

SECTION 1: INTRODUCTION

BACKGROUND

In response to the requirements of the Disaster Mitigation Act of 2000 (DMA 2000), Burlington County and its municipalities have developed this Multi-Jurisdictional All-Hazard Mitigation Plan (HMP) which is an update of the 2008 Burlington County Hazard Mitigation Plan. DMA 2000 amends the Stafford Act and is designed to improve planning for, response to, and recovery from, disasters by requiring State and local entities to implement pre-disaster mitigation planning and develop HMPs. The Federal Emergency Management Agency (FEMA) has issued guidelines for HMPs. The New Jersey Office of Emergency Management (NJOEM) also supports plan development for jurisdictions in New Jersey.

Specifically, DMA 2000 requires that States with support from local governmental agencies update HMPs on a five year basis to prepare for and reduce the potential impacts of natural hazards. DMA 2000 is intended to facilitate cooperation between state and local authorities, prompting them to collaborate. This enhanced planning will better enable local and State governments to articulate accurate needs for mitigation, resulting in faster allocation of funding and more effective risk reduction projects.

Hazard Mitigation is any sustained action taken to reduce or eliminate the long term risk and effects that can result from specific hazards.

FEMA defines a **Hazard Mitigation Plan** as the documentation of a state or local government evaluation of natural hazards and the strategies to mitigate such hazards.

DMA 2000 ORIGINS -THE ROBERT T. STAFFORD DISASTER RELIEF AND EMERGENCY ASSISTANCE ACT

In the early 1990s a new federal policy regarding disasters began to evolve. Rather than simply reacting whenever disasters strike communities, the federal government would encourage communities to first assess their vulnerability to various disasters and then take actions to reduce or eliminate potential risks. The logic is simply that a disaster-resistant community can rebound from a natural disaster with less loss of property or human injury, at much lower cost, and, consequently, more quickly. Moreover, other costs associated with disasters, such as the time lost from productive activity by business and industries, are minimized.

The **Federal Emergency Management Agency (FEMA)** estimates that for every dollar spent on damage prevention (mitigation), twice that amount is saved through avoided post-disaster damage repair.

DMA 2000 provides an opportunity for States, counties, tribes and local governments to take a new and revitalized approach to mitigation planning. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous mitigation planning provisions (Section 409) and replacing them with a new set of requirements (Section 322). This section sets forth the requirements that communities evaluate natural hazards within their respective jurisdictions and develop an appropriate plan of action to mitigate those hazards, while emphasizing the need for State, county, tribal and local governments to closely coordinate mitigation planning and implementation efforts.

The amended Stafford Act requires that each local jurisdiction identify potential natural hazards to the health, safety and well being of its residents and identify and prioritize actions that can be taken by the community to mitigate those hazards—before disaster strikes. For communities to remain eligible for

hazard mitigation assistance from the federal government, they must first prepare a HMP and maintain (this plan).

Responsibility for fulfilling the requirements of Section 322 of the Stafford Act and administering the FEMA Hazard Mitigation Program has been delegated to the State of New Jersey, specifically to NJOEM. FEMA also provides support through guidance, resources, and plan reviews. Copies of the applicable federal and state regulations are found in Appendix A.

ORGANIZATIONS INVOLVED IN THE MITIGATION PLANNING EFFORT

Burlington County and the participating jurisdictions intend to implement this HMP with full coordination and participation of County and local departments, organizations and groups, as well as by coordinating with relevant State and Federal entities. Coordination helps to ensure that stakeholders have established communication channels and relationships necessary to support mitigation planning and mitigation actions included in Section 6 and in the Jurisdictional Annexes in Volume II, Section 9.

In addition to Burlington County, all jurisdictions within the County have participated in the planning process (Table 1-1 and Figure 1-1.)

Table 1-1. Participating Jurisdictions in Burlington County

City/Towns	
Bass River, Township of	Medford, Township of
Beverly, City of	Moorestown, Township of
Bordentown, City of	Mount Laurel, Township of
Bordentown, Township of	Mt. Holly, Township of
Burlington, City of	New Hanover, Township of
Burlington, Township of	North Hanover, Township of
Chesterfield, Township of	Palmyra, Borough of
Cinnaminson, Township of	Pemberton, Borough of
Delanco, Township of	Pemberton, Township of
Delran, Township of	Riverside, Township of
Eastampton, Township of	Riverton, Borough of
Edgewater Park, Township of	Shamong, Township of
Evesham, Township of	Southampton, Township of
Fieldsboro, Borough of	Springfield, Township of
Florence, Township of	Tabernacle, Township of
Hainesport, Township of	Washington, Township of
Lumberton, Township of	Westampton, Township of
Mansfield, Township of	Willingboro, Township of
Maple Shade, Township of	Woodland, Township of
Medford Lakes, Borough of	Wrightstown Borough
Special Purpose District	
Burlington County College	

MULTIPLE AGENCY SUPPORT FOR HAZARD MITIGATION

Primary responsibility for the development and implementation of mitigation strategies and policies lies with local governments. However, local governments are not alone; various partners and resources at the regional, state and federal levels are available to assist communities in the development and implementation of mitigation strategies. Within the State of New Jersey, NJOEM is the lead agency providing hazard mitigation planning assistance to local jurisdictions. NJOEM provides guidance to support mitigation planning. In addition, FEMA provides grants, tools, and training to support mitigation planning.

Burlington County formally created the hazard mitigation planning process by resolution on April 10, 2013 by action of the County Freeholders.

Additional input and support for this planning effort was obtained from a range of agencies and through public involvement (as discussed in Section 3).

County Emergency Management staff, planning, public safety and other county departments participated as members of the Steering Committee. Oversight for the preparation of this plan was provided by the Burlington County Hazard Mitigation Planning Committee (Planning Committee), which included representatives from:

- County Geographical Information Systems (GIS) Department
- County Office of Emergency Management
- County Engineering Department
- County Public Information Department
- County Economic Development
- County Freeholders
- County Health Department
- County Director of Resource Conservation
- County Bridge Commission
- County Public Safety Director
- County and Local Public Works Departments
- Local Engineering Departments
- City Planning, Housing and Community Development
- Participating Jurisdictions
- Agencies and Non-Profit (incorporated by stakeholder surveys and satellite meetings)

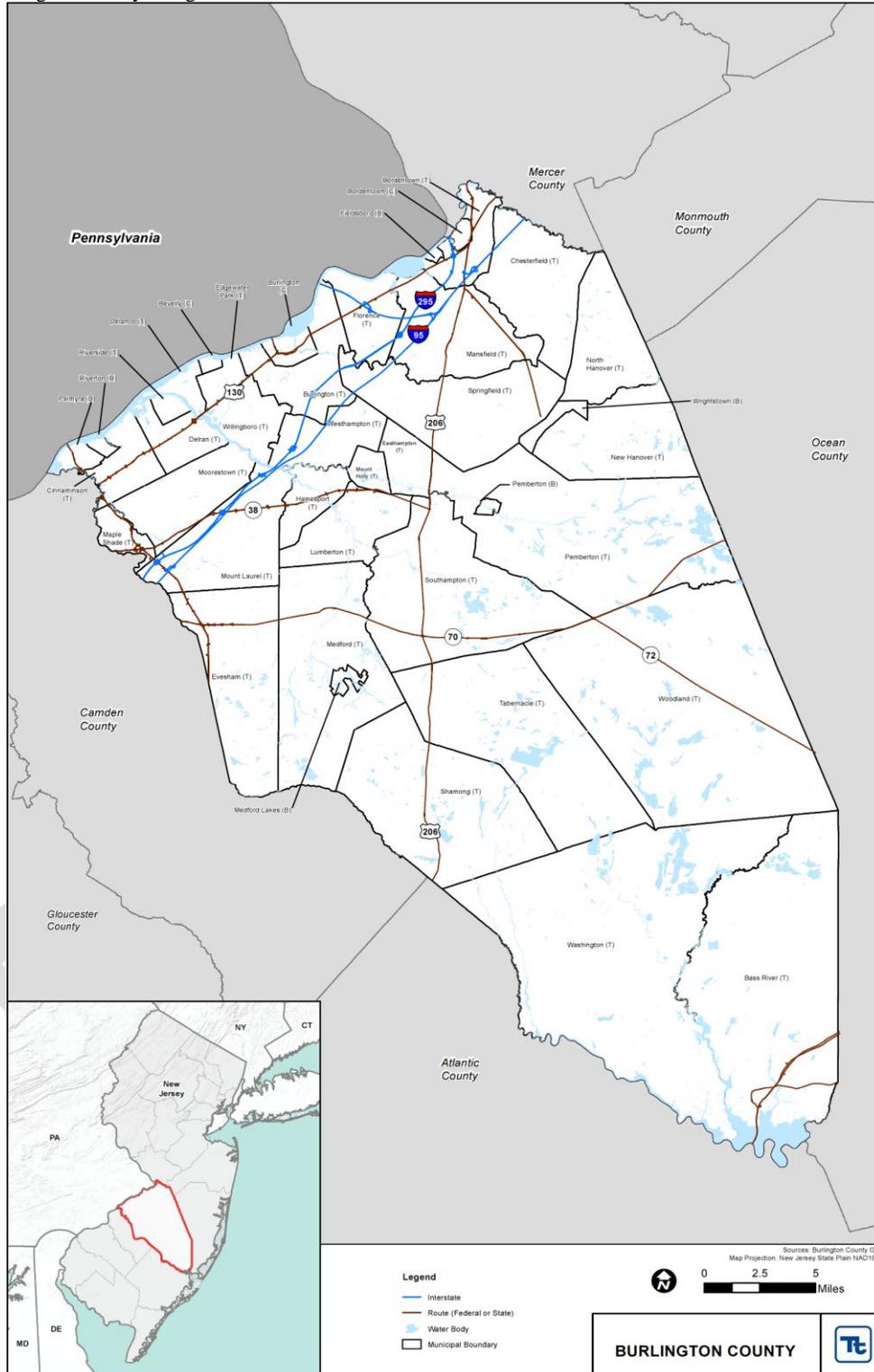
The Steering Committee is a subset of the Planning Committee and was formed as a leadership group to plan, guide, expedite, and implement the planning process. The Steering Committee met throughout the planning process and provided guidance and leadership, oversaw the planning process, and has acted as the point of contact for all partners and the various interest groups in the planning area.

The Planning Committee was comprised of the Steering Committee as well as additional County representatives and the remaining participating jurisdictional representatives. A list of Steering Committee and Planning Committee members is provided in Section 3 – Planning Process.

This plan was developed under the direction of the Burlington County Office of Emergency Management staff and Coordinator, Kevin Tuno as well as Tetra Tech hazard mitigation planners Paul Miller, Cynthia Bianco and Jonathan Raser.

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Figure 1-1 Burlington County Mitigation Plan Area



Source: Burlington County GIS

This HMP was prepared in accordance with the following regulations and guidance:

- Residential Flood and Wind Mitigation Publications, FEMA, February 2012
- Risk Management Series Publications, FEMA April 2011
- Local Mitigation Plan Review Guide, October 1, 2011
- DMA 2000 (Public Law 106-390, October 30, 2000).
- 44 Code of Federal Regulations (CFR) Parts 201 and 206 (including: Feb. 26, 2002, Oct. 1, 2002, Oct. 28, 2003, and Sept. 13, 2004 Interim Final Rules).
- FEMA. 2004. “How-To Guide for Using HAZUS-MH for Risk Assessment.” FEMA Document No. 433. February.
- FEMA Mitigation Planning How-to Series (FEMA 386-1 through 4, 2002), available at: <http://www.fema.gov/fima/planhowto.shtm>.

Table 1-2 summarizes the requirements outlined in the DMA 2000 Interim Final Rule and where each of these requirements is addressed in this HMP.

Table 1-2. FEMA Local Mitigation Plan Review Crosswalk

FEMA Local Mitigation Plan Review Crosswalk	
Plan Criteria	Primary Location in Plan
Prerequisites	
Adoption by the Local Governing Body: §201.6(c)(5)	Volume I, Section 2.0; Appendix B
Planning Process	
Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)	Volume I, Section 3.0
Risk Assessment	
Identifying Hazards: §201.6(c)(2)(i)	Volume I, Sections 5.2
Profiling Hazards: §201.6(c)(2)(i)	Volume I, Section 5.4
Assessing Vulnerability: Overview: §201.6(c)(2)(ii)	Volume I, Section 5.4
Assessing Vulnerability: Identifying Structures: §201.6(c)(2)(ii)(A)	Volume I, Section 4.0 Volume I Section 5.4
Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)	Volume I, Section 5.4
Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)	Volume I, Section 4.0; Volume II, Section 9 Annexes
Mitigation Strategy	
Local Hazard Mitigation Goals: §201.6(c)(3)(i)	Volume I, Section 6.0; Volume II, Section 9 Annexes
Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)	Volume I, Section 6.0; Volume II, Section 9 Annexes
Implementation of Mitigation Actions: §201.6(c)(3)(iii)	Volume I, Section 6.0; Volume II, Section 9 Annexes
Multi-Jurisdictional Mitigation Actions: : §201.6(c)(3)(iv)	Volume I, Section 6.0; Volume II, Section 9 Annexes
Plan Maintenance Process	
Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(i)	Volume I, Section 7.0
Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)	Volume I, Section 7.0
Continued Public Involvement: §201.6(c)(4)(iii)	Volume I, Section 7.0

Organization

The Burlington County Hazard Mitigation Plan Update has been reorganized into a two volume plan. Whereas the original plan was presented in one volume with all County and municipal mitigation strategies provided in a single section, the updated plan has been reorganized into two volumes to facilitate use of this plan as a resource for each participant.

Volume I intended to be used as a source for on-going mitigation analysis. Volume II consists of a chapter or annex dedicated to each participating jurisdiction. Each annex summarizes the jurisdiction's legal, regulatory and fiscal capabilities; vulnerabilities to natural hazards; status of past mitigation actions; and provides an individualized, updated mitigation strategy. The annexes are intended to provide a concise reference for each jurisdiction for implementation of mitigation projects and future grant opportunities.

Goals and Objectives

The plan update has incorporated a goals and objectives hierarchy as a basis for the planning process and to address all hazards of concern rather than providing ten separate goals for each hazard as in the original plan. A cross-walk indicating the relationship of the original goals and objectives with the new goals and objectives is provided in Section 6 of the plan.

Hazards of Concern

The county and participating jurisdictions reviewed natural hazards that caused measurable impacts in the planning area and evaluated the risk and vulnerability due to each of the hazards of concern on the assets of each participating jurisdiction. Although the resulting hazard risk rankings varied for each jurisdiction, the summary risk rankings corresponded with that of the County and are indicated in each jurisdictional annex. The hazard risk ranks were used to focus and prioritize the individual jurisdictional mitigation strategies.

Plan Integration into Other Planning Mechanisms

It is the intention of this planning process that municipalities shall incorporate findings and recommendations of this plan into future local planning efforts and into overall execution of their land-use planning process (e.g. site plan review, permitting, and code enforcement).

Implementation of the 2008 Plan

The status of the mitigation projects from the 2008 plan are provided in Sections 6 and 9 of the plan. Numerous projects and programs have been implemented that have reduced hazard vulnerability to assets in the planning area. The 2008 plan had not been widely integrated with local planning processes in many jurisdictions, but the integration of the 2013 plan is a high priority for the next five year cycle as noted in the plan maintenance procedure. The municipal annexes and plan maintenance procedure have been developed to encourage specific activities such as review of the HMP during update of codes, ordinances, zoning, and development to ensure that a more thorough integration, with its related benefits, will be completed within the upcoming 5-year planning period.

The County Office of Emergency Management will encourage all jurisdictions to incorporate hazard mitigation plan aspects into their comprehensive and master plan updates.

The following table provides an indication of changes and additions to the 2008 plan.

Table 1-3. Mitigation Plan Update Summary

Topic	2008 Hazard Mitigation Plan Section	2013 Hazard Mitigation Plan Section	Comments
Introduction	Section 1 Introduction	Section 1	
	Section 3 Risk Assessment	Section 5	
ID of Hazards	Section 2 ID of Hazards	Section 5.3	
Profiles of Hazards	Section 3.a Profiles of Hazards	Section 5.4	
Earthquake	Section 3.a Profiles of Hazards: Earthquake	Earthquake Profile	
Flood	Section 3.a Profiles of Hazards: Flood	Flood Hazard Profile (Flash / Riverine)	
Ice Jam	Section 3.a Profiles of Hazards: Flood	Flood Hazard Profile (Flash / Riverine)	
Landslide	Section 3.a Profiles of Hazards: Landslide	Landslide Hazard Profile	
Drought	Section 3.a Profiles of Hazards:	Drought Hazard Profile	
Wildfire	Section 3.a Profiles of Hazards: Wildfire	Wildfire Hazard Profile	
Extreme Wind	Section 3.a Profiles of Hazards: Extreme Wind	Severe Storm Hazard Profile (incl. hurricane and tornado)	
Hurricanes	Section 3.a Profiles of Hazards: Severe Weather Events - Hurricanes	Severe Storm Hazard Profile (incl. hurricane and tornado)	
Tornadoes	Section 3.a Profiles of Hazards: Severe Weather Events - Tornadoes	Severe Storm Hazard Profile (incl. hurricane and tornado)	
Winter Storms / Ice Storms	Section 3.a Profiles of Hazards: Severe Weather Events - Winter Storms/ Ice Storms	Severe Winter Storm Hazard Profile	
Coastal Erosion	Not Included	Coastal Erosion Hazard Profile	
Assess Vulnerability	Section 3.b - Identification And Characterization of Assets		
Assess Vulnerability	Section 3.c - Estimated Damages in Hazard Areas	Section 4 and Section 5.4	Structural inventory is provided in Section 4 and Vulnerability assessments are provided in each hazard profile in Section 5.4
Assess Vulnerability	Section 3.d - Summary of Land Uses and Development Trends in Hazard Areas	Section 4	
Mitigation Strategies	Section 5 - Mitigation Goals Section 6 - Range of Alternative Mitigation Actions Considered	Section 6	Overview of mitigation strategy update process
Mitigation Actions	Section 7 - Action Item Evaluation and Prioritization Section 8 - Implementing Mitigation Strategies	Within each jurisdictional annex in Section 9	
Plan Maintenance Procedures	Section 9 - Plan Maintenance Procedures	Section 7	
Planning Partnership	Section 4 - Capabilities and Resources	Section 8	

IMPLEMENTATION OF THE PLANNING PROCESS

The planning process and findings are to be documented in local HMPs. To support the planning process to develop this HMP, Burlington County and the participating jurisdictions have accomplished the following:

- Developed a Planning Committee
- Reviewed the 2008 Burlington County Hazard Mitigation Plan
- Identified/reviewed hazards of concern to be included in the update
- Profiled these hazards
- Estimated the inventory at risk and potential losses associated with these hazards
- Developed mitigation goals and actions that address the various hazards that impact the area
- Developed mitigation plan maintenance procedures to be executed after obtaining approval of the plan from NJOEM and FEMA

Based on a hazards identification worksheet and ranking process, subsequent input from the Planning Committee, and review of other available data, the planning process then proceeded to identify, rank and profile those hazards that are of greatest concern to the community (hazards of concern). The hazard profiles include location, extent, previous occurrences and losses, and the probability of future events. The process also included a vulnerability assessment to evaluate what county and municipal assets are exposed or vulnerable to the hazards.

To address the requirements of DMA 2000 and better understand their potential vulnerability to and losses associated with hazards of concern, Hazards U.S. – Multi-Hazard (HAZUS-MH or HAZUS) software package (discussed in greater detail later in this Plan) supplemented by local data, as feasible, was used to support the risk assessment and vulnerability evaluation. HAZUS-MH assesses risk and estimates potential losses for natural hazards. It produces outputs that will assist state and local governments, communities, and the private sector in implementing emergency response, recovery, and mitigation programs, including the development of HMPs.

As required by DMA 2000, Burlington County and participating jurisdictions have informed the public and provided opportunities for public comment and input. The response to the public questionnaire was tremendous with a return of over 900 responses. A summary can be found in Appendix H. In addition, numerous agencies and stakeholders have participated as core or support members, providing input and expertise throughout the planning process.

This Multi-Jurisdictional All-Hazard Mitigation Plan documents the process and outcomes of the County and jurisdictions' efforts. Additional information on the planning process is included in Section 3, Planning Process. Documentation that the prerequisites for plan approval have been met is included in Section 2, Plan Adoption.

BENEFITS OF MITIGATION PLANNING

The planning process will help prepare citizens and government agencies to better respond when disasters occur. Also, mitigation planning allows Burlington County and its municipalities to remain eligible for mitigation grant funding for mitigation projects that will reduce the impact of future disaster events. The long-term benefits of mitigation planning include:

- An increased understanding of hazards faced by communities

- A more sustainable and disaster-resistant community
- Financial savings through partnerships that support planning and mitigation efforts
- Focused use of limited resources on hazards that have the biggest impact on the community
- Reduced long-term impacts and damages to human health and structures and reduced repair costs

ORGANIZATION OF THIS MITIGATION PLAN

This Plan was organized in accordance with FEMA and NJOEM guidance. The structure of this Plan follows the four-phase planning process recommended by FEMA and summarized in Figure 1-2. The Plan is organized into two volumes: Volume I includes all information that applies to the entire planning area (Burlington County); and Volume II includes participating jurisdiction-specific information.

Volume I of this Plan includes the following sections:

Section 1: Introduction: Overview of participants and planning process

Section 2: Plan Adoption: Information regarding the adoption of the Plan by Burlington County and each participating jurisdiction.

Section 3: Planning Process: A description of the Plan methodology and development process, Planning Committee and stakeholder involvement efforts, and a description of how this Plan will be incorporated into existing programs.

Section 4: County Profile: An overview of Burlington County, including: (1) general information, (2) economy, (3) land use trends, (4) population and demographics, (5) general building stock inventory and (6) critical facilities.

Section 5: Risk Assessment: Documentation of the hazard identification and hazard risk ranking process, hazard profiles, and findings of the vulnerability assessment (estimates of the impact of hazard events on life, safety and health; general building stock; critical facilities and the economy). Description of the status of local data and planned steps to improve local data to support mitigation planning.

Section 6: Mitigation Strategies: Information regarding the mitigation goals and objectives identified by Burlington County in response to priority hazards of concern.

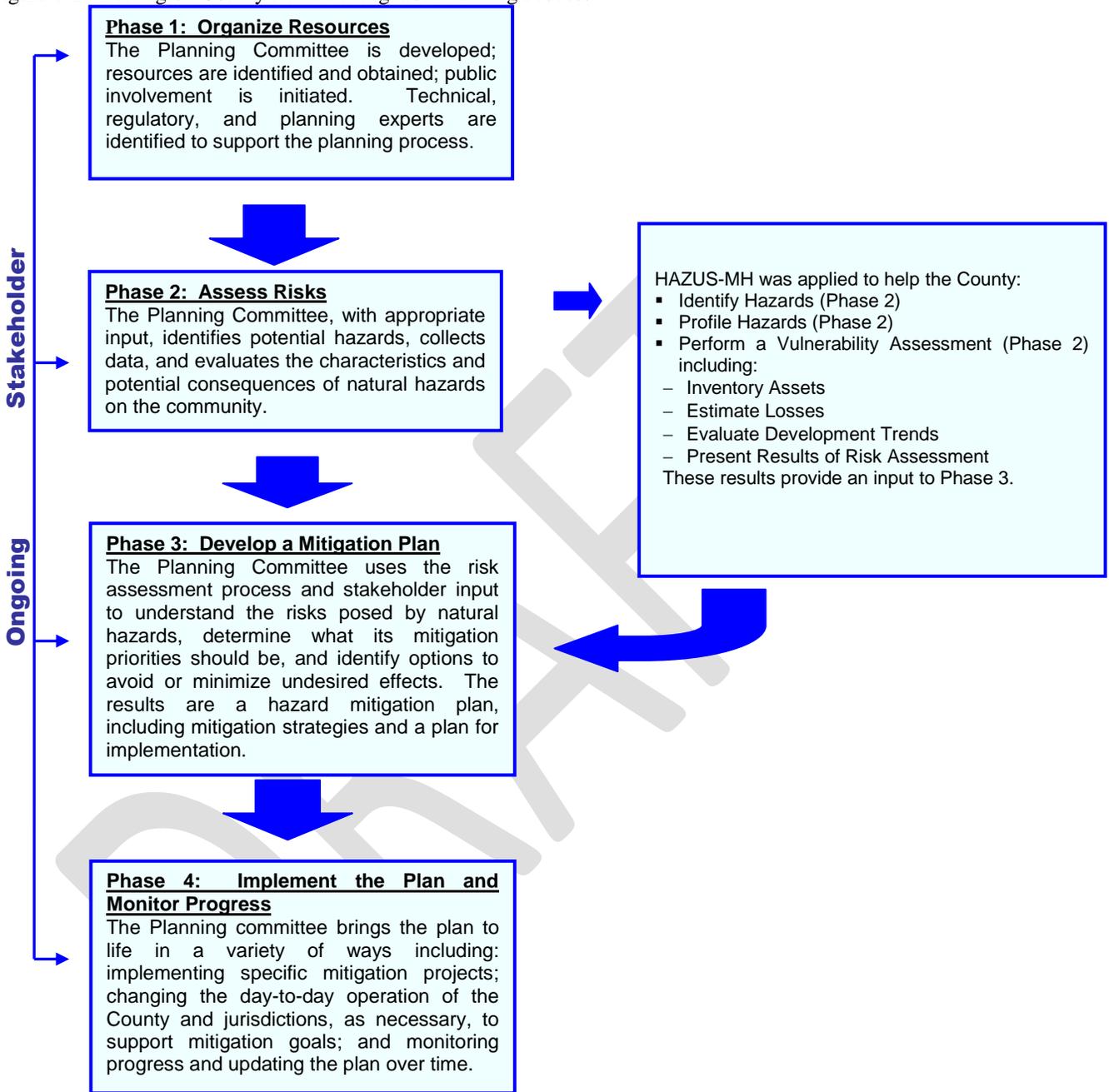
Section 7: Plan Maintenance Procedures: The system established by Burlington County to continue to monitor, evaluate, maintain and update the Plan.

Volume II of this Plan includes the following sections:

Section 8: Planning Partnership: Description of the planning partnership, and jurisdictional annexes.

Section 9: Jurisdictional Annexes: A jurisdiction-specific annex for each participating jurisdiction and the County containing their hazards of concern, hazard risk ranking, capability assessments, mitigation actions and action prioritization specific only to the County or that jurisdiction.

Figure 1-2. Burlington County Hazard Mitigation Planning Process



Appendices –

Appendix A: Applicable Federal and State Regulations: Copies of federal and state acts and regulations that apply to hazard mitigation planning within this jurisdiction.

Appendix B: Resolution of Plan Adoption: Documentation that supports the Plan approval signatures included in Section 2 of this Plan.

Appendix C: Public and Stakeholder Outreach and Comments: Results of Public Survey Public Notices, Public Service Announcements, various newspaper articles to inform the public of the hazard mitigation planning effort in Burlington County and specific public and stakeholder comments received throughout the planning process.

Appendix D: Mitigation Catalog: Comprehensive list of mitigation actions considered by Burlington County and the participating jurisdictions.

Appendix E: Federal Mitigation Programs, Activities, and Initiatives: Summary of federal funding options that could be used to fund mitigation activities.

Appendix F: Jurisdictional Annex Template and Instructions: Template and instructions used by Burlington County and each participating jurisdiction.

Appendix G: FEMA 386-4 Guidance Worksheets

Appendix H: Public Survey Results

Appendix I: Minutes of Meetings: Agendas, minutes, and sign-in sheets of major meetings convened during the planning process.

Appendix J: Sample Letter of Intent provided to participants summarizing minimum requirements of participation in the planning process.