MEPA Interim Protocol on Climate Change Adaptation and Resiliency
Issuance Date: [TBD], 2021

Background

The Massachusetts Environmental Policy Act (MEPA) Interim Protocol on Climate Change Adaptation and Resiliency ("Interim Protocol") complies with Governor Baker's Executive Order 569, which directs the Executive Office of Energy and Environmental Affairs (EEA) and the Executive Office of Public Safety and Security (EOPSS) to coordinate efforts across the Commonwealth to strengthen the resilience of communities, prepare for the impacts of climate change, and proactively plan for and mitigate damage from extreme weather events. It complements the 2010 MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol, which requires analysis of a project's contribution to GHG emissions and commitments to increase energy efficiency to reduce emissions.

The Interim Protocol builds on the analysis and recommendations of the 2018 Massachusetts Integrated State Hazard Mitigation and Climate Adaptation Plan (SHMCAP), the Commonwealth's primary risk assessment and risk reduction strategy for natural hazards and climate change. The SHMCAP's mission is to reduce the statewide loss of life, and protect natural resources, property, infrastructure, public health, and the economy from natural hazards and climate change impacts through the development of a comprehensive and integrated hazard mitigation and climate adaptation program. It expands upon the previous planning efforts of the Commonwealth's 2013 State Hazard Mitigation Plan and the 2011 Massachusetts Climate Change Adaptation Report. The SHMCAP acknowledges that climate change is already worsening natural hazards and extreme weather events, and incorporates the best available scientific data and projections to position the Commonwealth to reduce risk and increase resilience.

The Interim Protocol furthers the Commonwealth's efforts to support state agencies and municipalities in implementing the SHMCAP, and additional projects and strategies to promote climate change resilience and adaptation. It includes the efforts of the Resilient Massachusetts Action Team (RMAT), the inter-agency steering committee responsible for implementation, monitoring, and maintenance of the SHMCAP. The RMAT is advancing prioritized global (or cross-agency) actions from the SHMCAP, including the "Climate Resilience Design Standards and Guidelines" project. This effort will develop resilience standards, guidelines, and a project risk screening tool using the best available climate science data and projections for Massachusetts in three critical areas: sea level rise, increased precipitation, and extreme heat.

Interim Protocol

The Interim Protocol encourages projects to utilize the best available climate science data and projections for Massachusetts in evaluating risks and impacts associated with sea level rise, the amount, frequency and timing of precipitation, and increases in average temperature including frequency of extreme temperature events.

Effective [TBD], 2021, all new projects filing with the MEPA Office will be required to complete an addendum entitled, "Addendum: Climate Change Adaptation and Resiliency" ("Addendum"). The Addendum solicits information and disclosures designed to assist in evaluation of a project's climate risks and adaptation strategies. If the RMAT Climate Resilience Design Standards Tool is available at the time of filing, proponents will have the option of attaching a copy of the project's Climate Risk Screening and Resilience Design Standards report available through the tool, in lieu of completing Sections I-II of the Addendum. If a project is shown to be

subject to climate risk factors, the proponent will be required to provide an explanation of climate adaptation and resiliency strategies and planning that will be undertaken for the project.

Effective Period

This Interim Protocol and Addendum will remain in place until further amended. It is anticipated that these documents will be superseded by a formal Climate Change Adaptation and Resiliency Policy, which will be developed through a public stakeholder process led by the MEPA Office. The Addendum is intended to formalize the information-gathering process that is already occurring during the course of MEPA review, so that information is provided early in the process to facilitate review of the project.

Addendum: Climate Change Adaptation and Resiliency

This Addendum to the Environmental Notification Form (ENF) solicits information and disclosures related to climate change adaptation and resiliency, in accordance with the MEPA Climate Change Adaptation and Resiliency Interim Protocol issued on [TBD], 2021. The Interim Protocol builds on the analysis and recommendations of the 2018 Massachusetts Integrated State Hazard Mitigation and Climate Adaptation Plan (SHMCAP), and incorporates the efforts of the Resilient Massachusetts Action Team (RMAT), the inter-agency steering committee responsible for implementation, monitoring, and maintenance of the SHMCAP. The Interim Protocol carries out the directives in Executive Order 569 and M.G.L. c. 30, § 61 to engage in climate adaptation and resiliency planning in all state activities, including through MEPA review.

The Interim Protocol and Addendum will remain in place until further amended. It is anticipated that these documents will be superseded by a formal Climate Change Adaptation and Resiliency Policy, which will be developed through a public stakeholder process led by EEA and the MEPA Office. The addendum will gather information to inform the Secretary's determinations under M.G.L. c. 30, § 62A and 62C, including determinations of whether to require an environmental impact report (EIR) and the adequacy of those filings.

All projects filing an ENF with the MEPA office must complete the following sections. If the RMAT Climate Resilience Design Standards Tool is available at the time of ENF filing, Proponents may attach a copy of the project's Climate Risk Screening and Resilience Design Standards report available through the tool in lieu of completing Sections I-II below. Once available, the link to the tool can be found here.

I. Climate Risks Based on Project Location

Consistent with the [DATE] Interim Protocol and the RMAT tool, this section solicits information regarding climate risks in three critical areas: sea level rise (SLR), increased precipitation, and extreme heat.

A. Will the project result in a net increase in impervious area at the project site? ___ Yes____No; If yes, specify the net new (_____sf) and total (_____sf) impervious area on the site. Are existing trees being removed as part of the project? ___ Yes ___ No

B. Does the project site have a history of riverine flooding, coastal flooding, and/or flooding during extreme precipitation events (including urban flooding due to overwhelmed or undersized drainage capacity)? __Yes __ No; If yes, describe the flood scenario(s) and approximate frequency:

C. Is the project currently located within the 1%-annual-chance flood area (the 100-year floodplain) as depicted on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map(s) (FIRM) for the site? __ Yes___No; If yes, identify the Base Flood Elevation (BFE) and datum (if specified) and FEMA FIRM *(e.g., FEMA FIRM for __County; Map/Panel No. __, effective [date]).*

D. Is the project currently located within the 0.2%-annual-chance flood area (the 500-year floodplain) as depicted on the FEMA FIRM for the site? _____ Yes___No; If yes, identify the Base Flood Elevation (BFE) and datum (if specified) and FEMA FIRM *(e.g., FEMA FIRM for __County; Map/Panel No. __, effective [date]).*

E. What is the anticipated useful life of the project?[1] _____ Based on the anticipated useful life of the project, complete the following table using the climate projection data from the mapping tool at www.resilientma.org. *View the data at the drainage basin scale and assume the High Emissions Scenario RCP 8.5. Click on the tidal gauge bar to bring up a more detailed table of changes in sea level rise.*

Sea Level Rise – Option 1 *(For projects located in the City of Boston and all other projects only if data is available.)*	*To the extent available, data from the Massachusetts Coastal Flood Risk Model (MC-FRM) (anticipated to be available in 2021) should be utilized for this option. Projects in the City of Boston may utilize either the MC-FRM or BPDA data available here.*[2] Is any part of the project located within the future 1%-annual-chance coastal flood area during the project's useful life? ___ Yes ___ No; if yes, at what year does this occur?
Sea Level Rise – Option 2 *(Only use if data for Options 1 is not available.)*	If the MC-FRM or City of Boston data is not available/applicable, use data from www.resilientma.org to project anticipated climate conditions during the useful life of the project as follows. First, using the Sea Level Rise climate projections data layer in the Resilient MA mapping tool, identify which of the following four tide gauge stations is closest to the project site: Boston Harbor, Nantucket, Woods Hole, or Newport, RI. _____ Identify the projected mean sea level rise anticipated at the project site over the useful life of the project assuming the High Scenario. • Relative increase in Mean Sea level (feet NAVD88): _____ • Projected Future Planning Year (based on useful life): _____
	Second, using the increase in SLR identified above, click on the Sea Level Rise & Coastal Flooding (NOAA) climate projections data layer in the Resilient MA mapping tool to show the extent of inundation at the project site. *Note, the NOAA SLR data provides projections in 1-foot increments from 1- to 6-feet. Round the increase in SLR identified above to the nearest 1-foot increment in order to generate the inundation map using the NOAA data layer.* Is the project site impacted by this projected increase in SLR by the future planning year identified above? _____ Yes _____ No

[1] The useful life is defined as the estimated number of years an asset will be in use before needing reinvestment to continue performing its normal function(s). The anticipated useful life assumes regular and adequate maintenance is implemented. This differs from the design life (or service life), which is typically shorter.

[2] The BPDA map is intended to show potential impacts, based on an assumption of 40 inches of sea level rise and a planning year of 2070. For other planning horizons, mapping available through Climate Ready Boston may be utilized.

II. Evaluation of Project Criticality

A. For buildings/facilities/infrastructure:

Rate the overall criticality of buildings/facilities/infrastructure (low/medium/high):_____

This rating should consider the extent of the geographical area and populations affected by loss or inoperability of the project/asset, including whether the project is located within and/or serves an Environmental Justice and/or climate vulnerable population[3]; the length of time the project/asset can be inoperable without consequence; and the nature and severity of impacts resulting from loss or inoperability of the project/asset. ***Provide a narrative that discusses these and any other relevant factors that justify the criticality rating proposed for the project.***

B. For any natural resource components (parks, open space, ecological restoration, including dam removals and other projects to restore natural ecology):

Describe the benefits and impacts to ecosystem functions provided by the project. *Examples include enhancement of flood protection, protection of public water supply, mitigation of potential storm damage, enhancement of decarbonization/carbon sequestration, and recreational opportunities.*

III. Climate Change Adaptation and Resiliency Strategies

A. Has the project taken measures to adapt to climate change? ___ Yes __ No *Climate adaptation and resiliency strategies include actions that seek to reduce vulnerability to anticipated climate risks and improve resiliency for future climate conditions. Examples of climate adaptation and resiliency strategies include flood barriers, increased stormwater infiltration, living shorelines, elevated infrastructure, increased tree canopy, etc. Projects should address any planning priorities identified by the affected municipality through the Municipal Vulnerability Preparedness (MVP) program or other planning efforts, and should consider a flexible adaptive pathways approach, an adaptation best practice that encourages design strategies that adapt over time to respond to changing climate conditions. General guidance and best practices for adopting a flexible adaptive pathways approach can be found here, when the RMAT tool becomes available.*

i. If no, explain why.

[3] Climate vulnerable populations are those who have lower adaptive capacity or higher exposure and sensitivity to climate hazards like flooding or heat stress due to factors such as access to transportation, income level, disability, racial inequity, health status, or age.

ii. If yes, describe the measures the project will take, including identifying the planning horizon and climate data used in designing project components. If applicable, specify the return period and design storm used (e.g., 100-year, 24 hour storm).

iii. Is the project contributing to regional adaptation strategies? __ Yes __ No; If yes, describe.

B. Has the Proponent considered alternative locations for the project in light of climate change risks? ___ Yes ___ No

i. If no, explain why.

ii. If yes, describe alternatives considered.

C. Is the project located in Land Subject to Coastal Storm Flowage (LSCSF) or Bordering Land Subject to Flooding (BLSF) as defined in the Wetlands Protection Act? ___ Yes ____No; If yes, describe how/whether proposed changes to the site's topography (including the addition of fill) will result in changes to floodwater flow paths and/or velocities that could impact adjacent properties or the functioning of the floodplain. *General guidance on providing this analysis can be found in the CZM/MassDEP Coastal Wetlands Manual, available here.*