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Martha's Vineyard Commission

DRI # 277-M Tisbury Marine Terminal Expansion MVC Staff Report – 2021-9-22

1. DESCRIPTION

- 1.1 **Applicant:** Ralph Packer, Tisbury Marine Terminal LLC; Richard Andre, Vineyard Power
- 1.2 **Owner:** Ralph Packer
- 1.3 **Designer:** Foth Infrastructure and Environmental, LLC
- 1.4 **Project Location:** 190 Beach Road, Tisbury, Map 10, Lot A-1
- 1.5 **Proposal:** Repairs and alterations to existing marine infrastructure to support offshore wind developments.
- 1.6 **Zoning:** Waterfront/Commercial
- 1.7 **Local Permits:** Tisbury Planning Board (Special Permit and Site Plan Review), Tisbury Conservation Commission (Notice of Intent – Order of Conditions)
- 1.8 **State and Federal permits:** MA Environmental Protection Agency (Certificate of the Secretary), MA Dept. of Environmental Protection (Combined 401 Water Quality and Chapter 91 Waterways License), MA Coastal Zone Management (Federal Consistency Certification), US Army Corps of Engineers (Individual Permit Section 10/404), Massachusetts Department of Transportation (MassDOT) Access Permits, Department of Public Works permit for dredging
- 1.9 **Surrounding Land Uses:** Other waterfront and commercial uses in the Beach Road corridor, including MV Shipyard, Gannon and Benjamin Marine Railway, and Vineyard Haven Marina; Vineyard Haven Harbor and Lagoon Pond, including shellfish areas and residential and commercial docks; Steamship Authority Terminal to the northwest. The project site is in the Vineyard Haven Harbor District of Critical Planning Concern.
- 1.10 **Project History:** Tisbury Marine Terminal (TMT) has operated since the late 1800s, and its barge facility currently handles the equivalent of about 6,600 one-way truck trips to the Island. The project location was chosen in part for its relative proximity to the proposed wind farms south of the Island, which are likely to be constructed in the coming years. (Vineyard Wind and Mayflower Wind have each been awarded contracts for 800 megawatts (MW) by the state.) The project would be part of a network of facilities on the east coast intended to service the offshore wind industry. Vineyard Power, the Island's energy cooperative, has partnered with TMT in promoting the community benefits associated with the project, including the creation of year-round jobs.

The MVC approved DRI 277 without conditions in 1988, allowing for the realignment and widening of an existing pier. An earlier version of the TMT expansion project involved an operations and maintenance building on the site, and was referred by the Tisbury Conservation Commission in November 2020. The LUPC reviewed the project as DRI 699 at two meetings in January 2021. A public hearing had been scheduled for April 8, 2021, but the project was put on hold by the applicant. The current revised proposal includes the elimination of the maintenance building and other changes. It has also been relabeled 277-M since the property was a previous DRI.

Other DRIs associated with the wind farm operations and maintenance, including two that have not yet been referred to the MVC and one that is on hold, are expected to be reviewed in the near future:

- 1. **61 Beach Road, Tisbury (not yet referred):** Proposal to construct an operations and maintenance facility in connection with the TMT proposal. The facility was formerly to be located at the TMT site.
- 2. **61 Beach Road, Tisbury (DRI 81-M2, on hold):** Proposal to develop 52 residential units and approximately 5,500 square feet of commercial space on the site of the former Hinckley's Hardware through a

Comprehensive Permit (40B). A portion of the units could potentially be reserved as workforce housing for future O&M workers, but that has not been formally proposed by the applicant for DRI 81-M2.

3. **Martha's Vineyard Airport (not yet referred)**: Proposal to develop a helicopter hangar in connection with the offshore wind facilities.

1.11 Project Summary: The project would include two main portions: Expansion and alteration of the Tisbury Marine Terminal to accommodate an operations and maintenance (O&M) facility to service future offshore wind developments; and improvements to the existing TMT barging operations. (See site plan, attached.) The northern section will serve as the O&M terminal, and the southern section will continue to serve TMT barging operations, including a marine terminal with transfer and storage facilities. The O&M terminal is designed to initially service wind farms of up to 1,600 MW (about twice the initial size of the proposed Vineyard Wind and Mayflower Wind projects.)

The applicant has been working with the firm GPI to coordinate landscaping, drainage, and other aspects of the project with work related to the Beach Road project.

The applicant has identified the following primary goals for the project:

- Provide a centralized control facility for offshore wind operations and maintenance
- Reduce greenhouse gas emissions by supporting offshore wind
- Support economic growth and diversification, and job creation on the Island
- Maintain and improve TMT infrastructure
- Enhance public access to the shoreline and maintain the working waterfront

Southern Section (TMT Operations)

Replacement and realignment of existing solid-fill pier (1): The existing solid-filled pier will be replaced by a 3,330 ft² steel sheet pile structure and concrete deck perpendicular to the shoreline. This represents a 222 ft² increase compared to the existing pier.

Steel bulkhead improvements (2): An existing 209-foot-long bulkhead will be reinforced with steel sheet piles supported by grouted soil anchors. In addition, a new 70-foot-long bulkhead with 35 ft return will extend from the northeast corner of the new pier to stabilize the berthing area.

Barge access and berthing areas (3): Two new 800 ft² barge ramps will replace the existing barge facility (including one existing ramp) and allow for simultaneous loading and unloading. The new barge ramps will be located on the landward side of the steel sheet pile structure, on either side of the new solid-fill pier.

Northern Section (Wind Farm Operations)

Facility berthing area (4): Three new berths (47, 50 and 57 ft wide) will be created side-by-side for operations and maintenance vessels. The two smaller berths will be separated by a 1,704 ft² floating dock supported by steel piles that will also act as a wave attenuator. The larger berth will be separated from the smaller ones by three dolphin clusters. A 203 ft sheet pile wave fence (embedded in the existing substrate) will be constructed to the northeast of the larger berth. The wave fence will include a 6-foot-wide catwalk for access to the larger vessels, and would reduce the need for maintenance dredging in the berthing area.

New bulkhead and fender system (5): A new 186 ft steel sheet pile bulkhead will be constructed along the landward side of the berthing areas. The bulkhead will have an integral fender system and about 70 ft of

“environmental windows” along the bottom, which will allow water to circulate underneath the proposed pier deck (see below), reducing the need for intertidal and maintenance dredging.

New pile-supported pier deck and bulkhead (6): A new 38,821 ft² pile-supported pier deck will be constructed landward of the berthing area. The deck will have concrete decking and be used for loading/unloading, temporary storage, and incidental parking. The pier deck will be supported by 204 steel piles. A new 283 ft steel bulkhead will run along the southern edge of the pier deck. The pier deck elevation will be 8 ft NAVD88, which is 3 feet higher than the road, and is intended to accommodate for sea-level rise. A gated ramp leading up to the pier deck from the road will provide access to the property and will include a revetment under that portion of the pier deck.

Public lookout (7): The project will include an 800 ft² public lookout platform just east of the pier deck, and a 10-foot-wide boardwalk along that part of Beach Road, between the platform and the site entrance. The platform will likely be supported by 13 piles and include timber stairs down to the beach, and an ADA-compliant landing. The applicant would be responsible for maintaining the platform, boardwalk, and beach.

Dredging

An area of about 71,892 ft², extending across the southern and northern sections of the site, will be dredged to provide adequate water depths for the operations and maintenance vessels. Dredging in those areas is proposed to an elevation of -18.4 ft NAVD88, with an allowable 1 ft overdredge, and would remove about 19,949 cubic yards of sediment. The applicant has proposed reusing the sediment from this and subsequent dredging for beach renourishment or other purposes on the Island, including the proposed beach just east of the vehicle deck, as outlined in the original Notice of Intent.

Alternatives

The applicant had previously provided an analysis of alternative locations and infrastructure, and concluded that the TMT site is the only viable alternative because 1) it is an existing marine industrial property, 2) it lies in relative proximity to the future wind farms, and 3) it has access to navigable waters deep enough for the vessels. Foth also states that it would have the least environmental impact of the alternatives, and would improve the aesthetics of the working waterfront; and that the new changes to the project, including the elimination of the maintenance building, would not affect the analysis.

2. ADMINISTRATIVE SUMMARY

2.1 DRI Referral: Tisbury Conservation Commission

2.2 DRI Trigger: 1.3D (Previous DRI), 5.1a (Development in Harbors), 5.2 (Change in Intensity of Use of Commercial Pier), 5.3a (New Commercial Facilities on Pier), 5.3b (Expansion of Commercial Facilities on Pier), 5.3c (Change in Intensity of Use of Pier), 7.1a (Transportation facilities or infrastructure; mandatory review)

2.3 LUPC: Jan. 11, 2021; Jan. 25, 2021; Aug. 2, 2021

2.4 Site Visit: A virtual site visit with the Massachusetts Environmental Protection Agency was conducted on May 1, 2020. A site visit for the MVC has not yet been scheduled.

2.5 Public Hearing: Opened April 8, 2021 and continued without testimony; Aug. 26, 2021

3. PLANNING CONCERNS

3.1 Key issues

- Economic development
- Affordable housing

- Traffic and parking
- Climate change resilience
- Impact on coastal resource areas
- Scenic values

3.2 Economic Development

The project will create about six new jobs directly associated with the O&M terminal. The new jobs would consist of vessel crews that are responsible for transporting turbine parts to the wind farm site. According to the applicant, salaries would range from about \$69,700 to \$103,800, and those jobs would be able to begin before the future maintenance building becomes operational, or if the building is located somewhere other than Beach Road. The applicant does not expect any new jobs associated with the TMT barging operations as a result of the project, and has stated that the construction of a future O&M maintenance building would not lead to any increase in the number of workers at the TMT site.

Further information about employment at the maintenance building, including a list of proposed job titles, descriptions, typical qualifications, and salary range, was provided in a [March 19, 2021, memo](#) to the MVC; further information about economic development and workforce options was provided in the applicant's Nov. 24, 2020, memo to the commission, which is attached to the March 19 memo. However, the maintenance building as proposed would now be reviewed as a separate DRI.

TMT and Vineyard Power have worked with ACEMV to secure up to \$240,000 in grants to support tuitions for local workforce training. The applicant has also established an Offshore Wind Power Technician Certificate program and held open houses through the MV Regional High School and ACEMV. The applicant has stated that additional certification programs, open houses, and funding opportunities are expected in the future.

Staff Review

- The Tisbury Marine Terminal expansion will be a staging area for future offshore wind development, and part of a network of facilities on the east coast intended to service the offshore wind industry. The overall proposal will also provide improved access and circulation for the existing TMT marine operations.
- The proposal includes the following:
 - Support of economic growth with the creation of six year-round jobs in the Blue Economy sector. The creation of new jobs that will require workforce development training and education are consistent with the Island Plan's recommendations to help diversify the Island economy.
 - The applicant has worked with ACEMV and MVRHS, in collaboration with Bristol Community College, to ensure educational and technical training.
 - Improvements to the existing TMT coastal infrastructure, in addition to the internal circulation and access on the site.
 - Improvements to public access to the shoreline and support of the town's objective to maintain a working waterfront on Vineyard Haven Harbor.
- In addition:
 - The TMT barging operations will continue to operate on a year-round basis.
 - The potential impacts to municipal services such as police and fire are likely to be minimal, since the proposed project is located in a densely developed commercial area.
 - The TMT property was assessed at \$2,187,500 and generated \$20,968 in property tax revenue for Tisbury in FY 2020.

- 3.3 The development of the proposed project will also create a small number of temporary jobs in the construction and professional service sector industries.

3.4 Affordable Housing

Applicant's Proposal

The applicant has stated that either Vineyard Wind or General Electric (potential O&M tenants and employers) would rent out rooms for seasonal workers, and in the case of GE, workers who relocate to the Island would receive additional benefits for a period of time after they relocate.

TMT worked with Rockland Trust and Martha's Vineyard Island-Wide Realty to estimate what type of housing future offshore wind technicians at TMT could potentially afford. In developing the estimates, TMT assumed 40 employees with an average salary of \$70,000, including both the O&M terminal and maintenance building. *(It should be noted that DRI 277-M by itself is only expected to create about six new jobs, with salaries ranging from about \$69,700 to \$103,800; the others will be associated mostly with the future maintenance building.)* Using the general assumption that affordable housing should cost no more than 1/3 of your salary, and also the common requirement of landlords that a tenant's income be at least 40 times the monthly rent, TMT identified a target monthly rent of \$1,330–\$1,750 for individual employees, and \$2,280–\$3,000 for employee households (assuming their spouses make \$50,000/year). It was determined that an employee making \$70,000/year would not qualify for a loan to buy a 3–4 bedroom house for \$700,000 on the Vineyard, but could potentially qualify if they also rent out two bedrooms. An offshore wind technician with a spouse making \$50,000/year could borrow enough to buy a \$975,000 home on the Vineyard. The applicant has also stated that the vessel crew members associated with the O&M terminal may be locally sourced and not require additional housing.

Considering the entire O&M operation, including the future maintenance building, the applicant has proposed setting a goal that 100% of year-round employees will be Island residents within five years of the start of operations, and that future O&M tenants (Vineyard Wind or otherwise) will be required to prepare a Local Hiring and Housing Study Plan no later than six months prior to occupancy. The plan will identify how the applicant (or tenant) intends to address housing for the O&M employees, and will be presented to the Commission. If the tenant does not prepare the plan, then the applicant will do so itself. The applicant has also proposed that in lieu of this offer, it may present other approaches acceptable to the MVC and consistent with the Housing Policy, including monetary mitigation. The anticipated DRIs at 61 Beach Road may also include a housing component for the O&M workers, but that would be considered separately.

Staff Review

- The applicant has worked with Rockland Trust to estimate the cost of housing based on an average employee's salary of \$70,000. The applicant anticipates that an employee would be able to access a bank loan to purchase a \$975,000 home on-Island. The applicant anticipates that all TMT workers will be living on Martha's Vineyard within the next five years. There were suggestions that some workers would be married with additional income or could rent rooms in their newly purchased home.
- Assuming a 30-year fixed rate loan at 3.5%, someone with annual income of \$70,000 could afford a \$400,000 home, depending on a 10% down payment; someone with an income of \$120,000 with the same borrowing terms could afford a \$600,000 home. At least partly as a result of COVID-19, the median home sale in 2020 exceeded \$1 million.
- MVC staff recommends the following to secure employee housing:
 - That TMT continue to work with Rockland Trust and the future tenant to guarantee a company-backed loan program for future TMT employees.
 - That on-site dormitory housing be provided at the location of the future maintenance building once that project moves forward. Further, staff recommends eventually waiving the monetary mitigation in exchange for actual housing.
 - It should be noted that

- It should also be noted that the applicant’s proposal above does not comply with the MVC Housing Policy, which requires either the provision of actual housing units or monetary mitigation to account for the projected housing needs created by the project.

3.5 **Traffic and Parking**

Information Provided by Applicant

- Prior to the revised project currently under review, Tighe and Bond reviewed the potential traffic trip generation and impacts to Beach Road, and concluded that the project does not trigger local traffic review, even with the previously proposed maintenance building.
- The applicant has stated that the terminal expansion will not lead to an overall increase in freight or traffic, but that improvements to the terminal facility will create new opportunities to haul trash, wastewater, hazardous materials, and sand/aggregate on and off the Island without having to transport those materials on the SSA ferries.
- Operations and maintenance vessels would typically leave their berths in the morning and return in the evening, but would occasionally stay offshore for longer periods. During major storms the vessels will be sheltered offsite.
- The proposed expansion north into Vineyard Haven Harbor, including the vehicle deck and wave fence, would remain about 255 ft south of the existing SSA ferry channel, measured from the tip of the wave fence. The wave fence would align with the existing breakwater 627 ft to the north.
- Additional information related to traffic, including a description of proposed typical operations and a typical daily workflow, was previously submitted in the applicant’s [March 19 memo](#) to the MVC.
- The six new vessel crew members will park at the O&M terminal pier.

Staff Review

Existing and Proposed Trip Generation: Beach Road has two 12-foot-wide travel lanes in each direction, with a three-foot-wide shoulder on both sides. The shoulder on the project side of Beach Road is covered in sand, and the fog lines are not visible whatsoever. A sidewalk exists across the street, in front of Winds-Up. Crosswalks exist along Beach Road on either side of the terminal. The MassDOT Beach Road project includes reducing the travel lanes to 10.5 feet, adding five-foot-wide bike lanes on either side, and a new sidewalk on the opposite (Lagoon side) of the road, improving safety for bikes and pedestrians. The TMT plans show a new crosswalk just east of the proposed viewing platform, and another near the western end of the property.

The Institute of Transportation Engineers (ITE) Trip Generation manual describes waterports, or marine terminals, as areas used for the transfer of materials between land and sea and possibly for the storage of these materials. These ports generally contain ship berths for transferring cargo in bulk or containerized form, enclosed and outdoor storage areas, and office space. Truck trips accounted for approximately 38% of the total weekday traffic at container terminals, and 60% at break-bulk terminals. Research conducted by the source that provided this data indicated that revenue-ton was the best indicator of traffic generator for port facilities. Trip generation rates were as follows:

- 0.45 average weekday vehicle trip ends per average weekday revenue-ton for container terminals; and
- 0.30 average weekday vehicle trip ends per average weekday revenue-ton for break-bulk terminals.

In evaluating waterports/marine terminals, a total of seven studies were conducted, all with an average of three berths. The average Trip Generation Rate per Berth was 171.52 trips. The Tisbury Marine Terminal currently has one berth, which would generate roughly 172 daily trips according to ITE.

The Tisbury Marine Terminal currently runs 23 trucks off Island, which equates to roughly 84,000 tons of freight handled. These same methods were applied in projecting future trip generations.

The proposed expansion of the Tisbury Marine Terminal will have a total of three berths, which would generate roughly 515 daily trips according to ITE. The proposed expansion would keep those same 23 truck trips on-Island as opposed to boarding the SSA ferries.

The existing Packer operation currently has nine standing reservations per week on SSA ferries for 34-foot and 58-foot trucks to haul trash and containers off-Island. They typically only use about five reservations per week. Unused reservations are offered to suppliers and vendors that would come to the facility, but not always used.

The trip generation table below shows that the existing Tisbury Marine Terminal and Packer operation generate 181 daily trips.

The proposed expansion and Packer operation will generate 524 daily trips.

(Continued below)

TRIP GENERATION TABLE

Description/ITE Code	Units	Expected Units	Total Generated Trips			Total Distribution of Generated Trips					
			Daily	AM Hour	PM Hour	AM In	AM Out	Pass-By	PM In	PM Out	Pass-By
Existing Land Uses											
Waterport/Marine Terminal 010	BERTHS	1	172	N/A	N/A	N/A	N/A	0	N/A	N/A	0
Packer Operation	Reservations	9	9	N/A	N/A	N/A	N/A	0	N/A	N/A	0
Existing Trips			181 Daily Trips								
Proposed Land Uses											
Waterport/Marine Terminal 010	BERTHS	3	515	N/A	N/A	N/A	N/A	0	N/A	N/A	0
Packer Operation	Reservations	9	9	N/A	N/A	N/A	N/A	0	N/A	N/A	0
Proposed Trips			524 Daily Trips								

Existing and Proposed Parking: The existing parking lot at the Tisbury Marine Terminal is accessed from Beach Road via a 65-foot-wide gated driveway (see below).



The current proposal does not include any new dedicated parking spaces. Future parking spaces for employees would be located at the site of the proposed maintenance building, possibly at 61 Beach Road, but further details have not been provided. The existing and proposed project lies in the Waterfront/Commercial District. According to Tisbury Zoning Bylaw 07.07.02, the Business District 1 and Waterfront/Commercial District are exempt from the Tisbury Parking Regulations.

Existing and Proposed Circulation: The applicant has provided sufficient circulation plans and has adequately shown that trucks and other vehicular traffic can safely move within the lot. Tisbury Zoning Bylaw 06.08.00.02 (Vehicular Access) states, “The site shall be designed so that no vehicle back onto a public way, or be parked on a public way while loading, unloading, or waiting to do so.” At no time will a truck or vehicle have to back out onto Beach Road.

MVC staff concludes that the Tisbury Marine Terminal Expansion will have a negligible effect on the surrounding area.

Additional site photos





Additional information provided by the applicant:

Traffic Coming to TMT Facility (Current Proposal): 25 average daily trips annually

November 1 – May 1 (180 days): 14 average daily trips seasonally

- Vessel 1 will not be deployed
- Vessel 2 with spares will operate 65 days (36% CTV weather accessibility in winter)
- 3 vessel crew members will report to the O&M terminal 180 days
- On days accessible by vessel (65) material supplies will be transferred between the O&M support building (offsite) and the O&M terminal: 2-3 trips at 6-7AM, 2-3 trips 6-7PM

May 1 – November 1 (180 days): 35 average daily trips seasonally

- Vessels 1 and 2 will be deployed about 126 days (70% vessel availability in summer)
 - 6 crew members (3 per vessel) will report to the terminal 180 days
- 2 van trips in AM and PM carrying 12 technicians 126 days
- On days accessible by vessel (126) material supplies will be transferred between the O&M support building (offsite) and the O&M terminal: 2-3 trips at 6-7AM, 2-3 trips 6-7PMs

The applicant has stated that the number of new trips associated specifically with the TMT barging operation (based on a 4% economic growth factor) would be about 260 per year, or less than one per day. Trip estimates for the associated DRIs that are expected in the future were also provided:

Traffic to maintenance building at 61 Beach Road (Separate DRI): 90 average daily trips annually

All Year (251 days M-F): 57 average daily annually

- 3 deliveries weekly from off-Island
- Staff [onshore/back office/warehouse manager] – 20 persons daily

November 1 – May 1 (180 days): 17 average daily trips seasonally

- On helicopter weather restricted days (65) the 12 Techs will go to Marine Terminal

May 1 – November 1 (180 days) 48 average daily trips seasonally

- [other 12 go to the Airport]
- 2 van trips in AM and PM carry 12 Technicians arriving for work for 126 days
- During the 54 weather days all 24 Techs report to the Marine Terminal and/or the Airport
- On vessel access days (126) material supplies will be transferred between Marine Terminal and: 2-3 trips at 6-7AM, 2-3 trips 6-7PM

[Based on this data, the average trips per day in season would be 105, accounting for both the in-season and all-year traffic.]

Traffic to Martha's Vineyard Airport (Separate DRI): 33 average daily trips annually

All Year (251 days M-F): 17 average daily annually

- 2 deliveries daily from the Marine Terminal
- Staff [Heli maintenance crew and Heli operators] – 5 persons daily

November 1 – May 1 (180 days): 15 average daily trips seasonally

- On helicopter weather accessible days (115) the 12 Techs will go to the Airport

May 1 – November 1 (180 days) 17 average daily trips seasonally

- [other 12 go to the Marine Terminal]
- 12 Technicians arrive to the airport for work for 126 days

[Based on this data, the average trips per day in season would be 34, accounting for both the in-season and all-year traffic.]

3.6 Climate Change Resilience

The site lies within the Tisbury shore zone, and FEMA VE and AE zones, and is vulnerable to storms and sea-level rise, which will increase over time. In response to sea-level rise projections, the revised project raises the pier and terminal structures by two feet (from 6 to 8 ft NAVD88). The site would have an average upland elevation of 8 ft NAVD88, which is about 3 ft higher than the proposed Beach Road pavement following reconstruction by MassDOT, so the proposed driveway apron would have a 3 ft grade change. As a result, the project could accommodate any future raising of Beach Road by up to three feet.

The proposed steel bulkheads are designed to withstand waves and flooding from a current 50-year storm event. The applicant has stated that designing for the more severe 100-year storm is not feasible since it would require elevating the site to connect to existing infrastructure, including Beach Road. The proposed wave fence and pile-supported breakwater, which would help protect the vessel berths, are also designed to the 50-year storm, and the proposed breakwater will help protect the terminal site. Other critical infrastructure at the terminal, including electric utilities, would be elevated above the FEMA AE zone.

The applicant is proposing only standard electric utilities, but has stated that the next generation of Crew Transfer Vessels will be electric hybrid and there are plans for a 480-volt three-phase service in the future, which could be upgraded to accommodate different types of vessels.

The project would support the development of the offshore wind industry, which would in turn reduce greenhouse gas emissions and help mitigate the effects of climate change. (The state’s commitment to procure 1,600 MW of offshore wind energy would amount to a reduction of about 3.2 million tons of CO₂ per year.) The applicant has stated that supporting offshore wind is the single biggest step we can take to mitigate the effects of climate change, including sea-level rise and other effects on the Island.

Other climate-change related benefits (staff review):

- The TMT expansion is a water-dependent project.
- The project will service future offshore wind development. Renewable energy is critical to reducing greenhouse gas emissions that are heating up the planet. On the Vineyard the impacts of global warming (climate change impacts) include sea-level rise, stronger and more frequent storms with higher storm surges, coastal flooding and erosion, salt marsh loss, increased risk of wildfire, impacts to agriculture and food supplies, threat to public health and safety, economic impacts, supply chain disruptions, transportation, infrastructure impacts, and more. From a climate change perspective this is an extremely significant project.
- The project site will be three feet higher than Beach Road to address sea-level rise and the potential raising of Beach Road in the future.
- The wave fence and breakwater will be designed to withstand a 50-year storm.

- The dredge material will be used, if suitable, for local beach nourishment to address beach erosion (nourishing the beaches also has economic benefits since the beaches’ recreational benefits are a major Island attraction).
- The site will include drainage onsite and landscaping to address storm and rainwater (landscaping to include strongly rooted shrubs to protect against erosion and absorb storm and rainwater; trees to provide wind shields, shade, water absorption and filtration).
- Climate change will have negative impacts on the Island economy, including the potential for fewer visitors as the weather becomes more extreme, and the likely decline of the coastal real estate market. This project is an excellent example of how we can turn climate change challenges into economic opportunities. The project will not only help decrease greenhouse gas emissions but also provide new local, climate resiliency-based jobs.

3.7 Coastal Resource Areas

The project site includes the following coastal resource areas, which are regulated under the Wetlands Protection Act (310 CMR 10) and Tisbury Wetland Regulations:

- Coastal Beach
- Barrier Beach
- Land Under the Ocean
- Coastal Dune
- Land Subject to Coastal Storm Flowage (LSCS)
- Land Containing Shellfish
- Habitats of Rare Wildlife (mapped by NHESP)

Estimated Impact of Project Elements on Coastal Resource Areas, in Square Feet (adapted from Notice of Project Change)

	Coastal Beach	Land Under Ocean	Coastal Dune	LSCS	Land Containing Shellfish	NHESP
TMT bulkhead and return	3.7	0.1	4	3.9	4	0
TMT dolphin piles (1 cluster outside dredge area)	0	15	0	0	15	0
TMT barge ramp winches	837	0	1,856	2,693	2,693	0
Solid-filled pier (reconstruction; impacts are calculated as net change from previously constructed)*	0	3,300	0	0	-222	0
Offshore wind O&M bulkhead along berth area	0	9.9	0	0	9.9	0
Offshore wind O&M bulkhead (along beach with existing riprap)	12.2	0	0	12.2	12.2	0
Offshore wind O&M access road	3,112	0	4,338	7,450	4,950	0
Offshore wind O&M – wave fence	0	90	0	0	90	67
Public lookout (piles and stairs)	91	0	3	94	94	0
Timber or concrete O&M pile-supported deck (156 20” piles)	131	266	48	179	443	0
Concrete O&M pile-supported deck (48 piles)	15	98	0	15	15	0

O&M facility building (136 piles)	0	0	136	136	0	0
Sediment fill on TMT lot to elevation +6 ft NAVD88	3,436	0	43,380	46,816	26,139	0
TMT facility dredging	2,352	30,536	0	2,352	32,888	0
O&M dredging	87	41,269	0	87	41,356	10,803
*The solid-filled pier is being reduced in overall size by 252 ft ² which is within Land Under Ocean. The area will be dredged to -14' NAVD88 where being removed, then fill placed to top of solid-filled pier elevation, +6' NAVD88.						

The proposal aims to mitigate the impact to the above resource areas, within the constraints of the project site. Section XII of the original Notice of Intent, "Assessment of Resource Area Impacts," defines each resource area, assesses the potential impact from the project, discusses how the project meets specified performance standards, and proposes various mitigations. The Notice of Intent also discusses how the project aligns with policies of the MA Office of Coastal Zone Management, and outlines mitigation measures related to dredging and construction.

3.8 Scenic Values

The project site will be highly visible from Beach Road and the harbor, and the proposed pier deck will extend out over about 195 feet of existing beach along the road. However, the site is also in the vicinity of other water-dependent uses. The applicant has also stated the following:

- Any storage containers, portable restrooms, and office trailers on the site will be single-stacked.
- Maintenance equipment and tools on the pier will typically fit on a standard pallet and in most cases will not weigh more than 2,500 pounds.
- Once material is transported to the site, it will typically be stored in the onsite containers or loaded directly onto the vessels by crane. A forklift may also be located on the pier.
- The crane will be stored onsite permanently.
- The site will include a 6' perimeter fence and 8' entry gate. The applicant has inquired with the Polly Hill Arboretum about non-invasive vines that could be used along the perimeter fence.

3.9 Stormwater and Drainage

The applicant previously submitted a Stormwater Management System Report by Field Engineering, which proposes a subsurface recharge system for runoff from roof drains, gravel surfaces to infiltrate runoff from the terminal, scuppers and timber decking to handle runoff from the pier, and a right-of-way asphalt apron onto the Beach Road drainage system. The applicant has further stated that coastal resource impacts will be mitigated by permit and license conditions, and time-of-year restrictions. The stormwater report will be revised to account for the changes to the project, and will show the stormwater system for the concrete pier, including filtered drains and scuppers, and upland infiltration of stormwater runoff.

The town had inquired about a storm drain that currently flows into Lagoon Pond, and whether it could be redirected into Vineyard Haven Harbor. The project engineer is currently working with the town and the Beach Road project engineers (GPI) to accommodate the redirected drain.

3.10 Wastewater

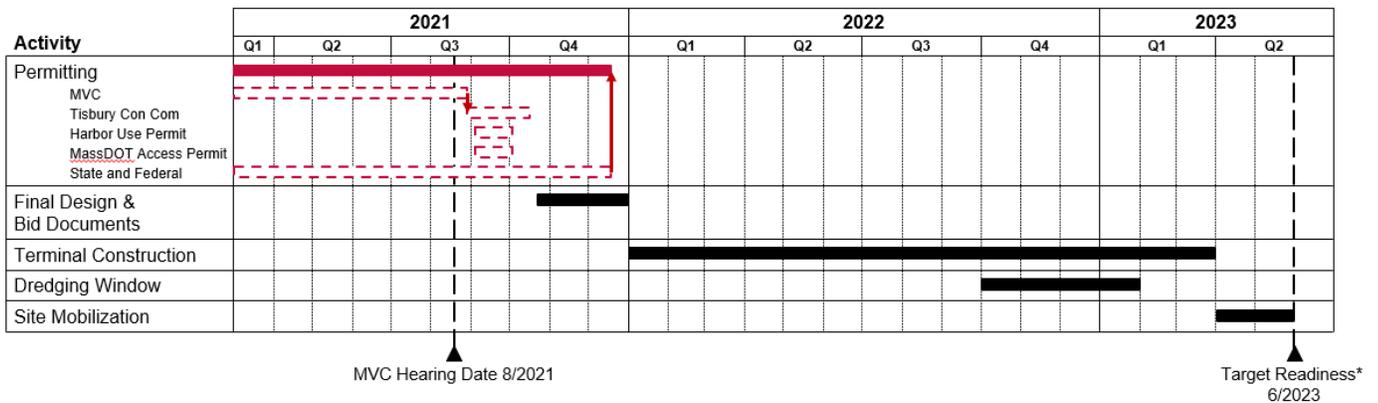
The project site is able to connect to the town sewer, and the applicant has stated that the TMT property has more than enough allocated flow to accommodate the proposed changes, including any wastewater from the proposed vessels and portable toilets. According to Tisbury Wastewater Operations, the project would require 200 gallons per day of wastewater flow, and is currently approved for 250 gallons per day.

Vessels would refuel either from a 4,000 gallon Convault tank located onsite, or from fuel trucks.

The Department of Environmental Protection (DEP) had designated the TMT property at 190 Beach Road an Activity and Use Limitation (AUL) area, due to a release of petroleum hydrocarbons in 1995 (DEP Release Tracking Number (RTN) 4-0011082). The DEP inspected the site in 2013 and did not find any contaminants in the area surrounding the AUL, and the AUL notice was terminated in 2020. Other releases (RTN 4-0017249) occurred on the abutting property at 188 Beach Road in 2002, although no free petroleum has been observed there since 2011, and the Executive Office of Energy and Environmental Affairs has stated that the site is unlikely to impact the project.

3.11 Phasing and Construction

The applicant has provided the following timeline for development:



The timeline assumes that the first offshore wind farm will begin operations in 2023, although the first wind farm might not necessarily be associated with the TMT tenant. The applicant anticipates that the tenant will begin hiring prior to occupancy, so the local hiring and employment plan as proposed would be required no later than six months prior to operations. (See section 3.2 on affordable housing.)

Vineyard Wind has obtained a lease option for the O&M terminal site, subject to DRI approval, but the lease has not yet been executed.

3.12 Construction Management

Construction would have temporary impacts on the Coastal Beach resource area. The applicant has stated that the project team will work with state agencies on the required mitigation, and will follow all standard best management practices for construction.

3.13 Landscape and Lighting

The project will be highly visible from Beach Road and Vineyard Haven Harbor. The applicant has not submitted a full landscape plan, but aims to use plantings that were previously approved for the MassDOT Beach Road project. The applicant has also stated that native plants and shrubs will be used in consultation with the MVC, and that all exterior lighting, including at each of the barge ramp towers, will comply with International Dark Sky Association (IDA) standards. Staff has recommended that the landscaping include strongly rooted native (or naturalized) shrubs to protect against erosion and help absorb storm and rainwater, and trees for wind shields,

shade, water absorption, and filtering. The applicant has also inquired with the Polly Hill Arboretum about non-invasive vines that could be used along the perimeter fence. All public utilities will be underground, with connections to Beach Road.