

PS COMMITTEE #2
July 18, 2013

MEMORANDUM

July 16, 2013

TO: Public Safety Committee

FROM:  Keith Levchenko, Senior Legislative Analyst

SUBJECT: Resolution to Approve the 2013 Montgomery County Multi-Hazard Mitigation Plan

The following Office of Homeland Security and Emergency Management (OEMHS) staff will be present:

- Chris Voss, Manager, OEHMHS
- Charles Crisostomo, Operations Division Chief, OEMHS

Attachments include:

- Council Resolution (©1-2)
- 2013 Hazard Mitigation Plan Summary (©3-9)
- County Executive Transmittal Memorandum (©10)
- 2013 Montgomery County Multi-Hazard Mitigation Plan Excerpts (©11-42)

Background

On June 25, the County Council received the County Executive's transmittal of the Multi-Hazard Mitigation Plan (M-HMP). The proposed M-HMP¹ will replace the existing M-HMP which the Council approved in 2007.

OEMHS staff prepared a summary document (see ©3-9) which provides background on the M-HMP, the development of the new M-HMP, a listing of major changes from the 2007 M-HMP, and a summary of the mitigation goals in the new M-HMP. OEMHS staff have been asked to provide a short presentation regarding the new M-HMP at the Committee meeting.

¹ The introductory pages, table of contents, and Executive Summary of the M-HMP are attached on ©11-16. Excerpts of the mitigation actions are included on ©17-42. The full M-HMP is available for download at: http://www.montgomerycountymd.gov/content/council/pdf/SCANNED_DOCS/hazard_mitigation_plan.pdf

Under federal regulations developed after passage of The Federal Disaster Mitigation Act of 2000, states and local governments must have an approved and adopted hazard mitigation plan in order to maintain eligibility for pre-and post-disaster mitigation grant funding. The Federal Emergency Management Agency (FEMA) is responsible for reviewing and approving state and local plans.

The new M-HMP has been reviewed and approved by the Maryland Emergency Management Agency and the Federal Emergency Management Agency (FEMA), pending adoption by the Montgomery County Council.

Council action is tentatively scheduled for July 30.

Discussion

Process

The planning process for the M-HMP began in November 2011 with a Core Mitigation Planning Committee Meeting. OEMHS brought a consultant on board and held a kick-off meeting with the consultant in February 2012. A public forum was held in March 2012. Meetings in April (risk assessment) and May (mitigation actions) were held. The M-HMP was transmitted to the Maryland Emergency Management Agency (MEMA) in August 2012 and sent to FEMA in September 2012. FEMA completed its review in February 2013².

New and Updated Information

The 2013 M-HMP includes much new and updated information. Some of the major new items include:

- Major emergencies over the past 5 years (such as the Derecho, earthquakes, Darnestown wildfire) added to historic charts and into the risk factor information
- New flood maps recognizing areas of repeat claims (frequent flooding) for flood loss (such as White's Ferry, Aspen Hill, and parts of Silver Spring)
- Documentation of the County's three levees
- An updated dam inventory
- Updated population/demographic information
- New mitigation action items resulting from the work of the Core Mitigation Planning Committee members and other stakeholders

Another major change from the 2007 M-HMP is the structure of the goals, objectives, and mitigation actions. While the old M-HMP organized these items by subject area (such as "Protect Life and Property," "Community Education," and "Continuity of Government"), the new M-HMP organizes these items by threat type (i.e., thunderstorm, winter storm, extreme heat, flooding, etc.) This approach is consistent with FEMA guidance.

² The M-HMP is intended to be comprehensively updated every 5 years. Some references in the M-HMP note a 2012 M-HMP update. However, the FEMA review of the County's draft M-HMP was not completed until February 2013 due to Hurricane Sandy and, therefore, Council approval of this M-HMP slipped into 2013.

Recommended Mitigation Actions

A key component of the M-HMP is the list of recommended mitigation actions. Excerpts of the M-HMP with these recommended actions are attached on ©17-42, with anticipated costs (when known), potential funding sources, timeframe, STAPLEE³ priority, and other general information. *Note: Council Staff is working with OEMHS staff on some text and table revisions to clarify portions of the mitigation action information and references to the 2007 M-HMP.*

These recommended actions fall into six mitigation categories: prevention, property protection, public education and awareness, natural resource protection, structural project implementation, and emergency services.

Each participating jurisdiction was asked to identify at least 2 mitigation actions. In some cases, these actions might only involve the respective jurisdiction. In other cases, the mitigation actions were broader, affecting multiple jurisdictions.

These recommended actions can be very specific (such as Action 2.1.3: “Provide 4WD Vehicles for Law Enforcement Personnel During Heavy Snow Activity”; 6 units at \$25,000 each) to more general (such as public awareness campaigns, coordination with other agencies, and community outreach efforts). Some action items, while specific in nature (“purchase emergency generators”), provide flexibility for determining the facility priorities at a later date and also allow for a variety of sub-projects.

A key point is that mitigation actions need to be included in the M-HMP in order to be eligible for FEMA Hazard Mitigation Grant Project (HMGP) funds once the M-HMP is adopted. Conversely, inclusion of a particular mitigation item does not commit the County (or others) to financially support or implement the action.

Technical Edits and Corrections

Council Staff has identified some errata and other corrections and clarifications needed and is working with OEMHS staff to incorporate these changes into the final M-HMP document approved by the Council.

Recommendation

With some technical edits and corrections, Council Staff recommends approval of the 2013 Hazard Mitigation Plan.

Attachment

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³ STAPLEE is a cost/benefit analysis tool developed by FEMA which includes considerations for Social, Technical, Administrative, Political, Legal, Environmental and Economic issues.

Resolution No.: _____
Introduced: _____
Adopted: _____

**COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND**

By: Council President at the Request of the County Executive

SUBJECT: The 2013 All Hazard Mitigation Plan

Background

1. The Montgomery County Hazard Mitigation Plan was first approved by the County Council by Resolution 14-569 in June 2000, and an updated Multi-Hazard Mitigation Plan was approved by resolution 16-41 in February 2007. Upon adoption of this resolution, the County's 2013 Hazard Mitigation Plan 2013 supersedes all previous County mitigation plans.
2. On October 30, 2000, the federal Disaster Mitigation Act of 2000 (Public Law 106-390) was signed into law. To reduce the effects of disasters, the law encourages, among other initiatives, a planning process based on cooperation among state and local authorities, community partners and the public at large. The law recognizes local and state pre-disaster planning and promotes "resiliency" as a major mitigation strategy. Under the regulations implementing this law, states and local governments must have an approved and adopted hazard mitigation plan in order to maintain eligibility for pre- and post-disaster mitigation grant funding. The Federal Emergency Management Agency (FEMA) is responsible for reviewing and approving state and local plans.
3. This 2013 All Hazard Mitigation Plan is a major update to the 2007 Hazard Mitigation Plan and is in accordance with following state and federal rules and regulations governing local hazard mitigation plans.
 - Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §5121 *et seq.*, Section 322 (*Mitigation Planning*) (42 U.S.C. §5165), as enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390), and FEMA's Interim Final Rule published in the Federal Register on February 26, 2002, at 44 CFR Part 201.
 - Maryland Emergency Management Agency (MEMA) established under Section 14-103 in the Public Safety Article of the Maryland Code. The Emergency

Management Policy was updated in 1991 through Executive Order 01.01.1991.02
State of Maryland Emergency Management Policy.

4. In developing this plan, a core planning team was assembled consisting of County agencies, municipalities, utility companies, and community and volunteer organizations. Two public hearings were held to solicit public input. The purpose of the Hazard Mitigation Plan is to identify policies, capabilities, activities and tools to help make Montgomery County more resilient in the face of future disasters.
5. In August 2012, the County submitted its initial draft of the All Hazard Mitigation Plan to the Maryland Emergency Management Agency (MEMA) for review and incorporated all comments satisfactorily. In October 2012, the County forwarded its final Draft Hazard Mitigation Plan to the Federal Emergency Management Agency (FEMA) for review and approval. On April 24, 2013, the County received notice that FEMA determined that the County's 2013 All Hazard Mitigation Plan satisfied all the requirements of 44 CFR 201.6 and is approved, pending adoption.

Action

The County Council for Montgomery County, Maryland approves the following resolution:

The County Council approves and adopts the 2013 All Hazard Mitigation Plan.

This is a correct copy of Council action.

Linda M. Lauer, Clerk of the Council

Montgomery County 2013 Hazard Mitigation Plan summary

Under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288), as amended, State, Tribal, and local governments are required to develop a hazard mitigation plan as a condition for receiving certain types of non-emergency disaster assistance, including funding for mitigation projects.

The Montgomery County Hazard Mitigation Plan was first approved by the County Council by resolution 14-569 on June 2000 and an updated Multi-Hazard Mitigation Plan by resolution 16-41 on February 6, 2007. This 2013 Hazard Mitigation Plan updates all previous county mitigation plans.

The purpose of mitigation planning is to identify policies and actions that can be implemented over the long term to reduce risk and future losses. In order to accomplish this, plans must first:

1. identify and organize a multidisciplinary team,
2. assess risks faced by the jurisdiction,
3. develop a mitigation plan and
4. Implement the plan and measure progress.

In this 2013 update, the following identify the significant changes or updates to the previous Mitigation plan:

Planning Team. The planning team for this project included representatives from the county's Emergency Management Group agencies, Pepco, WSSC, M-NCPPC, MCPS, American Red Cross, Montgomery Village Foundation as well as all 19 Municipalities. While the inclusion of this many agencies presented challenges for meeting times, it provided for a wide variety of input throughout the planning process, which was very helpful.

Public input. In addition to the inclusion of all municipalities, 2 public participation points were created during the planning process. The first was at a public kick-off meeting held at the County Office Building auditorium in March 2012 and the second was the 30 day open review and comment period for the completed Draft in July 2012. Both of these events were advertised county-wide in the Gazette on February 29, 2012 and on July 21, 2012 respectively.

Chapter 2 Hazard Identification and Risk Assessment

The Plan updates the historical data for each hazard to include events which have occurred since 2007, affecting the county. Events such as the February 2010 Blizzard, the Darnestown "Valentines Day" fire in 2011, the 2012 Derecho, the 5.9 earthquake and all other major storm events were all taken into consideration.

Risk Assessment. Hazard Mitigation Plans typically assess only those Natural Hazards that jurisdictions face. This is due to the fact that the grant funds awarded are restricted to those projects or activities that mitigate risks caused by natural hazards. Having said that, we did include two additional risks: *Dam Failure and Hazardous Material spills*. We decided to include these risks based on our historical record of these risks occurring as a consequence of a natural hazard i.e., dam failure due to a heavy rainfall/flooding event that triggers a dam failure or Severe Thunderstorm as a contributing factor to a tractor trailer accident with a chemical spill.

FEMA has clearly recognized the need to bundle all of these risks together for each jurisdiction and has already begun to make this a requirement in the newly developed, Threat and Hazard Identification and Risk Assessment plans (THIRA). OEMHS is currently working on a THIRA plan for the county.

The minimal changes made in the Natural Hazard categories are outlined in the table below:

Table 2-3: Evaluation of Hazards for Inclusion in 2012 HIRA Summary			
2007 HAZARD	STATUS	NOTES	2012 HAZARD
Blizzard/Ice Storms	Ongoing/Changed	Now called Winter Storm	Winter Storm
Drought	Ongoing /Changed	Now called Water Shortage to include Drought	Water Shortage
Dam Failure	Ongoing	No change	Dam Failure
Flooding/Flash Flooding	Ongoing /Changed	Now called Flooding to include flash flooding	Flooding
Tornado	Ongoing	No change	Tornado
Thunderstorm	Ongoing /Changed	Now a separate profile from Tornado in 2012	Thunderstorm
Hurricane	Ongoing /Changed	Now called Hurricane/Tropical Storm	Hurricane/Tropical Storm
Earthquake	Ongoing	No change	Earthquake
Hazardous Materials	Ongoing	No change	Hazardous Materials
Soil Movement	Ongoing /Changed	Now called Land Subsidence/Karst	Land Subsidence/Karst
Brush Fires	Ongoing /Changed	Now called Fire	Fire
Conflagrations	Ongoing /Changed	Included in Fire	n/a
Extreme Heat	Ongoing	No change	Extreme Heat
Extreme Cold	Ongoing /Changed	Now included within Winter Storm	n/a

Based on historical data, extent of impact, probability and duration, these hazards were then ranked as per the table below.

Table 2-6: Risk Factor Results for Montgomery County and Participating Jurisdictions							
#	NATURAL HAZARDS	PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION	RF RATING
1	Thunderstorm	1.2	0.6	0.8	0.3	0.3	3.2
2	Winter Storm	0.9	0.9	0.8	0.2	0.3	3.1
3	Extreme Heat	0.9	0.9	0.8	0.1	0.3	3.0
4	Flooding	0.9	0.6	0.4	0.3	0.2	2.4
5	Hurricane/Tropical Storm	0.9	0.3	0.8	0.1	0.3	2.4
6	Fire	0.9	0.6	0.4	0.3	0.2	2.4
7	Water Shortage	0.6	0.3	0.8	0.2	0.3	2.2
8	Tornado	0.6	0.3	0.4	0.4	0.2	1.9
9	Earthquake	0.3	0.3	0.6	0.4	0.2	1.8
10	Land Subsidence/Karst	0.3	0.3	0.2	0.4	0.1	1.3
#	TECHNOLOGICAL HAZARDS	PROBABILITY	IMPACT	SPATIAL EXTENT	WARNING TIME	DURATION	RF RATING
1	Hazardous Materials	0.9	0.9	0.4	0.4	0.2	2.8
2	Dam Failure	0.6	0.9	0.4	0.3	0.3	2.5

These specific natural hazards are described in detail, along with their frequency and the extent of collateral damage. This 2013 plan contains much more flood specific information than the 2007 plan that includes not only flood zones but also an identification of potential populations affected and critical facilities impacted. Much of this emphasis was required by FEMA following Hurricane Sandy in 2012.

Included also are maps identifying areas of repetitive flood loss claims. While Montgomery County has areas of repetitive loss, the numbers are relatively small. This is directly attributable to long-standing land use policies that prohibit development in flood plains.

Chapter 3 Mitigation Strategy

This section of the plan focuses on the mitigation goals, objectives and strategies for the plan. This first part examines the 2007 objectives, determines status and either removes, modifies or continues the objective. The 2013 goals and objective were then established by Hazard category. These are designed to be comprehensive and strategic in nature. This is a change from the 2007 plan and allows for action items or projects to be clearly identified as a mitigation measure by hazard, such as Thunderstorms, or floods etc.

Beneath the goals and objectives the plan proposes a series of action items. These action items were put forth by county agencies and municipalities primarily and constitute mitigation actions aimed at improving resiliency. Some of the action items are

more focused than others, such as the early warning system proposed by Rockville City, while other action items such a purchasing emergency generators for “critical facilities” allows for a wide range of projects to be considered.

While this plan proposes a whole series of mitigation action items, this listing does not commit the County or municipalities to funding these projects, in whole or part, unless they agree to do so. What this listing does, is makes these action categories eligible for post disaster funding by way of FEMA Hazard Mitigation Grant Project (HMGP) funds, once this plan is adopted.

The table below shows the major changes in Goals and Objectives.

Table 3-1: 2007-2012 Goals and Objectives Update					
Current Goal	Objective	Continue	Change	Delete	Status/Reason
Department of Public Works and Transportation's computerized maintenance management system (CMMS) for trees within electrical transmission corridors that pose a risk to critical facilities operations. (Will be GIS compatible)	n/a			X	Removed as a goal. The current goal reflects an action/strategy.
Montgomery County Fire and Rescue Service proposed purchase of back-up emergency generators and pre-wiring of stations.	n/a			X	Removed as a goal. The current goal reflects an action/strategy.
Montgomery County Recreation Centers. Secure funding for pre-wiring of facilities for generators. These facilities may be used as emergency shelters.	n/a			X	Removed as a goal. The current goal reflects an action/strategy.
City of Rockville's storm water management projects to secure mitigation funds, if available, to engineer, design and construct improved storm water management facilities.	n/a			X	Removed as a goal. The current goal reflects an action/strategy.
Town of Kensington, mitigation of flood hazard on Silver Creek	n/a		X		Removed as a goal and placed as an action/strategy.
Thunderstorm, Hurricane/Tropical Storm	n/a		X		To minimize the losses of life and property due to thunderstorms in Montgomery County

Table 3-1: 2007-2012 Goals and Objectives Update					
Current Goal	Objective	Continue	Change	Delete	Status/Reason
Blizzards/Ice Storms – To be profiled under Winter Storms	n/a		X		To minimize the losses of life and property due to winter storms in Montgomery County
Hazardous Materials	n/a		X		To minimize the losses of life and property due to hazardous materials in Montgomery County
Dam Failure	Continue to identify appropriate and effective measures to notify individuals with disabilities and residents who live near the dam's danger reach areas of emergencies.		X		To minimize the losses of life and property due to dam failure in Montgomery County
Flooding	n/a		X		To minimize the losses of life and property due to flooding in Montgomery County
Hurricane/Tropical Storm	Identify critical facilities for high wind retrofits		X		To minimize the losses of life and property due to hurricanes and tropical storms in Montgomery County
Drought	n/a		X		Now to include water shortage in addition to drought. To minimize the losses of life and property due to water shortage and drought in Montgomery County
Earthquake	n/a		X		To minimize the losses of life and property due to earthquake in Montgomery County

The new 2013 Goals and Objectives are outlined below:

2013 MONTGOMERY COUNTY MITIGATION GOALS AND OBJECTIVES

Goal 1: To minimize the losses of life and property due to thunderstorms in Montgomery County

- ✓ **Objective 1.1:** To minimize the effects of electrical storms to public and private property in Montgomery County
- ✓ **Objective 1.2:** To minimize the effects of high winds to public and private property in Montgomery County

Goal 2: To minimize the losses of life and property due to winter storms in Montgomery County

- ✓ **Objective 2.1:** To minimize the impact of winter storm events on life and property to include buildings, infrastructure, critical facilities, and critical infrastructure

Goal 3: To minimize the losses of life and property due to extreme heat in Montgomery County

- ✓ **Objective 3.1:** To minimize the impact of extreme heat on life and property to include buildings, infrastructure, critical facilities, and critical infrastructure

Goal 4: To minimize the losses of life and property due to fire in Montgomery County

- ✓ **Objective 4.1:** To protect both people and property to the devastating effects of wildfire

Goal 5: To minimize the losses of life and property due to flooding in Montgomery County

- ✓ **Objective 5.1:** To minimize the impact of flooding to life and property to include buildings, infrastructure, critical facilities, and critical infrastructure
- ✓ **Objective 5.2:** To reduce the impact of flooding through education and outreach of flood mitigation techniques
- ✓ **Objective 5.3:** Pursue flood mitigation projects in repetitive flood areas to improve storm water management

Goal 6: To minimize the losses of life and property due to hurricanes and tropical storms in Montgomery County

- ✓ **Objective 6.1:** To minimize the wind and flooding effects of hurricanes and tropical storms on life and property to include buildings, infrastructure, critical facilities, and critical infrastructure

Goal 7: To minimize the losses of life and property due to water shortage and drought in Montgomery County

- ✓ **Objective 7.1:** To educate the citizens of Montgomery County on methods to reduce the effects of drought
- ✓ **Objective 7.2:** Minimize the effects of drought through education and outreach on water saving techniques

Goal 8: To minimize the losses of life and property due to tornadoes in Montgomery County

- ✓ **Objective 8.1:** To minimize the effects of high winds to life and property to include buildings, infrastructure, critical facilities, and critical infrastructure

Goal 9: To minimize the losses of life and property due to earthquake in Montgomery County

- ✓ **Objective 9.1:** To minimize the effects of seismic activity to life and property to include buildings, infrastructure, critical facilities, and critical infrastructure

Goal 10: To minimize the losses of life and property due to land subsidence and karst in Montgomery County

- ✓ **Objective 10.1:** To minimize the effects of land subsidence and karst to include buildings, infrastructure, critical facilities, and critical infrastructure

Goal 11: To minimize the losses of life and property due to hazardous materials in Montgomery County

- ✓ **Objective 11.1:** To continue to provide enhanced trainings, equipment, and plans for hazardous materials emergency response and mitigation in Montgomery County

Goal 12: To minimize the losses of life and property due to dam failure in Montgomery County

- ✓ **Objective 12.1:** To minimize the impact of dam failure to life and property to include buildings, infrastructure, critical facilities, and critical infrastructure
- ✓ **Objective 12.2:** To continue to provide education and outreach to Montgomery County citizens and business owners on dam failure inundation areas

Goal 13: To minimize the losses of life and property due to natural, technological, and/or threat induced hazards to include buildings, infrastructure, critical facilities, and critical infrastructure

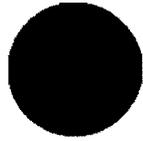
- ✓ **Objective 13.1:** To minimize the impact of natural, technological, and/or threat induced hazards to include buildings, infrastructure, critical facilities, and critical infrastructure

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OFFICE OF THE COUNTY EXECUTIVE
ROCKVILLE, MARYLAND 20850

MEMORANDUM

June 21, 2013

ENCL
IN FILE

Isiah Leggett
County Executive

TO: Nancy Navarro, President, County Council
FROM: Isiah Leggett, County Executive
SUBJECT: 2013 Hazard Mitigation Plan

RECEIVED
COMMUNITY DEVELOPMENT

2013 JUN 25 AM 9:17

It is my pleasure to transmit to you the County's 2013 Hazard Mitigation Plan for the Council's review and adoption. This Plan was completed in accordance with following State and federal rules and regulations governing local hazard mitigation plans:

- Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. § 5121 *et seq.*, Section 322 (*Mitigation Planning*) (42 U.S.C. § 5165), as enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390), and FEMA's Interim Final Rule published in the Federal Register on February 26, 2002, at 44 CFR Part 201; and
- Maryland Emergency Management Agency (MEMA) established under Section 14-103 in the Public Safety Article of the Maryland Code. The Emergency Management Policy was updated in 1991 through Executive Order 01.01.1991.02 State of Maryland Emergency Management Policy.

Over the past 12 months a core planning team consisting of County agencies, utility companies, and community and volunteer organizations, was assembled to develop this updated plan, which included two public hearings to solicit input. The ultimate goal of the hazard mitigation plan is to identify policies, capabilities, activities, and tools to make Montgomery County more resilient in the face of future disasters.

This plan has been reviewed and approved by the Maryland Emergency Management Agency and the Federal Emergency Management Agency (FEMA), pending adoption by the Montgomery County Council.

Please contact Office of Emergency Management and Homeland Security Director Chris Voss at 240-777-2469, if you have any questions or concerns.

IL:cv

Attachment

c: Chris Voss, Director, Office of Emergency Management and Homeland Security



Montgomery County Hazard Mitigation Plan 2013



**MONTGOMERY COUNTY OFFICE OF
EMERGENCY MANAGEMENT AND HOMELAND
SECURITY**

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GAITHERSBURG, MARYLAND, 20878
www.montgomerycountymd.gov/oemhs

**MONTGOMERY COUNTY MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN 2013**



This Plan was developed in cooperation with:

Montgomery County

CITIES OF:

<i>Gaithersburg</i>	<i>Rockville</i>	<i>Takoma Park</i>
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TOWNS OF:

<i>Barnesville</i>	<i>Brookesville</i>	<i>Chevy Chase</i>	<i>Chevy Chase View</i>
<i>Chevy Chase Village</i>	<i>Garrett Park</i>	<i>Glen Echo</i>	<i>Kensington</i>
<i>Laytonsville</i>	<i>Poolesville</i>	<i>Somerset</i>	<i>Washington Grove</i>

VILLAGES OF:

<i>Chevy Chase, Section 3</i>	<i>Chevy Chase, Section 5</i>	<i>Martin's Additions</i>	<i>North Chevy Chase</i>
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CERTIFICATION OF ANNUAL REVIEW MEETINGS

The Montgomery County Mitigation Planning Committee has reviewed this Multi-Jurisdictional Hazard Mitigation Plan. See Chapter 4 of this Plan for further details regarding the following table. The Director of the Montgomery County Office of Emergency Management and Homeland Security hereby certifies this review.

YEAR	DATE	PUBLIC OUTREACH ADDRESSED	SIGNATURE
2014			
2015			
2016			
2017			
2018			

EXECUTIVE SUMMARY

The County of Montgomery has been and will continue to be committed to a long-term strategy for reducing the risks of hazards.

INTENT

The intention of this Plan update is to serve as a blueprint for coordinating and implementing hazard mitigation policies, programs, and projects. It provides a list of mitigation goals, objectives, and related actions that may assist Montgomery County in reducing risk and preventing loss from future natural and technological hazard events. The impacts of hazards can be lessened and sometimes avoided altogether if appropriate actions are taken before hazardous events occur. By avoiding unnecessary exposure to known hazard risks, communities will save lives and property and minimize the social, economic, and environmental disruptions that commonly follow hazard events. Montgomery County and its municipalities agree that hazard mitigation makes sense. Through the identification of vulnerable areas and the implementation of measures aimed at minimizing exposure, the negative impacts of both natural and technological hazards may be reduced for Montgomery County.

Some portions of Montgomery County were developed long before natural hazards were fully understood. Therefore, some sections of our community are vulnerable to flooding, tornadoes and high wind, severe storms and lightning, wildfire, and other hazards. Working through the cycle of hazard mitigation can help ensure that vulnerabilities will not increase. Encouraging acquisition, relocation, or retrofitting of existing vulnerable structures, along with the protection of valuable natural resources, can minimize damages and help make sure that our community is built back better and stronger than before.

Communities face significant challenges during post-disaster redevelopment in balancing the driving need for rapid recovery with implementing long-term hazard mitigation. The necessity to meet basic needs and resettle displaced populations immediately following a disaster often overshadows the more abstract, longer-term sustainability considerations. Once full-scale reconstruction is initiated, it is difficult to modify projects in progress to meet sustainability objectives. This trend highlights the need for pre-disaster mitigation planning that incorporates principles of sustainable development within the context of reconstruction, so that communities can more easily rebuild in a manner that will make them less vulnerable to future hazard events while improving the quality of life.

It is imperative that local decision makers become and stay involved in this planning process to provide new ideas and insight for future updates to the Hazard Mitigation Plan for Montgomery County. Now that a mitigation strategy has been developed (2007) and updated (2013), it will remain a challenge and a goal for Montgomery County to provide necessary updates as mitigation techniques are implemented. It will remain imperative that all local agencies, units of government, non-profit organizations, businesses and industries, and private citizens continue their involvement and dedication to hazard mitigation.

It is our long-term goal that the Hazard Mitigation Plan and the strategies identified will be fully integrated into daily decisions and routines of government and business.

MITIGATION ACTION PLAN

- ✓ **GOAL 1:** *To minimize the losses of life and property due to thunderstorms in Montgomery County*
- ✓ **OBJECTIVE 1.1:** *To minimize the effects of electrical storms to public and private property in Montgomery County*

GOAL 1; OBJECTIVE 1.1; Mitigation Action 1.1.1	
INSTALL UNINTERRUPTIBLE POWER SUPPLIES ON CRITICAL ELECTRONIC EQUIPMENT IN COUNTY AND MUNICIPAL FACILITIES	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	\$500-\$1000 PER FACILITY
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS, FEMA HMA GRANTS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

GOAL 1; OBJECTIVE 1.1; Mitigation Action 1.1.2	
COORDINATE WITH THE MD STATE HIGHWAY ADMINISTRATION TO PROVIDE BACKUP POWER/GENERATORS FOR ALL MAJOR STATE ROADS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS & DOT
ANTICIPATED COST	\$15,000 PER UNIT (\$150,000 TOTAL)
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS, FEMA DHS GRANTS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	HIGH
STATUS (DEFERRED OR NEW)	NEW

GOAL 1; OBJECTIVE 1.1; Mitigation Action 1.1.3	
PROVIDE BACK UP POWER GENERATION FOR WATER TREATMENT AND DISTRIBUTION FACILITIES	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	\$250,000
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS, FEMA HMA GRANTS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	3 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

GOAL 1; OBJECTIVE 1.1; Mitigation Action 1.1.4	
PURCHASE AN EARLY WARNING SYSTEM TO ALERT THE PUBLIC TO TAKE SHELTER	
RESPONSIBLE DEPARTMENT	ROCKVILLE
ANTICIPATED COST	TBD
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS, FEMA HMA GRANTS
JURISDICTION	ROCKVILLE
TIMEFRAME	3 YEARS
STAPLEE PRIORITY	MEDIUM

STATUS (ONGOING OR NEW)	NEW
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GOAL 1; OBJECTIVE 1.1; Mitigation Action 1.1.5

PURCHASE EMERGENCY GENERATORS FOR CRITICAL FACILITIES

RESPONSIBLE DEPARTMENT	WASHINGTON GROVE
ANTICIPATED COST	\$15,000 - \$20,000
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS, FEMA DHS GRANTS
JURISDICTION	WASHINGTON GROVE
TIMEFRAME	1 YEAR
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

✓ **OBJECTIVE 1.2:** *To minimize the effects of high winds to public and private property in Montgomery County*

GOAL 1; OBJECTIVE 1.2; Mitigation Action 1.2.1

TREE BRANCH/BRUSH CLEARANCE AND LIMIT HOW CLOSE VEGETATION CAN BE PLANTED NEAR/BENEATH POWER LINES

RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY DOT, GARRETT PARK
ANTICIPATED COST	\$2,000,000 (COUNTY), \$10,000-\$100,000 (MUNICIPAL)
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS, MUNICIPAL FUNDS
JURISDICTION	MONTGOMERY COUNTY, GARRETT PARK
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

GOAL 1; OBJECTIVE 1.2; Mitigation Action 1.2.2

DEVELOP PUBLIC AWARENESS CAMPAIGN INFORMING RESIDENTS OF THE POTENTIAL IMPACT OF HIGH WINDS DUE TO SEVERE THUNDERSTORMS

RESPONSIBLE DEPARTMENT	CHEVY CHASE, SECTION 5
ANTICIPATED COST	\$1,500
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS, FEMA HMA FUNDS
JURISDICTION	CHEVY CHASE, SECTION 5
TIMEFRAME	1 YEAR
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

GOAL 1; OBJECTIVE 1.2; Mitigation Action 1.2.3

PUBLIC OUTREACH FOR THE USE OF THE ALERT MONTGOMERY SYSTEM

RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	\$5,000
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM

STATUS (ONGOING OR NEW)	NEW
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**GOAL 1; OBJECTIVE 1.2; Mitigation Action 1.2.4
COORDINATE WITH STATE HIGHWAY ADMINISTRATION AND LOCAL OFFICIALS TO ENSURE EMERGENCY ROUTES AND MAJOR ROADS ARE CLEARED OF DEBRIS AND DOWNED WIRES**

RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	ONGOING

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-3: Updated Actions for Montgomery County - Goal 1 (Thunderstorms)

2007 ACTION	2012 UPDATE ACTION	STATUS	NOTES
No Action for 2007	Install uninterruptible power supplies on critical electronic equipment in county and municipal facilities	New	
No Action for 2007	Provide backup power/generators for ten (10) traffic signals	New	
No Action for 2007	Educate the public on how to protect property and residential electrical systems	New	
No Action for 2007	Purchase an early warning system to alert the public to take shelter	New	
No Action for 2007	Provide backup power generation for water treatment and distribution facilities	New	
No Action for 2007	Purchase emergency generators for critical facilities	New	
No Action for 2007	Tree branch/brush clearance and limit how close vegetation can be planted near/beneath power lines	New	
No Action for 2007	Develop a public awareness campaign informing residents of the potential impact of high winds due to severe thunderstorms	New	
No Action for 2007	Public outreach for the use of the Alert Montgomery	New	

The entire inventory in the County is vulnerable to winter storms. Winter storms in Montgomery County causes widespread impacts with the greatest threat is to public safety on major roads and highways. Power outages caused by snow, ice, and wind accompanied by cold temperatures creates needs for additional shelter. It is the priority of Montgomery County to continue operation of existing buildings and infrastructure, especially critical facilities and services like emergency services and hospitals in times of severe winter weather and winter storms.

MITIGATION ACTION PLAN

Goal 2: To minimize the losses of life and property due to winter storms in Montgomery County

- ✓ *Objective 2.1: To minimize the impact of winter storm events on life and property to include buildings, infrastructure, critical facilities, and critical infrastructure*

GOAL 2; OBJECTIVE 2.1; Mitigation Action 2.1.1 CONTINUE TO RESEARCH AND PROVIDE ALTERNATIVE MEASURES TO NOTIFY INDIVIDUALS WITH DISABILITIES OF WINTER EMERGENCIES	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	ONGOING

GOAL 2; OBJECTIVE 2.1; Mitigation Action 2.1.2 PROVIDE SHELTERS FOR BOTH RESIDENTS AND ANIMALS DURING SEVERE WINTER WEATHER	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS, POOLESVILLE, TAKOMA PARK
ANTICIPATED COST	TBD
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS, MUNICIPAL FUNDS
JURISDICTION	MONTGOMERY COUNTY, POOLESVILLE, TAKOMA PARK
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

GOAL 2; OBJECTIVE 2.1; Mitigation Action 2.1.3 PROVIDE 4WD VEHICLES FOR LAW ENFORCEMENT PERSONNEL DURING HEAVY SNOW ACTIVITY	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY DOT/POLICE
ANTICIPATED COST	SIX (6) UNITS AT \$25,000 EACH
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	TWO (2) UNITS PER YEAR FOR THREE (3) YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-4: Updated Actions for Montgomery County - Goal 2 (Winter Storms)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
Continue to research and provide alternative measures to notify individuals with disabilities of winter emergencies		Ongoing	
No Action for 2007	Provide shelters for both residents and animals during severe winter weather	New	Montgomery County, Poolesville, and Takoma Park
No Action for 2007	Provide 4WD vehicles for law enforcement personnel during heavy snow activity	New	

- ✓ **Objective 3.1:** *To minimize the impact of extreme heat on life and property to include buildings, infrastructure, critical facilities, and critical infrastructure*

GOAL 3; OBJECTIVE 3.1; Mitigation Action 3.1.1	
PROVIDE RELIEF FOR THOSE HIGHLY IMPACTED BY HEAT BY OPENING COOLING CENTERS THAT ALSO ACCOUNT FOR SPECIAL NEEDS POPULATIONS AND CONDUCT EDUCATION AND OUTREACH REGARDING SPECIAL NEEDS POPULATIONS.	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS, POOLESVILLE, TAKOMA PARK
ANTICIPATED COST	\$10,000 - \$20,000 PER CENTER
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY, POOLESVILLE, TAKOMA PARK
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

COMPLETED, MODIFIED OR DELETED ACTION STEPS FROM THE 2007 PLAN

Table 3-5: Updated Actions for Montgomery County - Goal 3 (Extreme Heat)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
Develop an plan to notify residents and businesses to reduce demand for electricity to help reduce emissions from electric power generators in the event of an air quality incident		Deleted	Does not align w/ extreme heat mitigation
Determine sources and potential strategies that may reduce levels of emissions from generation sources within the County...		Deleted	Does not align w/ extreme heat mitigation
Continue County policy to shift generation to clean or renewable sources as appropriate...		Deleted	Does not align w/ extreme heat mitigation
Purchase and locate additional air-monitoring stations		Deleted	Does not align w/ extreme heat mitigation
Post signs for County facilities warning of "Code Red" air-quality days		Deleted	Does not align w/ extreme heat mitigation
Continue to coordinate with DPWT regarding use of messaging on major highways to warn of impending air pollution incidents		Deleted	Does not align w/ extreme heat mitigation
Develop a database for air emissions inventory		Deleted	Does not align w/ extreme heat mitigation
Purchase instruments to monitor leaking gas caps		Deleted	Does not align w/ extreme heat mitigation
Develop policy for hybrid vehicle use		Deleted	Does not align w/ extreme heat mitigation
No Action for 2007	Provide relief for those highly impacted by heat by opening cooling centers that also account for special needs populations and	New	

	conduct education and outreach regarding special needs populations.		
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FIRE MITIGATION STRATEGY

COMMUNITY MITIGATION GOALS

Goal 4: To minimize the losses of life and property due to fire in Montgomery County

IDENTIFICATION AND ANALYSIS OF RANGE OF MITIGATION OPTIONS

The Montgomery County Mitigation Planning Committee considered a range of mitigation options for the Wildfire Mitigation Strategy. See the six categories of mitigation measures that Montgomery County considered in the introduction of this section.

EXISTING POLICIES, REGULATIONS, ORDINANCES, AND LAND USE

Montgomery County is experiencing a rapid population growth and because of this, there has been a substantial change in land use as well as the wildland urban interface over the years bringing a diverse range of challenges. Therefore, Montgomery County adheres to a comprehensive list of policies and regulations including the National Fire Protection Association Codes, International Fire Code, and county ordinances. It is also a priority for Montgomery County to address the primary concern regarding protection of existing and future development in the wildland urban interface areas within the county.

NEW BUILDINGS AND INFRASTRUCTURE

As residential developments expand into wild land areas, people and property are increasingly at risk from wildfire. A cleared safety zone of at least 30 feet (100 feet in pine forests) should be maintained between structures and combustible vegetation, and fire-resistant ground cover, shrubs, and trees should be used for landscaping (for example, hardwood trees are less flammable than pines, evergreens, eucalyptus or firs). Only fire-resistant or non-combustible materials should be used on roofs and exterior surfaces. Roofs and gutters should be regularly cleaned and chimneys should be equipped with spark arrestors. Vents, louvers, and other openings should be covered with wire mesh to prevent embers and flaming debris from entering. Overhangs, eaves, porches, and balconies can trap heat and burning embers and should also be avoided or minimized and protected with wire mesh. Windows allow radiated heat to pass through and ignite combustible materials inside, but dual- or triple-pane thermal glass, fire-resistant shutters or drapes, and noncombustible awnings can help reduce this risk.

The term fireproof does not necessarily mean that an item cannot ever burn: It relates to measured performance under specific conditions of testing and evaluation. Fireproofing does not allow treated items to be entirely unaffected by any fire, as conventional materials are not immune to the effects of fire at a sufficient intensity and/or duration.

As stated above, safety zones can be created around structures by reducing or eliminating brush, trees, and vegetation around a home or facility. FEMA recommends using a 30-foot safety zone; including keeping grass below 2 feet tall and clearing all fallen leaves and branches promptly.

Firebreaks are areas of inflammable materials that create a fuel break and reduce the ability for fires to spread and roads and pathways can be planned and designed to serve as breaks. The use of Geographic Information System-based wildfire hazard assessment tools for use by Montgomery County should be considered for future planning and mitigation efforts.

Increased public education on fire safety is critical in Montgomery County due to its rapidly growing population, especially when many of the areas being developed are larger lots scattered throughout wildland fuels.

EXISTING BUILDINGS AND INFRASTRUCTURE

Wildfire mitigation in the urban/wildland interface has primarily been the responsibility of property owners who choose to build and live in vulnerable zones. In practice, successful wildfire strategies can be quite involved. The most important aspect of successful suppression is disruption of the continuity of fuels, achieved by creating breaks or defensible areas. For interface fires, where homes and other structures fill the space, fuel reduction is best accomplished before the fires begin.

The Maryland Forest Service provides several services that help reduce wildfire risk. These include community outreach and education, fuels management, development review, hazardous activity permitting, fire danger monitoring, operational support, burn bans and restrictions, grant administration, and a volunteer program. This rigorous mitigation strategy shares responsibilities amongst agencies, and promotes safer communities in the process.

MITIGATION ACTION PLAN

Goal 4: To minimize the losses of life and property due to fire in Montgomery County

✓ *Objective 4.1: To protect both people and property to the devastating effects of wildfire*

GOAL 6; OBJECTIVE 6.1; Mitigation Action 6.1.1 DEVELOP A PUBLIC AWARENESS CAMPAIGN TO HEIGHTEN AWARENESS ABOUT BRUSH FIRES AND PREVENTATIVE MAINTENANCE FOR HOMEOWNERS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-6: Updated Actions for Montgomery County – Goal 4, Objective 4.1 (Fire)

2007 ACTION	2012 UPDATE ACTION	STATUS	NOTES
	Develop a public awareness campaign to heighten awareness about brush fires and preventative maintenance for homeowners	New	

FLOOD MITIGATION STRATEGY

COMMUNITY MITIGATION GOALS

Goal 5: To minimize the losses of life and property due to flooding in Montgomery County

IDENTIFICATION AND ANALYSIS OF RANGE OF MITIGATION OPTIONS

The Montgomery County Mitigation Planning Committee considered a range of mitigation options for the Flood Mitigation Strategy. See the six categories of mitigation measures that Montgomery County considered in the introduction of this section.

With sufficient warning of a flood, a community and its residents can take protective measures such as moving personal property, cars, and people out of harm’s way. New radar technologies, improved river forecast models, computer visualization, automated data transmission, and improved data collection techniques hold significant promise for improving the timeliness and accuracy of flood forecasts and warnings.

A comprehensive education and outreach program is critical to the success of early warning systems so that the general public, operators of critical facilities, and emergency response personnel will know what actions to take when warning is disseminated.

EXISTING POLICIES, REGULATIONS, ORDINANCES, AND LAND USE

Floodplain management ordinances are intended to address methods and practices to minimize flood damage to new and substantial home improvement projects as well as address zoning and subdivision ordinances and state regulations. With that said, Montgomery County joined the National Flood Insurance Program (NFIP) on July 18, 1975 and continues to participate and support floodplain management. Floodplain management is required under the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. There are approximately 1,938 flood insurance properties in Montgomery County.

As of 2013, all incorporated municipalities within Montgomery County participate in the NFIP with the exception of Friendship Heights (Non-Participating), Chevy Chase Village Section 3 (Sanctioned), and North Chevy Chase (Sanctioned).

Montgomery County’s zoning laws are reflected in the ordinances of local jurisdictions with the land-use control authority. The Maryland-National Capital Park and Planning Commission’s Montgomery County Planning Department developed a general plan in 1964 to guide development in Montgomery County. This plan has been updated several times and specifically states that protecting lives and property is the basis for regulations that limit or prohibit development in the floodplain.

Montgomery County’s Department of Permitting Service has responsibility for enforcing countywide codes by restricting development in areas through a site planning approval process. Some of the incorporated jurisdictions located in the County have enforcement authority of their own ordinances. Floodplain estimates are based on the 100-year estimates of fully developed land and require large-scale impoundments such as Lake Frank and Lake Needwood.

Montgomery County Code, Chapter 8: Buildings, prohibits building in any 100-year floodplain or stream or drainage course (riverine and flash flood mitigation). These sections of the code also prohibit building in any area that is subject to flooding, erosion, un-stabilized slope or fill within the danger reach of a high-hazard dam.

NEW BUILDINGS AND INFRASTRUCTURE

The greatest protection is afforded by quality construction and compliance with local ordinances which exceed NFIP requirements. Code adoption by local jurisdictions, compliance by builders, and local government inspection of new homes can reduce the risk of flooding. Montgomery County will continue to support monitoring, analysis, modeling, and the development of decision-support systems and geographic information applications for floodplain activities.

EXISTING BUILDINGS AND INFRASTRUCTURE

In addition to land-use planning, zoning, and codes applicable to new development, flood mitigation measures include structural and non-structural measures to address susceptibility of existing structures. Flood mitigation measures such as acquisition, relocation, elevation-in-place, wet/dry floodproofing, and enhanced storm drainage systems all have the potential to effectively reduce the impact of flood in Montgomery County.

MITIGATION ACTION PLAN

Goal 5: *To minimize the losses of life and property due to flooding in Montgomery County*

- ✓ **Objective 5.1:** *To minimize the impact of flooding to life and property to include buildings, infrastructure, critical facilities, and critical infrastructure*

GOAL 5; OBJECTIVE 5.1; Mitigation Action 5.1.1	
CONTINUE ONGOING LAND USE POLICIES THAT PROHIBIT NEW DEVELOPMENT IN THE SFHA	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY AND ALL JURISDICTIONS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY/MUNICIPAL FUNDS
JURISDICTION	MONTGOMERY COUNTY, ALL JURISDICTIONS
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	ONGOING

GOAL 5; OBJECTIVE 5.1; Mitigation Action 5.1.2	
EXPLORE MITIGATION SOLUTIONS FOR ALL OCCUPIED PROPERTIES LOCATED IN THE SFHA	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY AND ALL JURISDICTIONS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY/MUNICIPAL FUNDS, FEMA HMA GRANTS
JURISDICTION	MONTGOMERY COUNTY, ALL JURISDICTIONS
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	ONGOING

GOAL 5; OBJECTIVE 5.1; Mitigation Action 5.1.3	
CONTINUE TO SURVEY MUNICIPAL OWNED OR LEASED PROPERTY FOR POTENTIAL FLOODING PROBLEMS AND IDENTIFY FLOOD MITIGATION STRATEGIES FOR STRENGTHENING FLOOD RESILIENCE	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY AND ALL JURISDICTIONS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY/MUNICIPAL FUNDS, FEMA HMA GRANTS
JURISDICTION	MONTGOMERY COUNTY, ALL JURISDICTIONS
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	ONGOING

GOAL 5; OBJECTIVE 5.1; Mitigation Action 5.1.4	
AMEND ZONING REQUIREMENTS TO INCLUDE FLOODPLAIN LANGUAGE INTO CONSERVATION EASEMENTS	
RESPONSIBLE DEPARTMENT	POOLESVILLE
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS
JURISDICTION	POOLESVILLE
TIMEFRAME	3 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

✓ **Objective 5.2:** *To reduce the impact of flooding through education and outreach of flood mitigation techniques*

GOAL 1; OBJECTIVE 5.2; Mitigation Action 5.2.1	
ESTABLISH COMMUNITY OUTREACH REGARDING THE NFIP AND APPLY FOR THE COMMUNITY RATING SYSTEM	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY AND ALL JURISDICTIONS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY/MUNICIPAL FUNDS
JURISDICTION	MONTGOMERY COUNTY, ALL JURISDICTIONS
TIMEFRAME	5 YEARS

STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	ONGOING
GOAL 1; OBJECTIVE 5.2; Mitigation Action 5.2.2	
CREATE A FLOOD RISK PUBLIC AWARENESS CAMPAIGN FOR THE RESIDENTS OF CHEVY CHASE, SECTION 5	
RESPONSIBLE DEPARTMENT	VILLAGE OF CHEVY CHASE, SECTION 5
ANTICIPATED COST	
EXISTING & POTENTIAL FUNDING SOURCES	
JURISDICTION	VILLAGE OF CHEVY CHASE, SECTION 5
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

- ✓ **Objective 5.3:** Pursue flood mitigation projects in repetitive flood areas to improve storm water management

GOAL 5; OBJECTIVE 5.3; Mitigation Action 5.3.1	
EXPLORE MITIGATION PROJECTS IN AREAS THAT FREQUENTLY FLOOD, INCLUDING STORM WATER MANAGEMENT IMPROVEMENTS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY AND ALL JURISDICTIONS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY/MUNICIPAL FUNDS
JURISDICTION	MONTGOMERY COUNTY, ALL JURISDICTIONS
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	ONGOING

GOAL 5; OBJECTIVE 5.3; Mitigation Action 5.3.2	
COORDINATE WITH DOT TO CONTINUE TO CLEAR AND MAINTAIN STORM DRAINS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	2 YEARS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	ONGOING

GOAL 5; OBJECTIVE 5.3; Mitigation Action 5.3.3	
DEVELOP A STORM DRAIN EVALUATION PROGRAM DESIGNED FOR FUTURE IMPROVEMENTS AND HAZARD MITIGATION	
RESPONSIBLE DEPARTMENT	GARRETT PARK
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS
JURISDICTION	GARRETT PARK

TIMEFRAME	3 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

**GOAL 5; OBJECTIVE 5.3; Mitigation Action 5.3.4
RECONSTRUCT UNDERSIZED STORM DRAINS THROUGHOUT GARRETT PARK**

RESPONSIBLE DEPARTMENT	GARRETT PARK
ANTICIPATED COST	
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS
JURISDICTION	GARRETT PARK
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

**GOAL 5; OBJECTIVE 5.3; Mitigation Action 5.3.5
MAINTAIN AND UPGRADE STORM WATER DRAINAGE WHERE UNDERSIZED INFRASTRUCTURE EXISTS**

RESPONSIBLE DEPARTMENT	POOLESVILLE
ANTICIPATED COST	
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS
JURISDICTION	POOLESVILLE
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

**GOAL 5; OBJECTIVE 5.3; Mitigation Action 5.3.6
EVALUATE UNDERSIZED STORMWATER INFRASTRUCTURE AND PRIORITIZE HAZARD MITIGATION PROJECTS TO ADDRESS IDENTIFIED INFRASTRUCTURE IMPROVEMENT NEEDS**

RESPONSIBLE DEPARTMENT	ROCKVILLE
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS
JURISDICTION	ROCKVILLE
TIMEFRAME	3 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

**GOAL 5; OBJECTIVE 5.3; Mitigation Action 5.3.7
DEVELOP AND IMPLEMENT A STORM DRAIN EVALUATION PROGRAM TO IDENTIFY UNDERSIZED INFRASTRUCTURE**

RESPONSIBLE DEPARTMENT	COUNTYWIDE
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	3 YEARS

STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

GOAL 5; OBJECTIVE 5.3; Mitigation Action 5.3.8 CONDUCT A STORMWATER IMPROVEMENT PROJECT ON SILVER CREEK WITHIN THE TOWN OF KENSINGTON AND ADJOINING MONTGOMERY COUNTY	
RESPONSIBLE DEPARTMENT	TOWN OF KENSINGTON
ANTICIPATED COST	
EXISTING & POTENTIAL FUNDING SOURCES	HMGP OR PDM GRANT FUNDS
JURISDICTION	TOWN OF KENSINGTON
TIMEFRAME	3 YEARS
STAPLEE PRIORITY	HIGH
STATUS	NEW

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-7: Updated Actions for Montgomery County – Goal 5 (Flood)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
Establish community outreach regarding the NFIP, Apply for the CRS, and encourage all municipalities to participate		Ongoing	County does have interest in applying in the CRS
Continue ongoing land use policies that prohibit new development in the SFHA		Ongoing	n/a
Explore mitigation solutions to the 199 homes located in the SFHA	Explore mitigation solutions for all occupied properties located in the SFHA	Changed, Ongoing	n/a
Explore mitigation projects in areas that frequently flood, including SWM improvements		Ongoing	n/a
Coordinate with DPWT to continue to clear and maintain storm drains	Coordinate with DOT to continue to clear and maintain storm drains	Changed, Ongoing	n/a
Use newsletters, email and other methods to provide safety messages	Use newsletters, e-mail, and other methods for public outreach to provide safety messages for all hazards	Changed, Deleted, Moved	Being moved to Goal 13: All-Hazards
Participate in the County's Technical Planning Committee annual review of mitigation strategies	County and municipal officials to participate in the County's Technical Planning Committee annual review of mitigation strategies	Changed, Deleted, Moved	Being moved to Goal 13: All-Hazards
Pursue mitigation projects in areas that frequently flood to improve storm water management, including large culverts, channelization, retention ponds, on-going maintenance of storm water systems, etc.	n/a	Deleted	This action is now being considered an objective as it is defining a strategy or implementation step in order to attain the identified goal for flood in this Plan.
Identify mitigation projects to reduce flooding where structures or roadways	n/a	Deleted	Action lacks specific detail and reflects more as an objective and is repetitive of current flood objectives identified in this Plan.

Table 3-7: Updated Actions for Montgomery County – Goal 5 (Flood)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
are impacted			
Continue to survey municipal owned or leased property for potential flooding problems and identify flood mitigation strategies for strengthening flood resilience		Ongoing	n/a
No Action for 2007	Create a flood risk public awareness campaign for the residents of Chevy Chase, Section 5	New	Village of Chevy Chase, Section 5.
No Action for 2007	Develop a storm drain evaluation program designed for future improvements and hazard mitigation	New	Garrett Park
No Action for 2007	Reconstruct undersized storm drains throughout Garrett Park	New	Garrett Park
No Action for 2007	Amend zoning requirements to include floodplain language into conservation easements	New	Poolesville
No Action for 2007	Maintain and upgrade storm water drainage where undersized infrastructure exists	New	Poolesville
No Action for 2007	Evaluate undersized stormwater infrastructure and prioritize hazard mitigation projects to address	New	Rockville
No Action for 2007	Develop and implement a storm drain evaluation program to identify undersized infrastructure	New	Countywide
No Action for 2007	Conduct a stormwater improvement project on Silver Creek within the Town of Kensington	Revised	Kensington

GOAL 6; OBJECTIVE 6.1; Mitigation Action 6.1.1	
DEVELOP A PLAN TO ADDRESS THAT EMERGENCY ROUTES ARE CLEARED OF DEBRIS AND DOWNED POWER LINES POST EVENT	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	2 YEARS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	ONGOING

GOAL 6; OBJECTIVE 6.1; Mitigation Action 6.1.2	
DEVELOP MANAGEMENT RULES AND POLICIES FOR UTILITY RIGHT-OF-WAYS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-8 Updated Actions for Montgomery County – Goal 6 (Hurricane/Tropical Storm)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
Develop a plan to address that emergency routes are cleared of debris and downed power lines post event		Ongoing	
Develop management rules and policies for utility right-of-ways		New	

MITIGATION ACTION PLAN

Goal 7: To minimize the losses of life and property due to water shortage and drought in Montgomery County

- ✓ *Objective 7.1: To minimize the effects of Montgomery County on methods to reduce the effects of drought*

GOAL 7; OBJECTIVE 7.1; Mitigation Action 7.1.1	
DEVELOP A WATER SOURCE ALTERNATE INTERCONNECTION PLAN AND IMPLEMENT DESIGN	
RESPONSIBLE DEPARTMENT	POOLESVILLE
ANTICIPATED COST	\$100,000 (PLAN), \$12,000,000 (CONSTRUCTION)
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS, STATE/FEDERAL GRANTS (TBD)
JURISDICTION	POOLESVILLE
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

GOAL 5; OBJECTIVE 7.1; Mitigation Action 7.1.2	
CONTINUE TO DEVELOP INCENTIVES FOR WATER CONSERVATION DURING DROUGHT CONDITIONS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	ONGOING

GOAL 5; OBJECTIVE 7.1; Mitigation Action 7.1.3	
CONTINUE TO COORDINATE WITH WSSC, ROCKVILLE, AND POOLESVILLE REGARDING WATER SUPPLY CAPACITY DURING DROUGHT CONDITIONS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY, ROCKVILLE, POOLESVILLE
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY/MUNICIPAL FUNDS
JURISDICTION	MONTGOMERY COUNTY, ROCKVILLE, POOLESVILLE
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	ONGOING

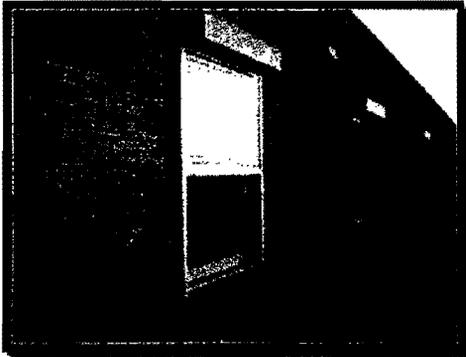
GOAL 5; OBJECTIVE 7.1; Mitigation Action 7.1.4 PURCHASE ADDITIONAL WATER QUALITY MONITORING EQUIPMENT AND INSTRUMENTS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY
ANTICIPATED COST	TBD
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS AND STATE GRANTS (TBD)
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	ONGOING

GOAL 5; OBJECTIVE 7.1; Mitigation Action 7.1.5 UPDATE STORM DRAINAGE INVENTORY USING GIS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY
ANTICIPATED COST	TBD
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	ONGOING

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-9: Updated Actions for Montgomery County - Goal 7, (Drought/Water Shortage)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
	DEVELOP A WATER SOURCE ALTERNATE INTERCONNECTION PLAN AND IMPLEMENT DESIGN	NEW	
CONTINUE TO DEVELOP INCENTIVES FOR WATER CONSERVATION DURING DROUGHT CONDITIONS		Ongoing	
CONTINUE TO COORDINATE WITH WSSC, ROCKVILLE, AND POOLESVILLE REGARDING WATER SUPPLY CAPACITY DURING DROUGHT CONDITIONS		Ongoing	
PURCHASE ADDITIONAL WATER QUALITY MONITORING EQUIPMENT AND INSTRUMENTS		Ongoing	
UPDATE STORM DRAINAGE INVENTORY USING GIS		Ongoing	

heavily reinforced with concrete and rebar to provide an area designed to withstand high wind speeds and protect occupants from windborne debris. Safe rooms can be constructed not only in critical facilities such as police stations and hospitals but also in residential and commercial buildings. They can be built into any new structure during the construction phase which often proves to be the most cost beneficial time to do such an activity. Montgomery County along with its municipalities will consider incorporating safe room areas into all new construction projects as well as retrofitting existing facilities to include safe room areas. All projects should be designed to meet FEMA 320 standards or beyond.



EXISTING BUILDINGS AND INFRASTRUCTURE

High wind and tornadoes affect the entire planning area, including all above ground structures and utilities. Due to the erratic movement of tornadoes, destruction is often random. Buildings constructed prior to adoption of buildings codes remain more susceptible to damage. Some retrofit projects, for example, specially designed shutters and windows for public schools and retrofitted saferooms are expected to reduce future damage and reduce loss of life and injury.

Modification of existing buildings to incorporate wind-resistant measures may come about slowly as buildings are substantially improved. Post-disaster mitigation efforts include retrofits and the construction of saferooms.

MITIGATION ACTION PLAN

Goal 8: *To minimize the losses of life and property due to tornadoes in Montgomery County*

- ✓ **Objective 8.1:** *To minimize the effects of high winds to life and property to include buildings, infrastructure, critical facilities, and critical infrastructure*

GOAL 8; OBJECTIVE 8.1; Mitigation Action 8.1.1	
EVALUATE THE FEASIBILITY FOR CONSTRUCTING SAFE ROOMS IN COMMUNITY FACILITIES	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS, ALL MUNICIPALITIES
ANTICIPATED COST	\$150,000 - \$250,000 PER SAFEROOM
EXISTING & POTENTIAL FUNDING SOURCES	FEMA HMA GRANTS, COUNTY GENERAL FUND, MUNICIPAL FUNDS
JURISDICTION	MONTGOMERY COUNTY, ALL MUNICIPALITIES
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

GOAL 8; OBJECTIVE 8.1; Mitigation Action 8.1.2 PROMOTE ENHANCED ANCHORING OF MANUFACTURED HOMES	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUND
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

GOAL 8; OBJECTIVE 8.1; Mitigation Action 8.1.3 PUBLIC EDUCATION AND OUTREACH CONCERNING THE DANGERS OF TORNADES AND HIGH WINDS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	\$500
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY GENERAL FUND
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	3 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-10 Updated Actions for Montgomery County – Goal 8 (Tornado)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
No Action for 2007	Evaluate the feasibility for constructing a community saferoom	New	
No Action for 2007	Promote enhanced anchoring of manufactured homes	New	
No Action for 2007	Public education and outreach concerning the dangers of tornadoes and high winds	New	

framing also help tie a structure together and make it a single, solid structural unit. Proper connections will do more to hold a house together during an earthquake than any other single seismic design element.

As development grows in the County and its municipalities, it will be important for citizens to consult with local building codes as modern building codes generally require seismic design elements for new construction.

EXISTING BUILDINGS AND INFRASTRUCTURE

The entire inventory in the County is vulnerable to earthquake. An earthquake occurring in Montgomery County could cause widespread impacts with the greatest threat to public safety on major roads and highways. Power outages caused down power lines could impact critical facilities such as fire protection, law enforcement, and hospitals. It is the priority of Montgomery County to continue operation of existing buildings and infrastructure, especially critical facilities and infrastructure after an earthquake has occurred.

MITIGATION ACTION PLAN

Goal 9: *To minimize the losses of life and property due to earthquake in Montgomery County*

- ✓ **Objective 9.1:** *To minimize the effects of seismic activity to life and property to include buildings, infrastructure, critical facilities, and critical infrastructure*

GOAL 9; OBJECTIVE 9.1; Mitigation Action 9.1.1	
CONTINUE TO PROMOTE EARTHQUAKE PREPAREDNESS THROUGH PUBLIC OUTREACH	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY, ALL MUNICIPALITIES
ANTICIPATED COST	TBD
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS, MUNICIPAL FUNDS
JURISDICTION	MONTGOMERY COUNTY, ALL MUNICIPALITIES
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	LOW
STATUS (ONGOING OR NEW)	ONGOING

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-11: Updated Actions for Montgomery County - Goal 9 (Earthquake)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
	Continue to promote earthquake preparedness through public outreach	Ongoing	

It should be considered that minor landslide events are possible for buildings and infrastructure located in localized, steep-slope areas during extremely wet conditions. If an existing building and/or infrastructure are located in a mine subsidence area, mitigation action can and should be taken to avoid further risk and potential losses.

MITIGATION ACTION PLAN

Goal 10: *To minimize the losses of life and property due to land subsidence and karst in Montgomery County*

- ✓ **Objective 10.1:** *To minimize the effects of land subsidence and karst to include buildings, infrastructure, critical facilities, and critical infrastructure*

GOAL 10; OBJECTIVE 10.1; Mitigation Action 10.1.1 ENCOURAGE COUNTY AND MUNICIPAL OFFICES TO REVIEW REGULATIONS PERTAINING TO THEIR JURISDICTION TO ENSURE THAT ADEQUATE LOCAL REGULATIONS ARE IN PLACE TO REDUCE FUTURE DEVELOPMENT IN HIGH HAZARD AREAS	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS, ALL MUNICIPALITIES
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUND, MUNICIPAL FUNDS
JURISDICTION	MONTGOMERY COUNTY, ALL MUNICIPALITIES
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-12: Updated Actions for Montgomery County - Goal 10 (Land Subsidence/Karst)

2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
No Action for 2007	Encourage County and Municipal offices to review regulations pertaining to their jurisdiction to ensure that adequate local regulations are in place to reduce future development in high hazard areas	New	

GOAL 11; OBJECTIVE 11.1; Mitigation Action 11.1.1 EXPAND CURRENT PUBLIC MESSAGING SYSTEM TO ALLOW GREATER RESILIENCY	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	TBD BY SCOPE
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

GOAL 11; OBJECTIVE 11.1; Mitigation Action 11.1.2 ENHANCED TRAINING AND COORDINATION WITH MONTGOMERY COUNTY LEPC	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

GOAL 11; OBJECTIVE 11.1; Mitigation Action 11.1.3 PROMOTE GENERAL AWARENESS OF POTENTIAL HAZARDOUS MATERIALS ACCIDENTS OCCURRING ON RAILWAYS	
RESPONSIBLE DEPARTMENT	GARRETT PARK
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS
JURISDICTION	GARRETT PARK
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

COMPLETED, MODIFIED OR DELETED ACTION STEPS FROM THE 2007 PLAN

Table 3-13: Updated Actions for Montgomery County – Goal 11 (Hazardous Materials)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
No Action for 2007	Expand current public messaging system to allow greater resiliency	New	
No Action for 2007	Enhanced training and coordination with Montgomery County LEPC	New	
No Action for 2007	Promote general awareness of potential hazardous materials accidents occurring on railways	New	

GOAL 12; OBJECTIVE 12.1; Mitigation Action 12.1.1**CREATE A DATABASE TO CONTACT AND TRACK PROPERTY OWNER EVACUATIONS DURING TIMES OF EMERGENCY**

RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUND
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

- ✓ **Objective 12.2:** *To continue to provide education and outreach to Montgomery County citizens and business owners in dam failure inundation areas*

GOAL 12; OBJECTIVE 12.1; Mitigation Action 12.2.1**FUND UPGRADE TO THE 'ALERT MONTGOMERY COUNTY' AND 911 SYSTEM IN ORDER TO BE FULLY IPAWS COMPLIANT**

RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS, MONTGOMERY COUNTY GIS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUND
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

GOAL 12; OBJECTIVE 12.1; Mitigation Action 12.2.2**WORK WITH DAM OWNERS/OPERATORS TO ESTABLISH MONITORING PROCEDURES**

RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUND
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

GOAL 12; OBJECTIVE 12.1; Mitigation Action 12.2.3**GIS MAPPING OF DAM INUNDATION ZONES**

RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS, MONTGOMERY COUNTY GIS
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUND
JURISDICTION	MONTGOMERY COUNTY
TIMEFRAME	1 YEAR

STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

GOAL 12; OBJECTIVE 12.1; Mitigation Action 12.2.4 PROVIDE PUBLIC SERVICE ANNOUNCEMENTS FOR RESIDENTS IN DAM INUNDATION AREAS	
RESPONSIBLE DEPARTMENT	GAITHERSBURG
ANTICIPATED COST	TBD
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS
JURISDICTION	GAITHERSBURG
TIMEFRAME	CONTINUOUS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

GOAL 12; OBJECTIVE 12.1; Mitigation Action 12.2.5 ELECTRONIC MONITORING OF DAM AND UPSTREAM/DOWNSTREAM CONDITIONS	
RESPONSIBLE DEPARTMENT	GAITHERSBURG
ANTICIPATED COST	TBD
EXISTING & POTENTIAL FUNDING SOURCES	MUNICIPAL FUNDS
JURISDICTION	GAITHERSBURG
TIMEFRAME	2 YEARS
STAPLEE PRIORITY	HIGH
STATUS (ONGOING OR NEW)	NEW

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-14: Updated Actions for Montgomery County - Goal 12 (Dam Failure)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
No Action for 2007	Create a database to contact and track property owner evacuations during times of emergency	New	
No Action for 2007	Fund upgrades to the 'Alert Montgomery' program in order to be fully IPAAs compliant	New	
No Action for 2007	Work with private property owners to establish monitoring procedures	New	
No Action for 2007	GIS mapping of dam inundation areas	New	
No Action for 2007	Provide public service announcements for residents in dam inundation areas	New	
No Action for 2007	Electronic monitoring of dam and upstream/downstream conditions	New	

MITIGATION ACTION PLAN

Goal 13: To minimize the losses of life and property due to natural, technological, and/or threat induced hazards to include buildings, infrastructure, critical facilities, and critical infrastructure

- ✓ **Objective 13.1:** To minimize the impact of natural, technological, and/or threat induced hazards to include buildings, infrastructure, critical facilities, and critical infrastructure

GOAL 13; OBJECTIVE 13.1; Mitigation Action 13.1.1 CONDUCT PUBLIC EDUCATION AND OUTREACH ON ALL NATURAL, TECHNOLOGICAL, AND THREAT INDUCED HAZARDS FOR THE CITIZENS OF MONTGOMERY COUNTY	
RESPONSIBLE DEPARTMENT	MONTGOMERY COUNTY OEMHS, ALL MUNICIPALITIES
ANTICIPATED COST	STAFF TIME AND RESOURCES
EXISTING & POTENTIAL FUNDING SOURCES	COUNTY FUNDS, MUNICIPAL FUNDS
JURISDICTION	MONTGOMERY COUNTY, ALL MUNICIPALITIES
TIMEFRAME	5 YEARS
STAPLEE PRIORITY	MEDIUM
STATUS (ONGOING OR NEW)	NEW

COMPLETED, ONGOING, DELETED OR NEW ACTION STEPS FROM THE 2007 PLAN

Table 3-15: Updated Actions for Montgomery County - Goal 13 (All Hazards)			
2007 ACTION	2013 UPDATE ACTION	STATUS	NOTES
No Action for 2007	Conduct public education and outreach on all natural, technological, and thread induced hazards for the citizens of Montgomery County	New	