Capital Facilities and Infrastructure

This guidance is intended to clarify how the Capital Facilities and Infrastructure Goal and Objectives of the Regional Policy Plan (RPP) are to be applied and interpreted in Cape Cod Commission Development of Regional Impact (DRI) project review. This technical bulletin presents specific methods by which a project can meet the goal and objectives.

Capital Facilities and Infrastructure Goal: *To guide the development of capital facilities and infrastructure necessary to meet the region's current and demonstrated future needs*

- ***Objective CAP1 –*** *Ensure capital facilities and infrastructure promote efficiency, sustainability, and resiliency*
- ***Objective CAP2 –*** *Enhance the coordinated provision of services and facilities that respond to the needs of the region*

The applicability and materiality of these goals and objectives to a project will be determined on a case-by-case basis considering a number of factors including the location, context (as defined by the Placetype of the project's location), scale, use, and other characteristics of a project.

THE ROLE OF CAPE COD PLACETYPES

The RPP incorporates a framework for regional land use policies and regulations based on local form and context as identified through categories of Placetypes found and desired on Cape Cod.

The Placetypes are determined in two ways: some are depicted on a map contained within the RPP Data Viewer located at www.capecodcommission.org/RPPDataViewer adopted by the Commission as part of the Technical Guidance for review of DRIs, which may be amended from time to time as land use patterns and regional land use priorities change, and the remainder are determined using the character descriptions set forth in Section 8 of the RPP.

The project context, as defined by the Placetype of the location, provides the lens through which the Commission will review the project under the RPP.

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INTRODUCTION

The Cape Cod Commission Act requires the Commission to "anticipate, guide and coordinate the rate and location of development with the capital facilities necessary to support such development, in order to protect the region's natural and historic resources and advance a more balanced economy, housing mix, and social diversity." In order to meet this charge, the Regional Policy Plan includes a specific capital facilities and infrastructure goal and objectives to guide planning initiatives and set the measures by which the regulatory review process takes place.

DEFINITIONS

Areas Vulnerable to Flooding: Any land which is subject to inundation caused by coastal storms and sea level rise, including V and A Zones as defined by FEMA, and that predicted to be caused by the 1% annual storm for 2070, as defined by the Massachusetts Coast Flood Risk Model. A Zones include the Coastal A (MoWA) and A Zone (MiWA) identified in the draft DEP Floodplain regulations.

APPLICABILITY

This Capital Facilities and Infrastructure goal and related objectives apply to projects whose primary purpose is constructing or modifying capital facilities or infrastructure. For the purposes of this guidance document, capital facilities and infrastructure include but are not limited to roads and non-auto transportation structures, drinking water and wastewater distribution and treatment systems, waste disposal and management facilities, telecommunications lines and equipment, energy distribution and generation facilities, and coastal structures and improvements.

SUMMARY OF METHODS

GOAL | CAPITAL FACILITIES AND INFRASTRUCTURE

To guide the development of capital facilities and infrastructure necessary to meet the region's current and demonstrated future needs.

Objective CAP1 – Ensure capital facilities and infrastructure promote efficiency, sustainability, and resiliency

METHODS

Where feasible and appropriate, the following methods should be implemented to meet Objective CAP1:

- Locate capital facilities and infrastructure outside of areas vulnerable to flooding
- Use existing structures, utility easements, and/or rights-of-way
- Locate infrastructure underground
- Support compact development patterns
- Design capital facilities for resilience to current and future risks

AREAS OF EMPHASIS BY PLACETYPE

Natural Areas | Avoid locating capital facilities and infrastructure in these areas unless the project can demonstrate overriding public purpose

Rural Development Areas | Minimize impacts to scenic or cultural resources through siting and design of capital facilities and infrastructure

Suburban Development Areas, Historic Areas, Maritime Areas, and Community Activity Centers | Design and site capital facilities and infrastructure to support compact land use patterns and economic development while protecting historic and scenic resources

Industrial Activity Centers and Military and Transportation Areas | Larger capital facilities and infrastructure may be appropriate in these areas; should support industrial development and diversity and vitality of the regional economy

Objective CAP2 – Enhance the coordinated provision of services and facilities that respond to the needs of the region

METHODS

Where feasible and appropriate, the following methods should be implemented to meet Objective CAP2:

- Improve the quality or availability of service
- Provide site sharing or space for other providers or types of infrastructure
- Coordinate project construction with other planned or needed infrastructure projects

DETAILED DISCUSSION OF METHODS FOR MEETING OBJECTIVE CAP1

Objective CAP1 - *Ensure capital facilities and infrastructure promote efficiency, sustainability, and resiliency*

The intent of Objective CAP1 is that capital facilities and infrastructure projects should promote sustainability of the region by supporting compact land use patterns to the greatest extent possible, by supporting transition to carbon-free infrastructure, and by being located and designed to avoid impacts to natural, historic and cultural resources. Capital facilities and infrastructure should also be designed to be resilient to extreme weather events and the effects of climate change or other natural or man-made risks and be responsive to the context in which they are located.

Where feasible and appropriate, the following methods should be implemented to meet Objective CAP1:

Locate capital facilities and infrastructure outside of Areas Vulnerable to Flooding

The location of capital facilities and infrastructure could have a significant impact on a community's resilience to natural disasters. When feasible, capital facilities and infrastructure should be located outside of Areas Vulnerable to Flooding to ensure that services and access to facilities are available in the event of a natural disaster and protected from damage or loss due to severe coastal storms.

Use existing structures, utility easements, and/or rights-of-way

Capital facilities and infrastructure should utilize existing structures, utility easements and rights-of-way wherever feasible to reduce costs, minimize waste, minimize private property impacts, and limit impacts on the natural environment.

Locate infrastructure underground

When feasible, locate infrastructure underground where it will not be subject to wind, ice, tree falls or other above ground hazard to reduce vulnerability to severe storms or other natural or human-made risks.

Support compact development patterns

The location of capital facilities and infrastructure shapes future development patterns in the region. Capital facilities and infrastructure that support compact land use

patterns, including development and redevelopment in Community and Industrial Activity Centers, are strongly encouraged to reduce the cost of providing infrastructure and encourage efficient use of land and resources. Infrastructure should be co-located with other public utilities wherever feasible to reduce the impact of utility installation on the landscape.

Design capital facilities for resilience to current and future risks

Capital facilities and infrastructure should be designed and sited to be resilient to extreme weather events and the effects of climate change, such as wildfire, extreme heat, drought, and rising ground water or salt water intrusion due to sea level rise, or other natural or human-made risks. Structures should be designed and sited with the following principles in mind:

- Consideration of site selection to reduce exposure to hazards
- Structural design to withstand anticipated wind or floodwater forces, temperatures, or corroding effects
- System redundancy to ensure continued service during disruptions
- Adaptability and flexibility to allow for future modifications
- Utilizing natural ventilation and passive cooling to reduce reliance on energy during power outages
- Adequate stormwater design to accommodate anticipated changes in precipitation

DETAILED DISCUSSION OF METHODS FOR MEETING OBJECTIVE CAP2

Objective CAP2 - *Enhance the coordinated provision of services and facilities that respond to the needs of the region*

Where feasible and appropriate, the following methods should be implemented to meet Objective CAP2:

Improve the quality or availability of service

Capital facilities and infrastructure should provide safe, reliable, affordable, accessible, equitable, high-quality services. Services, including but not limited to the provision of drinking water, wastewater treatment, waste disposal, telecommunications, and energy are critical to the built and community systems of Cape Cod. Capital facilities and infrastructure investment can help to open new markets, encourage the growth of industries that diversify the regional economy, encourage fossil fuel-free energy, and enhance educational opportunities, thereby improving lives and supporting the advancement of the region's civic and business communities.

Projects that propose new service(s) or the expansion of existing service(s) should include in their application materials a narrative that describes how the project has been designed to meet existing need and/or accommodate a demonstrated future need for such service(s).

Provide site sharing or space for other providers or types of infrastructure

When appropriate, capital facilities and infrastructure should provide space on-site for other planned or future infrastructure or through collocation to reduce the cost of providing infrastructure and minimize impacts on the region's character and environment.

Coordinate project construction with other planned or needed infrastructure projects

Capital facilities and infrastructure should be coordinated with other existing or planned capital facilities and infrastructure to reduce the cost of providing infrastructure, limit land clearing and impacts to natural and other resources, and to protect the region's historic and community character.

GENERAL APPLICATION REQUIREMENTS

Applicants should provide the following materials to address consistency with the Capital Facilities and Infrastructure Goal and Objectives.

- Project plans detailing the location(s) of the proposed project
- Narrative discussing the alternatives considered, as appropriate
- Statement of need that provides the information necessary to determine whether:
  - The project addresses existing needs of Cape Cod without unnecessarily duplicating existing services or facilities; and/or,
  - Documented future demand, including quantitative data analysis as to projected need
- Narrative describing how the project is resilient to current and future natural and human-made risks and will advance overall resiliency