

# Appendix B: Local Mitigation Plan Review Tool

## Cover Page

The Local Mitigation Plan Review Tool (PRT) demonstrates how the local mitigation plan meets the regulation in 44 CFR § 201.6 and offers states and FEMA Mitigation Planners an opportunity to provide feedback to the local governments, including special districts.

1. The Multi-Jurisdictional Summary Sheet is a worksheet that is used to document how each jurisdiction met the requirements of the plan elements (Planning Process; Risk Assessment; Mitigation Strategy; Plan Maintenance; Plan Update; and Plan Adoption).
2. The Plan Review Checklist summarizes FEMA’s evaluation of whether the plan has addressed all requirements.

*For greater clarification of the elements in the Plan Review Checklist, please see Section 4 of this guide. Definitions of the terms and phrases used in the PRT can be found in Appendix E of this guide.*

Plan Information	
Jurisdiction(s)	Calvert County, Maryland
Title of Plan	Calvert County 2023 Hazard Mitigation Plan
New Plan or Update	Update (2023)
Single- or Multi-Jurisdiction	Multi-Jurisdictional
Date of Plan	10/06/2023
Local Point of Contact	
Title	Kara Buckmaster, Emergency Management Specialist (Former Acting Division Chief)
Agency	Calvert County, Division of Emergency Management
Address	175 Main Street, Prince Frederick, Maryland 20678
Phone Number	410-535-1600
Email	kara.buckmaster@calvertcountymd.gov

Additional Point of Contact	
Title	
Agency	
Address	
Phone Number	
Email	

Review Information	
State Review	
State Reviewer(s) and Title	Marcia Barben (MDEM), Bridget Cantwell (MDEM), Crystal Zhao (MDEM), John Roche (MDE), Sasha Land (DNR)
State Review Date	Completed 11/7/2023
FEMA Review	
FEMA Reviewer(s) and Title	Joshua Norris, Community Planner, MD FEMA Integration Team (FIT) Rodney Bahner, Community Planner, VA FIT
Date Received in FEMA Region	Submission #1: 11/9/2023 Submission #2: 1/24/2024 Submission #3: 2/6/2024
Plan Not Approved	Submission #1: 12/22/2023. Revisions required. Submission #2: 2/5/2024. Revisions required.
Plan Approvable Pending Adoption	Submission #3: 2/7/2024 <b>Required revisions addressed.</b>
Plan Approved	

## Multi-Jurisdictional Summary Sheet

#	Jurisdiction Name	Requirements Met (Y/N)						
		A. Planning Process	B. Risk Assessment	C. Mitigation Strategy	D. Plan Maintenance	E. Plan Update	F. Plan Adoption	G. State Requirements
1	Calvert County	Y	Y	Y	Y	Y		
2	Chesapeake Beach	Y	Y	Y	Y	Y		
3	North Beach	Y	Y	Y	Y	Y		

# Plan Review Checklist

The Plan Review Checklist is completed by FEMA. States and local governments are encouraged, but not required, to use the PRT as a checklist to ensure all requirements have been met prior to submitting the plan for review and approval. The purpose of the checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been “met” or “not met.” FEMA completes the “required revisions” summary at the bottom of each element to clearly explain the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is “not met.” Sub-elements in each summary should be referenced using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each element and sub-element are described in detail in Section 4: Local Plan Requirements of this guide.

Plan updates must include information from the current planning process.

If some elements of the plan do not require an update, due to minimal or no changes between updates, the plan must document the reasons for that.

Multi-jurisdictional elements must cover information unique to all participating jurisdictions.

## Element A: Planning Process

Element A Requirements	Location in Plan (section and/or page Met number)	Met / Not Met
<b>A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))</b>		
<b>A1-a. Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved?</b>	Section 3 (Pg. 34-41)	<b>Met</b>
<b>A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process?</b>	Section 3.5 (Pg. 41)	<b>Met</b>
<b>A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development as well as businesses, academia, and other private and non-profit interests to be involved in the planning process? (Requirement 44 CFR § 201.6(b)(2))</b>		

<p>A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity?</p>	<p>Section 3.2 (pg. 35 – 37) Section 3.4 (pg. 39 - 41)</p>	<p>Met</p>
<p>Element A Requirements</p>		<p>Location in Plan (section and/or page Met number)      Met / Not</p>
<p>A3. Does the plan document how the public was involved in the planning process during the drafting stage and prior to plan approval? (Requirement 44 CFR § 201.6(b)(1))</p>		
<p>A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?</p>	<p>Section 3.4 (Pg. 39 - 41)</p>	<p>Met</p>
<p>A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 44 CFR § 201.6(b)(3))</p>		
<p>A4-a. Does the plan document what existing plans, studies, reports and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document?</p>	<p>Section 5.2.5 (Pg. 253 - 255)</p>	<p>Met</p>
<p>Element A Revisions</p>		
<p><b>Questions/Comments:</b></p> <p><u>FEMA:</u></p> <ul style="list-style-type: none"> <li>• Page 30 states that one of the GIS data layers used in this plan is “Calvert County National Risk Inventory (NRI) data.” To confirm, is this data layer officially named National Risk Inventory or was <a href="#">National Risk Index</a> data for Calvert County being referenced? If the National Risk Index is the intended reference, then this text should be updated accordingly. – <b>Calvert County: Updated to reflect National Risk Index. PG. 30.</b></li> <li>• Page 37 states “the draft plan was made available for public review on July 26th, 2023. The draft was advertised on Calvert County’s social media page and was made available digitally on the Calvert County website at: <a href="https://www.calvertcountymd.gov/3053/Hazard-Mitigation">https://www.calvertcountymd.gov/3053/Hazard-Mitigation</a>.” In addition to online outreach and dissemination, was the plan promoted at any in-person events? Was a hard copy version provided (potentially at a local library) for members of the Calvert County population?</li> </ul> <p><b>Required Revisions:</b></p> <p><u>FEMA:</u></p> <p>Edits:</p> <ul style="list-style-type: none"> <li>• Resolve grammatical and/or formatting errors throughout the plan, such as but not limited to: <ul style="list-style-type: none"> <li>○ <b>Page 64:</b> Remove the”\” from “Vulnerability Assessment\” – <b>Calvert County: Fixed.</b></li> <li>○ <b>Page 83:</b> The first sentence ends with a comma. Revise this. – <b>Calvert County: Fixed.</b></li> <li>○ <b>Page 239:</b> 1st paragraph, 2nd sentence, “Increase” should not be capitalized. Please</li> </ul> </li> </ul>		

revise. – **Calvert County: Fixed.**

- **Page 245:** Change “A GIS automates existing operations” to “As GIS automates existing operations...” – **Calvert County: Fixed.**
- **Pages 36-37:**
  - Table 7 identifies the Calvert County Department of Community Resources as “Calvert County Community Resources,” “Community Resources,” and “Calvert County Office of Community Resources. Change the department’s title to ensure consistency. – **Calvert County: Fixed. Table 7. PG. 37.**
  - Table 7 lists three members as simply representing “Calvert.” Please revise. – **Calvert County: Fixed. Table 7. PG. 37.**
- **Page 51:** Update the sentence “[c]urrently, Calvert County has a very low social vulnerability index (SVI) as published by FEMA...” to clarify that FEMA’s National Risk Index (NRI) social vulnerability information is from the Centers for Disaster Control and Prevention (CDC)/Agency for Toxic Substances and Disease Registry (ATSDR) Social Vulnerability Index (SVI). **Calvert County: Revised. Section 4.2.3. PG. 51.**
- **Page 82:** Change “**The is** of particular concern...” to “This is...” – **Calvert County: Fixed.**
- **Page 97:** If applicable, change “Calvert County **does** have any open-ocean coastline areas” to “Calvert County **does not** have any open-ocean coastline areas.” – **Calvert County: Fixed.**
- **Page 117:** Change “2023 Maryland Hazard Mitigation Plan” to “2021 Maryland State Hazard Mitigation Plan” – **Calvert County: Fixed. Section 4.3.9.2. PG. 122.**

**A1-b:** “The plan must list the representatives from each of the participants in the current plan that will seek approval, and how they participated in the planning process” (2022 Local Mitigation Planning Policy Guide, page 18). The Town of North Beach’s representative is clearly identified in Table 7 and its participation is well-documented in Appendix C as shown below. However, the Town of Chesapeake is not included in Table 7 and its participation is not sufficiently documented in the plan. The plan must include at least 2 examples of plan participation by each participating jurisdiction in the form of a meeting attended and/or information submission). Notably, Table 9 states that both the Town of Chesapeake and Town of North Beach submitted a completed capability assessment survey, risk assessment hazard identification and risk evaluation worksheet, and NFIP form.

To meet this requirement:

1. Add the Town of Chesapeake Beach’s planning process representative to the main text of the plan (ideally Table 7). – **Calvert County: Representative added to Table 7. PG. 37.**  
**FEMA:** Addressed.
2. Add at least 1 additional document to the plan that includes input the Town of Chesapeake Beach provided during the 2023 Calvert County Hazard Mitigation Plan’s planning process. – **Calvert County:** Documentation located in Appendix C – Capability Assessment, PG. 15, Hazard Identification and Risk Evaluation Worksheet, PG. 33, National Flood Insurance Program, PG. 40.

**FEMA:** Not Addressed. The resubmitted Calvert County HMP files received by FEMA do not include an updated version of Appendix C addressing this required revision. Moreover, Appendix C from submission 1 of the Calvert County HMP was re-reviewed and once again found to not contain the documentation specified above for the Town of Chesapeake Beach. The pages stated above (15, 33, and 40) included the respective forms for the Town of North Beach, but do not include at least 1 completed form or worksheet from the Town of Chesapeake.

**Calvert County:** Appendix C has been resubmitted to the FTP site with the documentation for

the Town of Chesapeake Beach attached. These documents are included in Appendix C on pages 15, 33, and 40. The forms submitted by the Town of Chesapeake Beach were submitted online, but are present.

**FEMA:** Addressed.

The jurisdictional plan participation supporting documentation included in the plan is summarized below.

*Town of Chesapeake Beach Participation Documents in Appendix C:*

- *4/5/2023 Virtual Local Planning Team Meeting Sign in Sheet*

*Town of North Beach Participation Documents in Appendix C:*

- *4/19/2023 Virtual Local Planning Team Meeting Sign in Sheet*
- *6/21/2023 Virtual Local Planning Team Meeting Sign in Sheet*
- *6/19/2023 Virtual Local Planning Team Meeting Sign in Sheet*
- *Completed Hazard Identification and Risk Evaluation Worksheets*
- *Completed Hazard Mitigation Plan Capability Assessment Sheets*
- *Completed Hazard Mitigation Plan Opportunity Forms*
- *Completed NFIP Survey Form*

**A2-a:** The plan must “provide documentation of an opportunity for stakeholders to be involved in the planning process...” for a variety of whole community partners including “[n]eighboring Communities,” “[r]epresentatives of businesses,” “representatives of non-profits,” “utilities or major employers that sustain community lifelines” (2022 Local Mitigation Planning Policy Guide, page 19). Pages 35 and 36 of the plan state that “[t]he invitations for members of the LPT were disseminated by the Calvert County Division of Emergency Management utilizing letters, email, and telephone calls. These invitations included local and regional agencies involved in HMP activities, agencies with the authority to regulate development, neighboring communities, businesses and academia, and representatives for county offices and agencies involved in reaching out to socially vulnerable populations.” However, the plan does not document which and how neighboring communities, private sector employers, relevant non-profits, and utility providers that operate in Calvert County were invited to participate in the planning process.

Additionally, the participating municipalities / Town Centers relationship is currently unclear. For instance, Table 9 and text on page 41 suggests that the Town Centers fall under the administration of the County (since they are unincorporated communities). Yet, text beneath the table states that “All of the municipalities/Town Centers within Calvert County adopted the 2017 Calvert County Hazard Mitigation Plan as the municipal hazard mitigation plan. The goal of the Calvert County Local Planning Team is to have 100% participation by municipalities in adopting the 2023 Calvert County Hazard Mitigation.”

To address this required revision:

1. Add content to the plan documenting how and which neighboring communities, business representatives, non-profits, and utility organizations were at least invited to participate in this planning process. If limited engagement was provided to these stakeholders, clearly state this and include narrative in the plan describing how this limitation will be resolved going forward.

– **Calvert County:** Information added to section 3.2 outlining adjacent county invitations to the planning process and to review the draft HMP. PG. 36.

**FEMA:** Not addressed. To meet this requirement, add content to the plan documenting “which neighboring communities, business representatives, non-profits, and utility organizations were at least invited to participate in this planning process...” (2022 Local Mitigation Planning Policy Guide, page 19). To elaborate, add at least text to the plan explicitly stating which neighboring jurisdictions and other entities were invited to participate in the planning process. Text was added to the plan noting that the Calvert County Office of Community Resources was involved and provided information on social vulnerability information. This level of detail (i.e. at least identifying each invited plan participant entity by name) must be applied to the “[a]djacent communities” and “other community partners” vaguely referenced on page 36.

**Calvert County:** More information on neighboring counties and their participation, including which counties participated in review and which agencies or staff members were involved, are included in Section 3.2. Information on additional partners is also included, specifically the Towns of Chesapeake Beach and North Beach, BHE GT&S, Calvert Cliffs Nuclear Power Plant, and the Calvert County Department of Public Works. PG. 36.

**FEMA:** Addressed.

2. Add and/or change text in the plan to clarify which entities will adopt the 2023 Calvert County Hazard Mitigation Plan once it becomes approvable-pending-adoption. – **Calvert County:** Sentence edited in section 3.5 to clarify relationship of which entities will adopt the 2023 Calvert County HMP. PG. 41.

**FEMA:** Addressed.

MDEM:

**A1-b.** Clarify that of the 9 munis/town centers, only 2 constitute incorporated jurisdictions. For the 2 participating jurisdictions, please fill out Table 9 fully. Also include updates that may have occurred during the MDEM review period.

**MDEM: ADDRESSED**

**A2-a.** Plan must specifically address how the following 5 types of stakeholders were presented with the opportunity to participate: local/regional agencies involved in HM activities, agencies with authority to regulate development, neighboring communities, business/academia/private orgs, reps of nonprofits and community-based orgs that work with underserved and socially vulnerable populations. Further there is no mention of stakeholders that specifically work with the underserved. Key point: document how the opportunity was presented to EACH of these stakeholder categories.

**MDEM: ADDRESSED**

**A3-a.** Outreach to underserved and vulnerable populations is not documented or discussed.

**MDEM: ADDRESSED**

**Recommended Revisions:**

**FEMA:**

**Edit:** Improve readability by reformatting to ensure that Table 5 is not split over two pages.

**A1-b:** The vulnerability assessment includes a hazard summary for “Utility Interruptions.” However,

there does not appear to be an effort to include utility providers as stakeholders or, even better, as participating special districts. This section should clarify if utility providers were invited to participate.

**A3-a:** The online survey was still active as of 12/14/2023. Consider closing the survey or including a note explaining the status of the 2023 update.

## Element B: Risk Assessment

Element B Requirements	Location in Plan (section and/or page Met number)	Met / Not
<b>B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))</b>		
B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?	Section 4.2 (Pg. 43 - 51) Section 4.2.2 (Pg. 44 - 49)	Met
B1-b. Does the plan include information on the location of each identified hazard?	Section 4.3 (Pg. 52 - 232) - Location and Extent subsection of each hazard	Met
B1-c. Does the plan describe the extent for each identified hazard?	Section 4.3 (Pg. 52 - 232) - Location and Extent subsection of each hazard	Met
B1-d. Does the plan include the history of previous hazard events for each identified hazard?	Section 4.3 (Pg. 52 - 232) - Past Occurrence subsection for each hazard	Met
B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards?	Section 4.2.3 (Pg. 50-51) Section 4.3 (Pg. 52 - 232) - Future Occurrence subsection of each hazard	Met
B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area?	Section 4.3 (Pg. 52 - 232)	Met
<b>B2. Does the plan include a summary of the jurisdiction’s vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))</b>		

B2-a. Does the plan provide an overall summary of each jurisdiction’s vulnerability to the identified hazards?	Section 4.3 (Pg. 52 - 232) – Vulnerability Assessment subsection for each hazard	Met
B2-b. For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction?	Section 4.3 (Pg. 52 - 232) – Vulnerability Assessment subsection for each hazard	Met
B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?	Section 4.3.5.3 (Pg. 86 - 89) Table 23, 24, and 25	Met

**Element B Revisions**

**Required Revisions:**

FEMA:

**B1-e:** “The plan must include the probability of future events for the identified hazards that can affect the planning area... Probability must include the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards” (2022 Local Mitigation Planning Policy Guide, page 23).

To address this requirement, add at least narrative to the future occurrence section for the Pandemic and Epidemic risk assessment section (Section 4.3.10.4) explaining how climate change may impact the type, location, and range of anticipated intensities for this hazard. Consider reviewing and citing sources such as this National Academy of Sciences [webpage](#) to inform the added narrative. – **Calvert County: Narrative added to Section 4.3.10.4 outlining the above requirement. PG. 135.**

**FEMA:** Addressed.

**B2-a:** “The risk assessment must describe the vulnerability of plan participant(s) to each identified hazard. The vulnerability description must include a summary (such as a problem statement) of the hazard and its consequences or effects on the participant(s) and their assets. A list of assets without context is not sufficient” (2022 Local Mitigation Planning Policy Guide, page 23).

“Vulnerability is a description of which assets, including structures, systems, populations and other assets as defined by the community, within locations identified to be hazard prone, are at risk from the effects of the identified hazard(s)” (2022 Local Mitigation Planning Policy Guide, page 23).

“Assets are determined by the community and include, but are not limited to:

- **People** (including **underserved communities and socially vulnerable populations**).
- **Structures** (including facilities, lifelines and critical infrastructure).
- **Systems** (including **networks and capabilities**).
- **Natural, historic, and cultural** resources.
- **Activities that have value to the community.**”

(2022 Local Mitigation Planning Policy Guide, page 23).

To meet this requirement, add text or maps to the plan that describe the following vulnerable assets for the plan’s identified natural hazards (listed below) and all participating jurisdictions.

**FEMA:** Addressed.

Consider adding a mitigation action that will: (1) enable Calvert County to collect more detailed asset-specific information (for people, structures, systems, natural resources, historic resources, cultural resources, and any activities of value to the community) from the outset of the planning process, **and** (2)

conduct a more detailed quantitative analysis of how population and development changes will increase or decrease the vulnerability of participating jurisdictions to specific hazards (at least the natural hazards) identified in the plan.

- **Coastal Erosion – Calvert County:** Narrative added to section 4.3.1.5 on the vulnerability assessment to coastal erosion. PG. 54-55.

**FEMA:** Addressed.

- **Systems** (including **networks and capabilities**).
- Natural resources.

- **Drought – Calvert County:** Narrative added to section 4.3.2.5 on the vulnerability assessment to drought. PG. 65-66.

**FEMA:** Addressed.

- People (including underserved communities and socially vulnerable populations).

- **Earthquakes – Calvert County:** Narrative added to section 4.3.3.5 on the vulnerability assessment to earthquakes. PG. 73-74.

**FEMA:** Addressed.

- People (including underserved communities and socially vulnerable populations).
- **Systems** (including **networks and capabilities**).

- **Flooding – Calvert County:** Narrative added to section 4.3.5.5 on the vulnerability assessment to flooding. PG. 94-95.

**FEMA:** Addressed.

- People (including underserved communities and socially vulnerable populations).
- **Systems** (including **networks and capabilities**).
- Natural resources.

- **Hail – Calvert County:** Narrative added to section 4.3.6.5 on the vulnerability assessment to hail. PG. 100.

**FEMA:** Addressed.

- People (including underserved communities and socially vulnerable populations).

- **Hurricane and Tropical Storm – Calvert County:** Narrative added to section 4.3.7.5 on the vulnerability assessment to hurricane and tropical storm. PG. 105-106.

**FEMA:** Addressed.

- People (including underserved communities and socially vulnerable populations).
- **Systems** (including **networks and capabilities**).
- Natural resources.

- **Invasive Species – Calvert County:** Narrative added to section 4.3.8.5 on the vulnerability assessment to invasive species. PG. 120-121.

**FEMA:** Addressed.

- People (including underserved communities and socially vulnerable populations).

- **Landslides – Calvert County:** Narrative added to section 4.3.9.5 on vulnerability assessment to landslides. PG. 124-126.

**FEMA:** Addressed.

- People (including underserved communities and socially vulnerable populations).
- **Systems** (including **networks and capabilities**).
- Natural resources.
- **Subsidence and Sinkholes – Calvert County:** Narrative added to section 4.3.12.5 on vulnerability assessment to subsidence and sinkholes. PG. 149-150.

**FEMA:** Addressed.

- People (including underserved communities and socially vulnerable populations).
- **Systems** (including **networks and capabilities**).
- Natural resources.

Consider using the FEMA Resilience Analysis and Planning Tool (RAPT) to overlay nationally available data layers or import County or State data layers, then integrate a clear image of each map into the plan (for the hazards listed above) to address this required revision. The RAPT Resource Center provides a quick guide and tips for using the tool.

**B2-b:** “The plan must describe the **potential impacts** on each participating jurisdiction and its identified assets. Impacts must include the effects of climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development” (2022 Local Mitigation Planning Policy Guide, page 24). This information is mentioned in section 4.4.4 Future Development and Vulnerability at a high level, but the plan should more explicitly state how population changes will or will not effect the vulnerability of each jurisdiction. Notably, the plan states that “certain municipalities experienced significant resident increases and, thus, may be more vulnerable to certain hazards due to development and residential growth.” However, the plan does not summarize how jurisdiction-specific population pattern changes in Table 76 (and in select cases climate change effects) will exacerbate or reduce the impacts of specific natural hazards on vulnerable assets.

To address this requirement, add text or maps to the plan that describe the hazard impact(s) on vulnerable assets for specific natural hazards (see below) and all participating jurisdictions in terms of the following factors. Calvert County is encouraged, to address this required revision by adding the requested content to the vulnerability assessment subsection for each identified natural hazard. A brief high-level summary of the impact of population and climate change on all natural hazards and vulnerable assets in the planning area is not conducive to informing Calvert County mitigation action development, prioritization, and implementation.

**Coastal Erosion, Drought, Earthquakes, Extreme Temperatures, Flooding, Hurricanes and Tropical Storms, Invasive Species, Landslides, Pandemic, Epidemic, and Infectious Disease, Subsidence and Sinkholes, Tornado and Windstorm, Wildfire:**

**FEMA:** Addressed.

- Effects of climate change – **Calvert County:** Climate change information on the above hazard profiles added to the following pages: PG. 53, 65, 72, 80, 92, 105, 118, 123, 135, 149, 157, and 166.
- Changes in population patterns (migration, density, or the makeup of socially vulnerable populations) – **Calvert County:** Information added on changes in population to each vulnerability assessment section.

**Hail and Winter Storm**

**FEMA:** Addressed.

- Effects of climate change – **Calvert County:** Climate change information on hail added to section 4.3.6.4. PG. 99. Climate change information on winter storm added to section 4.3.15.4. PG. 178.

- Changes in population patterns (migration, density, or the makeup of socially vulnerable populations) – **Calvert County**: Population patterns for hail added to section 4.3.6.5. PG. 100. Population patterns for winter storm added to section 4.3.15.5. PG. 180.

MDEM:

**B2-a.** Missing Vulnerability Assessment for Coastal Erosion. In particular, vulnerability assessments lack discussion of current and future assets.

**ADDRESSED**

**Recommended Revisions:**

MDEM:

**B1-d.** Suggestion to combine coastal erosion and landslide under a singular hazard “Soil movement”. “Soil Movement” is a hazard identified in the state of Maryland Hazard Mitigation plan which seeks to address both coastal erosion and landslides. This is suggested as the coastal cliff topography of Calvert County is intrinsic to both of these hazards and influences them together. Additionally, Calvert County has received funding to address these hazards through the HMA program and at a minimum these previous events and subsequent mitigation projects should be listed.

**B2-b.** Should more directly address potential impacts of each of the identified hazards on each participating jurisdiction. Flooding chapter accomplishes this well.

FEMA:

**B:** Page 80 states that “Flooding... is the most frequent and costly of all hazards in MD,” yet no source is referenced. Add citations throughout the plan to support statements made regarding hazard risk and vulnerability.

**B:** Page 82 states that “The terrain of Calvert County can cause more severe floods as runoff reaches receiving water bodies more rapidly over steep terrain. The is of particular concern for areas along steep slopes and on the edges of valleys throughout Calvert County.” Can the risk assessment provide additional details around valleys in Calvert County? This description seems inconsistent with the geography describing the county as coastal plain with rolling hills. Update the main text or add additional context/documentation to the plan clarifying the risks and vulnerabilities associated with Calvert County’s steep slopes. - **Calvert County**: Sentence edited to outline gullies as opposed to valleys. PG. 84.

**B2-a:** Further describe the potential impact of natural hazards on historic properties in Calvert County by better integrating asset and demographic information from the outset of the plan into the respective natural hazard-specific vulnerability assessment subsections. For instance, the earthquake hazard’s risk assessment subsection generally states that “[a]ll of the historic properties that are located in Calvert County are at an increased vulnerability to earthquakes” without underscoring that these historic and cultural assets are identified in Section 2.2 of the plan.

**Calvert County**: Mitigation action added to 2023 mitigation action plan. Table 82 – 2023 Mitigation Action Plan. Action 1.2.4. PG. 294.

Each natural hazard vulnerability assessment section should provide more substantive summary information such as the total number of the historic structures and other asset types that are currently vulnerable to the respective natural hazard and specifically how these impacts are expected to change (increase or decrease) based on climate change’s effects, development changes, demographic changes, and land use changes. When applicable, key demographic and land use change information introduced from the outset of the plan (such as the following) should be more explicitly referred to and analyzed in the narrative of each natural hazard’s vulnerability assessment subsection.

- **Page 24:** “Approximately 0.8% of housing in Calvert County is valued between \$50,000.00 to \$99,999.99. 1.8% of the housing in Calvert County is valued below

\$50,000.00 while the remaining 97.4% of the housing in Calvert County is valued above \$100,000.00. A large portion of the housing in Calvert County (45.3%) is valued between \$300,000.00 and \$499,999.99.”

- **Page 25:** “The median household income for households in Calvert County is \$120,295.00 and the poverty rate of Calvert County is 4.9% of the total population. The poverty rate for the State of Maryland as a whole is 10.3%. There are approximately 7,750 veterans in Calvert County.”
- **Page 24:** “The most populous municipality in the county is the town of Chesapeake Beach...”
- **Page 24:** “Based on information from the American Community Survey (ACS), in 2021, there are approximately 35,501 housing units in Calvert County, Maryland. Of these housing units, there are an estimated 32,751 or 92.3% that are occupied...”
- **Page 25:** “Based on information provided in the American Community Survey for Calvert County for 2021, the racial composition of the county is 79.3% White, 12.4% Black or African American, 4.3% Hispanic or Latino, 0.1% American Indian and Alaska Native, 2.1% Asian, 0.1% native Hawaiian and other Pacific Islander, and 5.6% two or more races. The median age of Calvert County is 40.5 years of age, which is higher than the Maryland median age of 39.3 years old and the median age of the United States at 38.8 years of age. The percentage of Calvert County under the age of 5 years old is 5.2%, under the age of 18 is 23.4%, between the ages of 18 and 64 years of age is 56.4%, and aged 65 years and older is 15%.”
- **Page 26:** “Wetlands are also a prominent land cover in Calvert County, Maryland. Wetlands make up approximately 2% of the land area in Calvert County, but do provide a large amount of environmental benefits and natural resource protection...”
- **Page 26:** “Residential areas, including the incorporated municipalities and the Town Centers, make up 33.6% of the total land area in Calvert County.”
- **Page 26:** “Development from 2018 to 2023 has occurred around the Town Centers and communities in Calvert County...”
- **Page 26:** “The Calvert County Comprehensive Plan redirects the majority of development in the county towards creating mixed-use Town Centers that are desirable places to live, work, and shop. This Town Center development is coupled with increased preservation of agricultural and forested areas to preserve cultural and natural resources throughout the county.”

**B2:** Page 51 states that “...Calvert County has a very low social vulnerability index (SVI) as published by FEMA.” Add text to this sentence clarifying which FEMA SVI data is being referenced. FEMA’s National Risk Index includes a social vulnerability score, while the CDC has a social vulnerability index (SVI) score.

## Element C: Mitigation Strategy

Element C Requirements	Location in Plan (section and/or page Met number)	Met / Not
<b>C1. Does the plan document each participant's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))</b>		
C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?	Section 5 (Pg. 241 - 255) Section 5.2.2 (Pg. 246 - 250)	Met
C1-b. Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation?	Section 5.2.2 (Pg. 246 - 250)	Met
<b>C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))</b>		
C2-a. Does the plan contain a narrative description or a table/list of their participation activities?	Section 5.2.1 (Pg. 242 - 245) Appendix C	Met
<b>C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 44 CFR § 201.6(c)(3)(i))</b>		
C3-a. Does the plan include goals to reduce the risk from the hazards identified in the plan?	Section 6.2 (Pg. 267 - 270) Table 80	Met
<b>C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 44 CFR § 201.6(c)(3)(ii))</b>		
C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment?	Section 6.4 (Pg. 276 - 287) Table 82	Met
C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment?	Section 6.4 (Pg. 287 - 288) Table 82 and 83	Met
<b>C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including a cost-benefit review), implemented, and administered by each jurisdiction? (Requirement 44 CFR § 201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))</b>		

C5-a. Does the plan describe the criteria used for prioritizing actions?	Section 6.4 (Pg. 274 - 276)	Met
<b>Element C Requirements</b>		<b>Location in Plan (section and/or page Met number)</b>
C5-b. Does the plan provide the position, office, department or agency responsible for implementing/administrating the identified mitigation actions, as well as potential funding sources and expected time frame?	Section 6.4 (Pg. 276 - 287) Table 82	Met
<b>Element C Revisions</b>		
<p><b>Required Revisions:</b></p> <p><u>FEMA:</u></p> <p><b>C1-b:</b> To address this required revision, add at least narrative that explicitly describes “the ability of each participant to expand on and improve...” the administrative and technical, financial, and education and outreach capabilities “described in the plan” (2022 Local Mitigation Planning Policy Guide, page 25). “If the participants do not have the ability or authority to expand and/or improve their capabilities, the plan must describe this lack of ability or authority” (2022 Local Mitigation Planning Policy Guide, page 25). – <b>Calvert County:</b> Narrative added to section 5.2 to address areas of improvement for capability assessment aspects of the HMP. PG. 256.</p> <p><b>FEMA:</b> Addressed.</p> <p>For additional information regarding these capability categories (which are delineated in the plan), refer to pages 80 to 92 of the <a href="#">2023 Local Mitigation Planning Handbook</a> and the FEMA Region 3 <a href="#">Hazard Mitigation Plan Guidance: Community Capability Assessment Worksheet (fema.gov)</a>.</p> <p><b>C2-a:</b> To meet this requirement, add content to the plan for <b>each plan participant</b> explicitly describing their NFIP participation <u>at least</u> in terms of the activities below (2022 Local Mitigation Planning Policy Guide, page 26). The activities below <u>do not</u> have to be described in a completed NFIP survey form, but they must be described in the plan for each plan participant (i.e. participating jurisdiction). – <b>Calvert County:</b> Content added to the plan to address the items list below in section 5.2.1, PG. 260-261. Also, additional information for Chesapeake Beach can be found in the NFIP survey for the town. Appendix C. PG. 40.</p> <p><b>FEMA:</b> Addressed.</p> <ol style="list-style-type: none"> <li>Adoption of NFIP minimum floodplain management criteria via local regulation. <ul style="list-style-type: none"> <li><b>Town of Chesapeake:</b> Not addressed.</li> <li><b>FEMA:</b> Addressed.</li> <li><b>Town of North Beach:</b> Partially addressed.</li> <li><b>FEMA:</b> Addressed.</li> </ul> <p><b>Note:</b> The plan clearly summarizes Maryland’s Model Floodplain Ordinance and page 246 states that “[a]ccording to the State NFIP Coordinator, all of Calvert County’s municipalities have floodplain regulations in place that meet requirements set forth by the NFIP.” However the plan does not clarify which (if any) of the recommended floodplain management provisions from Maryland’s Model Ordinance listed on page 245 are enshrined in the local floodplain management ordinance for each participating</p> </li> </ol>		

jurisdiction. Ideally include on what date each municipality's local floodplain ordinance was adopted. **At least add content to the plan clarifying what minimum floodplain management criteria have been adopted by the Town of Chesapeake and Town of North Beach. Keep in mind that this requirement could be addressed by adding all required C2-a information to the NFIP Surveys for the Town of North Beach and Town of Chesapeake to the plan.** The Town of North Beach's NFIP survey is partially complete and the Town of Chesapeake's NFIP survey is not included in Appendix C. Keep in mind that key NFIP minimum criteria are summarized on page 89 of the 2023 Local Mitigation Planning Handbook.

2. Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable.

**Town of Chesapeake:** Not addressed.

**FEMA:** Addressed.

**Town of North Beach:** Addressed (in NFIP survey)

3. Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs.

**Town of Chesapeake:** Not addressed.

**FEMA:** Addressed.

**Town of North Beach:** Partially addressed.

**FEMA:** Addressed.

**Note:** Refer to the note above for additional context/details on how to address this required revision.

4. Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP.

**Town of Chesapeake:** Not addressed.

**FEMA:** Addressed.

**Town of North Beach:** Not addressed.

**FEMA:** Addressed.

**Note:** Consider adding this information to the main text of the plan in addition to each jurisdiction's NFIP survey.

5. Description of how participants implement the substantial improvement/substantial damage provisions of their floodplain management regulations after an event."

**Town of Chesapeake:** Not addressed.

**FEMA:** Addressed.

**Town of North Beach:** Not addressed.

**FEMA:** Addressed.

**Note:** Page 279 states that the 2023 mitigation action 2.1.1 will be championed by the Calvert County Department of Planning & Zoning and aims to "[e]nsure reconstruction activities are compliant with NFIP substantial damage/improvement requirements and existing codes." **However, the plan does not explicitly describe how the Town of Chesapeake and Town of North Beach "implement the substantial improvement/substantial damage provisions of their floodplain management regulations after an event."**

**C4-b:** "It is important for all actions to be as specific as possible, and be clearly linked to the

vulnerabilities and impacts identified in the risk assessment...” “[e]ach plan participant must identify one or more mitigation actions the participant(s) intends to implement for each hazard addressed in the risk assessment. The actions must be achievable and **demonstrate how the mitigation activities reduce the risks identified in the risk assessment...**” (2022 Local Mitigation Planning Policy Guide, page 27). Some of the mitigation actions identified in table 82 and 83 are generalized to the point that it is unclear how each action mitigates its associated hazard(s) stated in Table 85. For example, action 3.1.6 aims to “[i]ntegrate a hazard mitigation section into the Chesapeake Beach and North Beach Comprehensive Plans” for each participating jurisdiction and each natural hazard. However, this action does not specify what types of hazard-specific information from the hazard mitigation plan will be integrated into the Chesapeake Beach and North Beach Comprehensive Plans to mitigate each identified hazard’s risk. A “hazard mitigation section” is so amorphous that a non-substantive reference to this HMP could be added to each comprehensive plan to “complete” this action without demonstrably reducing the hazard risk of current and future assets in each participating jurisdiction.

To meet this requirement:

1. Add action 6.1.2 (identified in Table 83) to Table 82, *Calvert County 2023 Mitigation Action Plan*. – **Calvert County**: Header updated to reflect 6.1.1 in Table 83 – **Municipal Hazard Mitigation Actions Checklist**. PG. 306.

**FEMA**: Addressed.

2. Add additional detail to the mitigation actions that address “All Hazards” clarifying how each mitigation action will reduce risk by addressing hazard-specific and jurisdiction-specific vulnerable asset and/or risk information from the plan’s risk assessment. – **Calvert County**: Detail and specificity added to mitigation actions in the 2023 mitigation action plan for Calvert County. Table 82 – **2023 Mitigation Action Plan**. PG. 297-298.

**FEMA**: Addressed.

**C5-b**: “The action plan must identify who is responsible for administering each action, along with **the action’s potential funding sources** and expected time frames for completion” (2022 Local Mitigation Planning Policy Guide, page 28). To meet this requirement, add the missing funding source information to Table 82 for action 1.4.2. – **Calvert County**: Funding source added to Table 82 – **2023 Mitigation Action Plan**. Action 1.4.2. PG. 295.

**FEMA**: Addressed.

### **Recommended Revisions:**

FEMA:

**C1-a**: Add content to the plan summarizing each of the state and federal grant programs expressed in the Financial Capability section.

**C4-a and b**: Reduce the generalized nature of each mitigation action by integrating jurisdiction-specific vulnerable assets information from the plan’s risk assessment. Generalized actions can be retained, but more tailored and specific actions and/or information should be added to the mitigation strategy. Refer to the Mitigation Project Worksheets in the [2023 Ocean City Hazard Mitigation Plan](#), the Mitigation Projects section of the [2023 City of Annapolis Hazard Mitigation Plan](#), and the Mitigation Strategy section of the [2023 Washington County \(Multi-Jurisdictional\) Hazard Mitigation Plan](#) for examples of how Calvert County’s 2023 HMP mitigation actions can be refined to enhance plan implementation.

**C5-b**: Update Action 1.5.1. to include Calvert County municipalities as additional local champions. – **Calvert County**: Updated in Table 82 – **Mitigation Action Plan**. Action 1.5.1. PG. 296.

**FEMA**: Addressed.

MDEM:

**C2-a.** Within Appendix C, only North Beach has responded to the NFIP survey. Provide the above information for Chesapeake Beach.

## Element D: Plan Maintenance

Element D Requirements	Location in Plan (section and/or page Met number)	Met / Not Met
<b>D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))</b>		
D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?	Section 7 (Pg. 293 - 295) Section 7.3 (Pg. 294-295)	Met
<b>D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))</b>		
D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process?	Section 7.2 (Pg. 293)	Met
D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible.	Section 7 (Pg. 293 - 295)	Met
D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?	Section 7.2 (Pg. 293)	Met

Element D Requirements	Location in Plan (section and/or page Met number)	Met / Not Met
<p><b>D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))</b></p>		
<p><b>D3-a. Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms?</b></p>	<p>Section 5.2.5 (Pg. 253 – 255)</p>	<p>Met</p>
<p><b>D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated?</b></p>	<p>Section 5.2.5 (Pg. 255)</p>	<p>Met</p>
<p><b>D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?</b></p>	<p>Section 5.2.2 (Pg. 246 – 250) Section 5.2.5 (Pg. 255) Section 7.3 (Pg. 294-295)</p>	<p>Met</p>
<p><b>Element D Revisions</b></p>		
<p><b>Required Revisions:</b></p> <p><u>FEMA:</u></p> <p><b>D2-c:</b> “The plan must identify how, when and by whom the plan will be reviewed and revised at least once every five years (updating) (2022 Local Mitigation Planning Policy Guide, Page 29).” Page 293 states that the “HMP must be updated on a five-year cycle. An updated HMP must be completed and approved by the end of the five-year period....,” the “Calvert County Local Planning Team will be responsible for maintaining <b>this</b> multi-jurisdictional HMP....,” and that the “local planning team will meet annually and following each emergency declaration to review the plan...” However, the plan does not explicitly state what entity or agency will be responsible for updating this plan within five years once it becomes FEMA-approved.</p> <p>To meet this requirement, add text to the plan explicitly stating by whom the plan will be reviewed and revised (updated) at least once every five years. – <b>Calvert County:</b> Narrative added to section 7.2 outlining who will review and revise the hazard mitigation plan. PG. 311.</p> <p><b>FEMA:</b> Addressed.</p> <p><u>MDEM:</u></p> <p><b>D3-a, b, c.</b> Must provide additional narrative on the processes by which communities will integrate the HMP into local priorities.</p> <p><b>ADDRESSED</b></p> <p><b>D3-b.</b> Incorrect page reference. Section 5.2.5 (Pg. 255) is where integration of hazard mitigation into local mechanisms is addressed.</p> <p><b>ADDRESSED</b></p>		

**Recommended Revisions:**

FEMA:

**D1-a:** Expand continued public participation through targeted outreach in addition to providing access to a copy of the plan at the local municipal office and posting a copy to the Calvert County Emergency Management webpage.

MDEM:

**D2-b.** Could more explicitly address the criteria for re-evaluating the capability assessment section. Are you going to be re-distributing the assessment for munis to fill out? If so, state that.

**ADDRESSED**

**D2-c.** Should have a more robust discussion of the 2028 update. How, when, and by whom must be answered.

**ADDRESSED**

## Element E: Plan Update

Element E Requirements	Location in Plan (section and/or page Met number)	Met / Not
<b>E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))</b>		
E1-a. Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved?	Section 2 (Pg. 21 - 33) Section 2.4 (Pg. 26 - 28)	Met
<b>E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))</b>		
E2-a. Does the plan describe how it was revised due to changes in community priorities?	Executive Summary (Pg. 15 - 17) Section 4.4.2 (Pg. 235 - 237) Section 6.1 (Pg. 248 - 258)	Met
E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan?	Section 6.1 (Pg. 256 - 266) Section 6.4 (Pg. 272 - 292)	Met

Element E Requirements	Location in Plan (section and/or page Met number)	Met / Not
E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?	Section 5.2.5 (Pg. 255)	Met
Element E Revisions		
<p><b>Required Revisions:</b></p> <p><u>MDEM:</u></p> <p>E1-a. Must discuss changes in development and subsequent impacts to hazard vulnerability specifically from 2018-2023. If no development changes affected jurisdictions' overall vulnerability, this must be stated.</p> <p><b>ADDRESSED</b></p> <p>E2-a. Must provide narrative discussing changes in priorities for each jurisdiction.</p> <p><b>ADDRESSED</b></p> <p>E2-c. No history of successful plan integration was provided. This is a multi-jurisdictional plan. Must describe how the previous HMP was or was not integrated into each jurisdiction's local planning mechanisms. Incorrect page reference. Section 5.2.5 (Pg. 255) is where previous successful mitigation and plan integration is addressed.</p> <p><b>ADDRESSED</b></p> <p><b>Recommended Revisions:</b></p> <p><u>FEMA:</u></p> <p>E2-b: Include a narrative status update for existing mitigation actions listed as "continuous."</p> <p>E2-c: Add more concrete examples to the plan, such as excerpts from relevant local mechanisms, demonstrating that elements of the Calvert County HMP have been integrated into them and vice versa (since the last plan update). Page 255 states "Previous successful mitigation and plan integration has occurred in the development of comprehensive plans at the local level, both for the incorporated municipalities and the Town Centers. The risk assessment sections of the Town Center Master Plans in Calvert County pull information directly from the risk assessment section of the previous Calvert County Hazard Mitigation Plans, and this informative process will continue with the future development of those items." Yet, it is not clear what information from the hazard mitigation plan's risk assessment was integrated into these local planning mechanisms.</p>		

## Element F: Plan Adoption

Element F Requirements	Location in Plan (section and/or page Met number)	Met / Not
<p><b>F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))</b></p>		

Local Mitigation Planning Policy

F1-a. Does the participant include documentation of adoption?		
<b>F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))</b>		
F2-a. Did each participant adopt the plan and provide documentation of that adoption?		
<b>Element F Required Revisions</b>		
<b>Required Revision:</b>		

## Element G: High Hazard Potential Dams (Optional)

HHPD Requirements	Location in Plan (section and/or page Met number)	Met / Not
<b>HHPD1. Did the plan describe the incorporation of existing plans, studies, reports and technical information for HHPDs?</b>		
HHPD1-a. Does the plan describe how the local government worked with local dam owners and/or the state dam safety agency?	Section 3.2 (Pg. 35 - 36)	Met
HHPD1-b. Does the plan incorporate information shared by the state and/or local dam owners?	Section 4.3.17.5 (Pg. 175 - 184)	Met
<b>HHPD2. Did the plan address HHPDs in the risk assessment?</b>		
HHPD2-a. Does the plan describe the risks and vulnerabilities to and from HHPDs?	Section 4.3.17.5 (Pg. 181 - 183)	Met
HHPD2-b. Does the plan document the limitations and describe how to address deficiencies?	Section 4.3.17.5 (Pg. 181 - 183)	Met
<b>HHPD3. Did the plan include mitigation goals to reduce long-term vulnerabilities from HHPDs?</b>		
HHPD3-a. Does the plan address how to reduce vulnerabilities to and from HHPDs as part of its own goals or with other long-term strategies?	Section 6.2 (Pg. 267 - 269) Table 80 Goal 8, Objective 8.1, Objective 8.2, and Objective 8.3	Met
HHPD3-b. Does the plan link proposed actions to reducing long-term vulnerabilities that are consistent with its goals?	Section 6.2 (Pg. 269 - 270)	Met
<b>HHPD4-a. Did the plan include actions that address HHPDs and prioritize mitigation actions to reduce vulnerabilities from HHPDs?</b>		
HHPD4-a. Does the plan describe specific actions to address HHPDs?	Section 6.4 (Pg. 276 - 287) Table 82 Actions 8.1.1, 8.2.1, and 8.3.1	Met
HHPD4-b. Does the plan describe the criteria used to prioritize actions related to HHPDs?	Section 6.4 (Pg. 274 - 276)	Met
HHPD4-c. Does the plan identify the position, office, department or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs?	Section 6.4 (Pg. 274 - 276) Table 82 Actions 8.1.1, 8.2.1, and 8.3.1	Met
<b>HHPD Revisions</b>		

**Required Revisions:**

**FEMA:**

**HHPD1-a:** The “mitigation plan must include a description of [h]ow the local government coordinated with local dam owners and/or the state dam safety agency.” Page 36 states that “Calvert County also invited local dam owners and stakeholders to the planning process and for them to participate in the local planning team.”

To meet this requirement, add at least narrative to the plan clarifying how Calvert County coordinated with specific dam owners and/or the state dam safety agency during the planning process. It is unclear if a concerted effort was made to engage dam owners and/or the state dam safety agency or if dam owners and the state dam safety agency were more indirectly engaged (such as via the public review social media announcement and website posting on July 26, 2023). Notably, Appendix C does not clearly demonstrate that local dam owners and/or state dam safety agency (Maryland Department of the Environment) submitted input to inform the planning process or attended planning meetings.

**Calvert County:** Narrative added to address participation of dam owners. Section 3.2. PG. 36.

Action added to ensure continued and enhanced collaboration with dam owners. Table 82 – Mitigation Action Plan. Action 8.2.2. PG. 303.

**FEMA:** Addressed.

**HHPD2-a:** HHPD-related data deficiencies have been clearly identified in the plan. However, publicly available data that could be readily used to meet this requirement has not been integrated into the plan. To meet this requirement, add at least baseline estimated information for each Calvert County HHPD describing the “location and size of populations at risk from HHPDs, as well as potential impacts to institutions and critical infrastructure/facilities/lifelines.” Ideally, summarize this information using a table and maps.

To address this requirement, add information to the plan describing “the risks and vulnerabilities to and from HHPDs, including...” (2022 Local Mitigation Planning Policy Guide, page 34):

- Potential significant economic, environmental or social impacts, as well as multi-jurisdictional impacts, from a dam incident.
- Location and size of populations at risk from HHPDs, as well as potential impacts to institutions and critical infrastructure/facilities/lifelines.

**Calvert County:** Information added to section 4.3.17.5 on RAPT vulnerability information for Calvert County high-hazard dam information. PG. 195-196.

**FEMA:** Addressed.

In the next plan update, consider elaborating on the potential impacts to specific economic, historic, cultural, and natural resources within the inundation zone of any Calvert County HHPDs.

Consider using nationally available data in the FEMA Resilience Analysis and Planning Tool (RAPT) to help estimate and describe the location and size of the population at risk and any critical facilities/lifelines that are located around each Calvert County HHPD.

**Note:**

- The “Population Counter” button in the RAPT can be used to select specific HHPDs and quickly estimate the population (number of persons) nearby by drawing a 2-D shape around a specific HHPD then selecting “run.”
- Similarly, the “Incident Analysis” button in the RAPT can be used to set a point on an HHPD or draw a polygon around an HHPD, specify a buffer distance (such as 5 or 10 miles), then quickly view the number and location of specific critical

infrastructure/lifeline assets within the buffer zone specified.

- UACE National Inventory of Dams (NID) data can be quickly added to the RAPT by selecting the “Add Data” button and searching for “National Inventory of Dams.”

**HHPD4-a:** The plan must describe “a range of specific actions, such as:

- Rehabilitating/removing dams.
- Adopting and enforcing land use ordinances in inundation zones. ▪ Elevating structures in inundation zones.
- Adding flood protection, such as berms, floodwalls or floodproofing, in inundation zones” (2022 Local Mitigation Planning Policy Guide, Page 25).

To meet this requirement, include a broader range of mitigation actions in the plan that will reduce the vulnerabilities from HHPDs. Notably, actions 8.1.1, 8.2.1., and 8.3.1 are valid education and awareness projects that aim to reduce HHPD vulnerabilities, but there are no specific construction-related (“structure and infrastructure implementation”) mitigation actions focused on HHPDs identified in the mitigation strategy. To best enable Calvert County to access HHPD funding, consider integrating at least one action into the plan from each of the eligible HHPD grant activity categories below. – **Calvert County: Additional actions covering a variety of mitigation strategy techniques and NoFO items added to Table 82 – 2023 Mitigation Action Plan. Action 8.2.3, 8.2.4, 8.2.5, and 8.2.6. PG. 304.**

**FEMA:** Addressed.

#### Eligible Rehabilitation of HHPD Grant Program Activities

- Construction activities such as:
  - Repair or rehabilitation of the dam
  - Dam removal
  - Construction monitoring
  - Installation of early warning systems associated with the eligible dam project
- Planning activities such as:
  - Activities and studies that determine risks associated with eligible dams
  - Environmental studies for NEPA compliance
  - Development of operation and maintenance plans
  - Public education and awareness of flood risks associated with the eligible dam project
  - Dam risk and consequence assessments Feasibility studies
  - Preliminary engineering studies Alternatives analysis
  - Mapping, engineering survey, and inundation modeling
  - Development of evacuation plans, plans for flood fighting, or community response plans to include in the floodplain management plan
  - Coordination of EAP and EOPs for different release conditions
- Design activities such as:
  - Engineering design
  - Development of specifications

Source: Fiscal Year (FY) 2024 Rehabilitation of High Hazard Potential Dams (HHPD) Notice of Funding Opportunity (NOFO)

#### MDEM:

**HHPD.** In general, HHPD requirements are neglected in the current HMP draft. See pg. 32-35 of the FEMA Local Mitigation Planning Policy Guide as well as state feedback on the dam failure hazard profile (Element H).

**ADDRESSED**

**Recommended Revisions:**

FEMA:

**HHPD2-a:** Add content to the plan further elaborating on the Potential cascading impacts of storms, seismic events, landslides, wildfires, etc. on dams that might affect upstream and downstream flooding potential.

**HHPD2-b:**

Consider adding the following to the plan:

- Documentation summarizing structural integrity issues (such as seepage or erosion) related to specific HHPDs.
- Inspection results that describe dam-related deficiencies that could be addressed by specific mitigation actions within the HMP (for instance a mitigation action to develop a dam-related data system, rehabilitate a specific dam, or more).
- Condition assessments or reports that speak to dam specific deficiencies such as an undersized dam spillway relative to the dam's intended design flood.

## Element H: Additional State Requirements (Optional)

Element H Requirements	Location in Plan (section and/or page Met number)	Met / Not Met
This space is for the State to include additional requirements		
<p><b>Additional Recommendations:</b></p> <p><b><u>MDEM:</u></b></p> <p><b>4. Risk Assessment:</b> In general, it would be ideal to compare the hazard assessment to the cultural resources identified in the plan. For example, identifying the location of regulated floodplains and then comparing the locations of identified historical resources. This is one example of how one could better characterize risk specific to Calvert County.</p> <p><b>4.2.3. Climate Change:</b> This section is generic and lacking in up-to-date resources. Would benefit from being rewritten for MD and Calvert County specifically. Sea level rise and flooding are not mentioned. <b>PARTIALLY ADDRESSED</b></p> <p><b>4.3.1. Coastal Erosion:</b> Cite where information is coming from. Provide a Calvert-specific rate of coastal erosion. Can be calculated using historical shoreline maps, consult DNR. This section should be more robust considering that coastal erosion is one of the County’s most pressing hazards. <b>ADDRESSED</b></p> <p>North Beach and Chesapeake Beach have flooding and SLR action plans. What information from each of the reports might contribute to this section? <b>ADDRESSED</b></p> <p><b>4.3.5.1 Location and Extent:</b> Where is the precipitation data to back up claims in paragraph 1? <b>ADDRESSED</b></p> <p><b>4.3.5.2 Range of Magnitude:</b> This section would benefit from additional data and photo documentation. What is the elevation change, what communities are at risk?</p> <p><b>Table 22 - Past Flood and Flash Flood Events:</b> How do you know there wasn't damage? If you don't have data, consider unknown versus 0. <b>ADDRESSED</b></p> <p><b>4.3.5.4 Future Occurrence:</b> Is snow melt a major issue in Calvert? Consider rewriting with a focus on high tide flooding and precipitation based flooding, not snow melt. Check the weather data for snow accumulation over the past 5 years to inform the next five years. <b>ADDRESSED</b></p>		

**4.3.5.5 Vulnerability Assessment, Flash Flooding:**

NB has a Flood and SLR Action Plan, consider referencing it here. Where is the data to back up that flash flooding is a common occurrence, either qualitative or quantitative?

**4.3.7.4 Future Occurrence:**

100 yr flood is old terminology. FEMA uses 1% chance, etc.

**ADDRESSED**

**6. Mitigation Strategy:**

Consider revising objectives to be S.M.A.R.T.

**Table 78 - 2017 Mitigation Goals and Objectives Review:**

Some comments are really not meaningful. Does the comment column justify its existence?

**Table 79 - 2017 Mitigation Actions Review, Action 2:**

How often do CP updates occur? Do they align with the HMP review schedule?

**4.3.17. Dam Failure:**

Incorrect description of dam oversight authorities in MD. USACE basically does nothing for dams - MDE is the entity responsible for permitting dams and ensuring compliance with Maryland laws and regulations. USACE would really only impact stream changes in certain projects - but their review and permitting is limited to the stream not the dam itself. USACE also does not inspect dams in Maryland (unless they happen to be USACE owned dams, of which there are very few and none in this County. MDE doesn't "award" permits - they issue permits after technical review. Also, the dam owner is primarily responsible for dam inspections. Inspection results are not characterized as safe or unsafe. Please describe the NID condition assessment definitions/categories. Or reach out to MDE Dam Safety to get understanding of dam condition.

**ADDRESSED**

May be worth discussing MD dam inventory criteria vs. NID criteria. MD criteria is more inclusive.

**ADDRESSED**

MD law actually requires both high and significant hazard dams to have an EAP.

**ADDRESSED**

Dams are not exactly "registered" with the USACE. MDE dam safety provides data updates to USACE on a semi-regular basis for the NID.

**ADDRESSED**

MD inventory lists 2 high, 9 significant, and 9 low hazard dams in the County as well as countless "small ponds," which by definition are also low hazard, but are increasingly subject to hazard creep.

**ADDRESSED**

Consider not just where the dam is located, but where the danger reach extends in the case of a failure.

**ADDRESSED**

**4.3.17.2 Range of Magnitude:**

Do not qualify only major dams can pose a serious threat to downstream communities.

**ADDRESSED**

**4.3.17.3 Past Occurrence:**

Inaccurate to say that there are no major past incidences. Running Hare Vineyard Dam nearly failed

during TS Isaias. Contact the state dam safety program to get information.

**ADDRESSED**

Make sure dam is spelled correctly throughout the HMP.

**ADDRESSED**

Site source of the 24 historical dam failure figure.

**ADDRESSED**

#### **4.3.17.4 Future Occurrence:**

Conclusion that dam failure is unlikely seems unfounded. Need to demonstrate that you have looked into condition assessment, operational status, ability of owners to ensure upkeep, effects of climate change.

Implication that inspection programs reduces risk to near zero is not accurate.

**ADDRESSED**

MDE role is not described accurately. Contact state SMEs to obtain correct information.

**ADDRESSED**

MDE program is called the MDE Dam Safety Program.

**ADDRESSED**

MDE dam evaluation criteria are not accurate.

**ADDRESSED**

“Future occurrence of a dam failure is increasingly small.” Most in the dam safety community would disagree. Provide backup or rewrite.

What new procedures and rules are you referring to?

**ADDRESSED**

#### **4.3.17.5 Vulnerability Assessment:**

USACE is not in charge of dams nationally. You could instead refer to FEMA guidance.

**ADDRESSED**

Table 62 data is incorrect. Reach out to state SMEs to get correct data.

**ADDRESSED**

Again, EAPs are required for both high and significant hazard dams.

**ADDRESSED**

EAP exercises are required once every 5 years by MD law.

**ADDRESSED**

Last paragraph on pg. 174 is difficult to comprehend in text form. Consider converting it into a table or list.

**ADDRESSED**

Failure of any dam can have impacts that affect Calvert jurisdictions.

**ADDRESSED**

Risk inundation area dataset can be provided by MDE. Any insufficient information or data gaps can

be addressed by MDE consultation.

**4.4.2. Ranking Results:**

Disagree with the warning time metric for dam failure on pg. 228. It is unlikely that more than 24 hr warning is provided prior to dam failure.

**5.2.3. Financial Capability:**

Explicitly reference the FEMA HHPD program. The FEMA National Dam Safety Program only provides assistance for the state program.

**ADDRESSED**

## Plan Assessment

These comments can be used to help guide your annual/regularly scheduled updates and the next plan update.

### Element A. Planning Process

#### Strengths

- The plan includes a clear executive summary.
- The plan is well organized.
- Population change data by jurisdiction is introduced at the outset of the plan.

#### Opportunities for Improvement

- More thoroughly integrate social vulnerability and equity as core facets of Calvert County's planning process moving forward. The plan notes that Calvert County has a very low social vulnerability score according to FEMA. With this in mind, consider which jurisdictions in Calvert County are most underserved and socially vulnerable relative to one another then document how Calvert County is using data to inform its outreach to underserved and socially vulnerable populations.
- Address any remaining recommended revisions for this Element.

### Element B. Risk Assessment

#### Strengths

- The plan includes a dedicated section at the outset of its risk assessment section introducing the impacts of climate change on the identified hazards of concern in Calvert County.
- Table 7, Calculated Countywide Risk Factor by Hazard and Comparative Jurisdictional Risk, provides a clear and succinct summary of risk variations (and commonalities) across jurisdictions in the planning area.
- The plan clearly describes the category and size of underserved and vulnerable populations potentially impacted by the winter storm hazard by jurisdiction.
- The plan includes a comprehensive summary of wildfire hazard impacts on vulnerable assets including natural resources, historic resources, cultural resources, structures, populations, and community lifeline systems.
- A diverse array of natural and human-caused hazards are profiled in the plan. Specifically, the plan examines 12 new hazards in addition to the 13 hazards identified in the previous (2017) version of the plan. The new hazards include Coastal Erosion, Flash Flooding, Invasive Species, Landslide,

Pandemic, Epidemic, Endemic, and Infectious Disease, Radon Exposure, Wildfire, Civil Disturbance, Dam Failure, Emergency Services, Nuclear Incident, Opioid Epidemic, Transportation Accidents, and Utility Interruptions.

- National Register of Historic Places (NRHP) information is introduced at the beginning of the plan identifying 20 specific cultural and historic assets in Calvert County (including structures, a boat, and areas).

#### **Opportunities for Improvement**

- Improve information sourcing and citation throughout the main text of the plan.
- During the next update, consider including completed copies or all information from the [FEMA Region 3 Checking In on the NFIP capability assessment worksheets](#) into the Calvert County Hazard Mitigation Plan. Much but not all of the information expressed in these worksheets were addressed in the completed NFIP surveys contained in Appendix C.
- Address any remaining recommended revisions for this Element.

### **Element C. Mitigation Strategy**

#### **Strengths**

- Section 6.4 summarizes the status of Calvert County hazard mitigation projects that have been funded by FEMA Hazard Mitigation Assistance Funds), including their action type, activity summary, and target completion month and year.

#### **Opportunities for Improvement**

- Address any remaining recommended revisions for this Element.

### **Element D. Plan Maintenance**

#### **Strengths**

- N/A

#### **Opportunities for Improvement**

- N/A

### **Element E. Plan Update**

#### **Strengths**

- N/A

#### **Opportunities for Improvement**

- N/A

## **Element G. HHPD Requirements (Optional)**

### **Strengths**

- N/A

### **Opportunities for Improvement**

- Address any remaining recommended revisions for this Element.

## **Element H. Additional State Requirements (Optional)**

### **Strengths**

- N/A

### **Opportunities for Improvement**

- N/A