

3225 MAIN STREET • P.O. BOX 226  
BARNSTABLE, MASSACHUSETTS 02630



CAPE COD  
COMMISSION

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## DEVELOPMENT OF REGIONAL IMPACT DECISION

**Project:** Bourne Integrated Solid Waste Management Facility – Phases 7, 8, 9  
(CCC No. 20064)

**Project Applicant:** Town of Bourne  
Department of Integrated Solid Waste Management  
c/o Daniel T Barrett, General Manager  
24 Perry Avenue, Buzzards Bay, MA 02532

**Site Address:** 201 MacArthur Boulevard, Bourne, MA 02532

**Assessors:** Map 28 Parcel 13; Map 32 Parcel 5; Map 32 Parcel 9

**Title Reference:** Book 1351 Page 456; Book 29639 Page 278; Book 13637 Page 54

**Property Owner:** Town of Bourne

**Date:** \_\_\_\_\_, 2021

## SUMMARY

The Cape Cod Commission (“Commission”) hereby grants Development of Regional Impact (“DRI”) approval, with Conditions, for Phase 7, 8, and 9 of the Bourne Integrated Solid Waste Management Facility pursuant to Sections 12 and 13 of the Cape Cod Commission Act (“Act”). This decision is rendered pursuant to a vote of the Cape Cod Commission on \_\_\_\_\_, 2021.

## FINDINGS

*The Cape Cod Commission hereby finds and determines as follows:*

### EXISTING CONDITIONS/ PROPOSED PROJECT

- F1. The Bourne Integrated Solid Waste Management Facility (“Facility”) is located at 201 MacArthur Boulevard in Bourne and is operated by the Bourne Department of Integrated Solid Waste Management (“Department”) on three (3) contiguous parcels totaling 111 acres +/- (“Project Site”; “Property”) owned by the Town of Bourne.
- F2. The Facility is divided into three adjacent parcels totaling 111 acres:
- a 74-acre parcel utilized for landfilling since 1967, the proposed location for the Phase 9 vertical expansion;
  - a 25-acre parcel utilized for solid waste handling operations beginning 2005, the proposed location for the Phase 7 and Phase 8 horizontal landfill expansions; and
  - a 12-acre parcel, undeveloped forested area, which is the proposed area for the relocation of facilities and solid waste handling operations currently on the 25-acre parcel.

- F3. The Town of Bourne (“Applicant”; “Town”) proposes a three-phase, vertical and horizontal expansion of the Facility, which would increase the disposal capacity of the Facility by 5,175,000 cubic yards and extend the life of the landfill through 2040.
- F4. The two (2) previously disturbed, developed, and utilized parcels at the Facility have the benefit of a Site Assignment from the Bourne Board of Health (“BOH”) for the existing uses.
- F5. The proposed Project will require the following Permits from MassDEP: Site Suitability Report for a Major Modification of an Existing Site Assignment; Authorization to Construct (“ATC”) a Large Landfill Expansion; and Authorization to Operate (“ATO”); Site Suitability Report for a New Site Assignment (12-acre parcel), ATC a Large Handling Facility, and ATO a Large Handling Facility.
- F6. As proposed, the Project will also require a Conservation and Management Permit (CMP) from the Division of Fisheries and Wildlife’s Natural Heritage and Endangered Species Program (“NHESP”).
- F7. The Facility serves as important solid waste infrastructure for the town of Bourne, the Cape Cod region, and southeastern Massachusetts. It is the last remaining operating municipal solid waste landfill on Cape Cod, and one of a handful remaining in the Commonwealth.
- F8. The Project context, as defined by Placetype, provides the lens through which the Cape Cod Commission (“Commission”) reviews the Project under the Regional Policy Plan (“RPP”).
- a. The developed portion of the Project Site is characteristic of the Military and Transportation Area Placetype, large land areas developed with and devoted to infrastructure, including waste disposal facilities. The vision for these areas is to support comprehensive master planning with community input, encourage growth of industries appropriate to the diversification of the regional economy, and encourage partnerships for use of shared infrastructure.
  - b. The 12-acre parcel and a small portion of the 25-acre parcel are undeveloped forested land, mapped Natural Area in the Commission’s RPP Data Viewer. Natural Areas are the region’s least developed and most sensitive areas. The vision for these areas is to minimize adverse development impacts. The Natural Area on the Project Site is mapped as such due to being within Natural Heritage & Endangered Species Program (“NHESP”) Priority Habitat and BioMap2 Critical Natural Landscape.
- F9. Projects in Natural Areas must provide high quality open space on site, or in a Natural Area offsite in a 3:1 ratio unless the Commission waives this requirement.

#### **DRI JURISDICTION/ PROCEDURAL BACKGROUND**

- F10. The Project requires mandatory DRI review pursuant to Section 2(d)(i) of the Commission’s *Chapter A: Enabling Regulations Governing Review of Developments of Regional Impact* (“Enabling Regulations”), revised May 2020 because the Project required the preparation of an Environmental Impact Report (“EIR”) pursuant to the Massachusetts Environmental Policy Act, M.G.L. c. 30, §§ 61-62I (“MEPA”).
- F11. Between 1998-2000, the Town pursued regulatory reviews and obtained the required permits and approvals to establish the Facility in what is generally its current state of use and development (for Phases 2, 3, and 4 of the Facility), including a certificate of adequacy on an EIR under MEPA; DRI approval from the Commission (See Commission File No. 97031, DRI decision dated February 17, 2000); and Authorization to Construct and Authorization to Operate permits from MA Department of Environmental Protection (“DEP”).

- F12. Between 2017-2018, the Town pursued the required approvals for the development of Phase 6, which expanded the existing lined landfill such that it would support Phase 7. Required approvals for Phase 6 included a certificate of adequacy on a Single Supplemental EIR (“SSEIR”) under MEPA; DRI approval from the Commission (See Commission File No. 17024, DRI decision dated November 15, 2018); and ATC and ATO permits from DEP.
- F13. The Facility was built out and operated in accordance with those permits and approvals, including in accordance with several modifications to those permits and approvals, obtained by the Town for the Facility through the present. Such modifications included authorization for Phase 5. The Commission has issued Certificates of Compliance for the Facility up to and including Phase 6.
- F14. The Applicant submitted a DRI application for the Project to the Commission on 05/17/2021 (which included 10 attachments, inclusive of a site plan set). A staff hearing officer opened the DRI hearing period procedurally on 02/12/2021. The Applicant and Commission mutually agreed to extend the hearing period to 9/10/2021. A DRI Subcommittee (“Subcommittee”) held a substantive public hearing session on the Project on 07/26/2021. Commission staff prepared a staff report on the Project, dated 07/26/2021, in advance of the hearing. The hearing was continued to 8/16/2021, then continued again to 8/30/2021.
- F15. The Applicant and Commission agreed to further extend the hearing period to 11/1/2021 on 9/3/2021.
- F16. At the hearing on 8/30/2021, the Subcommittee directed Commission staff to prepare a draft written DRI Decision consistent with this recommendation to present to the full Commission to consider in its review and decision-making. The Subcommittee voted to recommend the draft DRI Decision to the full Commission on 9/13/2021.
- F17. The Cape Cod Commission held a hearing on the Project at its meeting on 9/23/2021. It considered the recommendation of the Subcommittee as reflected in the draft DRI decision prepared by staff at the direction of the Subcommittee. At the hearing on \_\_\_\_\_, the Commission voted to adopt the draft DRI decision as written.

#### **DRI REVIEW STANDARDS**

- F18. Section 7(c)(viii) of the Commission’s *Enabling Regulations* contains the standards to be met for DRI approval, which include, as applicable, consistency with the Cape Cod Regional Policy Plan, municipal development bylaws, District of Critical Planning Concern (DCPC) implementing regulations and Commission-certified Local Comprehensive Plans (“LCP”). The Commission must also find that the probable benefit from the Project is greater than its probable detriment.
- F19. DRI review of the Project is subject to the 2018 Regional Policy Plan (“RPP”), as amended in March 2021, which is the version of the RPP in effect at the time of the Commission’s first substantive public hearing on the Project. The Commission determines the Project’s consistency with the Act and RPP by determining whether the Project is consistent with the Goals and Objectives in Section 6 of the 2018 RPP, as particular goals and objectives are deemed applicable and material to the Project.

#### **MUNICIPAL DEVELOPMENT BYLAWS, LCP, AND DCPC CONSISTENCY REVIEW**

- F20. The project is consistent with municipal development bylaws
- F21. There are no DCPC implementing regulation applicable to the Project.
- F22. The Project is consistent with Commission-certified Bourne Local Comprehensive Plan (LCP). The first Waste Management Action listed, “Plan for long-term sustainable development of the

ISWM facility and its integrated approach to solid waste management, including potential operations utilizing innovative technologies that can manage materials beyond the closure of the landfill” is the mission of the Facility.

- F23. The substantial infrastructure that Bourne has invested in at the site demonstrates its commitment to the principle of an integrated approach, including its development of an innovative anaerobic digester and biogas/landfill gas powered electricity generating facility with a private vendor. The Facility is charged with the responsibility of implementing the LCP goal of recycling/composting 60% of solid waste by 2030.
- F24. The LCP discusses the Town’s efforts to maximize recycling and composting and to dispose of what cannot be recycled in an economical and environmentally sound manner. These efforts include expansion of recycling programs, improving enforcement of mandatory recycling, reducing the generation of solid waste, continued support of a household hazardous waste management program, and expansion of composting operations. The Facility, the Bourne DPW, and the Bourne Recycling Committee provide funding to support these goals.
- F25. The Applicant anticipates the following local reviews, actions, permits, licenses, and/or approvals for the Project: Site Assignment Approval from the Bourne Board of Health; and Site Plan Review by the Bourne Planning Board.

#### **CAPE COD REGIONAL POLICY PLAN CONSISTENCY REVIEW**

- F26. The following RPP Goals are applicable, material, and regionally significant and are thus subject to RPP consistency review: Water Resources, Wildlife and Plant Habitat, Open Space, Capital Facilities & Infrastructure, Waste Management, and Climate Mitigation. Commission staff make the following recommendations relative to the Project’s consistency with these RPP Goals and relevant Objectives and Technical Bulletin guidance.

##### ***Water Resources***

- F27. The Water Resources Goal of the RPP is to maintain a sustainable supply of high-quality untreated drinking water and protect, preserve, or restore the ecological integrity of Cape Cod’s fresh and marine surface water resources. The following Water Resources Objectives are applicable and material to the Project: protect and preserve groundwater quality (WR1); and manage and treat stormwater to protect and preserve water quality (WR4).
- F28. For prior phases of the Facility’s development, the Town has conducted hydrogeological investigations and modeling for areas down-gradient of the Facility in coordination with DEP and the Commission. The Town has also installed a network of groundwater monitoring wells upgradient and downgradient of the Facility to collect water quality data.
- F29. No private or public wells are located within 1000 feet of the Project Site and there are no downgradient wells. Installation of supply wells downgradient of the landfill is further prohibited by a Town of Bourne Board of Health Regulation, minimizing the potential for receptors that could be impacted by the landfill expansion activities.
- F30. Any new landfill areas will include a double-layer composite liner with interstitial leak detection. Landfill leachate and condensate will continue to be collected and treated.
- F31. The Project will involve the abandonment of two septic systems associated with the relocation of the operational facilities for Phases 7 and 8. The relocated facilities will have septic systems, but overall wastewater flows and associated nitrogen loading are not expected to change. The overall nitrogen loading at full buildout is expected to be well below 5 parts per million (ppm).
- F32. Proposed expansion of the landfill area in Phases 7 and 8 and relocation of operational facilities will create an additional 16-acres of impervious area. The stormwater management system

includes two (2) infiltration basins, a bioretention area, a series of drainage channels and water quality swales, and a network of catch basins and pipe conveyances. The system provides water quality treatment, total suspended solids (TSS) removal, and infiltration of stormwater. All Site stormwater is contained and managed on-site. Maintenance protocols for the stormwater management system are included in the Facility Operations and Maintenance Plan.

- F33. To be consistent with WR1, the Project must limit site-wide nitrogen loading concentration to a maximum of 5 ppm and must not have adverse impacts on downgradient existing or proposed drinking water wells. The site-wide nitrogen loading from the Project is well below the 5 ppm threshold and the comprehensive groundwater monitoring system, double-layer composite liner with interstitial leak detection, and lack of potential for public or private downgradient wells minimizes and mitigates adverse impacts of the development. Therefore, the Project is consistent with WR1.
- F34. The stormwater management systems have been designed to adequately manage the 25-year design storm and provide water quality treatment for at least the first 1-inch of stormwater runoff, as required by the Water Resources Technical Bulletin. In particular, the bioretention system is appropriately sited to provide water quality treatment to the largest and most heavily trafficked paved area on site. While a network of smaller distributed stormwater treatment structures is generally encouraged, given the layout and usage of the site as an active landfill, the Project is consistent with Objective WR4.

#### ***Wildlife and Plant Habitat***

- F35. The Wildlife and Plant Habitat Goal of the RPP is to protect, preserve, or restore wildlife and plant habitat to maintain the region's natural diversity. The following Wildlife and Plant Habitat Objectives are applicable and material to the Project: maintain existing plant and wildlife populations and species diversity (WPH1); restore degraded habitats through use of native plant communities (WPH2); manage invasive species (WPH4); and promote best management practices to protect wildlife and plant habitat from the adverse impacts of development (WPH5).
- F36. The 12-acre, undeveloped parcel is designated as NHESP Priority Habitat for the eastern box turtle and as NHESP BioMap2 Critical Natural Landscape. The Project Site is located within a potential public water supply area and contains prime farmland soils. The entire 12-acre, forested parcel is proposed to be cleared, including 2-3 specimen trees.
- F37. A 1.07-acre undeveloped portion of the 25-acre parcel will remain undeveloped and protected as eastern box turtle habitat.
- F38. The Town completed a Natural Resources Inventory of the undeveloped areas on the Project Site and provided details of proposed wildlife and plant habitat avoidance, minimization, and mitigation measures.
- F39. The Town identified best management practices to protect wildlife and plant habitat from the adverse impacts of development. The Town has minimized the Project's development footprint, clearing of vegetation, and alteration of topography and plans to protect vegetated buffers, particularly on the eastern edges of the parcels that abut Joint Base Cape Cod Upper Cape Water Supply Reserve and an Important Bird Area.
- F40. An adaptive invasive species management plan will be utilized to address the three species of invasive plants observed at the Project Site. Mechanical removal and on-site stockpiling of the invasive plant material will be the preferred method with monitoring and follow-up treatments performed, as needed, during subsequent years to maintain control and prevent spread of these species.

- F41. Although the entire 12-acre parcel is proposed to be cleared, the Town is proposing to protect 17.5-acres of offsite open space in a large, intact forest that will provide the same habitat functions as the parcel proposed to be developed. The Town has also provided details of proposed wildlife and plant habitat avoidance, minimization, and mitigation measures, consistent with WPH1.
- F42. To be consistent with Objective WPH2, projects should restore altered or degraded habitats where ecologically appropriate. At full build-out, there will be approximately 77-acres of minimally maintained grassy areas on the Project Site that that may provide some limited wildlife habitat, consistent with WPH2. As conditioned, the Applicant will establish and implement a plan to revegetate the site in consultation with Commission staff, and appropriate municipal and state departments, to improve its habitat value.
- F43. Where developments are proposed within mapped rare species habitat area, to be consistent with Objective WPH3, the Applicant should demonstrate that the development will not adversely affect rare species habitat. Comments from NHESP may be used to support a finding of consistency with this Objective.
- F44. NHESP has determined that the Phase 8 of the proposed expansion requires a Conservation and Management Permit (CMP). To be eligible for a CMP, the Town must demonstrate that the project, as proposed, would avoid, minimize, and mitigate impacts to the eastern box turtle, including an assessment of alternatives to temporary and permanent impacts to the species, demonstration that an insignificant portion of the local population would be impacted by the project, and agreement to carry out a conservation and management plan that provides a long-term net benefit to the conservation of the species. Net benefit may include on or offsite permanent habitat protection, management, or restoration of state-listed species habitat, and/or conservation research designed to benefit the species affected by a given project.
- F45. The Town is working with NHESP on the development of its CMP. The Town's proposed offsite open space is in the same Critical Natural Landscape block, should provide the same habitat functions as the parcel proposed to be developed and is contiguous to other protected open space, preserving wildlife corridors. As such, the offsite open space is likely to meet the requirements to demonstrate adequate mitigation to address the impacts to rare species.
- F46. Three invasive plant species were observed on the Project Site in the NRI. Based on the invasive species management plan and methods identified in the NRI, consistent with Objective WPH4.
- F47. The Town proposes to implement measures to control erosion and sedimentation in accordance with state and local permit conditions, perform pre-clearing and pre-construction monitoring for box turtles, and follow all box turtle protection measures identified through the NHESP review and CMP process. The NRI identifies best management practices to protect wildlife and plant habitat from the adverse impacts of development, consistent with WPH5.

### ***Open Space***

- F48. The Open Space Goal of the RPP is to conserve, preserve, or enhance a network of open space that contributes to the region's natural and community resources and systems. The following Open Space Objectives are applicable and material to the Project: protect and preserve natural, cultural, and recreational resources (OS1); and protect or provide open space appropriate to context (OS3).
- F49. The portion of the Project Site within the Military and Transportation Placetype has been fully developed for solid waste disposal and handling operations and no buffer land or mapped box turtle habitat within this portion of the Site is proposed to be developed. Therefore, no open space mitigation is required for this portion of the Project.

- F50. Projects in Natural Areas are required to provide high-quality open space onsite or in a Natural Area offsite in a ratio of 3:1. For NHESP, a 1.5:1 mitigation ratio applies for projects affecting species of special concern. For the currently undeveloped 12-acre parcel, the Town's proposal is not in literal compliance with the Commission's open space requirements. Therefore, the Town has requested a waiver from its open space requirement.
- F51. The Town provided an open space narrative with a proposed method of permanent open space protection including identification of proposed onsite and offsite open space parcels and a conservation partner in accordance with the Commission's Open Space Technical Bulletin. The Town proposes to protect 1.07 acres onsite and 17.5 acres offsite of high value natural resource area, to be placed in permanent Conservation Restriction ("CR") to be held by the Bourne Conservation Commission. The Town's proposed offsite open space is in the same Critical Natural Landscape block and should provide the same habitat functions as the parcel proposed to be developed (i.e., large, intact forest within NHESP mapped habitat). In addition, it is within the same potential public water supply area. Staff also notes the proposed open space is contiguous to other protected open space and will preserve wildlife corridors.
- F52. Projects in Natural Areas are required to provide high-quality open space onsite or in a Natural Area offsite in a ratio of 3:1. The Area of Development Impact for this Project is 12 acres, which would require the Town to provide 36 acres of open space to be consistent with Objective OS3. The Town proposes to protect 1.07 acres onsite and 17.5 acres high value natural resource area offsite, to be placed in permanent Conservation Restriction (CR) to be held by the Bourne Conservation Commission. Because the proposed 18.57-acres does not meet the full requirements of the Open Space Technical Bulletin, the Town has requested a waiver from full and literal consistency with open space requirement.
- F53. When special circumstances warrant, and upon the request of an applicant, the Commission may waive full and literal compliance or consistency with any specific RPP goal or objective applicable to a project, and otherwise allow a project to meet such goal or objective to the maximum extent feasible, provided the applicant demonstrates that: (1) such waiver will not result in substantial detriment to or substantial derogation from the purposes and values intended to be protected or promoted by such goal or objective; (2) that the intent of the goal or objective will be met through some alternate approach, including appropriate mitigation; and (3) that the waiver is necessary to fulfill, protect or promote another compelling regional purpose, goal, objective or value from the Act or RPP that could not be achieved without such waiver.
- F54. The parcels that have been identified for off-site open space will be protected as open space under Article 97, which provides the highest level of protection for conservation land in Massachusetts and will be controlled in perpetuity by the Bourne Conservation Commission. The parcels are abutted to the north and south by a combined 37.53 acres of similar habitat already owned and protected by the Town, which would create a contiguous Town controlled protected habitat corridor of approximately 54.83 acres. This corridor is also abutted by similar land to the east on Joint Base Cape Cod. Therefore, even with this waiver, the Town is still providing a net gain in protected habitat through off-site mitigation.
- F55. On April 21, 2021, the Commission received correspondence from the Bourne Conservation Commission indicating that the Bourne Integrated Solid Waste Management Department requested assistance to find suitable land to meet the Commission's Open Space requirements. A review of existing land in Bourne was undertaken and it revealed no suitable parcels which met these requirements. The correspondence further indicated that the Conservation Commission supports the Applicant's waiver request.

- F56. While it would not directly meet open space requirements, the Applicant's commitment to preserve the Project Site as wildlife habitat, with possible other compatible uses on the capped landfill area (e.g., solar photovoltaics, public recreation) supports the Town's waiver request. Although not pristine, closed landfills can be managed and maintained to provide beneficial native plant, insect, bird, and other wildlife (including box turtle) habitat, while still meeting site closure requirements. The United States Environmental Protection Agency has several resources related to reuses of landfills, including revegetating with beneficial native plants. A suitable vegetative cover that meets capping requirements while supporting functioning and sustainable habitat will provide significant benefits – improving soil health, supporting diverse vegetation, sequestering carbon, and protecting surface water and groundwater – in addition to providing habitat and, as practicable, recreation or other compatible opportunities.
- F57. As conditioned, as areas of the facility are capped with a final cover system, the Applicant will establish and implement a plan to revegetate the site in consultation with Commission staff, and appropriate municipal and state departments that will result in 77 additional acres of open space.
- F58. Because the Facility serves as important solid waste infrastructure for the Town of Bourne, the Cape Cod region, and southeastern Massachusetts, waiver of literal consistency is necessary to fulfill other regional goals relative to Capital Facilities & Infrastructure and Waste Management.

#### ***Capital Facilities & Infrastructure***

- F59. The Capital Facilities & Infrastructure Goal of the RPP is to guide the development of capital facilities and infrastructure necessary to meet the region's needs while protecting regional resources. The following Capital Facilities & Infrastructure Objectives are applicable and material to the Project: ensure capital facilities and infrastructure promote long-term sustainability and resiliency (CAP1); and coordinate the siting of capital facilities and infrastructure to enhance the efficient provision of services and facilities that respond to the needs of the region (CAP2).
- F60. The Facility serves as important solid waste infrastructure for the town of Bourne, the Cape Cod region, and southeastern Massachusetts. It is the last remaining operating municipal solid waste landfill on Cape Cod. To be consistent with Objective CAP1, projects should locate infrastructure out of flood-prone or high hazard areas and support compact land use patterns. The combination of Phase 7, Phase 8, and Phase 9 will ensure that the Facility can continue to provide important landfill capacity to the region into the late 2030s or early 2040s. This proposal presents the maximize utilization of the Facility at the existing Project Site, which is not located in a flood-prone or high hazard area.
- F61. Landfill capacity projections from the latest DEP Solid Waste Master Plan indicate a significant reduction in the amount of landfill disposal capacity in Massachusetts in 2021 and more significant reductions in 2025 and 2030. These projections demonstrate the importance of this Project in responding to the needs of the region.

#### ***Waste Management***

- F62. The Waste Management Goal of the RPP is to promote a sustainable solid waste management system for the region that protects public health, safety, and the environment and supports the economy. The following Waste Management Objectives are applicable and material to the Project: reduce waste and waste disposal by promoting waste diversion and other Zero Waste initiatives (WM1); and support an integrated solid waste management system (WM2).
- F63. The Facility manages solid waste using an integrated solid waste management system that includes waste reduction, recycling, and composting and meets a regional need for the processing and disposal of wastes on Cape Cod. The Facility currently manages:



- a. municipal solid waste and municipal waste combustor ash;
  - b. commercial waste;
  - c. a residential recycling center that accepts materials from neighboring communities, including mattresses for recycling under a DEP grant program;
  - d. a construction and demolition debris transfer station;
  - e. a single-stream recyclables transfer station open to commercial haulers;
  - f. composting;
  - g. asphalt, brick, and concrete recycling; and
  - h. acceptance of contaminated soils, dredge spoils, storm/ disaster debris, and Difficult to Manage waste.
- F64. The Facility built an expanded residential recycling center in 2011 and opened access to residential traffic from other towns on a pay by weight basis. The Facility has also participated extensively in regional solid waste management planning discussions and is actively exploring options for technologies that will provide services beyond the life of the landfill.
- F65. The Facility provides composting and has furthered regional cooperation on Zero Waste initiatives. Specifically, the Facility was the first host for the regional mattress recycling grant from DEP and is the lead town in organizing a latex paint collection event each summer. The facility further supports these efforts by advocating for Extended Producer Responsibility (EPR) programs for both mattresses and paint as is done in neighboring states.

***Climate Mitigation***

- F66. The Climate Mitigation Goal of the RPP is to support, advance and contribute as a region to the Commonwealth's interim and long-term greenhouse gas reduction goals and initiatives, including a state-wide net zero carbon target by 2050. The following Climate Mitigation Objectives are applicable and material to the Project:
- a. promote carbon sequestration and other emissions removal practices and technologies as appropriate to context (CM3); and
  - b. promote low or no carbon energy generation technologies as appropriate to context (CM4).
- F67. The Climate Mitigation Goal is intended to support the advancement of the region's climate change mitigation and adaptation actions. The Technical Bulletin states that it is meant to support, and be supported by, the other goals within the RPP.
- F68. The Facility is regional infrastructure that serves a critical role in managing the region's waste. While it is not a long-term solution for regional waste management, it is essential until the region can transition to higher recycling rates, composting, and a Zero-Waste system. It is sensible and efficient to make use of and expand the existing facility where resources and infrastructure are already in place, provided that regional resources can be protected.
- F69. Objective CM3 promotes carbon sequestration and other emissions removal practices as a tool toward reducing GHGs. The Technical Bulletin allows an applicant to provide a GHG inventory of a project's emissions, but does not require such an analysis. In lieu of this method, the Applicant provided details of efforts to capture and reduce GHGs at the Facility. The Applicant indicated that existing landfill gas collection is designed to capture and reuse 95% of gas emissions, and this rate will be maintained under new conditions. The Project will be protecting land to meet the open space requirements; these permanently protected lands will help offset GHGs, in addition to meeting the open space requirements of the RPP.
- F70. Approximately 86 percent of its annual tonnage is in the form of municipal combustor ash, which does not produce gases. The Town's 10-year contract to accept municipal combustor ash will terminate at the end of 2021. The Town intends to extend the contract and to continue

accepting up to 189,000 tons per year of municipal combustor ash and 30,000 tons per year of biodegradable municipal solid waste from Bourne and Falmouth.

- F71. The Facility currently has a flare as the primary pollution control device for mitigating emissions of landfill gases to the environment. The secondary air emissions from the flaring of landfill gases are subject to DEP permit conditions.
- F72. The Facility covers the landfill daily, utilizes intermediate cover where appropriate, caps sections of the landfill as soon as possible when they reach final grade and installs horizontal and vertical landfill gas collection systems in the active landfill as necessary to control emissions and direct gas to the flare for destruction. The Facility also files an annual greenhouse gas inventory with DEP that documents these efforts.
- F73. Several other measures will continue to be explored to further GHG emissions, including recovering thermal energy; vertical axis wind turbines; use of compressed natural gas for trucks; and regional composting.
- F74. The landfill is a good long-term candidate for solar photovoltaics once capped and closed, provided soils are stabilized and native vegetation is planted.

## **REGIONAL BENEFITS/DETRIMENTS**

### ***Probable Benefits***

- The Project will maintain the infrastructure to support solid waste management functions on Cape Cod until 2040
- The facility has a history of safe operations
- Current and future landfill phases use a double-layer composite liner with interstitial leak detection
- Managing solid waste locally prevents the need to transport additional waste out-of-state, which avoids the GHG emissions associated with that out-of-state transportation
- Bourne ISWM has demonstrated willingness to incorporate new technologies as they become available

### ***Probable Detriments***

- Twelve acres of land will be cleared for facilities relocation
- The Project will include a take of eastern box turtle habitat

## **CONCLUSION**

Based on the Findings above and subject to the Conditions set out below, the Commission further determines, finds, and concludes that: the Project is consistent with the 2018 Cape Cod Regional Policy Plan, applicable provisions from the Bourne LCP, and applicable municipal development bylaws; the probable benefit of the Project is greater than the probable detriment; and the Commission hereby grants DRI approval for the Bourne Integrated Solid Waste Management Facility: Phases 7, 8, and 9 described herein.

## **CONDITIONS**

- C1. This Decision shall be final when the appeal period set out in Section 17 of the Cape Cod Commission Act has elapsed without appeal (or if such an appeal has been filed, when the appeal has been finally settled, dismissed, adjudicated, or otherwise disposed of in favor of the Applicant). Thereafter, this Decision shall be valid and in effect, and local development permits may be issued pursuant hereto for a period of seven years from the date of this Decision, or for such extended period as may be permitted by the Commission.

- C2. A copy of the Decision, when final and prior to commencement of the Project, shall be filed with the Barnstable County Registry of Deeds.
- C3. This Decision shall be appurtenant to and run with the Property. The Decision shall bind and be enforceable against, and inure to the benefit of, the Applicant, its heirs, successors, and assigns.
- C4. The Applicant shall obtain all required federal, state, and local permits, licenses, and approvals for the Project.
- C5. The Project shall be undertaken, operated, and maintained consistent with the following documents (“Approved Project Plans”). Plans, protocols, and other documents required to be submitted as Conditions of this Decision shall be treated as incorporated into the Approved Project Plans once received, reviewed, and determined consistent with this Decision by Commission staff.
- Stormwater Management Plan, Full Buildout Landfill Expansion, prepared by SITEC Environmental, dated April 15, 2021
- C6. Prior to and as a condition to the issuance of a Certificate of Compliance for Phase 8, the Applicant must restrict the following 18.87 acres +/- for conservation purposes in perpetuity in accordance with the relevant provisions of MGL Chapter 184 Sections 31 through 33:
- C6A. The 17.8-acre +/- parcel off of Route 28 (identified on Bourne Assessor’s Map 52 Parcel 41);
- C6B. The 1.07-acre +/- undisturbed habitat area on the eastern side of the Project Site, as show on the following plan: “Bourne Integrated Solid Waste Management Facility, NRI Figure 1 – Acreage of Disturbance”, prepared by SITEC Environmental, dated March 30, 2021.
- C7. Upon issuance of a DEP Authorization to Operate for each phase of the proposed landfill expansion, the Applicant shall apply for and obtain a Certificate of Compliance for the Project from the Commission. Issuance of the Certificate of Compliance is contingent on Commission staff review and confirmation that the Project has been undertaken in accordance with this Decision. As part of its review, Commission staff may make, and the Applicant hereby authorizes, site inspections upon reasonable notice to the Applicant, as such visits are needed.
- C8. Upon issuance of a final, NHESP-approved Conservation and Management Permit (CMP), the Applicant shall provide a copy of the CMP to the Commission.
- C8A. Upon issuance of the CMP, the Applicant shall provide the revegetation plan required under Condition C9 to Commission staff for review and approval.
- C8B. Prior to and as a condition to the issuance of a Certificate of Compliance for Phase 8, the Applicant must provide the final CMP and a Commission-staff approved revegetation plan to the Commission.
- C9. To meet the Open Space requirement under this Decision, the Applicant shall establish and implement a plan to revegetate the portions of the Site that are capped with a final cover system in consultation with Commission staff, and appropriate municipal and state departments.
- C10. To the extent that the Applicant has control of the area of the Property along MacArthur Boulevard, the Applicant shall maintain the existing 230-foot-wide vegetated area along MacArthur Boulevard to screen the Facility from the roadway, supplementing this vegetated area with evergreen and deciduous trees if necessary.