

**Spalding County
Pre-Disaster Hazard Mitigation Plan**

July 2011

**Includes the Cities of
Griffin
Orchard Hill
Sunny Side**

**Developed By:
Spalding County Emergency Management Agency
770-228-2129**

**Facilitated By:
Three Rivers Regional Commission
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Chapter One: Introduction

I. Purpose

The Disaster Mitigation Act of 2000 created a new approach for local hazard mitigation planning, and it recognized the need to produce comprehensive multi-hazard mitigation plans. Under this new Act, local governments were required to create Pre-Disaster Hazard Mitigation Plans that focused on natural and man-made disasters that could affect the community. Under the provisions of the Disaster Mitigation Act of 2000, local governments that create Pre-Disaster Hazard Mitigation Plans will remain eligible for federal emergency assistance funds in the event of a disaster. In September of 2004, Spalding County and the cities of Griffin, Orchard Hill and Sunny Side agreed to enter into a comprehensive planning process to create a Pre-Disaster Hazard Mitigation Plan.

The purpose of this study is to estimate the potential damage that could be caused by future natural disasters and recommend mitigation measures that can be taken by Spalding County and its municipal governments, and indirectly businesses and industries, to minimize potential economic loss.

This plan is a revision of the Spalding County Pre-Disaster Mitigation Plan which was approved June 2005. The revised plan was developed with a goal of updating the mitigation plans to address natural and manmade threats not included in the previous PDM plan, updating the status of mitigation goals and objectives, as well as providing the user with a clearer plan which is easier to use and is organized in a manner which allows information to be located quickly.

Mission Statement

To make the people of Spalding County and its communities, local governments, and businesses less vulnerable to the effects of natural or man made disasters through the effective administration of hazard risk assessments, wise hazard management, effective community education, and coordinated approaches to mitigation policy through local, regional, and state planning activities.

Vision Statement

Institute a countywide pre-disaster hazard mitigation plan and implement it through leadership, professionalism, education, and excellence, leading the way to a safe sustainable county.

II. Local Methodology / Plan Organization

Plan Organization

The Spalding County Pre-Disaster Mitigation Plan is organized in a fashion to assist local government officials, county residents, public and private sector organizations, and any other interested parties in participating in, and planning for natural and technological hazards. The Pre-Disaster Mitigation Plan contains a Hazard, Risk and Vulnerability (HRV) assessment, a section on natural hazards that typically occur within the county, one common local technological hazard, as well as a section identifying specific mitigation goals, objectives and related courses of action. Finally, a framework for plan implementation and maintenance is presented.

The plan describes those hazards that are considered to have the highest probability of occurrence in relation to their historical background, vulnerability, potential loss, and frequency of occurrence. The plan also identifies, prioritizes, and suggests funding sources for hazard mitigation opportunities in each vulnerable area based on input from Planning Committee members, various government agencies, local businesses, and Spalding County citizens.

Plan Methodology

The Spalding County Emergency Management Agency created a mitigation planning committee to oversee the planning process. Due to the active participation rate, the committee opted not to form subcommittees. The structure and roles of the committee involved in the planning process are listed below.

Mitigation Planning Committee

- Membership consisted of local elected officials and local government staff members.
- Convened every 4 weeks for planning coordination between committee members.
- Received information updates and completed work from committee members.
- Provided mitigation planning goals and objectives for the plan.
- Responsible for profiling all natural hazard events applicable to Spalding County and listing any past event occurrences.
- Responsible for identifying and inventorying critical infrastructure for Spalding County, the City of Griffin, City of Orchard Hill, and the City of Sunny Side.
- Responsible for producing a general inventory and cost estimate of non-critical structures within potential hazard areas.
- Assisted in developing mitigation plan goals and action steps.

- Responsible for profiling all applicable human caused hazards within the county.

Planning Process Participants

The Spalding County Mitigation Planning Committee was composed of a diverse group of people that represented the County and the Cities of Griffin, Orchard Hill and Sunnyside, the same four communities that participated in the previous plan. Below is the list of the Mitigation Planning Committee participants.

- Jamie Clark – Spalding County EMA
 - Representing the Cities of Orchard Hill and Sunny Side
- Glenn Polk – Spalding County EMA
 - Representing the Cities of Orchard Hill and Sunny Side
- David Smith – Spalding County EMA
- Kenny West – Spalding County EMA
- Chuck Taylor – Spalding County Planning and Community Development
- Jeff Stanley – City of Griffin – GIS/Public Works
- Chris Edelstein – City of Griffin – GIS/Public Works
- Aronda Smith – Three Rivers Regional Commission
- Robert Hiatt – Three Rivers Regional Commission
- Kenny Smith – City of Griffin County Manager
- Timothy J. Whalen – Spalding County Manager
- No applicable Development Agencies
- No applicable businesses

Interested parties were given the opportunity to be a part of the planning process. The Spalding County Emergency Management Agency solicited participation from businesses and other outside entities through a mass mailing to interested parties. The mailing list included the Chamber of Commerce, the Spalding County Development Authority, Wal-Mart, and Caterpillar. However, the EMA did not receive any response from these outside entities requesting participation in the planning process for the pre-disaster hazard mitigation plan (See supporting documentation in Appendix E).

III. Pre-Disaster Plan Review and Analysis

The Spalding County PDM Plan was reviewed and analyzed in several ways. The old plan was compared to the newest mitigation planning guidance issued from the Federal Emergency Management Agency (FEMA) in its July 1, 2008 publication, the Georgia Emergency Management Agency (GEMA) 2009 planning guidance, and the 2009 publication of the planning crosswalk evaluation criteria. In studying these documents, it was noted that the Spalding County Pre-Disaster Mitigation plan would require a major rewrite in order to comply with the newest requirements from FEMA and GEMA.

Chapter One: Executive Summary

The executive summary portion of the plan was revised to include new sections for review and analysis, and community data. The executive summary was also updated to include revisions to the planning process, participants, public participation, hazard risk and vulnerability, and multijurisdictional sections of the plan.

Chapter Two: Natural Hazard Risk, Assessment, and Vulnerability

Chapter two was updated to reflect new hazards that are applicable to Spalding County, identify any changes made from the previous plan, include a description on how Spalding County participates in the National Flood Insurance Program (NFIP), update the hazard frequency table, update any land use or development trends, and update information related to inventory assets and loss estimates.

Chapter Three: Local Technological Hazard Risk, Assessment, and Vulnerability

Chapter Three was updated to reflect new technological hazards that are applicable to Spalding County, identify any changes made from the previous plan, update the hazard frequency table, update any land use or development trends, and update information related to inventory assets and loss estimates.

Chapter Four: Local Natural Hazard Mitigation Goals and Objectives

Chapter Four was updated to reflect new goals and objectives that are applicable to Spalding County, identify any changes made from the previous plan, update the STAPLEE information, enhance the information provided for goal implementation and coordination, update any land use, building codes, or development trends, and update information related to goals that were not completed.

Chapter Five: Local Technological Hazard Mitigation Goals and Objectives

Chapter Five was updated to reflect new goals and objectives that are applicable to Spalding County, identify any changes made from the previous plan, update the STAPLEE information, enhance the information provided for goal implementation and coordination, update any land use, building codes, or development trends, and update information related to goals that were not completed.

Chapter Six: Executing the Plan

Chapter Six was updated to reflect any changes made to the plan execution, monitoring, and implementation. Revisions were made to the methodology for prioritization, use of other calculations, incorporation of other plans, and public involvement components.

Appendices:

The appendices of the PDM plan were revised to include information required by the 2009 planning process, improved data from new sources, updated comprehensive plans, meeting data, etc.

IV. Organization of the Planning Process

The process of creating the Spalding County Pre-Disaster Mitigation (PDM) Plan began in May 2010 and was completed in May 2011. The Spalding County Emergency Management Agency (EMA) contracted with Three Rivers Regional Commission (TRRC) to assist in the plan development. The Spalding County Pre-Disaster Mitigation Plan included active representation from Spalding County and the City of Griffin. Due to their population and existing service delivery agreements, the Cities of Sunny Side (pop. 134) and Orchard Hill (pop. 245) designated Spalding County to represent them in the planning process. The City of Griffin and Spalding County EMA appointed Kenny West as the lead official for the planning process, and he worked with the TRRC during the creation of the PDM plan. The total length of the planning process, from the beginning to the submission of the final document, lasted a total of twelve (12) months. During that twelve month planning period, the mitigation planning committee met several milestones.

Step One: Identifying Hazards & Inventorying Assets

In September 2010, the committee began work on researching the hazards that were applicable to Spalding County. This step in the planning process took approximately 90 days from the initial date that committee work assignments were distributed. After the hazards were assessed and profiled, each committee generated a general asset cost estimate and a specific cost estimate for critical structures within the county.

▪ **Critical Facilities and Infrastructure Definition**

Facilities critical to government response, for normal government operation, and recovery activities (i.e., life, safety, property and environmental protection) include: 911 centers, emergency operations centers, police and fire stations, public works facilities, sewer and water facilities, hospitals, bridges and roads, public health facilities, and shelters.

Critical facilities are those that are vital to the delivery of key government services or that may significantly impact the public's ability to recover from the emergency. These types of facilities may include: buildings such as the jail, public services buildings, the courthouse, and other facilities such as a school building.

Step Two: Estimating Losses

Once the general asset inventory and specific critical infrastructure list was generated, the committees began to generate loss estimates. The loss estimates were generated using a GEMA created website that provided an online tool for identifying, listing, reporting loss estimates, and profiling hazards. The GEMA online tool was developed using guidance set forth by the FEMA State and Local Mitigation Planning Guide 386-2: Section 4, Estimating Losses. Loss estimates were generated for structures, general and critical, that were at risk of damage from natural or man made disasters that were applicable to Spalding County.

Step Three: Plan Reviews & Goals and Action Steps

The planning process involved gathering and reviewing material related to zoning, floodplain ordinances, and future land use projections for the county that might affect future mitigation options. The cities of Orchard Hill and Sunny Side had no applicable plans of their own, and were included in county wide plans. In order to gather that information, the comprehensive plans for the City of Griffin and Spalding County were reviewed by committee members. The previous PDM plan completed in 2005 was also used as a reference when the committee reviewed hazard history and local environmental impacts.

The last FIRM map and flood planning update was conducted on May 3, 2010 for Spalding County, the City of Griffin, and Sunny Side. Spalding County and the City of Griffin's FIRM and flood plans are in compliance. The 2005 PDM plan stated that Sunnyside's flood planning efforts were listed as being out of compliance. Since this time frame, Sunnyside has taken proactive steps to ensure its flood planning efforts properly comply with FEMA guidelines. The City of Sunnyside is currently in the process of incorporating its jurisdiction into the existing Spalding County Flood Plain Ordinance. These flood planning efforts will ensure Sunnyside's compliance with FEMA guidelines. This process is expected to be completed by June 30, 2011.

According to MAP Number 13255C0205D, Orchard Hill does not appear to be located near a 100 year flood plain.

Spalding County capabilities assessment update was completed, and the final elements of the plan were incorporated into the master document. From there, the committee moved on to establish goals and objectives.

The committee began work on creating mitigation planning goals and action steps after completing planning steps 1 & 2. The goals were based on the need to prepare the community against potential hazards, and the action steps needed to complete each goal. Infrastructure improvements were prioritized based on the committee's general consensus of what structures were in the most need for improvements or upgrades.

Step Four: Plan Review & Finalization

Once the first four steps were completed, the planning committee reviewed the draft plan, and it was revised based on any additional comments. After the planning committee completed their review, the plan was made available for final public input. The final draft plan was then submitted to GEMA for review.

Public Involvement Process

Public participation is a key part of the mitigation planning process. Citizen participation offers the general public the opportunity to voice their ideas, interests, and opinions. Spalding County’s public involvement process allowed for citizen involvement through public hearings held during the development of the plan. Unfortunately, citizen involvement during the public hearings was low.

- Public Hearings

A public hearing was scheduled during the draft phase in order to obtain citizen input that would be used during the creation of the PDM plan. A meeting was scheduled at the Spalding County Annex building at 1:00 P.M. on June 24, 2010. The annex building is centrally located near downtown Griffin, and is a convenient location to meet for Spalding County residents. Notices of the meeting were placed in the local newspaper in advance of the meeting date.

A second public hearing was held at the Spalding County Annex at 2:00 P.M. on Thursday, June 30, 2011. The annex building is centrally located near downtown Griffin, and is a convenient location to meet for Spalding County residents. Notices of the meeting were placed in the local newspaper in advance of the meeting date.

I. Local HRV Summary & Local Mitigation Goals and Objectives

Local Natural Hazards

There are both natural and technological hazards that are applicable within Spalding County. These hazards are profiled and explained in detail in chapters two and three, but a summarized list of hazards is listed below.

Local Natural Hazards

- Floods
- Tornado
- Drought
- Severe Winter Storm/**Hail***
- Extreme Heat
- Hurricane Winds
- Thunderstorms/**Lightning***
- Wildfires***

*Additional natural hazard

Wildfires, were added as a local natural hazard due to the recent occurrences of wildfires over the past (10) years.

Hail was added as a local natural hazard due to the recent occurrences of hail related events over the past (10) years.

Lightning was added as a local natural hazard due to the recent occurrences of lightning related events over the past (10) years.

Previous Local Natural Hazards

The following natural hazards were addressed in the previous 2005 Pre-Hazard Mitigation Plan:

- Floods
- Tornado
- Drought
- Severe Winter Storm
- Extreme Heat
- Hurricane Winds
- Thunderstorms

No hazards were deleted from the 2005 Pre-Hazard Mitigation Plan.

Local Technological Hazards

- Hazardous Materials Release

Local Mitigation Goals and Objectives

These mitigation plan goals help to establish a broad direction for future action items or planning activities that will be used to reduce the risk of losses from natural or man made disasters in Spalding County. More specific goals for the current planning process related to hazards within the County are listed in Chapters Four and Five. These goals serve as checkpoints for the agencies, organizations, and other participants to begin to implement mitigation planning strategies or action items.

- Protect Life and Property
 - Begin activities or planning actions that would assist in reducing the losses to life, property, businesses, road infrastructure, critical facilities, and other properties.
 - Improve hazard assessment information in order to make recommendations to discourage development in hazard prone areas, and to encourage the use of preventative measures to reduce potential damage to existing developments within hazard prone areas.

- Public Awareness
 - Develop and implement a public awareness program that will increase the public's knowledge about the risks associated with natural disasters that are likely to affect Spalding County.
 - Provide information on tools, partnerships, or funding opportunities that could be used to assist in the implementation of mitigation activities.

- Resource and Development Planning
 - Work to integrate water planning, land use, and natural resource planning into the local mitigation plan strategy to protect life, property, and the environment.

- Partnerships and Implementation
 - Enhance communication and participation among public agencies, citizens, business, and other interested parties to gain a vested interest in mitigation activity implementation.
 - Encourage leaders within public and private sector organizations to provide input in prioritizing local mitigation activities.

- Emergency Services
 - Establish policy or procedures to ensure that mitigation projects to upgrade or improve critical facilities, services, and infrastructure are accomplished.

- Coordinate and integrate natural hazard mitigation activities with emergency operations plans where appropriate.

Multi-Jurisdictional Considerations

The Cities of Griffin, Orchard Hill, and Sunny Side were active participants in the planning process and have identified mitigation goals, objectives and action items specific to their individual municipalities. All hazards except flooding carry the same amount of jurisdictional risk to each of the local governments. For flooding, there are specific areas in the City of Griffin and the City of Sunny Side that are prone to flood damage. More detailed information on flooding can be found in Chapter 2, page 2-1 and Appendix A, page A-1. The governing bodies for the Cities of Griffin, Orchard Hill, and Sunny Side will be responsible for formally adopting the Spalding County Pre-Disaster Mitigation Plan.

VI. Mitigation Plan Adoption, Implementation, and Evaluation

Plan Adoption

The Board of County Commissioners of Spalding County will be responsible for adopting the Spalding County Pre-Disaster Hazard Mitigation Plan. This governing body is empowered to promote public policy regarding natural hazards, and hazard planning. Municipalities that have agreed to participate in the comprehensive planning process within Spalding County will vote to adopt the plan prior to the approval of the Spalding County Board of Commissioners. The governing bodies of Spalding County, and the Cities of Griffin, Orchard Hill, and Sunny Side will vote to adopt the Pre-Disaster Hazard Mitigation Plan before being officially approved by GEMA and FEMA.

Coordinating Body

The Spalding County Board of Commissioners and the Cities of Griffin, Orchard Hill, and Sunny Side will designate the Spalding County Emergency Management Agency as the coordinating body for the mitigation plan implementation. The Spalding County Emergency Management Agency will establish an advisory committee that will assist in the coordination and implementation of the mitigation plan goals.

Mitigation Plan Review/Update Process

The Spalding County Emergency Management Agency will be responsible for creating an annual report on the status of mitigation goals and objectives. The annual report will include the current status of mitigation projects that have been completed, mitigation projects that are underway, and the estimated time frame for the completion of future projects. The annual report will be reviewed and approved by the Spalding County Board of Commissioners and elected officials of the Cities of Griffin, Orchard Hill, and Sunny Side. A full update of the hazard mitigation plan will be performed every five years.

Continued Public Involvement

The Spalding County Emergency Management Agency will ensure that the mitigation plan is available to the public, and that the public is able to contribute to the planning process. At a minimum, the plan will be available on the Spalding County website, and contact information for the Spalding County Emergency Management Agency will be provided so that the public can contribute ideas for the plan.

VII. Authorizing Resolution To Adopt The Hazard Mitigation Plan

WHEREAS, Spalding County and its municipal governments are required to create a Pre-Disaster Hazard Mitigation plan by the Disaster Mitigation Act of 2000; and

WHEREAS, under the provisions of the Disaster Mitigation Act of 2000, local governments that create Pre-Disaster Hazard Mitigation Plans will remain eligible for Federal emergency assistance funds in the event of a disaster; and

WHEREAS, Spalding County and its municipal governments acknowledge that the Pre-Disaster Mitigation Plan must be updated annually and rewritten every five years; and

WHEREAS, Spalding County and its municipal governments hereby designate the Spalding County Emergency Management Agency as the entity responsible for mitigation planning, coordination, and implementation activities as required by the State of Georgia, The Georgia Emergency Management Agency (GEMA), or The Federal Emergency Management Agency (FEMA).

NOW THEREFORE LET IT BE RESOLVED THAT THE SPALDING COUNTY COMMISSION AND THE ELECTED REPRESENTATIVES OF THE CITIES OF GRIFFIN, ORCHARD HILL, AND SUNNY SIDE ELECT TO FORMALLY ADOPT THIS PRE-DISASTER HAZARD MITIGATION PLAN.

RESOLVED THIS _____ DAY OF _____, 200__

Spalding County Commission Chairman Date (County Seal)

Mayor, City of Griffin Date (City Seal)

Mayor, City of Orchard Hill Date (City Seal)

Mayor, City of Sunny Side Date (City Seal)

VIII. Current Mitigation Activities

Spalding County and its municipalities coordinated their mitigation activities through the Spalding County Emergency Management Agency (EMA). Recent activities by the EMA on behalf of the local governments include:

- Obtaining 200 weather radios for emergency response and preparedness (\$5,000).
- In 2005, Spalding County was awarded \$500,000 in accordance with the Fiscal Year 2005 Homeland Security Grant. The purpose of this grant was to assist the County in the purchase and installation of an APCO 25 compliant, 800 MHz radio system for its emergency response agencies, including County, City of Griffin, and Spalding Regional/EMS personnel.

IX. Community Data / Snapshot

Specific demographic and economic tables can be found in Appendix B.

Demographic Information

1. According to the 2000 Census, 66.5% of Spalding County residents were white and 31.1% were black. Hispanics, who can be identified as either white or black in the Census data, made up 1.6% of the county's population. Statewide, 65.1% of residents were white, 28.7% were black and 5.3% were Hispanic.
 2. In Spalding County, 27.3% of the county's residents were age 18 or younger, while 11.7% were age 65 or older. Statewide, 26.5% were age 18 or younger and 9.6% were age 65 or older.
 3. The 2000 Census reports 10.4% of Spalding County's households were headed by females with children under 18 years of age, compared with 9.0% statewide. Total households with children under 18 represented 34.0% of all households in the county, compared to 35.0% statewide.
 4. Between 2001 and 2005, Spalding County school system reported an average high school dropout rate of 10.0% for students in grades 9 to 12. Statewide, this rate is 5.6% for the same period of time.
- Spalding County spent an average of \$6,378 per student for public education each year between 2001 and 2005, while the statewide average was \$6,603.
 - Based on the 2004 graduating class for that county school system, 67.9% of the students were eligible for the HOPE Scholarship Program. The scholarship is available to eligible students to attend a post-secondary school in Georgia. Statewide, 62.0% of the graduating students were eligible for the HOPE scholarship.

- Between 2000 and 2004, the infant mortality rate (infant deaths per 1,000 live births) was 11.0 for the county. The statewide rate was 8.6 during the same period.
- In 2002, the number of physicians in the county per 100,000 population was 138.0, compared to the 192.6 statewide average. Spalding County had 2.6 hospital beds per 1,000 population in 2004, which was less than the statewide average of 2.7 hospital beds per 1,000 population.
- In 2004, 65.9% of the adult population in the county was registered to vote. 49.7% of the voting-age adult population for Spalding County voted in the 2004 general election. Statewide, 70.6% of eligible Georgians were registered to vote, while 55.1% of those eligible voted in the general election that year.

Table 1 identifies the population for Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside from 1980 to 2009 and the population growth over a ten-year period.

Table 1

Community	Population				Growth (%)	
	1980	1990	2000	2009	2000-2009	1980-2009
Griffin	20,728	21,347	23,451	23,887	1.83%	13.22%
Orchard Hill	162	239	230	245	6.12%	33.88%
Sunny Side	338	215	142	134	-5.97%	-152.24%
Spalding	47,899	54,457	58,417	64,708	9.72%	25.98%

Economic Data

- In the year 2009, the average weekly wage for all the employment sectors in the county was \$647. This amount was more than the statewide average of \$602.
- In Spalding County, services category is the largest employment sector providing 76.7% of the jobs. The other predominant employment sectors are manufacturing and retail trade. Statewide, the service industry is the largest employment sector, contributing 25.6% of the state’s jobs.
- In 2008, Spalding County’s annual unemployment rate was higher than the state’s rate, averaging 10.4% compared with the state’s average of 9.6%. Nationally, the unemployment rate for the same period averaged 9.3%.
- The county per capita personal income in 2007 was \$26,842, as compared with \$21,587 for Georgia and \$21,154 for the United States.

- Spalding County's median household income in 2008 was \$41,450. This amount was less than the state's median household income of \$50,834 in that same year. Nationally, the median household income in 2008 was \$52,029.
- During 2008, 17.9 % of the county's population lived below the poverty level, compared with Georgia's rate of 14.7% and the national rate of 13.2%. In addition, 25.4% of the children under the age of 18 lived below the poverty level in Spalding County. Nationally, 19.9% of the population under the age of 18 years lived below the level of poverty.
- According to the Georgia Department of Revenue's Net Property and Utility Digest, Spalding County's assessed property value amounted to \$1.4 billion in 2008, resulting in a per capita assessed property value of \$17,407. At the state level, per capita assessed property value in 2008 equaled \$24.6 billion.

Chapter Two: Natural Hazard, Risk, and Vulnerability Summary

The Spalding County Pre-Disaster Mitigation County Planning Committee identified all natural hazards that could potentially affect Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. This list was then narrowed to only the hazards that are most likely to impact the county and its municipalities. As a result of the pre-disaster mitigation planning process, the planning committee determined that seven natural hazards pose a direct, measurable threat to Spalding County (Floods, Tornadoes, Drought, Severe Winter Storms, Thunderstorms, Extreme Heat, Wildfires, Hail, Lightning, and Hurricane Winds). Wildfires, Hail, and Lightning were added and profiled as potential hazards, due to the high probability of their occurrence.

1. Flooding

- A. Susceptibility of a stream to flooding is dependent upon several different variables. Among these are topography, ground saturation, previous rainfall amounts, soil types, drainage, basin size, drainage patterns of streams, and vegetative cover. Most floods occur because the ground is already saturated with moisture and cannot absorb any further runoff. Georgia's infamous red clay soil contributes to the problem in the piedmont area of the state because the particles of the clay are flat and lie in a dense, compact matrix which leaves little inter-particle space for water. As a result, the clay soil has poor "percolation" capability, and quickly becomes saturated. Additional rainfall results in more runoff. Urbanization and development also contributes to flash flooding in that the vegetative ground cover is removed and replaced with extensive amounts of asphalt, concrete, and buildings. Water is no longer absorbed and quickly runs off into adjacent streams. Flooding may occur relatively slowly or become a flash flood.

Spalding County and the City of Griffin were subjected to major flood damage or disruption during the flood of 1994. During that flood many structures were damaged, government services were disrupted, and each municipality had to mobilize resources to minimize the impact of the flood. Since the flood of 1994, Spalding County has had several flood related events that have caused property damage.

Spalding County (FIRM#13255C, 130388, and 130389) and the City of Griffin (FIRM#130165) each individually participate in the National Flood Insurance Program (NFIP). All Flood Insurance Rate Maps (FIRM) within Spalding County were updated on May 3, 2010. The City of Griffin has its own FIRM map and flood ordinance. The City of Sunnyside (FIRM# 130389) previously participated in NFIP. Currently, the City of Sunnyside does not have a flood ordinance in place. For this reason, the City is not in compliance with the NFIP standards. The City of Sunnyside is currently in the process of incorporating its jurisdiction

into the existing Spalding County Flood Plain Ordinance. These flood planning efforts will ensure Sunnyside’s compliance with FEMA guidelines. This process is expected to be completed by June 30, 2011.

The City of Orchard Hill is identified in the National Flood Insurance Rate Program under FIRM#130638. However, the City does not have any areas listed in a 100-year floodplain area. For this reason, the City has not mapped any potential flood areas. In addition, the City of Orchard Hill does not have a flood plain ordinance. It is important that the City examine potential flood-prone areas at risk to flash flooding to determine whether pertinent areas within the City should be mapped as flood zones under the NFIP.

Spalding County adopted a flood ordinance which regulates development within the floodplain, and requires all new construction to be reviewed to ensure that it is not located within a floodplain area.

- B. During the planning process the Mitigation Planning Committee used the NCDC Query report and local hazard records. The best information available on flooding is within the last sixty years. The flooding events reported by NCDC were recorded for the county as a whole. In the records that were evaluated, it was determined that there were fourteen (14) occurrences of flooding that affected either the county or one of its municipalities. Data is incomplete for the individual jurisdictions. Due to the tendency of the NCDC report to lump multiple counties into hazard events, the specific hazard information by jurisdiction was unavailable. Due to the limited data, the frequency of occurrence for this event is listed as 23.33% per year. NCDC data and other hazard records can be found in Appendix C. A hazard event frequency table for flooding is listed in Appendix A, pg A-94.

- C. The Mitigation Planning Committee examined the historical records and land use data, and found one (1) government structure, one (1) educational structure and five (5) utility structures are located within a flood hazard area. Worksheet 3A showed a total of seven (7) assets worth \$10,569,342 for Spalding County and the Cities of Griffin and Orchard Hill that are located within flood hazard areas. The total value of the assets in the entire hazard area is \$400,039,849. The number of community structures within the Community includes Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside. Sources were not available to allow the number of structures to be broken down by jurisdiction. Critical facility asset inventories for this hazard have been listed in Appendix A, pg A-1, and Worksheet 3A inventories are located in Appendix D. The GEMA online tool did not list any repetitive losses for Spalding County and the Cities of Griffin, Orchard Hill, and

Sunnyside. Data deficiencies from the original PDM plan were due to a lack of hazard mapping and GPS information for critical facilities, but those issues were rectified in the 2010 plan update.

- D. The loss estimates were generated using GEMA created online tool that complied reporting information with guidance set forth by the FEMA State and Local Mitigation Planning Guide 386-2: Section 4, Estimating Losses. Loss estimates were generated for structures, general and critical, that were at risk of damage from natural or man made disasters that were applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunnyside. Based on the GPS data and the online tool's mapping ability, it was determined that seven (7) structures are at risk for flood damage. The GEMA database tool identified one (1) government structure, one (1) educational structure and five (5) utility structures as critical facility assets that have a flood hazard score greater than zero. Worksheet 3A showed a total of seven (7) assets worth \$2,012,097 for Spalding County and the Cities of Griffin and Orchard Hill. The City Hall building in Orchard Hill is located in an area that is at risk for flood damage. The total value of this property is \$62,533. Spalding County identified five (5) critical facilities which are located in a flood zones area. The Beaverbrook Elementary School is considered at risk for flood damage. The total value of critical facilities in Spalding County that have a high risk for damage is \$5,506,809. Griffin identified one (1) critical facility (Flint River Pump Station) that was at risk of flood damage. The total value of this critical facility is \$5,000,000. One hundred twenty-one (121) critical facilities were identified for this hazard area. The total value of the critical facility assets in the flood hazard area is \$400,039,849. Based upon flood maps and tax digests, sources were not available to allow the number of structures to be broken down by jurisdiction. Critical facility asset inventories for this hazard have been listed in Appendix A, pg A-1, and Worksheet 3A inventories are located in Appendix D. The GEMA online tool did not list any repetitive losses for Spalding County and the Cities of Griffin, Orchard Hill, and Sunnyside. Data deficiencies from the original PDM plan resulted from a lack of property values for all critical facilities, but in the plan update all critical facilities listed had current valuation estimates.
- E. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side have established minimum standards for all new construction and substantial improvements of residential and nonresidential structures. In addition, construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2000 edition). The minimum standards established by these codes provide reasonable protection to persons and property within structures that comply with the regulations for most natural hazards. Other than the

construction codes, there are no land use trends (current or future) that specifically address this hazard. A full list of future land use trends and goals can be found in Appendix C.

- F. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. The specific area prone to flood damage can be found in Appendix A, Pg. A-1. Worksheet 3A does not list residential structures located in areas prone to flood damage. The data for flooding was not sufficient to generate an accurate Worksheet 3A assets inventories for Spalding, Orchard Hill and Sunny Side. Mitigation actions taken to address floods and to limit damage should involve the county and all its municipalities. Due to the nature of this hazard and its ability to strike anywhere in the county, there is no significant difference in jurisdictional risk to the local governments. Maps of this hazard, if available, are located in Appendix A.
- G. There are areas of Spalding County and the City of Griffin that lie within a floodplain and have the potential to flood. Typically, the potential of property damage to structures is greatly increased during occurrences of floods. In addition, flood occurrences have the capability of disrupting governmental services. In 1994, a hundred year flood affected the Spalding County and the City of Griffin. The reported damage to critical structures was approximately \$23,535. There are no flood related damage estimates on record for those two municipalities, but Spalding County did have a fire station which was damaged in the flood of 1994 (\$23,535 in damages). This flood event also disrupted essential government services. The specific areas affected included sections of Shoal, Cabin and Grape Creeks and Ison Branch. These floodplain areas are located in low lying areas that are prone to flooding during periods of heavy rain. Emergency crews responded to specific incidents of flooding in flood zone areas and reported numerous transportation backlogs due to flooding on portions of State Route's 16 and 19/41. Since the 1994 flood the Georgia Department of Transportation has made road improvements to mitigate future flood damage along the major roadways, and Spalding County has passed an ordinance that prevents building in the County's flood prone areas. A copy of this ordinance can be found in Appendix C.

The City of Griffin has taken steps to reduce the impacts of flooding as well. The City has attempted to reach out to citizens about the importance of flood events through a series of local newsletters. The City encourages citizens to take steps to protect their property from flooding. The City identified the following methods to permanently retrofit structures to help protect them from flooding.

1. Materials such as waterproof coating or veneers and water tight shield can be applied to help protect structures from the damages of flood waters.
2. Buildings can be anchored to prevent floatation or wall can be strengthened to withstand the pressure of flood waters or the impact from floating objects.
3. Ensure that the structure has proper flood insurance.

The City of Griffin submitted a comprehensive application to the Georgia Emergency Management Agency (GEMA) for a Hazard Mitigation Grant to construct drainage improvements in the Lyndon Basin. The City was successful in securing grant funds from GEMA to assist with the design and construction.

The City of Griffin also submitted a comprehensive application package to the Georgia EPD for evaluation against applications for potential projects submitted by other municipalities. The City was successful in securing funds from the EPD to assist with the design and construction.

The 5th Street and Wall Street Drainage Improvement project was implemented to correct an improperly operating stormwater drainage system. The existing piping system was undersized which results in inadequate operation and flooding of areas between Taylor Street, Solomon Street, Fourth Street and Fifth Street. The proposed design calls for rerouting of stormwater beginning at the intersection of 5th Street and Wall Street and continuing east to an existing creek. The proposed design includes installation of a 72-inch aluminized corrugated metal pipe that replaced the existing undersized storm piping system. Additionally, a detention/ water quality pond has been constructed at the outfall of the pipe to reduce the flooding and non-point source pollution impacts downstream of the project. Funds secured from GEFA have been used for design and construction of this project.

The City of Griffin has a stormwater ordinance and regulations in place to control and manage the stormwater management system. The City of Griffin has performed flood studies to assess the nature of and determine solution for out-of-back flow events that adversely impact public and private lands.

The National Flood Insurance Program (NFIP) regulations require that new buildings and substantial improvements to existing buildings be protected from the base flood. Therefore, the City of Griffin has implemented a Community Rating System (CRS) to provide insurance premiums rate reductions to the City.

Due to their size, low susceptibility to all known hazards, and existing service delivery agreements the Cities of Orchard Hill and Sunny Side have designated Spalding County to act on their behalf for hazard mitigation activities.

2. Tornadoes

- A. A tornado is a violently rotating column of air in contact with the ground. The air column can be seen when it contains condensation in the form of a cloud or when it contains surface dust and debris. Usually, a combination of both are present. When the column of air is aloft, it is called a funnel cloud. A waterspout is a tornado in contact with a water surface. The classic funnel shape may not be present in exceptionally large tornadoes. The tornado may appear to be a large, turbulent cloud near the ground, a large rain shaft, or even a non-weather event such as a fire.

The Fujita scale (F-Scale) is a scale for rating tornado intensity, based on the damage tornadoes inflict on human-built structures and vegetation. The F-Scale rating for tornadoes is from F0 to F5, and a tornado is more devastating as it increases in scale. An F0 tornado is a tornado with wind speeds up to 73 mph. F0 tornadoes cause light damage to structures, can break tree branches, or uproot small trees. An F1 tornado is a tornado with wind speeds between 73 and 112 mph. F1 tornadoes cause moderate damage to structures such as peeling rooftops, pushing mobile homes off foundations, or blowing moving vehicles off roads. An F2 tornado is a tornado with wind speeds between 113 and 157 mph. F2 Tornadoes cause considerable damage such as completely tearing off rooftops from frame houses, demolishing mobile homes, snapping large trees, lifting cars off the ground, and creating light object projectiles as they are hurled around. An F3 tornado is a tornado with wind speeds between 158 and 206 mph. F3 tornadoes cause severe damage such as destroying the roofs and walls on well constructed houses, overturning trains, uprooting most trees in the path of the tornado, and lifting and throwing heavy cars. An F4 tornado is a tornado with wind speeds between 207 and 260 mph. An F4 tornado causes devastating damage such as leveling well constructed houses, demolishing structures with weak foundations, and creating large projectiles from nearby cars or other materials. An F5 tornado is a tornado with a wind speed between 261 and 318 mph. An F5 tornado causes incredible damage such as destroying strong frame houses, creating automobile-sized missiles that fly through the air in excess of 100 meters (109 yards), destroying trees, etc.

Tornadoes are a constant hazard for Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side because they can form at any time. Since the exact time and location of a tornado is always unpredictable, all of Spalding County is vulnerable to the threats of tornadoes.

- B. During the planning process the Mitigation Planning Committee used the NCDC Query report and local hazard records. The best information available on tornadoes is only from within the last fifty years. In the

records that were evaluated, it was determined that there were eleven (11) occurrences of tornadoes that affected either the county or one of its municipalities. Data is incomplete for the individual jurisdictions. Of the eleven tornado occurrences six (6) were classified as F0, four were classified as F1, and one was categorized as F2, according to the Fujita scale (F-Scale). Based on available data, the extreme magnitude of most tornado events in Spalding County tend to be F0 events which can have winds up to 73 mph. F1 and F2 tornado events appear to occur less often. Due to the tendency of the NCDC report to lump multiple counties into hazard events, the specific hazard information by jurisdiction was unavailable. Due to the limited data the frequency of occurrence for this event is listed as a 18.33% chance per year, but the percentage should continue to decrease as better records are kept in the future. NCDC data and other hazard records can be found in Appendix C. A hazard event frequency table for tornadoes is listed in Appendix A,, pg A- 94. NCDC data and other hazard records can be found in Appendix C.

- C. The Mitigation Planning Committee examined the historical records, and determined that all assets listed on the Critical Facility Inventory were potentially at risk in the event of a tornado. Using the information generated by the GEMA online tool, there are one hundred twenty-one (121) critical assets worth \$400,039,849 that could be exposed to this hazard. More detailed asset inventories for this hazard have been listed in Appendix A, pg A-15, and worksheet 3A inventories are located in Appendix D. The number of community structures within the County includes Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside. Sources were not available to allow the number of structures to be broken down by jurisdiction. Data deficiencies from the original PDM plan were due to a lack of hazard mapping and GPS information for critical facilities, but those issues were rectified in the 2010 plan update.

- D. The loss estimates were generated using GEMA created online tool that complied reporting information with guidance set forth by the FEMA State and Local Mitigation Planning Guide 386-2: Section 4, Estimating Losses. Loss estimates were generated for structures, general and critical, that were at risk of damage from natural or man made disasters that were applicable to Spalding County or the Cities of Griffin, Orchard Hill, and Sunny Side. Using the information generated by the GEMA online tool, there are one hundred twenty (121) critical assets worth \$400,039,849 in total damage liability. Potential losses for this hazard have been listed in Appendix A, pg A-15. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side. Losses for this hazard have been

listed in Appendix A, page A-16, and Worksheet 3A inventories are located in Appendix D. Due to the tendency of the NCDC report to lump multiple counties into hazard events, the specific hazard information by jurisdiction was unavailable. Data deficiencies from the original PDM plan resulted from a lack of property values for all critical facilities, but in the plan update all critical facilities listed had current valuation estimates.

Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side have established minimum standards for all new construction and substantial improvements of residential and nonresidential structures. In addition, construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Other than the construction codes, there are no land use trends (current or future) that specifically address this hazard. A full list of future land use trends and goals can be found in Appendix B.

- E. This hazard is applicable to Spalding County and the Cities of Orchard Hill and Sunny Side. Mitigation actions taken to address tornadoes and to limit damage should involve the county and all its municipalities. Due to the nature of this hazard and its ability to strike anywhere in the county, it is considered a county wide hazard, and there is no significant difference in jurisdictional risk to the local governments. Data was unavailable in order to provide Worksheet 3A asset lists, located in Appendix D, by jurisdiction beyond the county level. Maps of this hazard, if available, are located in Appendix A.
- F. Tornadoes can topple buildings, roll mobile homes, uproot trees, hurl people and animals through the air for hundreds of yards, and fill the air with lethal wind-borne debris. Tornadoes do their destructive work through the combined action of their strong rotary winds and the impact of wind-borne debris. Tornadoes within Spalding County and the Cities of Orchard Hill and Sunny Side have the capability of disrupting government services, and damaging structures from governmental, industrial, and private sectors. During the planning process the Mitigation Planning Committee did not find any detailed information regarding losses or damage to critical infrastructure related to this hazard, but the records did indicate that total property damage over the fifty year span to be \$6.8 million. There are no major changes to report from the original plan.

3. Agricultural Drought

- A. Droughts do not have the immediate effects of floods, but sustained droughts can cause economic stress on the entire State. The word drought has different meanings, depending on a person's perspective. To a farmer, a drought is a period of moisture deficiency that affects the crops under cultivation; even 2 weeks without rainfall can stress many crops during certain periods of the growing season. To a meteorologist, a drought is a prolonged period of moisture deficiency. A drought lasting 1-3 months is considered to be short term; 4-6 months, intermediate; and more than 6 months, long term. To a water manager, a drought is a deficiency in water supply that affects water availability and water quality. To a hydrologist, a drought is a period of decreased precipitation and stream flow.

Drought damage would put more of a strain on the local area water supply, but not have an significant impact on the local private industry economy because it is not agricultural in nature. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side, along with the rest of the State, recently experienced drought like conditions.

- B. During the planning process, the Planning Committee used the NCDC Query report and local hazard records. The best information available on drought is only from within the last ten years. In the records that were evaluated, it was determined that there were eighteen (18) occurrences of drought conditions that affected either the county or one of its municipalities. The NCDC records from 1997 to 2004 show that Spalding County had many short term drought events that linked together to become a long term drought. In 2007, drought conditions reappeared, highlighting a record five (5) drought events within a single year. In terms of extent, it appears that drought conditions in Spalding County tend to become long term when they do appear. Data is incomplete for the individual jurisdictions. Due to the tendency of the NCDC report to lump multiple counties into hazard events, the specific hazard information by jurisdiction was unavailable. Due to the limited information available, this creates a situation where the county has a 30% chance per year of encountering drought conditions. Due to the tendency of the NCDC report to lump multiple counties into hazard events, the specific hazard information by jurisdiction was unavailable. As time moves on and better records are kept, then frequency should decrease. A hazard event frequency table for drought is listed in Appendix A, pg A-94. NCDC data and other hazard records can be found in Appendix C.

Droughts do not have the immediate effects of all natural hazards, but sustained drought can cause severe economic stress to not only the

agricultural interest in Spalding County, but to the entire State of Georgia. The potential negative effects of sustained drought are numerous. Drought is not spatially defined and it has the potential to affect the entire County.

- C. The Planning Committee examined the historical records, and determined that all assets listed on the Critical Facility Inventory were potentially at risk in the event of a drought. Prolonged drought conditions could cause structural damage, increased frequency of fire, or other conditions that create a risk to critical facilities. Using the information generated by the GEMA online tool, there are one hundred twenty-one (121) critical assets worth \$400,039,849 that could be exposed to this hazard. More detailed asset inventories for this hazard have been listed in Appendix A. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side. Data deficiencies from the original PDM plan were due to a lack of hazard mapping and GPS information for critical facilities, but those issues were rectified in the 2010 plan update.

- D. The loss estimates were generated using GEMA created online tool that complied reporting information with guidance set forth by the FEMA State and Local Mitigation Planning Guide 386-2: Section 4, Estimating Losses. Loss estimates were generated for structures, general and critical, that were at risk of damage from natural or man made disasters that were applicable to Spalding County or the Cities of Griffin, Orchard Hill, and Sunny Side. Using the information generated by the GEMA online tool, there are 121 critical assets worth \$400,039,849 in total damage liability. Worksheet 3A showed a total of twenty-six thousand, two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side. Losses for this hazard have been listed in Appendix A, page A-27, and Worksheet 3A inventories are located in Appendix D. The number of community structures within the County includes Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside. Sources were not available to allow the number of structures to be broken down by jurisdiction. Data deficiencies from the original PDM plan resulted from a lack of property values for all critical facilities, but in the plan update, all critical facilities listed had current valuation estimates.

- E. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side have established minimum standards for all new construction and substantial improvements of residential and nonresidential structures. In addition, construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2000 edition). The minimum standards established by these codes

provide reasonable protection to persons and property within structures that comply with the regulations for most natural hazards. Other than the construction codes, there are no land use trends (current or future) that specifically address this hazard. A full list of future land use trends and goals can be found in Appendix C.

- F. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. Mitigation actions taken to address drought and to limit damage should involve the county and all its municipalities. Due to the nature of this hazard and its ability to strike anywhere in the county, there is no significant difference in jurisdictional risk to the local governments. Data was unavailable in order to provide Worksheet 3A asset lists, located in Appendix D, by jurisdiction beyond the county level. Maps of this hazard, if available, are located in Appendix A.
- G. Recent droughts in Georgia have severely affected municipal and industrial water supplies, stream-water quality, recreation at major reservoirs, hydropower generation, and navigation, as well as agricultural and forest resources. Drought in Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side could potentially have a severe affect on governmental and industrial sectors, but would have limited impact on the agricultural industry due to its limited presence within the jurisdiction. During the planning process, the PDM planning committee did not find any information regarding any significant losses or damage to critical infrastructure related to this hazard, but records did indicate that the total county property damage over the past sixty years was reported at \$670.7 Million. There were no major changes to report from the original plan.

4. Severe Winter Storm / Hail Storm

- A. Severe winter storms bring the threat of freezing rain and ice storms. Freezing rain is rain occurring when the surface temperatures are below freezing (32 degrees Fahrenheit, 0 degrees Celsius). The moisture falls in liquid form, but freezes upon impact, resulting in a coating of ice glaze on exposed objects. This occurrence is commonly called an "ice storm" when a substantial glaze layer accumulates. Hail (hailstones) is precipitation in the form of lumps of ice that form during some thunderstorms. Hail is most damaging to crops but can also damage aircraft, automobiles, roofs, and windows. Severe winter storms or hail storms can cause property damage as well as damage to power lines. Additionally, this hazard can create unsafe conditions on roads or sidewalks as layers of ice cover the ground. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side are vulnerable to the

effects of this hazard, but severe winter storms or intense hail storms are not a frequent occurrence.

- B. During the planning process the Mitigation Planning Committee used the NCDC Query report and local hazard records. The best information available on severe winter storms or hail storms is from within the last fifty years. In the records that were evaluated, it was determined that there were fourteen (14) occurrences of severe winter storms and forty-four (44) occurrences of hail storm conditions that affected either the county or one of its municipalities. In terms of extent, snow events tend to produce between 1 to 4 inches of snowfall, but they don't appear to have disrupted essential services or operations. The ice events have typically produced hailstone between quarter sized and golf ball sized hail, and hailstones of that size can damage property. During the time that accurate records have been kept, there is a 23.33% chance per year for a snow and/or ice hazard event. The records also show that there is a 73.33% chance per year for a hail hazard event. Due to the tendency of the NCDC report to lump multiple jurisdictions into hazard events, the specific hazard information by jurisdiction was unavailable. A hazard event frequency table for severe winter storms and hail storms is listed in Appendix A, pg. A-94. NCDC data and other hazard records can be found in Appendix C.
- C. The Mitigation Planning Committee examined the historical records, and determined that all assets listed on the Critical Facility Inventory were potentially at risk in the event of a severe winter storm or hail storm event. Using the information generated by the GEMA online tool, there were one hundred twenty-one(121) critical assets worth \$400,039,849 that could be exposed to this hazard. More detailed asset inventories for this hazard have been listed in Appendix A, pg. A-94, and Worksheet 3A inventories are located in Appendix D. The number of community structures within the County includes Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside. Sources were not available to allow the number of structures to be broken down by jurisdiction. Data deficiencies from the original PDM plan were due to a lack of hazard mapping and GPS information for critical facilities, but those issues were rectified in the 2010 plan update.
- D. The loss estimates were generated using GEMA created online tool that complied reporting information with guidance set forth by the FEMA State and Local Mitigation Planning Guide 386-2: Section 4, Estimating Losses. Loss estimates were generated for structures, general and critical, that were at risk of damage from natural or man made disasters that were applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. Using the information generated by the GEMA online tool, there are one hundred twenty-one (121) critical

assets worth \$400,039,849 in total damage liability. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. Losses for this hazard have been listed in Appendix A, A-37, and Worksheet 3A inventories are located in Appendix D. The number of community structures within the County includes Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside. Sources were not available to allow the number of structures to be broken down by jurisdiction. Data deficiencies from the original PDM plan resulted from a lack of property values for all critical facilities, but in the plan update all critical facilities listed had current valuation estimates.

- E. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side have established minimum standards for all new construction and substantial improvements of residential and nonresidential structures. In addition, construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Other than the construction codes, there are no land use trends (current or future) that specifically address this hazard. A full list of future land use trends and goals can be found in Appendix C.
- F. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. Mitigation actions taken to address hail/winter storms and to limit damage should involve the county and all its municipalities. Due to the nature of this hazard and its ability to strike anywhere in the county, it is considered a county wide hazard, and there is no significant difference in jurisdictional risk to the local governments. Data was unavailable in order to provide Worksheet 3A asset lists, located in Appendix D, by jurisdiction beyond the county level. Maps of this hazard, if available, are located in Appendix A.
- G. A heavy accumulation of ice, especially when accompanied by high winds, devastates trees and transmission lines. Sidewalks, streets, and highways become extremely hazardous to pedestrians and motorists. Destructiveness of ice storms in the southern States, especially rural areas such as Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side, is increased because buildings are not designed with severe winter conditions in mind. In addition, agricultural crop losses have occurred from time to time from unanticipated deep freezing temperatures and ice. The largest impact on the community for this hazard has been that snow and ice has temporarily disrupted critical

government services due to limited road access, and due to power line disruptions. During the planning process the mitigation planning committee did not find any information regarding any significant losses or damage to critical infrastructure related to this hazard, but the records did indicate that the total property damage over the fifty year span for Spalding County was \$12.745 million. There were no major changes to report from the original plan.

5. Thunderstorms/Lightning

- A. Thunderstorms and tornadoes are small and short-lived and are, therefore, difficult to forecast precisely. It is estimated that at any given moment nearly 2,000 thunderstorms are in progress over the earth's surface. There are about 45,000 thunderstorms daily and 16 million annually around the world. In the United States, there are at least 100,000 thunderstorms annually. Georgia is visited by one or more thunderstorms on the average from 50 to 80 days per year. The National Weather Service defines a severe thunderstorm as one that produces winds greater than 57 miles per hour and/or hail $\frac{3}{4}$ inch or greater in diameter. These parameters are considered to be capable of damage.

Lightning is an atmospheric discharge of electricity, which typically occurs during thunderstorms, and sometimes during volcanic eruptions or dust storms. In the atmospheric electrical discharge, a leader of a bolt of lightning can travel at speeds of 60,000 m/s, and can reach temperatures approaching 30,000°C (54,000°F), hot enough to fuse soil or sand into glass channels. There are over 16 million lightning storms every year. Lightning can also occur within the ash clouds from volcanic eruptions, or can be caused by violent forest fires which generate sufficient dust to create a static charge.

- B. During the planning process, the Planning Committee used the NCDC Query report and local hazard records to examine occurrences of thunderstorms and lightning. The best information available about thunderstorms occurrences is from recorded within the last fifty years. In the records that were evaluated, it was determined that there were seventy-six (76) occurrences of thunderstorm conditions that affected either the county or one of its municipalities. Based on available data, this creates a situation where there is a 126.67% chance for a severe thunderstorm event on any given year. Thunderstorms events have created intense winds, lightning, and precipitation up to several inches in Spalding County. Due to the tendency of the NCDC to lump multiple counties into hazard events, the specific hazard information by jurisdiction was unavailable. Since 1994, sixteen (16) occurrences of lightning have been reported in Spalding County. The probability of a

lightning related hazard occurring in Spalding County is 26.67%. One person was injured as a result of a lightning event. The total property damage recorded was estimated at approximately \$478K. A hazard event frequency table for thunderstorms is listed in Appendix A, pg. A-94. To determine the extent of the wind effects on this hazard, refer to the Thunderstorm profile in Appendix A. NCDC data and other hazard records can be found in Appendix C.

- C. The Planning Committee examined the historical records, and determined that all assets listed on the Critical Facility Inventory were potentially at risk in the event of a thunderstorm event. Using the information generated by the GEMA online tool, there are 121 critical assets worth \$400,039,849 for this hazard, which is listed in Appendix A. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side. Losses for this hazard have been listed in Appendix A. The number of community structures within the County includes Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside. Sources were not available to allow the number of structures to be broken down by jurisdiction. Further, data was unavailable in order to provide Worksheet 3A asset lists, located in Appendix D, by jurisdiction beyond the county level. Data deficiencies from the original PDM plan were due to a lack of hazard mapping and GPS information for critical facilities, but those issues were rectified in the 2010 plan update.

- D. The loss estimates were generated using GEMA created online tool that complied reporting information with guidance set forth by the FEMA State and Local Mitigation Planning Guide 386-2: Section 4, Estimating Losses. Loss estimates were generated for structures, general and critical, that were at risk of damage from natural or man made disasters that were applicable to Spalding County or the Cities of Griffin, Orchard Hill, and Sunny Side. Using the information generated by the GEMA online tool, there are 121 critical assets worth \$400,039,849 in total damage liability. Losses for this hazard have been listed in Appendix A. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side. Losses for this hazard have been listed in Appendix A, page A-59. The number of community structures within the County includes Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside. Sources were not available to allow the number of structures to be broken down by jurisdiction. Further, data was unavailable in order to provide Worksheet 3A asset lists, located in Appendix D, by jurisdiction beyond the county level. Data deficiencies from the original PDM plan resulted from a lack of

property values for all critical facilities, but in the plan update all critical facilities listed have current valuation estimates.

- E. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side have established minimum standards for all new construction and substantial improvements of residential and nonresidential structures. In addition, construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2000 edition). The minimum standards established by these codes provide reasonable protection to persons and property within structures that comply with the regulations for most natural hazards. Other than the construction codes, there are no land use trends (current or future) that specifically address this hazard. A full list of future land use trends and goals can be found in Appendix B.
- F. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. Mitigation actions taken to address thunderstorms and to limit damage should involve the county and all its municipalities. Due to the nature of this hazard and its ability to strike anywhere in the county, there is no significant difference in jurisdictional risk to the local governments. Data was unavailable in order to provide Worksheet 3A asset lists, located in Appendix D, by jurisdiction beyond the county level. Maps of this hazard, if available, are located in Appendix A.
- G. Thunderstorms, especially when accompanied by high winds, can devastate trees and transmission lines. Sidewalks, streets, and highways become extremely hazardous to pedestrians and motorists. Destructiveness of thunderstorms in the southern States, especially rural areas such as Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side, is increased because buildings are not always designed with severe thunderstorm conditions in mind.

While thunderstorms are not a large threat to the critical infrastructure inventory listed in Appendix A, there are a large number of old residential mill houses located within the City of Griffin that could be damaged by falling trees during a severe thunderstorm. During the planning process, the PDM planning committee did not find any information regarding any significant losses or damage to critical infrastructure related to this hazard. There were no major changes to report from the original plan.

6. Extreme Heat

A. Temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground. Excessively dry and hot conditions can provoke dust storms and low visibility. Droughts occur when a long period passes without substantial rainfall. A heat wave combined with a drought is a very dangerous situation.

The magnitude or intensity of an extreme heat event is measured according to temperatures in relation to the percentage of humidity. According to the National Oceanic Atmospheric Administration (NOAA), this relationship is referred to as the "Heat Index," and is depicted in the Figure 1 below. This index measures how hot it feels outside when humidity is combined with high temperatures.

Figure 1
NOAA's National Weather Service
Heat Index
 Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	126	130					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution
 Extreme Caution
 Danger
 Extreme Danger

The extent scale in Figure 1 displaying varying degrees of caution depending on the relative humidity combined with the temperature. For example, when the temperature is at 90 degrees Fahrenheit or higher, caution should be exercised if the humidity level is at or above 40 percent.

As relative humidity increases, the air seems warmer than it actually is because the body is less able to cool itself via evaporation or perspiration. As the heat index rises, so do health risks.

- When the heat index is 90° Fahrenheit, heat exhaustion is possible with prolonged exposure and/or physical activity.
- When it is 90° - 105° Fahrenheit, it is probably within the possibility of sunstroke, heat cramps or heat exhaustion with prolonged exposure and/or physical activity.
- When it is 105°-129°Fahrenheit, sunstroke, heat cramps or heat exhaustion is likely, and heatstroke is possible with prolonged exposure and/or physical activity.
- When it is 130°Fahrenheit, and higher, heatstroke and sunstroke are extremely likely with continue exposure. Physical activity and prolonged exposure to the heat increase the risks.

Table 2 describes the various extreme heat conditions by category.

Table 2

Category	Extreme Heat Conditions
Heat Advisory	Issued within 12 hours of the onset of the following conditions: heat index of 105 degrees Fahrenheit but less than 115 degrees Fahrenheit for less than 3 hours per day, or nighttime lows above 80 degrees Fahrenheit for 2 consecutive days.
Heat Cramps	Muscular pains and spasm due to heavy exertion. Although heat cramps are the least serve, they are often the first signal that the body is having trouble with the heat.
Heat Exhaustion	A mild form of heat stroke, characterized by faintness, dizziness, and heavy sweating.
Heat Index	The Heat Index (HI) or the “Apparent Temperature” is an accurate measure of how hot it really feels when the Relative Humidity (RH) is added to the actual air temperature.
Heat Lightning	Lightning that occurs at a distance such that thunder is no longer audible.
Heat Stroke	A condition resulting from excessive exposure to intense heat, characterized by high fever, collapse, and sometimes convulsions or coma. Also called sun stroke.
Heat Wave	A period of abnormally and uncomfortably hot and unusually humid weather. Typically a heat wave lasts two or more days.

B. During the planning process the Planning Committee used the NCDC Query report and local hazard records. The best information available on extreme heat is only from within the last ten years. In the records that

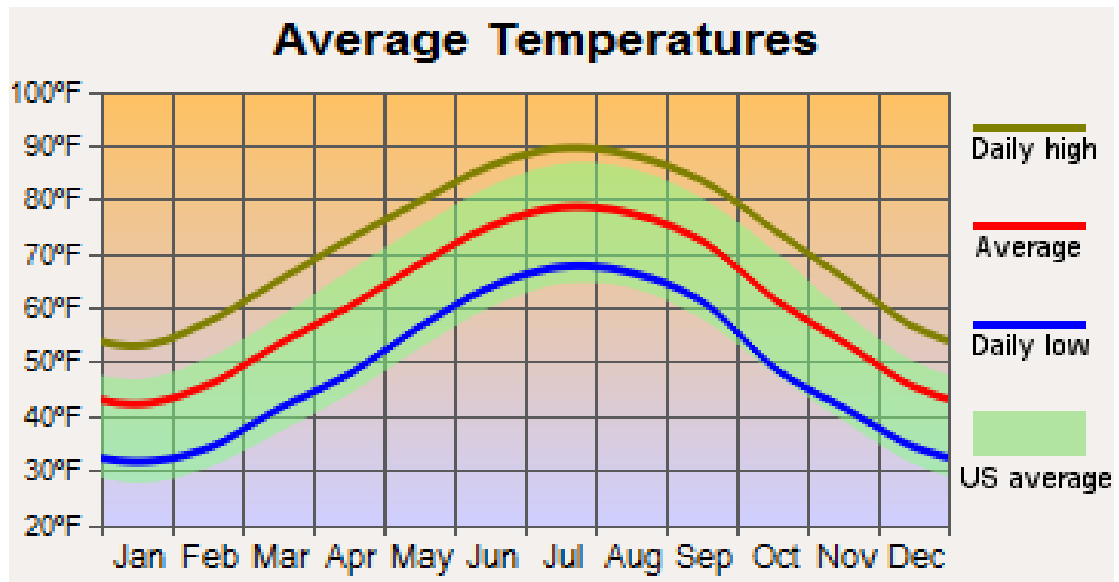
were evaluated, it was determined that there were three (3) occurrences of extreme heat conditions that affected either the county or one of its municipalities. Based on available data in the hazard frequency table in Appendix A. There is a 38% chance per year for an extreme or excessive heat occurrence. A hazard event frequency table for extreme heat is listed in Appendix A, pg. A-94. Due to the tendency of the NCDC report to lump multiple counties into hazard events, the specific hazard information by jurisdiction was unavailable. NCDC data and other hazard records can be found in Appendix C.

The entire County is susceptible to extreme heat conditions. The severity of such an event is a function of duration, intensity and the impact of extreme heat on public utilities, especially electricity and public water supplies.

Typically, extreme heat conditions in West Central Georgia exist primarily during the months of July and August. Extreme heat when coupled with high humidity of Georgia summer months creates a potentially deadly recipe for loss of life or serious health complications. Due to the fact that many residents in older homes do not have air conditioning, the problem is exacerbated. Many times, the individuals living without air conditioning are elderly persons, the most dangerous group to be exposed to extreme heat conditions for a prolonged period of time.

Summer days are characteristically warm and humid in Spalding County with high temperatures often exceeding 90 degrees Fahrenheit. The warmest month of the year is July with an average maximum temperature of 89.90 degrees Fahrenheit. Figure 2 displays the average monthly temperatures for Spalding County.

Figure 2



The extent of extreme heat events are likely to occur when temperatures exceed the 10 degree threshold above the high average temperature for periods of several days. During these extreme heat events, the heat index normally exceeds 100 degrees Fahrenheit. In addition, the relative humidity exceeds 100%. In Spalding County an extreme heat normally triggers high temperatures between 100 and 104 degrees Fahrenheit. These extreme heat events are likely to occur during the summer months of July and August. Spalding County is also subject to high humidity.

Spalding County has been threatened by three (3) extreme heat or excessive heat events. In August 1999, it was reported that two (2) extreme heat events took place. These heat events resulted in two (2) deaths. In August 2007, a heat wave blanketed the State of Georgia with record breaking triple digit temperatures. Spalding County experienced record temperatures of 104 Degrees Fahrenheit. Extreme or excessive heat events are considered a public health threat because they often increase the number of daily death (mortality) or other non-fatal adverse health outcomes in affected populations.

There is a high probability of future occurrences of extreme heat threatening Spalding County. Hot summer temperatures are certain to continue to occur annually in the planning area.

A heat wave has the possibility of cascading into other natural disasters. Severe heat can lead to drought conditions if rain is not present for a lengthy period of time. This lack of rain and presence of hot temperatures can also encourage the spreading of wildfires. Vulnerable populations such as children and elderly persons are at greater risk to extreme heat conditions and may be severely impacted by prolonged events. The study area is likely to experience extreme heat in the future. Based on historical records the probability for such events is frequent and likely to occur more than once every five (5) years.

The Planning Committee examined the historical records, and determined that all assets listed on the Critical Facility Inventory were potentially at risk in the event of an extreme heat event. Using the information generated by the GEMA online tool, there are one hundred twenty-one(121) critical assets worth \$400,039,849 that could be exposed to this hazard. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side. Losses for this hazard have been listed in Appendix A. The number of community structures within the County includes Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside. Sources were not available to allow the number of structures to be broken down by jurisdiction. More detailed asset inventories for this hazard have been listed in Appendix A. Data

deficiencies from the original PDM plan were due to a lack of hazard mapping and GPS information for critical facilities, but those issues were rectified in the 2010 plan update.

- C. The loss estimates were generated using GEMA created online tool that complied reporting information with guidance set forth by the FEMA State and Local Mitigation Planning Guide 386-2: Section 4, Estimating Losses. Loss estimates were generated for structures, general and critical, that were at risk of damage from natural or man made disasters that were applicable to Spalding County or the Cities of Griffin, Orchard Hill, and Sunny Side. Using the information generated by the GEMA online tool, there are one hundred twenty-one(121) assets critical assets worth \$400,039,849 at risk of damage liability. Losses for this hazard have been listed in Appendix A.
- D. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side have established minimum standards for all new construction and substantial improvements of residential and nonresidential structures. In addition, construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2000 edition). The minimum standards established by these codes provide reasonable protection to persons and property within structures that comply with the regulations for most natural hazards. Other than the construction codes, there are no land use trends (current or future) that specifically address this hazard. A full list of future land use trends and goals can be found in Appendix C.
- E. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. Mitigation actions taken to address extreme heat and to limit damage should involve the county and all its municipalities. Due to the nature of this hazard and its ability to strike anywhere in the county, there is no significant difference in jurisdictional risk to the local governments. Losses for this hazard have been listed in Appendix A. Data was unavailable in order to provide Worksheet 3A asset lists, located in Appendix D, by jurisdiction beyond the county level. Maps of this hazard, if available, are located in Appendix A.
- F. Heat kills by pushing the human body beyond its limits. Under normal conditions, the body's internal thermostat produces perspiration that evaporates and cools the body. However, in extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature. A prolonged drought that includes extreme heat conditions can have a serious economic impact on a community. Increased demand for water and electricity may result in

shortages of resources. Moreover, food shortages may occur if agricultural production is damaged or destroyed by a loss of crops or livestock. The largest effect that extreme heat would have within the county would be if the extreme heat conditions evolved into drought conditions. Under those conditions governmental services that rely on water supplies could be disrupted. During the planning process the PDM planning committee did not find any information regarding any significant losses or damage to critical infrastructure related to this hazard. There are no major changes to report from the original plan.

7. Hurricane Winds

- A. The name "hurricane" refers to the great cyclonic storm which occurs in the Atlantic and Gulf of Mexico primarily during the season June through November. These storms occur in different oceans and hemispheres under local names: baguio in the Philippines, typhoon in the Pacific, and the Atlantic hurricane. The broad, spiral base of these storms may dominate weather over thousands of square miles, and from the earth's surface to the lower stratosphere. Winds may reach 200 miles per hour and their lifespan is measured in days or weeks, not minutes or hours. Hurricanes in recent years have blanketed large portions of Georgia with tropical force gale winds (50-74 MPH). The Saffir-Simpson Hurricane Scale defines hurricane strength.

Table 3

Category	Definition -Effects
1	Winds: 74-95 mph (64-82 kt) No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Also, some coastal flooding and minor pier damage.
2	Winds: 96-110 mph (83 – 95 kt) Some roofing material, door, and window damage. Considerable damage to vegetation, mobile homes, etc. Flooding damages piers and small craft in unprotected mooring my break their moorings.
3	Winds: 111 – 130 mph (96 -113 kt) Some structural damage to small residences and utility buildings, with a minor amount of curtainwall failures. Mobile homes are destroyed. Flooding near the coast destroys smaller structures with larger structures damaged by floating debris. Terrain may be flooded well inland.
4	Winds 131-155 mph (114 – 135 kt) More extensive curtain wall failures with some complete roof structure failure on small residences. Major erosion of beach areas. Terrain may be flooded well inland.
5	Winds: 155+ mph (135+ kt) Complete roof failure on many residence and industrial buildings. Some complete building failures with small utility buildings blown over or away. Flooding causes major damage to lower floor of all structures near the shoreline. Massive evacuation of residential areas may be required.

B. During the planning process, the Planning Committee used the NCDC Query report and local hazard records. The best information available on hurricane winds is only from within the last ten years. In the records that were evaluated, it was determined that there were twelve (12) occurrences of hurricane winds conditions that affected either the county or one of its municipalities. Based on available data from the frequency table in Appendix A, there is a 24% chance per year for a hurricane/ hurricane wind event. A hazard event frequency table for hurricane winds is listed in Appendix A, pg. A-94. Due to the tendency of the NCDC report to lump multiple jurisdictions into hazard events, the specific hazard information by jurisdiction was unavailable. However, the likelihood is that when any one part of the county is experiencing hurricane winds or a tropical storm, the rest of the county is as well. Therefore, the data is sufficient to support all jurisdictions within Spalding County. NCDC data and other hazard records can be found in Appendix C.

Typically, tropical storms threaten Spalding County. Though less fearsome than a full-fledged hurricane, tropical storms still are very powerful and often destructive weather systems, whose winds can cause millions of dollars in damage and whose rains can often turn torrential, inundating towns and cities with severe flooding. The County was threaten by eight (8) tropical storms, three (3) hurricanes, and one (1) tropical depression. Spalding County has occasionally felt the effects of hurricanes that have retained their force after landfall. It is not unusual to receive the effect of hurricanes from as far south as the Gulf Coast. Typically, these storms bring heavy rains and some high winds. This can cause flooding in some areas of the County.

- B. The Planning Committee examined the historical records, and determined that all assets listed on the Critical Facility Inventory were potentially at risk in the event of a thunderstorm event. Using the information generated by the GEMA online tool, there are 121 critical assets worth \$400,700,170 that could be exposed to this hazard. The number of community structures within the County includes Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside. Sources were not available to allow the number of structures to be broken down by jurisdiction. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side. Losses for this hazard have been listed in Appendix A. More detailed asset inventories for this hazard have been listed in Appendix A. Data deficiencies from the original PDM plan were due to a lack of hazard mapping and GPS information for critical facilities, but those issues were rectified in the 2010 plan update.
- C. The loss estimates were generated using GEMA created online tool that complied reporting information with guidance set forth by the FEMA State and Local Mitigation Planning Guide 386-2: Section 4, Estimating Losses. Loss estimates were generated for structures, general and critical, that were at risk of damage from natural or man made disasters that were applicable to Spalding County or the Cities of Griffin, Orchard Hill, and Sunny Side. Using the information generated by the GEMA online tool, there are 121 critical assets worth \$400,039,849 in total damage liability. Losses for this hazard have been listed in Appendix A. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side. Losses for this hazard have been listed in Appendix A. Data deficiencies from the original PDM plan resulted from a lack of property values for all critical facilities, but in the plan update all critical facilities listed have current valuation estimates.
- D. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side have established minimum standards for all new construction and substantial improvements of residential and nonresidential structures. In addition, construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2000 edition). The

minimum standards established by these codes provide reasonable protection to persons and property within structures that comply with the regulations for most natural hazards. Other than the construction codes, there are no land use trends (current or future) that specifically address this hazard. A full list of future land use trends and goals can be found in Appendix C.

- E. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. Mitigation actions taken to address hurricane winds and to limit damage should involve the county and all its municipalities. Due to the nature of this hazard and its ability to strike anywhere in the county, there is no significant difference in jurisdictional risk to the local governments. . Losses for this hazard have been listed in Appendix A, page A-47. Data was unavailable in order to provide Worksheet 3A asset lists, located in Appendix D, by jurisdiction beyond the county level. Maps of this hazard, if available, are located in Appendix A.
- F. Hurricanes, especially when accompanied by high winds, devastate trees and transmission lines. Sidewalks, streets, and highways become extremely hazardous to pedestrians and motorists. Destructiveness of hurricane winds in the southern States, especially rural areas such as Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side, is increased because buildings are not always designed with severe thunderstorm conditions in mind.

During the 2004 hurricane season, Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side were struck by several hurricanes, and the strong winds caused massive power outages. Weather forecasters predict that the next three decades may bring more frequent and more powerful hurricanes. The local governments are planning to address this type of hazard by reviewing their goals and objectives for wind and flood related disasters. In 2008, Tropical Storm Fay cause significant property damage in Spalding County. This storm reported \$1.89 Million in property damage. This tropical storm marked the first time that property damage was reported in Spalding County. There were no major changes to report from the original plan.

8. Wildfires

- A. A wildfire is described as an open fire which spreads unconstrained through the environment. If not quickly controlled, the result can be a fire storm, often termed conflagrations, which destroy large amounts of property and threaten lives. Wildfire behavior and spread are affected by three major factors: fuels, weather and topography. Traditionally, the fuel component consists of grasses, brush, trees and accumulations of dead vegetation. Most fire-prone wild land fuels are generally found on lower or middle elevations and drier sites, which unfortunately are the same sites preferred by humans for development. Therefore “intermix” fuels now contain homes, outbuildings, businesses and other valuable

improvements which serve as combustible fuels. Accumulations of firewood, poor outdoor housekeeping and fire-prone construction add to the problem. There is an enlarged threat of public injury and property loss from wildfires in areas where inhabited developments are closely mixed with natural fuels. Weather is also a factor in wildfire development and spread. Drought conditions make the natural fuels more fire-prone. Late March and April along with October are peak months when the danger of wildfires is increased. Topography, the third major factor, shapes a fire's spread. Hollows, canyons and gullies channel winds and thereby channel fire spread. Because heat rises, fire naturally burns upslope. Homes built on a steep slope overlooking a view have less chance of escaping destruction by wildfire. Slope and terrain also hinder fire suppression efforts. One wild and forest event was reported in 2005. No death or injuries were reported as a result of the fire. However, the total property damage was estimated at approximately \$1.0 million.

- B. During the planning process, the Planning Committee used the NCDC Query report and Georgia Forestry Commission records. The best information available on wildfires is from within the last fifty years. In the records that were evaluated, it was determined that there were two thousand one hundred twenty-eight (2,128) occurrences of wildfires that affected either the county or one of its municipalities. Based on available data, this creates a situation where there is a 3,546% chance for a wildfire event on any given year. The information provided by the Georgia Forest Commission did not identify the extent of damage done by wildfires, and the only useful information provided was the number of fires per year. Due to the limited data there is no other way to determine any other extent of the wildfire effects of this hazard. For other information related to wildfires, refer to the Wildfire profile in Appendix A. Due to the tendency of the Georgia Forestry Commission's report to only cite hazard events, the specific hazard information by jurisdiction was unavailable. A hazard event frequency table for wildfires is listed in Appendix A, pg. A- 15. NCDC data and other hazard records can be found in Appendix C.

- C. The Mitigation Planning Committee examined the historical records, and determined that all assets listed on the Critical Facility Inventory were potentially at risk in the event of a wildfire event. Using the information generated by the GEMA online tool, there are one hundred twenty-one(121) critical assets worth \$400,700,170 that could be exposed to this hazard. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side. More detailed asset inventories for this hazard have been listed in Appendix A, pg. A- 31, and Worksheet 3A inventories are located in Appendix D. The number of community structures within the County includes Spalding County and the Cities of Griffin, Orchard Hill and Sunnyside. Sources were not available to allow the number of structures to be broken down by jurisdiction. Data deficiencies from the original PDM plan were due to a lack of hazard mapping, hazard event data,

and GPS information for critical facilities, but those issues were rectified in the 2010 plan update.

- D. The loss estimates were generated using GEMA created online tool that complied reporting information with guidance set forth by the FEMA State and Local Mitigation Planning Guide 386-2: Section 4, Estimating Losses. Loss estimates were generated for structures, general and critical, that were at risk of damage from natural or man made disasters that were applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. Using the information generated by the GEMA online tool, there are one hundred twenty-one(121) critical assets worth \$400,700,170 that could be exposed to this hazard. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side. Losses for this hazard have been listed in Appendix A, and Worksheet 3A inventories are located in Appendix D. Losses for this hazard have been listed in Appendix A, page A-71. Data deficiencies from the original PDM plan resulted from a lack of property values for all critical facilities, but in the plan update all critical facilities listed had current valuation estimates. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side have established minimum standards for all new construction and substantial improvements of residential and nonresidential structures. In addition, construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Other than the construction codes, there are no land use trends (current or future) that specifically address this hazard. A full list of future land use trends and goals can be found in Appendix B.
- E. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunnyside. Mitigation actions taken to address wildfires and to limit damage should involve the county and all its municipalities. Due to the nature of this hazard and its ability to strike anywhere in the county, there is no significant difference in jurisdictional risk to the local governments. Data was not available in order to provide Worksheet 3A asset lists, located in Appendix D, by jurisdiction beyond the county level. Maps of this hazard, if available, are located in Appendix A.
- F. The probability that wildfires will occur in the future is without doubt. All woodland areas in the un-incorporated section of the county are at some degree of risk. Subdivisions and mobile home parks within the county or any of its municipalities that are located in or adjacent to areas of vegetation are also at risk to the wildfire hazard.

While wildfires are a large threat to the critical infrastructure inventory listed in Appendix A, there are a large number of old residential mill houses located within

Spalding County and the Cities of Griffin, Orchard Hill, and Spalding County that could be damaged by wildfire events. During the planning process the PDM planning committee did not find any information regarding any significant losses or damage to critical infrastructure related to this hazard, nor did the record indicate any values for property or other types of collateral damage. There were no major changes to report from the original plan.

Chapter Three: Local Technological Hazard Summary

In an effort to expand the scope of this plan, the Spalding County Pre-Disaster Mitigation Planning Committee set out to integrate technological or “human-caused” hazards into the first PDM planning process. The term, “technological hazard” refers to incidents resulting from human activities such as the manufacture, transportation, storage, and use of hazardous materials. This plan assumes that hazards resulting from technological sources are accidental, and that their consequences are unintended. In the 2010 planning process, research has continued to determine that no technological hazard (hazardous material release) poses a direct, measurable threat to Spalding County or the Cities of Griffin, Orchard Hill, and Sunny Side. This finding was confirmed by using new analysis methods where the Mitigation Planning Committee was able to obtain emergency hazardous material inventory sheets. The emergency hazardous material sheets helped the committee to determine which critical inventory assets stored high amounts of hazardous materials that could post a risk to Spalding County or the Cities of Griffin, Orchard Hill, and Sunny Side.

1. Hazardous Material Release

- A. Hazardous materials can come in the form of a solid, liquid, or gas and can be released from mobile or fixed containers. These chemicals could have corrosive, explosive, or noxious effects within the radius of release. Some materials could cause further damage to the community by being transported via wind or water.
- B. The Mitigation Planning Committee studied documents from the previous disaster mitigation plan, talked to local emergency response personnel, and studied several historical sources. However, the committee found no record of a significant hazardous materials release that caused loss of life, significant property damage, disrupted governmental services, or caused damage to any of the existing critical facilities. Due to the lack of data about hazardous materials release, the true extent or impact of this hazard was not able to be assessed in this plan. A hazard event frequency table for hazardous materials release is listed in Appendix A, pg. A- 42. Due to inability to obtain information on hazardous material events, the specific hazard information by jurisdiction was unavailable.
- C. The Mitigation Planning Committee determined that all assets listed on the Critical Facility Inventory were potentially at risk in the event of a severe hazardous materials release. Using the information generated by the GEMA online tool, there are one hundred twenty-one(121) critical assets worth \$400,039,849 that could be exposed to this hazard. More detailed asset inventories for this hazard have been listed in Appendix A, pg A - 95, and Worksheet 3A inventories are located in Appendix D. Data deficiencies from the original PDM plan were due to a lack of hazard mapping, hazard event data, and GPS information for critical facilities. The 2010 plan update

provides a base hazard map, GPS information and a risk assessment score, but data on significant hazardous material releases was not addressed due to an inability to find or obtain information related to those events.

- D. The loss estimates were generated using GEMA created online tool that complied reporting information with guidance set forth by the FEMA State and Local Mitigation Planning Guide 386-2: Section 4, Estimating Losses. Loss estimates were generated for structures, general and critical, that were at risk of damage from natural or man made disasters that were applicable to Spalding County or the Cities of Griffin, Orchard Hill, and Sunny Side. Using the information generated by the GEMA online tool, there are one hundred twenty-one(121) critical assets worth \$400,039,849 in total damage liability. Worksheet 3A showed a total of twenty-six thousand two hundred thirty (26,230) assets worth \$959,054,849 for Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. Losses for this hazard have been listed in Appendix A, page A-85. Worksheet 3A inventories are located in Appendix D. Losses for this hazard have been listed in Appendix A. Data deficiencies from the original PDM plan resulted from a lack of property values for all critical facilities, but in the plan update all critical facilities listed had current valuation estimates.

- E. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side have established minimum standards for all new construction and substantial improvements of residential and nonresidential structures. In addition, construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Other than the construction codes, there are no land use trends (current or future) that specifically address this hazard. A full list of future land use trends and goals can be found in Appendix B

.Note: These codes only offer limited protections against a hazardous materials release.

- F. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side. Mitigation actions taken to address severe hazardous materials releases and to limit damage should involve the county and all its municipalities. Due to the nature of this hazard and its ability to strike anywhere in the county, it is considered a county wide hazard, and there is no significant difference in jurisdictional risk to the local governments. Data was unavailable in order to provide Worksheet 3A asset lists, located in Appendix D, by jurisdiction beyond the county level. Maps of this hazard, if available, are located in Appendix A.

The release of hazardous materials would pose a serious threat to the community, and could cause severe damage to infrastructure as well as a loss of life. Currently there have been no instances of severe hazardous materials release within the county boundary, but the potential for future risk does exist. There were no major changes to report from the original plan.

Chapter Four: Local Natural Hazard Goals & Objectives

The Spalding County Mitigation Planning Committee developed goals, objectives, and performed a STAPLEE evaluation on those goals and objectives for each hazard. During the goals and objectives update, new goals and objectives were created for the three (3) new hazards (Hail, Lightning, and Wildfires). Goals and objectives were considered for floods, tornadoes, drought, severe winter storms / hail storms, hurricane winds, thunderstorms/lightning, extreme heat, and wildfires. Goals were prioritized based on cost benefit or cost effectiveness, availability of potential funding sources, overall feasibility, measurable milestones, multiple objectives, and both public and political support for the proposed actions.

The 2010 plan update for this chapter included the addition of three new natural hazards, the creation of new goals for each natural hazard, and the completion or unchanged actions for all previous goals and objectives from the previous PDM plan. New goals and objectives were developed based on the ability of Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side to implement them given limited local resources such as manpower, time, or local match limitations.

Each hazard has an information summary table that designates the persons responsible for implementing all the goals, objectives, and action steps, the expected date of implementation, the cost, and the funding source. The prioritized primary and alternative goals and action steps for each hazard can be found in Appendix D, Worksheet 4 (STAPLEE Evaluation).

1. Floods

A. Community Mitigation Goals

1. The community mitigation goal is to preserve the health and well being of the citizens of Spalding County as well as the Cities of Griffin, Orchard Hill, and Sunny Side by minimizing building in flood hazard zones. The flood of 1994 had a county wide impact by disrupting services, but smaller flood events since that time have not caused widespread disruption. However, Spalding County and the City of Griffin have approved flood ordinances that cover the entire county. The flood ordinance regulates development within the floodplain, and requires all new construction to be reviewed to ensure that it is not located within the floodplain.

B. Identification & Analysis of Range of Mitigation Options

1. Structural and non-structural mitigation

- a) To improve awareness of natural hazards

- b) To identify possible prevention measures

2. Existing Policies

- a) Spalding County and the City of Griffin have existing flood ordinances.
- b) The City of Sunny Side currently does not have a flood ordinance in place. The City of Sunny Side recently collaborated with Spalding County to include it jurisdiction as part of the Spalding County Flood Ordinance. (See Appendix ___ for updated Spalding County Flood Ordinance).
- c) The City of Orchard Hill is not located in or near a 100-year flood zone. Therefore, the City does not have a flood protection ordinance in place.

3. Community Values, historic & special considerations

- a) There are no current historical or special considerations. Potential mitigation actions to reduce this hazard would have to be evaluated in order to preserve any historical locations.
- b) The Mitigation Planning Committee performed a STAPLEE evaluation of this hazard to assess things such as social, technical, administrative, political, legal, economic, and environmental, support for the proposed actions. The STAPLEE evaluation for this hazard, along with its primary and alternate goals, can be found in Appendix D.

4. New Buildings and Infrastructure

- a) The mitigation measures in place that address new buildings or infrastructure are the Georgia State Minimum Standard Codes (Uniform Codes Act), the International Building Code (2006 edition), and the Spalding County and City of Griffin flood ordinances. The minimum standards established by these codes and the enforcement of the local flood ordinance provide reasonable protection to persons and property within structures.

5. Existing Buildings and Infrastructure

- a) Construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Existing buildings and infrastructure that are in need of repair must comply with the new standards. The flood ordinance affects existing structures during renovation or substantial improvement.

C. Natural Hazard – Mitigation Strategy & Recommendation

- 1. Spalding County (FIRM#13255C, 130388, and 130389) the City of Griffin (FIRM#1301655), each individually participate in the National Flood Insurance Program (NFIP). All Flood Insurance Rate Maps (FIRM) within Spalding County were updated on May 3, 2010. The City of Griffin has its own FIRM map and flood ordinance. The City of Sunny Side (FIRM#130389) previously participated in NFIP. The City of Sunny Side did not have a flood ordinance in place. For this reason, the City is not in compliance with the NFIP standards. The City of Sunny Side is recently incorporated its jurisdiction into the existing Spalding County Flood Plain Ordinance.

Spalding County, Griffin, Orchard Hill, and Sunny Side

Goal #1: Mitigating flood damage by minimizing building in flood hazard zones

- a) Objective: To prevent flood damage in flood zones

- i. Action Step Narrative

- In order to prevent flood damage in flood zones, the local governments would continue to enforce the existing adopted flood ordinance. By enforcing the flood ordinance, the local governments will ensure continuous participation with the NFIP.

Responsible Department	Spalding County EMA & City of Griffin - Planning and Zoning Department Orchard Hill and Sunny Side will work directly with Spalding EMA
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	Local funds
Timeframe	2010 – ongoing
Priority	Medium
Status (Deferred or New)	New

D. Special Multi-Jurisdictional Strategy and Considerations

1. This hazard is applicable to Spalding County, the Cities of Griffin, Orchard Hill and Sunny Side.

E. Local Public Information and Awareness Strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

Responsible Department	Spalding County EMA, City of Griffin, Orchard Hill and Sunny Side
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	New – Ongoing

F. Deleted or Completed Action Steps – Previous PDM Plan

1. Obtain compliance for its local floodplain plan – Complete
2. Local Public Information and Awareness Strategy - Complete

G. Unchanged Action Steps – Previous PDM Plan

1. None

City of Sunny Side

1. Action Step Narrative

The City of Sunny Side will adopt a flood ordinance in coordination with Spalding County to ensure flood protection and to comply with NFIP standards. By enforcing the flood ordinance, the local government will ensure continuous participation with the NFIP.

Responsible Department	Spalding County EMA & Sunny Side
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential H. S Funding Source	Local funds
Timeframe	2011 – ongoing
Priority	High
Status (Deferred or New)	New

A. Multi-Jurisdictional Strategy and Considerations

1. This hazard is applicable to Sunny Side.

B. Local Public Information and Awareness Strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

C. Deleted or Completed Action Steps – Previous PDM Plan

1. None

D. Unchanged Action Steps – Previous PDM Plan

1. Adopt the city post disaster recovery ordinances to limit existing or future development within the floodplain.

Responsible Department	Spalding County EMA and Sunny Side
Anticipated Cost	Staff Time
Existing and Potential Funding Source	Local Funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - This action was deferred due to the lack of available resources.

2. Establish pre-planning activities to evaluate flood impact damage, and continue to refine flood related goals for the City of Sunny Side.

Responsible Department	Spalding County EMA and Sunny Side
Anticipated Cost	Staff Time
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - Ongoing.

City of Griffin

A. Community Mitigation Goals

Floods have the capability of disrupting government services, and damaging structures from the governmental, industrial, and private sectors. This occurred in 1994 when a hundred year flood affected the City of Griffin. While there was only \$23,535 in damage reported for critical structures, the floods did disrupt essential government services. The specific areas affected were water pumping stations, emergency response in the flooded areas, and transportation backlogs due to flooding on portions of State Route’s 16 and 19/41. Since the 1994 flood, the Georgia Department of Transportation has made road improvements to mitigate future flood damage along the major roadways, and the City of Griffin has passed an ordinance that prevents building in the City’s flood prone areas.

Goals:

1. To preserve the health and well being of the citizens of the City of Griffin by reducing the potential impact of flood damage through pre-planning activities and recommending a post disaster recovery ordinance.

B. Identification & Analysis of Range of Mitigation Options

1. Structural and non-structural mitigation

- a) To improve awareness of natural hazards
- b) To identify possible prevention measures

2. Existing Policies

- a) Storm water ordinances have been identified that would help to prevent flood related disasters as well as building codes to control construction of new structures.
- b) The City of Griffin has developed ordinances that prevent building within the City’s floodplain.

3. Community Values, historic & special considerations

- a) There are no current historical or special considerations. Potential mitigation actions to reduce this hazard would have to be evaluated in order to preserve any historical locations.

4. New Buildings and Infrastructure

- a) The Flood Plain Ordinance for the City of Griffin is intended to address methods and practices to minimize flood damage to new and substantial home improvement projects as well as address zoning, subdivision and state regulations. Houses and certain other structures are required to be built at or above the 100-year base flood elevation.

5. Existing Buildings and Infrastructure

- a) The Flood Plain Ordinance for the City of Griffin requires that all construction, additions, conversions and/or development located in areas of special flood hazard comply with certain minimum standards to minimize damage from floods. The Spalding County and the City of Griffin Zoning Ordinances requires that building permits be obtain for existing buildings.

C. Natural Hazard – Mitigation Strategy & Recommendation

1. Mitigating hazard damage from flood related disasters within the City of Griffin.

- a) Objective: To limit the effects of flood damage in the City of Griffin.

i. Update City of Griffin Floodplain Management Plan

Responsible Department	City of Griffin – Public Works Department
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	Local funds
Timeframe	2011 – ongoing
Priority	High
Status (Deferred or New)	New

D. Special Multi-Jurisdictional Strategy and considerations

1. This hazard is mostly applicable the City of Griffin. Flooding is a potential problem for these jurisdictions only in the rare instances of extreme rainfall such as occurred with the 100-year flood of 1994.

E. Local public information and awareness strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the City.

Responsible Department	City of Griffin - Kenny Smith, Griffin City Manager
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	Local funds
Timeframe	2011 – ongoing
Priority	Medium
Status (Deferred or New)	New

F. Deleted or Completed Action Steps – Previous PDM Plan

1. Local Public Information and Awareness Strategy – Completed/Ongoing

G. Unchanged Action Steps – Previous PDM Plan

- i. **Action Step:** Mitigate hazard damage from flood related disasters within the City of Griffin.
 - a. Objective: To limit the effects of flood damage in the City of Griffin.

1. Established pre-planning activities to evaluate flood impact damage, and continue to refine flood related goals for the City of Griffin.

Responsible Department	City of Griffin - Kenny Smith, Griffin City Manager
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	Local funds
Timeframe	2011 – ongoing
Priority	Medium
Status (Deferred or New)	Deferred – Ongoing

2. Adopt local post disaster recovery ordinances to limit existing future development within floodplains.

Responsible Department	City of Griffin - Kenny Smith, Griffin City Manager
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	Local funds
Timeframe	2011 – ongoing
Priority	Medium
Status (Deferred or New)	Deferred – This action was deferred due to the lack of available resources.

I. Tornadoes

A. Community Mitigation Goals

1. The community mitigation goal is to preserve the health and well being of the citizens of Spalding County as well as the Cities of Griffin, Orchard Hill, and Sunny Side by creating a tornado education awareness program. A tornado is a violently rotating column of air in contact with the ground. The air column can be seen when it contains condensation in the form of a cloud or when it contains surface dust and debris. Usually, a combination of both is present. When the column of air is aloft, it is called a funnel cloud. A waterspout is a tornado in contact with a water surface. The classic funnel shape may not be present in exceptionally large tornadoes. The tornado may appear to be a large, turbulent cloud near the ground, a large rain shaft, or even a non-weather event such as a fire. Tornadoes are a constant hazard for Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side because they can form at any time.

B. Identification & Analysis of Range of Mitigation Options

1. Structural and non-structural mitigation

- a) To improve awareness of natural hazards
- b) To identify possible prevention measures

2. Existing Policies

- a) Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side ensure that construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations.

3. Community Values, historic & special considerations

- a) There are no current historical or special considerations. Potential mitigation actions to reduce this hazard would have to be evaluated in order to preserve any historical locations.
- b) The Mitigation Planning Committee performed a STAPLEE evaluation of this hazard to assess things such as social, technical, administrative, political, legal, economic, and environmental, support for the proposed actions. The STAPLEE evaluation for this hazard, along with its primary and alternate goals, can be found in Appendix D.

4. New Buildings and Infrastructure

- a) The mitigation measures in place that address new buildings or infrastructure are the Georgia State Minimum Standard Codes (Uniform Codes Act), the International Building Code (2006 edition), and local construction ordinances. The minimum standards established by these codes and ordinances provide reasonable protection to persons and property within structures.

5. Existing Buildings and Infrastructure

- a) Construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Existing buildings and infrastructure that are in need of repair must comply with the new standards.

C. Natural Hazard – Mitigation Strategy & Recommendation

6. To reduce the loss of life and property from Tornadoes

- a) Objective: To limit the effects of tornado damage on citizens of Spalding County.

i. Action Step Narrative

The Spalding EMA will create an educational awareness program to help inform citizens about the hazards of tornadoes, and outline safety precautions that they can take.

Responsible Department	Spalding EMA
Anticipated Cost	\$2,000
Existing and Potential Funding Source	Local funds
Timeframe	2010 – 2011
Priority	Medium
Status (Deferred or New)	New

ii. Action Step Narrative

The Spalding EMA will install outdoor warning sirens to alert people outside of their homes and away from other media sources of imminent danger from an approaching storm.

Responsible Department	Spalding EMA
Anticipated Cost	\$100,000
Existing and Potential Funding Source	Local funds
Timeframe	2011 – 2012
Priority	High
Status (Deferred or New)	New

iii. Action Step Narrative

The Spalding EMA will install a reverse 911-notification system that allows emergency services to quickly contact community residents during emergent events. The system employs a combination of database and mapping technologies to allow emergency responders to pinpoint a specific geographic area and deliver the appropriate message to residents in the affected area.

Responsible Department	Spalding EMA
Anticipated Cost	\$35,000
Existing and Potential Funding Source	Local funds
Timeframe	2011 – 2012
Priority	High
Status (Deferred or New)	New

D. Special Multi-Jurisdictional Strategy and Considerations

1. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side.

E. Local Public Information and Awareness Strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

F. Deleted or Completed Action Steps – Previous PDM Plan

1. Adoption of a post disaster recovery ordinance – Completed Action Step

G. Unchanged Action Steps – Previous PDM Plan

1. Conduct a debris disposal study and recommend a site location designation.

Responsible Department	Spalding County EMA
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - This action step was deferred due to lack of funding.

2. Adoption of an ordinance to establish safe room construction in any new mobile home parks.

Responsible Department	Spalding County EMA
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - This action step was moved to a lower priority due to lack of funding.

II. DROUGHT

A. Community Mitigation Goals

1. The community mitigation goal is to preserve the health and well-being of the citizens of Spalding County as well as the Cities of Griffin, Orchard Hill, and Sunny Side by exploring new ways of water purchase, delivery, and expansion of water pipelines. Drought damage would put more of a strain on the local area water supply, but not have a significant impact on the local private industry economy because it is not agricultural in nature. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side, along with the rest of the State, recently experienced drought like conditions.

B. Identification & Analysis of Range of Mitigation Options

1. Structural and non-structural mitigation

- a) To improve awareness of natural hazards
- b) To identify possible prevention measures

2. Existing Policies

- a) Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side ensure that construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations.

3. Community Values, historic & special considerations

- a) There are no current historical or special considerations. Potential mitigation actions to reduce this hazard would have to be evaluated in order to preserve any historical locations.
- b) The Mitigation Planning Committee performed a STAPLEE evaluation of this hazard to assess things such as social, technical, administrative, political, legal, economic, and environmental, support for the proposed actions. The STAPLEE evaluation for this hazard, along with its primary and alternate goals, can be found in Appendix D.

4. New Buildings and Infrastructure

- a) The mitigation measures in place that address new buildings or infrastructure are the Georgia State Minimum Standard Codes (Uniform Codes Act), the International Building Code (2006 edition), and local construction ordinances. The minimum standards established by these codes and ordinances provide reasonable protection to persons and property within structures.

5. Existing Buildings and Infrastructure

- a) Construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Existing buildings and infrastructure that are in need of repair must comply with the new standards.

C. Natural Hazard – Mitigation Strategy & Recommendation

1. To reduce the loss of life and property from drought conditions

- a) Objective: To increase dispersion of water resources

- i. Action Step Narrative

The Spalding EMA will work with the Spalding County and the City of Griffin to explore multiple ways to increase the dispersion of water resources within the county.

Responsible Department	Spalding County EMA and City of Griffin
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	Local funds
Timeframe	2011 – 2012
Priority	Medium
Status (Deferred or New)	New

D. Special Multi-Jurisdictional Strategy and Considerations

1. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side.

E. Local Public Information and Awareness Strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

Responsible Department	Spalding County EMA
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	New

F. Deleted or Completed Action Steps – Previous PDM Plan

1. Adoption of a post disaster recovery ordinance – Complete

G. Unchanged Action Steps – Previous PDM Plan

1. Evaluate existing water use plans.

Responsible Department	Spalding County, City of Griffin, Orchard Hill, & Sunny Side
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - This action step was deferred due to lack of available resources.

2. Adoption of a water use ordinance

Responsible Department	Spalding County, City of Griffin, Orchard Hill and Sunny Side
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred from previous plan - This action step was deferred due to lack of available resources.

III. Severe Winter Storm

A. Community Mitigation Goals

1. The community mitigation goal is to preserve the health and well-being of the citizens of Spalding County as well as the Cities of Griffin, Orchard Hill, and Sunny Side by conducting a safety review of designated shelters. Severe winter storms or hailstorms can cause property damage as well as damage to power lines. Additionally this hazard can create unsafe conditions on roads or sidewalks as layers of ice cover the ground. Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side are vulnerable to the effects of this hazard, but severe winter storms or intense hailstorms are not a frequent occurrence.

B. Identification & Analysis of Range of Mitigation Options

2. Structural and non-structural mitigation

- a) To improve awareness of natural hazards
- b) To identify possible prevention measures

3. Existing Policies

- a) Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side ensure that construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations.

4. Community Values, historic & special considerations

- a) There are no current historical or special considerations. Potential mitigation actions to reduce this hazard would have to be evaluated in order to preserve any historical locations.
- b) The Mitigation Planning Committee performed a STAPLEE evaluation of this hazard to assess things such as social, technical, administrative, political, legal, economic, and environmental, support for the proposed actions. The STAPLEE evaluation for this hazard,

along with its primary and alternate goals, can be found in Appendix D.

5. New Buildings and Infrastructure

- a) The mitigation measures in place that address new buildings or infrastructure are the Georgia State Minimum Standard Codes (Uniform Codes Act), the International Building Code (2006 edition), and local construction ordinances. The minimum standards established by these codes and ordinances provide reasonable protection to persons and property within structures.

6. Existing Buildings and Infrastructure

- a) Construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Existing buildings and infrastructure that are in need of repair must comply with the new standards.

C. Natural Hazard – Mitigation Strategy & Recommendation

1. To reduce the loss of life and property from severe winter storms

- a) Objective: To provide for the warmth and safety for citizens of Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side.

ii. Action Step Narrative

The Spalding EMA, City and County Building Officials, and Planning and Zoning will conduct a safety review of designated shelters, and recommend upgrades or improvements.

Responsible Department	City of Griffin Planning and Zoning Department, Spalding County Building and Zoning Department, Sunny Side and Orchard Hill
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	Local funds
Timeframe	2011 – 2013
Priority	Medium
Status (Deferred or New)	New

D. Special Multi-Jurisdictional Strategy and Considerations

1. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side.

E. Local Public Information and Awareness Strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

Responsible Department	Spalding EMA , City of Griffin, Sunny Side, Orchard Hill
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	New

F. Deleted or Completed Action Steps – Previous PDM Plan

1. Adopt a post disaster recovery ordinance – Completed Action Step.

G. Unchanged Action Steps – Previous PDM Plan

1. Conduct a safety review of designated cold weather shelters within the county, and make additions or modifications as needed.

Responsible Department	Spalding County Building and Zoning Department, City of Griffin Planning and Zoning Department, Orchard Hill and Sunny Side
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - This action step was deferred due to lack of available resources.

2. Prepare a family emergency preparedness plan.

Responsible Department	Spalding EMA , Spalding County City of Griffin, Sunny Side, Orchard Hill
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - This action step was deferred due to lack of available resources.

3. Develop an animal shelter development plan

Responsible Department	Spalding County Animal Services, Spalding County Building and Zoning Department
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - This action step was deferred due to lack of available resources.

IV. Hurricane Winds

A. Community Mitigation Goals

1. The community mitigation goal is to preserve the health and well-being of the citizens of Spalding County as well as the Cities of Griffin, Orchard Hill, and Sunny Side by reviewing construction plans for new developments to ensure structures are built to withstand hurricane winds. Hurricane winds can cause property damage as well as damage to power lines. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side are vulnerable to the effects of this hazard, but hurricane winds are not a frequent occurrence.

B. Identification & Analysis of Range of Mitigation Options

1. Structural and non-structural mitigation

- a) To improve awareness of natural hazards
- b) To identify possible prevention measures

2. Existing Policies

- a) Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side ensure that construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations.

3. Community Values, historic & special considerations

- a) There are no current historical or special considerations. Potential mitigation actions to reduce this hazard would have to be evaluated in order to preserve any historical locations.

- b) The Mitigation Planning Committee performed a STAPLEE evaluation of this hazard to assess things such as social, technical, administrative, political, legal, economic, and environmental, support for the proposed actions. The STAPLEE evaluation for this hazard, along with its primary and alternate goals, can be found in Appendix D.

4. New Buildings and Infrastructure

- a) The mitigation measures in place that address new buildings or infrastructure are the Georgia State Minimum Standard Codes (Uniform Codes Act), the International Building Code (2006 edition), and local construction ordinances. The minimum standards established by these codes and ordinances provide reasonable protection to persons and property within structures.

5. Existing Buildings and Infrastructure

- a) Construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Existing buildings and infrastructure that are in need of repair must comply with the new standards.

C. Natural Hazard – Mitigation Strategy & Recommendation

1. To mitigate hurricane wind damage

- a) Objective: To prevent loss of life and property from hurricane wind damage

iii. Action Step Narrative

The Spalding County and City of Griffin Building and Zoning Department will review all new construction plans to ensure new structures are designed to accommodate the proper wind load. Spalding County is in a wind zone 3 category.

Responsible Department	Spalding County Building and Zoning and City of Griffin Planning Departments, Sunny Side and Orchard Hill
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	Local funds
Timeframe	2010 – 2015
Priority	Medium
Status (Deferred or New)	New

D. Special Multi-Jurisdictional Strategy and Considerations

1. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side.

E. Local Public Information and Awareness Strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County

Responsible Department	Spalding County Building and Zoning and City of Griffin Planning Department, Orchard Hill and Sunny Side
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	New

F. Deleted or Completed Action Steps – Previous PDM Plan

1. Spalding County, City of Griffin, Orchard Hill, & Sunny Side Building and Zoning Departments will review all new construction plans to ensure new structures are designed to accommodate the proper wind load. – Completed Action Step
2. Adopt a post disaster recovery ordinance – Completed Action Step

G. Unchanged Action Steps – Previous PDM Plan

1. Recommend investment in a backup power system for city/county critical infrastructure.

Responsible Department	Spalding County EMA and City of Griffin Power
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - This action step was moved to a lower priority.

V. Thunderstorms

A. Community Mitigation Goals

1. The community mitigation goal is to preserve the health and well-being of the citizens of Spalding County as well as the Cities of Griffin, Orchard Hill, and Sunny Side by implementing an early warning system. While thunderstorms are not a large threat to the critical infrastructure inventory listed in Appendix A, there are a large number of old residential mill houses located within Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side that could be damaged by falling trees during a severe thunderstorm.

B. Identification & Analysis of Range of Mitigation Options

2. Structural and non-structural mitigation

- a) To improve awareness of natural hazards
- b) To identify possible prevention measures

3. Existing Policies

- a) Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side ensure that construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations.

4. Community Values, historic & special considerations

- a) There are no current historical or special considerations. Potential mitigation actions to reduce this hazard would have to be evaluated in order to preserve any historical locations.

- b) The Mitigation Planning Committee performed a STAPLEE evaluation of this hazard to assess things such as social, technical, administrative, political, legal, economic, and environmental, support for the proposed actions. The STAPLEE evaluation for this hazard, along with its primary and alternate goals, can be found in Appendix D.

5. New Buildings and Infrastructure

- a) The mitigation measures in place that address new buildings or infrastructure are the Georgia State Minimum Standard Codes (Uniform Codes Act), the International Building Code (2006 edition), and local construction ordinances. The minimum standards established by these codes and ordinances provide reasonable protection to persons and property within structures.

6. Existing Buildings and Infrastructure

- a) Construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Existing buildings and infrastructure that are in need of repair must comply with the new standards.

C. Natural Hazard – Mitigation Strategy & Recommendation

1. To mitigate damage related to thunderstorms

- a) Objective: To limit loss of life and property from thunderstorms

- i. Action Step Narrative

The Spalding EMA will apply for funding to implement an early warning system.

Responsible Department	Spalding County EMA
Anticipated Cost	\$800,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2010 – 2015
Priority	High
Status (Deferred or New)	New

D. Special Multi-Jurisdictional Strategy and Considerations

1. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side.

E. Local Public Information and Awareness Strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

Responsible Department	Spalding County, City of Griffin, Orchard Hill and Sunny Side
Anticipated Cost	None
Existing and Potential Funding Source	Staff Time
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	New

F. Deleted or Completed Action Steps – Previous PDM Plan

1. Adopt a post disaster recovery ordinance

G. Unchanged Action Steps – Previous PDM Plan

1. Invest in an early warning system for the city and county.

Responsible Department	Spalding County EMA, City of Griffin, Sunny Side, Orchard Hill
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - This action step was moved to a lower priority due to lack of funding.

2. Continue community education and outreach activities

Responsible Department	Spalding County EMA
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - Ongoing

VI. Wildfires

A. Community Mitigation Goals

1. The community mitigation goal is to preserve the health and well-being of the citizens of Spalding County as well as the Cities of Griffin, Orchard Hill, and Sunny Side by strengthening service delivery agreements for fire prevention. While wildfires are a large threat to the critical infrastructure inventory listed in Appendix A, there are a large number of old residential mill houses located within Spalding County and the Cities of Griffin that could be damaged by wildfire events.

B. Identification & Analysis of Range of Mitigation Options

2. Structural and non-structural mitigation

- a) To improve awareness of natural hazards
- b) To identify possible prevention measures

3. Existing Policies

- a) Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side ensure that construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations.

4. Community Values, historic & special considerations

- a) There are no current historical or special considerations. Potential mitigation actions to reduce this hazard would have to be evaluated in order to preserve any historical locations.

- b) The Mitigation Planning Committee performed a STAPLEE evaluation of this hazard to assess things such as social, technical, administrative, political, legal, economic, and environmental, support for the proposed actions. The STAPLEE evaluation for this hazard, along with its primary and alternate goals, can be found in Appendix D.

5. New Buildings and Infrastructure

- a) The mitigation measures in place that address new buildings or infrastructure are the Georgia State Minimum Standard Codes (Uniform Codes Act), the International Building Code (2006 edition), and local construction ordinances. The minimum standards established by these codes and ordinances provide reasonable protection to persons and property within structures.

6. Existing Buildings and Infrastructure

- a) Construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Existing buildings and infrastructure that are in need of repair must comply with the new standards.

C. Natural Hazard – Mitigation Strategy & Recommendation

1. To reduce loss of life and property from wildfires

- a) Objective: To renew service delivery agreements between Spalding County and its municipalities.

i. Action Step Narrative

The Spalding County, City of Griffin, Orchard Hill and Sunny Side will work with the appropriate city and county departments to review service delivery agreements, modify them as needed, and renew them at the regularly scheduled renewal date.

Responsible Department	Spalding County, City of Griffin, Orchard Hill and Sunny Side
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	A combination of local funds
Timeframe	2010 – 2015
Priority	Medium
Status (Deferred or New)	New

D. Special Multi-Jurisdictional Strategy and Considerations

1. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill and Sunny Side.

E. Local Public Information and Awareness Strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

F. Deleted or Completed Action Steps – Previous PDM Plan

1. None

G. Unchanged Action Steps – Previous PDM Plan

1. None

VII. Extreme Heat

A. Community Mitigation Goals

The Community mitigation goal for extreme heat is to provide for the warmth and safety of citizens of Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side in the event of an extreme heat event by designating cooling centers/shelters as well as continued public outreach efforts, and recommending a post disaster recovery ordinance.

B. Identification & Analysis of Range of Mitigation Options

1. Structural and non-structural mitigation

- a) To improve awareness of natural hazards
- b) To identify possible prevention measures

2. Existing Policies

- a) No policies have been identified that would help to prevent extreme heat related disasters other than building codes to control construction of new structures.

3. Community Values, historic & special considerations

- a) There are no current historical or special considerations. Potential mitigation actions to reduce this hazard would have to be evaluated in order to preserve any historical locations.

4. New Buildings and Infrastructure

- a) There are currently no mitigation measures in place that address new buildings or infrastructure other than enforcement of construction codes adopted in the year 2000.

5. Existing Buildings and Infrastructure

- a) There are currently no mitigation measures in place that address existing infrastructure other than enforcement of construction codes adopted in the year 2000.

C. Natural Hazard – Mitigation Strategy & Recommendation

- 1. To reduce loss of life and property from extreme heat

- a) Objective: To renew service delivery agreements between Spalding County and its municipalities

- i. Action Step Narrative

The Spalding County will work with the appropriate city and county departments to review service delivery agreements, modify them as needed, and renew them at the regularly scheduled renewal date.

Responsible Department	Spalding County, City of Griffin, Orchard Hill and Sunny Side
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	A combination of local funds
Timeframe	2010 – 2015
Priority	Medium
Status (Deferred or New)	New

- ii. During extreme heat conditions, the County and its municipalities will set up cooling stations at existing public facilities to allow low income families, particularly senior citizens to escape the dangers of extreme heat to a person’s life.

Responsible Department	Spalding County EMA, City of Griffin, Orchard Hill, and Sunny Side
Anticipated Cost	N/A – Cost is part of ongoing operations
Existing and Potential Funding Source	A combination of local funds
Timeframe	2010 – 2015
Priority	Medium
Status (Deferred or New)	New

D. Special Multi-Jurisdictional Strategy and Considerations

1. This hazard is applicable to Spalding County and the Cities of Griffin Orchard Hill, and Sunny Side. Due to the nature of this hazard and its ability to strike anywhere in the county, there is no significant difference in jurisdictional risk to the local governments.

E. Local Public Information and Awareness Strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County and its municipalities.

Responsible Department	Spalding County , City of Griffin, Orchard Hill and Sunny Side
Anticipated Cost	None
Existing and Potential Funding Source	Staff Time
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	New

F. Deleted or Completed Action Steps – Previous PDM Plan

1. Conduct a review of facilities in the county and municipalities, and recommend cooling center designations. – Complete
2. Continue public education and outreach activities. - Complete
3. Adoption of a post disaster recovery ordinance. – Complete

G. Unchanged Action Steps – Previous PDM Plan

1. None

Chapter Five: Local Technological Mitigation Goals & Objectives

The Spalding County Mitigation Planning Committee developed goals, objectives, and performed a STAPLEE evaluation on those goals and objectives for each hazard. Goals and objectives were considered for a hazardous materials release. Goals were prioritized based on cost benefit or cost effectiveness, availability of potential funding sources, overall feasibility, measurable milestones, multiple objectives, and both public and political support for the proposed actions.

The 2010 plan update for this chapter did not include new technological hazards. New goals and objectives were developed based on the ability of Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side to implement them given limited local resources such as manpower, time, or local match limitations.

Each hazard has an information summary table that designates the persons responsible for implementing all the goals, objectives, and action steps, the expected date of implementation, the cost, and the funding source. The prioritized primary and alternative goals and action steps for each hazard can be found in Appendix D, Worksheet 4 (STAPLEE Evaluation).

I. Hazardous Materials Release

A. Community Mitigation Goals

1. The community mitigation goal is to preserve the health and well-being of the citizens of Spalding County as well as the Cities of Griffin, Orchard Hill, and Sunny Side by identifying areas of hazardous material storage. While hazardous material release events are a potential large-scale threat to the community, a hazardous material release would only disrupt essential government services for a short period of time.

B. Identification & Analysis of Range of Mitigation Options

1. Structural and non-structural mitigation

- a) To improve awareness of technological hazards
- b) To identify possible prevention measures

2. Existing Policies

- a) Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side ensure that construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these

codes provide reasonable protection from most natural or technological hazards to persons and property within structures that comply with the regulations.

3. Community Values, historic & special considerations

- a) There are no current historical or special considerations. Potential mitigation actions to reduce this hazard would have to be evaluated in order to preserve any historical locations.
- b) The Mitigation Planning Committee performed a STAPLEE evaluation of this hazard to assess things such as social, technical, administrative, political, legal, economic, and environmental, support for the proposed actions. The STAPLEE evaluation for this hazard, along with its primary and alternate goals, can be found in Appendix D.

4. New Buildings and Infrastructure

- a) The mitigation measures in place that address new buildings or infrastructure are the Georgia State Minimum Standard Codes (Uniform Codes Act), the International Building Code (2006 edition), and local construction ordinances. The minimum standards established by these codes and ordinances provide reasonable protection to persons and property within structures.

5. Existing Buildings and Infrastructure

- a) Construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2006 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards to persons and property within structures that comply with the regulations. Existing buildings and infrastructure that are in need of repair must comply with the new standards.

C. Natural Hazard – Mitigation Strategy & Recommendation

a. Objective: To develop a county wide hazmat map indicating high risk areas

i. Action Step Narrative

The Spalding County EMA will work with the appropriate city and county departments to develop a countywide hazmat map in order to determine the location of high risk areas.

Responsible Department	Spalding County EMA, Spalding County, Cities of Griffin, Orchard Hill and Sunny Side
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	New

D. Special Multi-Jurisdictional Strategy and Considerations

1. This hazard is applicable to Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side.

E. Local Public Information and Awareness Strategy

1. To solicit comments from the public through public hearings or informational brochures and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

Responsible Department	Spalding County EMA, Spalding County, City of Griffin, Orchard Hill and Sunny Side
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	New

F. Deleted or Completed Action Steps – Previous PDM Plan

1. Adopt a post disaster recovery ordinance - Complete

G. Unchanged Action Steps – Previous PDM Plan

1. Create a technological hazard advisory committee.

Responsible Department	Spalding County EMA, Spalding County, City of Griffin, Orchard Hill and Sunny Side
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - This action step was moved to a lower priority due to lack of available resources.

2. Identify people within the community with the expertise to identify and evaluate technological hazards

Responsible Department	Spalding County EMA, Information Technology Departments
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - Ongoing

3. Create a meeting schedule and facilitate meetings in order to produce a technological hazard update to the mitigation plan each year

Responsible Department	Spalding County EMA
Anticipated Cost	\$5,000 - \$20,000
Existing and Potential Funding Source	A combination of local and federal funds
Timeframe	2012 – 2015
Priority	Medium
Status (Deferred or New)	Deferred - Ongoing

Chapter Six: Executing The Plan

c) Implementation Action Plan

A. Administrative Actions

- a. The Spalding County Commissioners and its municipalities will adopt the hazard mitigation plan.
- b. Spalding County and its municipalities will authorize the Spalding County Emergency Management Agency to create hazard mitigation committees, initiate established goals and action steps within the plan, and will be charged with producing mitigation plan updates.

B. Authority and Responsibility

- a. The Spalding County Commissioners have the authority to approve hazard mitigation plans, any item within the plan, and plan updates.
- b. The Spalding County Emergency Management Agency is charged with the responsibility of drafting mitigation plans, initiating established goals and action steps within the plan, and plan updates.

C. Prioritization

- a. Methodology for prioritization
 - i. Information on goals and objectives was developed by the Mitigation Planning Committee during a regularly scheduled meeting. The committee prioritized the goals and objectives based on what they perceived to be most beneficial to the County and the Cities of Griffin, Orchard Hill, and Sunny Side. The committee also established and prioritized their goals based on actions that could be initiated in the near term, whether or not something was low, medium, or high priority, and that required little financial commitment in order to begin.
- b. Use of cost benefit
 - i. Evaluation of cost benefit included perceived cost benefit or cost effectiveness, availability of potential funding sources, overall feasibility, measurable milestones, multiple objectives, and both public and political support for the proposed actions. STAPLEE evaluations related to this are located in Appendix D.

- ii. In order to assist the committee with prioritization, each set of goals and objectives was ranked and given a score that determined whether or not something was considered a low, medium, or high priority. A score of 1 was considered to be a low priority, a score of 1.1 to 2.5 was considered to be a medium priority, and a score of 2.6 to 3 was considered to be a high priority. A list of how each goal and objective scored is located in Appendix D.
- c. Use of other review structure
 - i. No other review structure was used.

D. Incorporation of mitigation plan requirements into other plans/measures

- a. The Georgia Department of Community Affairs requires all local governments (City and County) to produce a comprehensive plan for community development and land use.
 - i. No other plans other than local comprehensive plans were reviewed by the committees.
- b. Planning actions and land use considerations that can also reduce the potential impact of a hazard are identified within the comprehensive plan. These actions and considerations will be reviewed, and incorporated into the mitigation plan as part of annual or five year plan updates.
- c. Each County and municipality must participate in a Short Term Work Program (SWP) where it identifies projects within the County or the Cities that can be used for community enhancement. Due to a lack of local matching funds for mitigation projects, no priorities or principles from the old PDM plan were included in the SWP or other community level plans. The PDM update outlines many priorities that do not rely on local match so some mitigation plan goals and objectives from the updated plan will be worked into the yearly SWP, funded, and implemented.

2. Evaluation

A. Method

- B. The Spalding County Board of Commissioners and the Cities of Griffin, Orchard Hill, and Sunny Side will designate the Spalding County Emergency Management Agency as the coordinating body for the mitigation plan implementation. The Spalding County Emergency Management Agency will establish an advisory committee that will assist in the coordination and implementation of the mitigation plan goals.

3. The Spalding County Emergency Management Agency will be responsible for creating an annual report on the status of mitigation goals and objectives. The annual report will include the current status of mitigation projects that have been completed, mitigation projects that are underway, and the estimated time frame for the completion of future projects. The annual report will be reviewed and approved by the Spalding County Board of Commissioners and elected officials of the Cities of Griffin, Orchard Hill, and Sunny Side.

4. Monitoring and Evaluation

- A. The mitigation plan will be monitored, evaluated for progress, and updated annually.
- B.
- C. The Spalding County Emergency Management Agency will monitor and evaluate the plan progress by using criteria based on the following items:
 - i. Authority to implement;
 - ii. Available funding; and
 - iii. Availability of project resources (i.e. manpower).

5. Reporting and Responsibility

- a. The Spalding County Emergency Management Agency will report annual update results to the city and county officials within Spalding County.
- b. The Spalding County Emergency Management Agency will coordinate with GEMA as needed or directed over the five year planning cycle.

6. Timeline

- a. The mitigation plan will be updated annually, fully updated every five years, and use information from annual updates, as well as current information, that is available at the time.

5. Multi-Jurisdictional Strategy and considerations

- a. Spalding County and the Cities of Griffin, Orchard Hill, and Sunny Side will authorize the Spalding County Emergency Management Agency to act on their behalf on matters that involve mitigation.

6. Plan update and maintenance

a. Public Involvement

Public Involvement: 2005 – 2010

1. During the previous plan update the Spalding EMA discussed hazard mitigation at local community events, and attempted to establish a mitigation plan advisory committee. The mitigation plan advisory committee met, but was unable to progress with projects due to funding issues. Without projects to discuss, the public meeting component of plan maintenance was halted.

Public Involvement: 2010 – 2015

1. The mitigation plan advisory committee will be created, and will have representatives from the community as well as business and industry in order to obtain public input during the planning process.
2. The advisory committee will hold public forums throughout each year in order to solicit comments from the public at large.
3. Hazard mitigation information will be placed on the Spalding County website, and contact information for questions or comments will be provided.
4. Informational pieces (brochures) will be generated and distributed around the county, and provide information directing citizens to send comments.

7. Timeframe

- a. Advisory committee members will be selected within six months of receiving final comments from GEMA/FEMA on the current mitigation plan.
- b. The public involvement process will be initiated in time to ensure that information or comments from the public can be inserted into the annual updates.
- c. Informational pieces (brochures) will be created and distributed each year.
 - i. Reporting
 1. Information gathered from the public involvement process will be presented to the advisory committee, and incorporated into the mitigation plan or the annual plan update as appropriate.

Chapter Seven: Conclusion

1. Conclusion Summary

The Spalding County Pre-Disaster Hazard Mitigation Plan helps to create an outline of the various hazards that could affect the jurisdiction, and identifies goals, actions, and processes that will be enacted in order to reduce future damage caused by these hazards. It is expected that this plan will be updated each year with new information regarding the progress that Spalding County has made towards implementing mitigation actions, and that the plan will be entirely rewritten every five years.

During the creation of this plan the PDM committee recognized that there was a lack of detailed local information about many hazards. While information was available to satisfy the basic federal requirements, the committee was not satisfied with being unable to provide more detailed information. Therefore the committee decided that future plan updates would occur on an annual basis so that detailed information could be compiled, and then incorporated into the plan.

Information collected during the creation of this plan was taken from existing plans (local comprehensive plans, land use) and records from within the county. The information from the Short Term Work Program and Land Use plans were especially useful for the purposes of mitigation planning. These records will need to be reviewed, updated, and expanded during each annual update or plan rewrite. The Spalding County Emergency Management Agency will coordinate mitigation planning activities within the county, and ensure that mitigation activities continue.

2. References

A. Publications

1. FEMA How To Guide 386-2
2. FEMA How To Guide 386-3
3. FEMA How To Guide 386-7

B. Web Sites

1. <http://www.fema.gov/fima/planresource.shtm>
2. <http://www.hazardmaps.gov/atlas.php>
3. <http://geohazards.cr.usgs.gov/eq/>
4. <http://www.fema.gov/hazards/tornadoes/>
5. <http://www.aoml.noaa.gov/hrd/tcfaq/tcfaqG.html#G12>
6. http://landslides.usgs.gov/html_files/landslides/nationalmap/national.html
7. http://www.fs.fed.us/land/wfas/fd_class.gif
8. <http://www.census.gov/>
9. <http://planning.rdis.org/planbuilder/>
10. http://www.bergey.com/wind_maps.htm
11. <http://www.dol.state.ga.us/>

C. Other

1. Spalding County hazard profile summary FY 2010
2. Spalding County capabilities assessment FY 2000
3. Spalding County Tax Assessor's Office Records
4. Spalding County Comprehensive Plan

3. Additional Information Sources

A. None