov)

*Program:* **Economic Development Grants for Public Works and Infrastructure Development**

*Agency:* Public Works Division, Economic Development Administration,      *Agency Type:* Federal  
DOC

*Description:* The grants available can be used to build public facilities such as water and sewer systems, industrial access roads, industrial parks, tourism facilities, vocational schools, and other public facilities that will enhance the areas ability to improve its business expansion. Overall the projects need to develop long-term economic health to assist in the creation and retention of skilled jobs that can provide for immediate employment for the unemployed and under employed in the area..

*Matching Requirement:* 0      *Phone:* 202-482-5081      *Webpage:* [www.doc.gov/eda/](http://www.doc.gov/eda/)

## **Primary Funding Area: Parks/Natural Areas - Development/Preservation**

**Program:** Brownfields Economic Redevelopment Initiative

**Agency:** Office of Solid Waste and Emergency Response, EPA **Agency Type:** Federal

**Description:** Funding and assistance to assess clean up and help redevelop abandoned properties with real and implied environmental contamination.

**Matching Requirement:** 0 **Phone:** 202-260-1223 **Webpage:** [epa.gov/brownfields](http://epa.gov/brownfields)

**Program:** Forestry Incentives Program

**Agency:** Natural Resources Conservation Service, USDA **Agency Type:** Federal

**Description:** The Forestry Incentives Program (FIP) is intended to ensure the nation's ability to meet future demand for sawtimber, pulpwood, and quality hardwoods. FIP provides cost-share monies to help with the costs of tree planting, timber stand improvements, and related practices on non-industrial private forestlands. In addition to ensuring a future supply of timber, FIP's forest maintenance and reforestation projects provide numerous natural resource benefits, including reduced soil erosion and wind and enhanced water quality and wildlife habitat.

**Matching Requirement:** 35 **Phone:** 202-720-6521 **Webpage:** [epa.gov/owowwtr1/watershed](http://epa.gov/owowwtr1/watershed)

**Program:** National Forest Foundation Awards

**Agency:** National Forest Foundation **Agency Type:** Foundation

**Description:** Funds non-governmental organizations working in, or adjacent to, national forests and grasslands; preference given to proposed projects in six geographical areas focused upon Collaborative Stewardship, Watershed Health & Restoration, Wildlife Habitat Improvement, and Recreational Opportunities Enhancement. It is a matching awards program 1:1 with private cash contributions. In-kind contributions may be noted to show leverage for a project, but will not be matched by federal funds. Projects must be completed within a year from project award date. Applications will be accepted from non-federal partners, community-based organizations, educational institutions, and other non-profit 501(c)(3) organizations.

**Matching Requirement:** 50 **Phone:** 202- 496-4963 **Webpage:** [www.natlforests.org](http://www.natlforests.org)

**Program:** Rivers, Trails and Conservation Assistance

**Agency:** Rivers, Trails and Conservation Assistance, National Park Service, DOI **Agency Type:** Federal

**Description:** To serve as a national technical resource for government and nonprofit partnerships; to increase the number of rivers and lands protected; and to expand the number of trails established nationwide.

**Matching Requirement:** 0 **Phone:** 202- 565-1200. **Webpage:** [aspe.os.dhhs.gov/cfda/p15921.htm](http://aspe.os.dhhs.gov/cfda/p15921.htm)

**Program:** Stewardship Incentives Program

**Agency:** Forest Service, USDA **Agency Type:** Federal

**Description:** Technical and financial assistance to encourage non-industrial private forest landowners to keep their lands and natural resources productive and healthy. Qualifying land includes rural lands with existing tree cover or land suitable for growing trees which is owned by a private individual, group, association, corporation, Indian tribe, or other legal private entity. Eligible landowners must have an approved Forest Stewardship Plan and own 1,000 or fewer acres of qualifying land. Authorizations may be obtained for exceptions of up to 5,000 acres.

**Matching Requirement:** 0 **Phone:** 202-720-6521 **Webpage:** [www.nrcs.usda.gov/NRCSProg.html](http://www.nrcs.usda.gov/NRCSProg.html)

**Program:** Wildlife Restoration

**Agency:** Fish and Wildlife Service, DOI **Agency Type:** Federal

**Description:** Provides funding for the selection, restoration, rehabilitation and improvement of wildlife habitat, wildlife management research, and the distribution of information produced by the projects.

**Matching Requirement:** 0 **Phone:** 703-358-2156 **Webpage:** [www.fws.gov](http://www.fws.gov)

## **Primary Funding Area: Plans & Procedures**

**Program:** Community Assistance Program - State

**Agency:** Mitigation Directorate

**Agency Type:** Federal

**Description:** Ensures that communities participating in the National Flood Insurance Program (NFIP) are achieving flood loss reduction measures consistent with program direction. The CAP-SSSE is intended to identify, prevent and resolve floodplain management issues in participating communities before they develop into problems requiring enforcement action.

**Matching Requirement:** 25      **Phone:** 202-646-4621      **Webpage:** [www.fema.gov/mit/](http://www.fema.gov/mit/)

**Program:** Economic Adjustment Assistance for Disasters

**Agency:** Economic Development Administration, DOC

**Agency Type:** Federal

**Description:** For strategic planning, project implementation and revolving loan funds to mitigate effects of industrial or corporate restructuring, disaster, depletion of natural resources, new Federal laws or regulations. Applicants may be economic development districts, Indian Tribes and other eligible areas at local and regional levels, consortiums, universities, public or private non-profits or associations; short-term planning grants to States, sub-State planning regions and urban areas.

**Matching Requirement:** 0      **Phone:** 202-482-5081      **Webpage:** [hom.doc.gov/](http://hom.doc.gov/)

**Program:** Emergency Management Performance Grants

**Agency:** FEMA

**Agency Type:** Federal

**Description:** To develop comprehensive emergency management, including terrorism consequence management preparedness, at the State and local level and to improve emergency planning, preparedness, mitigation, response, and recovery capabilities.

**Matching Requirement:** 0      **Phone:** 202-646-7057      **Webpage:** [aspe.os.dhhs.gov/CFDA/p83552.htm](http://aspe.os.dhhs.gov/CFDA/p83552.htm)

**Program:** Habitat Conservation

**Agency:** National Oceanic and Atmospheric Administration, DOC

**Agency Type:** Federal

**Description:** Provides grants and cooperative agreements for biological, economic, sociological, public policy, and other research, administration, and public education projects on the coastal environment to benefit U.S. fisheries, conserve protected resources.

**Matching Requirement:** 0      **Phone:** 301-713-0174      **Webpage:** [aspe.os.dhhs.gov/cfda/p11463.htm](http://aspe.os.dhhs.gov/cfda/p11463.htm)

**Program:** Hazardous Materials Assistance

**Agency:** Hazardous Materials Unit, Chemical and Radiological Preparedness Division, FEMA

**Agency Type:** Federal

**Description:** Provides technical and financial assistance through the States to support State, local and Indian tribal governments in oil and hazardous materials emergency planning and exercising. To enhance State, Tribal and local governments capabilities to inter-operate with the National Response System (NRS). To support the Comprehensive Hazardous Materials (HAZMAT) Emergency Response - Capability Assessment Program (CHER-CAP) Activities.

**Matching Requirement:** 0      **Phone:** 202-646-4542      **Webpage:** [aspe.os.dhhs.gov/CFDA/p83012.htm#](http://aspe.os.dhhs.gov/CFDA/p83012.htm#)

**Program:** Superfund State Site: Specific Cooperative Agreements

**Agency:** Office of Solid Waste and Emergency Response, EPA

**Agency Type:** Federal

**Description:** To (1) Conduct site characterization activities at potential confirmed hazardous waste sites; (2) undertake remedial planning and remedial implementation actions at sites on the National Priorities List (NPL) to clean up the hazardous waste sites that are found to pose hazards to human health; and (3) effectively implement the statutory requirements of CERCLA 121 (f) which mandates substantial and meaningful State involvement.

**Matching Requirement:** 0      **Phone:** 703-308-8506      **Webpage:** [aspe.os.dhhs.gov/cfda/p66802.htm#i37](http://aspe.os.dhhs.gov/cfda/p66802.htm#i37)

**Program: Surveys, Studies, Investigations and Special Purpose Grants**

**Agency:** Environmental Protection Agency

**Agency Type:** Federal

**Description:** (1) To support Surveys, Studies and Investigations and Special Purpose assistance associated with Air Quality, Acid Deposition, Drinking Water, Water Quality, Hazardous Waste, Toxic Substances, and Pesticides; (2) to identify, develop and demonstrate necessary pollution control techniques; to prevent, reduce, and eliminate pollution; and (3) to evaluate the economic and social consequences of alternative strategies and mechanisms for use by those in economic, social, governmental, and environmental management positions.

**Matching Requirement:** 0

**Phone:** 202-260-2597

**Webpage:**[aspe.os.dhhs.gov/cfda/p66606.htm](http://aspe.os.dhhs.gov/cfda/p66606.htm)

**Program: Watershed Assistance Grants**

**Agency:** Office of Wetlands, Oceans and Watersheds , EPA

**Agency Type:** Federal

**Description:** EPA establishes a cooperative agreement with one or more nonprofit organization(s) or other eligible entities to support watershed partnership organizational development and long-term effectiveness.

**Matching Requirement:** 0

**Phone:** 202-260-4538

**Webpage:**[www.epa.gov/owow/watershed/wacade](http://www.epa.gov/owow/watershed/wacade)

**Program: Watershed Surveys and Planning**

**Agency:** Natural Resource Conservation Service, USDA

**Agency Type:** Federal

**Description:** To provide planning assistance to Federal, State, and local agencies for the development of coordinated water and related land resources programs in watersheds and river basins.

**Matching Requirement:** 0

**Phone:** 202-720-4527

**Webpage:**[aspe.os.dhhs.gov/cfda/p10906.htm](http://aspe.os.dhhs.gov/cfda/p10906.htm)

**Primary Funding Area: Public Education**

**Program: CEPP Technical Assistance Grants**

**Agency:** Chemical Emergency Preparedness and Prevention Office , EPA **Agency Type:** Federal

**Description:** Provides financial assistance to States, Local agencies, and Indian Tribes for chemical accident prevention activities that relate to the Risk Management Program under the Clean Air Act Section 112(r). To provide financial assistance to Tribes for chemical emergency planning, and community right-to-know programs which are established to prevent or eliminate unreasonable risk to the health and environment of communities within the State.

**Matching Requirement:** 0

**Phone:** 202- 564-7981

**Webpage:**[aspe.os.dhhs.gov/cfda/p66810.htm](http://aspe.os.dhhs.gov/cfda/p66810.htm)

**Program: Community Services Block Grant**

**Agency:** Office of Community Services, Administration for Children and Families, DHHS **Agency Type:** Federal

**Description:** Competitive grants given to the state to provide services and other provisions for low-income persons and families to combat the causes of poverty within the states communities. The states are given leeway in regards to the programs they establish.

**Matching Requirement:** 0

**Phone:** 202-401-9340

**Webpage:**[www.acf.dhhs.gov/programs/ocs/](http://www.acf.dhhs.gov/programs/ocs/)

**Program: Disaster Legal Services**

**Agency:** Human Services Division, Response and Recovery Directorate, FEMA **Agency Type:** Federal

**Description:** Program to provide legal assistance to low-income individuals or families and groups. Free legal advice can include counseling, and even representation in non-fee generating cases with an exception provided for under Part 206-164 (b). Fee-generating cases will not be handled and will be referred through legal referral services.

*Matching Requirement:* 0      *Phone:* 202-646-4600      *Webpage:* [www.fema.gov/](http://www.fema.gov/)

*Program:*      **Environmental Justice through Pollution Prevention**

*Agency:*      Office of Pollution Prevention and Toxics, EPA      *Agency Type:* Federal

*Description:*      Provides financial assistance to low-income and people-of-color communities to implement pollution prevention activities. EPA strongly encourages cooperative efforts among communities, business, industry, and government to address common pollution prevention goals. Projects funded under this grant program may involve public education, training, demonstration projects, and public or private partnerships, as well as approaches to develop, evaluate, and demonstrate nonregulatory strategies and technologies.

*Matching Requirement:* 0      *Phone:* 703-841-0483      *Webpage:* [www.epa.gov/owow/watershed/wacade](http://www.epa.gov/owow/watershed/wacade)

*Program:*      **Hurricane Program**

*Agency:*      Mitigation Directorate, FEMA      *Agency Type:* Federal

*Description:*      Provides assistance to certain coastal states to reduce the devastating effects from hurricanes. Programs include property protection, evacuation studies, hazard identification, training exercises and public education programs.

*Matching Requirement:* 25      *Phone:* 202-646-3362      *Webpage:* [www.fema.gov/mit/](http://www.fema.gov/mit/)

*Program:*      **Pipeline Safety**

*Agency:*      Research and Special Programs Administration, DOT      *Agency Type:* Federal

*Description:*      To develop and maintain State natural gas, liquefied natural gas, and hazardous liquid pipeline safety programs.

*Matching Requirement:* 50      *Phone:* 202-366-4564      *Webpage:* [aspe.os.dhhs.gov/cfda/p20700.htm](http://aspe.os.dhhs.gov/cfda/p20700.htm)

*Program:*      **Water Pollution Control**

*Agency:*      Environmental Protection Agency      *Agency Type:* Federal

*Description:*      A wide range of support for prevention and abatement projects for surface and ground water sources. Funding cannot be used for waste treatment facilities. Funds can be used on studies, planning, training and public information.

*Matching Requirement:* 0      *Phone:* 800-832-7828      *Webpage:* [www.epa.gov/](http://www.epa.gov/)

### **Primary Funding Area: Retrofit Public/Historical Structures**

*Program:*      **Disaster Assistance for the Elderly**

*Agency:*      Administration on Aging, DHHS      *Agency Type:* Federal

*Description:*      Funding awarded to States through their Agencies on Aging. The funds are distributed to support services like nutrition program, and renovation and construction of senior resource centers.

*Matching Requirement:* 0      *Phone:* 202-619-2618      *Webpage:* [www.aoa.dhhs.gov/](http://www.aoa.dhhs.gov/)

*Program:*      **Environmental And Historic Preservation And Cultural Resources Programs**

*Agency:*      FEMA      *Agency Type:* Federal

*Description:*      Consists of two distinct elements: 1) The Environmental Program and 2) the Historic Preservation and Cultural Resources Program. 1) is to ensure that actions directly implemented by FEMA and non-federal partners integrate environmental concerns into disaster mitigation, planning, response, and recovery decision-making. 2) is to address the needs of communities in preparing for, mitigating, responding and recovering from the devastating effects disasters may have on historic properties and cultural resources; also provides a wide range of technical and educational assistance to communities in partnership with other federal agencies and private national cultural heritage organizations.

*Matching Requirement:* 0      *Phone:* 202-646-3362      *Webpage:* [www.fema.gov/mit/ep/index.htm](http://www.fema.gov/mit/ep/index.htm)



*Program:* **Historic Preservation Fund Grants-in-Aid**  
*Agency:* National Park Service, Preservation Heritage Services Division *Agency Type:* Federal  
*Description:* Provides matching grants to states to be used to identify, evaluate and protect historic properties.  
*Matching Requirement:* 0 *Phone:* 202-343-9518 *Webpage:* [www.nps.gov/parks.html](http://www.nps.gov/parks.html)

### **Primary Funding Area: River/Stream - Restoration/Preservation**

*Program:* **Non-point Source Implementation Grants**  
*Agency:* Office of Water, EPA *Agency Type:* Federal  
*Description:* Funding provided to the state to implement projects to reduce nonpoint source pollution.  
*Matching Requirement:* 40 *Phone:* 800-832-7828 *Webpage:* [www.epa.gov/owow/nps/funding.html](http://www.epa.gov/owow/nps/funding.html)

*Program:* **Protection, Clearing and Straightening Channels**  
*Agency:* U.S. Army Corps of Engineers *Agency Type:* Federal  
*Description:* To restore channels for purposes of navigation or flood control. Local cost participation requirements and procedures for determining the local share of project costs are similar to those for navigation or flood control projects specifically authorized by Congress under regular authorization procedures. Annual expenditures limited to \$1,000,000.  
*Matching Requirement:* 0 *Phone:* 202-272-8835 *Webpage:* [aspe.os.dhhs.gov/cfda/P12109.htm](http://aspe.os.dhhs.gov/cfda/P12109.htm)

### **Primary Funding Area: Stafford Act**

*Program:* **Community Disaster Loans**  
*Agency:* Response and Recovery Directorate *Agency Type:* Federal  
*Description:* Provides loans subject to Congressional loan authority, to any local government that has suffered substantial loss of tax and other revenue in an area in which the President designates a major disaster exists. The funds can only be used to maintain existing functions of a municipal operating character and the local government must demonstrate a need for financial assistance.  
*Matching Requirement:* 75 *Phone:* 202-646-4066 *Webpage:* [www.fema.gov/r-n-r](http://www.fema.gov/r-n-r)

*Program:* **Crisis Counseling Assistance and Training**  
*Agency:* Human Services Division, Response and Recovery Directorate, FEMA *Agency Type:* Federal  
*Description:* Crisis counseling services  
*Matching Requirement:* 0 *Phone:* 202-646-3685 *Webpage:* [www.fema.gov/](http://www.fema.gov/)

*Program:* **Economic Injury Disaster Loans**  
*Agency:* Office of Disaster Assistance, SBA *Agency Type:* Federal  
*Description:* Small business loan program available to those concerns that suffered economic injury due to a Presidential, Small Business Administration, or Secretary of Agriculture- declared disaster. The rules of the SBA apply including physical location within the disaster area. There is a \$1,500,000 limit on the amount of the loan. Repayment may take up to 30 years.  
*Matching Requirement:* 0 *Phone:* 202-205-6734 *Webpage:* [www.sba.gov/disaster](http://www.sba.gov/disaster)

*Program:* **Fire Suppression Assistance Program**  
*Agency:* Response and Recovery Directorate, FEMA *Agency Type:* Federal

*Description:* Provides real-time, pro-active assistance to states to help fire suppression efforts on public or privately owned forests or grasslands. Assistance can be applied for prior to a Presidential declaration if the fires threaten to become major disasters.

*Matching Requirement:* 30      *Phone:* 202-646-4535      *Webpage:* [www.usfa.fema.gov/fedguide/ch1-23.htm](http://www.usfa.fema.gov/fedguide/ch1-23.htm)

*Program:*      **Historic Properties, Repair and Restoration of Disaster-Damaged**

*Agency:*      Infrastructure Support Division, FEMA      *Agency Type:* Federal

*Description:* Used in conjunction with the Stafford Act to evaluate the effects of repairs, restoration and mitigation of hazards to disaster-damaged historic properties.

*Matching Requirement:* 0      *Phone:* 202-646-3362      *Webpage:* [www.fema.gov/](http://www.fema.gov/)

*Program:*      **Mitigation Assistance**

*Agency:*      FEMA      *Agency Type:* Federal

*Description:* Project Impact helps communities that have a history of losses from natural disasters or have a significant disaster risk, such as those located in watershed floodplains. Funds are provided to help assess risks, build public-private partnerships, identify and implement projects, and communicate and mentor success.

*Matching Requirement:* 0      *Phone:* 202-646-4600      *Webpage:* [www.fema.gov/impact](http://www.fema.gov/impact)

*Program:*      **Project Impact**

*Agency:*      FEMA      *Agency Type:* Federal

*Description:* Project Impact helps communities that have a history of losses from natural disasters or have a significant disaster risk, such as those located in watershed floodplains. Funds are provided to help assess risks, build public-private partnerships, identify and implement projects, and communicate and mentor success.

*Matching Requirement:* 0      *Phone:* 202-646-4600      *Webpage:* [www.fema.gov/impact](http://www.fema.gov/impact)

*Program:*      **Public Assistance Grant**

*Agency:*      Infrastructure Support Division, Response and Recovery Directorate      *Agency Type:* Federal

*Description:* Available when areas have been impacted by a Presidentially-declared disaster. The funds may be used for a number of projects including repairs or replacement of damages structures, building, bridges, water facilities, utilities, roads, etc. The money can also be used for debris removal. Also, eligibility of cultural resources and private non-profit museums are designed to improve the ability for collections and cultural facilities to recover from disasters.

*Matching Requirement:* 25      *Phone:* 202-646-4600      *Webpage:* [www.fema.gov/](http://www.fema.gov/)

**Primary Funding Area: Storm Water, Flood Control Structures, Measures**

*Program:*      **Emergency Advance Measures for Flood Prevention**

*Agency:*      U.S. Army Corps of Engineers      *Agency Type:* Federal

*Description:* Performs activities prior to flooding or flood fight that would assist in protecting against loss of life and damages to property due to flooding.

*Matching Requirement:* 0      *Phone:* 202-272-0251      *Webpage:* [aspe.os.dhhs.gov/CFDA/p12111.htm](http://aspe.os.dhhs.gov/CFDA/p12111.htm)

*Program:*      **Emergency Operations Flood Response and Post Flood Response**

*Agency:* U.S. Army Corps of Engineers *Agency Type:* Federal  
*Description:* To provide emergency flood response and post flood response assistance as required to supplement State and local efforts and capabilities in time of flood or coastal storm.

*Matching Requirement:* 0 *Phone:* 202- 272-0251 *Webpage:* [www.usace.army.mil/business.html](http://www.usace.army.mil/business.html)

*Program:* **Emergency Rehabilitation of Flood Control Works or Federally Authorized Coastal Protection Works**

*Agency:* U.S. Army Corps of Engineers *Agency Type:* Federal

*Description:* Funds may be used for emergency repairs to flood control facilities and restoration of federally authorized coastal protection systems. The facilities must have been damaged by the winds, rain, and wave actions from a storm event and not from neglect. The funds may not be used for new projects or major improvements of existing facilities.

*Matching Requirement:* 0 *Phone:* 202-272-0169 *Webpage:* [www.usace.army.mil/](http://www.usace.army.mil/)

*Program:* **Emergency Watershed Protection (EWP)**

*Agency:* Natural Resources Conservation Service, USDA *Agency Type:* Federal

*Description:* Purpose is to undertake emergency measures, including the purchase of flood plain easements, for runoff retardation and soil erosion prevention to safeguard lives and property from floods, drought, and the products of erosion on any watershed whenever fire, flood or any other natural occurrence is causing or has caused a sudden impairment of the watershed. It provides funding to project sponsors for such work as clearing debris from clogged waterways, restoring vegetation, and stabilizing river banks.

*Matching Requirement:* 25 *Phone:* 202- 720-1604 *Webpage:* [www.nrcs.usda.gov/NRCSProg.html](http://www.nrcs.usda.gov/NRCSProg.html)

*Program:* **Flood Control Projects (Small)**

*Agency:* U.S. Army Corps of Engineers *Agency Type:* Federal

*Description:* Reduce flood damages through projects not specifically authorized by Congress. Project Planning Studies are undertaken in a single feasibility phase. The first \$100,000 is federally funded. Additional costs are cost-shared 50/50 with local sponsor.

*Matching Requirement:* 50 *Phone:* 202-761-1975 *Webpage:* [aspe.os.dhhs.gov/CFDA/p12106.htm](http://aspe.os.dhhs.gov/CFDA/p12106.htm)

*Program:* **Flood Damage Reduction**

*Agency:* U.S. Army Corps of Engineers *Agency Type:* Federal

*Description:* The US Army Corps of Engineers designs and builds flood and erosion control protection for highways, bridges, hospitals, churches, schools and other public facilities to protect them from further flood damage. The project cost must have a federal limit of \$500,000.

*Matching Requirement:* 0 *Phone:* 202-272-0169 *Webpage:* [www.usace.army.mil/public.html#Flood](http://www.usace.army.mil/public.html#Flood)

*Program:* **Flood Mitigation Assistance Program**

*Agency:* Mitigation Directorate *Agency Type:* Federal

*Description:* These grants are to be used to develop cost-effective measures to reduce the risk of flooding within communities. Planning grants must be approved prior to application for project grants. The funds can be used for developing and improving flood mitigation plans. States and communities can apply for project grants to implement measures to reduce flood losses. Projects that reduce the risk of flood damage to structures insurable under the National Flood Insurance Program are eligible for consideration.

*Matching Requirement:* 25 *Phone:* 202-646-5621 *Webpage:* [www.fema.gov/mit/icc\\_d.htm](http://www.fema.gov/mit/icc_d.htm)

*Program:* **Flood Plain Management Services**

*Agency:* U.S. Army Corps of Engineers *Agency Type:* Federal

*Description:* The funds can be used to identify flood hazards, implement flood hazard planning and mitigation

efforts. Can also include planning and preparedness of hurricanes and other flood causing incidents.

*Matching Requirement:* 0      *Phone:* 202-272-0169      *Webpage:* [www.usace.army.mil/](http://www.usace.army.mil/)

*Program:*      **Flood Risk Reduction**

*Agency:*      Farm Service Agency, USDA

*Agency Type:*      Federal

*Description:*      For farmers who voluntarily enter into contracts to receive payments on lands with high flood potential. In return, participants agree to forego certain USDA program benefits. These contract payments provide incentives to move farming operations from frequently flooded land.

*Matching Requirement:* 0      *Phone:* 202-720-6521      *Webpage:* [www.nrcs.usda.gov/NRCSProg.html](http://www.nrcs.usda.gov/NRCSProg.html)

*Program:*      **Hazard Mitigation Grant Program**

*Agency:*      Mitigation Directorate

*Agency Type:*      Federal

*Description:*      Grant monies provided to implement hazard mitigation projects. The eligible projects are those that have been developed to reduce future losses to lives and property. Projects can include relocation, acquisition, demolition and elevating of structures.

*Matching Requirement:* 25      *Phone:* 202-646-3362      *Webpage:* [www.fema.gov/mit/](http://www.fema.gov/mit/)

*Program:*      **Integrated Flood Observation and Warning System**

*Agency:*      Office of Hydrology, National Weather Service, National Oceanic and Atmospheric Administration

*Agency Type:*      Federal

*Description:*      The goals of the IFLOWS Program are to substantially reduce the annual loss of life from flash floods, reduce property damage, and reduce disruption of commerce and human activities. Numerous communities, state and federal agencies are now linked in a wide area communications network using this technology. This Automated Flood Warning Systems (AFWS) network connects numerous local flood warning systems, and integrates and shares information from approximately 250 computers and 1500 sensors in 12 states.

*Matching Requirement:* 0      *Phone:* (609) 261-6600      *Webpage:*      [www.afws.net/](http://www.afws.net/)

*Program:*      **National Flood Mitigation Fund**

*Agency:*      Mitigation Directorate

*Agency Type:*      Federal

*Description:*      Funds programs designed to reduce the risk of flood damage. Grants can be used for flood mitigation programs including relocation, demolition, acquisition of flood-prone properties, floodproofing and other techniques designed to limit the exposure to flood damage.

*Matching Requirement:* 25      *Phone:* 202-646-4621      *Webpage:* [www.fema.gov/mit/](http://www.fema.gov/mit/)

*Program:*      **Protection of Essential Highways, Highway Bridge Approaches, and Public Works**

*Agency:*      U.S. Army Corps of Engineers

*Agency Type:*      Federal

*Description:*      Provides bank protection of highways, highway bridges, essential public works, churches, hospitals, schools, and other nonprofit public services endangered by flood-caused erosion. Cost-share basis, but Federal limit of \$1 million.

*Matching Requirement:* 0      *Phone:* 202-761-1975      *Webpage:* [aspe.os.dhhs.gov/CFDA/p12105.htm](http://aspe.os.dhhs.gov/CFDA/p12105.htm)

*Program:*      **Snagging and Clearing for Flood Control**

*Agency:*      U.S. Army Corps of Engineers

*Agency Type:*      Federal

*Description:*      To reduce flood damages. In most cases project studies will be at Federal expense. Cost-sharing is required for projects, but the Federal part cannot exceed \$500,000,000.

*Matching Requirement:* 0      *Phone:* 202- 761-1975      *Webpage:* [www.usace.army.mil/business.html](http://www.usace.army.mil/business.html)

*Program:*      **Surface Transportation**

*Agency:*      Federal Highway Administration, ISTEA

*Agency Type:*      Federal

*Description:* The funds are administered through the state to be used on any roads except for local minor collectors. The state must also set aside 10% of the state allocated funds for transportation enhancement projects which can include beautification projects along the roadways, wetland mitigation or other measures to prevent runoff from polluting local waterways.

*Matching Requirement:* 0      *Phone:* 202-466-2636      *Webpage:* [www.tea21.org/](http://www.tea21.org/)

*Program:*      **Technical Assistance and Training Grants**

*Agency:* Water and Waste Rural Utilities Service, USDA      *Agency Type:* Federal

*Description:* Provides technical assistance and training to associations on a wide range of issues relating to the delivery of water and waste disposal service for rural communities with a population of 10,000 or less. Funds may be used to assist communities and rural areas identify and evaluate solutions to water or wastewater problems, improve facility operation and maintenance activities, or prepare funding applications for water or wastewater treatment facility construction projects.

*Matching Requirement:* 0      *Phone:* 202-690-2670      *Webpage:* [www.usda.gov/rus/water/programs.htm](http://www.usda.gov/rus/water/programs.htm)

*Program:*      **Water and Waste Disposal Grants**

*Agency:* Water and Waste Rural Utilities Service, USDA      *Agency Type:* Federal

*Description:* Program to reduce water and waste disposal costs to a reasonable level for rural users. Grants may be made for up to 75 percent of eligible project costs in some cases.

*Matching Requirement:* 25      *Phone:* 202-690-2670      *Webpage:* [www.usda.gov/rus/water/programs.htm](http://www.usda.gov/rus/water/programs.htm)

*Program:*      **Water and Waste Disposal Loans**

*Agency:* Water and Waste Rural Utilities Service, USDA      *Agency Type:* Federal

*Description:* The loan can be used to provide the local sponsors share of the cost of watershed projects such as flood prevention, irrigation, water quality management, sedimentation control, recreation and water storage. The total amount of the loans to one watershed may not exceed \$10,000,000. For development of water and waste disposal (including solid waste disposal and storm drainage) systems in rural areas and towns with a population not in excess of 10,000.

*Matching Requirement:* 0      *Phone:* 202-690-2670      *Webpage:* [www.usda.gov/rus/water/programs.htm](http://www.usda.gov/rus/water/programs.htm)

*Program:*      **Watershed Protection and Flood Prevention**

*Agency:* Natural Resources Conservation Service, USDA      *Agency Type:* Federal

*Description:* Technical and financial assistance to voluntarily plan, design and construct watershed-based projects on private lands. Watershed plans involving an estimated Federal contribution in excess of \$5 million for construction, or construction of any single structure having a capacity in excess of 2,500 acre feet, require Congressional committee approval.

*Matching Requirement:* 0      *Phone:* 202-720-3534      *Webpage:* [www.ftw.nrcs.usda.gov/pl566/pl566.html](http://www.ftw.nrcs.usda.gov/pl566/pl566.html)

### **Primary Funding Area: Support Service**

*Program:*      **Weatherization Assistance for Low-Income Persons**

*Agency:* Office of Energy Efficiency and Renewable Energy, DOE      *Agency Type:* Federal

*Description:* To insulate the dwellings of low-income persons, particularly the elderly, persons with disabilities, families with children, high residential energy users, and households with a high energy burden, in order to conserve needed energy and to aid those persons least able to afford higher utility costs.

*Matching Requirement:* 0      *Phone:* 202-586-4074      *Webpage:* [aspe.os.dhhs.gov/cfda/p81042.htm](http://aspe.os.dhhs.gov/cfda/p81042.htm)

*Program:*      **Business and Industry Loans**

*Agency:* Rural Business-Cooperative Service, DOA *Agency Type:* Federal  
*Description:* Assists public, private, or cooperative organizations (profit or nonprofit), Indian tribes or individuals in rural areas to obtain quality loans for the purpose of improving, developing or financing business, industry, and employment and improving the economic and environmental climate in rural communities including pollution abatement and control.

*Matching Requirement:* 0 *Phone:* 202-690-4737 *Webpage:* [aspe.os.dhhs.gov/cfda/p10768.htm](http://aspe.os.dhhs.gov/cfda/p10768.htm)

*Program:* **Centers for Disease Control and Prevention Investigations and Technical Assistance**

*Agency:* Centers for Disease Control and Prevention, DHHS *Agency Type:* Federal

*Description:* Assists State and local health authorities and other health related organizations in controlling communicable diseases, chronic diseases, and other preventable health conditions. Investigations and evaluation of all methods of controlling or preventing disease are carried out by providing epidemic aid, surveillance, technical assistance, consultation, and by providing leadership and coordination of joint national, State, and local efforts.

*Matching Requirement:* 0 *Phone:* 770-488-2700 *Webpage:* [aspe.os.dhhs.gov/cfda/p93283.htm#i37](http://aspe.os.dhhs.gov/cfda/p93283.htm#i37)

*Program:* **Community Facilities Loans and Grants**

*Agency:* Community Programs, Rural Housing Service, DOA *Agency Type:* Federal

*Description:* To construct, enlarge, extend, or otherwise improve community facilities providing essential services to rural residents.

*Matching Requirement:* 0 *Phone:* 202-720-1490 *Webpage:* [aspe.os.dhhs.gov/cfda/p10766.htm](http://aspe.os.dhhs.gov/cfda/p10766.htm)

*Program:* **Cora Brown Fund**

*Agency:* Response and Recovery Directorate, FEMA *Agency Type:* Foundation

*Description:* To help victims of natural disasters not caused by or attributed to war by providing for disaster-related needs that have not been, or will not be met by government agencies or any other organizations which have programs to address such needs; however, the fund is not intended to replace or supersede these programs. The fund may not be used in a way that disaster-related home repair and rebuilding; (2) disaster-related unmet needs; and (3) other services which alleviate human suffering and promote the well being of disaster victims. They are identified and recommended by the Regional Director or his/her representatives, with assistance from other governmental agencies and voluntary disaster agencies.

*Matching Requirement:* 0 *Phone:* 202-646-3642 *Webpage:* [aspe.os.dhhs.gov/cfda/p83538.htm#i37](http://aspe.os.dhhs.gov/cfda/p83538.htm#i37)

*Program:* **Direct Housing: Natural Disaster**

*Agency:* Rural Housing Service, DOA *Agency Type:* Federal

*Description:* Assists qualified lower income rural families to meet emergency assistance needs resulting from natural disaster to buy, build, rehabilitate, or improve dwellings in rural areas. Funds are only available to the extent that funds are not provided by FEMA. For the purpose of administering these funds, natural disaster will only include those areas identified by a Presidential declaration.

*Matching Requirement:* 0 *Phone:* 202-720-1474 *Webpage:* [aspe.os.dhhs.gov/cfda/p10445.htm](http://aspe.os.dhhs.gov/cfda/p10445.htm)

*Program:* **Disaster Housing Assistance**

*Agency:* Human Services Division, Response and Recovery Directorate, FEMA *Agency Type:* Federal

*Description:* Housing assistance for victims in declared disaster areas. Assistance can include temporary housing reimbursement, home repair assistance, assistance towards rent, assistance towards mortgage. Applicants must provide proof of residency or ownership, hardship caused by the disaster, damage caused by the disaster. Additional information may need to include notice of eviction or foreclosure proceedings, total repair estimates, and temporary housing receipts.

*Matching Requirement:* 0 *Phone:* 202-646-4600 *Webpage:* [www.fema.gov/](http://www.fema.gov/)

*Program:* **Disaster Unemployment Assistance**

*Agency:* Human Services Division, Response and Recovery Directorate, *Agency Type:* Federal FEMA

*Description:* Provides unemployment benefits for those individuals left jobless due to a declared major disaster who are not eligible for standard unemployment insurance benefits. Available funds to be used for compensation and administrative costs.

*Matching Requirement:* 0 *Phone:* 202-646-4600 *Webpage:* [www.fema.gov/](http://www.fema.gov/)

*Program:* **Economic Development - Support for Planning Organizations**

*Agency:* Economic Development Administration, Planning and Development Assistance Division, Dept. of Commerce *Agency Type:* Federal

*Description:* Provides administrative aid to multi-county Economic Development Districts and Redevelopment Areas. The grants fund administrative cost involved in the operation of the organization. Primarily designated for areas with up to 250,000 population, high and persistent unemployment or underemployment.

*Matching Requirement:* 0 *Phone:* 202-482-5081 *Webpage:* [hom.doc.gov/](http://hom.doc.gov/)

*Program:* **Emergency Food and Shelter National Board**

*Agency:* HUD *Agency Type:* Federal

*Description:* Supplements the work of local private and governmental social service organizations to help people in need of emergency assistance. This collaborative effort between the private and The National Board uses a formula involving population, poverty, and unemployment data to determine the eligibility of a civil jurisdiction. There is no national application process. Board is chaired by FEMA.

*Matching Requirement:* 0 *Phone:* 703-706-9660 *Webpage:* [www.efsp.unitedway.org/efspnew/Page](http://www.efsp.unitedway.org/efspnew/Page)

*Program:* **Emergency Shelter Grants**

*Agency:* Community Planning and Development, HUD *Agency Type:* Federal

*Description:* Emergency shelters and housing for homeless individuals. Funds are available through the State. Funds must be used for renovation, alterations or conversions of buildings to homeless shelters. Services for the homeless may make up to 30% of the funds while administrative costs are not be more than 5% of the fund. Local municipalities and non-profit organizations may apply directly to the State.

*Matching Requirement:* 0 *Phone:* 202-708-1455 *Webpage:* [www.hud.gov/offices/cpd/homeless/pro](http://www.hud.gov/offices/cpd/homeless/pro)

*Program:* **Employment and Training Assistance - Dislocated Workers**

*Agency:* Employment and Training Administration, DOL *Agency Type:* Federal

*Description:* Funds used to provide job-training, job-search, placement assistance and other services to assist dislocated workers obtain jobs.

*Matching Requirement:* 0 *Phone:* 202-219-5690 *Webpage:* [www.doleta.gov/](http://www.doleta.gov/)

*Program:* **Grants for Public Works and Economic Development**

*Agency:* Public Works Division, Economic Development Administration, DOC *Agency Type:* Federal

*Description:* Promotes long-term economic development and assists in the construction of public works and development facilities needed to initiate and support the creation or retention of permanent jobs in the private sector in areas experiencing substantial economic distress.

*Matching Requirement:* 0 *Phone:* 202-482-5265. *Webpage:* [aspe.os.dhhs.gov/cfda/p11300.htm#i11](http://aspe.os.dhhs.gov/cfda/p11300.htm#i11)

*Program:* **Home Investment Partnership Program**

*Agency:* Community Planning and Development, HUD *Agency Type:* Federal

*Description:* HOME allocates funds by formula in a block grant to States, urban counties, cities, and specially

authorized consortia of jurisdictions for a variety of housing, depending upon the State's or local government's needs.

*Matching Requirement:* 0      *Phone:* 800-245-2691      *Webpage:* [www.hud.gov](http://www.hud.gov)

*Program:*      **Impact Aid Disaster Assistance Program**

*Agency:* Office of Elementary and Secondary Education, USDE      *Agency Type:* Federal

*Description:* Funds are available to schools impacted by a declared disaster. Applications must be submitted within 90 days of the declaration and can be used to offset the loss of revenue and disaster recovery costs. (Lenders who have made or hold federal college or university student loans also were directed to provide financial relief from monthly loan payments to those borrowers affected by the 9-11-01 terrorist attacks in New York City.)

*Matching Requirement:* 0      *Phone:* 202-401-2311      *Webpage:* [www.ed.gov/offices/OESE/](http://www.ed.gov/offices/OESE/)

*Program:*      **Individual and Family Grants**

*Agency:* Human Services Division, Response and Recovery Directorate, FEMA      *Agency Type:* Federal

*Description:* To provide funds for the necessary expenses and serious needs of disaster victims, which cannot be met through other forms of disaster assistance or through other means such as insurance.

*Matching Requirement:* 0      *Phone:* 202-646-3685      *Webpage:* [aspe.os.dhhs.gov/cfda/p83543.htm#i37](http://aspe.os.dhhs.gov/cfda/p83543.htm#i37)

*Program:*      **Mortgage Insurance, Homes for Disaster Victims**

*Agency:* Single Family Development Division, Office of Insured Single Family Housing, HUD      *Agency Type:* Federal

*Description:* Loans available to individuals or families who are victims of a major disaster for the purchase of homes. HUD insures the lenders for possible losses from the mortgages on these homes. Those eligible must have resided in housing that was damaged or destroyed in a Presidentially- declared disaster.

*Matching Requirement:* 0      *Phone:* 202-708-1455      *Webpage:* [www.hudclips.org/cgi/index.cgi](http://www.hudclips.org/cgi/index.cgi)

*Program:*      **Public Health and Social Services Emergency Fund**

*Agency:* Dept. Health and Human Services      *Agency Type:* Federal

*Description:* To provide supplemental funding for public health and social service emergencies.

*Matching Requirement:* 0      *Phone:* 301-443-1167      *Webpage:* [aspe.os.dhhs.gov/CFDA/p93003.htm#i](http://aspe.os.dhhs.gov/CFDA/p93003.htm#i)

*Program:*      **Rural Business Enterprise Grants**

*Agency:* Rural Business-Cooperative Service, DOA      *Agency Type:* Federal

*Description:* Facilitates the development of small and emerging private business, industry, and related employment for improving the economy in rural communities.

*Matching Requirement:* 0      *Phone:* 202-720-1400      *Webpage:* [aspe.os.dhhs.gov/cfda/p10769.htm](http://aspe.os.dhhs.gov/cfda/p10769.htm)

*Program:*      **Rural Business Opportunity Grants**

*Agency:* Rural Business-Cooperative Service, USDA      *Agency Type:* Federal

*Description:* To promote sustainable economic development in rural communities with exceptional needs.

*Matching Requirement:* 0      *Phone:* 202-720-1400.      *Webpage:* [aspe.os.dhhs.gov/cfda/p10773.htm](http://aspe.os.dhhs.gov/cfda/p10773.htm)

*Program:*      **Rural Housing Site Loans and Self- Help Housing Land Development Loans**

*Agency:* Rural Housing Service, DOA      *Agency Type:* Federal

*Description:* Assists public or private nonprofit organizations interested in providing sites for housing; to acquire and develop land in rural areas to be subdivided as adequate building sites and sold on a cost development basis to families eligible for low and very low income loans, cooperatives, and broadly based nonprofit rural rental housing applicants.



*Matching Requirement:* 0      *Phone:* 202-720-1474      *Webpage:* [aspe.os.dhhs.gov/cfda/p10411.htm](http://aspe.os.dhhs.gov/cfda/p10411.htm)

*Program:*      **SBA Disaster Assistance**

*Agency:*      Small Business Administration      *Agency Type:* Federal

*Description:*      Provides low interest, fixed rate loans to disaster victims, enabling them to repair or replace property damaged or destroyed in declared disasters. It also offers such loans to affected small businesses to help them recover from economic injury caused by such disasters. (SBA offers three kinds of disaster loans: physical disaster home loans, physical disaster business loans, and economic injury business loans.)

*Matching Requirement:* 0      *Phone:* 202-205-6734      *Webpage:* [www.disastercenter.com/laworder/sbal](http://www.disastercenter.com/laworder/sbal)

*Program:*      **Temporary Assistance for Needy Families**

*Agency:*      Administration for Children and Families, Office of Family Assistance, DHHS      *Agency Type:* Federal

*Description:*      Provides temporary emergency assistance for families with children. A State must establish financial eligibility criteria for benefits under either of these purposes.

*Matching Requirement:* 0      *Phone:* by state      *Webpage:* [www.acf.dhhs.gov/programs/ofa/](http://www.acf.dhhs.gov/programs/ofa/)

*Program:*      **Very Low to Moderate Income Housing Loans**

*Agency:*      Rural Housing Service, DOA      *Agency Type:* Federal

*Description:*      Assists very low and low-income families through direct loans to buy, build, rehabilitate, or improve and to provide the customer with modest, decent, safe, and sanitary dwellings and related facilities as a permanent residence in rural areas. Subsidized funds are available on direct loans only for low and very low-income applicants. Non-subsidized funds (loan making) are available for very low and low-income applicants who are otherwise eligible for subsidy, but at the present time, the subsidy is not needed. Loan guarantees are also available to assist low and moderate income rural families in home acquisition.

*Matching Requirement:* 0      *Phone:* 202-720-1474      *Webpage:* [aspe.os.dhhs.gov/cfda/p10410.htm](http://aspe.os.dhhs.gov/cfda/p10410.htm)

*Program:*      **Very Low-Income Housing Repair Loans and Grants**

*Agency:*      Rural Housing Service, DOA      *Agency Type:* Federal

*Description:*      To give very low-income rural homeowners an opportunity to make essential repairs to their homes to make them safe and to remove health hazards to the family or the community.

*Matching Requirement:* 0      *Phone:* 202-720-1474      *Webpage:* [aspe.os.dhhs.gov/cfda/p10417.htm](http://aspe.os.dhhs.gov/cfda/p10417.htm)

**Primary Funding Area: Training - Emergency Services**

*Program:*      **Chemical Emergency Preparedness and Prevention Technical Assistance Grants**

*Agency:*      Chemical Emergency Preparedness and Prevention Office, EPA      *Agency Type:* Federal

*Description:*      Grants awarded for accident prevention and emergency preparedness programs for chemical accident emergencies. All project periods must not be more than two years long.

*Matching Requirement:* 25      *Phone:* 202-260-6657      *Webpage:* [www.epa.gov/swercepp](http://www.epa.gov/swercepp)

*Program:*      **Emergency Management Institute Training Assistance**

*Agency:*      EMI, FEMA      *Agency Type:* Federal

*Description:*      To defray travel and per diem expenses of State, local and tribal emergency management personnel who attend training courses conducted by the Emergency Management Institute, at the Emmetsburg, Maryland facility; Bluemont, Virginia facility; and selected off-site locations. Its purpose is to improve emergency management practices among State, local and tribal government managers, in response to emergencies and disasters.

*Matching Requirement:* 0      *Phone:* 301-447-1000.      *Webpage:* [aspe.os.dhhs.gov/cfda/p83527.htm](http://aspe.os.dhhs.gov/cfda/p83527.htm)

*Program:* **Hazardous Materials Emergency Preparedness Grant**  
*Agency:* Hazardous Materials Emergency Preparedness, DOT *Agency Type:* Federal  
*Description:* Provides financial and technical assistance as well as national direction and guidance to enhance State and local hazardous materials emergency planning and training.  
*Matching Requirement:* 0 *Phone:* 202-366-0001 *Webpage:* [www.usfa.fema.gov/hazmat/hmep/bkgr](http://www.usfa.fema.gov/hazmat/hmep/bkgr)

*Program:* **Hazardous Materials Training Program for Implementation of the Superfund Amendment and Reauthorization Act (SARA) of 1986**  
*Agency:* FEMA *Agency Type:* Federal  
*Description:* To provide training in support of Tribal governments emergency planning, preparedness, mitigation, response, and recovery capabilities. These programs must provide special emphasis on emergencies associated with hazardous chemicals. U.S. territories must apply for Emergency Management Performance Grants.  
*Matching Requirement:* 20 *Phone:* 202- 646-4516 *Webpage:* [www.fema.gov](http://www.fema.gov) <http://www.fema.gov>

*Program:* **National Fire Academy Training Assistance**  
*Agency:* National Fire Academy, US Fire Administration, FEMA *Agency Type:* Federal  
*Description:* Provides travel stipends to students attending Academy courses.  
*Matching Requirement:* 0 *Phone:* 301-447-1035 *Webpage:* [aspe.os.dhhs.gov/cfda/p83009.htm](http://aspe.os.dhhs.gov/cfda/p83009.htm)

### **Primary Funding Area: Wetlands Development/Restoration**

*Program:* **Capitalization Grants for Clean Water State Revolving Funds**  
*Agency:* Assessment and Watershed Protection Division, Office of Wetlands, Oceans and Watersheds, EPA *Agency Type:* Federal  
*Description:* Funding through regional offices include The National Estuary Program, The Wetlands Protection State Development Grant Program and the Non-point Source Implementation Grant Program.  
*Matching Requirement:* 20 *Phone:* 202-260-7166 *Webpage:* [www.epa.gov/OWOW](http://www.epa.gov/OWOW)

*Program:* **Conservation Technical Assistance**  
*Agency:* Natural Resources Conservation Service, USDA *Agency Type:* Federal  
*Description:* The purpose of the program is to assist land-users, communities, units of state and local government, and other Federal agencies in planning and implementing conservation systems. The purpose of the conservation systems are to reduce erosion, improve soil and water quality, improve and conserve wetlands, enhance fish and wildlife habitat, improve air quality, improve pasture and range condition, reduce upstream flooding, and improve woodlands.  
*Matching Requirement:* 0 *Phone:* 202- 720-1604 *Webpage:* [www.nrcs.usda.gov/NRCSProg.html#](http://www.nrcs.usda.gov/NRCSProg.html#)

*Program:* **Farmable Wetlands Pilot**  
*Agency:* Farm Service Agency, USDA *Agency Type:* Federal  
*Description:* Voluntary program to restore up to 500,000 acres of farmable wetlands and associated buffers by improving the land's hydrology and vegetation. Eligible producers in Iowa, Minnesota, Montana, Nebraska, North Dakota, and South Dakota can enroll eligible land in the FWP through the Conservation Reserve Program (CRP). Restoring wetlands will reduce downstream flood damage, improve surface and groundwater quality, and recharge groundwater supplies. FWP contracts are from 10 to 15 years in exchange for annual rental payments, incentive payments, and cost-share for installing necessary practices.  
*Matching Requirement:* 0 *Phone:* 202-720-7807 *Webpage:* [www.fsa.usda.gov/pas/disaster/default](http://www.fsa.usda.gov/pas/disaster/default).

*Program:* **Flood Hazard Mitigation and Riverine Ecosystem Restoration**  
*Agency:* U.S. Army Corps of Engineers *Agency Type:* Federal

*Description:* Informally known as Challenge 21, this watershed-based program focuses on identifying sustainable solutions to flooding problems by examining nonstructural solutions in flood-prone areas, while retaining traditional measures where appropriate. Eligible projects will meet the dual purpose of flood hazard mitigation and riverine ecosystem restoration. Projects might include the relocation of threatened structures, conservation or restoration of wetlands and natural floodwater storage areas and planning for responses to potential future floods.

*Matching Requirement:* 50      *Phone:* 202-761-0115      *Webpage:* [www.epa.gov/owow/watershed/wacade](http://www.epa.gov/owow/watershed/wacade)

*Program:*      **North American Wetlands Conservation Act Grants**

*Agency:* Fish and Wildlife Service      *Agency Type:* Federal

*Description:* Provides matching grants to carry out wetlands conservation projects in the United States, Canada, and Mexico. Both the Standard and Small Grants programs help deliver funding to on-the-ground projects through the protection, restoration, or enhancement of an array of wetland habitats.

*Matching Requirement:* 0      *Phone:* 703-358-1784      *Webpage:* [www.epa.gov/owow/watershed/wacade](http://www.epa.gov/owow/watershed/wacade)

*Program:*      **North American Wetlands Conservation Fund**

*Agency:* Fish and Wildlife Service, DOI      *Agency Type:* Federal

*Description:* To provide grant funds for wetlands conservation projects, such as acquisition, restoration, and enhancement of wetlands and wetlands ecosystems.

*Matching Requirement:* 0      *Phone:* 703-358-1784      *Webpage:* [aspe.os.dhhs.gov/cfda/p15623.htm](http://aspe.os.dhhs.gov/cfda/p15623.htm)

*Program:*      **Oil Spill Liability Trust Fund**

*Agency:* US Coast Guard, USDT      *Agency Type:* Federal

*Description:* Program provides funding for the immediate response and removal of oil spills. Although primarily used to offset the onsite costs of removal, funding may also be used to cover administrative costs associated with a particular incident.

*Matching Requirement:* 0      *Phone:* 202-267-2229      *Webpage:* [www.uscg.mil/](http://www.uscg.mil/)

*Program:*      **Partners for Fish and Wildlife**

*Agency:* Fish and Wildlife Service, Branch of Habitat Restoration, USDI      *Agency Type:* Federal

*Description:* Voluntary habitat restoration in cooperation with private landowners. Provides technical and financial assistance to restore wetlands, streams and river corridors, prairie, grasslands and other important fish and wildlife habitats for Federal trust species (migratory birds, threatened and endangered species, anadromous fish, and some marine mammals).

*Matching Requirement:* 50      *Phone:* 703-358-2201      *Webpage:* [partners.fws.gov/](http://partners.fws.gov/)

*Program:*      **Sustainable Development Challenge Grant**

*Agency:* Office of Air and Radiation, EPA      *Agency Type:* Federal

*Description:* Grants provided to encourage private-public partnership that promotes economically and environmentally sustainable development in the community.

*Matching Requirement:* 0      *Phone:* 202-564-7400      *Webpage:* [www.epa.gov/](http://www.epa.gov/)

*Program:*      **Watershed Program and Flood Prevention (Small)**

*Agency:* Natural Resources Conservation Services, USDA      *Agency Type:* Federal

*Description:* Provides planning assistance to Federal, State, and local agencies for the development of coordinated water and related land resources programs in watersheds and river basins. Works through local government sponsors and helps participants solve natural resource and related economic problems on a watershed basis. Projects include watershed protection, flood prevention, erosion and sediment control, water supply, water quality, fish and wildlife habitat enhancement, wetlands creation and restoration, and public recreation in watersheds of 250,000 or fewer acres. Both technical and financial assistance are available.

*Matching Requirement:* 0      *Phone:* 202-720-3534      *Webpage:* [www.nrcs.usda.gov/NRCSProg.html](http://www.nrcs.usda.gov/NRCSProg.html)

*Program:*      **Wetlands Conservation Projects**

*Agency:*      Fish and Wildlife Service, North American Waterfowl and Wetlands Office, DOI      *Agency Type:* Federal

*Description:*      Promote long-term conservation of North American wetland ecosystems and the waterfowl and other migratory birds, fish and wildlife that depend upon such habitats through partnerships. Principle conservation actions supported are acquisition, creation, enhancement, and restoration of wetlands and wetlands-associated habitat. Grant amount: is \$50,000 maximum.

*Matching Requirement:* 0      *Phone:* 703-358-1784      *Webpage:* [www.fws.gov/cep/cwgfact.html](http://www.fws.gov/cep/cwgfact.html)

*Program:*      **Wetlands Program Development Grants**

*Agency:*      Office of Water, EPA      *Agency Type:* Federal

*Description:*      Provide financial assistance to states, federally- recognized Indian tribes, and local governments to support development of new, or augmentation and enhancement of existing wetland programs. Projects must clearly demonstrate a direct link to an increase in the state's, tribe's, or local government's ability to protect its wetland resources.

*Matching Requirement:* 25      *Phone:* 800-832-7828      *Webpage:* [www.epa.gov/owow/wetlands/2002gran](http://www.epa.gov/owow/wetlands/2002gran)

*Program:*      **Wetlands Protection Grants**

*Agency:*      Office of Water, EPA      *Agency Type:* Federal

*Description:*      Protection of wetlands through plan development, development of model prototype projects such as effective wetland monitoring, innovative watershed protection.

*Matching Requirement:* 0      *Phone:* 800-832-7828      *Webpage:* [www.epa.gov/R5water/wshednps/pdf/w](http://www.epa.gov/R5water/wshednps/pdf/w)

*Program:*      **Wetlands Reserve**

*Agency:*      Natural Resources Conservation Service, USDA      *Agency Type:* Federal

*Description:*      Offers landowners the opportunity to protect, restore, and enhance wetlands and wildlife habitat on their property through technical and financial support. Efforts are aimed at long-term conservation and wildlife practices and protection.

*Matching Requirement:* 0      *Phone:* 202-720-1067      *Webpage:* [www.ftw.nrcs.usda.gov/pl566/pl566.html](http://www.ftw.nrcs.usda.gov/pl566/pl566.html)

*Program:*      **Wildlife Habitat Incentives**

*Agency:*      Natural Resources Conservation Service, USDA      *Agency Type:* Federal

*Description:*      For development and improvement of wildlife habitat primarily on private land and aquatic areas. Provides both technical assistance and up to 75 percent cost-share assistance to establish and improve fish and wildlife habitat. WHIP agreements between NRCS and the participant generally last from 5 to 10 years from the date the agreement is signed.

*Matching Requirement:* 25      *Phone:* 202-720-1067      *Webpage:* [www.ftw.nrcs.usda.gov/pl566/pl566.html](http://www.ftw.nrcs.usda.gov/pl566/pl566.html)

**Appendix C – Meeting Minutes from the Disaster Mitigation Committee and  
Community Meetings**



# Meeting Minutes

---

**Date of Meeting:** January 26, 2009  
10:00

**Re:** Hazard Mitigation Kickoff Meeting

**Location:** City of Simpsonville

**Issue Date:** January 26, 2009

**Submitted By:** R. Washington

**In Attendance:** See Attached List

**Conference Call:**

## ITEMS DISCUSSED

- Meeting began around 10 a.m. with an introduction from Hal Clarkson.
- Kickoff Meeting Presentation was delivered by Hal Clarkson. It covered the following items:
  1. Review of Purpose
  2. Hazards of Concern
  3. Risk
  4. Mitigation Techniques
  5. County Initiatives
  6. Next Steps
- A small discussion of initiatives followed the presentation. Some of the initiatives include:
  - Evacuation routes of schools near interstate
  - Actions in the case of Spills or Industrial Accidents
  - Communications Backup System
  - Backup Generators for Critical Facility's
  - Improve Communications between the School District and Parents
  - Alarm System for Early Warnings
  - Evaluation of Emergency Routes for student pickup
  - Bridge inspections
  - Update building codes to address Earthquakes
  - Stream bank Erosion Control (Durbin Creek)
  - Downstream Impact Analysis
  - Monitoring Stations for flooding
  - How to address Railroad scenario's
- Meeting was concluded at 11 a.m.



# Meeting Minutes

---

**Date of Meeting:** February 17, 2009  
6:00 pm

**Re:** Community Meeting

**Location:** City of Simpsonville

**Issue Date:** February 17, 2009

**Submitted By:** R. Washington

**In Attendance:** Harold Clarkson  
Jay Crawford

**Conference Call:**

## ITEMS DISCUSSED

- Meeting took place from 6:00 – 6:30pm to introduce the citizens of Simpsonville to Hazard Mitigation.
- Mr. Jay Crawford gave notice to the Greenville News to post an announcement of the meeting, prior to.
- No members of the Simpsonville community attended.



# Meeting Minutes

---

**Date of Meeting:** May 18, 2009  
10 a.m.

**Re:** Simpsonville Hazard Mitigation Meeting

**Location:** Simpsonville, SC

**Issue Date:** May 18, 2009

**Submitted By:** R. Washington

**In Attendance:** Jay Crawford  
Jake Dickens  
Jeremy Ritchie  
Johnny Sanders  
Al Spain  
Eddie Watson  
Adam Lezan

**Conference Call:**

## ITEMS DISCUSSED

- Meeting began around 10:15 a.m.
- Hal Clarkson reintroduced members of the committee to Mitigation Techniques and Initiative proposed in previous meeting.
- The Mitigation Committee ranked all initiatives.
- Meeting was dismissed at 12 noon

## Additional Notes

- It was stated that Simpsonville is in Zone 'C' Earthquake rating, and that the 2006 Building Codes address Earthquakes.
- It was mentioned that there is a Middle School adjacent to Hillcrest High. The City needs to also consider evacuation routes for it. There is a road embedded between the schools used for Bus turnaround. This road does lead to the man road, but however, isn't capable of handling emergency evacuation needs.
- A follow up will be conducted on Communications from School District to Parents.
- A follow up will be conducted to see if and stimulus money is available for County used generators.





# Meeting Minutes

---

**Date of Meeting:** May 18, 2010  
6 p.m.

**Re:** Simpsonville Hazard Mitigation Draft Meeting

**Location:** Simpsonville, SC

**Issue Date:** May 19, 2010

**Submitted By:** R. Washington

**In Attendance:** Jay Crawford  
Trevor Gauron

**Conference Call:**

## ITEMS DISCUSSED

- Meeting was scheduled to begin at 6 p.m.
- Richard Washington/Trevor Gauron prepared a presentation to update the Community of the progress of the Hazard Mitigation plan, and to add any additional input for the draft before it comes up for adoption.
- Jay Crawford used means of newspaper ads, internet announcements and television infomercials to make the community aware of the meeting.
- Meeting was ended due to attendance.

## Additional Notes

LIVING IN  
SIMPSONVILLE

DOING BUSINESS

VISITING  
SIMPSONVILLEACCESS  
CITY HALLSIMPSONVILLE  
SOUTH CAROLINA

## ACCESS CITY HALL > BULLETIN BOARD

The City Bulletin Board is the place to find information about City Meetings, Employment Opportunities, and what's going on with the City Government.

**NEW!** To see what events and meetings are coming up, click on the following calendar icon!



There will be a public hearing to review the City of Simpsonville Pre-disaster Hazard Mitigation Plan on May 18 at 6:00 pm at the Senior and Activity Center at 310 West Curtis Street in Simpsonville. To review a draft of this Plan, please click on the following [link](#). (Please note the file size of this draft is approximately 6 MB).

All dogs in the City Limits must be registered at City Hall located at 118 N.E. Main Street, Simpsonville. Registrations must be renewed every year. Bring proof of rabies vaccinations and \$5.00 per dog.

### MEETINGS SCHEDULE

- |                             |                                 |
|-----------------------------|---------------------------------|
| > Regular Council Meetings  | 2nd Tuesday of Month 6:30 pm    |
| > Workshop Council Meetings | 4th Tuesday of Month 6:30 pm    |
| > Planning Commission       | 1st Tuesday of Month 6:30 pm    |
| > Board of Zoning Appeals   | 3rd Tuesday of Month at 7:30 pm |

### MEETING AGENDA

Our formal City Council agenda is updated frequently. Click below to view the most up-to-date City Council meeting agenda.

> VIEW CURRENT AGENDA

### JOB OPPORTUNITIES

Click below to view an updated list of the job openings we currently have available within the City of Simpsonville.

> VIEW CURRENT JOBS

- > [Meeting Schedule](#)
- > [Meeting Agenda](#)
- > [Meeting Minutes](#)
- > [Job Opportunities](#)

<< back to  
ACCESS  
CITY HALL

Newspaper Ad for Public Meeting May 18, 2010

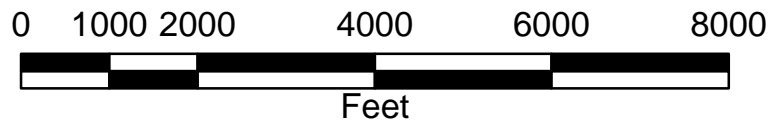
## **PUBLIC HEARING**

There will be a Public Hearing to review the City of Simpsonville draft Pre-Disaster Hazard Mitigation Plan on May 18 at 6:00 pm at the Senior and Activity Center at 310 West Curtis Street in Simpsonville. To review a draft of this plan, please visit the City website at [www.simpsonville.com](http://www.simpsonville.com). The link to the plan can be found under the Bulletin Board tab.



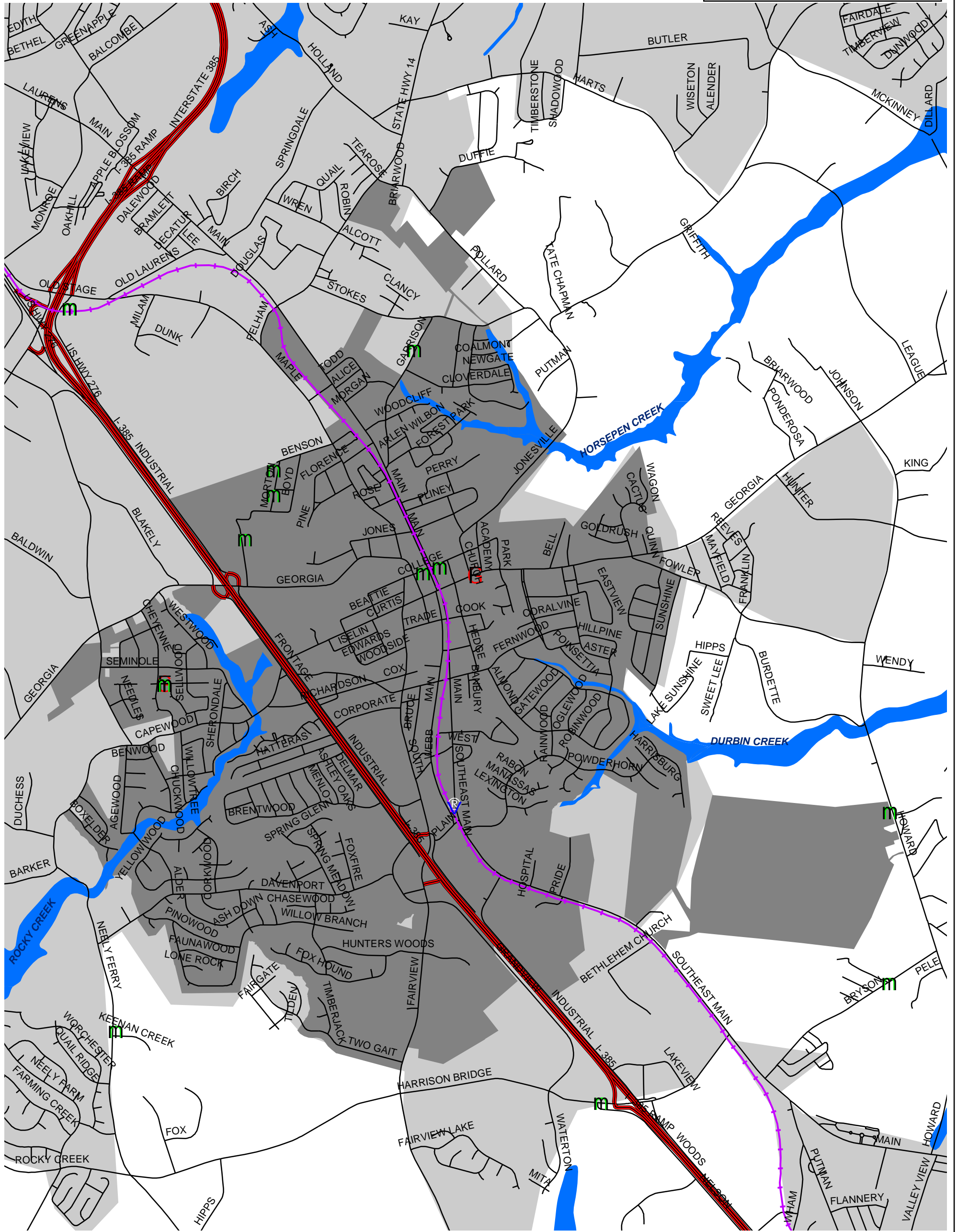
## **Appendix D – Maps**

# City of Simpsonville Critical Facilities



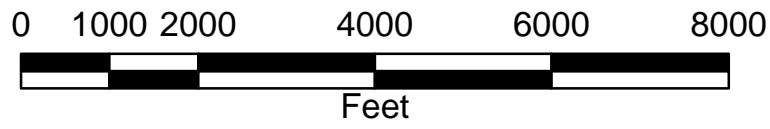
### Legend

- m Schools
- v Hospitals
- E Emergency Services
- Interstate
- 100-Year Floodplain
- Simpsonville
- Urbanized Area








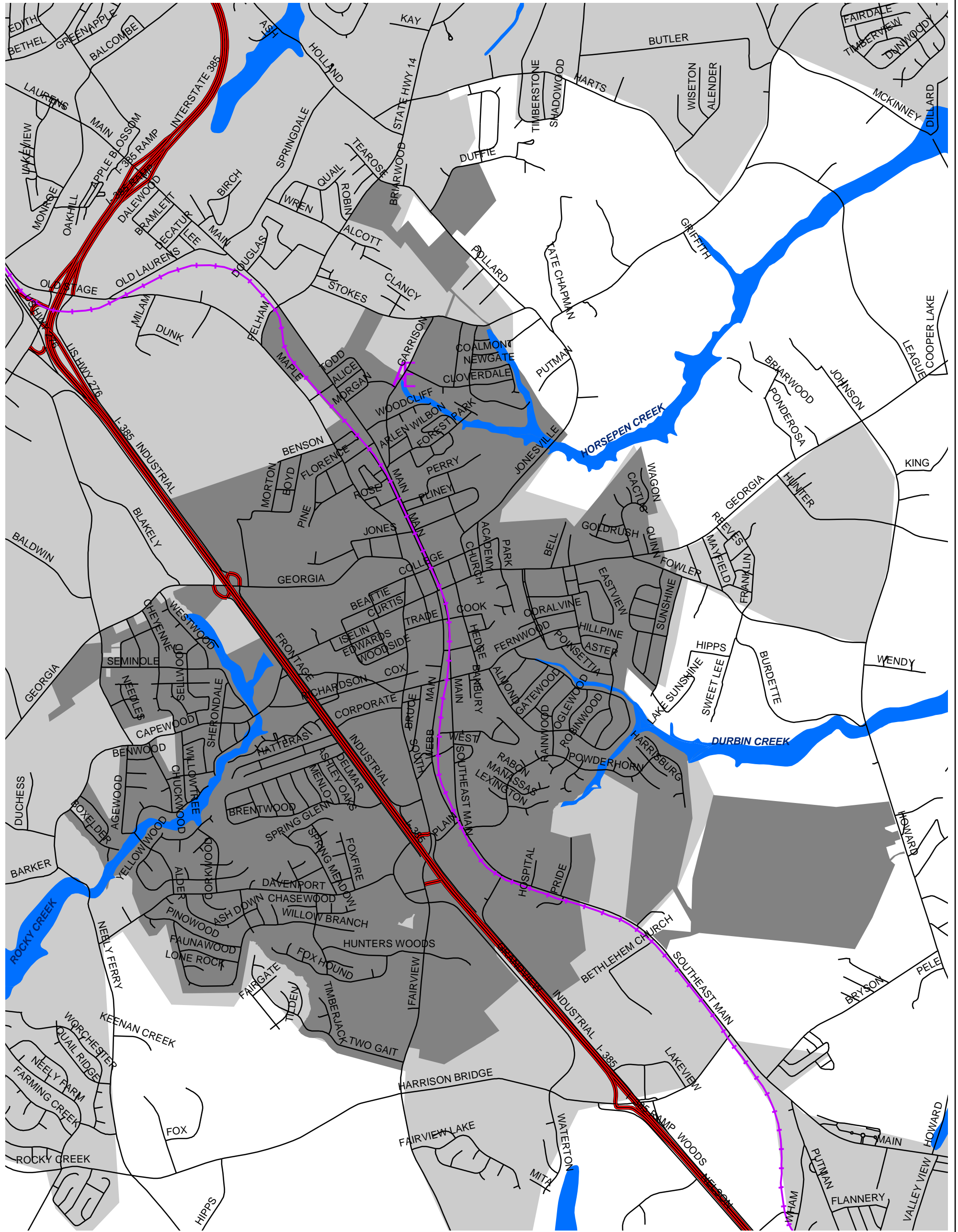


# City of Simpsonville Flood Issues



**Legend**






-  Flooding Problem Areas
-  Interstate
-  100-Year Floodplain
-  Simpsonville
-  Urbanized Area

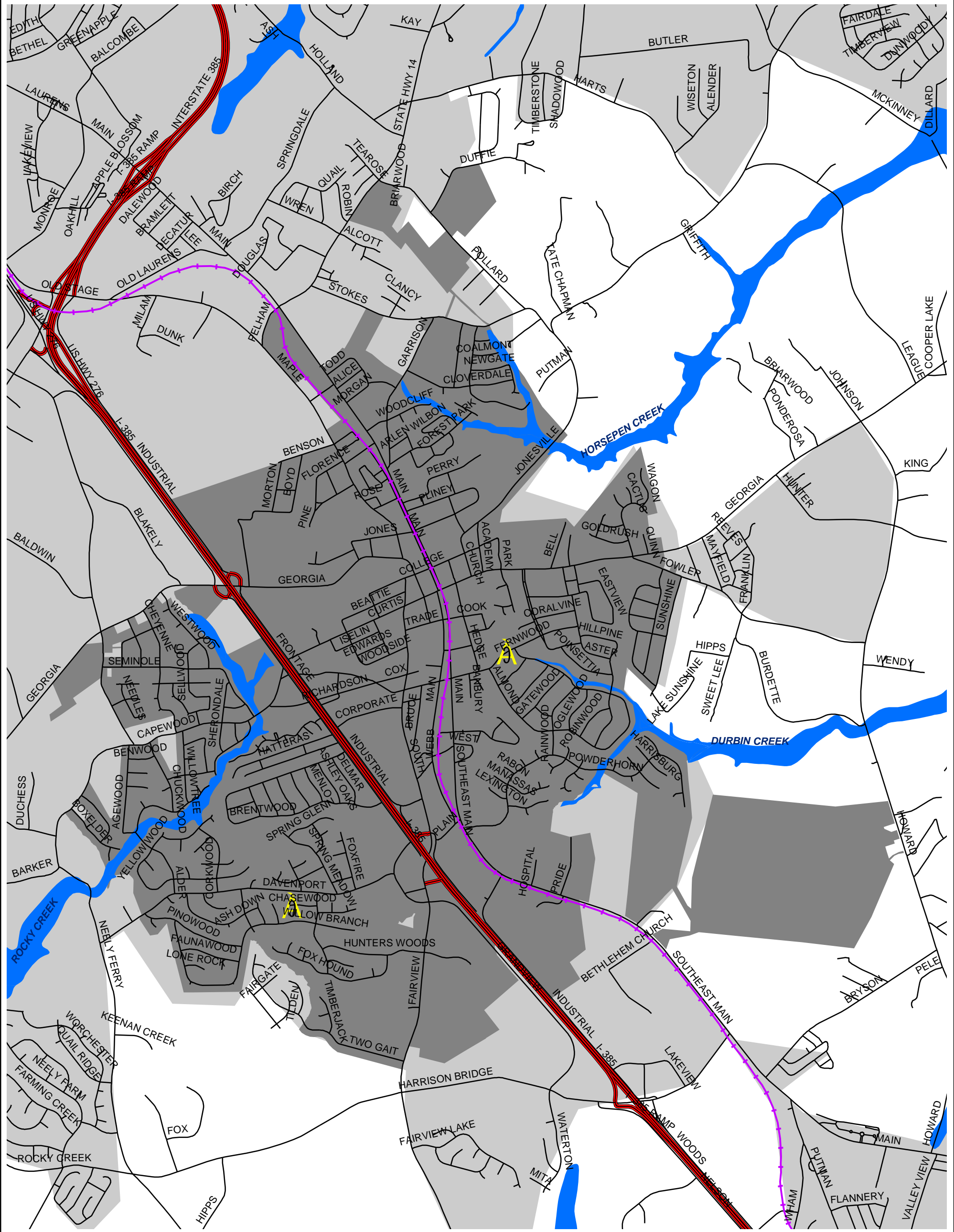
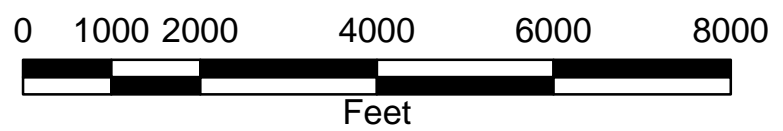


# City of Simpsonville

## Tornadoes in the Last 50 Years

**Legend**






-  Tornadoes
-  Interstate
-  100-Year Floodplain
-  Simpsonville
-  Urbanized Area

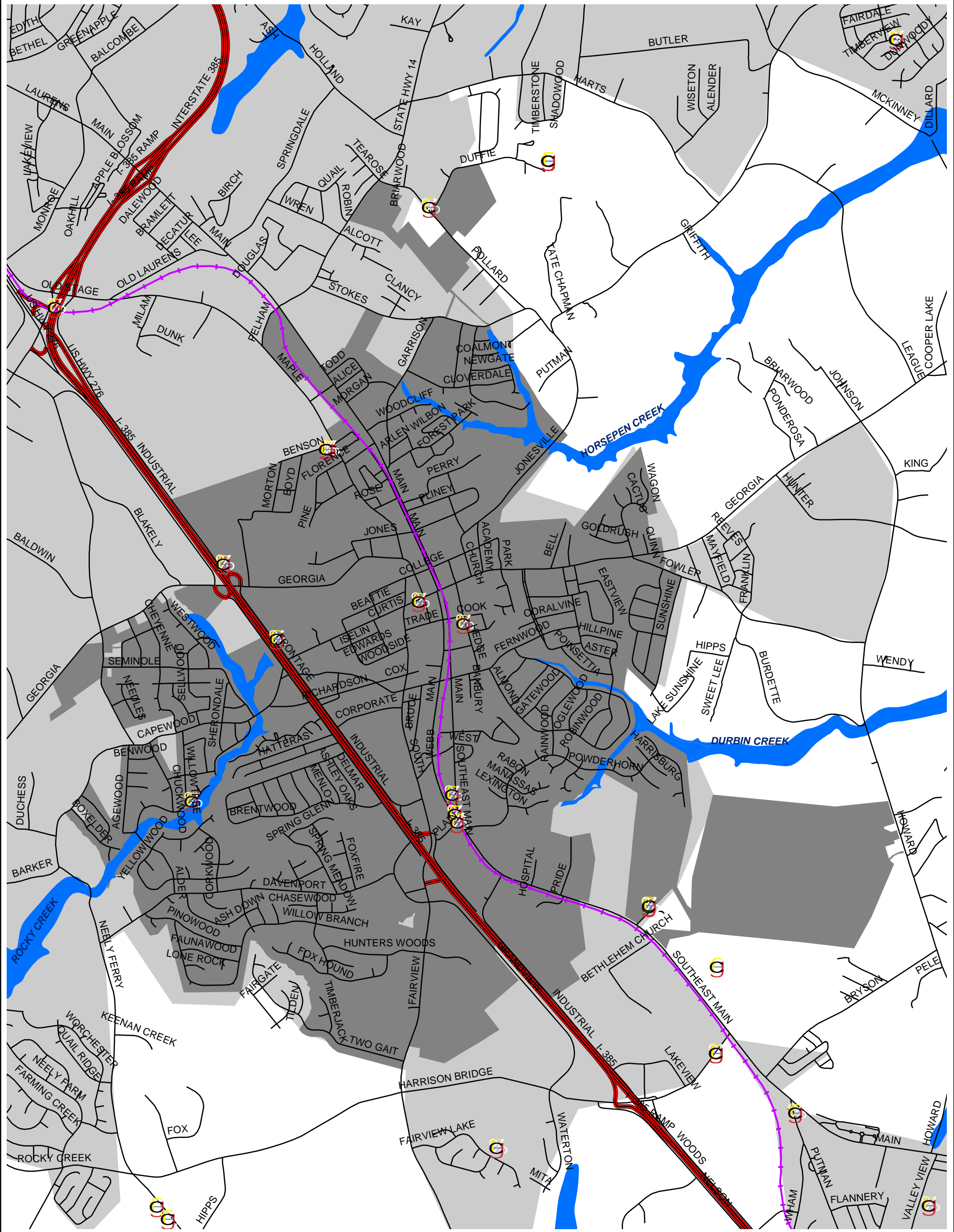
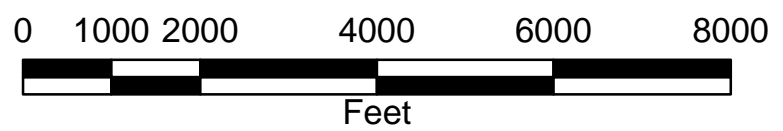




# City of Simpsonville Hazardous Materials Locations

**Legend**






-  Hazardous Material
-  Interstate
-  100-Year Floodplain
-  Simpsonville
-  Urbanized Area

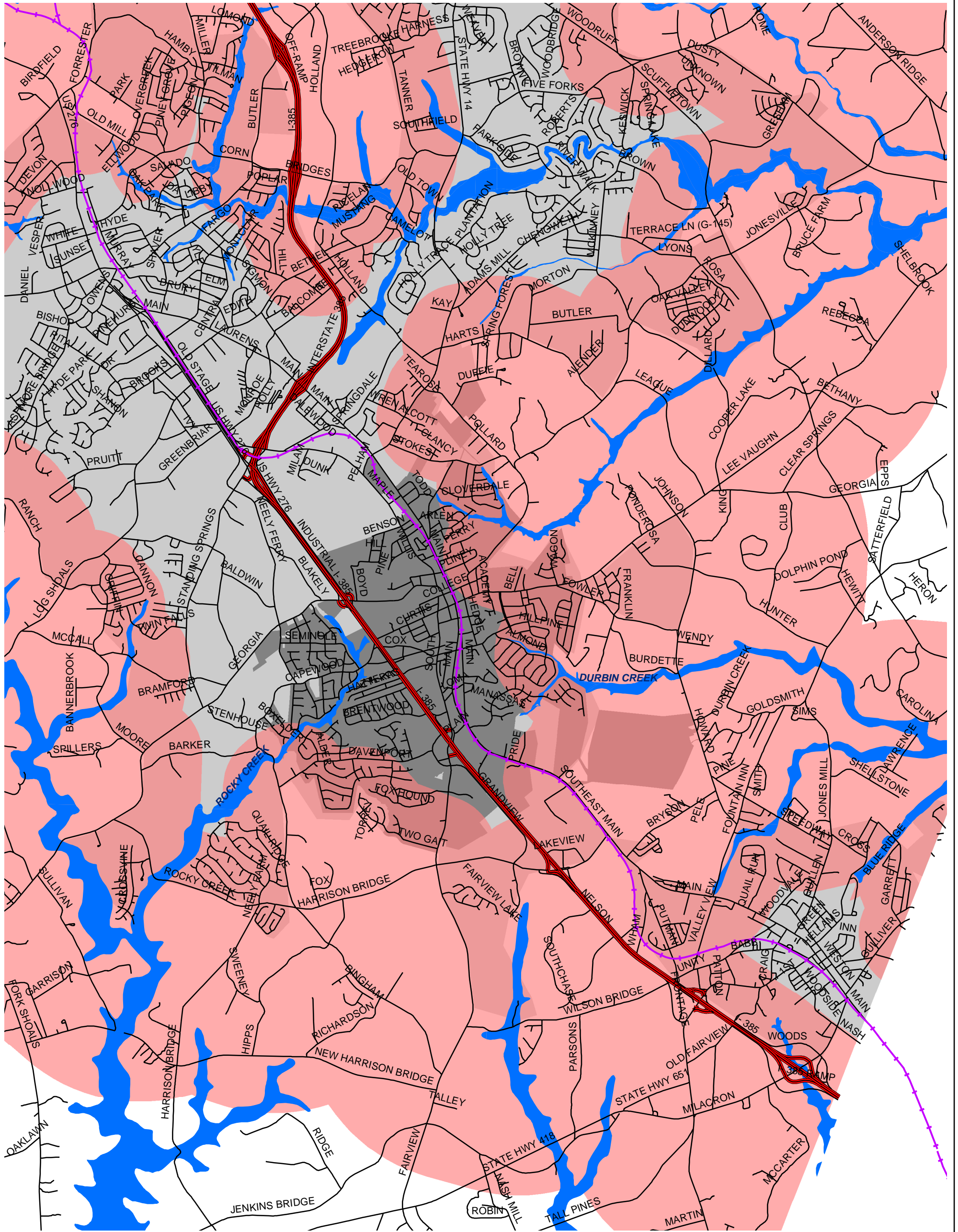
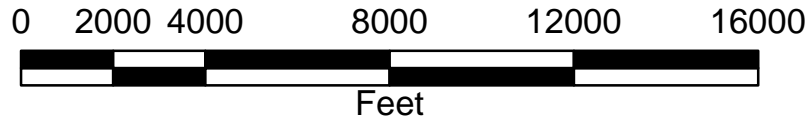




# City of Simpsonville Potential Wildfire Impact Areas

## Legend

-  Wildfire Impact Areas
-  Interstate
-  100-Year Floodplain
-  Simpsonville
-  Urbanized Area



**Appendix E – Combined Tables for Mitigation Measures Evaluation and  
Prioritization**

<b>Project Description</b>	<b>Strategy Effectiveness</b>	<b>Percent of Population Benefited</b>	<b>Time to Implement</b>	<b>Time to Impact</b>	<b>Cost to City</b>	<b>Cost to Others</b>	<b>Funding Source</b>	<b>Community Support</b>	<b>Project Feasibility</b>	<b>Point Total</b>	<b>Project Priority</b>
<b>A. Prevention</b>											
Perform bridge/culvert inspections	1.5	3	2	.5	.5	3	3	3	2	<b>18.5</b>	<b>5</b>
Install monitoring stations for flood events	1.5	1	1	1	1	1	1	1	2	<b>10.5</b>	<b>11</b>
<b>B. Public Education &amp; Awareness</b>											
Develop a spill and industrial accidents action plan	2	2	3	3	2	1.5	3	3	2	<b>21.5</b>	<b>3</b>
Improve communication between school district and parents	0	2	2.5	3	2	2	3	3	2	<b>19.5</b>	<b>4</b>
Develop alternatives to railroad scenario's	2	2	3	3	3	3	3	3	2	<b>24</b>	<b>1</b>
Enhance Hazards Education	3	3	2	3	2	2	2	3	2	<b>22</b>	<b>2</b>
<b>C. Natural Resources Protection</b>											
Address stream bank erosion control (Durbin Creek)	2	1	1	1.5	.5	.5	1.5	1	1	<b>10</b>	<b>12</b>
<b>D. Emergency Services</b>											
Provide backup generators for critical facilities	1	3	2	3	1	3	1	2	2	<b>18</b>	<b>8</b>
Develop an early warning system	0	3	1.5	3	1	3	1.5	2	1	<b>16</b>	<b>9</b>
Evaluate emergency routes for student pickup	0	1	2	1.5	3	3	3	3	2	<b>18.5</b>	<b>7</b>
Construct new evacuation routes for Hillcrest High School	0	1	1	2	1.5	2	2	2	1	<b>12.5</b>	<b>10</b>
<b>E. Property Protection</b>											
Require a downstream Impact analysis for new development	2	1	3	2	3	1.5	2	2	2	<b>18.5</b>	<b>6</b>
<b>F. Structural Projects</b>											