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CAPE COD COMMISSION

Cape Cod Commission Staff Report
Development of Regional Impact (DRI) Review

Date:	March 3, 2023
Project:	New England Wind 1 Connector (f/k/a Vineyard Wind 2) Cape Cod Commission File No. 22005
Project Applicant:	Park City Wind, LLC 125 High Street, 6th Floor Boston, MA 02110
Project Location:	Town of Barnstable
Subcommittee:	Fred Chirigotis (Chair), Richard Roy, Kevin Grunwald, Tom Wilson, Harold Mitchell

Project Description and Context

Park City Wind, LLC ("Applicant") proposes development of the substation and transmission infrastructure necessary to deliver approximately 800 MW of offshore wind power generated in federal waters to the ISO-New England regional power grid. Components of the Project located within Barnstable County include:

- installation of two export cables through approximately 6.9 miles of state waters within Barnstable County;
- approximately 4.0 miles of buried duct bank and export cables, primarily proposed in public roadway layouts from the landfall site to the proposed substation;
- a new substation located at 6 and 8 Shootflying Hill Road in the Town of Barnstable;
- approximately 0.7 miles of buried duct bank and export cables primarily proposed in existing utility right-of-way (ROW) in the Town of Barnstable from the proposed substation to the West Barnstable Substation (grid interconnection route); and

- new equipment at the existing West Barnstable Substation on Oak Street to facilitate the Project's interconnection to the electrical grid (collectively, the "Project").

The wind turbine array associated with the Project is located in federal waters outside the jurisdiction of the Cape Cod Commission ("Commission"). Electricity generated by the wind turbine array will be transported to the existing land-based transmission system via two new 275 kV three-core AC offshore transmission cable systems that will travel north from the wind turbine array and make landfall on the Cape Cod mainland at Craigville Beach in Barnstable.

The offshore cables will connect to the onshore cables at the landfall site. All onshore cables will be contained within a buried concrete duct bank. The cable route will follow existing rights of way, primarily through the village of Centerville. The onshore substation site is an approximately 6.7-acre privately-owned parcel at 8 Shootflying Hill Road in Barnstable, which is currently occupied by the Knight's Inn motel.

DRI Jurisdiction

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 November 2021, 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").

Procedural History

- The Project required a mandatory Environmental Impact Report under MEPA due to the project altering ten or more acres of wetlands (land under the ocean [LUO]) and involving construction of electric transmission lines with a capacity of 230 or more kV. The Project received its certificate on its Final Environmental Impact Report ("FEIR") stating that the project properly and fully complies with MEPA on January 28, 2022.
- A staff hearing officer opened the DRI hearing period procedurally on March 14, 2022. The Applicant submitted a DRI application for the Project to the Commission on June 10, 2022. The Applicant and Commission twice mutually agreed to extend the hearing period, through March 10, 2023. Another extension will be needed.
- The Applicant and the Town of Barnstable entered into a Host Community Agreement ("HCA"), which was authorized by vote and resolution of the Town Council and executed in May 2022.

DRI Review Standards

- 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.
- 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.

Cape Cod Regional Policy Plan

Applicable and Material RPP Goals

Commission staff reviewed the details of the DRI Application Materials and suggest that the following RPP Goals are applicable, material, and regionally significant and are thus subject to RPP consistency review: Community Design, Cultural Heritage, Transportation, Water Resources, Ocean Resources, Wetland Resources, Wildlife and Plant Habitat, Open Space, Coastal Resiliency, Capital Facilities and Infrastructure, and Energy.[1] Commission staff make the following recommendations relative to the Project's consistency with these RPP Goals and relevant Objectives and Technical Bulletin guidance.

Community Design

The Community Design Goal of the RPP is to protect and enhance the unique character of the region's built and natural environment based on the local context.

The following Objective is applicable and material to the Project:

- **CD1**—promote context sensitive building and site design

Consistency with Objective CD1 can be achieved through the use of regionally appropriate forms and materials and providing appropriate landscaping. Staff suggest that the Project is generally consistent with CD1 in that the visibility will be limited; however, details of

[1] Appendix A of the Energy Technical Bulletin addresses standards for the review of Wind Energy Conversion Facilities (WECFs). As the WECFs themselves are within federal waters and outside of the jurisdiction of the Cape Cod Commission, these are not applicable to the Project. The review is limited to only the onshore infrastructure and cables within the waters of Barnstable County.

landscaping and fencing should be provided for purposes of evaluating the Project for consistency with CD1.

The Applicant submitted a visual assessment and photo-simulations that illustrate the visibility of the proposed substation off Shootflying Hill Road. The visual assessment shows how the substation will be visible from the adjacent streetscape, and how some parts of the substation, likely the mast poles, will also be visible from the southwestern shores of Lake Wequaquet, though at that distance they are unlikely to have significant visual impacts. The tall mast poles will be most visible due to their height, but their narrow profile will limit their visual impact on surrounding areas, especially when viewed from a distance. While the proposed substation will be visible from some public areas such as Route 6 and the Barnstable Rest Area/Park and Ride facility, the lower ground height and solid sound wall of the substation will limit the height and visibility of the substation equipment and the north side of the substation will be partially screened by vegetated plantings.

Staff note a discrepancy between the landscape plans and the photo-simulations. Specifically, the trees shown in the photo-simulations appear to all be the same, but the proposed landscape plan shows two different species of planting (Juniper and Holly) in evenly spaced, alternating rows along the edge of Shootflying Hill Road. The consistent spacing and arrangement provides a very narrow screen and looks unnatural in comparison to the surrounding wooded areas. Staff suggests a mix of species planted in more natural groupings along Shootflying Hill Road would create a more effective landscape screen. Staff suggest the Applicant amend the landscape plan to address this.

The proposed "slatted fence" noted on north side of the substation (along Shootflying Hill Road) will be highly visible until the proposed plantings have reached maturity. Staff suggest that the Applicant provide a clearer description of the materials and colors proposed for this fence to ensure consistency with CD1.

Cultural Heritage

The Cultural Heritage Goal of the RPP is to protect and preserve the significant cultural, historic, and archaeological values and resources of Cape Cod.

The following Objectives are applicable and material to the Project:

- **CH1**—protect and preserve forms, layouts, scale, massing, and key character defining features of historic resources, including traditional development patterns of villages and neighborhoods
- **CH2**—protect and preserve archaeological resources and assets from alteration or relocation

Objective CH1

To be consistent with Objective CH1, applicants should identify historic resources that may be impacted by a proposed project and commit to protecting those resources. Projects can also show consistency with CH1 by preserving character-defining features of historic areas to maintain the integrity of the resource. Staff suggest the Project is generally consistent with Objective CH1 as the Project proposes to use best practices for construction in historic areas; however, staff suggests that vibration levels be limited and monitored during construction and that the Applicant commit to repairing any damage found in the post-construction survey for purposes of protecting historic resources consistent with CD1.

The preferred route of the underground cable vault for the New England Wind project passes through the Centerville National Register Historic District, an area that was listed on the National Register of Historic Places in 1987. In a submittal dated October 2, 2022, the proponent identified two historic buildings in the district within 20 feet of the road pavement.

As the exact location of duct banks will depend on other constraints such as the location of new and existing infrastructure such as sewer, water, and gas, the Applicant has submitted a Construction Impact Mitigation Plan where the Applicant commits to protections for historic buildings along the entire route within the Centerville Historic District. Specifically, the proponent commits to pre- and post-construction surveys by a qualified architect or structural engineer to determine baseline conditions and provide a damage assessment if any changes occur during construction. In addition, the proponent will require certain construction techniques to limit vibrations that could cause damage to historic structures. Vibratory rollers will be used only in non-vibratory modes within the Centerville Historic District, and the fill materials used will not require vibration for compacting. The Applicant also commits to considering historic structures when locating the duct bank, trench boxes, and equipment loading/unloading areas as part of the final engineering design.

Staff suggest these proposed methods are consistent with best practices for construction in historic areas, and with Objective CH1, provided that vibration monitoring during construction be included to ensure vibration levels caused by other equipment do not exceed 0.2, which is commonly used as a threshold to prevent damage in historic resource areas. Staff further suggest that for purposes of protecting historic resources consistent with CD1, the Applicant should clarify that they commit to repairing any damage found in the post-construction survey.

Objective CH2

To be consistent with Objective CH2, Applicants should site new development away from significant archaeological sites, so they are not disturbed. Provided that the Massachusetts Historical Commission ("MHC") approves the Applicant's proposed Unanticipated Discoveries Protocol, staff suggest the Project is consistent Objective CD2 as the Applicant has investigated areas of archeological sensitivity and will appropriately address archaeological resources if discovered during construction.

An archaeological survey of sensitive areas was completed by the Applicant's consultant, PAL Inc., under direction from MHC. Areas of moderate and high archaeological sensitivity were identified within the project impact area and were further investigated by the consultant in 2021. None of the sites investigated were found to have significant cultural resources or to be potentially eligible for the National Register of Historic Places. While MHC did not request that the Project avoid these sites, MHC did request a Post-Review Discoveries protocol and archaeological monitoring to address any archaeological resources that might be revealed during project construction. The Applicant's consultant prepared "Procedures Guiding Discovery of Unanticipated Archaeological Resources and Human Remains" (revised August 2022) and submitted it for MHC review. Assuming MHC's approval of the procedures, Commission staff suggest the proposed actions are consistent with Objective CH2.

***Transportatio*n**

The Transportation Goal of the RPP is to provide and promote a safe, reliable, and multi-modal transportation system.

The following Objective is applicable and material to the Project:

- **TR1**—improve safety and eliminate hazards for all users of Cape Cod's transportation system

The methods to achieve consistency with Objective TR1 include applying good access management principles in site and driveway design and providing acceptable sight distance. Staff suggest, consistent with these methods, any decision should be conditioned to require that the site driveway access points at the transmission substation should be designed, constructed and maintained to provide adequate sight lines along Shootflying Hill Road. Commission staff further suggest that the Applicant should continue to focus on safety and minimizing impacts to the traveling public as it develops final Traffic Management Plans ("TMP") and the Project implementation schedule, consistent with Objective TR1.

Temporary construction impacts associated with the offshore cable installation will be mitigated with TMPs developed by the Applicant and approved by state and local officials

for the affected roadways. Draft TMPs for the Route 28/Old Stage Road intersection are provided in Attachment D of the Application, along with several typical TMPs. TMPs will be finalized through coordination with the Town of Barnstable and MassDOT to avoid and minimize temporary traffic-related impacts, and to avoid any regional impacts during construction.

Directional drilling will be used as part of the duct bank installation under Route 6 (Mid-Cape Highway) to minimize traffic impacts, as well as micro tunneling is planned to be used for the Centerville River crossing adjacent to the existing bridge structure.

New England Wind intends to work simultaneously on two segments at a time with approximately 80 - 200 feet completed per day. For the majority of the route, lane or road closures are necessary for the cable installation. The lane and road closures will be managed by police details and other appropriate traffic management measures to maintain traffic flow, and traffic management should continue to be coordinated with Town or MassDOT officials. Work will be limited to daytime hours with limited nighttime work on an as needed basis, such as on a busy roadway like Route 28. In addition, work will generally adhere to the typical summer shutdown on construction activities on Cape Cod.

Water Resources

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 Objectives are applicable and material to the Project:

- **WR1**—protect and preserve groundwater quality
- **WR2**—protect, preserve, and restore freshwater resources
- **WR4**—manage and treat stormwater to protect and preserve water quality

The Project is located within areas mapped by the Commission for:

- Wellhead Protection (Barnstable Fire District)
- Freshwater Recharge (Garretts Pond – W. Barnstable substation)
- Marine Water Recharge Area (Barnstable Harbor)

The proposed preferred transmission cable route runs through areas mapped by the Commission for Wellhead Protection, Freshwater Recharge Area (FWRA), Marine Water Recharge Area (MWRA), and are adjacent to Potential Water Supply. Staff note that the water resource considerations will largely be limited to the construction phase. Commission staff have looked at the likely impacts from these activities and determined that proper management during and after construction should be sufficient to mitigate these potential impacts. There are no ongoing impacts or risks to ground water from the export cables after installation.

Objective WR1

To be consistent with Objective WR1, the Project must employ methods to protect groundwater. Staff suggest the Project is consistent with the methods for Objective WR1 related to site-wide nitrogen loading as it is calculated to be 0.15 ppm, which is less than the 1 ppm standard set by the Cape Cod Commission and lower than the previous use. With appropriate conditions related to approvals of plans and documents prior to construction of the substation, detailed later in this report, staff also suggest that the Project would be consistent with the methods for Objective WR1 related to hazardous materials.

Objective WR2

To be consistent with Objective WR2, the Project must employ methods to protect freshwater resources. The methods for meeting Objective WR2 include requiring new development to prevent loading of nutrients and other contaminants to freshwater resources. The impacts to the freshwater resource, Garrett's Pond, cannot be assessed as details about the modification of the West Barnstable substation are not yet available from Eversource. Staff suggest the Project may be consistent, subject to conditions requiring the Applicant to provide for review and approval, engineering design, details, and stormwater management details of the West Barnstable substation expansion and the Operation and Maintenance (O&M) Plans for the proposed stormwater treatments and the Petro-barrier film.

Objective WR4

To be consistent with Objective WR4, the Project must employ methods to manage and treat stormwater. Staff suggest the Project is consistent with WR4, as the Project meets requirements to capture, treat, and infiltrate stormwater runoff on site. The Project will result in an approximately 0.4-acre net decrease of impervious area. The proposed stormwater conveyances, pretreatment, and recharge BMPs will result in improved groundwater recharge, decreased total and peak runoff rates, and improved post-development hydrology at the site.

For purposes of consistency with WR4, staff suggest that any Decision should include conditions requiring the Applicant to provide: (1) a stormwater maintenance and operation plan detailing inspection, monitoring and maintenance schedules, and identify the party responsible for implementation and (2) a Professional Engineer certified letter that details inspection of the stormwater treatment systems one-year post-construction and certifies the systems were installed and continue to function as designed and approved.

Ocean Resources

The Ocean Resources Goal is to protect, preserve, or restore the quality and natural values and functions of ocean resources.

The following Objectives are applicable and material to the Project:

- **OR1** – locate development away from sensitive resource areas and habitats
- **OR2** – preserve and protect ocean habitat and the species it supports
- **OR3** – protect significant human use area and vistas

While the Project proposes to install two offshore export cables that will result in alterations to the seafloor within Cape Cod's ocean environment, the Applicant has made route, design, and construction choices and adjustments through the MEPA and other State review processes that should serve to minimize impacts to ocean resources, as detailed below.

Objective OR1

Methods to meet Objective OR1 include siting development away from rare species habitat and siting development away from mapped exclusionary areas. Staff suggest the Project is consistent with OR1 as the offshore export cables are not located within designated prohibited areas for ocean species or exclusionary areas as identified in the Cape Cod Ocean Management Plan. The Applicant is working with the relevant state and federal agencies to identify Best Management Practices (BMPs) including time-of-year (TOY) and speed restrictions to avoid, minimize, or mitigate potential impacts to rare and sensitive species and their habitats that are proximate to or in the Project area.

While portions of the offshore export cables are located within rare species and suitable shellfish habitat areas, installation of the cables by Horizontal Directional Drilling ("HDD") from the landfall site out to approximately 1,000 to 1,200 feet from shore (with installation depth of approximately 40 feet below the ground surface at mean high water) will avoid or minimize impacts to piping plovers and other rare birds and other sensitive nearshore resource areas including eelgrass beds, areas of hard bottom, and most of a mapped suitable shellfish habitat area; however, depending on final HDD design, approximately 200 linear feet of shellfish habitat may be impacted. The Applicant has consulted with Massachusetts Office of Coastal Zone Management (CZM), Division of Marine Fisheries (DMF), Department of Environmental Protection (MassDEP), and Natural Heritage and Endangered Species Program (NHESP), as well as relevant federal agencies, to identify Best Management Practices (BMPs) including time-of-year (TOY) and speed restrictions to avoid, minimize, or mitigate potential impacts to marine mammals, fish, shellfish, sea turtles, sea ducks, and shorebirds and their habitats. The Applicant is also consulting with these and

other relevant agencies on appropriate Fisheries Studies, and Piping Plover Protection, Benthic Monitoring, and Fisheries Communication Plans.

Objective OR2

To achieve consistency with Objective OR2 Projects must protect whales, rare species, eelgrass, benthic habitats, fish, sea turtles, waterbirds, ducks, and mammals through avoidance measures such as construction timing and vessel speed restrictions. Additional methods to demonstrate consistency with this Objective include mitigating construction noise, coordinating conduit crossings, or demonstrating a public purpose. As noted above, use of HDD will avoid impacts to eelgrass. The Project area avoids Core Habitat for whales and is within Core Habitat for sea ducks. Staff suggest the Project is consistent with OR2 as the potential impact to sensitive species within Barnstable County waters is very limited due to the temporary nature of cable installation activities and the very slow speed (less than one knot per hour) of cable laying operations. In addition, noise impacts are not anticipated from the offshore export cable installation portion of the Project given that noise from associated vessel traffic is likely to be similar to background vessel traffic noise. Staff further suggest that, consistent with OR2, the Project furthers a substantial public purpose as it will deliver approximately 800 MW of offshore wind to the ISO-New England regional power grid. This renewable energy will replace fossil fuel energy and support regional climate goals.

The Applicant has coordinated the route of the offshore export cable with existing cable routes to minimize harm to the environment. The offshore export cable corridor ("OECC") where the two offshore export cables are proposed to be installed was evaluated and approved for the Vineyard Wind Connector and remains largely the same for the proposed Project. Since the cables from the Vineyard Wind Connector will already be installed within the OECC two to three years prior to the New England Wind I Connector cable installation, this widening is expected to enhance the Applicant's ability to micro-site the New England Wind I Connector cables. Staff note, the majority of the OECC will remain unaffected by cable installation as the direct trenching disturbance for each of the cables is only anticipated to be approximately 3.3 feet wide.

The Applicant proposes to implement appropriate cable installation methodologies and construction practices to minimize cumulative impacts to ocean resources. From the ocean floor exit point of the HDD-installed section of cable, the remaining offshore export cable will be installed primarily using simultaneous lay-and-bury via jet-plow; however, the Applicant indicates other methods (e.g., mechanical plow, mechanical trenching) may be required in areas of hard bottom or other challenging conditions. The Applicant also identifies other installation methodologies (shallow-water cable installation vehicle, pre-pass jetting, pre-trenching, pre-lay plow, boulder relocation, precision installation, and

jetting) that may be used in specialized situations. In places, offshore cable installation may also require sand wave dredging, anchoring, and cable protection. A pre-lay survey will be conducted to identify any new obstructions that were not previously observed within the cable route and inform any additional micro-siting alterations to the intended cable alignment before installation. A pre-lay grapnel run will take place to provide clearance for installation and sand wave dredging.

The cables will have a target burial depth of 5 to 8 feet below stable seabed. Once the equipment moves on, sediment will naturally settle out of suspension, backfilling the narrow trench. In cases where adequate burial depth is not possible due to subsurface conditions, cable protection may be necessary.[2] The Applicant intends to avoid or minimize the need for cable protection to the greatest extent feasible through site assessment and selection of the most appropriate cable installation tool to achieve sufficient burial.

Approximately two miles (31,000 cubic yards) of sand wave dredging is anticipated within a stretch of the OECC close to federal waters. Sand waves are dynamic features that generally do not enable the formation of complex benthic communities. According to the Applicant, sand wave dredging, if performed, would not occur along the entire two-mile stretch but only to remove tops of sand waves as needed during construction to ensure sufficient burial within the stable seabed. Proposed methods for sand wave dredging include trailer suction hopper dredge which uses suction to remove material, deposit it in a hopper, and release it elsewhere in the OECC that also contains sand waves, or jetting by controlled flow excavation which uses a pressurized stream of water to push sediments to the side.

Post-construction surveys will be conducted to inspect cable depth of burial and conduct as-built cable surveys. The Applicant is developing a Benthic Habitat Monitoring Plan for the Project in consultation with state and federal agencies intended to document habitat and benthic community disturbance and recovery following construction.

Given the proposed offshore cable installation methodologies, narrow trench widths, target burial depths, and anticipated minimal need for cable protection, the post-construction impacts from cable installation on benthic habitats are anticipated to be temporary and minor. Taking into consideration Project impacts in conjunction with other ocean-based development in this area together with design considerations, construction practices, and mitigation actions proposed by the Applicant, it is unlikely that the cumulative impacts of

[2] Applicant estimates that, though unlikely, approximately 0.2-0.6 acres may require cable protection. Proposed methods for cable protection include rock placement, gabion rock bags, concrete mattress, and half-shell pipes.

development will degrade ocean habitats and human use areas within the Project area post-construction.

Objective OR3

To achieve consistency with OR3 Projects must provide buffers to navigation, protect commercial and recreational activities, and be sited to avoid sensitive archaeological, cultural, historic, and scenic resources. Staff suggest the Project is consistent with OR3, it will maintain a safety zone to be determined with the United States Coast Guard, it will not result in restrictions to vessel transit or fishing in the Project area, and it will avoiding or mitigate potential adverse effects to significant cultural resources.

Other than temporary and limited restrictions in the safety zone, the Project will not result in restrictions to vessel transit or fishing in the Project area. Impacts to commercial fisheries will be further mitigated by ongoing communications via the Fisheries Communication Plan (FCP) and the use of Fisheries Liaisons and Fisheries Representatives. According to the application, there will be a maximum of approximately six vessels used during cable installation, and construction will proceed in a single phase. Vessels will be used for route clearance, cable-laying and burial, and installation of cable protection. In addition, a guard vessel may be used to monitor vessel activity around the construction area and a crew transfer vessel may be used to transport crew and supplies between shore and the installation vessels.

The Applicant conducted a marine archaeological assessment that will assist in avoiding and mitigating potential adverse effects to significant cultural resources resulting from the Project. According to the Applicant, archaeological investigations of the OECC have recovered no pre-Contact Native American cultural materials to date. While the geoarchaeological analysis of geophysical and geotechnical data indicate there are ancient stream channel, lake, pond, and estuarine landscape features within the Project area that may have the potential to contain archaeological materials, together, the geophysical and geotechnical investigation indicate that there is little potential for submerged cultural resources. Any unanticipated discoveries of cultural resources would be managed in accordance with an unanticipated discoveries plan that will be developed in consultation with Massachusetts Board of Underwater Archaeological Resources (MBUAR) and Massachusetts Historical Commission (MHC).

The combination of TOY restrictions and HDD and the installation of the transition vaults underground beneath the Craigville Beach parking lot at the landfall site, scenic vistas toward Craigville Beach from both land and water, and recreational access to the beach, will be preserved. Sensitive archaeological sites are not anticipated along the proposed offshore export cable installation route. The temporary nature of offshore export cable

installation impacts and the limited permanent footprint due to any cable protection serves to protect offshore human use areas, consistent with OR3.

Staff suggests the Project is consistent with the Ocean Resources Goal and Objectives of the RPP, provided proposed Best Management Practices and mitigation measures are implemented. The Applicant has made route, design, and construction choices that should serve to minimize impacts to ocean resources. Through offshore cable route selection, cable installation methods, TOY restrictions, and the use of HDD for the offshore-onshore transition, the Project locates development away from sensitive ocean resource areas and habitats and preserves and protects ocean habitat and the species it supports.

Wetlands Resources

The Wetlands Resources Goal of the RPP is to protect, preserve, or restore the quality and natural values and functions of inland and coastal wetlands and their buffers.

The following Objective is applicable and material to the Project:

- **WET1** – protect wetlands and their buffers from vegetation and grade changes

The RPP allows for utility installation in wetlands and their buffers where the Applicant can show that there is a public benefit, there is no feasible alternative to alteration, and the impacts from the alteration are minimized and mitigated. Staff suggest the Project is consistent with Objective WET1 because the Project is the water-dependent installation of utility lines, there will be no permanent impacts to wetland resource areas within the land-based portion of the Project, and temporary impacts within the limited wetland resource areas described above will be minimized with construction Best Management Practices and restored to existing conditions after construction.

Staff suggests the Project will facilitate several public benefits including reduced energy costs, improved electricity reliability, and generation of a large quantity of renewable energy that will help meet regional greenhouse gas emissions goals in New England. As a water-dependent project providing a connection between offshore wind turbine generators and the land-based electrical grid, there is no feasible alternative to the cable location within Land Under the Ocean and the affected areas of Coastal Dune and Land Subject to Coastal Storm Flowage. The Applicant has taken steps, including those noted below, to select a route, design installation and construction, and accommodate TOY restrictions to protect wetland resources, such that impacts from the installation will be minimized and mitigated. The wetland resource areas that will be temporarily impacted by the proposed project are mostly already paved or otherwise developed. Use of proposed underground installation methodologies and erosion and sedimentation controls will

further minimize impacts to resource areas. Finally, impacted areas will be restored to existing conditions after construction.

As documented in the Applicant's Natural Resources Inventory (NRI), there are no wetlands on the parcels associated with the proposed substation or the parcel associated with the expansion and interconnection with the electrical grid at the West Barnstable Substation. The Project will impact wetland resource areas along the preferred onshore cable installation route at the landfall site at Craigville Beach and at the Centerville River crossing. According to the Application, wetland resource areas at the landfall and river crossing include Land Under the Ocean, Barrier Beach, Coastal Dune, Land Subject to Coastal Storm Flowage, Land Containing Shellfish, Salt Marsh, Coastal Bank, and Riverfront Area. The only undeveloped areas within these wetland resource areas that the Project will temporarily disturb are a narrow strip of remnant Coastal Dune located between the paved Craigville Beach parking lot and Craigville Beach Road and Land Subject to Coastal Storm Flowage at the previously developed residential property at 2 Short Beach Road, that may be used for staging construction for the river crossing. The remainder of the preferred onshore cable installation route is proposed within existing roadway layouts or utility easements. One segment along Shootflying Hill Road will pass within the 100-foot buffer zone of freshwater wetland resource areas associated with Wequaquet Lake; however, the installation will be within the existing roadway layout beneath or within 10 feet of pavement.

The other Wetlands Resources Objectives are not applicable or material to the Project as the Project will not result in any changes in hydrology or increased stormwater discharges to wetlands and does not involve restoration of degraded wetland resource areas.

Wildlife and Plant Habitat

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 Objectives are applicable and material to the Project:

- **WPH1** – to maintain existing plant and wildlife populations and species diversity
- **WPH3** – protect and preserve rare species habitat, vernal pools, 350-foot buffers to vernal pools
- **WPH4** – manage invasive species
- **WPH5** – promote best management practices to protect wildlife and plant habitat from the adverse impacts of development

<u>Objective WPH1</u>

The methods for evidencing consistency with Objective WPH1 include minimizing clearing and grading and minimizing fragmentation of habitat. Consistent with WPH1, staff suggest

that the Project minimized clearing of vegetation and alteration of natural topography to the extent feasible and maximized the protection of large unfragmented areas through substation site selection proximate to existing utility and other development, and avoids sensitive areas as defined in the State Wildlife Action Plan and BioMap.

Staff suggest the proposed sites appear generally appropriate for the Project. The largest parcel is already partially developed and degraded with invasive plant species. The sites are also adjacent to existing energy and transportation infrastructure. Wildlife and plant habitat around the sites is currently somewhat fragmented by existing highway, roads, and utility corridors. Staff further note that the sites are not in Key Sites as identified in the State Wildlife Action Plan, or in BioMap Core Habitat or Critical Natural Landscape and do not provide connections to a larger habitat network.

The proposed onshore cable installation route passes through some limited areas of mapped BioMap Core Habitat and Critical Natural Landscape, and will require some tree clearing along the route; however, as noted above in the Wetlands Resources section, installation will be within existing roadway layouts and utility easements and, provided construction Best Management Practices are followed, is not expected to result in any adverse impacts to mapped resources. As noted in the Applicant's supplemental filing, tree impacts along the route are still being investigated and need to be coordinated with the Town. The Applicant is consulting with the Town, including their Tree Warden, on the Project and the Applicant commits to fully comply with mitigation requirements associated with the Town of Barnstable Tree Ordinance. Staff recommends tree removal along the onshore cable installation route be minimized to the maximum extent feasible, specimen trees along the route be identified and protected, and replacement trees be planted within the Town to offset trees removed.

The Applicant prepared a Natural Resources Inventory (NRI) for the parcels of land where substation and grid-interconnection-related development are proposed. The Applicant proposes substantial clearing on these parcels of land to build a new substation and expand upon an existing substation to facilitate interconnection with the electrical grid. The largest parcel is approximately 6.5 acres and is currently partially developed with an existing motel and utility infrastructure – approximately three acres of currently undisturbed land on this parcel will be impacted with clearing and grading. The other parcels or portions of parcels proposed for development are all currently wooded and are approximately 0.65, 0.8, and 1.0 acres. Therefore, a total of approximately 5.45 acres of currently wooded land will be cleared for the proposed Project.

The parcels associated with the proposed substation development and grid interconnection are not mapped rare species habitat, BioMap Core Habitat or Critical Natural Landscape, and are not within the floodplain. As noted above, there are no

wetlands or wetland buffers on these parcels. The parcels on Shootflying Hill Road are in a Wellhead Protection Area.

According to the NRI of the substation sites, these areas are mostly naturally vegetated with pitch pine-oak forests with shrub understories, do not appear to support unusual or sensitive habitats, and do not contain wetlands or vernal pools or their buffers.

The Applicant selected the proposed substation and grid-interconnection sites for the proposed development based on a careful review of numerous alternatives as described in their MEPA filings. According to the Applicant, these sites are critical aspects of the overall development and were selected because they met the Applicant's criteria including: a buildable area of at least five acres; suitable surrounding land uses; suitable site topography and existing conditions; availability of real estate; site access; suitable buffering from residential areas; and reasonable proximity to the West Barnstable Substation. Staff notes that while there are wildlife and plant habitat concerns on the proposed sites due to the clearing and grading proposed, alternatives considered and described in the Applicant's MEPA filings also had similar and additional environmental constraints.

Objective WPH3

To be consistent with Objective WPH3 Projects should locate development outside of rare species habitats and away from vernal pools. If a project is in rare species habitat, an Applicant may demonstrate that impacts have been avoided. Staff suggest that the Project is generally consistent with the rare species methods of WPH3 as the Project will largely avoid rare species habitat and avoid or minimize impacts where portions of the Project overlap with rare species habitat. A small portion of the Project is, however, located within the 350-foot buffer to a NHESP-certified vernal pool. Staff note that the Applicant has designed the Project such that it could be protective of the vernal pool buffer with appropriate conditions.

As described in the Ocean Resources section, while portions of the offshore export cable route and offshore-onshore transition are located within areas NHESP has mapped as rare species habitat, staff suggests the use of HDD to install the cable at the offshore-onshore transition, observance of TOY restrictions, and adherence to an NHESP-approved Piping Plover Protection Plan will avoid impacts to state-listed plovers and terns in the onshore and nearshore environments to the maximum extent feasible. The Applicant included documentation from NHESP indicating the Project will not result in a "take" of rare species. Provided conditions outlined in NHESP's determination are followed, staff suggests the Project complies with the rare species provisions of WPH3.

ROW 345, where the preferred interconnection between the proposed substation and the existing West Barnstable Substation is planned, passes through a 350-foot buffer to a

NHESP-certified vernal pool. According to the Application, proposed work within the existing ROW and vernal pool buffer includes construction of a portion of the onshore buried cable duct bank system via open trenching with equipment such as excavators and backhoes – the top of the trench may be up to 9 to 11 feet wide. Installation of duct bank within the utility ROW will require clearing and grading within a corridor wide enough to accommodate excavation and stockpiling of soils, and to provide space for construction equipment access along the work zone. Onshore construction is expected to proceed at an average rate of approximately 80 to 200 feet per day. According to the Application, open-trench work areas will be kept to a minimum, and any open trench will be covered with heavy steel plates at the end of each day, and excavation and installation of the duct bank would be followed by restoration to match existing conditions.

Per WPH3, where a project site is located adjacent to a vernal pool, development must be located outside of a 350-foot undisturbed buffer around these resources to protect both the pool habitat as well as the important upland habitat around them. Staff notes the ROW is already disturbed with existing utility infrastructure, a gravel maintenance road, and periodic vegetation maintenance and may otherwise be an appropriate route for the proposed cable installation. However, the Project may not be fully compliant with the vernal pool buffer provisions of WPH3, as proposed. Staff met with the Applicant on the site to discuss additional avoidance and minimization measures to protect the vernal pool buffer and the Applicant agreed to prepare and submit supplemental information related to the vernal pool.

The Applicant submitted a memorandum dated October 17, 2022 with supplemental information regarding the vernal pool. The memorandum provides additional information on the vernal pool and its surroundings, as well as how the proposed work will be protective of the vernal pool buffer. To avoid and minimize impacts to the vernal pool buffer, the Applicant proposes to locate the transmission line as far from the vernal pool and as close to the northern edge of the ROW as possible. According to the Applicant, work in the buffer will be short-term and temporary with construction anticipated to move at a fast pace through the area and backfilling and restoration of the area to its preexisting condition. The Applicant also notes work will not occur at night when vernal pool species tend to migrate, and trenches will be backfilled and covered at the end of each workday allowing for species to migrate unimpeded. With these measures in place and given the existing disturbance within the vernal pool buffer, Staff suggests vernal pool related impacts will be avoided and minimized and the proposed project generally complies with WPH3. To further reduce potential impacts, Staff recommends the work in the ROW occur outside of the spring breeding period when there is a higher likelihood of vernal pool species moving through the ROW between the adjacent forested areas and the vernal pool. Also, assuming work will proceed from east to west from the proposed to the existing

substation, the Applicant should consider working from the west side of the ROW (or vice versa if work proceeds in the opposite direction) after it completes work in the vernal pool buffer to avoid excess vehicle/equipment trips through the buffer.

Objective WPH4

Objective WPH4 requires an invasive species management plan to prevent the spread of invasive species. Consistent with WPH4, the Applicant will implement an invasive species management plan. Subject to appropriate conditions being included in any potential Decision, staff suggests the Project could be consistent with WPH4 as discussed in more detail below.

Invasive plant species, including Japanese knotweed, autumn olive, multiflora rose, and Asian bittersweet, were documented along the southern perimeter of the developed portion of the 8 Shootflying Hill parcel in the vicinity of the leaching field for the motel's on-site septic system. As noted in the Applicant's supplemental filing, because the invasive plants are located within the footprint of the proposed substation, these will be removed as a result of the development. To ensure invasive species do not spread on or from the site, the Applicant proposes to take several precautions to minimize seed dispersal and dissemination. While proposed measures should help to prevent the spread of the invasive plants present, Commission staff also recommend construction vehicles be washed prior to initiating work on the Project Site and be inspected and/or washed periodically during construction, especially after working in the invasive plant area. In addition, the Applicant should monitor the site and its immediate surroundings after construction to ensure no new infestations appear. Provided these measures are followed, Staff suggests the Project is consistent with WPH4.

Objective WPH5

The Applicant proposes to install perimeter construction fencing and erosion controls at the substation sites before initiation of construction activities that should help to protect wildlife and plant habitat located outside the construction envelope consistent with the methods to evidence compliance with Objective WPH5.

Open Space

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 Objectives are applicable and material to the Project:

- **OS1**—protect and preserve natural, cultural, and recreational resources
- **OS2**—maintain or increase the connectivity of open space
- **OS3**—protect or provide open space appropriate to context.

Objective OS1

Methods for meeting Objective OS1 include protecting and preserving high value resources and minimizing the development footprint. The Project is consistent with this method in a variety of ways. Installation of the cables by HDD from the cable landfall site in the existing Craigville Beach parking lot out to 1,000–1,200 feet from shore (with installation depth of approximately 40 feet below the ground surface at mean high water) along with TOY restrictions, will avoid impacts to undisturbed land and significant habitat areas, protect rare species, and maintain public access to the beach through construction. The Applicant also proposes to restore and resurface the parking lot after construction.

According to the Application, the preferred onshore cable installation route does not cross any protected open space, conservation, or recreational lands except for the beach and paved parking lot at Craigville Beach. The parking lot and beach are both subject to Article 97 jurisdiction. A variant of the proposed route may cross additional Article 97 land at Aaron S. Crosby Park. According to the Applicant's supplemental filing, easements for the Article 97-protected land at Craigville Beach and Aaron S. Crosby Park were signed into law by Governor Baker on August 3, 2022 as House Bill 4986. The legislation specifies mitigation of $100,000 to the Town for making improvements to public facilities along the onshore cable installation route.

Craigville Beach is a Town beach that is part of the regional matrix of shorefront recreational opportunities. At the Craigville Beach landfall site, the physical connection between the offshore and onshore export cables will be made in underground concrete transition vaults within the existing parking lot. All infrastructure will be buried except for ground-level manhole covers, and therefore the Project will have no permanent post-construction impacts on recreational access, scenic views, and community character at the Craigville Beach landfall site.

Objective OS2

Methods to meet Objective OS2 include protecting open space contiguous to undeveloped lands or protected open space and preserving wildlife corridors and opportunities for the movement of wildlife. Consistent with this Objective, the ductbanks for the onshore export cables will be buried underground within existing roadway layouts or utility easements and therefore should not impact any open space.

Objective OS3

To meet Objective OS3 the project must provide protected open space according to Placetype in the ratio specified in the Technical Bulletin. The undeveloped portions of the proposed substation sites off Shootflying Hill Road are within a Natural Areas Placetype, due to being in a Wellhead Protection Area. The remaining proposed substation and grid

interconnection sites are not within a mapped Placetype and Staff suggest, given their surrounding context including residential development as well as utility and transportation infrastructure, the Placetype for the remainder of the substation and interconnection sites could be considered as consistent with the Suburban, Industrial Activity Centers, and/or Transportation Areas Placetypes. Projects in Natural Areas are required to provide protected open space in a ratio of 3:1 and projects in the other areas are required to provide buffers to development and open space in a ratio of 1:1.

While portions of the proposed substation development are within a Natural Areas Placetype and much of the substation and interconnection sites areas are wooded, the proposed sites are reasonably well-chosen based on the Applicant's siting criteria and alternatives analysis, and given these sites are adjacent to existing development and in fitting position along the onshore cable installation route.

As described in the Open Space Technical Bulletin, the Area of Development Impact (ADI) for a project is the total undeveloped area anticipated to be impacted by the proposed development. Some of the previously developed land on the 8 Shootflying Hill Road site will be redeveloped for substation use. The undeveloped land that will be impacted will be at the proposed substation sites (6 and 8 Shootflying Hill Road), parcel 214-001 located immediately east of the West Barnstable Substation, and the West Barnstable Substation parcel. A calculation of the open space mitigation required for the project based on the Total ADI is shown in the table below.

Project Property/Use	Placetype	New Land Disturbed (acres)	Open Space Mitigation (acres)
6 Shootflying Hill Road (substation)	Natural Areas	1.0	3.0
8 Shootflying Hill Road (substation)	Natural Areas	3.0	9.0
Parcel 214-001	Not mapped	0.8	0.8
West Barnstable Substation	Not mapped	0.65	0.65
Totals		**5.45**	**13.45**

The Applicant proposes a 30-foot-wide vegetated buffer along the western edge of the substation site and a planting strip along Shootflying Hill Road on the north side of the site. Staff recommends these buffers be widened as much as possible and be planted with a mix of native plant species planted in more natural groupings, consistent with surroundings. The Applicant's Planting Plan indicates the plant selection was based on a

Cape Cod Cooperative Extension plant list; however, staff suggests the cultivar species listed are not generally recommended. Staff suggests native evergreen species and a variety of native plant species of varying heights and textures should be incorporated to better integrate with the natural surroundings. The NRI could be consulted for species appropriate to the site. It is not clear from the application materials whether buffers will be provided at the grid interconnection sites. Staff notes those sites abut or are within the existing West Barnstable Substation on the north and west and abut undeveloped wooded land to the south and east that are Route 6 ROW and other electric utility land, respectively. Nevertheless, buffers to development should be provided. A revised landscape plan incorporating Staff suggestions should be provided.

The RPP identifies forest loss as a key challenge facing the region and habitat loss through clearing a significant threat. As noted in the RPP, the broad loss of forest cover negatively affects regional character as well as the natural functions tree cover provides such as wildlife habitat, carbon sequestration, nutrient uptake, and stormwater and flood water management and filtration. The Open Space Technical Bulletin states that areas of high natural resource value include undeveloped lands in Wellhead Protection Areas.

Given the Project will result in forest loss and development of undeveloped land within a Wellhead Protection Area, staff suggests the only way the Project can be consistent with OS3 is if the Applicant provides at least 13.45 acres of high value (e.g., forested land in a Wellhead Protection Area) protected open space offsite.

The Applicant proposes to meet its open space obligations through the same method it used for the Vineyard Wind Connector project. That method entailed that project's open space mitigation being satisfied by any combination of the following: (i) the Town of Barnstable approves the use of funds provided through the Host Community Agreement to permanently protect land that could currently be developed; (ii) the Applicant pays to the Commission such payments considered to protect land as open space at a rate that would be determined by the Cape Cod Commission based on the average cost per acre of land to be held for the benefit and on behalf of a municipality or nonprofit (501(c)(3)) conservation organization or land trust to request for its use for open space protection purposes; (iii) the Applicant permanently protects land through a statutory Conservation Restriction or other equivalent mechanism; (iv) the Applicant donates land in fee for conservation purposes to a municipality or nonprofit (501(c)(3)) conservation organization or land trust; or (v) the Applicant contributes to a municipality or nonprofit (501(c)(3)) conservation organization or land trust, for the purpose of funding a specific identified open space land acquisition or conservation restriction by that entity, the amount of land considered protected by the Applicant to be the same proportion to the total area protected as is Applicant's

contribution proportional to the total cost of the entire acquisition or conservation restriction.

While the Vineyard Wind Connector open space method may have been appropriate for that project given its proposed substation development within an Industrial Activity Center, Staff suggests the same method is not applicable to the subject Project as most of its proposed substation development is within the Natural Areas Placetype. The remainder of the substation and grid interconnection development is not in a designated Industrial Activity Center, but may be considered consistent with Suburban, Industrial, and/or Transportation Placetypes, given the surrounding land uses.

In Natural Areas, the Commission presumes that the only way a DRI can meet open space objectives is to permanently restrict land from development in Natural Areas, in a minimum ratio of three parts open space to one part development. Per OS3, Staff recommends the Applicant place suitable land (e.g., other forested land in a Wellhead Protection Area) in a Conservation Restriction as a condition of any DRI approval to be consistent with OS3.

Staff suggests the Project is consistent with the applicable and material Open Space Goal and Objectives, provided suitable open space is conserved in a manner that mitigates impacts to high value resources identified in OS1 (i.e., undeveloped land in a Wellhead Protection Area) and the Project's provision of open space complies with OS3 considering the project's context. Staff suggests the Project is otherwise consistent with OS1 as it sites the substation close to existing development, roadways, and infrastructure (including at and beside the existing West Barnstable Substation); and preserves public access to resource-dependent recreational activities at the Craigville Beach landfall site by using HDD and TOY restrictions, burying all onshore and offshore cables underground, and repaving the beach parking lot. The Project maintains the connectivity of open space by siting the substation away from significant wildlife habitat areas and does not fragment large, previously undisturbed blocks of unfragmented open space consistent with OS2. Staff also notes, according to the Applicant, the Project will accommodate a proposed Cape Cod Rail Trail extension along Shootflying Hill Road.

Coastal Resiliency

The Coastal Resiliency Goal of the RPP is to prevent or minimize human suffering and loss of life and property or environmental damage resulting from storms, flooding, erosion, and relative sea level rise.

The following Objectives are applicable and material to the Project:

- **CR1**—minimize development in the floodplain

- **CR2**—plan for sea level rise, erosion, and floods
- **CR3**—reduce vulnerability of built environment to coastal hazards

Objective CR1

The methods to meet Objective CR1 include limiting new development in V zones to water dependent uses where the applicant can show that there is no feasible alternative, minimizing and mitigating development impacts, limiting new non-water-dependent infrastructure to installations that can demonstrate an overriding public purpose, and minimizing and mitigating impacts to coastal resources in order to protect their natural beneficial functions.

The Applicant has selected Craigville Beach in Barnstable as the preferred offshore export cable landfall site. The Project makes landfall within coastal resource areas, including the FEMA VE zone. The offshore export cable is a water-dependent transmission project designed to connect offshore wind development infrastructure to an onshore grid interconnection that may be allowed within the VE zone because there is no feasible alternative to its siting, and associated development impacts will be minimized and mitigated through use of HDD, TOY restrictions, and restoration, to protect the natural beneficial function of the coastal resource, consistent with CR1. Temporary disturbance within the VE zone will be limited to subsurface cable conduit and transmission vaults/joint bays within the beach parking lot. All Project components at the landfall location and along the onshore transmission route will be buried and designed for submerged conditions.

The Applicant's proposed Centerville River crossing is within the FEMA AE zone. According to the Application, Project engineers assessed multiple crossing options, including replacement of the bridge, construction of a new utility bridge parallel to the existing bridge, and trenchless techniques. The Applicant also consulted with the Town and Massachusetts Department of Transportation (MassDOT) on options. Based on those consultations and engineering considerations, the Applicant chose microtunnel, a trenchless crossing technique, as the proposed technique. Microtunnel will avoid impacts to the river and leave the existing bridge unchanged consistent with CR1.

Objective CR2

The methods for meeting Objective CR2 include designing development projects to accommodate sea level rise. The Applicant assessed the Project in relation to sea level rise and shoreline change, referring to the Commission's Sea Level Rise Viewer which incorporates FEMA flood zones and the National Weather Service's SLOSH (Sea, Lake, and Overland Surges from Hurricanes) model. The Applicant also assessed potential impacts to the cable installation from climate change, including sea level rise, more intense coastal storms, and flooding based on data from the Massachusetts Coastal Flood Risk Model (MC-

FRM). The Applicant also looked at shoreline change in relation to the Project. Based on these assessments, the Applicant concludes the onshore export cable should not be affected under future climate conditions because the onshore export cable will be insulated and buried within an underground concrete duct bank designed to withstand wet conditions, consistent with CR2. In addition, proposed infrastructure associated with the landfall site would be sufficiently set back from the shoreline to avoid any impacts from shoreline change during the life of the Project.

Objective CR3

The methods for meeting Objective CR3 include avoiding or minimizing siting new development in coastal resource areas. The Project is consistent with CR3 as the additional development within the floodplain (A zone) will occur within existing roadway layouts and will not expand existing development footprints or alter existing topography or flood storage capacity.

Capital Facilities & Infrastructure

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 Objectives are applicable and material to the Project:

- **CAP1**—ensure capital facilities and infrastructure promote long-term sustainability and resiliency
- **CAP2**—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

Objective CAP1

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 Project is consistent with this objective as it locates infrastructure underground where it will not be subject to wind, ice, tree falls or other above ground hazard.

While portions of the project must inherently be located in flood prone areas, cables and splices are designed to be sealed from water intrusion. When properly installed according to industry standards, underground cable systems are not affected by flooding and weather events. The site of the proposed substation at 8 Shootflying Hill Road is not within the flood zone. Directional drilling will avoid any impacts to the natural beneficial functions of coastal resources.

Objective CAP2

Consistent with Objective CAP2, the Project coordinates with the Town of Barnstable's sewer expansion and coordinates its offshore routes with other wind projects. The use of existing utility easements and rights of way reduces the cost of providing infrastructure, limits land clearing and impacts to natural and other resources, and protects the region's historic and community character.

Energy

The Energy Goal of the of the RPP is to *provide an adequate, reliable, and diverse supply of energy to serve the communities and economies of Cape Cod.*

The following Objectives are applicable and material to the Project:

- **EN1**—support an adequate and diverse supply of energy for and to Cape Cod that is context-sensitive
- **EN2**—increase resiliency of energy generation and delivery

Objective EN1

Large-scale offshore wind power is a significant part of Massachusetts' overall approach to a Clean Energy future. The proposed onshore cable routes minimize tree clearing by using existing rights of way. With conditions as proposed, the substation site meets the methods for Objective EN1 outlined in the Energy Technical Bulletin by adequately screening equipment from public view to avoid detrimental visual impacts, using non-toxic transformer and other fluids, locating outside of sensitive areas and close to grid interconnection points, and providing appropriate stormwater management.

Objective EN2

Consistent with the methods for Objective EN2 the Project will help the region manage for peak demand and power outages by providing an alternative source of energy production other than solar power, increasing the amount of green energy reaching the grid at times when solar PV installations are not producing energy, and by protecting infrastructure by locating the transmission cables underground.

Other DRI Standards of Review

Consistency with applicable Municipal Development Bylaws (including DCPC implementing regulations)

The Applicant is seeking a comprehensive zoning exemption from the Massachusetts Department of Public Utilities (DPU) pursuant to MGL c. 40A Section 3 for the entirety of the Project, including the onshore export cable and the substation. Under the Host Community Agreement, the Town of Barnstable has agreed to publicly support this request.

An Order of Conditions from the Barnstable Conservation Commission will be required.

The only DCPC implementing regulations applicable to the project is the Craigsville Beach zoning district (Zoning Code Section 240-131), which would be included under the comprehensive exemption from the DPU.

Consistency with CCC-certified Barnstable LCP

The Project broadly supports renewable energy, economic growth and diversification, and infrastructure investment consistent with the Town's Commission-certified Local Comprehensive Plan.

Probable Project Benefits versus Probable Project Detriments

In addition to consistency with other DRI review and approval standards, the Subcommittee should identify and weigh the probable benefits of the Project relative to the probable detriments, from a regional perspective.

Recommended Conditions

General Conditions

- The Applicant shall continue to pursue and meet its obligations under the HCA with the Town, including making all payments to the Town required under said HCA.
- The Applicant shall obtain all required federal, state, and local permits, licenses, and approvals. The Project's consistency with required Municipal Development Bylaws shall be ratified and confirmed by the Applicant obtaining the required municipal development permits and the appropriate zoning waivers from the DPU/EFSB.
- The Applicant shall provide or otherwise ensure that the Commission is copied on all state and local permits, licenses, and approvals, including without limitation MassDOT access permit submissions and approvals.

Community Design

- The Applicant shall provide a landscaping plan for the substation site which includes vegetative buffering along Shootflying Hill Road and along the 30' buffer on the western edge of the substation site. Such landscaping shall create an effective landscape screen through the use of native evergreen species (not to include cultivar species) and a variety of native plant species of varying heights and textures clustered in natural groupings to integrate with the natural surroundings.
- The Applicant shall provide final architectural/elevation plans for the substation. In developing the final design for the substation site (including final substation site plan, security fence and visual and acoustic buffer design, and landscaping plan), the Applicant shall work, in consultation with the Town, to minimize, to the maximum

extent practicable given site constraints, visual impacts from the project through approaches which may include, but are not limited to, site landscaping, security fence placement inside the vegetative buffer, and visual and acoustic barrier color/materials/design.

Cultural Heritage

- The Applicant shall continue to work with MHC to determine avoidance, minimization, and mitigation measures for both terrestrial and underwater historical and archaeological resources within the Project area. The Applicant shall provide to Commission staff a copy of the final plan for avoidance, minimization, and mitigation of potential impacts to cultural resources, and specifically the final Unanticipated Discoveries Protocol, prior to initiation of construction.
- The Applicant shall perform all work within the Centerville National Register Historic District in conformance with the protocols set out in the Construction Impact and Mitigation Plan, dated December 21, 2022.
    - This includes but is not limited to the Applicant providing evidence of offering, and, if accepted, providing, the following to the owner of any National Register listed or contributing structures along the cable route:
        - conducting pre- and post-construction surveys of the structure by a qualified architect or structural engineer to determine baseline conditions;
        - providing a damage assessment if any changes occur during construction; and
        - committing to repairing any damage found in the post-construction survey.

Transportation

- The site driveway access points at the substation shall be designed, constructed, and maintained to provide adequate sight lines along Shootflying Hill Road.
- Wherever existing infrastructure, such as roads, sidewalks, and street trees are impacted, they shall be repaired or replaced to same or better condition, in coordination with the Town of Barnstable and state agencies.
- Where the Town of Barnstable and/or the state identify a planned infrastructure project, such as installation of a sidewalk or multi-use path, that overlaps with the proposed onshore export cable installation work, all reasonable efforts shall be made to come to a mutually beneficial work approach that supports the interests of the Applicant and the Town and/or state. For example, on affected roadways where work will be performed in the shoulder area, the Applicant could leave a graded surface that would be suitable for future installation of sidewalks or multi-use paths, if desired by

the Town and/or the state. The Applicant shall coordinate with the Town and state agencies prior to the initiation of onshore export cable installation activities to determine if opportunities for infrastructure efficiencies exist.

- The Applicant shall make all reasonable efforts to publicize construction activities, detours or road closures utilizing various media outlets, such as media outreach and Variable Message Signs ("VMS") located at key points within the study area, in particular impacts to roadways that will span over an extended period of time and impacts that will occur on a major regional roadway.

Water Resources

- The Applicant shall provide the following plans and documents for review and approval by Commission staff prior to commencement of construction activities at the substation site. All engineering plans and documents shall be stamped by a Professional Engineer or other certified professional, as appropriate.
  - Final site and containment design plans that demonstrate containment equal to a minimum of 100% of the dielectric fluid volume contained in the associated equipment plus an additional 30 inches of storage to account for Probable Maximum Precipitation event.
  - Design details for the substation site that demonstrate full containment under any oil-containing ancillary equipment (e.g., lube oil system) required for the synchronous condensers.
  - Final design plans and sizing for the common drain system.
  - MSDS sheets for all fluids, final sizing calculations for the containment system, and final substation equipment inventory, including expected types and volumes of hazardous materials associated with equipment in the final substation design.
  - Spill Prevention, Control and Countermeasure (SPCC) plan including management plan for storage, use, and containment with the goal of avoiding or mitigating potential harm to drinking water in the event of a spill. The SPCC plan must address how contaminated water will be removed from the containment area in the event of a spill.
  - Engineering design, details, and stormwater management details of the West Barnstable substation expansion when available from Eversource.
  - Operation and Maintenance Plan for the proposed stormwater treatments.
  - Operation and Maintenance Plan for the Petro-barrier film.

Open Space

- Prior to final building permit close-out for the substation site, the Applicant shall provide an executed and recorded Conservation Restriction for no less than 13.45 acres

of high value (e.g., forested land in a Wellhead Protection Area) protected open space offsite.

Ocean Resources

- The Applicant shall continue to work with applicable state and federal agencies to finalize and implement TOY restrictions and BMPs to avoid, minimize, and/or mitigate impacts to ocean resources, species, and habitats, and ocean-dependent human uses.
- The Applicant shall continue to work with applicable state and federal agencies to finalize Fisheries, Rare Species, and Benthic Habitat Monitoring Plans.

Wildlife and Plant Habitat

- Construction activities within the 350' buffer to the vernal pool in the utility right of way shall not occur at night and trenching shall be backfilled and covered at the end of each workday.
- Construction activities within the 350' vernal pool buffer shall not occur during the spring breeding period when vernal pool species move through the utility right of way between the adjacent forested areas and the vernal pool.
- Work within the utility right of way should be planned to avoid excess vehicle and equipment trips through the 350' vernal pool buffer to the greatest extent practicable.
- Perimeter construction fencing and erosion controls at the substation site shall be installed prior to the commencement of construction activities to protect wildlife and plant habitat located outside the construction envelope.
- The invasive species protocols outlined in the August 5, 2022 memorandum shall be undertaken at the substation site, including but not limited to in the vicinity of the leaching field for the existing motel's on-site septic system.
    - These protocols include:
        - Marking areas containing invasive plants prior to land clearing activities so those plants can be isolated from other plants that will be removed during subsequent land clearing;
        - Mowing the invasive plants down;
        - Gathering and bagging the mowed invasive plant material; and
        - Disposing of the bagged plant material.
    - The protocols shall be expanded to include:
        - Construction vehicles shall be inspected and/or washed prior to initiating work on the substation site, periodically during construction, and prior to leaving the substation site to prevent the spread of invasive species.
        - The substation site and its immediate surroundings shall be monitored for at least one growing season after construction to ensure no new infestations of invasive species appear. Any that do should be controlled.