



# Waste Management

This guidance is intended to clarify how the Waste Management 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 these goals and objectives.

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***Waste Management Goal: To promote a sustainable solid waste management system for the region that protects public health, safety, and the environment and supports the economy.***

- ***Objective WM1 – To reduce waste and waste disposal by promoting waste diversion and other Zero Waste initiatives***
  - ***Objective WM2 – Support an integrated solid waste management system***
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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 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](http://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 and the Technical Guidance.

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. Additional detail can be found in the Cape Cod Placetypes section of the Technical Guidance.



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## NOTE ON APPLICATION MATERIALS, DEFINITIONS, RESOURCES AND REFERENCES

Application materials should provide sufficient detail to demonstrate that the project meets the applicable Objectives, but typically include a project narrative and a detailed site plan. See guidance on page WM-11 for more information.

A list of references and resources are provided on page WM-12.

## INTRODUCTION

The Commission may determine that Waste Management is a material issue for those DRIs where the proposed development involves or is likely to involve a significant amount of solid waste generation, or if solid waste handling or management is a principal purpose, use or component of the development.

The RPP's Waste Management Goal and Objectives are intended to support and further the Commonwealth's current Solid Waste Master Plan (2010-2020), which has the primary purpose of making way for a "Zero Waste" future in the Commonwealth. Sustainable waste management practices and policies also have significant greenhouse gas reduction benefits: the Commonwealth's "Zero Waste" vision aligns with the Global Warming Solutions Act (GWSA, Chapter 298 of the Acts of 2008). The RPP's Waste Management Goal and Objectives recognize Barnstable County's relationship and role with the Commonwealth (and beyond) in advancing a sustainable approach to waste management; and alternately, that it is neither feasible nor desirable for Barnstable County to have a waste management system and approach that is entirely independent from the Commonwealth's.

Because the primary purpose of the RPP's Waste Management Goal and Objectives is to support the Commonwealth's long term "Zero Waste" master plan, the Commission's approach under this section is flexible in order to respond to, consider and accommodate for changing circumstances in the solid waste environment as they might arise: many of the recommended policies and actions set out in this section depend on the establishment and evolution of new markets, technologies, infrastructure systems and business networks that are not currently in place.

There are no Placetypes directly associated with the Waste Management Goal and Objectives, and supporting policies and actions set out in this section; however, proposed development reviewed under the Waste Management Goal and Objectives are subject to and will likely be reviewed under other RPP goals for which there are associated Placetypes.

## SUMMARY OF METHODS

### GOAL | WASTE MANAGEMENT

To promote a sustainable solid waste management system for the region that protects public health, safety, and the environment and supports the economy.

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**OBJECTIVE WM1** – To reduce waste and waste disposal by promoting waste diversion and other Zero Waste initiatives

### METHODS

- Incorporate alternatives to disposal such as the productive re-use of materials, and resource recovery of useful materials.
  - Incorporate clean waste-to-energy initiatives such as anaerobic digestion.
  - Create or expand opportunities to compost organic materials.
  - Incorporate Industrial Ecology, which is co-locating businesses so that by-products from one or more processes are utilized as input to other processes.
  - For manufacturing facilities and operations:
    - minimize packaging;
    - reduce toxics in packaging;
    - incorporate extended producer responsibility for reuse, recycling, and disposal manufactured products.
  - Develop or support local markets, infrastructure, technologies, jobs and firms in recycling, re-use, resource recovery and related material management efforts.
  - Support municipal waste diversion facilities, and encourage regional coordination between municipal facilities.
  - Support private waste diversion facilities and markets to support and supplement municipal waste facilities and operations
  - Reuse buildings and structures
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**OBJECTIVE WM2** – Support an integrated solid waste management system

METHODS

- For waste facilities, incorporate zero waste future technologies and initiatives to preserve existing disposal capacity to serve regional needs.
  - Develop integrated facility partnerships – including between municipalities and businesses – to support integrated solid waste management systems.
  - Properly manage construction and demolition waste and recycling.
  - Use alternative methods to trucking to transport waste and recycling materials from Barnstable County, including rail and ship, in order to reserve roadway capacity.
  - Support existing municipal waste facilities and encourage regional coordination between municipal facilities.
  - Support private waste facilities and markets to support and supplement municipal waste facilities and operations
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## DETAILED DISCUSSION OF METHODS FOR MEETING OBJECTIVE WM1

**Objective WM1** – *To reduce waste and waste disposal by promoting waste diversion and other Zero Waste initiatives*

Solid waste management has improved greatly in the Commonwealth since 1990 when MassDEP issued the Commonwealth's first Solid Waste Master Plan. Before that, there were more than 150 landfills in the Commonwealth, most of which were owned/operated by municipalities and lacked sufficient environmental controls. The Commission's 1991 Regional Policy Plan was concerned primarily with the regionalization of and better environmental controls for municipal solid waste facilities.

Today, Massachusetts has a modern solid waste management system that promotes waste reduction and recycling, and ensures that facilities that handle and dispose of waste are properly designed and operated to protect public health and the environment.

Further, since the 1990's, Massachusetts has imposed state-wide waste bans. Waste bans help to increase recycling and support the recycling economy, and help keep toxics out of the waste stream. Waste bans are a key tool available in Massachusetts to reduce disposal of recyclable and compostable materials and increase recycling and composting. The waste ban regulations require landfills, municipal waste combustors, and transfer stations to develop and implement waste ban plans that include ongoing monitoring for banned materials and comprehensive inspections of waste loads. The Commission's 1996 and 2002 RPPs emphasized recycling and integrated solid waste management, which were themes carried through the 2009 RPP.

Since 2009, the Commonwealth has had a 42 percent recycling rate, one of the highest rates in the nation. However, Massachusetts residents continue to dispose of materials that have significant value – in both monetary and natural-resource terms – and whose environmental impacts could be avoided if they were reused. Solid waste management represents a significant cost to taxpayers and businesses, and disposal of materials causes environmental impacts and is a waste of resources and a lost economic opportunity. The more consumers can reduce the amount of waste that has to be disposed of by reducing generation and increasing reuse, recycling, and composting, the better for the economy, public health and the natural environment. There have also

been dramatic changes in the recycling markets at the state, national and international level over the past few years, suggesting that less reliance on recycling alone and the promotion of other forms of waste diversion are prudent approaches for future solid waste planning.

“Zero Waste” is an alternative vision to the traditional concept of waste disposal, involving the overall reduction in waste generation and the amount of wastes requiring disposal; and less overall reliance on disposal in landfill facilities by diverting materials from the waste stream. Waste diversion approaches include increasing reuse of materials; increasing recycling of materials that have served their useful purpose; resource recovery of useful materials that would otherwise be placed in the waste stream; and composting food and other organic materials. There are increasingly fewer landfills and less landfill capacity in the Commonwealth, and for environmental, economic and other reasons, siting of new landfill facilities to maintain current capacity is unlikely or undesirable. In fact, a good deal of solid waste and recycling is shipped outside the Commonwealth for disposal or handling. The necessary alternative is to reduce reliance on landfilling and disposal.

Under this alternative “Zero Waste” vision, ‘waste’ is a changing concept. Diverting material from the waste stream saves money, promotes the more efficient use of materials, captures valuable resources, protects the environment, and supports the economy. Disposal of potentially useful and valuable materials is a waste of resources and lost economic opportunity. Resource recovery is using wastes as an input material to create valuable products as new outputs. Plastic, paper, aluminum, glass and metal are examples of where value can be found in waste as input material. There is also the potential to convert waste to energy, such as with an anaerobic digester facility.

## DETAILED DISCUSSION OF METHODS FOR MEETING OBJECTIVE WM2

### ***Objective WM2*** – *Support an integrated solid waste management system*

Integrated Solid Waste Management (ISWM) is a holistic waste reduction, diversion, collection, composting, recycling system that still relies on disposal to some degree, and is a step along the way to try to achieve a “Zero Waste” future. There are currently not the markets or facilities in place to implement a reliable Zero Waste system. At this stage, “Zero Waste” is an aspirational concept with aspects that can be incorporated into and inform the goals of an ISWM system, though preserving the scarce, remaining solid waste disposal capacity that is part of such system is a critical infrastructure consideration for the health of the Cape Cod community, environment and economy.

ISWM systems rely on a network of individual facilities, with the back-bone being municipal transfer stations/solid waste facilities. An ISWM system would include private solid waste or material management businesses to supplement municipal facilities and public markets, which partnerships help in preserving capacity and managing costs. Such local public/ private partnerships, markets and networks can also benefit local economies and support existing or the creation of new home-grown businesses and industries. A municipal integrated solid waste management facility (ISWMF) include components such as:

- a comprehensive recycling drop-off center,
- a materials recovery facility,
- regular hazardous product collections,
- a reuse swap shop,
- grass and leaf waste composting,
- food composting,
- a C&D handling facility.

## GENERAL APPLICATION REQUIREMENTS

As applicable:

- Narrative describing how the project supports the Objectives.
- Site Plan showing how waste will be managed and/or waste management facility design.
- Construction and Demolition (C&D) waste management plan
- Post- Construction/ operational solid waste and recycling management plan
- Toxic waste management plan
- Food waste or other composting plan
- Waste material re-use/ resource recovery plan
- Corporate/ business sustainability plan, including operational best practices and employee training

### EXAMPLE CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT PLAN GUIDANCE

*The Connecticut Department of Energy and Environmental Protection provides the following guidance on the developing successful Construction and Demolition Waste Management Plans that Applicants may find helpful.*

A construction or demolition waste management plan does not need to be lengthy or complicated to be effective. Preparing a plan consists of identifying the types of debris that will be generated by the project and identifying how all waste streams will be handled. A successful waste management plan will contain the following information:

- Waste recycling, salvage or reuse goals
- Estimated types and quantities of materials or waste generated from the project site
- Proposed and intended disposal methods for these materials
- Intended procedures for handling the materials or waste
- Detailed instructions for the subcontractors and laborers on how to separate or collect the materials at the job site

The industry average for waste generated at new construction sites is six pounds per square foot. Most of this waste can be put towards another use, or better yet, be recycled if proper planning is done within the design phase. The primary objective of

these plans are to initially reduce the amount of generated construction waste on projects by requiring all subcontractors and material suppliers to limit quantities of materials and packaging to only those necessary for the project itself.

Additional information available at:

<https://www.ct.gov/deep/cwp/view.asp?a=2714&q=458438>

## REFERENCES AND RESOURCES

MassDEP Recycle Smart Initiative (Recyclopedia) - <https://recyclesmartma.org/>

Information on Massachusetts Recycling and Waste - <https://www.mass.gov/topics/recycling-waste-management>

Massachusetts Solid Waste Master Plan - <https://www.mass.gov/guides/solid-waste-master-plan>

Connecticut Department of Energy and Environmental Protection Guidance on Waste Management Plans - <https://www.ct.gov/deep/cwp/view.asp?a=2714&q=458438>